ROOFING MATERIALS & SYSTEMS DIRECTORY 2012

This Directory contains all Listings and Classifications in effect as of January 3, 2012 for product categories covered.

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ROOFING MATERIALS & SYSTEMS DIRECTORY

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OVERVIEW OF THE UL FAMILY OF COMPANIES, THE UL MARK AND CONFORMITY ASSESSMENT SERVICES

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Introduction

This Directory contains the names of companies authorized to use the UL Mark on or in connection with products that have been investigated by UL and found to be in compliance with UL's requirements. These companies, as well as the manufacturers and submitters of the products, have entered into an Agreement with UL to use the UL Mark only on or in connection with products manufactured in compliance with UL's requirements. It should be noted that UL certified products of different makes or model designations are not necessarily equivalent in quality or performance.

The appearance of catalog or model numbers or other specific product designations in this Directory signifies that: (1) representative samples of these products have been submitted to UL and found to comply with the applicable requirements, and that (2) the manufacturer has been authorized to use the appropriate UL Mark on production that continues to comply with UL's requirements and is subject to UL's Follow-Up Service. Since manufacturers are not obligated to apply the UL Mark on all of their production, products that do not bear the UL Mark are not required by UL to comply with UL's requirements. Accordingly, the appearance of a company's name or a specific product designation in this Directory does **not** in itself ensure that products so specified or identified are subject to UL's Follow-Up Service. The manufacturer's products are not subject to UL's Follow-Up Service unless they bear the UL Mark. **Only those products bearing the appropriate UL Mark and the company's name, trade name, trademark or other authorized identification should be considered as being covered by UL's Listing or Classification and Follow-Up Service. The UL Mark provides evidence of listing or labeling, which may be required by installation codes or standards.**

Many of the products bearing the UL Mark incorporate components that bear the UL Recognized Component Mark . The Recognized Component Mark is applicable to components that are incomplete in construction features or limited in performance capabilities. **The Recognized Component Mark does not provide evidence of listing or labeling, which may be required by installation codes or standards.**

This Directory contains Listings and Classifications in effect as of January 3, 2012. Records of Listings and Classifications issued or withdrawn after this date will be found in UL's Listing Information database. In addition, Listings and Classifications issued after the effective date will be found in UL's Online Certifications Directory at www.ul.com/database and will appear in the next annual Directory.

Note: At the back of this Directory is important information about UL services for manufacturers and other clients, Authorities Having Jurisdiction, and consumers.

Installation and Use of Products Bearing the UL Mark

Authorities Having Jurisdiction should be consulted as to the particular requirements covering the installation and use of UL Listed or Classified products, equipment, systems, devices and materials.

UL, in performing its functions in accordance with its objectives, does not assume or undertake to discharge any responsibility of the manufacturer or any other party. UL shall not incur any obligation or liability for any loss, expense or damages, including incidental or consequential damages, arising out of or in connection with the use, interpretation of, or reliance upon this Guide Information.

Use of this Directory

This Directory includes the following:

- General Guide Information for each product category that includes references to the requirements used for the investigation of the products and the UL Mark to be used on the product;
- Information relating to limitations or special conditions applying to the product;
- Names of companies that are authorized to provide products bearing the UL Mark.

The companies whose names appear in this Directory may not be the manufacturer of the product, but are qualified to provide products that bear the UL Mark.

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UL Listings and Classifications are arranged alphabetically in this Directory by product category and alphabetically by company name under each category. The four-letter code (shown in parentheses) following each category title is the product category guide designation.

Under individual product categories, each company is assigned an alphanumeric file number (starting with letters such as AU, BP, E, EX, MH, MP, MQ, R, S or SA). This number may not be required to be marked on the product. The file number can be used to identify a particular company and the associated product category.

To assist in the use of the Directory, an Index of Product Categories, an Index of Companies and a List of Company Identifications are provided (see Table of Contents). The List of Company Identifications contains the trade names or trademarks of companies that have chosen to use such identification in place of or in addition to their company name.

UL's General Guide Information at the beginning of each product category provides important information regarding the scope and limitation of UL's certification of the product and a general description of the UL Marks authorized for products in that category.

This information may include the identification of published standards that have been used to investigate products in that category. There may not be a published standard against which a product can be tested and evaluated to determine its acceptability for the UL Mark. If no applicable standard is available, UL will exercise its judgment in the selection of applicable requirements from standards and other sources and will develop requirements to cover uses and conditions for which specific requirements did not previously exist.

The scope of each UL Standard for Safety and Outline of Investigation can be accessed at http://ulstandardsinfonet.ul.com .

The information in the individual Listing or Classification varies from category to category depending on the needs of the users of the Directory. Certain Listings or Classifications contain specific model or catalog designations, others contain general types of products, and others include the company name only.

For some product categories, UL's Online Certifications Directory may include additional product information that does not appear in this Directory. To obtain additional information for a particular Listing or Classification or information on UL Listed and Classified products and Recognized Components, contact the Customer Experience Center by telephone: +1.877.UL.HELPS (1.877.854.3577) or e-mail at cec.us@us.ul.com.

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Look for the UL Mark
Identification of UL Listed and Classified Products

The symbol  and the name "Underwriters Laboratories Inc." in various forms and abbreviations are registered with the U.S. Patent and Trademark Office, and in numerous other countries. Subject to the terms of UL's Follow-Up Service Agreement, companies are permitted to use the symbol  or other specified forms of UL's name as part of the UL Mark on products that are Listed or Classified and that comply with UL's requirements.

The product name as indicated in the General Guide Information for each product category is generally included as part of the UL Mark, but may be omitted when, in UL's opinion, the use of the name is unnecessary and the UL Mark is directly and permanently applied to the product by stamping, molding, ink-stamping, silk screening or similar processes.

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A separable UL Mark (not part of a nameplate and in the form of decals, stickers or labels) will always include the following four elements: UL's symbol , the word "LISTED" or "CLASSIFIED," the product or category name, and a control number assigned by UL.

The complete UL Mark will appear on the product unless otherwise indicated in the General Guide Information for a specific product category.

When a UL Listed product is of such a size, shape, material or surface texture that, in UL's opinion, it is impossible to apply legibly the complete marking to the product, the complete UL Listing Mark will appear on the smallest unit container in which the product is packaged. In these cases UL may authorize the use of the UL symbol on the product in addition to the complete UL Mark on the package.

When a UL Classified product is of such a size, shape, material or surface texture that, in UL's opinion, it is impossible to apply legibly the complete marking to the product, the complete UL Classification Mark will appear on the smallest unit container in which the product is packaged. In these cases there shall be no reference to UL on the product.

Refer to the General Guide Information for each product category for additional information on the specific UL Mark for the products in the category.

Identification of UL Listed Products

The UL Listing Mark generally includes the UL symbol or it may include other registered forms as authorized by UL. The UL Listing Mark includes: (1) the UL symbol shown below; (2) the word "LISTED" ; (3) the product identity; and (4) a control number assigned by UL.

Identification of UL Listed Gas-Fired Products

The UL Listing Mark for gas-fired products certified to UL Standards includes: (1) the UL symbol with the words "GAS-FIRED" above the UL symbol as shown below; (2) the word "LISTED" below the UL symbol; (3) the product identity; and (4) a control number assigned by UL.

GAS-FIRED

LISTED

The UL Listing Mark for gas-fired products certified to ANSI Z21 or Z83 Series Standards includes: (1) the UL symbol with the words "GAS-FIRED" above the UL symbol as shown below; (2) the word" LISTED" below the UL symbol; (3) the ANSI/CSA or ANSI/CGA Standard designation; and (4) a control number assigned by UL.

GAS-FIRED

LISTED

[identification of standard]

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Identification of UL Listed Environmental and Public Health (EPH) Products

The UL Listing Mark for Environmental and Public Health (EPH) products certified to UL Standards includes: (1) the UL symbol with the letters EPH inside a triangular background as shown below; (2) the word "LISTED" below the UL symbol; (3) the product identity; and (4) a control number assigned by UL.



The UL Listing Mark for Environmental and Public Health (EPH) products certified to standards of other organizations for foreseeable hazards includes: (1) the UL symbol with the letters EPH inside a triangular background as shown below; (2) the word "LISTED" below the UL symbol; (3) the product identity; (4) the standard designation; and (5) a control number assigned by UL.



[identification of standard]

Identification of UL Classified Products

The UL Classification Mark may appear in various forms as authorized by UL. The UL Classification Mark includes: (1) the UL symbol; (2) the word "CLASSIFIED" above the UL symbol; (3) the product identity; (4) a control number assigned by UL; and (5) indication of the extent of UL's evaluation of the product, e.g. "AS TO [nature of hazard] ONLY" ; rating or classification as specified in the General Guide Information pertaining to the product category; "IN ACCORDANCE WITH [designation and title of standard published by other organization]" ; or "FOR USE WITH [identification of specified product]." A typical Classification Mark is shown below:



AS TO [nature of hazard] ONLY
or
IN ACCORDANCE WITH
[identification of standard]

Identification of UL Classified Environmental and Public Health (EPH) Products

The UL Classification Mark for Environmental and Public Health (EPH) products certified to standards of other organizations for EPH evaluations only includes: (1) the UL symbol with the letters EPH inside a triangular background, as shown below; (2) the word "CLASSIFIED" above the UL symbol; (3) the product identity; (4) the standard designation; and (5) a control number assigned by UL.



[identification of standard]

Additional information regarding the UL Marks for Environmental and Public Health (EPH) can be found at the back of this directory under **Other UL Services** and online at www.ul.com/eph.

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Identification of UL Listed Products that are Also Classified in Accordance with International or Regional Standards

The UL Listing Mark and Classification Mark shown above can be combined for products that not only meet the applicable UL requirements but also comply with the requirements of the applicable international or regional standards. For these products the combination UL Listing and Classification Mark is shown below:



**ALSO CLASSIFIED
IN ACCORDANCE WITH
[identification of standard]**

Identification of Products Classified in Accordance with International or Regional Standards Only

UL provides a service for the Classification of products that have been determined to comply with the appropriate requirements of the applicable international or regional standards only. For these products, the Classification Mark may appear in various forms as authorized by UL. A typical form which may be authorized is shown below. When the complete Classification Mark cannot be applied to the product, no reference to UL on the product is permitted.



**[product identity]
IN ACCORDANCE WITH
[identification of standard]**

Products Listed by Report

Certain products are Listed under a special service designated as "Listed by Report." These are usually products or constructions for which there are no generally recognized installation requirements. The description of this type of product or construction and information concerning proper field assembly and/or installation are contained in a Report identified by the reference and date shown by the Listing. Products Listed by Report are eligible to bear a UL Mark, which includes a reference to the Report number and date. Copies of the Report may be obtained upon application to the company whose product is Listed.

Specifying UL Listed and Classified Products

Specifying UL Listed and Classified products up front is one of the best methods used by designers, consultants, insurers and others to help gain jurisdictional acceptance. A typical specification reads: "The [product] must bear the UL Mark." Or, if the specification cannot be that precise, an alternate wording would read: " The [product] must meet the requirements of UL. The UL Mark on the product will be accepted as evidence of compliance."

Products, equipment and materials evaluated by UL in accordance with international or regional standards only are intended for installation and use where the specified standards have been adopted.

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Roofing Materials and Systems (AARM)

GENERAL

Roofing materials and systems are investigated for protection from external fire exposure. Roof deck assemblies are investigated for performance under internal fire exposures and for uplift resistance.

These materials are intended for use only in specific construction designs as described in the general Guide Information for each product category and individual Listings. The use of the materials in conditions other than described in the instructions, markings and the general Guide Information for the applicable product category has not been investigated by UL.

INVESTIGATION REQUIREMENTS AND STANDARDS

The scope of product sizes and ratings appearing in the general Guide Information for some product categories is intended to indicate the current range of Listed products, however, it is not necessarily indicative of limitations for those Listed products.

The standards used to investigate products are identified in the general Guide Information for each product category. There may not always be a published standard for investigating a product to determine its acceptability for Listing or Classification. If no applicable standard is available, UL will exercise its judgment in the selection of applicable requirements from related standards and other sources to develop the requirements to cover uses and conditions for which specific requirements did not previously exist.

Products, equipment and construction materials certified by UL in accordance with international or regional standards only (e.g., products Classified to an IEC or ISO Standard) are intended for distribution, installation and use in areas of the world where the specified standards have been adopted and are in effect as national or regional standards.

INSTALLATION REQUIREMENTS

The limitations for the equipment as specified in the general Guide Information for each product category such as voltage and temperature limits, markings, special descriptions and installation provisions need to be noted prior to installation and use.

Equipment has been investigated with reference to risks to life and property and for potential conformity to the installation and use provisions of the applicable installation codes and standards of the National Fire Protection Association (NFPA), and applicable model codes identified in the general Guide Information for each product category.

Some products are certified for uses not within the scope of nationally recognized installation codes and standards. Such products are investigated for the specifications or use conditions indicated in the general Guide Information for each product category.

These products are intended for installation subject to approval by the Authority Having Jurisdiction. Authorities Having Jurisdiction should be consulted before installation.

INSTRUCTIONS AND PRODUCT MARKINGS

These products are intended to be installed in accordance with the installation instructions provided with the product. It is critical that the cautionary statements and installation and operating instructions on the product and in accompanying literature be followed.

****

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ROOF-COVERING MATERIALS (TEVT)

GENERAL

This category covers roof-covering materials, which consist of two basic types: (1) roofing systems, generally involving the assembly of several components and may require special equipment to apply the materials involved, and (2) prepared materials, which can be applied directly to a roof deck in accordance with the manufacturer's instructions provided with the product. These coverings are intended for the protection of roof decks from external fire exposure and have not been investigated for performance when exposed to a fire from an internal source, i.e., directed onto the underside of the roof deck assembly.

As indicated in the individual Classifications or Listings, specific materials have been supplementally fire tested in accordance with the requirements of the indicated nationally recognized codes and standards.

The fire-retardant characteristics of treated wood shake and shingle products when exposed to the effects of rain and weather have been investigated in accordance with the basic fire standard used for the category. The effects of exposure to rain and weather have not investigated for the other roof-covering materials under this category.

When indicated in the individual Listings, the wind resistance of prepared roof coverings has been investigated for wind velocities resistance in accordance with ASTM D3161, "Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method)."

Authorities Having Jurisdiction should be consulted as to which class of roof coverings will be acceptable in each location.

CLASSES

Class A includes roof coverings that are effective against severe fire exposure. Under such exposure, roof coverings of this class are not readily flammable and do not carry or communicate fire, afford a fairly high degree of fire protection to the roof deck, do not slip from position, possess no flying brand hazard, and do not require frequent repairs in order to maintain their fire-resisting properties.

Class B includes roof coverings that are effective against moderate fire exposure. Under such exposure, roof coverings of this class are not readily flammable and do not readily carry or communicate fire, afford a moderate degree of fire protection to the roof deck, do not slip from position, and possess no flying brand hazard, but may require infrequent repairs in order to maintain their fire-resisting properties.

Class C includes roof coverings that are effective against light fire exposure. Under such exposure, roof coverings of this class are not readily flammable and do not readily carry or communicate fire, afford some degree of fire protection to the roof deck, do not slip from position, possess no flying brand hazard, and may require occasional repairs or renewals in order to maintain their fire-resisting properties.

Roofing systems provide Class A, B or C coverings over combustible and/or noncombustible (steel, concrete or poured gypsum) decks. Prepared roof-covering materials provide Class A, B or C coverings over combustible decks. Combustible decks consist of the following types:

(A) Minimum 3/4 in. thick sheathing boards.
(B) Minimum 3/8 in. (for Prepared) or 15/32 in. (for Roofing Systems) thick plywood.
(C) Minimum 5/16 in. thick plywood with all joints blocked with solid lumber.
(D) Minimum 3/8 in. (for Prepared) or 7/16 in. (for Roofing Systems) thick non-veneer APA-rated sheathing (oriented strandboard panels, structural particleboard panels, composite panels or waferboard panels).

RELATED PRODUCTS

Roofing systems are composed of materials shown under the various generic system types described in Roofing Systems (TGFU) or in Roofing Systems, Uplift Resistance (TGIK), and assembled as indicated to provide Class A, B or C fire-resistant coverings or uplift-resistant coverings, respectively.

Prepared roof coverings shown in Prepared Roof-covering Materials (TFWZ) and applied in accordance with detailed instructions included in the packages of materials provide Class A, B or C fire-resistant coverings and wind-resistant coverings as indicated in the Listing Mark applied to each package.

Prepared roof-covering materials investigated for impact resistance are covered under Roof-covering Materials, Impact Resistance (TGAM).

Products intended for use as an accessory for a prepared roof-covering system are covered under Prepared Roofing Accessories (TGDY).

For roof deck assemblies investigated for performance under internal fire exposures, see Roof Deck Constructions (TGKX).

Ridge vents (see TGEW) installed in accordance with the detailed instructions included with the product provide Class A, B or C fire resistance as indicated in the Classification Mark applied to each product.

* *

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PREPARED ROOF-COVERING MATERIALS (TFWZ)

GENERAL

This category covers materials intended to provide Classes A, B and C coverings on combustible (wood, 3/4-in. thick sheathing boards or 3/4-in. thick plywood unless otherwise indicated) decks when applied in accordance with detailed instructions included with the packages.

The use of 15/32-in. thick (minimum) plywood is a suitable alternate to 1/2-in. thick (minimum) plywood specified in Listings for individual manufacturers.

The use of 3/8-in.-thick (minimum) nonveneer PS-2-rated sheathing (oriented strandboard panels, structural particleboard panels, composite panels or waferboard panels) is a suitable alternate to 1/2-in. thick (minimum) plywood specified in Listings for individual manufacturers when a Classified underlayment is utilized between the sheathing and the prepared roof covering.

Listings are applicable either for new work or for recovering purposes.

Flashings and trimmings are intended to be the same as or not less than the equivalent of the roof coverings in each class, or of 16 oz. or heavier copper, No. 26 USS gauge or heavier galvanized steel, or 0.019-in. thick or heavier aluminum.

This category also covers shingles with factory-applied adhesives or integral locking features. The Listing Mark for such shingles may, in addition to fire resistance information, include wind resistance information.

PREPARED ROOF COVERINGS

Asphalt Organic-Felt Shingle Coverings are composed of asphalt organic-felt (previously identified as rag-felt) grit-surfaced shingles, one or more thickness, laid in accordance with the instruction sheets accompanying the packages. These coverings are limited to roof decks capable of receiving and retaining nails and to inclines sufficient to permit drainage.

Asphalt Glass-Fiber Mat Shingle or Sheet Roofing Coverings are composed of asphalt glass-fiber mat, grit-surfaced shingles or sheet roofing, laid in accordance with the instruction sheets accompanying the packages. These coverings are limited to roof decks capable of receiving and retaining nails and to inclines sufficient to permit drainage.

Modified Asphalt Glass-Fiber Mat, Asphalt Organic-Felt or Glass-Fiber/Polyester Composite Shingle Coverings are composed of modified asphalt-coated glass-fiber mat or glass-fiber/polyester composite, grit-surfaced shingles, laid in accordance with the instruction sheets accompanying the packages. These coverings are limited to roof decks capable of receiving and retaining nails and to inclines sufficient to permit drainage.

Wind-resistant Asphalt Glass-Fiber Mat Shingles are provided with field-applied or factory-applied adhesive or integral locking tabs. Some shingles with factory-applied adhesive utilize bands or spots of a heat-sensitive adhesive located either on the surface of the shingles or on the back side of each tab. Adhesives of this type must be activated by solar heat of intensity generally attained on warm, sunny days. Other shingles with factory-applied adhesive utilize a combination pressure-sensitive and heat-sensitive adhesive. Due to the nature of adhesives of this type, sealing is induced by application of pressure and/or heat.

Wind-resistant Asphalt Organic-Felt Shingles are provided with factory-applied adhesive or integral locking tabs. Some shingles with factory-applied adhesive utilize bands or spots of a heat-sensitive adhesive located either on the surface of the shingles or on the back side of each tab. Adhesives of this type must be activated by solar heat of intensity generally attained on warm, sunny days. Other shingles with factory-applied adhesive utilize a combination pressure-sensitive and heat-sensitive adhesive. Due to the nature of adhesives of this type, sealing is induced by application of pressure and/or heat.

Wind-resistant Modified Asphalt Glass-Fiber Mat Shingles are provided with factory-applied adhesive. Some shingles with factory-applied adhesive utilize bands or spots of a heat-sensitive adhesive located either on the surface of the shingles or on the back of each tab. Adhesives of this type must be activated by solar heat of intensity generally attained on warm, sunny days. Other shingles with factory-applied adhesive utilize a combination pressure-sensitive and heat-sensitive adhesive. Due to the nature of adhesives of this type, sealing is induced by application of pressure and/or heat.

Hip and Ridge Shingles are composed of asphalt or modified asphalt-coated glass-fiber mat surfaced with granules and are intended to be installed as specified on packaging supplied with the product for hip and ridge installations only. They are investigated for fire resistance and wind

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Prepared Roof-covering Materials (TFWZ)−*Continued*

dance with the fire test portion of UL Subject 2375, "Outline of Investigation for Hip and Ridge Shingles." Where indicated, they have also been investigated for wind resistance in accordance with the test procedures of UL Subject 2375. The class of shingles and performance criteria are in accordance with ASTM D3161. Wind-resistant hip and ridge shingles may utilize locking mechanisms, field-applied adhesives or factory-applied heat-sensitive adhesive which must be activated by solar heat of intensity generally attained on warm, sunny days.

RELATED PRODUCTS

Prepared roof-covering materials investigated for impact resistance are covered under Roof-covering Materials, Impact Resistance (TGAM).

Asphalt shingles investigated for wind resistance are covered under Prepared Roof-covering Materials, Asphalt Shingle Wind Resistance (TGAH).

Accessory components utilized in the prepared roof-covering system are covered under Prepared Roofing Accessories (TGDY). Ridge vents utilized in the prepared roof-covering system are covered under Ridge Vents (TGEW). Type 15 and Type 30 asphalt felts, used as underlayments, are covered under Roofing Systems (TGFU). Underlayments, ridge vents and accessory components, when utilized, are intended to be Classified materials.

ADDITIONAL INFORMATION

For additional information, see Roof-covering Materials (TEVT) and Roofing Materials and Systems (AARM).

REQUIREMENTS

The basic standard used to investigate products in this category is ANSI/UL 790, "Tests for Fire Resistance of Roof Covering Materials" (ASTM E108 and ANSI/NFPA 256).

ADJUNCT SERVICE

UL provides a service for the Classification of specific prepared roof-covering materials that not only meet the appropriate requirements of UL but also have been investigated as follows:

1. Where indicated in the individual Listings, specific products have also been Classified in accordance with ASTM D3161, "Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method)." Where Classes A, D and F are referenced, tests were conducted at 60, 90 mph and 110 mph, respectively.
2. Also, where indicated in the individual Listings, specific shingle products have also been Classified in accordance with ASTM D3462, "Standard Specifications for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules," or CAN/CSA-A123.5, "Asphalt Shingles Made From Organic Felt and Surfaced With Mineral Granules / Asphalt Shingles Made From Glass Felt and Surfaced With Mineral Granules."
3. Also, where indicated in the individual Listings, specific sheet roofing products have also been Classified in accordance with ASTM D3909, "Standard Specification for Asphalt Roll Roofing (Glass Felt) Surfaced with Mineral Granules."

UL MARK

The Listing Mark of UL on the product is the only method provided by UL to identify products manufactured under its Listing and Follow-Up Service. The Listing Mark for these products includes the UL symbol (as illustrated in the Introduction of this Directory) together with the word "LISTED," and the following additional information:

PREPARED ROOF COVERING MATERIALS
DEGREE OF RESISTANCE TO EXTERNAL FIRE – CLASS +
Issue No.

Combination Listing/Classification Mark — A Listing Mark combined with a Classification Mark is provided on products that have additionally been investigated in accordance with the standards detailed below. The combined Listing/Classification Mark consists of the Listing Mark elements detailed above and the following marking: **ALSO CLASSIFIED IN ACCORDANCE WITH ***, where "*" is one or more of the texts detailed below:

ASTM D3161, CLASS ++
ASTM D3462
CSA-A123.5
ASTM D3909

\+ **A**, **B** or **C**
++ **A**, **D** or **F**

****

UL, in performing its functions in accordance with its objectives, does not assume or undertake to discharge any responsibility of the manufacturer or any other party. UL shall not incur any obligation or liability for any loss, expense or damages, including incidental or consequential damages, arising out of or in connection with the use, interpretation of, or reliance upon this Guide Information.

ATLAS ROOFING CORP R4052

SUITE 800 2000 RIVEREDGE PKY, ATLANTA GA 30328

Asphalt glass mat shingles designated "Pinnacle HP", "Glassmaster 25", for installation as Class A prepared roof coverings. Suitable for installation over 3/8 in. and 1/2 in. plywood decks. Also Classified in accordance with ASTM D3161, Class A. Also Classified in accordance with ASTM D3462.

Asphalt glass mat shingles designated "Pinnacle Ultra Pro", for installation as Class A prepared roof coverings. Suitable for installation over 3/8 in. and 1/2 in. plywood decks. Also Classified in accordance with ASTM D3161, Class F. Also Classified in accordance with ASTM D3462.

Modified asphalt glass fiber mat shingles designated "Stormmaster ST", "Stormmaster LM", or "Stormmaster Slate", for installation as Class A prepared roof coverings for installation on minimum 15/32 in. thick plywood decks. Also Classified in accordance with ASTM D3161, Class F.

BUILDING PRODUCTS OF CANADA CORP R14379

9510 ST PATRICK ST, LASALLE, QC H8R 1R9 CANADA

Asphalt glass mat shingles, designated "Dakota," "Harmony," "Mystique," "Yukon," "Everest," "Eclipse GL," and "Mirage GS," for installation as Class A prepared roof coverings Suitable for installation over 3/8 in. min. plywood decks. May also bear the following statement "Also Classified in Accordance with ASTM D3161, Class D or F.

Asphalt organic felt shingles, designated "Rampart," for installation as Class C prepared roof coverings Suitable for installation over 3/8 in. min. plywood decks.

Asphalt organic felt shingles and asphalt glass mat shingles, for installation as wind resistant roof coverings. May also bear the following statement "Also Classified in Accordance with ASTM D3161, Class D or F.

CANROOF CORP INC R2459

560 COMMISSIONERS ST, TORONTO, ON M4M 1A7 CANADA

Asphalt glass mat shingles designated "Traditional", for installation as Class A prepared roof coverings. Suitable for installation on minimum 15/32 in. thick plywood decks. Also Classified in accordance with ASTM D3161, Class A.

CERTAINTEED CORP R684

ROOFING PRODUCTS GROUP 1400 UNION MEETING RD PO BOX 1100, BLUE BELL PA 19422

Asphalt glass mat shingles designated CT 20, XT25, XT30, Hatteras, Carriage House, Centennial Slate, Grand Manor, Landmark, Landmark Plus, Landmark Premium, Landmark TL, Landmark TL (IR), Landmark-Woodscape, CT20IR, XT25IR, XT30IR, Classic Horizon, New Horizon and Patriot for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8 in. thick plywood decks. Also Classified in accordance with ASTM D3161, Class F. Also Classified in accordance with ASTM D3462. Also Classified in accordance with CSA-A123.5.

Asphalt glass mat shingles designated Presidential, Presidential IR, Presidential TL, Landmark-Woodscape Premium, Independence, Landmark Canada and Landmark Special for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8 in. thick plywood decks. Also Classified in accordance with ASTM D3161, Class A. Also Classified in accordance with ASTM D3462. Landmark Solaris and Highland Slate for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8 in. thick plywood decks. Also Classified in accordance with ASTM D3161, Class F. Also Classified in accordance with ASTM D3462.

Asphalt glass mat shingles designated Presidential for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8 in. thick plywood decks. Also Classified in accordance with ASTM D3462.

Asphalt glass mat and hip and ridge shingles designated Mountain Ridge for installation as Class A prepared roof coverings and as wind resistant roof coverings. Wind resistance has also been evaluated in accordance with ASTM D3161, Class F. Also Classified in accordance with ASTM D3462.

Asphalt glass mat and hip and ridge shingles designated Presidential Accessory, Presidential Accessory IR, Solaris H&R Accessory, Solaris Accessory, Solaris Accessory IR, Oxford's Hatteras Accessory, Shangle Ridge, Shadow Ridge and Cedar Crest for installation as Class A prepared roof coverings and have also been evaluated in accordance with ASTM D3161, Class F when BASF Sonnolastic NP 1 adhesive or Henkel PL® Polyurethane Roof & Flashing Sealant, applied as specified in manufacturer's application instructions." Also Classified in accordance with ASTM D3462. Also Classified in accordance with CSA-A123.5.

Asphalt glass mat shingles designated CT 20, XT25, XT30, Hatteras, Highland Slate, Carriage House, Centennial Slate, Grand Manor, Shadow Ridge, Hatteras, Accessory, Shangle Ridge, Landmark, Landmark Plus, Landmark Premium, Presidential, Presidential IR, Presidential TL, Presidential Accessory, Landmark TL, Landmark TL (IR), Firehalt, CT20IR, XT25IR, XT30IR, Classic Horizon, New Horizon, Woodscape, Woodscape Premium, Independence, Patriot, Landmark Impact Resistant, Landmark Solaris, Firescreen, Mountain. Ridge and Cedar Crest IR for installation as Class A prepared roof covering when used with minimum Type 30 underlayment over existing wood shingle roof.

GAF MATERIALS CORP R20633

1361 ALPS RD, WAYNE NJ 07470

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Prepared Roof-covering Materials (TFWZ)−*Continued*

Hip and Ridge shingles, designated ″Ridglass 8″, ″Ridglass 10″ and “Ridglass 12” for installation as Class A prepared roof coverings. Also Classified in accordance with ASTM D3161, Class A. Also Classified in accordance with ASTM D3462.

GAF MATERIALS CORP R21

1361 ALPS RD, WAYNE NJ 07470

Asphalt glass fiber mat shingles - ″Royal Sovereign,″ ″Sentinel,″ ″Timberline® HD,″ ″Timberline® Natural Shadow,″ “Timberline® Ultra HD,” ″Timberline® Cool Series,″ “Timberline® Majestic,” “Timberline® Majestic 30,” “Timberline® American Harvest™,” ″Marquis® WeatherMax®,″ ″Grand Canyon™,″ ″Grand Sequoia®,″ ″Camelot®,″ ″Camelot® 30,″ “Camelot® II,”″Camelot® IR,″ “Capstone®,” “Capstone® Impact Resistant IR” ″Country Mansion®,″ ″Country Mansion® II,″ ″Grand Slate®″, ″Grand Slate® II,″ ″Slateline®,″ ″Woodland Designer®,″ and ″Monaco™″ for installation as Class A prepared roof covering. Suitable for installation on minimum 3/8-in. thick plywood roof decks in combination with minimum one ply ″Shingle-Mate″ or Type 15 or Type 30 underlayment. Also Classified in accordance with ASTM D3161, Class F. Also Classified in accordance with ASTM D3462.

Asphalt glass fiber mat shingles - ″WeatherBlocker Starter Strip Shingles″ and “Pro-Start™ Starter Strip Shingles” for installation as Class A roof covering. Suitable for installation on minimum 3/8-in. thick plywood in combination with minimum one ply ″Shingle-Mate″ or Type 15 or Type 30 underlayment. Also Classified in accordance with ASTM D3161, Class A. Also Classified in accordance with ASTM D3462.

Asphalt glass fiber mat shingles - ″Royal Sovereign,″ ″Sentinel,″ ″Timberline® HD,″ ″Timberline® Natural Shadow,″ “Timberline® Ultra HD,” ″Timberline® Cool Series,″ “American Harvest,” ″Marquis® WeatherMax®,″ ″Grand Canyon™,″ ″Grand Sequoia®,″ and ″Camelot®″ for installation as Class A prepared roof covering when used with minimum Type 30 underlayment over existing wood shingle roof.

Asphalt glass mat and hip and ridge shingles - ″Timbertex Hip and Ridge″ for installation as Class A prepared roof covering. Also been evaluated in accordance with ASTM D3161, Class F when Henkel ″PL Roofing and Flashing Sealant″ or Sonneborn ″NP1 Gun-Grade Polyurethane Sealant″ or TopCoat Inc. ″FlexSeal Adhesive″ is applied as specified in manufacturer’s application instructions.″ Also Classified in accordance with ASTM D3462.

“Seal-A-Ridge®,” “Seal-A-Ridge® ArmorShield™” and “Z-Ridge” for installation as Class A prepared roof coverings.

GAF MATERIALS CORP R3915

SUITE 600 14911 QUORUM DR, DALLAS TX 75254

Asphalt glass mat shingles designated ″Timberline Natural Shadow,″ ″Timberline Prestique 30,″ ″Timberline Prestique 40,″ ″Timberline Majestic 30,″ ″Timberline Prestique Lifetime,″ ″Timberline Prestique Grande″ and ″Capstone,″ for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8-in. thick plywood decks.Also Classified in accordance with ASTM D3161, Class F. Also Classified in accordance with ASTM D3462.

Asphalt glass mat shingles designated ″Timberline ArmorShield II″ and ″ProStart Starter Strip″ for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8-in. thick plywood decks. Also Classified in accordance with ASTM D3462.

Hip and ridge shingles designated ″Seal-A-Ridge,″ ″Seal-A-Ridge Armor-Shield″ and ″Z-Ridge″ for installation as Class A prepared roof coverings.

IKO INDUSTRIES LTD R6765

71 ORENDA RD, BRAMPTON, ON L6W 1V8 CANADA

Asphalt organic felt shingles designated as “New Englander”, “T Lock”, “Imperial Superseal”, for installation as Class C roof coverings. Also Classified in accordance with ASTM D3161, Class A.

Asphalt glass fiber mat shingles designated “Super Armour-Seal”, for installation as Class A prepared roof coverings. Also Classified in accordance with ASTM D3161, Class A.

IKO MFG INC R9806

HAY RD EDGEMOOR, WILMINGTON DE 19809

Asphalt organic felt shingles designated “Imperial Seal 15”, for installation as Class C prepared roof coverings. Also Classified in accordance with ASTM D3161, Class A.

Asphalt glass fiber mat shingles designated “Imperial Glass 20”, “Gentry 25”, “Armour Glass 3 Tab”, “Armour Class”, “Gentry”, “Imperial Gentry”, for installation as Class A prepared roof coverings. Also Classified in accordance with ASTM D3161, Class A.

INOVATE MFG L L C R21860

9303 GARFIELD AVE, SOUTH GATE CA 90280

Asphalt glass fiber mat shingles designated “Artistic Slate”, for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8 in. thick plywood decks with underlayment such as asphalt saturated felt or shingle underlayment classified by UL as a prepared roofing accessory and on minimum 15/32 in. thick plywood decks without underlayment. Also Classified in accordance with ASTM D3161, Class A.

Hip and ridge shingles designated “Rapid Ridge”, for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8 in. thick plywood decks and on minimum 15/32 in. thick plywood decks without underlayment. Also Classified in accordance with ASTM D3161, Class A or Class F.

Prepared Roof-covering Materials (TFWZ)−*Continued*

MALARKEY ROOFING PRODUCTS R4299

3131 N COLUMBIA BLVD KENTON STATION PO BOX 17217, PORTLAND OR 97217

Asphalt glass fiber mat shingles designated “Dura-Seal 20”, “Dura-Seal 25”, “Northwest-XL”, “Northwest-XL AB”, “Highlander-CS”, “Highlander-CS AR”, and “Ecoasis”, for installation as Class A prepared roof coverings. Also Classified in accordance with ASTM D3161, Class A.

Asphalt glass fiber mat sheet roofing, for installation as Class C prepared roof coverings.

Hip and ridge shingles designated “EZ Ridge” and “EZ Ridge XT”, for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8 in. thick plywood decks and on minimum 15/32 in. thick plywood decks without underlayment. Also Classified in accordance with ASTM D3161, Class A or Class F.

OWENS CORNING BM KOREA CO LTD R26780

INJU INDUSTRIAL COMPLEX 1017 GEOLME-RI INJU-MYUN, ASAN-SHI, CHUNGNAM REPUBLIC OF KOREA

Asphalt glass fiber mat and shingles designated ‘‘Oakridge 30’’ shingles for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8 in. thick plywood decks with underlayment such as asphalt saturated felt or shingle underlayment classified by UL as a prepared roofing accessory (underlayment not required for hip and ridge shingles) and on minimum 15/32 in. thick plywood decks without underlayment. Asphalt glass fiber mat shingles for installation as wind resistant roof coverings. These shingles may also bear the statement ″Also Classified in accordance with ASTM D3161, Class F″.

OWENS CORNING R2453

1 OWENS CORNING PKY, TOLEDO OH 43659

Asphalt glass fiber mat sheet roofing designated ″Mineral Surfaced Roll Roofing″, for installation as Class C prepared roof coverings. These rolls may also bear the statement, ″Also Classified in accordance with ASTM D3909″.

Asphalt glass fiber mat and shingles designated Berkshire, Classic, Supreme, Oakridge (Oakridge Pro 30), Oakridge Pro 40, Oakridge Pro 50, Woodcrest, Woodmoor, Prominence, WeatherGuard HP, Duration, Duration Premium, Skyview, Starter Strip Plus and Starter Strip, for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8 in. thick plywood decks with underlayment such as asphalt saturated felt or shingle underlayment classified by UL as a prepared roofing accessory (underlayment not required for hip and ridge shingles) and on minimum 15/32 in. thick plywood decks without underlayment. Asphalt glass fiber mat shingles, for installation as Class C prepared roof coverings on minimum 3/8 in. thick plywood decks without underlayment. Asphalt glass fiber mat and hip and ridge shingles for installation as wind resistant roof coverings. These shingles may also bear the statement “Also Classified in accordance with ASTM D3161, Class F”, ″Also Classified in accordance with ASTM D3462” and ″Also Classified in accordance with CSA-A 123.5”. These roofing systems may incorporate starter shingles designated “Strip Shingle” or “TRI-BUILT Shingle Starter”.

Hip and ridge shingles designated ″High Ridge″, ″WeatherGuard HP″, ″Berkshire″, “Hip & Ridge shingles with sealant” for installation as Class A prepared roof coverings. These shingles may also bear the statements, ″Also Classified in accordance with ASTM D3161, Class F″, ″Also Classified in accordance with ASTM D3462” and the Hip & Ridge with sealant shingle may bear the statement “Also Classified in accordance with CSA-A 123.5″.

Hip and ridge shingles designated “RizeRidge” Hip & Ridge for installation as Class A prepared roof coverings. These shingles may also bear the statements, ″Also Classified in accordance with ASTM D3161, Class F″, ″Also Classified in accordance with ASTM D3462″.

Hip and ridge shingles designated ″DecoRidge″, for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8 in. thick plywood decks and on minimum 15/32 in. thick plywood decks without underlayment. Also Classified in accordance with ASTM D3161, Class A or Class F.

PABCO BUILDING PRODUCTS L L C, DBA PABCO ROOFING PRODUCTS R21274

1718 THORNE RD, TACOMA WA 98421

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Prepared Roof-covering Materials (TFWZ)−*Continued*

Asphalt organic felt shingles coverings designated“Universal”, “Custom Saf-T-Lok”, “Double Coverage Saf-T-Lok”,”Master Slab”, “Single Coverage Saf-T-Lok”, “Independence”, “SS-20”, “Hallmark”, “Sealdon”, “Solid Slab”, and “HO-25” for installation as Class C prepared roof coverings.

Asphalt glass mat shingles designated ″PABCO Premier®″, ″Premier Radiance®″, ″PABCO Premier® Professional″, ″PABCO Premier® Elite″, ″Premier Radiance® Elite″, ″SG-30″, ″Premier Advantage″, ″GG-20″, ″Paramont″, ″Paramount Starter″, ″Cascade″ and ″Paramount Advantage″ for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8 in. thick plywood decks. Also Classified in accordance with ASTM D3161, Class F. Also Classified in accordance with ASTM D3462.

Asphalt glass mat shingles designated “Paramount Starter” for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8 in. thick plywood decks. Also Classified in accordance with ASTM D3462.

Hip and Ridge Shingles designated “Shadow Cap” for installation as Class A prepared roof coverings. Also Classified in accordance with ASTM D3161, Class A. Also Classified in accordance with ASTM D3462.

SHERRIFF-GOSLIN CO **R20683**

10 AVENUE C, BATTLE CREEK MI 49015

Asphalt organic felt sheet roofing and shingles designated “Art-Loc”, for installation as Class C prepared roof coverings. Also Classified in accordance with ASTM D3161, Class A.

Asphalt glass mat shingles designated “Art-Loc I”, “Art-Loc II” and “Art Loc D/C Delux”, for installation as Class A prepared roof coverings. Suitable for installation over 3/8 in. and 1/2 in. plywood decks.

TAMKO BUILDING PRODUCTS INC **R2919**

220 W 4TH ST PO BOX 1404, JOPLIN MO 64801

Asphalt glass fiber mat shingles designated Glass-Seal (AR), Elite Glass-Seal (AR), Heritage, Heritage 30 (AR), Heritage XL (AR), Heritage Woodgate, Heritage 50 (AR), Heritage Premium and Heritage Vintage (AR) for installation as Class A prepared roof coverings, suitable for installation on minimum 3/8 in. thick plywood decks. Also Classified in accordance with ASTM D3161, Class F. Also Classified in accordance with ASTM D3462. Also Classified in accordance with CSA-A123.5.

Asphalt glass mat shingles designated Glass-Seal (AR), Elite Glass-Seal (AR), Heritage, Heritage 30 (AR), Heritage Woodgate, Heritage XL (AR), Heritage 50 (AR), Heritage Premium and Heritage Vintage (AR) for installation as Class A prepared roof covering when used with minimum Type 30 underlayment over existing wood shingle roof.

Hip and Ridge Shingles designated ″12 x 12 Hip and Ridge″ and “12-1/4 x12 Hip and Ridge” for installation as Class A prepared roof coverings. Also Classified in accordance with ASTM D3161, Class F. Also Classified in accordance with ASTM D3462.

TEGOLA CANADESE S P A **R14952**

VIA DELL’INDUSTRIA 21 VITTORIO VENETO 31029, TREVISO ITALY

Asphalt glass fiber mat copper clad shingles, for installation as Class A prepared roof coverings. ″Compact″, ″Elite″, ″Traditional″ and ″Standard″ wind resistance has been Classified in accordance with ASTM D3161, Class A. Suitable for installation on minimum 3/8 in. thick plywood decks with underlayment such as asphalt saturated felt or shingle underlayment Classified by UL as a prepared roofing accessory and on minimum 1/2 in. thick plywood decks without underlayment.

Asphalt glass fiber mat copper clad shingles, ″Compact″, ″Elite″, ″Traditional″ and ″Standard″ wind resistance has been Classified in accordance with ASTM D3161, Class F when utilized with a 1/4 in. bead of Geocel Corporation No. 2300 (Classified under Prepared Roofing Accessories, TGDY) adhesive applied to the leading edge of the shingle.

PREPARED ROOF-COVERING MATERIALS, FORMED OR MOLDED METAL, FIBER-CEMENT, PLASTIC OR FIRE-RETARDANT-TREATED WOOD (TFXX)

GENERAL

This category covers materials intended to provide Classes A, B and C coverings on combustible (wood, 3/4-in.-thick sheathing boards or 1/2-in.-thick plywood unless otherwise indicated) decks when applied in accordance with detailed instructions included with the packages.

The use of 15/32-in.-thick (minimum) plywood is a suitable alternate to 1/2-in.-thick (minimum) plywood specified in the individual Listings.

The use of 3/8-in.-thick (minimum) nonveneer APA-rated Series Sheathing (oriented strandboard panels, structural particleboard panels, composite panels or waferboard panels) is a suitable alternate to 1/2-in.-thick (minimum) plywood specified in the individual Listings for when a Classified underlayment is utilized between the sheathing and the prepared roof covering.

Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire-retardant-treated Wood (TFXX)−*Continued*

Listings are applicable either for new work or for recovering purposes.

Flashings and trimmings are intended to be the same as or not less than the equivalent of the roof coverings in each class, or of 16 oz. or heavier copper, No. 26 USS gauge or heavier galvanized steel, or 0.019-in. thick or heavier aluminum.

Where indicated in the individual Listings, specific products have been investigated in accordance with procedures adapted from ASTM D3161, “Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method),” at wind speeds up to 110 mph.

PREPARED ROOF-COVERING MATERIALS

Fiber-Cement Shingle Coverings are composed of non-asbestos fiber-cement shingles laid to provide two or more thicknesses in accordance with the instruction sheets accompanying the packages. These coverings are limited to roof decks capable of receiving and retaining nails and to inclines exceeding 3 in. to the horizontal foot.

Fire-retardant-treated Red Cedar Shakes and Shingles are composed of red cedar shakes and shingles pressure impregnated with a fire-retardant treating solution. The fire-retardant characteristics for these products when exposed to the effects of rain and weather have been investigated to ANSI/UL 790, “Standard Test Methods for Fire Tests of Roof Coverings.”

Formed Metal Shingle, Shake or Panel Coverings are composed of plain or painted aluminum sheet alloy, painted or coated steel or copper laid in accordance with the instruction sheets accompanying the packages. These coverings are limited to roof decks capable of receiving and retaining nails and to inclines sufficient to permit drainage. These coverings have been investigated only for fire resistance.

Formed or Molded Plastic Shingles are composed of various plastic materials formed into various shapes in various colors. These coverings are limited to inclines sufficient to permit drainage.

Photovoltaic (Solar) Modules/Shingles are composed of flat-plate photovoltaic module/panels fabricated in sheets that resemble three-tab composite shingles when installed in accordance with the manufacturer’s installation instructions. These coverings are limited to nominal 15/32-in.-thick (minimum) plywood decks and to inclines sufficient to permit drainage. These coverings have also been investigated to ANSI/UL 1703, “Flat-Plate Photovoltaic Modules and Panels” [see Photovoltaic Modules and Panels (QIGU)].

Reinforced Cast Stone Shingles are composed primarily of stone dust and a small amount of resin reinforced with glass fiber. These shingles are limited to 15/32-in.-thick (minimum) plywood decks and to inclines sufficient to permit drainage.

RELATED PRODUCTS

Prepared roof-covering materials investigated for impact resistance are covered under Roof-covering Materials, Impact Resistance (TGAM).

Accessory components utilized in the prepared roof-covering system are covered under Prepared Roofing Accessories (TGDY). Ridge vents utilized in the prepared roof-covering system are covered under Ridge Vents (TGEW). Type 15 and Type 30 asphalt felts, used as underlayments, are covered under Roofing Systems (TGFU). Underlayments, ridge vents and accessory components, when utilized, are intended to be Classified materials.

Other types of prepared roof-covering materials are covered under Prepared Roof-covering Materials (TFWZ).

ADDITIONAL INFORMATION

For additional information, see Roof-covering Materials (TEVT) and Roofing Materials and Systems (AARM).

REQUIREMENTS

The basic standard used to investigate products in this category is ANSI/UL 790, “Standard Test Methods for Fire Tests of Roof Coverings” (ASTM E108 and ANSI/NFPA 256).

ADJUNCT SERVICE

UL provides a service for the Classification of specific prepared roof-covering materials that not only meet the appropriate requirements of UL but also have been investigated to procedures adapted from ASTM D3161, “Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method).”

UL MARK

The Listing Mark of UL on the product is the only method provided by UL to identify products manufactured under its Listing and Follow-Up Service. The Listing Mark for these products includes the UL symbol (as illustrated in the Introduction of this Directory) together with the word “LISTED,” a control number, and the following additional information:

PREPARED ROOF COVERING MATERIALS
DEGREE OF RESISTANCE TO EXTERNAL FIRE – CLASS +

The Listing Mark may also include the following statement :

DEGREE OF WIND RESISTANCE INVESTIGATED IN ACCORDANCE WITH PROCEDURES ADAPTED FROM ASTM D3161 AT A WIND SPEED OF ++ MPH

+ **A**, **B** or **C**

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Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire-retardant-treated Wood (TFXX)−*Continued*

++ **60**, **90** or **110** (specific maximum wind speed used in the investigation)

* *

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ALLMET ROOFING PRODUCTS DIV OF METALS USA BUILDING PRODUCTS CANADA INC **R16378**

PROPERTY #581 NO 3 HIGHWAY PO BOX 220, COURTLAND, ON N0J 1E0 CANADA

Formed steel panel coverings designated ″Continental Tile″, “Continental Panel II”, ″Classic 1″, “Shake Tile”, “Shadowline Tile”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, ″Talavera″, ″Lakeland″, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB”, “Ridgewood NB”, “Tudor Slate NB”, “Guardian Shingle” and “Granite Ridge” for installation as Class A prepared roof coverings. Limited to 15/32 in. plywood decks or spaced sheathing covered with 1/2 in. gypsum board or 1/4 in. G-P Gypsum “DensDeck”. The gypsum board mechanically fastened to the deck with optional one layer of Type 15 felt over the gypsum board. For optional batten applications nominal 2 x 2 wood batten strips mechanically fastened to the deck with panels nailed or screwed to the battens. When battens are not used, the joints in the “DensDeck” are offset 6-in. with the joints in the deck.

Formed steel panel coverings designated ″Continental Tile″, “Continental Panel II”, ″Classic 1″, “Shake Tile”, “Shadowline Tile”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, ″Talavera″, ″Lakeland″, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB”, “Ridgewood NB”, “Tudor Slate NB”, “Guardian Shingle” and “Granite Ridge” for installation as Class A prepared roof coverings. Suitable for use over an existing wood shingle, wood shake or composition organic/fiber glass shingle roof. A 1/2 in. gypsum board or 1/4 in. G-P Gypsum “DensDeck” overlayment board is placed directly over existing shakes or shingles mechanically fastened to the deck or to 1 x 4 wood or metal battens followed by nominal 2 x 2 battens with the shingles nailed or screwed to the 2 x 2 batten strips.

Formed steel panel coverings designated ″Continental Tile″, “Continental Panel II”, ″Classic 1″, “Shake Tile”, “Shadowline Tile”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, ″Talavera″, ″Lakeland″, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB”, “Ridgewood NB” and “Tudor Slate NB” for installation as Class B prepared roof coverings. Limited to 15/32 in. thick plywood decks when one or more layers of Type G3 cap sheet is utilized as underlayment.

Formed steel panel coverings designated ″Continental Tile″, “Continental Panel II”, ″Classic 1″, “Shake Tile”, “Shadowline Tile”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, ″Talavera″, ″Lakeland″, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB”, “Ridgewood NB”, “Tudor Slate NB”, “Guardian Shingle” and “Granite Ridge” for installation as Class B prepared roof coverings. Suitable for use over an existing wood shingle, wood shake or composition organic/fiber glass shingle roof. An FSK faced batt and blanket, face up, 1-1/2 in. thick is placed directly over existing shakes or shingles mechanically fastened to the deck followed by 1 x 4 wood or metal battens followed by nominal 2 x 2 battens with the shingles nailed or screwed to the 2 x 2 batten strips.

Formed steel panel coverings designated ″Continental Tile″, “Continental Panel II”, ″Classic 1″, “Shake Tile”, “Shadowline Tile”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, ″Talavera″, ″Lakeland″, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB”, “Ridgewood NB” and “Tudor Slate NB” for installation as Class A prepared roof covering. When installed use over existing Class A fiberglass shingles.

Formed steel panel coverings designated ″Continental Tile″, “Continental Panel II”, ″Classic 1″, “Shake Tile”, “Shadowline Tile”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, ″Talavera″, ″Lakeland″, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB”, “Ridgewood NB” and “Tudor Slate NB” for installation as Class B prepared roof covering. Suitable for use over existing Class A or B BUR roof system utilizing fiber glass cap sheet.

Formed steel panel coverings designated ″Continental Tile″, “Continental Panel II”, ″Classic 1″, “Shake Tile”, “Shadowline Tile”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, ″Talavera″, ″Lakeland″, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB”, “Ridgewood NB” and “Tudor Slate NB” for installation as Class A prepared coverings. Suitable for use over an existing wood shake followed by two layers of Elk Corporation “Versashield Underlayment” or “Versashield FB-2S”.

Formed steel panel coverings designated ″Continental Tile″, “Continental Panel II”, ″Classic 1″, “Shake Tile”, “Shadowline Tile”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, ″Talavera″, ″Lakeland″, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB”, “Ridgewood NB”, “Tudor Slate NB”, “Guardian Shingle” and “Granite Ridge” for installation as Class B prepared coverings. Suitable for use over 15/32 in. plywood decks and one layer of Elk Corporation “Versashield Underlayment”.

Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire-retardant-treated Wood (TFXX)−*Continued*

Formed steel panel coverings designated ″Continental Tile″, “Continental Panel II”, ″Classic 1″, “Shake Tile”, “Shadowline Tile”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, ″Talavera″, ″Lakeland″, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB”, “Ridgewood NB”, “Tudor Slate NB”, “Guardian Shingle” and “Granite Ridge” for installation as Class A prepared roof coverings. Limited to 15/32 in. plywood decks or spaced sheathing covered with two layers of Elk Corporation’s “Versashield Underlayment”, followed by the shingles.

Formed steel panel coverings designated ″Continental Tile″, “Continental Panel II”, ″Classic 1″, “Shake Tile”, “Shadowline Tile”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, ″Talavera″, ″Lakeland″, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB”, “Ridgewood NB”, “Tudor Slate NB”, “Guardian Shingle” and “Granite Ridge” for installation as Class A prepared roof coverings. Limited to 15/32 in. plywood decks or spaced sheathing covered with one layer of Elk Corporation’s “Versashield Underlayment”, followed by one layer of Type 30, followed by the shingles fastened to 2 by 2 in. battens where applicable.

Formed steel panel coverings designated ″Continental Tile″, “Continental Panel II”, ″Classic 1″, “Shake Tile”, “Shadowline Tile”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, ″Talavera″, ″Lakeland″, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB”, “Ridgewood NB”, “Tudor Slate NB”, “Guardian Shingle” and “Granite Ridge” for installation as Class B prepared roof coverings. Limited to 15/32 in. plywood decks or spaced sheathing covered with one layer of Elk Corporation’s “Versashield Underlayment”, followed by the shingles.

Formed steel panel coverings designated ″Continental Tile″, “Continental Panel II”, ″Classic 1″, “Shake Tile”, “Shadowline Tile”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, ″Talavera″, ″Lakeland″, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB”, “Ridgewood NB”, “Tudor Slate NB”, “Guardian Shingle” and “Granite Ridge” for installation as Class A UL Listed roof system. Covered with one layer of Elk Corporation’s “Versashield Underlayment”, followed by the shingles.

Formed steel panel coverings designated ″Continental Tile″, “Continental Panel II”, ″Classic 1″, “Shake Tile”, “Shadowline Tile”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, ″Talavera″, ″Lakeland″, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB”, “Ridgewood NB”, “Tudor Slate NB”, “Guardian Shingle” and “Granite Ridge” designated as Class B prepared roof coverings. Suitable for use over an existing wood shingle, wood shake, or composition organic/fiber glass shingle roof. Covered with one layer of Elk Corporation’s “Versashield Underlayment”, followed by the shingles.

Formed steel panel coverings designated ″Continental Tile″, “Continental Panel II”, ″Classic 1″, “Shake Tile”, “Shadowline Tile”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, ″Talavera″, ″Lakeland″, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB” and “Tudor Slate NB” for installation as Class C Prepared roof covering limited to 15/32 in. plywood or spaced sheathing covered with minimum one layer of Type 30 or two layers of Type 15 felt.

ALUMINUM SHINGLE CO **R21972**

102 S ELLISON ST, LAYTON UT 84041

Formed aluminum shingles, “Perma-Lock”. Aluminum Shingles for installation as Class A prepared roof covering when laid over one layer of type 30 base sheet and one of the following: 1/2-in. thick gypsum wallboard, 1/4-in. thick G-P Gypsum DensDeck®, or one or more layers of Elk “Versashield Underlayment”. The above Class A covering is suitable for installation over minimum 15/32 inch thick plywood decking. It has also been evaluated for a wind velocity of up to 110 mph.

ATAS INTERNATIONAL INC **R12113**

6612 SNOWDRIFT RD, ALLENTOWN PA 18106

Formed steel panel covering, designated ″Scanroof SCP163″ or ″Multi-Purpose MPN120″ for installation as Class A prepared roof covering. Limited to 1/2 in. thick minimum gypsum board over minimum 1/2 in. plywood. the gypsum board is covered with one ply of Type 15 base sheet.

Formed steel panel covering, designated ″Scanroof SCP163″ or ″Multi-Purpose MPN120″ for installation as Class B prepared roof covering. This Class B rating is suitable for installation over existing wood shingles when covered with one layer of Type G2 base sheet.

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Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire-retardant-treated Wood (TFXX)−*Continued*

CERTAINTEED CORP **R25390**

ROOFING PRODUCTS GROUP 1400 UNION MEETING RD PO BOX 1100, BLUE BELL PA 19422

Molded plastic shingles designated "Symphony Slate" for installation as Class B prepared roof coverings. For use over 15/32 in. deck with one layer of "All Weather/Empire Base Sheet".

Molded plastic shingles designated "Symphony Slate" for installation as wind resistance roof coverings. Wind resistance has also been evaluated at wind velocities up to 110 mph. Limited to a max. 7 in. exposure.

CHEMCO INC **R21562**

4191 GRANDVIEW RD PO BOX 875, FERNDALE WA 98248

Fire-retardant pressure treated red cedar shakes designated "Weathered No. 1 Grade Red Cedar Shake", for installation as Class A prepared roof covering suitable for use over min. 15/32-in plywood or nominal 3/4 in spaced sheathing. Shakes are to be provided with at least one layer of Type 30 or Type II (ASTM D4869) asphalt-saturated organic felt.

CINDU DE VENEZUELA SA **R10372**

PO BOX 60338, CARACAS, DISTRICT FEDERAL 1060 VENEZUELA

Aluminum foil faced, asphalt coated, formed steel panels, Models Acerotec, Acerolit, Cindulit 180, Cindutop, Cinduteja, Coverib or Cindurib for installation as Class C prepared roof coverings. Limited to open frame roofs at inclines sufficient to permit drainage (no maximum incline).

CROWE BUILDING PRODUCTS LTD **R21159**

116 BURRIS ST, HAMILTON, ON L8M 2J5 CANADA

Formed roofing shingles designated, "Authentic™" Shingle, for installation over minimum 15/32 in. thick plywood decks as a Class A prepared roof coverings when laid over one layer of 1/4 in. thick G-P Gypsum DensDeck® or 1/2 in. thick gypsum board followed by one or more layers of Type 30 underlayment either as an interply or as a base sheet alone. Also for installation over minimum 15/32 in. thick plywood decks as a Class A prepared roof coverings when laid over one or more layers of Type G2 underlayment either as an interply or as a base sheet alone.

Formed Roofing shingles designated, "Authentic™" Shingle, for installation as Class B prepared roof covering. Limited to 15/32 in. plywood decks and one ply of Type G1 plysheet.

Formed roofing shingles designated, "Authentic™" Shingle, for installation over minimum 15/32 in. plywood decks as a Class C prepared roof coverings when applied with one layer of Type 30 underlayment either as an interply or as a base sheet alone.

CUSTOM-BILT METALS **R25777**

13940 MAGNOLIA AVE, CHINO CA 91710

Formed steel or copper shingles designated "Vail Titan Select" or "Vail Majestic Copper", for installation as Class A prepared roof covering when installed in accordance with manufacturers installation instructions. Suitable for use over 15/32 in. thick plywood decking covered with either 1/2 in. thick Type-X gypsum board or 1/4 in. thick Georgia Pacific Corp. "DensDeck®" overlayment board followed by one ply Type 30 asphalt saturated felt base sheet. These shingles may be also bear the statement "Degree of wind resistance investigated in accordance with procedures adapted from ASTM D3161 at a wind speed of 110 mph".

Formed steel or copper shingles designated "Vail Titan Select" or "Vail Majestic Copper", for installation as Class C prepared roof covering when installed in accordance with manufacturers installation instructions. Suitable for use over 15/32 in. thick plywood decking covered with minimum of two plies Type 15 asphalt saturated felt or one ply Type 30 asphalt saturated felt.

DAVINCI ROOFSCAPES L L C **R21181**

1413 OSAGE, KANSAS CITY KS 66105

Molded plastic shingles, designated "DaVinci Shake" or "DaVinci Slate" for installation as Class A roof coverings. For use over 15/32 in. deck with one layer of Elk Corporation "VersaShield Underlayment".

Molded plastic shingles, designated "DaVinci Shake" or "Davinci Slate" for installation as Class C roof coverings. For use over 15/32 in. deck with one layer of Type 30 felt.

Molded plastic shingles, designated "DaVinci Shake" or "DaVinci Slate" for installation as wind resistance roof coverings. Wind resistance has also been evaluated at wind velocity of 60 mph. Limited to a 10 in. exposure.

Molded plastic shingles, designated "DaVinci Shake" for installation as wind resistance roof coverings. Wind resistance has also been evaluated at wind velocities up to 110 mph. Limited to a 9 in. exposure.

DECRA ROOFING SYSTEMS INC **R14710**

1230 RAILROAD ST, CORONA CA 92882

ROOF-COVERING MATERIALS (TEVT)

Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire-retardant-treated Wood (TFXX)−*Continued*

The following formed steel panel coverings may be installed as detailed below: Decrabond Tile, Typhoon Tile, Typhoon Shake, Corona Shake Plus, Typhoon Shake Plus, Corona Shake, Decra Slate, Alfa Tile, Alfa Shake, Decra Tile Plus, Decra Shake, Decra Shake Plus, Decra Slate Plus, Decra Tile, Decra Shingle Plus, Decra Shingle, Villa Tile, DECRA Shake XD, DECRA Shingle XD.

Formed steel tile covering, (stone coated) for installation as Class B prepared roof coverings. Limited to 1/2 in. minimum plywood decks provided with an underlayment of 0.002 in. polyethylene coated steel foil and fire retardant treated battens.

Formed steel tile covering, (stone coated) for installation as Class A prepared roof coverings. Limited to 1/2 in. thick minimum, UL Classified gypsum board or 1/4 in. G-P Gypsum DensDeck® nailed to the rafters (or battens applied over existing roofs); the gypsum board is covered with one ply of Type 15 asphalt saturated organic felt and nominal 2 x 2 battens.

Formed steel tile covering, (stone coated) for installation as Class A prepared roof coverings over existing roofs. Limited to 1/2 inch thick minimum UL Classified gypsum wallboard or 1/4 in. G-P Gypsum DensDeck® nailed to nominal 1 by 4 inch (19.1 by 89 mm) counterbattens over existing roof; the gypsum wallboard is covered with one ply of Type 15 or Type 30 asphalt saturated organic felt and 1-1/2 by 1-1/2 inch battens.

Formed steel tile covering, (stone coated batten systems) for installation as Class B prepared roof coverings over existing wood shingle or wood shake roofs. 1-1/2 inch thick UL Classified fiberglass foil-faced Batts and Blankets loosely laid over existing roof. Nominal 1 by 4 inch (19.1 by 89 mm) counterbattens nailed parallel to the framing members at 24 in. on center. 1-3/4 in. high by 1-1/2 in. wide battens nailed perpendicular to the counterbattens at 14-1/2 inches (maximum) on center.

Formed steel tile covering, (stone coated) for installation as Class A prepared roof coverings. Suitable for use over 15/32 in. thick plywood decking covered with minimum of one layer Type G3 cap sheet.

Formed steel tile covering or shingles, (stone coated batten systems or direct to deck systems) for installation as Class A prepared roof coverings when installed in accordance with this manufacturer's installation instructions. Suitable for use over 15/32 in. plywood decks or spaced sheathing followed by one layer of GAF Elk "VersaShield Underlayment" followed by the shingles.

Formed steel tile shingles, (stone coated) for installation as Class A prepared roof coverings when installed in accordance with this manufacturer's installation instructions. Suitable for use over existing wood shake roof system followed by two or more layers of GAF Elk "VersaShield Underlayment" mechanically fastened followed by the formed steel tile shingles.

Formed steel tile covering or shingles, (stone coated batten systems or direct to deck systems) for installation as Class C prepared roof coverings when installed in accordance with this manufacturer's installation instructions. Suitable for use over 15/32 in. plywood decks or spaced sheathing covered with one ply of Type 15 or Type 30 asphalt saturated organic felt or any UL Classified underlayment followed by the shingles.

Formed steel tile covering, (stone coated batten systems) for installation as Class B prepared roof coverings when installed in accordance with this manufacturer's installation instructions. Suitable for use over 15/32 in. plywood decks or spaced sheathing followed by one ply of Type 15 or Type 30 asphalt saturated organic felt or any UL Classified underlayment and one layer of 1-1/2 in. UL Classified fiberglass foil-faced Batts and Blankets loosely laid over the asphalt saturated organic felt followed by the panels.

DIBENEDETTO LIGHTWEIGHT ROOF TILE CO **R25403**

410 N PARK AVE, KANSAS CITY MO 64120

Formed cement composite shingles designated "Elagante," for installation over 15/32 in. thick plywood decks as a Class B prepared roof coverings when laid over one layer of any UL Classified, self-adhered, minimum 40 mil thick underlayment. An UL Classified foam adhesive may be used between the underlayment and the tile. A metal channel is mechanically fastened at pre-determined courses in accordance with manufacturer's installation instructions.

ECOSTAR L L C **R18920**

42 EDGEWOOD DR, HOLLAND NY 14080

Molded plastic shingles, for installation as Class A prepared roof covering. Limited to 15/32 in. plywood decks and one layer of G-P Gypsum, 1/4 in. (min) DensDeck® with all joints staggered a min of 6 in. from the plywood joints and one ply of Type 30 asphalt felt, or one ply of ELK VERSASHIELD™ Underlayment (one layer of UL Classified self-adhering underlayment may be optionally used under the VERSASHIELD™ Underlayment) or Atlas Roofing "FR 50", covered with any one or combination of the following shingles: Majestic Slate Products ("Traditional", "Colonial", "Beveled Edge", "Beavertail", "Chisel Point"), Seneca Cedar Shake Products ("Seneca"), or Titus Products ("Titus"). As an option, an additional layer of [illegible] underlayment or any UL Classified base sheet underlayment product may be installed directly below the shingles.

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Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire-retardant-treated Wood (TFXX)−*Continued*

Molded plastic shingles, for installation as Class A prepared roof covering. Limited to 15/32 in. plywood decks and one layer of G-P Gypsum, 1/4 in. (min) DensDeck® with all joints staggered a min of 6 in. from the plywood joints and one ply of Type 30 asphalt felt, or two plies of ELK VERSASHIELD™ Underlayment (one layer of UL Classified self-adhering underlayment may be optionally used under the VERSASHIELD™ Underlayment), or Atlas Roofing "FR 50", covered with any one or combination of the following shingles: Seneca Cedar Shake Products ("Seneca Plus", "Thick Butt"). As an option, an additional layer of Aqua Guard underlayment or any UL Classified base sheet or underlayment product may be installed directly below the shingles.

Molded plastic shingles, for installation as Class C prepared roof covering. Limited to 15/32 in. plywood decks. Minimum one ply of Type 30 felt, covered with any one or combination of the following shingles: Majestic Slate Products ("Traditional", "Colonial", "Beveled Edge", "Beavertail", "Chisel Point"), Seneca Cedar Shake Products ("Seneca", "Seneca Plus", "Thick Butt") or Titus Products ("Titus"). As an option, an additional layer of Aqua Guard underlayment or any UL Classified sheet or underlayment product may be installed directly below the shingles.

Molded plastic shingles, designated "Majestic Slate Colonial", "Majestic Beveled Edge Slate", "Majestic Beavertail Slate", "Majestic Slate Traditional" or "Majestic Chisel Point Slate" for installation as wind resistance roof coverings up to 110 mph. Limited to a max. 7 in. exposure with a min. 3 in. x 10 in. strip of ″Sure-Seal SecurTape″ applied to the backside of the shingle.

Molded plastic shingles, designated "Majestic Slate Colonial", "Majestic Beveled Edge Slate", "Majestic Beavertail Slate", "Majestic Slate Traditional" or "Majestic Chisel Point Slate″ may be also bear the statement "Degree of wind resistance investigated in accordance with procedures adapted from ASTM D3161 at a wind speed of 110 mph". Limited to a max. 7 in. exposure with a min. 1/4 in. bead, 10 in. long of the Dow Corning ″790 Silicone Building Sealant″ applied to the backside of the shingle.

Molded plastic shingles, designated "Seneca Cedar Shake Tiles", "Seneca Plus Shake" or "Seneca Shake Thick Butt Design" may be also bear the statement "Degree of wind resistance investigated in accordance with procedures adapted from ASTM D3161 at a wind speed of 110 mph". Limited to a max. 8 in. exposure with a min. 1/4 in. bead of the Dow Corning ″790 Silicone Building Sealant″ applied to the backside of the shingle, within 1 in. of each side of the shingle.

Molded plastic shingles, designated "Seneca Shake Thick Butt Design" or "Seneca Plus Shake" may be also bear the statement "Degree of wind resistance investigated in accordance with procedures adapted from ASTM D3161 at a wind speed of 110 mph". Limited to a max. 8 in. exposure.

Molded plastic shingles, for installation as Class A prepared roof covering. Limited to 15/32 in. plywood decks and one layer of G-P Gypsum, 1/4 in. (min) DensDeck® with all joints staggered a min of 6 in. from the plywood joints and one ply of Type 30 asphalt felt, or one ply of ELK VERSASHIELD™ Underlayment (one layer of UL Classified self-adhering underlayment may be optionally used under the VERSASHIELD™ Underlayment) or Atlas Roofing ″FR 50″, covered with any one or combination of the following shingles: Empire Slate Products (″Traditional″, ″Beveled Edge″, ″Beavertail″, ″Chisel Point). As an option, an additional layer of Aqua Guard underlayment or any UL Classified base sheet or underlayment product may be installed directly below the shingles.

Molded plastic shingles, designated ″Empire Beveled Edge Slate″, ″Empire Beavertail Slate″, ″Empire Slate Traditional″ or ″Empire Chisel Point Slate″ may be also bear the statement ″Degree of wind resistance investigated in accordance with procedures adapted from ASTM D3161 at a wind speed of 110 mph″. Limited to a max. 6 in. exposure with a min. 1/4 in. bead, 10 in. long of the Dow Corning ″790 Silicone Building Sealant″ applied to the backside of the shingle.

ENGINEERED RUBBER PRODUCTS R19279

1137 N ELM ST, WEST LIBERTY IA 52776

Molded plastic shingles, ''Cienda ™'', for installation as Class C roof coverings in accordance with manufacturers installation instructions. Suitable for use on minimum 15/32 in. plywood deck covered with one layer of GAF ''Weather Watch Waterproof Underlayment''.

Molded plastic shingles, ''Simulated Slate'', for installation as Class A roof coverings in accordance with manufacturers installation instructions. Suitable for use on minimum 15/32 in. plywood deck covered with one layer of Type 30 saturated felt .

GAF MATERIALS CORP R25496

1361 ALPS RD, WAYNE NJ 07470

Slate roofing tiles designated ″Tru-Slate″, for installation over minimum 15/32 in. thick plywood decks as a Class A prepared roof coverings when laid over one layer ''VersaShield™ Underlayment''.

Slate roofing tiles designated ″Tru-Slate″, for installation over minimum 15/32 in. thick plywood decks as a Class B prepared roof coverings when laid over with one layer of Type 15 or 30 asphalt saturated felt or any Classified underlayment.

Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire-retardant-treated Wood (TFXX)−*Continued*

GERARD ROOFING TECHNOLOGIES R12596

955 COLUMBIA ST, BREA CA 92821

The following formed steel panel coverings may be installed as detailed below:

"Allmet Tile", "Armor Tile", "Eco Loc Tile", "Energy Loc Tile", "Gerard Tile", "Roof Loc Tile", "Stone Loc Tile", "Storm Loc Tile", Stormtile Tile", Allmet Shake", "Armor Shake", "Eco Loc Shake", "Energy Loc Shake", "Gerard Shake", "Roof Loc Shake", "Stone Loc Shake", "Storm Loc Shake", "Stormtile Shake", "Allmet Canyon Shake", "Armor Canyon Shake", "Eco Loc Canyon Shake", "Energy Loc Canyon Shake", "Gerard Canyon Shake", "Roof Loc Canyon Shake", "Stone Loc Canyon Shake", Storm Loc Canyon Shake", "Stormtile Canyon Shake", "Allmet Barrel Vault", "Armor Barrel Vault", "Eco Loc Barrel Vault", "Energy Loc Barrel Vault", "Gerard Barrel Vault", "Roof Loc Barrel Vault", "Stone Loc Barrel Vault", Storm Loc Barrel Vault", "Stormtile Barrel Vault", "Allmet NB Tile", "Armor NB Tile", "Eco Loc NB Tile", "Energy Loc NB Tile", "Gerard NB Tile", "Roof Loc NB Tile", "Stone Loc NB Tile", "Storm Loc NB Tile", Stormtile NB Tile". ″Gerard Granite Ridge″, ″Energy Loc Granite Ridge″, ″Storm Loc Granite Ridge″, ″Allmet Granite Ridge″, ″Gerard Diplomat Plus″, ″Energy Loc Diplomat Plus″, ″Storm Loc Diplomat Plus″, ″Allmet Diplomat Plus″, "Armor Granite Ridge", "Eco Loc Granite Ridge", "Roof Loc Granite Ridge", "Stone Loc Granite Ridge", "Stormtile Granite Ridge", "Armor Diplomat Plus", "Eco Loc Diplomat Plus", "Roof Loc Diplomat Plus", "Stone Loc Diplomat Plus", "Stormtile Diplomat Plus" Allmet Guardian", "Armor Guardian", "Eco Loc Guardian", "Gerard Guardian", Roof Loc Guardian", "Stone Loc Guardian", "Storm Loc Guardian", "Storm Tile Guardian", "Allmet Diplomat", "Armor Diplomat", "Eco Loc Diplomat", "Energy Loc Diplomat", "Gerard Diplomat", "Roof Loc Diplomat", "Stone Loc Diplomat", "Storm Loc Diplomat" and "Stormtile Diplomat".

Formed steel panel coverings, for installation as Class A prepared roof coverings. Limited to 15/32-in. min. plywood decks or spaced sheathing covered with 1/2-in. thick min. gypsum board or 1/4 in. thick (min) G-P Gypsum DensDeck® mechanically fastened to the deck with optional one layer of Type 15 felt over the gypsum board. Followed by nominal 2 in. x 2 in. battens strips mechanically fastened to the deck with the panels nailed to the batten strips.

Formed steel panel coverings, for installation as Class A prepared roof coverings. Suitable for installation over an existing wood shingle, wood shake or composition organic/fiberglass shingle roof. A 1/2-in. thick min UL Classified gypsum board or 1/4 in. thick (min) G-P Gypsum DensDeck® is placed directly over the existing shakes or shingles mechanically fastened to the deck or to nominal 1 in. x 4 in. swood or metal batten strips, followed by nominal 2 in. x 2 in. wood or metal batten strips mechanically fastened to the gypsum board with the panels nailed to the batten strips.

Formed steel panel coverings, for installation as Class B prepared roof coverings. Suitable for installation over an existing wood shingle, wood shake or composition organic/fiberglass shingle roof. An FSK faced batt and blanket, face up, 1-1/2-in. thick, is placed directly over the existing shakes or shingles, followed by nominal 1 in. x 4 in. wood or metal batten strips mechanically fastened to the deck, followed by nominal 2 in. x 2 in. wood or metal batten strips mechanically fastened to the 1 in. x 4 in. batten strips with the panels nailed to these batten strips or nominal 1 in. x 4 in. wood or metal batten strips mechanically fastened to the deck, followed by nominal 2 in. x 2 in. wood or metal batten strips mechanically fastened to the 1 in. x 4 in. batten strips, followed by FSK faced batt and blanket, face up, 1-1/2 in. thick. is placed between each 2 in. x 2 in. batten row, with the panels fastened to these batten strips.

Formed steel panel coverings, for installation as Class A prepared roof coverings for installation over an existing wood shingle, wood shake or composition organic/fiberglass shingle roof. One layer of Type G3 cap sheet granule side up is placed directly over the existing shakes or shingles, followed by nominal 1 in. x 4 in. wood or metal batten strips mechanically fastened to the deck, followed by nominal 2 in. x 2 in. wood or metal batten strips mechanically fastened to the 1 in. x 4 in. batten strips, followed by FSK faced batt and blanket, face up, 1-1/2 in. thick, is placed between each 2 in. x 2 in. batten row, with the panels fastened to these batten strips.

Formed steel panel coverings, for installation as Class A prepared roof coverings. Limited to 15/32 in. plywood decks or spaced sheathing covered with two layers of Elk Corporation's "Versashield Underlayment", followed by the shingles.

Formed steel panel coverings, for installation as Class A prepared roof coverings. Limited to 15/32 in. plywood decks or spaced sheathing covered with one layer of Elk Corporation's "Versashield Underlayment", followed by one layer of Type 30, followed by the shingles fastened to 2 by 2 in. battens where applicable.

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Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire-retardant-treated Wood (TFXX)−*Continued*

Formed steel panel coverings, for installation as Class B prepared roof coverings. Limited to 15/32 in. plywood decks or spaced sheathing covered with one layer of Elk Corporation's "Versashield Underlayment", followed by the shingles.

Formed steel panel coverings, for installation as Class A prepared roof coverings. Suitable for use over any Class A UL Listed roof system. Covered with one layer of Elk Corporation's "Versashield Underlayment", followed by the shingles .

Formed steel panel coverings, designated as Class B prepared roof coverings. Suitable for use over an existing wood shingle, wood shake, or composition organic/fiber glass shingle roof. Covered with one layer of Elk Corporation's "Versashield Underlayment", followed by the shingles .

Formed steel panel coverings, for installation as Class A prepared roof coverings for installation over an existing wood shingle, wood shake or composition organic/fiberglass shingle roof. Nominal 1 in. x 4 in. wood or metal batten strips mechanically fastened vertically to the deck, followed by nominal 2 in. x 2 in. wood or metal batten strips mechanically fastened horizontally to the 1 in. x 4 in. batten strips. "Gerard Support Panel" is placed between each 2 in. x 2 in. batten row, with the shingle panels fastened to these batten strips.

Formed steel panel coverings, for installation as Class B prepared roof coverings. Limited to 1 in. plywood decks or spaced sheathing with fill-ins of 1 in. x 4 in. boards covered with one layer of 30# felt or 72# cap, followed by the shingles.

ISAIAH INDUSTRIES INC R5100

8510 INDUSTRIAL PARK DR PO BOX 701, PIQUA OH 45356

Formed aluminum or steel shingles or shake designated "Rough Shake," "Rustic Shingle," "Country Manor Shake," "Kasselshake," "Oxford Shingle," and "Great American Shake," for installation as Class A prepared roof covering when laid over 1/2-in. thick Type X gypsum sheathing or 1/4-in. thick G-P Gypsum DensDeck®. The above Class A covering is suitable for installation over min 15/32 in. thick plywood decking or over an existing wood shingle or wood shake roof.

Formed aluminum or steel shingles or shake designated "Rough Shake," "Rustic Shingle," "Country Manor Shake," "Kasselshake," "Oxford Shingle," and "Great American Shake," for installation as Class B prepared roof covering when laid over two plies of Type G2 Coated Cap or Base Sheet (Johns Manville "Glaskap"). Suitable for installation over min 15/32 in. thick plywood decking or over an existing wood shingle or wood shake roof.

Formed aluminum or steel shingles or shake designated "Rough Shake," "Rustic Shingle," "Country Manor Shake," "KasselShake," "Oxford Shingle," and "Great American Shake," for installation as Class B prepared roof coverings when laid over three plies of Type G2 Base Sheet (Johns Manville "Glas Base"). Suitable for installation over min 15/32 in. thick plywood decking or over an existing wood shingle or wood shake roof.

Formed aluminum or steel shingles or shake designated "Rough Shake," "Rustic Shingle," "Country Manor Shake," "KasselShake," "Oxford Shingle," and "Great American Shake," for installation as Class C prepared roof coverings when laid over Type 30 asphalt organic felt. Suitable for installation over min 15/32 in. thick plywood decking or over an existing wood shingle or wood shake roof.

Formed aluminum or steel shingles or shake designated "Rough Shake," "Rustic Shingle," "Country Manor Shake," "KasselShake," "Oxford Shingle," and "Great American Shake," for installation as Class C prepared roof coverings when laid over one ply of Labeled Type 15 asphalt saturated organic felt.

Formed steel shingles designated "KasselShake," for installation as Class A prepared roof covering when laid over one layer of type 30 base sheet and layer of Elk "Versashield Underlayment". Suitable for installation over 15/32 in. thick plywood decking.

Formed aluminum shingles designated "Rough Shake," "Rustic Shingle," "Country Manor Shake," "Oxford Shingle," and "Great American Shake," for installation as Class A prepared roof covering when laid over two or more layers of Elk "Versashield Underlayment". Suitable for installation over 15/32 in. thick plywood decking.

Formed aluminum shingles designated "Rough Shake," "Rustic Shingle," "Country Manor Shake," "Oxford Shingle," and "Great American Shake," for installation as Class B prepared roof covering when laid over one or more layers of Elk "Versashield Underlayment". Suitable for installation over 15/32 in. thick plywood decking.

The Class C formed aluminum shakes and shingles designated "Rough Shake," "Rustic Shingle," "Country Manor Shake," "Oxford Shingle," and "Great American Shake," are also suitable for installation over existing wood shingles, wood shakes or asphalt shingles when installed as specified above.

Formed steel panel covering designated "KasselWood", for installation as Class A prepared roof coverings. Limited to 15/32 in. (min) plywood decks with 1/4 in. (min) thick G-P Gypsum DensDeck® or 1/2 in. (min) thick gypsum board with all joints staggered a min of 6 in. from the plywood joints. One layer of Type 15 or 30 felt underlayment may be applied under or over the gypsum barrier.

ROOF-COVERING MATERIALS (TEVT)

Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire-retardant-treated Wood (TFXX)−*Continued*

Formed steel panel covering designated "KasselWood", for installation as Class A prepared roof coverings. Suitable for installation over an existing wood shingle, wood shake or composition organic/fiberglass shingle roof. A 1/2-in. thick min UL Classified gypsum board or 1/4 in. thick (min) G-P Gypsum DensDeck® is placed directly over the existing shakes or shingles mechanically fastened to the deck.

Formed steel panel covering designated "KasselWood", for installation as Class A prepared roof coverings. Limited to 15/32 in. plywood decks or spaced sheathing covered with two layers of Elk Corporation "Versashield Underlayment", followed by the shingles.

Formed steel panel covering designated "KasselWood", for installation as Class C prepared roof coverings. Limited to 15/32 in. (min.) plywood decks with one layer of Type 30 felt underlayment or two layers of Type 15 felt underlayment.

Formed steel panel covering designated "KasselWood", for installation as Class A prepared roof covering. Suitable for installation over minimum 15/32 in. thick plywood decking with existing Class A Asphalt glass fiber mat shingles.

Formed steel panel covering designated "KasselWood", for installation as Class A prepared roof covering Limited to 15/32 in. (min.) plywood decks covered with one layer of Elk Corporation's "VersaShield Underlayment" and one layer of Type 30 felt underlayment, followed by the steel panel roof covering.

Formed steel panel covering designated "KasselWood", for installation as Class B prepared roof covering Limited to 15/32 in. (min.) plywood decks covered with one layer of Elk Corporation's "VersaShield Underlayment", followed by the steel panel roof covering.

Formed steel panel covering designated "KasselWood", for installation as Class A prepared roof covering. Suitable for use over any Class A UL Listed roof system. Covered with one layer of Elk Corporation's "VersaShield Underlayment", followed by the steel panel roof covering.

KYOCERA CORP E173074

6 TAKEDA TOBADONO-CHO FUSHIMI-KU, KYOTO 612-8501 JAPAN

Photovoltaic (solar) modules/shingle, "Meridian" for installation as Class A prepared roof coverings. Suitable for installation over 15/32 in. thick plywood decks when solar modules are applied over one layer of Type 30 asphalt saturated organic felt and either two or more layers of Type G3 mineral surfaced cap sheet or one layer of UL Listed Class A asphalt glass fiber mat shingles. Suitable for installation over 15/32 in. thick plywood decks when solar modules are applied over one layer of Type 30 asphalt saturated organic felt and one layer of Elk Corp. "VersaShield Underlayment" or "VersaShield FB-2S" and one or more layers of Type G3 mineral surfaced cap sheet. These solar modules are also for installation as a wind resistant roof covering. Degree of wind resistance investigated in accordance with Procedures adapted from ASTM D3161 at a wind speed of 110 mph. Limited to a max. 14 in. exposure in accordance with manufacturer's installation instructions.

These products are also Listed as Photovoltaic Modules and Panels (QIGU). See the Electrical Construction Equipment Directory.

METROTILE MFG, DBA METRO ROOF PRODUCTS R19204

3093 A INDUSTRY ST, OCEANSIDE CA 92054

The following formed steel panel coverings may be installed as detailed below: "Metro Tile", "Metro Shake", "Metro Shake II", "Pacific Shake", "Pacific Tile", "Settler Shake", "Roman", "Roman-VILLA Tile" or "Metro Shingle"

Formed steel panel covering, for installation as Class A prepared roof coverings. Limited to 15/32 in plywood decks or spaced sheathing covered with 1/2 in. gypsum board or 1/4 in. thick G-P Gypsum DensDeck®, followed by one or more layers of Type 15 or 30 felt, followed by the shingles.

Formed steel panel coverings, for installation as Class B prepared roof coverings. Suitable for installation over an existing wood shingle, wood shake or composition organic/fiberglass shingle roof. An FSK faced batt and blanket, face up, 1-1/2-in. thick, is placed directly over the existing shakes or shingles, followed by nominal 1 in. x 4 in. wood or metal batten strips mechanically fastened to the deck, followed by nominal 2 in. x 2 in. wood or metal batten strips mechanically fastened to the 1 in. x 4 in. batten strips with the panels nailed to these batten strips.

Formed steel panel coverings, for installation as Class A prepared roof coverings for installation over an existing wood shingle, wood shake or composition organic/fiberglass shingle roof. One layer of Type G3 cap sheet granule side up is placed directly over the existing shakes or shingles, followed by nominal 1 in. x 4 in. wood or metal batten strips mechanically fastened to the deck, followed by nominal 2 in. x 2 in. wood or metal batten strips mechanically fastened to the 1 in. x 4 in. batten strips, followed by FSK faced

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Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire-retardant-treated Wood (TFXX)−*Continued*

batt and blanket, face up, 1-1/2 in. thick, is placed between each 2 in. x 2 in. batten row, with the panels fastened to these batten strips.

Formed steel panel coverings, for installation as Class A prepared roof coverings. Limited to 15/32 in. plywood decks or spaced sheathing covered with two layers of Elk Corporation "Versashield Underlayment", followed by the shingles.

Formed steel panel coverings, for installation as Class A prepared roof coverings. Limited to 15/32 in. plywood decks or spaced sheathing covered with one layer of Elk Corporation "Versashield Underlayment", followed by one layer of Type 30, followed by the shingles.

Formed steel panel coverings, for installation as Class B prepared roof coverings. Limited to 15/32 in. plywood decks or spaced sheathing covered with one layer of Elk Corporations "Versashield Underlayment", followed by the shingles.

Formed steel panel coverings, for installation as Class A prepared roof coverings. Suitable for use over any Class A UL Listed roof system. Covered with one layer of Elk Corporations "Versashield Underlayment", followed by the shingles.

Formed steel panel coverings, for installation as Class B prepared roof coverings. Suitable for use over an existing wood shingle, wood shake, or composition organic/fiber glass shingle roof. Covered with one layer of Elk Corporation "Versashield Underlayment", followed by the shingles.

Formed steel panel coverings, for installation as Class A prepared roof coverings. Limited to 15/32 in. plywood decks or spaced sheathing, with the roof deck seams/joints sealed with six in. (6 in.) strips of UL Classified self-adhering underlayment followed by one layer of Elk Corporation 'Versashield®' Underlayment followed by one layer of type 30 followed by the shingles.

Formed steel panel coverings, for installation as Class A prepared roof coverings. Limited to 15/32 in. plywood decks or spaced sheathing, with one layer of type 30 followed by one layer of UL Classified self-adhering underlayment followed by one layer of Elk Corporation 'Versashield®' Underlayment followed by the shingles.

Formed steel panel coverings, for installation as Class-A prepared roof coverings. Limited to 15/32 in. plywood decks or spaced sheathing, with one layer of Elk Corporation 'VersaShield®' followed by one layer of UL Classified self-adhering underlayment followed by 2X2 wood battens, followed by the shingles.

REINKE SHAKES INC — R8491

210 S 4TH ST, HEBRON NE 68370

Formed aluminum and copper shakes designated "Reinke Shake" or "Reinke Copper Roofing", installation as Class A prepared roof covering, when applied with an interlayment of UL Classified Type 15 asphalt organic felt of UL Classified shingle underlayment (resulting in the deck being covered with 2 layers of felt) when applied over minimum 5/8 in. UL Classified Type X gypsum or Georgia-Pacific Corp. "DensDeck Overlayment" with all joints staggered minimum of 6 in. from the plywood joints applied directly to minimum 15/32 plywood decks.

ROSER CO LTD — R21541

400 NAE-DONG APRYANG-MYUN, KYONG SAN CITY, KYONGBUK 712-820 REPUBLIC OF KOREA

Formed copper tile shingles designated "Spany", for installation as Class A prepared roof coverings when installed in accordance with this manufacturer's installation instructions. Suitable for use over 15/32 in. plywood decks or spaced sheathing followed by one layer of Elk Corporation "Versashield" followed by one layer of Type 30 asphalt saturated organic felt followed by the shingles.

Formed steel tile shingles designated "Spany", "Roserbond" or "Rowood", ″ROWOOD-016″, ″ROWOOD-035″, "TUSCANY", "PIANO" or "STONEWOOD SHAKE" (stone coated) for installation as Class A prepared roof coverings when installed in accordance with this manufacturer's installation instructions. Suitable for use over 15/32 in. plywood decks or spaced sheathing followed by one layer of Elk Corporation "Versashield" followed by the shingles attached to 2x2 battens.

Formed steel and copper panel coverings designated "Spany", "Roserbond", "Rowood", ″ROWOOD-016″, ″ROWOOD-035″, "TUSCANY", "PIANO" or "STONEWOOD SHAKE" for installation as Class B prepared roof coverings, when installed in accordance with this manufacturer's installation instructions. Limited to 15/32-in. min. plywood decks or spaced sheathing. 2 in. x 2 in. battens mechanically fastened to the deck. Covered with one layer of Type G3 mineral surface cap sheet. 1 in. x 4 in. battens mechanically fastened to the 2 in. x 2 in. battens, with the panels mechanically fastened to the 1 in. x 4 in. battens.

SUNPOWER CORP — E246423

77 RIO ROBLES, SAN JOSE CA 95134

Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire-retardant-treated Wood (TFXX)−*Continued*

Photovoltaic (solar) modules, "Sunpower Suntile", models SPR-xxR-BLK-U and SPR-xxRE-BLK-U; "PowerLight Suntile", model PL-PLT-xxL-BLK-U for installation as Class A prepared roof coverings. Suitable for installation over 15/32 in. thick plywood decks when modules are applied over one layer of GAF Elk's VersaShield Underlayment. These modules are also for installation as a wind resistant roof covering. Degree of wind resistance is investigated in accordance with Procedures adapted from ASTM D3161 at a wind speed of 110 mph.

These products are also Listed as Photovoltaic Modules and Panels (QIGU). See the Electrical Construction Equipment Directory.

TAMKO BUILDING PRODUCTS INC — R18590

220 W 4TH ST PO BOX 1404, JOPLIN MO 64801

Formed steel panel covering designated ″AstonWood″, "StoneCrest Tile" and "StoneCrest Slate", for installation as Class A prepared roof coverings. Limited to 15/32 in. (min) plywood decks with 1/4 in. (min) thick G-P Gypsum DensDeck® or 1/2 in. (min) thick gypsum board with all joints staggered a min of 6 in. from the plywood joints. One layer of Type 15 or 30 felt underlayment may be applied under or over the gypsum barrier.

Formed steel panel covering designated ″AstonWood″, "StoneCrest Tile" and "StoneCrest Slate", for installation as Class C prepared roof coverings. Limited to 15/32 in. (min.) plywood decks with one layer of TW Underlayment, TW Metal and Tile Underlayment or Type 30 felt underlayment.

Formed steel panel covering designated ″AstonWood″, "StoneCrest Tile" and "StoneCrest Slate" for installation as Class A prepared roof covering. Suitable for installation over minimum 15/32 in. thick plywood decking with existing Class A Asphalt glass fiber mat shingles.

Formed steel panel covering designated ″AstonWood″, "StoneCrest Tile" and "StoneCrest Slate", for installation as Class A prepared roof covering limited to 15/32 in. (min.) plywood decks covered with one layer of Elk Corporation ″VersaShield Underlayment″ and one layer of Type 30 felt underlayment, followed by the steel panel roof covering.

Formed steel panel covering designated ″AstonWood″, "StoneCrest Tile" and "StoneCrest Slate", for installation as Class B prepared roof covering limited to 15/32 in. (min.) plywood decks covered with one layer of Elk Corporation ″VersaShield Underlayment″, followed by the steel panel roof covering.

Formed steel panel covering designated ″AstonWood″, "StoneCrest Tile" and "StoneCrest Slate", for installation as Class A prepared roof covering. Suitable for use over any Class A UL Listed roof system. Covered with one layer of Elk Corporation ″VersaShield Underlayment″, followed by the steel panel roof covering.

TAMKO BUILDING PRODUCTS INC — R20518

220 W FOURTH ST PO BOX 1404, JOPLIN MO 64801

Molded plastic shingles, "Lamarite™ Slate",and "Lamarite™ Shake" for installation as Class A prepared roof coverings. For use over 15/32 in. deck with one layer of either Type G1, Moisture Guard Plus or TW-Metal and Tile.

Molded plastic shingles, designated "Lamarite™ EstateSlate" Composite Shingles, for installation as Class A prepared roof covering. For use over 15/32 in. deck with one layer of either, Moisture Guard Plus or TW-Metal and Tile.

Molded plastic shingles, designated ″Lamarite™ Slate″, ″Lamarite™ Shake″ and ″Lamarite™ EstateSlate″ Composite Shingles for installation as Class C prepared roof coverings. For use over 15/32 in. deck with one layer of either UL Classified asphalt saturated organic felt or ″Peel-N-Stick Felt″.

Molded plastic shingles, designated ″Lamarite™ Slate″ Composite Shingles for installation as wind resistance roof coverings. Wind resistance has also been evaluated at wind velocities 60 or 90 mph. See manufactures installation instructions for exposure limitations.

Molded plastic shingles, designated ″Lamarite™ EstateSlate″ Composite Shingles for installation as wind resistance roof coverings. Wind resistance has also been evaluated at wind velocities 60, 90 or 110 mph. See manufactures installation instructions for exposure limitations.

Molded plastic shingles, designated ″Lamarite™ Shake″ Composite Shingles for installation as wind resistance roof coverings. Wind resistance has also been evaluated at wind velocities 60 or 90 mph. See manufactures installation instructions for exposure limitations.

TEGRAL BUILDING PRODUCTS LTD — R26788

KILKENNY RD, ATHY, CO KILDARE IRELAND

Formed cement composite shingles, designated "ThrutonePlus Slates", for installation as Class A prepared roof covering. For use over 15/32 in. roof deck with one layer GAF Materials Corp.'s "WeatherWatch® Leak Barrier".

Formed cement composite shingles, designated "ThrutonePlus Slates", for installation as wind resistance roof coverings. Wind resistance has also been evaluated at wind velocities up to 110 mph. Limited to max. 9-7/8 in. exposure.

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Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire-retardant-treated Wood (TFXX)−*Continued*

THE DOW CHEMICAL CO **E326439**

DOW SOLAR SOLUTIONS 1381 BLDG, MIDLAND MI 48667

Photovoltaic (Solar) Shingles, designated "DOW™ POWERHOUSE™" for installation over minimum 15/32 in. thick oriented strandboard or plywood decks as a Class A prepared roof coverings when laid over one layer Elk Corp."VersaShield™ Underlayment". These solar shingles are also for installation as a wind resistant roof covering. Degree of wind resistance investigated in accordance with Procedures adapted from ASTM D3161 at a wind speed of 110 mph.

These products are also Listed as Building-integrated Photovoltaic Modules and Panels (QHZK). See the Electrical Construction Equipment Directory.

UNITED SOLAR OVONIC L L C **E182242**

3800 LAPEER RD, AUBURN HILLS MI 48326

Photovoltaic (solar) modules/shingle, Type PS12.5, PS16, PS19, PS22, PS25, PS28.5, PS11.5, PS14, PS17, PS20, PS23 or PS26 for installation as Class C prepared roof coverings. Suitable for installation over 15/32 in. thick plywood decks when shingles are applied over one layer of Type 30 asphalt saturated organic felt and (optional) UL Classified TPO or PVC membrane. These shingles are also for installation as a wind resistant roof covering. These shingles may also bear the statement wind resistance has also been evaluated at wind velocities up to 110 mph.

These products are also Listed as Photovoltaic Modules and Panels (QIGU). See the Electrical Construction Equipment Directory.

PREPARED ROOF-COVERING MATERIALS, ASPHALT SHINGLE WIND RESISTANCE (TGAH)

GENERAL

This category covers the investigation of asphalt shingles surfaced with mineral granules which are designed to resist wind forces by affixing the shingle above to the surface of the shingle below with a sealant (factory or field applied) applied in a pattern aligned parallel to the windward edge of the shingle. The investigation process involves three steps: 1) the determination by test of a wind uplift coefficient, 2) the calculation of the potential uplift force (lbf) acting on the tab sealant, utilizing the wind uplift coefficient and specific wind speed selected for the investigation, and 3) the determination of resistance force (lbf) capability of the tab sealant as determined by mechanical test.

Wind Uplift Force Requirements

The wind uplift coefficient is determined and the corresponding uplift force (lbf) is calculated in accordance with ANSI/UL 2390, "Test Method for Wind Resistance Asphalt Shingles with Sealed Tabs" (ASTM D7158, "Standard Test Method for Wind Resistance of Sealed Asphalt Shingles (Uplift Force/Uplift Resistance Method)"). The wind uplift coefficient is determined based on air flow perpendicular to and across the shingle surface, and is calculated by measuring pressures above and below the shingle surface at the windward and leeward sides of the sealant. The uplift force (lbf) acting on the sealant is then calculated based on one or more of the three wind speed classifications as tabulated below:

Class D – 90 mph
Class G – 120 mph
Class H – 150 mph

The uplift force acting on the sealant is calculated in accordance with the provisions described in ANSI/UL 2390 based on the basic wind speeds prescribed in ASCE 7, "Minimum Design Loads for Buildings and Other Structures." The magnitude of the wind velocity across a roof and the resulting uplift pressures on a roof are dependent upon many factors, such as building height, building exposure category and importance factor. Refer to the most current ASCE 7 document for more information regarding these factors.

Tab Sealant Uplift Resistance Requirements

The uplift resistance (lbf) capability is determined by ASTM D6381, "Standard Test Method for Measurement of Asphalt Shingle Mechanical Uplift Resistance" (ASTM D7158). ASTM D6381 contains two procedures for measuring shingle uplift resistance. Procedure A measures the uplift resistance to a force applied in a peeling action (simulating the front-edge lifting mechanism). Procedure B measures the uplift resistance to a force applied with a perpendicular lifting action (simulating the situation when the uplift load is applied in a balanced fashion in front of and in back of the sealant).

Eligibility for Wind Speed Classification

When the mechanical uplift resistance force determined by Procedure A is greater than or equal to the ANSI/UL 2390 calculated uplift force, the shingle is determined to be eligible for the corresponding wind speed classification.

However, when the mechanical uplift resistance force determined by Procedure A is less than the ANSI/UL 2390 calculated uplift force, Procedure B

Prepared Roof-covering Materials, Asphalt Shingle Wind Resistance (TGAH)−*Continued*

can be utilized. A single total uplift resistance is then derived using values from both Procedure A and Procedure B. When this total uplift resistance force is greater than or equal to the ANSI/UL 2390 calculated uplift force, the shingle is also determined to be eligible for the corresponding wind speed classification.

ADDITIONAL INFORMATION

For additional information, see Roof-covering Materials (TEVT) and Roofing Materials and Systems (AARM).

REQUIREMENTS

In order to be eligible for Classification under this category, asphalt shingles must also be Listed under Prepared Roof-covering Materials (TFWZ).

The Classifications for uplift force are derived from tests conducted in accordance with ANSI/UL 2390, "Test Method for Wind Resistant Asphalt Shingles with Sealed Tabs," and ASTM D6381, "Standard Test Method for Measurement of Asphalt Shingle Mechanical Uplift Resistance." These requirements are also contained in ASTM D7158, "Standard Test Method for Wind Resistance of Sealed Asphalt Shingles (Uplift Force/Uplift Resistance Method)."

UL MARK

The Classification Mark of UL on the product or package of products is the only method provided by UL to identify products manufactured under its Classification and Follow-Up Service. The Classification Mark for these products includes the Listing Mark for Prepared Roof-covering Materials (TFWZ) and the statement:

ALSO CLASSIFIED IN ACCORDANCE WITH UL 2390/ASTM D6381 AS TO UPLIFT RESISTANCE CLASS +
and/or
ALSO CLASSIFIED IN ACCORDANCE WITH ASTM D7158 AS TO UPLIFT RESISTANCE CLASS +

+ D, G or H

* *

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ATLAS ROOFING CORP **R4052**

2564 VALLEY RD, MERIDIAN MS 39301

Class H asphalt shingles, designated "Stormmaster Slate," "GlassMaster 25," "Pinnacle 35," "Pinnacle 45," "Ultra Pro," "Chalet," "Stratford," "StormMaster LM," and "StormMaster ST".

BUILDING PRODUCTS OF CANADA CORP **R14379**

9510 ST PATRICK ST, LASALLE, QC H8R 1R9 CANADA

Class H asphalt shingles, designated "Eclipse GL," "Harmony," and "Everest."

CERTAINTEED CORP **R684**

ROOFING PRODUCTS GROUP 1400 UNION MEETING RD PO BOX 1100, BLUE BELL PA 19422

Class H asphalt shingles, designated Classic Horizon, Landmark, Landmark Plus, Landmark Premium, Landmark Solaris, Landmark Solaris IR, New Horizon, CT-20, XT-25, XT-30, Landmark TL Ultimate, Landmark TL Ultimate (IR), Presidential, Presidential IR, Presidential TL, Presidential TL Ultimate, Landmark Impact Resistant, Landmark Canada, Woodscape, Woodscape Premium, XT-25/SK-25, Jet 25, Patriot, Carriage House, Centennial Slate, Grand Manor, Hatteras, Landmark Premium/A 80, Firescreen, Landmark TL (IR), Landmark TL and Highland Slate.

Class H asphalt shingles, designated Mountain Ridge Hip and Ridge shingles.

GAF MATERIALS CORP **R21**

1361 ALPS RD, WAYNE NJ 07470

Class H asphalt shingles designated "Royal Sovereign," "Sentinel," "Timberline® HD," "Timberline® Natural Shadow," "Timberline® Ultra HD," "Timberline® Cool Series," "Timberline® American Harvest™," "Timberline® Prestique Grande," "Timberline® ArmorShield II," "Marquis® WeatherMax®," "Grand Sequoia®," "Grand Canyon™," "Timberline® Canadian 40," "Camelot®," "Camelot® II," "Camelot® IR," "Capstone®," "Capstone® Impact Resistant IR," "Slateline®," "Grand Slate™," "Grand Slate™ II," "Country Mansion®," "Country Mansion® II," "Woodland Designer®," and "Monaco™."

GAF MATERIALS CORP **R3915**

SUITE 600 14911 QUORUM DR, DALLAS TX 75254

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Class H asphalt shingles, designated "Timberline Natural Shadow," "Timberline Prestique 30," "Timberline Prestique 40," "Timberline Prestique Lifetime," "Timberline Prestique Grande," "Timberline ArmorShield II," "Capstone", and "Timberline Majestic 30" shingles.

MALARKEY ROOFING PRODUCTS **R4299**
3131 N COLUMBIA BLVD KENTON STATION PO BOX 17217, PORTLAND OR 97217
Class H asphalt shingles, designated "Dura-Seal 20", "Dura-Seal 25", "Northwest-XL AB", "Northwest-XL", "Highlander-CS", "Highlander-CS AR", and "Ecoasis".

OWENS CORNING **R2453**
1 OWENS CORNING PKY, TOLEDO OH 43659
Class H asphalt shingles, designated "Classic", "Supreme", "Supreme AR", "OakRidge", "OakRidge PRO 30", "Oakridge PRO 30 AR", "Oakridge PRO 40", "Oakridge PRO 40 AR", "Oakridge PRO 50", "Oakridge PRO 50 AR", "WeatherGuard HP", "Berkshire", "Duration", "Duration Premium", "Oakridge PRO 30 with SureNail", "Oakridge PRO 40 with SureNail", "Oakridge PRO 50 with SureNail", "Classic Metric", "Supreme Metric", "Woodmoor" and "Woodcrest" shingles.

PABCO BUILDING PRODUCTS L L C, DBA PABCO ROOFING PRODUCTS **R11271**
1718 THORNE RD, TACOMA WA 98421
Class H asphalt shingles, designated "Cascade", "GG-20", "SG-30", "PABCO Premier®", "Premier Radiance®", "PABCO Premier® Elite", "Premier Radiance® Elite", "Premier Advantage", "Premier 40", "Paramount" and "Paramount Advantage".

TAMKO BUILDING PRODUCTS INC **R2919**
220 W 4TH ST PO BOX 1404, JOPLIN MO 64801
Class H asphalt shingles, designated "Elite Glass Seal," "Elite Glass Seal AR," "Glass Seal," "Glass Seal AR," "Heritage", "Heritage 50," "Heritage 50 AR," "Heritage 30," "Heritage 30 AR," "Heritage XL AR," "Heritage Woodgate," "Heritage Premium" and "Heritage Vintage" shingles.

ROOF-COVERING MATERIALS, IMPACT RESISTANCE (TGAM)

USE

This category covers Classes A, B and C roof-covering materials investigated for impact resistance.

Unless otherwise indicated in the individual Classifications, the roof coverings are intended for application to solid wood decks, including 3/8-in. thick (minimum) plywood or 3/8-in. thick (minimum) nonveneer APA Rated Series Sheathing (oriented strandboard, structural particleboard, composite panels, or waferboard).

Unless otherwise indicated in the individual Classifications, the Classifications are applicable for new work only, not for recovering purposes.

Where indicated in the individual Classifications, products covered under this category have also been evaluated by ICC Evaluation Service (ICC-ES).

CLASS DESIGNATIONS

The Classifications for impact resistance are expressed as Class 1, 2, 3 or 4, which relate to a roof covering's ability to withstand impacts from 1-1/4, 1-1/2, 1-3/4 and 2 in. diameter steel balls, respectively. The acceptance criteria used to establish roof-covering materials Classifications are as follows:

Prepared Roof-covering Materials

Withstand the assigned class designation impact without visible evidence of tearing, fracturing, cracking, splitting, rupture, crazing or other opening of the roof-covering layer.

Roofing Systems — Fluid-applied Coating Systems

Withstand the assigned class designation impact without visible evidence of tearing, fracturing, cracking, splitting, rupture, crazing or other opening which would expose the roof deck to the effects of weather.

Roofing Systems — Single-ply Membrane Systems

Withstand the assigned class designation impact without visible evidence of tearing, fracturing, cracking, splitting, rupture, crazing or other opening which would expose the substrate beneath the membrane to the effects of weather.

Roofing Systems — Spray-applied Foam and Coating Systems

Withstand the assigned class designation impact without visible evidence of tearing, fracturing, cracking, splitting, rupture, crazing or other opening which would expose the foam to the effects of weather.

Roofing Systems — Other Systems

Metal Roof Panels — Withstand the assigned class designation impact without visible evidence of tearing, fracturing, cracking, splitting, rupture, crazing or other opening of the roof-covering layer.

UNEVALUATED FACTORS

The effects of weathering on the impact resistance of these materials have not been investigated.

ADDITIONAL INFORMATION

For additional information, see Roof-covering Materials (TEVT) and Roofing Materials and Systems (AARM).

REQUIREMENTS

In order to be eligible for Classification under this category, roof-covering materials must also be Listed under Prepared Roof-covering Materials (TFWZ), Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire Retardant-treated Wood (TFXX), or Classified under Roofing Systems (TGFU).

The Classifications for impact resistance are derived from tests conducted in accordance with UL 2218, "Impact Resistance of Prepared Roof-covering Materials."

UL MARK

The Classification Mark of UL on the product is the only method provided by UL to identify products manufactured under its Classification and Follow-Up Service. The Classification Mark for these products includes the appropriate Listing Mark for Prepared Roof-covering Materials (TFWZ), Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire Retardant-treated Wood (TFXX), or Classification Mark for Roofing Systems (TGFU), and the following additional information:

ALSO CLASSIFIED AS TO IMPACT RESISTANCE
CLASS +
Control No.

In addition, an optional marking may appear on each shingle, only when the complete Listing/Classification Mark noted above is provided on each package. This marking includes the UL symbol, the word "CLASSIFIED" above the UL symbol (as illustrated in the Introduction of this Directory), and the statement "IMPACT RESISTANCE CLASS +."

+ **1**, **2**, **3** or **4**

****

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ADVANCED ROOFING TECHNOLOGY INC **R26584**
1601 W DETROIT AVE, BROKEN ARROW OK 74012
Class 4 formed coated steel panels, designated Type Panels: "ARTK12", "ARTK16" and "ARTK18".

ADVANTAGE METAL ROOFS **R26101**
SUITE 107 111 RAMBLE LN, AUSTIN TX 78745-2280
Class 4 formed coated steel or aluminum panels designated "Sure-Lock".

AEP SPAN, DIV OF ASC PROFILES **R16746**
2110 ENTERPRISE BLVD, WEST SACRAMENTO CA 95691
Class 4 formed steel panels, designated "Skyline", "Nor-Clad", "Strata-Rib", "Delta-Rib", "Delta-Rib III" and "2-1/2 Corrugated".

AEP SPAN, DIV OF ASC PROFILES **R16747**
2110 ENTERPRISE BLVD, WEST SACRAMENTO CA 95691
Class 4 formed steel panels, designated Cap Seam, High Seam, Snap Seam, "Span-Lok"(90° Seam) or "SpanSeam" (180° Seam), "Klip Rib" and "Super-Span".

ALCO PRODUCTS L L C **R13738**
580 ST JEAN, DETROIT MI 48214
Class 4 fluid applied roof coating system over non-combustible deck. See Roofing Systems Classifications (TGFU) for the details of the roofing system.

ALLIANCE STEEL INC **R7973**
3333 S COUNCIL, OKLAHOMA CITY OK 73179
Class 4 formed steel panels designated "Alliance PBR", "Alliance Lok 216", "Alliance M" and "Alliance IP".
Class 4 formed steel panels, designated "NFS16".

ALLMET ROOFING PRODUCTS DIV OF METALS USA BUILDING PRODUCTS CANADA INC **R16378**
PROPERTY #581 NO 3 HIGHWAY PO BOX 220, COURTLAND, ON N0J 1E0 CANADA
Class 4 formed steel panels designated "Continental Tile", "Continental Panel II", "Classic 1", "Shake Tile", "Lakeland", "Shadowline Tile", "Tile

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Roof-covering Materials, Impact Resistance (TGAM)−*Continued*

vera″, “Talavera SF”, “Courtland Panel”, “Tudor Slate”, “Woodland Panel”, “Ridgewood”, “Woodshake Panel”, “Woodshake Panel II”, ″Classic 1 NB″, “Talavera NB”, “Ridgewood NB”, “Tudor Slate NB”, “Granite Ridge” and “Guardian Shingle”.

AMERICAN BUILDINGS CO **R6025**
1150 STATE DOCKS RD, EUFAULA AL 36072
Class 4 formed steel panels, designated as “Multi-Rib,” “Long Span III”, “Standing Seam II,” “Loc-Seam,” “Loc-Seam 360,” “SeamLoc 12,” “SeamLoc 16,” “SeamLoc 18,” “Standing Seam 360”

AMERICAN CONSTRUCTION METALS **R25330**
1600 PARK AVE, BELOIT WI 53511
Class 4 formed metal panels designated Types “KenLOC, MechLOC, Stay-LOC, 5V Crimp and Perfect Rib ”.

AMERICAN ROOFING INDUSTRIES CORP **R16705**
2300 WILBUR LN, ANTIOCH CA 94531
Class 4 formed steel panels designated “Classic Tile Type II”.

ARCHITECTURAL BUILDING COMPONENTS INC **R14421**
11625 N HOUSTON ROSSLYN, HOUSTON TX 77086
Class 4 formed steel panel, designated “Permaseam Panel”, “SL Low Panel”, “JSM 200”, ″Instaloc″, “SERIES 300” and “238T Roof Panel”.
Class 4 formed copper panel, designated “JSM 200”.

ARCHITECTURAL INTEGRATED METALS INC **R22048**
1724 NORTHSIDE INDUSTRIAL BLVD, COLUMBUS GA 31904
Class 4 formed steel panels, designated AG-Rib, AIM-Lok, AIM FP, AIM FPR, NAIL-Line 1.5, NAIL-Line 1.0, PBR-Span, ROLL-LOK, R-Span, SNAP-Lok, and SNAP-Seam.

ATAS INTERNATIONAL INC **R12113**
6612 SNOWDRIFT RD, ALLENTOWN PA 18106
Class 4 formed steel panel, designated Multi-Purpose MPN120, Scanroof SCP163, Monarch Batten MRB120, Monarch Dutch Seam MRD150, 2” Field-Lok Panel FLN, TECHO TILE SCT, PERMASHAKE HPS, STANDING SEAM SHINGLE HSS, ADVANTA SHINGLE HAS .
Class 4 formed aluminum shingle, designated CASTLETOP HCT.

ATLAS ROOFING CORP **R4052**
SUITE 800 2000 RIVEREDGE PKY, ATLANTA GA 30328
Class 4 modified asphalt glass fiber mat shingles and roll roofing designated Stormmaster LM, Stormmaster ST, StormMaster Slate and Mod 90.

AUSTIN SNAP LOC SUPPLY **R26751**
SUITE B 5508 CLAY AVE, AUSTIN TX 78756-1244
Class 4 formed metal panels designated Types “ASL 150”, “ADL 100” and “ASL 100”.

AUSTIN STAR ROOFING INC **R25516**
21220 HWY 71W, SPICEWOOD TX 78669
Class 4 formed steel panels designated Types “DoubleLock 1 in.”, “DoubleLock 1.5 in.” and “SnapLock 1 in.”.

B & C METALS **R26524**
11064 STATE HWY BB, CALEDONIA MO 63631-9538
Class 4 formed steel panels designated Type “Royal Rib”.

BERRIDGE MFG CO **R12005**
1720 MAURY ST, HOUSTON TX 77026
Class 4 formed coated steel panels, designated Type Panels: “S-Tile Panel”, “S” Deck, “Spanish Tile”, “Deep Vee Panels”, “R-Panel”, “Tee Panel”, “High Seam Tee”, “Zee-Lock Panel”, “Zee-Lock Double Lock Panel”, “Cee-Lock Panel”, “Bermuda Roof Panel”, “M”, “Deep-Deck” and “Double-Rib”.

BRIDGER STEEL **R26137**
7570 ENTRYWAY DR, BILLINGS MT 59101-6227
Class 4 formed steel panels, designated ″SL-15″, ″SL-16″, ″SS-15″, ″SS-17″, ″2 in. Mechanical Lock″, ″PBU″ or ″3 ft. tuf-rib″.

BUILDING COMPONENTS INC **R20467**
11919 N GARDEN, HOUSTON TX 77071
Class 4 formed steel panels, designated “R-PANEL”, “PBR-PANEL”, “U-PANEL” and “5-V PANEL”.

ROOF-COVERING MATERIALS (TEVT)

Roof-covering Materials, Impact Resistance (TGAM)−*Continued*

BUILDINGS BY MADDEN **R26413**
3220 E I-240, OKLAHOMA CITY OK 73135
Class 4 formed steel panels, designated Type ″R″, “M” or “Ag”.

BURROW CONSTRUCTION INC **R26370**
101 LEANING TREE RD, FORT GIBSON OK 74434-7611
Class 4 formed steel panels designated “Quadra Loc” and “Quadra Loc Plus”.

BUTLER MANUFACTURING, DIV OF BLUESCOPE BUILDINGS NORTH AMERICA INC **R5139**
1540 GENNESEE ST, KANSAS CITY MO 64102
Class 4 formed steel panel, designated “MR-24”, “VSR”, “Snap-It” panels and ″Butlerib II″ min 26 msg.

CANADIAN GENERAL-TOWER LTD **R18691**
52 MIDDLETON ST, CAMBRIDGE, ON N1R 5T6 CANADA
Class 4 single ply membrane systems.
See this company’s Roofing Systems Classifications (TGFU) for the specific impact Classified systems.

CARLISLE SYNTEC INCORPORATED **R8103**
1285 RITNER HWY PO BOX 7000, CARLISLE PA 17013
Class 4 single ply membrane systems. See this company’s Roofing Systems Classifications (TGFU) for the specific impact Classified systems.

CENTIMARK CORP **R15044**
12 GRANDVIEW CIR, CANONSBURG PA 15317
Class 1, 3 and 4 spray applied foam and coating systems. See this company’s Roofing Systems Classifications (TGFU) for the specific impact Classified systems.

CENTRAL STATES MFG INC **R18026**
302 JANE PL PO BOX 919, LOWELL AR 72745
Class 4 formed steel roof panels, designated “Panel Loc”, “R-Loc”, “Panel Loc Plus”, “Horizon-Loc”, “Central Seam Plus”, “Central-Loc” and “M-Loc”.

CENTRAL TEXAS METAL ROLLFORMING INC **R15811**
830 SAGEBRUSH DR, AUSTIN TX 78758
Class 4 formed coated steel panels designated Types “R-Panel” or “PBR”, “U-Panel” or “PBU”, “PRO-SNAP 100”, ″BATTLOC 100″, ″BATTLOC 150″, ″BATTLOC 200″, “FRONTIER RIB” or “LAP GUARD”, “TEXAS RIB” or “CHANNEL GUARD”, “5 VEE PANEL”, “SPANLOC 100”, “SPANLOC 150”, “SPANLOC 200”, “SHURLOC 175” “SPANLOC 300”, ″SHURLOC 150″ and “SHURLOC 300”.

CERTAINTEED CORP **R11656**
ROOFING PRODUCTS GROUP 1400 UNION MEETING RD PO BOX 1100, BLUE BELL PA 19422
Class 4 single ply membrane systems.
See this company’s Roofing Systems Classifications (TGFU) for the specific impact Classified systems.

CERTAINTEED CORP **R25390**
ROOFING PRODUCTS GROUP 1400 UNION MEETING RD PO BOX 1100, BLUE BELL PA 19422
Class 4 formed composite shingles, designated “Symphony Slate”.

CERTAINTEED CORP **R684**
ROOFING PRODUCTS GROUP 1400 UNION MEETING RD PO BOX 1100, BLUE BELL PA 19422
“Independence” -Class 1.
“Carriage House” -Class 1.
“Grand Manor” -Class 2.
“XT-30 IR”, “Landmark Special” or “Landmark Impact Resistant”, “Landmark TL IR” or “Landmark TL Ultimate”, “Landmark TL IR AR”, “Land-Mark Solaris IR”, “Landmark Solaris Accessory IR”, “Highland Slate IR”, “Presidential IR” and ″Cedar Crest IR″ - Class 4.

CHIEF INDUSTRIES INC **R5761**
2391 S NORTH RD, GRAND ISLAND NE 68803
Class 4 formed metal panels designated Types “CS, LTC, STC, MSC, MVF or MVP ”.

CONKLIN CO INC **R8435**
551 VALLEY PARK DR PO BOX 155, SHAKOPEE MN 55379

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Roof-covering Materials, Impact Resistance (TGAM)–*Continued*

Class 4 spray applied foam and coating systems. See this company's Roofing Systems Classifications (TGFU) for the specific impact Classification systems.

CONSOLIDATED SYSTEMS INC **R26458**
650 ROSEWOOD DR PO BOX 1756, COLUMBIA SC 29202
Class 4 formed steel panels designated "SSS2", "VR4029" or "VG4029".

CONSTRUCTION METAL PRODUCTS INC **R19133**
2204 W FRONT ST, STATESVILLE NC 28677
Class 4 formed steel panels, designated CMP Series 2500.

CORLE BUILDING SYSTEMS **R19088**
114 ROSEMONT LN, IMLER PA 16655
Class 4 formed coated steel panels designated Type "R-Panel".

CROWE BUILDING PRODUCTS LTD **R21159**
116 BURRIS ST, HAMILTON, ON L8M 2J5 CANADA
Class 4 formed molded plastic roofing shingles, designated ″Authentic″.

CUNNINGHAM STEEL INC **R19043**
6220 LAMAR RD, PARIS TX 75462
Class 4 formed steel panels designated R, Tuff-Rib.

CUSTOM-BILT METALS **R20409**
13940 MAGNOLIA AVE, CHINO CA 91710
Class 4 formed steel panel, designated "CB 100 Titan", "CB150 Titan", "SL 100 Titan", "SLZ 1000 Titan", "SLZ 1500 Titan".

CUSTOM-BILT METALS **R25777**
13940 MAGNOLIA AVE, CHINO CA 91710
Class 4 metal roof shingles designated ″Vail Titan Select″ and ″Vail Majestic Cooper″.

DAVIESS COUNTY METAL SALES INC **R26647**
9929 E US HWY 50, CANNELBURG IN 47519-5021
Class 4 formed steel panels designated ″D.C. Rib" and "Panel Lock".

DAVINCI ROOFSCAPES L L C **R21181**
1413 OSAGE, KANSAS CITY KS 66105
Class 4 formed synthetic slate tiles, designated "DaVinci Slate".
Class 4 formed molded plastic shingles, designated "DaVinci Shake".

DECRA ROOFING SYSTEMS INC **R14710**
1230 RAILROAD ST, CORONA CA 92882
Class 4 formed steel tiles designated Decrabond Tile, Corona Shake, Decra Slate, Decra Tile Plus, Decra Slate Plus, Typhoon Tile, Corona Shake Plus, Alfa Tile, Decra Shake, Decra Tile, Typhoon Shake, Typhoon Shake Plus, Alfa Shake, Decra, Shake Plus, Villa Tile, Decra Shingle Plus, Decra Shingle, DECRA Shake XD, DECRA Shingle XD.

DISTINCTIVE ROOFING SYSTEMS L L C **R21007**
5560 WHITE SETTLEMENT RD, WEATHERFORD TX 76087
Class 4 formed coated steel panels designated Type Coated steel panels (surfacing) identified as "LOCK-SEAM".

DORSEY'S COMMERCIAL ROOFING INC **R26397**
801 B SUBLETT RD, KENNEDALE TX 76060
Class 4 formed steel panels designated "Dorsey u 14"

DREXEL METALS INC **R25244**
204 RAILROAD DR, IVYLAND PA 18974
Class 4 formed metal panels designated Types DMC 5-V, DMC 200S, DMC 175S, DMC 150SL, DMC 150SS, DMC 100SS and DMC 100NS.

DURO-LAST INC **R10128**
525 W MORLEY DR, SAGINAW MI 48601
Class 3 and 4 single ply membrane systems. See this company's Roofing Systems Classifications (TGFU) for the specific impact Classified systems.
Class 4 formed metal panels designated Types "EM 200S", "EM 175S", "EM 150SL", "EM 150SS".

EAST TEXAS ARCHITECTURAL SHEETMETAL L L C, DBA ETAS INC **R21676**
1251 BROMBERG ST PO BOX 180, MINEOLA TX 75773

Roof-covering Materials, Impact Resistance (TGAM)–*Continued*

Class 4, formed steel panel designated ″Nail Strip 1 in.″, ″Nail Strip 1-1/2 in.″, ″Snap Lock 1 in.″, ″Snap Lock 1-1/2 in.″, ″Double Standing Seam 1 in.″, ″Double Standing Seam 1-1/2 in.″, "2″ Spanlock", ″R Panel″, ″Panel Lock Plus″, "Structural Snap Lock", "U" and "PBU".

ECOSTAR L L C **R18920**
42 EDGEWOOD DR, HOLLAND NY 14080
Class 4 formed molded plastic roofing shingles, Majestic Slate Products (″Traditional″, ″Colonial″, ″Beveled Edge″, ″Beavertail″, ″Chisel Point″), Empire Slate Products (″Traditional″, ″Beveled Edge″, ″Beavertail″, ″Chisel Point″) and Seneca Cedar Shake Products ("Seneca", "Seneca Plus", "Thick Butt").

EDCO PRODUCTS INC **R20815**
8700 EXCELSIOR BLVD, HOPKINS MN 55343
Class 4 formed steel tile shingles, designated ″Arrowline Shingle/Shake″, "Generations Shingle/Shake" or "Arrowline Slate".

ENGINEERED RUBBER PRODUCTS **R19279**
1137 N ELM ST, WEST LIBERTY IA 52776
Class 3 molded plastic shingles designated, "Cienda™".
Class 4 molded plastic shingles designated, "Simulated Slate".

ENGLERT INC **R18970**
1200 AMBOY AVE, PERTH AMBOY NJ 08861
Class 4 formed steel panels, designated "Series 1100, 1101, 1300, 2000 or 2500".

EVERLAST ROOFING INC **R26993**
10 ENTERPRISE CT, LEBANON PA 17042-8206
Class 4 formed steel panel, designated "Everlast II" panel.

FABRAL INC **R9288**
3449 HEMPLAND RD, LANCASTER PA 17601
Class 4 formed steel and aluminum panels designated AT Panel, AVALON, Grand Beam, Grandrib 3, Grandrib 3 Plus, 1-1/2 in. SSR, Hefti-Rib, Nighti-Rib, Slim Seam, 2-1/2 in. Corrugated, Stand N'Seam, Ultra-Rib, V-Crimp, Alu-Loc, Climaguard, Multi-Purpose, Shelterguard, and 5-Rib.

FE SAWYER BUILDING SYSTEMS INC, DBA SAWYER METAL **R25123**
12562 HWY 64 W, TYLER TX 75704
Class 4 formed steel panels, designated "1 in. Nail Strip", "1-1/2 in. Nail Strip", "1-1/2 in. Snap Lock", "R" and "Tex-Rib".

FIRESTONE METAL PRODUCTS L L C **R14751**
1001 LUND BLVD, ANOKA MN 55303
Class 4 formed steel, aluminum or copper panels designated 5-V-Crimp, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6, UC-6 HD, UC-7, UC-8, UC9, UC11, UC-14, UC-500, UC-501, UC-600, UC-601, UC-700, UC750, UR, HR, NB1, NB2.

FLAMCO OF TEXAS INC **R26005**
2525 GHOLSON RD, WACO TX 76704
Class 4 formed coated steel panels designated Type Panels: "Versa-Rib".

FOLLANSBEE STEEL **R25349**
STATE ST PO BOX 610, FOLLANSBEE WV 26037
Class 4 formed coated steel panels designated Type Panels: "TCS II" and "KlassicKolors".

GAF MATERIALS CORP **R21**
1361 ALPS RD, WAYNE NJ 07470
Class 4 Asphalt glass fiber mat shingles designated ″Timberline® Armorshield II,″ ″Camelot® IR,″ ″Grand Sequoia Impact Resistant IR″ "Capstone® Impact Resistant IR" and "Seal-A-Ridge® ArmorShiled."

GAF MATERIALS CORP **R3915**
SUITE 600 14911 QUORUM DR, DALLAS TX 75254
Class 4 asphalt glass fiber mat shingles designated ″Timberline ArmorShield II″ and ″Seal-A-Ridge ArmorShield.″

GENERAL SHELTERS OF TEXAS LTD **R25669**
1767 CR 1000 PO BOX 2108, CENTER TX 75935

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Roof-covering Materials, Impact Resistance (TGAM)−*Continued*

Class 4 formed steel panels designated Types "R-Panel" and "Ag-Panel".

GERARD ROOFING TECHNOLOGIES **R12596**
955 COLUMBIA ST, BREA CA 92821
Class 4 formed steel tile shingles designated "Allmet Tile", "Armor Tile", "Eco Loc Tile", "Energy Loc Tile", "Gerard Tile", "Roof Loc Tile", "Stone Loc Tile", "Storm Loc Tile", Stormtile Tile", Allmet Shake", "Armor Shake", "Eco Loc Shake", "Energy Loc Shake", "Gerard Shake", "Roof Loc Shake", "Stone Loc Shake", "Storm Loc Shake", "Stormtile Shake", "Allmet Canyon Shake", "Armor Canyon Shake", "Eco Loc Canyon Shake", "Energy Loc Canyon Shake", "Gerard Canyon Shake", "Roof Loc Canyon Shake", "Stone Loc Canyon Shake", Storm Loc Canyon Shake", "Stormtile Canyon Shake", "Allmet Barrel Vault", "Armor Barrel Vault", "Eco Loc Barrel Vault", "Energy Loc Barrel Vault", "Gerard Barrel Vault", "Roof Loc Barrel Vault", "Stone Loc Barrel Vault", Storm Loc Barrel Vault", "Stormtile Barrel Vault", "Allmet NB Tile", "Armor NB Tile", "Eco Loc NB Tile", "Energy Loc NB Tile", "Gerard NB Tile", "Roof Loc NB Tile", "Stone Loc NB Tile", "Storm Loc NB Tile", Stormtile NB Tile". ″Gerard Granite Ridge″, ″Energy Loc Granite Ridge″, ″Storm Loc Granite Ridge″, ″Allmet Granite Ridge″, ″Gerard Diplomat Plus″, ″Energy Loc Diplomat Plus″, ″Storm Loc Diplomat Plus″, ″Allmet Diplomat Plus″, "Armor Granite Ridge", "Eco Loc Granite Ridge", "Roof Loc Granite Ridge", "Stone Loc Granite Ridge", "Stormtile Granite Ridge", "Armor Diplomat Plus", "Eco Loc Diplomat Plus", "Roof Loc Diplomat Plus", "Stone Loc Diplomat Plus", "Stormtile Diplomat Plus" Allmet Guardian", "Armor Guardian", "Eco Loc Guardian", "Gerard Guardian", Roof Loc Guardian", "Stone Loc Guardian", "Storm Loc Guardian", "Storm Tile Guardian", "Allmet Diplomat", "Armor Diplomat", "Eco Loc Diplomat", "Energy Loc Diplomat", "Gerard Diplomat", "Roof Loc Diplomat", "Stone Loc Diplomat", "Storm Loc Diplomat" and "Stormtile Diplomat".

GIDEON STEEL PANEL CO **R22216**
814 OVERHEAD DR, OKLAHOMA CITY OK 73128
Class 4 formed steel roof panels, designated ″Gideon Tuff-Rib AG", "Gideon PBR" and "Gideon R-Panel".

GOLDEN EMPIRE MFG INC, DBA GEM BUILDINGS **R25593**
1025 WATERY LN, BRIGHAM CITY UT 84302-1513
Class 4 formed steel panels, designated ''GEM Superior-24".

GULF STATES MFRS **R15802**
101 AIRPORT RD, STARKVILLE MS 39759
Class 4 formed steel panels, identified as Shur-Lok 360, Shur-Lok Snap.

HENRY CO **R10185**
SUITE 650 909 N SEPULVEDA BLVD, EL SEGUNDO CA 90245
Class 4 spray applied foam and coating systems. See this company's Roofing Systems Classifications (TGFU) for the specific impact Classified systems.

HILCO ROLLFORMING **R22177**
12503 HWY 6, NAVASOTA TX 77868
Class 4 formed steel panel designated ''1 in. Concealed Fastener Metal Panel".
Class 4 formed steel panel designated ″R-Panel″.

HYLOAD INC **R10473**
9976 RITTMAN RD, WADSWORTH OH 44281
Class 4 single ply membrane systems. See this company's Roofing Systems Classifications (TGFU) for the specific impact Classified systems.

INDACO METALS L L C **R25919**
3 AMERICAN WAY, SHAWNEE OK 74804-9255
Class 4 formed steel panels, designated ″Indaco R″ or ″Indaco PBR″ and ″Indaco Duraloc″.

INTEGRIS METALS INC **R17098**
1441 ELLSWORTH INDUSTRIAL DR NW, ATLANTA GA 30318
Class 4 formed steel panels, designated ''Integris System 2", ''Integris 1 in. System 3", ''Integris 1-1/2 in. System 3", ''Integris System 5" panels.

ISAIAH INDUSTRIES INC **R5100**
8510 INDUSTRIAL PARK DR PO BOX 701, PIQUA OH 45356
Class 4 aluminum tile shingle designated ''Rough Shake", ''Oxford Shingle", ''Great American Shake", ''Rustic Shingle", ''Country Manor Shake".
Class 4 steel tile shingle designated ''KasselShake" and ''KasselWood".

JENSEN BRIDGE & SUPPLY CO **R26749**
400 STONEY CREEK DR, SANDUSKY MI 48471-1043

ROOF-COVERING MATERIALS (TEVT)

Roof-covering Materials, Impact Resistance (TGAM)−*Continued*

Class 4 formed coated steel panels designated ''Ultra 2000".

JNL STEEL COMPONENTS INC **R27027**
430 US HWY 180 W, SEMINOLE TX 79360
Class 4 formed steel panels designated ''R-PANEL" or ''PBR-PANEL", ''AG-PANEL" and ''U-PANEL" or ''PBU-PANEL".

KIRBY BUILDING SYSTEMS INC **R5866**
124 KIRBY DR PO BOX 390, PORTLAND TN 37148
Class 4 formed steel panels, designated as ''Kirby-Rib II", ''KTS", ''RoofLok", ''RoofLok Plus" or ''KTM".

LANKFORD ROOFING CO **R21221**
1124 W BULLOCK ST PO BOX 583, DENISON TX 75020
Class 4 formed steel panels designated ″Double Standing Seam 1 in. and 1-1/2 in.″, ″Nailstrip 1 in. and 1-1/2 in.″, ″Snap Lock 1 in. and 1-1/2 in.″.

LEHMANS PIPE & STEEL INC **R1335**
803 ROBERTSON LOOP, POLLOK TX 75969
Class 4 formed steel panels, designated R Panel, R Plus Panel, M Panel and Ag Panel.

LONE STAR METALS **R19402**
HWY 87 S PO BOX 2100, ORANGE TX 77630
Class 4 formed steel panels, designated Tex Rib, R Panel.

MACSTEEL SERVICE CENTERS USA TULSA DIV **R18998**
3123 E APACHE, TULSA OK 74110
Class 4 formed steel panels designated 5-V Crimp, R, Tuff-Rib.

MBCI **R8116**
14031 W HARDY, HOUSTON TX 77060
Class 4 formed steel panels designated Types "R" or ''PBR", ''UltraDek", ''DoubleLok", "BattenLok", "BattenLok HS", "SuperLok", "Craftsman Series SB", "Craftsman Series LB", "Craftsman Series HB", "7.2 Panel", "Lok-Seam", "U or PBU", "S-36", "5V-Crimp", "Estate Panel", "Slimline", "Storm Proof" "PermaClad", ''Curved BattenLok".

MCELROY METAL MILL INC **R6955**
1500 HAMILTON RD, BOSSIER CITY LA 71111
Class 4 formed coated steel panels designated Type Coated steel panels (surfacing) identified as ''Multi-Rib", "Master-Lok", "R", "Medallion-Lok", ''Medallion", "Medallion I Batten", "Medallion II Batten", "Meridian", "5V-Crimp", "Mega-Rib", "Maxima 1.5", "Maxima 212", "Maxima 216", "Maxima 218", "Maxima 318", "Maxima 324", "Metalogic-2000", "Mirage", "M-Corr", "Multi-Cor", "Max-Rib", "Mac-Rib", "U", "Mirage II", "Maxima ADV" and "Met-Tile".

MENARDS/MIDWEST MFG **R20721**
5231 KANE RD, EAU CLAIRE WI 54703
Class 4 formed steel panels, designated ″Pro-Rib″, ″Premium Pro-Rib″, and ″Pro Snap″.

MERCHANT & EVANS INC **R10505**
308 CONNECTICUT DR PO BOX 1680, BURLINGTON NJ 08016
Class 4 formed steel, aluminum, zinc or copper metal panels designated ''Zip-Rib".

METAL BUILDING SUPPLY INC **R20512**
19601 N MOUNT OLIVE RD, GRAVETTE AR 72736
Class 4 formed steel panel, designated NU-MAG.

METAL FORMING INC **R21264**
100 INTERNATIONAL DR, PEACHTREE CITY GA 30269
Class 4 formed steel panels, designated ''1-1/2 in. Nail Strip", ''1 in. Nail Strip", ''1-1/2 in. Snap Lock", ''1 in. Mechanical Lock" and ''1-1/2 in. Mechanical Lock", ''1.75 Snap Lock Steel Panel".

METAL PANEL SYSTEMS INC **R19369**
11506 READING RD, CINCINNATI OH 45241
Class 4 formed steel panels designated Types "Sure-Lok Panel", "MP-175" and "MP-200".

METAL PANELS INC **R21289**
131 S 147TH E AVE, TULSA OK 74116

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Roof-covering Materials, Impact Resistance (TGAM)−*Continued*

Class 4 formed steel panels designated Strongseam Flat Loc, Strongseam AG Panel, VPSL15, VPLF1, VPLF15, NS116 or Strongseam R Panel.

METAL ROOFING SYSTEMS INC **R21103**
7711 OLD PLANK RD, STANLEY NC 28164
Class 4 formed steel panel, designated ''MRS System 2000'' panel.

METAL SALES MFG CORP **R9697**
7800 STATE RD 60, SELLERSBURG IN 47172
Class 4 formed steel panels designated "5 V Crimp", "Bi-Rib", "Classic-Rib", "Delta Rib", "Image", "Image II", "Magna-Loc 16", "Magna-Loc 18", "Magna-Loc 180", "Maxi-Batten" & "Maxi-Batten Cap", "R or PBR Panel", "Pro-Loc I, II or III", "Pro-Panel II", "Seam-Loc 24", "Span-Line 36", "Snap-Loc 24", "T-Span", "Stile", "U-Panel", "V-Line 32", "Vertical Seam" & "Vertical Seam Cap", "Mini-Batten", "Mini-Batten Panel", "T-Span", "T-Span 180", "Clip-Loc", "Power Panel", "Strong Panel", "1.25 Corrugated", "2.5 Corrugated", "Walters Panel", "7/8 Corrugated", "PBU Panel" and "IC72-Panel".

METROTILE MFG, DBA METRO ROOF PRODUCTS **R19204**
3093 A INDUSTRY ST, OCEANSIDE CA 92054
Class 4 formed steel panels, designated Metro Tile, Metro Shingle, Metro Shake, Pacific Shake, Pacific Tile, Settler Shake, Metro Shake II, Roman-VILLA Tile and Roman.

MID-SOUTH METAL PRODUCTS **R21952**
138 PEACHTREE PKY, BYRON GA 31008
Class 4 formed steel panels, designated "MSMP 1 in. Integrated Snap Lock", "MSMP 1 1/2 in. Integrated Snap Lock", "MSMP 1 1/2 in. Snap Lock", "MSMP 1 in. Mechanical Lock", "MSMP 1 1/2 in. Mechanical Lock", "MSMP 2 in. Mechanical Lock", "MSMP Structural Snap Lock" panels.

MODERN METAL SYSTEMS INC **R21892**
4530 126TH AVE N, CLEARWATER FL 33762
Class 4 formed steel panels, designated "US150NS", "US100NS", "US150LS", "US150S".

MORIN CORP **R11130**
685 MIDDLE ST PO BOX 3028, BRISTOL CT 06011
Class 4 formed steel panels, designated Type "SSR-12", "-16", "-18", "-24", "SWL-12", "16", "-18", "SLR-12", "-14", "-16" and "SRR-12", "-16".

MORTON BUILDINGS INC **R21540**
252 W ADAMS PO BOX 399, MORTON IL 61550
Class 4 formed steel panels, designated "Insta-Lok®Standing Seam", "Hi-Rib" or "Hi-Rib II".

MUELLER INC **R8557**
1915 HUTCHINS AVE, BALLINGER TX 76821
Class 4 formed steel panels designated Type PBU, UPN or U, or R or PBR, or AP, or CF, or COR Panel.

MY METAL **R26219**
1379 US HWY 60/84, CLOVIS NM 88101
Class 4 formed steel roof panels, designated ''PB R-Panel'' or ''PB U-Panel''.

NCI BUILDING SYSTEMS L P **R11609**
7301 FAIRVIEW PO BOX 40220, HOUSTON TX 77240
Class 4 formed steel panels, designated Type "R" or "PBR", "Ultra-Dek", "Double-Lok", "BattenLok", "BattenLok HS", "SuperLok", "Vistasheen", "Craftsman Series SB", Craftsman Series LB,"Craftsman Series HB", "MultiRib", "7.2 Panel", "LokSeam", "U" or "PBU", "S-36", "5V-Crimp", "Estate Panel", "SlimeLine", "Storm Proof" or "Imperial Rib", "Ameri-Drain" or "Rain Guard", "Regal Rib", "Monarch Rib", "Rugged Rib", "C" or "PBC", "3/4 High Rib" or "Heritage Panel", "Perma-Clad", "1/2 In. Corrugated", "1/4 In. Corrugated", "D" or "PBD", "7/8 Wide Rib" or "Weather Safe", "Curved BattenLok", "Triple-Lok".

OWENS CORNING **R2453**
1 OWENS CORNING PKY, TOLEDO OH 43659
Class 2 Asphalt glass fiber mat shingles designated, "Classic" and "Supreme".

Roof-covering Materials, Impact Resistance (TGAM)−*Continued*

Class 4 Asphalt glass fiber mat shingles designated, "WeatherGuard HP".

PABCO BUILDING PRODUCTS L L C, DBA PABCO ROOFING PRODUCTS **R11271**
1718 THORNE RD, TACOMA WA 98421
Class 3 "PABCO Premier® Elite", "Premier Radiance® Elite" and "Premier Advantage" shingles.

PARAMOUNT METALS INC **R21507**
761 HENRI DE TONTI, TONTITOWN AR 72770
Class 4 formed steel panels, designated "Smart Rib" and "Smart Rib Plus".

PETERSEN ALUMINUM CORP **R14293**
1005 TONNE RD, ELK GROVE VILLAGE IL 60007
Class 4 formed steel and aluminum panels designated Snap-On Standing Seam, High Snap-On Standing Seam, Integral Batten, Redi-Roof Batten, Redi-Roof Standing Seam, Snap-Clad, Integral Standing Seam, Tite-Loc and Tite-Loc Plus.

PINNACLE STRUCTURES INC **R26099**
2665 HWY 321 BYP PO BOX 1268, CABOT AR 72023
Class 4 formed steel panels, designated Type "PINNACLE D-LOK" and "PINNACLE U-DEK".

PREMIUM PANELS INC **R21089**
UNIT F 5930 INGALLS ST, ARVADA CO 80003
Class 4 formed steel panels, designated "Premium Lock 150" or "P.L. 150", "Premium Lock 200" or "P.L. 200", "Premium Lock 210A" or "P.L. 210A", "Premium Snap 100ns" or "P.S. 100ns", "Premium Snap 450" or "P.S. 450", "Premium Snap 450SL" or "P.S. 450SL", "Premium Snap 550" or "P.S. 550", "SS675" and "PPI Bermuda Panel".
Class 4 aluminum panels, designated "Premium Lock 150" or "P.L. 150".

PRIME BUILDING COMPONENTS L L C **R19211**
19320 S U S HWY 377 PO BOX 269, DUBLIN TX 76446
Class 4 formed steel panels designated Type 6V Panel.

PRO-TECH PRODUCTS INC **R16029**
3003 N 73RD ST, SCOTTSDALE AZ 85251
Class 1 Spray Applied Foam and Coating Systems. See this company's Roofing Systems Classification (TGFU) for the specific impact Classified systems.

QUALITY ROOFING & REMODELING **R25080**
5 UPPER CIBOLO CREEK RD, BOERNE TX 78006
Class 4 formed steel panel, designated "Double Lock Standing Seam".

REINKE SHAKES INC **R8491**
210 S 4TH ST, HEBRON NE 68370
Class 4 formed aluminum shake designated "Reinke Shake" aluminum shake.

RIFFE METALS L L C **R26561**
SUITE 905-527 931 VILLAGE BLVD, WEST PALM BEACH FL 33409
Class 4 formed metal panels designated Types "Rapidloc 1.75", Versaloc 1.5", "Riffe 5V", "Megaloc 2.0" and "NailLoc 1.0".

RIGID BUILDING SYSTEMS LTD **R16615**
18933 ALDINE WESTFIELD, HOUSTON TX 77073
Class 4 formed steel panels designated "R" Panel.

ROLLFAB METAL BUILDING PRODUCTS **R26185**
SUITE 102 2529 W JACKSON ST, PHOENIX AZ 85009-5134
Class 4 formed steel panel, designated "SL175 panel," "1-1/2 in. Nail Strip," "1 in. Nail Strip," "1-1/2 in. Snap Lock," "1-1/2 in. Mechanical Lock," and "1.75 Snap Lock Steel Panel".

ROSER CO LTD **R21541**
400 NAE-DONG APRYANG-MYUN, KYONG SAN CITY, KYONGBUK 712-820 REPUBLIC OF KOREA
Class 4, formed steel panels designated Roserboard, "ROWOOD-015", "ROWOOD-016", "ROWOOD-035", "TUSCANY", "PIANO" and "STONE-WOOD SHAKE".

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Roof-covering Materials, Impact Resistance (TGAM)−*Continued*

Class 4, formed copper panel designated Spany.

ROYAL METAL BUILDING COMPONENTS **R20436**
2301 AMISTAD DR, SAN BENITO TX 78586
Class 4 formed steel panels, designated Coated Steel roofing panels identified as “Royal Span”, “Royal Span X”, “Tex Rib”, “Royal Seam” or “Royal Strip”

SAN ANTONIO QUALITY METALS **R27067**
210 W PEDEN, SAN ANTONIO TX 78207
Class 4 formed steel panels, designated “NS-100”, “SL-150”, “ML-100”, “ML-150” and “ML-200” panel.

SCHULTE BUILDING SYSTEMS LP **R22276**
17600 BADTKE RD, HOCKLEY TX 77447
Class 4 formed coated steel panels designated Type ″R″, ″PBR″, “VS-216”, “TS-324”, “U” or “PBU” Panel.

SCHULTE ROOFING INC **R26557**
10842 HWY 6 BYP PO BOX 1416, NAVASOTA TX 77868
Class 4 formed steel panels designated ‘‘SS675’’, ‘‘FF150’’ and ‘‘FF100’’.

SHEET METAL WORKS OF ARIZONA **R26444**
3845 N HIGLEY, MESA AZ 85215
Class 4 formed steel panels, designated ″NS100″, ″NS150″, ″SS150″, ″MS100″, ″MS150″ and ″SL175″.

SHEFFIELD METALS INTERNATIONAL **R27099**
5467 EVERGREEN PKY, SHEFFIELD VILLAGE OH 44054
Class 4 formed coated steel panels designated “CR-100-NS”, “CR-150-ML” and “CR-150-SL”.

SHERRIFF-GOSLIN CO **R20683**
10 AVENUE C, BATTLE CREEK MI 49015
Class 4 modified asphalt glass fiber mat shingles and roll roofing designated Art Loc II.

SMITH ROOFING CO INC **R26579**
711 BELLE PLAIN ST, BROWNWOOD TX 76801-1717
Class 4, formed steel panels designated ″Double-Lock Standing Seam″.

SOUTHEASTERN METALS MANUFACTURING CO INC **R20735**
11801 INDUSTRY DR, JACKSONVILLE FL 32218
Class 4 formed steel panel, designated “Verti-Lok”, “Rock-Loc”, “5-V Crimp”, “Sem-Lok”, “SM-Rib”, “R/PBR” or “Corrugated” panel.

SOUTHWEST METAL COMPONENTS AND SUPPLY LP **R26100**
485 EAST LOOP 564 PO BOX 300, MINEOLA TX 75773
Class 4 formed steel panels, designated ″PBR″ or ″R-Panel″ and ″PBU″ or ″U-Panel″.

SOUTHWEST METAL ROOFING SYSTEMS **R20603**
SUITE 1 11919 RAIL DR, SAN ANTONIO TX 78233
Class 4 formed steel panel, designated ‘‘CB-100’’.

SPECIFICATION CHEMICALS INC **R9374**
824 KEELER ST, BOONE IA 50036
Class 4 fluid applied coating system. See this company’s Roofing System Classification (TGFU) for specific impact Classified system.

STANDARD STRUCTURES INC **R18595**
1500 W I 20, ODESSA TX 79763
Class 4 formed steel panels designated M, Maxi Rib, P.B.M., P.B.R., R.

STEEL BUILDING SUPPLY INC **R19011**
1154 STATE HWY 7 E, CENTER TX 75935
Class 4 formed steel panels designated ″R″, ″P.B.R.″, ″AG″ or ″Max-Rib″.

STEEL BUILT CORP **R25943**
360B 14TH ST, AMBRIDGE PA 15003
Class 4 formed steel panel, designated ″SBC PBR Panel″.

STEEL SERVICE BUILDING CO **R9798**
24304 AMAH PKY, CLAREMORE OK 74017

ROOF-COVERING MATERIALS (TEVT)

Roof-covering Materials, Impact Resistance (TGAM)−*Continued*

Class 4 formed steel panel, designated “R-PANEL”.

STONE METAL PRODUCTS **R22369**
11615 BRITTMORE PARK DR, HOUSTON TX 77041
Class 4 formed steel panels designated ‘‘KenLoc 12’’ and ‘‘KenLoc 16’’.

STREAMLINE ROOFING & CONSTRUCTION INC **R21791**
PO BOX 2378, TALLAHASSEE FL 32316
Class 4 formed steel and aluminum panels designated ‘‘175SL’’.

SWD URETHANE CO **R9303**
222 S DATE ST PO BOX 1422, MESA AZ 85211
Class 1, 2, 3, and 4 spray applied foam and coating systems. See this company’s Roofing Systems Classifications (TGFU) for the specific impact Classification systems.

TAMKO BUILDING PRODUCTS INC **R18590**
220 W 4TH ST PO BOX 1404, JOPLIN MO 64801
Class 4 formed steel tile covering, designated Astonwood and StoneCrest.

TAMKO BUILDING PRODUCTS INC **R20518**
220 W FOURTH ST PO BOX 1404, JOPLIN MO 64801
Class 4 formed plastic shingles, designated “Lamarite™ Slate Composite Shingle’’ or ‘‘Lamarite™ Shake”.
Class 1 formed plastic shingles ″Lamarite™ EstateSlate”.

TAYLOR & SONS PIPE & STEEL INC **R26350**
#2865 2479 COUNTY ST, CHICKASHA OK 73018-8085
Class 4 formed steel panels designated Types ‘‘R-Panel’’ or ‘‘GR8 Panel’’.

TAYLOR METAL INC **R25913**
4566 RIDGE DR NE, SALEM OR 97301
Class 4 formed steel panels designated ‘‘″EASY LOCK″”.

TEGRAL BUILDING PRODUCTS LTD **R26788**
KILKENNY RD, ATHY, CO KILDARE IRELAND
Class A fiber cement composite shingles, designated “ThrutonePlus Slates”.

TEXARKANA METAL BUILDING SUPPLY **R26052**
8000 HAMPTON RD, TEXARKANA TX 75503
Class 4 formed coated steel panels designated Type Coated steel panels (surfacing) identified as ‘‘R or PBR’’, ‘‘Tuffrib’’ and ‘‘SSP 675 Panel’’.

TEXAS ENERGY SAVERS CO **R19386**
213 CONVEYOR PO BOX 533, JOSHUA TX 76058
Class 4 formed steel panel, designated “Tesco SL 1000”.

TEXOMA STEEL BUILDINGS INC **R10626**
504 S RED RIVER EXPY, BURKBURNETT TX 76354
Class 4 formed coated steel panels designated type panels, “R”, “U/M”, “Ag/Tuff-Rib”.

TREMCO INC **R6692**
3735 GREEN RD, BEACHWOOD OH 44122
Class 4 formed steel panel, designated Tremlock VP, Tremlock SL Series II or Tremlock VP Series II. Class 4 formed aluminum panels designated Tremlock SL Series II or Tremlock VP Series II.

ULTRA SEAM INC **R15564**
8059 CRILE RD, PAINESVILLE OH 44077
Class 4 formed steel panel, designated ″US 175 LS″, or ″US-200S″.

UNION CORRUGATING CO **R20494**
701 S KING ST, FAYETTEVILLE NC 28301
Class 4 formed coated steel panels, designated Type ‘‘R-Panel’’, ‘‘PBR-Panel’’, ‘‘Master Rib’’, ‘‘5V Panel’’, ‘‘Advantage Lok’’, ″Performa Steel Shingle″, ‘‘Relia-Clad’’, ″ML200″, ″SL175″.
Class 4 formed coated steel, copper or aluminum panels, designated Type ″ML150″.

UNITED STRUCTURES OF AMERICA INC **R9610**
1912 BUSCHONG, HOUSTON TX 77039

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Roof-covering Materials, Impact Resistance (TGAM)−*Continued*

Class 4 formed coated steel panels, designated Type "U.S.A.R", "Guardian I" or "Guardian II", "Guardian-Lok", "Sure-Lok", and "Supreme-Lok".

WHEELER METALS INC **R26648**
3100 W 40TH ST N, MUSKOGEE OK 74401-5435
Class 4 formed steel roof panels, designated "R-Panel", "Low Rib" or "Low Rib Plus".

WHEELING-PITTSBURGH STEEL CORP, DIV OF WHEELING CORRUGATING CO **R20684**
1134 MARKET ST, WHEELING WV 26003
Class 4 formed steel panels, designated "5V", "R", "Century Drain", "Channel Drain 2000", "Loc Seam-Bradenton" and "Loc Seam-Martins Ferry" Panel.

WHIRLWIND STEEL BUILDINGS INC **R8210**
8234 HANSEN RD, HOUSTON TX 77075
Class 4 formed coated steel panels designated Type Panels: "Stor-Lok 16", "7.2 Rib", "Super Span", "Super Span-X", "Low-Rib", "Super Seam-24", "Weather Lok-16", "Sturdi-Rib", "Super-Seam II", "Super-Seam Plus", "Sturdi-Span", "Cor-Span", "Cor-Span X", "Weather Guard", "Weather Snap-12" and "Weather Snap-16".

PREPARED ROOFING ACCESSORIES (TGDY)

GENERAL

This category covers materials intended for use as an accessory component of a prepared roof-covering system. These prepared roofing accessories have been investigated as to external fire exposure when applied in accordance with instructions included with the prepared roofing.

These accessories are intended to be installed in accordance with the application instructions included with the basic prepared roof-covering material.

Where indicated in the individual Classifications, certain products have been investigated in accordance with ASTM D6757, "Standard Specification for Underlayment Felt Containing Inorganic Fibers Used in Steep-Slope Roofing."

Also, where indicated in the individual Classifications, certain products have been investigated in accordance with specifications from ASTM D226, "Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing," Table 1.

Also, where indicated in the individual Classifications, certain products have been investigated in accordance with specifications from ASTM D4869, "Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing," Table 1.

ADDITIONAL INFORMATION

For additional information, see Roof-covering Materials (TEVT) and Roofing Materials and Systems (AARM).

REQUIREMENTS

The basic standard used to investigate products in this category is ANSI/UL 790, "Tests for Fire Resistance of Roof Covering Materials" (ANSI/ASTM E108 and ANSI/NFPA 256).

Where indicated in the individual Classifications, certain products have been additionally investigated to ASTM D6757, "Standard Specification for Underlayment Felt Containing Inorganic Fibers Used in Steep-Slope Roofing," and/or specifications from Table 1 of ASTM D226, "Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing," and/or specifications from Table 1 of ASTM D4869, "Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing."

UL MARK

The Classification Mark of UL on the roll, package or container is the only method provided by UL to identify products manufactured under its Classification and Follow-Up Service. The Classification Mark for these products includes the UL symbol, the word "CLASSIFIED" above the UL symbol (as illustrated in the Introduction of this Directory) and the following additional information:

PREPARED ROOFING ACCESSORY
AS TO AN EXTERNAL FIRE EXPOSURE
WHEN APPLIED IN ACCORDANCE WITH INSTRUCTIONS
INCLUDED WITH THE PREPARED ROOFING

The Classification Mark may also include one or more of the following statements as applicable:

ALSO CLASSIFIED IN ACCORDANCE WITH ASTM D6757
ALSO CLASSIFIED IN ACCORDANCE WITH SPECIFICATIONS FROM ASTM D226, TYPE *, TABLE 1
ALSO CLASSIFIED IN ACCORDANCE WITH SPECIFICATIONS FROM ASTM D4869, TYPE **, TABLE 1
* **I** or **II** as determined by ASTM D226, Table 1
** **I**, **II**, **III** or **IV** as determined by ASTM D4869, Table 1

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Prepared Roofing Accessories (TGDY)−*Continued*

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ALCO PRODUCTS L L C **R18564**
580 ST JEAN, DETROIT MI 48214
Asphalt underlayment accessory —ALCO SHIELD, a modified bitumen felt for use in the installation of Class A glass fiber mat shingles and Class C asphalt organic felt shingles. This product is intended for use around the roof deck perimeter, chimneys, valleys and penetrations only.

ALLIED BUILDING PRODUCTS CORP **R16814**
15 E UNION AVE, EAST RUTHERFORD NJ 07073
Asphalt underlayment accessories, "Granular Surface Self Adhering Underlayment", "Granular SA Shingle", self-adhering modified bitumen membrane for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.
Asphaltic underlayment accessory, "TRI-BUILT 30LB UL", an asphalt saturated organic felt for use in the installation of this manufacturer's Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.
Asphaltic underlayment accessory, TRI-BUILT Sand Surface Self-Adhering Underlayment for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic-felt shingles.

ALPHA PROTECH ENGINEERED PRODUCTS **R21906**
323 S BLANCHARD ST, VALDOSTA GA 31601
Asphalt underlayment accessory, "ECO-ply" and "REX SYNFELT" are synthetic roof underlayments for use in the installation of Class A asphalt glass fiber shingles and Class C asphalt organic felt shingles.

ATLAS ROOFING CORP **R14902**
2564 VALLEY RD, MERIDIAN MS 39301
Asphaltic underlayment accessory, "GP-15 Residential Asphalt Saturated Felt", "GP-30 Residential Asphalt Saturated Felt", "Gorilla Guard" or "Atlas PFF". An asphalt saturated organic felt for use in the installation of this manufacturer's Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles. "Gorilla Guard" can also have the adjunct statement - Also Classified in accordance with ASTM D6757.
Shingle decking accessories, "ACFoam Nail Base Insulation", "Vented-R" ®, " Crossvent" roof insulation for use with any Class A, B or C asphalt glass-mat or asphalt organic shingles, metal or tile roof coverings.
Shingle underlayment accessories, "Summit" underlayment is a synthetic roof underlayment for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.
Shingle underlayment accessories, "Weathermaster Ice & Water" modified asphalt underlayment for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

ATLAS ROOFING CORP **R25794**
2564 VALLEY RD, MERIDIAN MS 39301
Asphalt underlayment accessories — "Weather Master Granular", "Weather Master PolySeal," self-adhering modified bitumen membrane, for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

BITEC INC **R18135**
2 INDUSTRIAL PARK DR PO BOX 497, MORRILTON AR 72110
Asphalt underlayment accessories, "Bitec UDL-40 Shingle and Tile Underlayment", "IMPERFLEX USA" or "DEFEND". A modified asphalt saturated and coated glass mats for use in the installation of Class A or C asphalt glass fiber mat or Class C asphalt organic felt shingles.
Asphalt underlayment accessory, "ULM-80". A modified asphalt saturated and coated glass mat for use in the installation of roof tiles.
Asphalt underlayment accessory, "Bitec MAT-40" is a modified bitumen underlayment for use in the installation of Class A, B or C steel, aluminum or copper panels. This underlayment is intended for use on minimum 1/4 in. thick G-P Gypsum "DensDeck Roofboard®" with barrier board butt joints staggered a minimum of 6-in. from plywood deck joints. These underlayments are intended for use on 15/32 in. minimum thick plywood or 7/16 in. minimum thick oriented strand board (OSB).

BLACK WARRIOR ROOFING INC **R22025**
4601 STILLMAN BLVD, TUSCALOOSA AL 35401

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Prepared Roofing Accessories (TGDY)−*Continued*

Asphalt underlayment accessory— ″Z-15″, “Z30”, “15-ASTM”, “30-ASTM”, “Arrow 43#”, “MG2 Base”, “15-UL” or “30-UL” underlayment asphalt saturated organic felt or asphalt glass fiber for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

Asphalt underlayment accessory— ″Quik-Stick HT″, ″Quik-Stick VF Valley Fast″, ″Quik-Stick MP Granular″, ″Quik-Stick IW Ice and Water″, ″Quik-Stick HTHD″, “Quik-Stick Ice and Water Sand,” “Quik-Stick Multi-Purpose Underlayment” and “Quik-Stick HT Pro,” self-adhering modified bitumen membrane, for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

Asphalt underlayment accessory— ″MSA Hybrid Felt″ underlayment asphalt saturated organic felt or asphalt glass fiber for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles. Also Classified in accordance with ASTM D6757.

BLUELINX CORP R25799

4300 WILDWOOD PKY, ATLANTA GA 30339-8440

Asphalt underlayment accessories, “Tough-Guard Granular”, “Toughguard Granular Embossed”, self-adhering modified bitumen membrane for use in the installation of Class A asphalt, glass fiber mat shingles and Class C asphalt organic felt shingles.

CARLISLE COATINGS & WATERPROOFING INC R18678

900 HENSLEY LN, WYLIE TX 75098

Any of the following underlayment accessory products may be added below a Class A, B or C roofing system assembly and retain the Class A, B or C fire rating of that assembly, with the exception of a single-ply membrane that is applied directly to a roof deck.

Asphalt underlayment accessories — “CCW WIP 100”, “RoofGuard”, “CCW WIP 200”, self-adhering modified bitumen membrane for use in the installation of Class A asphalt, glass fiber mat shingles and Class C asphalt organic felt shingles and Class C metal shingles or metal roofing. No other underlayment is required.

Asphalt underlayment accessories — “CCW WIP 400” (formerly called Dri-Start A), “CCW WIP 401LT” (formerly called Dri Start A Low Temperature), “CCW WIP 403HR” (formerly called Dri Start HR), “CCW 725”, “CCW 725TR”, “CCW WIP 250”, “CCW WIP 600T”, “CCW WIP 300HT” self-adhering membranes for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles and Class C metal shingles or metal roofing. No other underlayment is required.

Shingle underlayment accessory — ″EZ-Roof Base″ non-asphaltic underlayment for use in the installation of Class A asphalt glass fiber mat shingles, Class C asphalt organic felt shingles, EcoStar Class C shingles, and Class C metal shingles or metal roofing. No other underlayment is required.

CARLISLE SYNTEC INCORPORATED R26020

1285 RITNER HWY PO BOX 7000, CARLISLE PA 17013

Shingle decking accessories, “ENVent” roof insulation for use with any Class A, B or C asphalt glass-mat or asphalt organic shingles, metal or tile roof coverings.

CERTAINTEED CORP R10269

ROOFING PRODUCTS GROUP 1400 UNION MEETING RD PO BOX 1100, BLUE BELL PA 19422

Asphaltic underlayment accessory — “Shingle Underlayment” or “Roofers Select” asphalt saturated organic felt for use in the installation of this manufacturer’s Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

Asphaltic underlayment accessory — “WinterGuard Sand or DryRoof”, “WinterGuard Granular/Black Diamond Base Sheet” “WinterGuard HT”, “PVLayment”, “MetaLayment” and “WinterGuard Film” modified asphalt saturated and coated glass mats for use in the installation of Class A, B or C asphalt glass fiber mat or asphalt organic felt shingles.

Asphaltic underlayment accessory — “Shingle Felt Underlayment”, “Roofwrap 15” or “Roofwrap 30”. An asphalt saturated organic felt for use in the installation of this manufacturer’s Class A asphalt glass fiber mat shingles and Class C asphalt organic felt sheet roofing and shingles.

Asphalt underlayment accessory — “Stormshield”. A modified asphalt saturated and coated glass mat for use in the installation of Class A, B or C asphalt glass fiber mat or Class C asphalt organic felt shingles.

Shingle decking accessories, FlintBoardH CV roof insulation for use with any Class A, B or C asphalt glass-mat or asphalt organic shingles, metal or tile roof coverings.

Shingle underlayment accessory — “DiamondDeck”, a synthetic underlayment, intended for use with the installation of Class A, B or C asphalt glass fiber mat or Class C asphalt organic felt shingles, when over a minimum 15/32-in. thick plywood roof deck.

CETCO R21717

2870 FORBS AVE, HOFFMAN ESTATES IL 60192

ROOF-COVERING MATERIALS (TEVT)

Prepared Roofing Accessories (TGDY)−*Continued*

Shingle underlayment accessories, “StrongSeal SA” and “StrongSeal DB” underlayments for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

CORNELL CORP R14153

808 S 3RD ST PO BOX 338, CORNELL WI 54732

Shingle decking accessory — “ThermaCal” and “Vent-Top ThermaCal” roof insulation for use with any Class A, B or C asphalt glass-mat or asphalt organic or metal shingles.

ECOSTAR L L C R26778

42 EDGEWOOD DR, HOLLAND NY 14080

Any of the following underlayment accessory products may be added below a Class A, B or C roofing system assembly and retain the Class A, B or C fire rating of that assembly, with the exception of a single-ply membrane that is applied directly to a roof deck.

Asphalt underlayment accessories — “Glacier Guard 100”, “Glacier Guard 200”, self-adhering modified bitumen membrane for use in the installation of Class A asphalt, glass fiber mat shingles and Class C asphalt organic felt shingles and Class C metal shingles or metal roofing. No other underlayment is required.

Asphalt underlayment accessories — “Glacier Guard 400”, Glacier Guard 300, self-adhering membranes for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles and Class C metal shingles or metal roofing. No other underlayment is required.

FABRENE INC R21956

240 DUPONT RD PO BOX 4040, NORTH BAY, ON P1B 9B4 CANADA

Shingle underlayment accessory “Matrix UL”, “Matrix UL – White”, “Resistor Plus” and “Fabrene UDL” are polyolefin surfaced membranes for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt or metal shingles.

FIRESTONE BUILDING PRODUCTS CO L L C R14463

250 W 96TH ST, INDIANAPOLIS IN 46260

Shingle decking accessory, “HailGard” roof insulation for use with Class A asphalt glass fiber shingles and Class C asphalt organic felt shingles.

Asphaltic underlayment accessories, CLAD-GARD SA-N, CLAD-GARD SA-S membranes are slip resistant surfaced modified bitumen membranes for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic shingles.

Asphalt underlayment accessory, CLAD- GARD R self-adhering modified bitumen membrane, for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

FONTANA PAPER MILLS INC R16721

13733 VALLEY BLVD, FONTANA CA 92335

Asphalt underlayment accessory— “Vulca Seal Modified Multi-Purpose Underlayment”, a modified asphalt coated fiberglass mat, “Vulca Seal Modified 40”, a modified asphalt saturated organic felt and “Vulca Seal Organic Base #40 Underlayment”, an asphalt saturated organic felt. These products are for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

GAF MATERIALS CORP R10689

1361 ALPS RD, WAYNE NJ 07470

Asphaltic underlayment accessory — “GAF Shingle Underlayment” asphalt saturated organic felt for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

Asphaltic underlayment accessory — ″WeatherWatch®,″ “WeatherWatch® XT,” ″StormGuard®″ and ″Tile-Mate″ modified asphalt coated glass mat underlayment for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

Asphaltic underlayment accessory — “UnderRoof™”, “UnderRoof 2™” and “UnderRoof™ HT” modified asphalt coated polyester mat reinforced underlayment for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

Unsaturated underlayment accessory — “Shingle-Mate®” a water vapor permeable substrate composed of organic and inorganic fibers bound with asphalt and other polymeric materials, for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

Asphaltic underlayment accessory — ″RoofPro” smooth surfaced modified bitumen saturated glass mat underlayment for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

Cement — cold application cement designated “Asbestos free Cold Method Cement” for use in the installation of this manufacturer’s [illegible]

Shingle decking accessory — “Insul-A[illegible] insulation covered with field applied 3/8-in. minimum thick nonvenecr A.P.A. rated [illegible]

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Prepared Roofing Accessories (TGDY)−*Continued*

Class A or C asphalt glass-mat or asphalt organic shingles.

Shingle decking accessory – "DeckArmor™ Synthetic Breathable Underlayment" and "TigerPaw™ Roof Deck Protection" for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

Shingle underlayment accessory — "VersaShield® Fire-Resistant Roof Deck Protection" and ″VersaShield® Underlayment″ coated fiber glass mat intended for use with the installation of Class A, B or C asphalt, steel, aluminum or copper shingles.

"VersaShield® Fire-Resistant Roof Deck Protection" and ″VersaShield® Underlayment″ coated fiber glass mat intended for use with Class A, B or C asphalt, steel, aluminum or copper shingles over existing wood shingle or wood shake roof.

Formed steel panel coverings for installation as Class A prepared roof coverings limited to spaced sheathing and 15/32-in. minimum thick plywood covered with one or more plies of "VersaShield® Fire-Resistant Roof Deck Protection" or ″VersaShield® Underlayment″ followed by nominal 2-in. x 2-in. wood battens with the steel panels mechanically fastened to these battens.

Shingle underlayment accessory - "VersaShield® Fire-Resistant Roof Deck Protection"and ″Versashield® Underlayment″ Classified in accordance with ASTM D6757.

GEOCEL CORP — R15853

2504 MARINA DR PO BOX 398, ELKHART IN 46515

Shingle adhesive, "Geocel 2300" for use with shingles manufactured by Tegola Canadese.

GERARD ROOFING TECHNOLOGIES — R20459

955 COLUMBIA ST, BREA CA 92821

Shingle support panel— "Gerard Support Panel" is an expanded polystyrene foamed plastic shingle support panel for use in accordance with manufacturer's prepared roof covering installation instructions.

HENRY CO — R18389

SUITE 650 909 N SEPULVEDA BLVD, EL SEGUNDO CA 90245

Asphalt underlayment accessory, EAVEGUARD self-adhering modified bitumen membrane for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic-felt shingles.

HOMASOTE CO — R13614

LOWER FERRY RD PO BOX 7240, WEST TRENTON NJ 08628

Shingle decking accessory — "Thermasote Nail Base Roof Insulation" board for use with any Class B or C shingles and intended for installation over conventional decking material.

Shingle decking accessory — "Thermasote Nail Base Roof Insulation" board for use with the following Class A shingles and intended for installation over conventional decking material.

Genstar Building Materials Company, Certainteed Corporation, Elk Corporation of America, GAF Corporation, Manville Corporation, Bird & Son Inc. and Herbert Malarkey Roofing Company.

HUNTER PANELS — R20624

15 FRANKLIN ST, PORTLAND ME 04101

Shingle decking accessories, "Cool-Vent" roof insulation for use with any Class A, B or C asphalt glass-mat or asphalt organic shingles, metal or tile roof coverings.

IKO INDUSTRIES LTD — R20808

IKO RESEARCH CENTRE 40 HANSEN RD S, BRAMPTON, ON L6W 3H4 CANADA

Asphalt underlayment accessory— "#15 Plain ASTM Asphalt Felt — Metric", "No. 30 Lined Shake Felt", "AM Heavy Duty Asphalt Metric", "No. 15 Lined Shake Felt 18", "No. 30 Lined ASTM Shake Felt" and "No. 30 Plain ASTM Asphalt Felt Metric" asphalt saturated organic felt. These products are for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

INNOVATIVE METALS CO INC — R25615

4648 S OLD PEACHTREE RD, NORCROSS GA 30071

Asphalt underlayment accessory— "Dry-Dek Metal and Tile Underlayment" is a modified bitumen underlayment for use in the installation of Class A, B or C steel, aluminum or copper panels. This underlayment is intended for use on minimum ¼-in. G-P Gypsum "DensDeck Roofboard®" with barrier board butt joints staggered a minimum of 6-in. from plywood deck joints. These underlayments are intended for use on 15/32 in. minimum thick plywood or 7/16 in. minimum thick oriented strand board (OSB).

Asphalt underlayment accessory— "AquaBlock-50" and "AquaBlock-60" self-adhering modified bitumen membrane, for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

Prepared Roofing Accessories (TGDY)−*Continued*

INTERNATIONAL ROOFING GROUP INC — R25623

318 EAST LAKESHORE DR, TOWER LAKES IL 60010

Asphalt underlayment accessory — #15 ASTM D 226, #30 ASTM D 226, #15 Plain ASTM 4869, #30 Plain ASTM 4869 underlayment asphalt saturated organic felt or asphalt glass fiber for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

JOHNS MANVILLE INTERNATIONAL INC — R15059

MOUNTAIN TECHNICAL CENTER, LITTLETON CO 80162

Shingle decking accessory, "ISO-Vent" roof insulation covered with field applied 3/8 in. minimum thick nonveneer APA rated sheathing for use with Class A or C asphalt glass-mat or asphalt organic shingles.

Shingle decking accessory, "Nailboard" roof insulation for use with Class A asphalt glass fiber shingles and Class C asphalt organic felt shingles.

JOHNS MANVILLE — R14124

717 17TH ST, DENVER CO 80202

Asphalt underlayment accessories — ″Nordshield Ice and WaterGuard″, ″Roof Defender″, ″Roof Defender With Granules″, ″JM Ice and WaterGuard″, ″Sure Grip 30 Ice and WaterGuard″ and ″Nordtene″ are plastic, mineral and or sand surfaced (respectively), self-adhering modified bitumen membranes for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

LOADMASTER SYSTEMS INC — R13727

3175B NORTHWOODS PKY, NORCROSS GA 30071

Shingle decking accessory: The Loadmaster Nailable Roof Deck Assembly when installed as described below is a Classified alternate to those decking systems described under "Prepared Roof Covering Materials" (TFWZ). Minimum two layers of 1/2 in. thick or one layer of 5/8 in. thick Loadmaster Mineral Board (Gypsum Board) mechanically fastened per manufacturers specifications to Loadmaster Steel Deck. For use with any Class A, B or C asphalt shingle described in (TFWZ) installed at any incline. Shingle to be secured with hardened, barbed, split stem, chisel point nails. Optional insulation, expanded polystyrene, polyisocyanurate or phenolic, any thickness, may be used under mineral board.

MFM BUILDING PRODUCTS CORP — R14924

525 ORANGE ST PO BOX 340, COSHOCTON OH 43812

Asphalt underlayment accessories, "Ice Buster II", "IB-3", "IB-4", "Black Wind & Water Seal", "MFM Wind and Water Seal" or "Premium Wind & Water Seal". Modified asphalt material for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles. These membranes are intended for use around the roof deck perimeter, chimneys, valleys and penetrations only.

N B HANDY CO INC — R26674

65 10TH ST, LYNCHBURG VA 24504

Asphalt underlayment accessory, "Sentrigard HT-SA" self-adhering modified bitumen membrane, for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

NORDIC WATERPROOFING OY — R27132

PO BOX 10 FI-04361, TUUSULA FINLAND

Asphalt underlayment accessory, ″Roof Aqua Guard MT-HT" self-adhering modified bitumen membrane, for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

NORTHERN ELASTOMERIC INC — R14610

50 PINE RD, BRENTWOOD NH 03833

Asphalt underlayment accessory ″AC Granular Ice and StormSeal″, ″AC MetalSeal″, ″AC AutoSeal″, ″AC Starter Roll', ″AC TileSeal″ or ″AC PolyPro″, self-adhering modified bitumen membrane, for use in the installation of Class A asphalt glass fiber mat shingles, Class C asphalt organic felt shingles and Class C metal shingles.

OWENS CORNING — R19380

1 OWENS CORNING PKY, TOLEDO OH 43659

Asphalt underlayment accessories, "WeatherLock®G", "WeatherLock Cold Climate", "WeatherLock®Mat", "WeatherLock®P", "WeatherLock®PM", "Starter Shingle", self-adhering modified bitumen membrane, for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

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Prepared Roofing Accessories (TGDY)−*Continued*

"WeatherLock FLEX", self-adhering modified bitumen membrane, for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

"Weatherlock Speciality Tile & Metal", ″WeatherLock® Metal", "WeatherLock® PM", "WeatherLock® Hi-Temp", "WeatherLock® Mat", "WeatherLock® P", "WeatherLock® G", "WeatherLock® Hi-Tear G", "WeatherLock® Cold Climate", "Tri-Built Granular Surfaced Self-Adhered Underlayment", "Shingle Starter Roll", self-adhering modified bitumen membrane, for use in the installation of Class A asphalt glass fiber mat shingles, Clay & Concrete Tile and Class C asphalt organic felt shingles. WeatherLock® Exteme High Temperature".

″WeatherLock® Metal″ self-adhering modified bitumen membrane for use in the installation of Class C metal shingles.

"Fiberglas Reinforced Felt". An asphalt saturated organic felt for use in the installation of this manufacturer's Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles. "Fiberglas Reinforced Felt" can also have the adjunct statement - Also Classified in accordance with ASTM D6757.

POLYGLASS USA **R25992**

621 SNIVELY AVE, WINTER HAVEN FL 33880

Asphalt underlayment accessory, "Polystick MTS", self-adhering, a modified bitumen membrane for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

SOPREMA INC **R21824**

1675 RUE HAGGERTY, DRUMMONDVILLE, QC J2C 5P7 CANADA

Asphaltic underlayment accessory— ″Lastobond Shield" or "Lastobond Shield HT-N″ or ″Lastobond Shield HT" or "Lastobond Shield HT-S″ or "Lastobond-TU" or "Lastobond Pro HT-N" or ″Lastobond Shield HT" or "Lastobond Pro HT-S" or "Lastobond" or "Lastobond Shield HT-S" or "Lastobond 195" or "Lastobond 240" or "Resisto Econo" or "Lastobond ECO" or "Resisto LB1236" or "Resisto LB1244" membranes are slip resistant surfaced modified bitumen membranes for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic shingles.

SOPREMA INC **R18452**

310 QUADRAL DR, WADSWORTH OH 44281

Asphalt underlayment accessory — "COLPHENE 1000", "1500" or "1800", self-adhering modified bitumen membrane for use in the installation of Class A asphalt, glass fiber mat shingles and Class C asphalt organic felt shingles.

This membrane is intended for use around the roof deck perimeter, chimneys, valleys and penetrations only.

Asphalt underlayment accessory — "ELASTO-GRIP", "LASTOBOND", "SOPRALENE FLAM STICK SH", self-adhering modified bitumen membrane for use in the installation of Class A asphalt, glass fiber mat shingles of Class C asphalt organic felt shingles.

SPECIFICATION CHEMICALS INC **R21534**

824 KEELER ST, BOONE IA 50036

Underlayment — "#300", liquid applied underlayment at 3 gal/sq with joints taped with a UL181A Listed foil tape, for use in the installation of Class A asphalt, glass fiber mat shingles and Class C asphalt organic felt shingles

TAMKO BUILDING PRODUCTS INC **R10827**

601 N HIGH ST, JOPLIN MO 64801

Asphaltic underlayment accessory, "No. 15", "ASTM No. 30 18 Inch", "No. 30 ASTM", "No. 30 ASTM D4869 Type I", "ASTM Tile Underlayment", "ASTM Slate Surfaced Roll Roofing", "No. 15 ASTM D4869", ″No. 15 ASTM D4869 Type I″, ″No. 15 ASTM ″, "No. 30", "Super 30", "No. 150", "No. 1500", "Master Smooth" or "No. 30 UL", an asphalt saturated organic felt for use in the installation of this manufacturer's Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

Asphalt underlayment accessory, "Moisture Guard Plus", "TW Metal & Tile" or "TW Underlayment", self-adhering, a modified bitumen membrane for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

This membrane is intended for use around the roof deck perimeter, chimneys, valleys and penetrations only.

Asphalt underlayment accessory, "NAIL-FAST", a modified bitumen felt for use in the installation of Class A glass fiber mat shingles and Class C asphalt organic felt shingles.

Asphalt underlayment accessory, ″Peel-N-Stick Felt″, self-adhering, a modified bitumen felt for use in the installation of Class A glass fiber mat shingles and Class C asphalt organic felt shingles.

Formed steel panel underlayment accessory, ″TW Metal & Tile″, self-adhering, for use in the installation of Class C prepared roof coverings.

Asphalt underlayment accessory, ″Tam-Shield Synthetic Underlayment″ are synthetic roof underlayments for use in the installation of Class A asphalt glass fiber shingles and Class C asphalt organic felt shingles.

ROOF-COVERING MATERIALS (TEVT)

Prepared Roofing Accessories (TGDY)−*Continued*

TARCO INC **R16744**

SUITE 225 1 INFORMATION WAY, LITTLE ROCK AR 72202

Asphalt underlayment accessories, "LeakBarrier PS200HT", "LeakBarrier PS200MU", "LeakBarrier MS300" or "LeakBarrier SS400" self-adhering modified bitumen membrane for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

Asphalt underlayment accessory, "LeakBarrier SBS MultiPurpose Underlayment" or "LeakBarrier ValleyFlash" modified bitumen membrane for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

Shingle Decking Accessory, ″EasyLay" underlayment for use in the installation of Class A asphalt glass fiber mat shingles or Class C asphalt organic felt shingles.

TRI-BUILT PRODUCTS **R22246**

15 E UNION AVE PO BOX 511, EAST RUTHERFORD NJ 07073

Self-adhered modified asphalt-coated membrane, "TRI-BUILT Sand Surface Self- Adhering Underlayment" for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic-felt shingles.

UNITED ROOFING MFG CO INC **R14831**

FINCHES FERRY RD PO BOX 30, EUTAW AL 35462

Asphaltic underlayment accessory, "Type 15 Standard Asphalt Saturated Felt," "Type 30 Standard Asphalt Saturated Felt," "Type 15 Premium Asphalt Saturated Felt," "Type 30 Premium Asphalt Saturated Felt," "108 Split HD," "180 Split HD," "15 lb ASTM," "30 lb ASTM" and "108 Split ASTM," for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic shingles.

W R GRACE & CO - CONN **R13399**

62 WHITTEMORE AVE, CAMBRIDGE MA 02140

Asphalt underlayment accessory, "Grace Ice and Water Shield®", "Grace Vycor All Purpose Flashing", "Grace Ice and Water Shield-9", "Grace Ice and Water Shield®-Florida", "Grace Ice & Water Shield®-Low Temp", "Grace Ice & Water Shield-HT®" and "Grace Select" are polyethylene or polypropylene surfaced modified asphalt membranes for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

"Vycor Basik" or "Grace Basik" membranes are slip resistant surfaced modified bitumen membranes for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic shingles.

Shingle underlayment accessories, "Grace Ultra" is a polyethylene surfaced butyl membrane for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

"Tri-Flex® Xtreme" is a polypropylene surfaced membranes for use in the installation of Class A asphalt glass fiber mat shingles and Class C asphalt organic felt shingles.

"Tri-Flex" synthetic roof underlayment for use in the installation of Class A asphalt glass fiber shingles and Class C asphalt organic felt shingles.

RIDGE VENTS (TGEW)

GENERAL

This category covers ridge vents intended for use with Listed Prepared Roof-covering Materials (TFWZ), unless otherwise stated. Where indicated in the individual Classifications, ridge vents are intended for use with Listed Prepared Roof-covering Materials, Formed or Molded Metal, Fiber-Cement, Plastic or Fire-retardant-treated Wood (TFXX), brick, masonry, slate, clay or concrete roof tile, exposed concrete roof deck, ferrous or copper shingles or sheets.

These ridge vents have been investigated for resistance to external fire and wind-driven rain exposure only when installed in accordance with the manufacturer's installation instructions provided with the ridge vents.

Authorities Having Jurisdiction should be consulted as to which class of ridge vent will be acceptable in each location.

UNEVALUATED FACTORS

The corrosion resistance of metal ridge vents has not been investigated.

The ability of these products to provide attic ventilation in accordance with requirements of nationally recognized codes and standards has not been investigated.

ADDITIONAL INFORMATION

For additional information, see Roof-covering Materials (TEVT) and Roofing Materials and Systems (AARM).

REQUIREMENTS

The basic requirements used to investigate products in this category are contained in UL Subject 2582, "Outline of Investigation for Ridge Vents."

UL MARK

The Classification Mark of UL on the product or package is the only method provided by UL to identify products manufactured under its Classi-

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Ridge Vents (TGEW)−*Continued*

fication and Follow-Up Service. The Classification Mark for these products includes the UL symbol, the word "CLASSIFIED" above the UL symbol (as illustrated in the Introduction of this Directory), and the following additional information:

RIDGE VENTS — CLASS +
AS TO EXTERNAL FIRE EXPOSURE
WHEN INSTALLED IN ACCORDANCE WITH
INSTRUCTIONS PROVIDED WITH RIDGE VENTS
Control No.

+ **A**, **B** or **C**

* *

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AIR VENT INC **R14262**
SUITE 400 4117 PINNACLE POINT DR, DALLAS TX 75211

"Ridge Filter Shinglevent II" or "VenturiVent Plus" - Class C ridge vent intended for installation in accordance with the instructions provided.

"Ridge Filtervent", "ShingleVent II 9A" or "ShingleVent II 7A" - Class A ridge vent intended for installation in accordance with the instructions provided.

ALLIED BUILDING PRODUCTS CORP **R27060**
15 E UNION AVE, EAST RUTHERFORD NJ 07073

88751800 - Class C ridge vent intended for installation in accordance with the instructions provided.

BLOCKSOM & CO **R4548**
420 E 5TH ST, MICHIGAN CITY IN 46360

"Blocksom Ridge Vent" —Class A ridge vent intended for installation in accordance with the instructions provided.

DIVERSI-PLAST PRODUCTS INC **R21038**
7425 LAUREL AVE, MINNEAPOLIS MN 55426

"TRIMLINE PLUS" high and low profile – Class C ridge vent intended for installation in accordance with the instructions provided.

Class A ridge vent with removal of top center section of vent as shown in the installation instructions provided.

GAF MATERIALS CORP **R15072**
1361 ALPS RD, WAYNE NJ 07470

"Cobra Rigid Vent 2", "Cobra Rigid Vent 3", "Cobra Snow Country", "Cobra Snow Country Enhanced", "Cobra Snow Country Advanced", "Cobra Ridge Runner", "Vented RidgeCrest" — Class C ridge vent intended for installation in accordance with the instructions provided.

"HBP Full Flow" – Class C ridge vent intended for installation in accordance with the instructions provided.

GLIT INC **R26175**
800 BROAD ST, WRENS GA 30833

"ABC Ridge Vent" - Class A ridge vent intended for installation in accordance with the instructions provided.

LOMANCO INC **R25226**
2101 W MAIN ST PO BOX 519, JACKSONVILLE AR 72078

"LOR 9-4" and "TRV-4" Tile Ridge Exhaust Vent – Class A ridge vent intended for installation in accordance with the instructions provided.

OWENS CORNING **R21292**
1 OWENS CORNING PKY, TOLEDO OH 43659

"VentSure" ridge vent VentSure® 4-Foot Strip Heat & Moisture Ridge Vent - Class A ridge vent intended for installation in accordance with the instructions provided.

"VENTSURE WITH WEATHER PROTECTOR" high and low profile - Class C ridge vent intended for installation in accordance with the instructions provided.

Class A ridge vent with removal of top center section of vent as shown in the installation instructions provided.

ROOF-COVERING MATERIALS, SOLAR REFLECTANCE (TGFE)

GENERAL

Roof-covering Materials, Solar Reflectance (TGFE)−*Continued*

This category covers solar reflectance investigations of surfaces of prepared roof-covering materials and roofing systems intended for field application to low-slope and/or steep-slope roofs. For purposes of these Classifications, solar reflectance is identified as the fraction of solar flux reflected by a surface expressed within the range of 0.00 and 1.00. The individual Classifications provide information with respect to the material interface immediately beneath the surface layer for roof-covering products or systems that have been investigated.

RELATED PRODUCTS

For fire ratings of roof-covering materials, see Prepared Roof-covering Materials (TFWZ) and/or Roofing Systems (TGFU).

ADDITIONAL INFORMATION

For additional information, see Roof-covering Materials (TEVT) and Roofing Materials and Systems (AARM).

REQUIREMENTS

For purposes of this category, low-slope is identified as roof surfaces with an incline of 2-in or less rise per horizontal foot (51 mm per 0.3 m). Steep-slope is identified as roof surfaces with an incline of greater than 2-in rise per horizontal foot (51 mm per 0.3 m). The solar reflectance measurements required for this category correspond with those included under the "Product Specification (Version 1.1) Eligibility Criteria" of the "Energy Star Program Requirements for Roof Products," as documented by the Environmental Protection Agency (EPA). Solar reflectance measurements are made with a portable reflectometer in accordance with ASTM C1549, "Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer."

Classifications have been promulgated based on the product meeting or exceeding the minimum initial solar reflectance measurements as specified in "Product Specification (Version 1.1) Eligibility Criteria" of the "Energy Star Program Requirements for Roof Products." When "NA" is indicated in the individual Classifications for maintained solar reflectance, the three-year weather exposure data is not available but is awaiting completion of the three-year exposure period. Information concerning the specific initial solar reflectance values are provided in the detailed installation instructions accompanying the labeled product.

For Classification of coatings, the products are investigated on a smooth light-gauge metal substrate at the intended application thickness. For information on varying thicknesses of coating and alternate substrates, refer to the detailed installation instructions accompanying the labeled product.

When indicated in the individual Classifications the "Initial Thermal Emittance" and "Maintained Thermal Emittance" values were determined in accordance with ASTM C1371, "Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using a Portable Emissometer." Thermal emittance is identified as the fraction of surface emittance expressed within the range of 0.00 to 1.00.

UL MARK

The Classification Mark of UL on the product or package of products is the only method provided by UL to identify products manufactured under its Classification and Follow-Up Service. The Classification Mark for these products includes the UL symbol, the word "CLASSIFIED" above the UL symbol (as illustrated in the Introduction of this Directory), and the following additional information:

ROOF COVERING MATERIALS, SOLAR REFLECTANCE
*****
INITIAL SOLAR REFLECTANCE +
MAINTAINED SOLAR REFLECTANCE +
Control No.

*** LOW-SLOPE** or **STEEP-SLOPE**

The Classification Mark may also include the following information:

INITIAL THERMAL EMITTANCE +
MAINTAINED THERMAL EMITTANCE +

+ Minimum values as stated by the Energy Star Program's "Product Specification (Version 1.1) Eligibility Criteria"

* *

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COOLEY INC **R9834**
50 ESTEN AVE, PAWTUCKET RI 02860

	Solar Reflectance		Thermal Emittance	
Material Identification	**Initial**	**Maintained**	**Initial**	**Maintained**
"C3" single ply membrane	0.88	NA	0.88	NA

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Roof-covering Materials, Solar Reflectance (TGFE)−*Continued*

DERBIGUM AMERICAS INC **R13327**
4800 BLUE PKY, KANSAS CITY MO 64130

	Solar Reflectance		Thermal Emittance	
Material Identification	**Initial**	**Maintained**	**Initial**	**Maintained**
"DerbiBrite" single ply membrane	0.72	NA	0.88	NA

GAF MATERIALS CORP **R21**
1361 ALPS RD, WAYNE NJ 07470

	Solar Reflectance		Thermal Emittance	
Material Identification	**Initial**	**Maintained**	**Initial**	**Maintained**
"Timberline Prestique 40" (Antique Slate) glass fiber mat shingle	0.26	NA	0.90	NA
"Timberline Prestique 40" (Barkwood) glass fiber mat shingle	0.26	NA	0.90	NA
"Timberline Prestique 40" (Weatherwood) glass fiber mat shingle	0.26	NA	0.90	NA

HENKEL CAPITAL S A DE C V **R22408**
AVE MAGNOCENTRO 8 P 2 COL CENTRO URBANO INTERLOMAS 52760, HUIXQUILUCAN, MEX MEXICO

Material	Solar Reflectance	
Identification	**Initial**	**Maintained**
Acriton coating system	0.814	NA

OWENS CORNING **R2453**
1 OWENS CORNING PKY, TOLEDO OH 43659

	Solar Reflectance		Thermal Emittance	
Material Identification	**Initial**	**Maintained**	**Initial**	**Maintained**
Classic (white) glass fiber mat shingle	0.26	0.252	0.90	0.84
Supreme AR (Shasta White) glass fiber mat shingle	0.26	0.286	0.90	0.80

ROOFING SYSTEMS (TGFU)

GENERAL

This category covers materials intended for roofing systems that provide Class A, B or C coverings on combustible (wood – 3/4 in.-thick sheathing boards or plywood, unless otherwise indicated) and noncombustible (steel, concrete or poured gypsum) decks, unless otherwise indicated in the individual Classifications. Minimum 2 in.-thick unfaced structural cement fiber units, formed into slabs or boards and Classified under Structural Cement-Fiber Units (CIYT), are suitable alternates as roof decks for all Classified roofing systems intended for use over noncombustible decks.

The use of 7/16-in. (minimum) thick nonveneer APA-rated sheathing (oriented strand board panels, structural particleboard panels, composite panels or waferboard panels) is a suitable alternate to 15/32-in. (minimum) thick plywood specified in the Class A, B or C Classifications for the individual manufacturers. Classifications are applicable to roofing systems used over insulated decks when so indicated in the individual Classifications.

Classified gypsum wallboard, any thickness, may be included in any roofing system without adversely affecting the Classification. Insulations may be attached to the deck with fasteners, hot mopping asphalt or Classified adhesive.

Classifications are applicable either for new construction, recovering or replacement purposes. (Recovering is the process of covering an existing roofing system with a new roofing system. Replacement is the process of removing an existing roof system and replacing it with a new system.) For recovering situations, Classified uninsulated new construction assemblies are not intended for installation over existing Classified insulated assemblies unless specifically Classified under Maintenance and Repair Systems. See **MAINTENANCE AND REPAIR SYSTEMS** below for further information.

Classified insulated systems may be installed over existing Classified insulated systems when:

1) the new system is Classified for use with the existing roof insulation type (glass fiber, perlite, wood fiber, foamed plastic, etc.), and
2) the total thickness of insulation in both systems does not exceed the maximum specified for the new system being applied.

Roofing Systems (TGFU)−*Continued*

For installation over noncombustible decks, any Classified insulated system utilizing minimum 1-in.-thick insulation (glass fiber, polyisocyanurate or perlite) may be used over any existing insulated system regardless of the type if its insulation in both systems does not exceed the maximum specified for the new system being applied. Classification is determined by the new construction system.

The above Classifications apply only to coverings composed of Classified materials assembled as described in the Classification for the individual manufacturers; flashings and trimmings being the same as or not less than the equivalent of the roofing systems in each class, or of 16 oz or heavier copper, No. 26 gauge or heavier galvanized steel, or 0.019 in. thick or heavier aluminum.

Roofing systems investigated for impact resistance are so indicated in the individual Classifications by the appearance of the word "Impact" and the applicable Class No. (1, 2, 3 or 4) adjacent to the "Incline." These systems are also referenced under Roof-covering Materials, Impact Resistance (TGAM).

See TGAM for a description of the Impact Resistance Classification Program.

This category covers the following roofing systems, which are composed of varying types of components:

1. Asphalt Felt Systems (Organic or Glass Fiber) with Hot Roofing Asphalt
2. Coal Tar Felt Systems (Organic or Glass Fiber) with Hot Roofing Coal Tar Pitch
3. Cold-application Systems (Asphalt Felts or Ply Sheets with Cold Cements and Coatings)
4. Combination Hot and Cold Systems
5. Fluid-applied Coating Systems
6. Maintenance and Repair Systems
7. Single-ply Membrane Systems (Includes Modified Bitumen Membranes)
8. Spray-applied Foam and Coating Systems
9. Photovoltaic (Solar) Modules
10. Other systems

The following describes the composition of each of these system types.

ASPHALT FELT SYSTEMS (ORGANIC OR GLASS FIBER) WITH HOT ROOFING ASPHALT

Asphalt Organic Felt Systems

These roofing systems are composed of asphalt-saturated organic felts and/or combinations of cap and base sheets (saturated felts which are asphalt coated on one or both sides) applied with hot roofing asphalt as shown below (minima specified). Class A and B systems are surfaced with 400 lb of roofing gravel or crushed stone or 300 lb of crushed slag per sq of finished roof embedded in a flood coat of hot roofing asphalt. The roofing gravel, crushed stone or slag is to be dry, relatively free from dirt and dust, and graded in size from 1/4 to 5/8 in. diameter. Limited to roof decks having inclines not exceeding 3 in. to the horizontal foot.

Class C systems differ from the Class A and B systems in that they are surface finished with a cold-application coating. See individual Classifications for coating designations and incline limitations. Unless otherwise required, granules or sand may be optionally applied to any coating.

The first layer of the systems listed below is generally nailed to combustible decks through metallic disks and hot mopped to noncombustible decks. Succeeding layers are hot mopped in place.

Class A*:

1. Five layers of perforated Type 15 felt.
2. Four layers of Type 15 felt.
3. One layer of Type 30 and two layers of Type 15 felt.
4. One layer of Type 15 felt and two layers of Type 15 or 30 cap or base sheets.
5. Three layers of Type 15 or 30 cap or base sheets.
6. Three layers of Type 15 felt. Limited to noncombustible roof decks.

Class B*:

1. Four layers of perforated Type 15 felt.
2. Three layers of Type 15 felt.
3. Two layers of Type 15 or 30 cap or base sheets.

Class C*:

1. Three layers of Type 15 felt.
2. One layer of Type 30 and one layer of Type 15 felt.
3. Two layers of Type 15 or 30 cap or base sheets.
4. Two layers of Type 15 felt and one layer of Type 15 or 30 cap or base sheets.

* Type 20 products can be substituted for the Type 15 products specified in these systems.

The above roofing systems are suitable for installation over minimum 3/4-in.-thick Classified perlite, polyisocyanurate or glass fiberboard roof insulation. Classified wood fiberboard insulation is suitable only for systems installed over noncombustible decks.

Asphalt Glass Fiber Systems

These roofing systems are composed of asphalt-coated glass fiber felts and cap sheets applied with hot roofing asphalt as indicated below (minima

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Roofing Systems (TGFU)−*Continued*

specified). The first layer of the systems described below is generally nailed to combustible decks through metallic disks and hot mopped to noncombustible decks. Succeeding layers are hot mopped in place.

Class A:

1. Maximum incline – 3 in.

Three layers of Type G1 or G2 asphalt glass fiber felts. Surfaced with 400 lb of roofing gravel or crushed stone or 300 lb of crushed slag in a flood coat of hot roofing asphalt at a minimum 60 lb per sq.

2. Limited to noncombustible decks at maximum inclines of 1 in.

Three layers of Type G1 or G2 asphalt glass fiber felts applied with hot roofing asphalt; surfaced with one layer of Type G3 mineral surfaced cap sheet.

Class B:

1. Maximum incline – 3/4 in.

Two layers of Type G1 or G2 asphalt glass fiber felts applied with hot roofing asphalt and surfaced with one layer of Type G3 cap sheet.

See individual Classifications for roofing systems not covered by the above.

The above roofing systems are suitable for installation over minimum 3/4 in. Classified glass fiber, perlite or polyisocyanurate board roof insulation. Classified wood fiberboard roof insulation is suitable only for systems installed over noncombustible decks.

COAL TAR FELT SYSTEMS (ORGANIC OR GLASS FIBER) WITH HOT ROOFING COAL TAR PITCH

These roofing systems are composed of coal tar saturated organic or glass fiber felts applied with hot roofing coal tar pitch as shown below (minima specified). These systems are surfaced with 400 lb of roofing gravel or crushed stone or 300 lb of crushed slag per sq of finished roof embedded in a flood coat of hot roofing coal tar pitch. The roofing gravel, crushed stone or slag is to be dry, relatively free of dirt and dust, and graded in size from 1/4 to 5/8 in. diameter. Limited to roof decks having inclines not exceeding 3 in.

The first layer of the system described below is generally nailed to combustible decks through metallic disks and hot mopped to noncombustible decks. Succeeding layers are hot mopped in place.

Class A:

1. Four layers of Type 15 organic felt, Type G1 or G2 glass fiber felt.
2. Three layers of Type 15 organic felt, Type G1 or G2 glass fiber felt. Limited to noncombustible decks.

Class B:

1. Three layers of Type 15 organic felt, Type G1 or G2 glass fiber felt.

See individual Classifications for roofing systems not covered by the above.

The above roofing systems are suitable for installation over minimum 3/4 in. thick Classified perlite, polyisocyanurate or glass fiberboard roof insulation. Classified wood fiber insulation is suitable only for systems applied over noncombustible decks.

ASPHALT FELT SYSTEMS (ORGANIC OR GLASS FIBER) WITH HOT ROOFING ASPHALT UTILIZING DOUBLE FLOOD COAT AND DOUBLE GRAVEL POUR SURFACING

Asphalt Organic Felt Systems

These roofing systems are composed of asphalt-saturated organic felts and/or combinations of cap and base sheets (saturated felts which are asphalt coated on one or both sides) applied with hot roofing asphalt as shown below (minimum specified). Systems are surfaced with two applications of 400 lb/sq of roofing gravel or crushed stone or 300 lb/sq of crushed slag per square of finished roof embedded in two separate flood coats of hot roofing asphalt. After each application of gravel, crushed stone or slag, all loose material is removed. The roofing gravel, crushed stone or slag is to be dry, relatively free from dirt and dust, and graded in size from 1/4 to 5/8 in. diameter. Limited to 15/32 in. (minimum) thick plywood roof decks having inclines not exceeding 1 in. to the horizontal foot.

The first layer of the systems indicated below is generally nailed through the insulation to combustible decks through metallic disks and hot mopped to noncombustible decks. Succeeding layers are hot mopped in place.

One-inch (minimum) thick wood fiberboard, 3/4-in. (minimum) thick perlite or 15/16-in. (minimum) thick glass fiber insulation is required under the systems below when installed on a combustible deck. The joints in the insulation are to be offset 6 in. with the joints in the deck. Any Classified insulation, any thickness, may be used optionally in systems installed over noncombustible decks.

Class A*:

1. Five layers of perforated Type 15 felt.
2. Four layers of Type 15 felt.
3. One layer of Type 30 and two layers of Type 15 felt.
4. One layer of Type 15 felt and two layers of Type 15 or 30 cap or base sheets.
5. Three layers of Type 15 or 30 cap or base sheets.
6. Three layers of Type 15 felt. Limited to noncombustible roof decks.

Roofing Systems (TGFU)−*Continued*

Class B*:

1. Four layers of perforated Type 15 felt.
2. Three layers of Type 15 felt.
3. Two layers of Type 15 or 30 cap or base sheets.

* Type 20 products can be substituted for the Type 15 products specified in these systems.

Asphalt Glass Fiber Systems

These roofing systems are composed of asphalt-coated glass fiber felts applied with hot roofing asphalt as indicated below (minima specified). The first layer of the systems described below is generally nailed through the insulation to combustible decks through metallic disks and hot mopped to noncombustible decks. Succeeding layers are hot mopped in place. Limited to 15/32-in. (minimum) thick plywood roof decks.

One-inch (minimum) thick wood fiberboard, 3/4-in. (minimum) thick perlite or 15/16-in. (minimum) thick glass fiber insulation is required under the systems below when installed on a combustible deck. The joints in the insulation are to be offset 6 in. with the joints in the deck. Any Classified insulation, any thickness, may be used optionally in systems installed over noncombustible decks.

Class A:

1. Maximum incline – 1 in.

Three layers of Type G1 or G2 asphalt glass fiber felts. Surfaced with two applications of 400 lb/sq of roofing gravel or crushed stone or 300 lb/sq of crushed slag per square of finished roof embedded in two separate flood coats of hot roofing asphalt. After each application of gravel, crushed stone or slag, all loose material is removed. The roofing gravel, crushed stone or slag is to be dry, relatively free from dirt and dust, and graded in size from 1/4 to 5/8 in. diameter.

COAL TAR FELT SYSTEMS (ORGANIC OR GLASS FIBER) WITH HOT ROOFING COAL TAR PITCH UTILIZING DOUBLE FLOOD COAT AND DOUBLE GRAVEL POUR SURFACING

These roofing systems are composed of coal tar saturated organic or glass fiber felts applied with hot roofing coal tar pitch as shown below (minima specified). These systems are surfaced with two applications of 400 lb/sq of roofing gravel or crushed stone or 300 lb/sq of crushed slag per square of finished roof embedded in two separate flood coats of hot roofing asphalt. After each application of gravel, crushed stone or slag, all loose material is removed. The roofing gravel, crushed stone or slag is to be dry, relatively free from dirt and dust, and graded in size from 1/4 to 5/8 in. diameter. Limited to 15/32-in. (minimum) thick plywood roof decks having inclines not exceeding 1 in. to the horizontal foot.

The first layer of the systems indicated below is generally nailed through the insulation to combustible decks through metallic disks and hot mopped to noncombustible decks. Succeeding layers are hot mopped in place.

One-inch (minimum) thick wood fiberboard, 3/4-in. (minimum) thick perlite or 15/16-in. (minimum) thick glass fiber insulation is required under the systems below when installed on a combustible deck. The joints in the insulation are offset 6 in. with joints in the deck. Any Classified insulation, any thickness, may be used optionally in systems installed over noncombustible decks.

Class A:

1. Four layers of Type 15 organic felt, Type G1 or G2 glass fiber felt.
2. Three layers of Type 15 organic felt, Type G1 or G2 glass fiber felt. Limited to noncombustible decks.

Class B:

1. Three layers of Type 15 organic felt, Type G1 or G2 glass fiber felt.

COLD-APPLICATION SYSTEMS (ASPHALT FELTS OR PLY SHEETS WITH COLD CEMENTS AND COATINGS)

These roofing systems are composed of asphalt-saturated organic felts or asphalt-coated glass fiber felts or ply sheets applied with cold-application cement and surfaced with a cold-application coating. See the individual Classifications for designations and application rates for cements and coatings. Unless otherwise required, granules or sand may be optionally applied to any coating.

COMBINATION HOT AND COLD SYSTEMS

These roofing systems are composed of asphalt-saturated organic felts or asphalt-coated glass fiber felts applied with hot roofing asphalt and surfaced with cold-application coatings. Some systems are surfaced with mineral surfacings, such as sand or No. 11 roofing granules, which are embedded in the coating. Unless otherwise required, granules or sand may be optionally applied to any coating. See the individual Classifications for designations and application rates for coatings and surfacing materials.

FLUID-APPLIED COATING SYSTEMS

These roofing systems are composed of a number of layers or coats of plastic roof coatings. Adequate drying time is allowed between successive layers or coats to form a protective membrane. Some systems may utilize various types of reinforcing filaments embedded in a coating layer while

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Roofing Systems (TGFU)−*Continued*

wet. Also, some systems may utilize surfacing materials. See the individual Classifications for designations and application rates for coatings and surfacing materials.

MAINTENANCE AND REPAIR SYSTEMS

These roofing systems are composed of various types of roofing applications which are specifically limited for installation (recover) over existing roofing systems as specified. These systems may not meet Classification requirements without being used over existing systems. Recovering may also be accomplished with Classified new construction roofing systems where compatibility has been determined by test, by empirical data or by known performance properties of similar materials to the test methods. The following guidelines are provided to assist Authorities Having Jurisdiction in determining the suitability of a new construction roofing system as a recover system.

Noncombustible Deck Construction:

1. Insulated roof systems may be utilized over any type of existing roof system and maintain its new construction rating when the roof deck is noncombustible.
2. Insulated multiple-layered hot mopped, cold application or modified bitumen membrane new construction systems with a base ply of Type G1 or Type G2 may be used over any existing roof system and maintain its new construction rating when the roof deck is noncombustible. The insulation may be omitted from the recover system.
3. Uninsulated multiple-layered hot mopped, cold application or modified bitumen membrane new construction systems with a base ply of Type G1 or Type G2 may be used over any existing uninsulated roof system and maintain its new construction rating when the roof deck is noncombustible.
4. Spray applied foam systems with minimum 1-1/2-in.-thick foam may be used over any existing roof system and maintain its new construction rating when the roof deck is noncombustible.

Combustible Deck Construction:

1. Insulated roof systems Classified for use over combustible deck can be used over any type of existing roof system and maintain its new construction rating.
2. Insulated roof systems Classified for use over noncombustible deck may be used over any type of Class A, B or C existing roof systems. The resultant Class will be the lesser rating of the existing system or the new construction (recover) system.
3. Uninsulated multiple-layered hot mopped, cold application or modified bitumen membrane new construction systems with a base ply of Type G1 or Type G2 may be used over any existing uninsulated roof system and maintain its new construction rating.
4. Spray applied foam systems with minimum 1-1/2-in.-thick foam Classified for use over noncombustible deck may be used over any type of Class A, B or C existing roof system. The resultant Class will be the lesser rating of the existing system or the new construction (recover) system.

SINGLE-PLY MEMBRANE SYSTEMS (INCLUDES MODIFIED BITUMEN MEMBRANES)

These roofing systems are composed of various types of membranes (such as EPDM, PVC, CSPE and modified bitumen) which are either ballasted, fully adhered or mechanically attached. Classified insulation may be utilized, as well as various coatings, splicing adhesives, lap sealants and caulking materials. See the individual Classifications for designations of products and application rates for various components. Unless otherwise required, granules or sand may be optionally applied to any coating.

SPRAY-APPLIED FOAM AND COATING SYSTEMS

These roofing systems are composed of a foam, formed by the simultaneous spraying of two liquid components to a nominal thickness, covered with a cold-application coating system to form a protective covering. Surfacing materials, such as sand or No. 11 roofing granules, may be embedded in the coating while wet. See the individual Classifications for designation of products, foam thickness and application rates for the coatings involved. Unless otherwise required, granules or sand may be optionally applied to any coating.

PHOTOVOLTAIC (SOLAR) MODULES

Photovoltaic (solar) modules are composed of flat-plate photovoltaic module/panels when installed in accordance with the manufacturer's installation instructions. These coverings have also been investigated to ANSI/UL 1703, "Flat-Plate Photovoltaic Modules and Panels"; see Photovoltaic Modules and Panels (QIGU).

OTHER SYSTEMS

These systems cover products such as building units used in specific Class A, B or C roofing systems. Building units may consist of composite insulation boards, metal-faced insulation panels or insulating material, faced on top and bottom with metal or plastic reinforced glass fiber skins which are intended for direct application to rafters or purlins. The structural aspects of these materials have not been investigated. See the individual Classifications for the specific system details.

Roofing Systems (TGFU)−*Continued*

ABBREVIATIONS AND TERMS USED IN CLASSIFIED ROOFING SYSTEMS DESCRIBED FOR INDIVIDUAL MANUFACTURERS

Decks – Noncombustible = NC; combustible (includes noncombustible) = C. (Suffix number indicates the minimum thickness of plywood).

Maximum incline in inches to the horizontal foot = Incline, "x" (in.).

Inclines sufficient to permit drainage = Incline – no limitation.

Per 100 square feet = Per sq.

Application rates for mineral surfacings and liquid components shall be a number indicating either lbs or gals per square.

Minimum surfacings in a flood coat of hot roofing asphalt or coal tar pitch:

- **400 lbs gravel per square = gravel**
- **400 lbs crushed stone per square = crushed stone**
- **300 lbs slag per square = slag**

Application rates differing from the above are indicated in the individual Classifications.

Any other surfacing materials used are described on individual Classifications with type and application rates specified.

Where indicated in the individual Classifications, products covered under this category have also been evaluated by ICC Evaluation Service (ICC-ES).

ADDITIONAL INFORMATION

For additional information, see Roof-covering Materials (TEVT) and Roofing Materials and Systems (AARM).

REQUIREMENTS

The basic standard used to investigate products in this category is ANSI/UL 790, "Tests for Fire Resistance of Roof Covering Materials." Some of the products specified in these systems are covered in UL 55A, "Materials for Built-Up Roof Coverings."

UL MARK

Two methods of labeling are provided for this material: (1) Each bundle, package or container bears the Classification Mark, (2) a Certificate is issued to the interested parties. This Certificate is prepared for each construction site that the manufacturer supplies. The use of the Certificate is optional when each bundle, package or container bears the Classification Mark but, in all cases, is restricted to material shipped directly from the manufacturer to a construction site.

The Classification Mark of UL on the bundle, package or container is the only method provided by UL to identify products manufactured under its Classification and Follow-Up Service. The Classification Mark for these products includes the UL symbol, the word "CLASSIFIED" above the UL symbol (as illustrated in the Introduction of this Directory), and the following additional information:

+ FOR ROOFING SYSTEMS
AS TO EXTERNAL FIRE EXPOSURE
Control No.

+ One of the following designations:

1. **CEMENTS AND COATINGS**
2. **TYPE 15 SATURATED FELT, CAP OR BASE/PLY SHEET**
3. **TYPE 30 SATURATED FELT, CAP OR BASE/PLY SHEET**
4. **TYPE G1 COATED BASE/PLY SHEET**
5. **TYPE G2 COATED CAP OR BASE/PLY SHEET**
6. **TYPE G3 (optional COATED) MINERAL SURFACED BASE/CAP SHEET**
7. **MINERAL AND FIBER BOARD**
8. **FOAMED PLASTIC**
9. **TILES**
10. **BUILDING UNITS**
11. **MEMBRANE**
12. **FLASHING MATERIAL**
13. **FOAMED PLASTIC INGREDIENT**
14. **BASE/PLY SHEET**
15. **SLIP SHEET**
16. **HOLD DOWN DEVICE**
17. **MEMBRANE SPLICING TAPE**
18. **INSULATION JOINT TAPE**
19. **INSULATION ADHESIVE**

As appropriate, the statement **ALSO CLASSIFIED AS TO IMPACT RESISTANCE (SEE ROOFING MATERIALS AND SYSTEMS DIRECTORY)** may also be included.

* *

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Roofing Systems (TGFU)−*Continued*

Unless otherwise noted, the application rate for "Scotchkote EC 661" is to be 1-2 L/m^2 when a chopped strand fiberglass mat is embedded in the base coat. Otherwise, the application rate is to be 0.65 L/m^2.

Unless otherwise noted, the application rate for "Scotchkote UV 662" is to be 1/2 L/m^2 when a chopped strand fiberglass mat is embedded in the base coat. Otherwise, the application rate is to be 0.65 L/m^2.

Unless otherwise noted, the application rate for "Scotchkote CSM 658" is to be 1-2 L/m^2 for the base coat and 1/2 L/m^2 for the top coat when a chopped strand fiberglass mat is embedded in the base coat. Otherwise, the application rate for each coat is to be 0.7 L/m^2.

Roofing granules may be applied to the top coat in any of the following systems.

FLUID APPLIED COATING SYSTEMS

Class A

1. **Deck:** NC **Incline:** 2
   Base Coat: ″Scotchkote EC 661″, with an optional chopped strand fiberglass mat embedded in the base coat.
   Top Coat: ″Scotchkote UV 662″.
   Insulation: Any UL Classified.
   Surfacing: River bottom stone or concrete pavers, 1000 lb/sq. min.
2. **Deck:** NC **Incline:** 2
   Base Coat: ″Scotchkote CSM 658″, with an optional chopped strand fiberglass mat embedded in the base coat.
   Top Coat: ″Scotchkote CSM 658″.
   Insulation: Any UL Classified.
   Surfacing: River bottom stone or concrete pavers, 1000 lb/sq. min.
3. **Deck:** NC **Incline:** Unlimited
   Base Coat: ″Scotchkote EC 661″, with an optional chopped strand fiberglass mat embedded in the base coat.
   Top Coat: ″Scotchkote UV 662″.
4. **Deck:** NC **Incline:** Unlimited
   Base Coat: ″Scotchkote CSM 658″, with an optional chopped strand fiberglass mat embedded in the base coat.
   Top Coat: ″Scotchkote CSM 658″.
5. **Deck:** NC **Incline:** 1/2
   Insulation: Carlisle SynTec "Polyiso HP", mechanically fastened, any thickness.
   Membrane: Carlisle SynTec "Sure-Tough", 60 mil, mechanically fastened.
   Base Coat: ″Scotchkote CSM 658″, with a chopped strand fiberglass mat, min. 100 g/m^2 (not UL Classified), embedded in the base coat.
   Top Coat: ″Scotchkote CSM 658″.
6. **Deck:** NC **Incline:** 1/2
   Insulation: GAF "EnergyGuard RA", mechanically fastened, any thickness.
   Membrane: GAF "EverGuard Freedom TPO", 60 mil, self adhered.
   Base Coat: ″Scotchkote EC 661″, 1-2 L/m^2, with chopped fiberglass strandsa chopped strand fiberglass mat, min. 100 g/m^2 (not UL Classified), embedded in the base coat.
   Top Coat: ″Scotchkote UV 662″.

MAINTENANCE AND REPAIR SYSTEMS

Class A, B and C

1. **Deck:** C-15/32 **Incline:** ½
   Existing Roof System: (To maintain existing Classifications) - Any Class A, B or C, uncoated, insulated or uninsulated, modified bitumen membrane or Type G3 mineral surfaced cap BUR system.
   Base Coat: ″Scotchkote EC 661″, with a chopped strand fiberglass mat, min. 100 g/m^2 (not UL Classified), embedded in the base coat.
   Top Coat: ″Scotchkote UV 662″.
2. **Deck:** C-15/32 **Incline:** ½
   Existing Roof System: (To maintain existing Classifications) - Any Class A, B or C, uncoated, insulated or uninsulated, modified bitumen membrane or Type G3 mineral surfaced cap BUR system.
   Base Coat: ″Scotchkote CSM 658″, with a chopped strand fiberglass mat, min. 100 g/m^2 (not UL Classified), embedded in the base coat.
   Top Coat: ″Scotchkote CSM 658″.
3. **Deck:** C-15/32 **Incline:** Unlimited
   Existing Roof System: (To maintain existing Classifications) - Any Class A, B or C, UL Classified metal panel system.
   Base Coat: ″Scotchkote EC 661″, with an optional chopped strand fiberglass mat embedded in the base coat.
   Top Coat: ″Scotchkote UV 662″.
4. **Deck:** C-15/32 **Incline:** Unlimited
   Existing Roof System: (To maintain existing Classifications) - Any Class A, B or C, UL Classified metal panel system.

Roofing Systems (TGFU)−*Continued*

   Base Coat: ″Scotchkote CSM 658″, with an optional chopped strand fiberglass mat embedded in the base coat.
   Top Coat: ″Scotchkote CSM 658″.
5. **Deck:** C-15/32 **Incline:** 2
   Existing Roof System: (To maintain existing Classifications) - Any Class A, B or C, uncoated, insulated or uninsulated, EPDM single ply membrane system.
   Base Coat: ″Scotchkote EC 661″, with an optional chopped strand fiberglass mat embedded in the base coat.
   Top Coat: ″Scotchkote UV 662″.

A & S BUILDING SYSTEMS L P R5877

1880 HWY 116 PO BOX 53, CARYVILLE TN 37714

OTHER SYSTEMS

Class A

Coated steel panels (surfacing) identified as "R" or "PBR", "Ultra-Dek", "Double-Lok", "BattenLok", "BattenLok HS" or "SuperLok", "Vistasheen", "Craftsman Series SB", "Craftsman Series LB", "Craftsman Series HB", "MultiRib", "7.2 Panel", "LokSeam", "S-36", "5V-Crimp", "Estate Panel", "Slimeline", "Storm Proof" or "Imperial Rib", "Ameri-Drain" or "Rain Guard", "Regal Rib", "Monarch Rib", "Rugged Rib", "C" or "PBC", "3/4 High Rib" or "Heritage Panel", "Perma-Clad", "1/2 In. Corrugated", "1/4 In. Corrugated", "D" or "PBD", "7/8 Wide Rib" or "Weather Safe".

1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
   Barrier Board: 1/4 in. min. G-P Gypsum DensDeck® with all joints staggered a min of 6 in. from the plywood joints.
   Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
   Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
2. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
   Barrier Board: 1/4 in. min. G-P Gypsum DensDeck®.
   Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
   Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
3. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
   Barrier Board: 7/16 OBS or 5/8 in. plywood over polyisocyanurate insulation board or polyisocyanurate composite boad, any thickness.
   Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
   Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
4. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
   Insulation: Polyisocyanurate, glass fiber, perlite or wood fiber, any thickness.
   Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
   Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
5. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
   Insulation: None required, however any UL Classified insulations may be used over open purlin spans. Any combination and any total thickness of insulation may be used.
   Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
6. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
   Barrier Board: 1/4 in. min. G-P Gypsum DensDeck® with all joints staggered a min of 6 in. from the plywood joints.
   Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
   Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.

Class C

Coated steel panels (surfacing) identified as "R" or "PBR", "Ulta-Dek", "Double-Lok", "BattenLok", "BattenLok HS" or "SuperLok", "Vistasheen", "Craftsman Series SB", "Craftsman Series LB", "Craftsman Series HB", "MultiRib", "7.2 Panel", "LokSeam", "S-36", "5V-Crimp", "Estate Panel", "Slimeline", "Storm Proof" or "Imperial Rib", "Ameri-

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Roofing Systems (TGFU)−*Continued*

Drain'' or ''Rain Guard'', ''Regal Rib'', ''Monarch Rib'', ''Rugged Rib'', ''C'' or ''PBC'', ''3/4 High Rib'' or ''Heritage Panel'', ''Perma-Clad'', ''1/2 In. Corrugated'', ''1/4 In. Corrugated'', ''D'' or ''PBD'', ''7/8 Wide Rib'' or ''Weather Safe''.

1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
   Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.

ACE COATING CO **R14834**

6614 NORMAN LN, SAN DIEGO CA 92120

FLUID APPLIED COATING SYSTEMS

Class A

1. **Deck:** NC **Incline:** 1
   Surfacing: ''Alpha 8 Weather Barrier'' applied in 2 or more coats, for a total of 2 to 4 gal/sq. May be reinforced with polyester fabric (2-1/2 oz/sq yd min).

ACRYLIFE INC **R21211**

1165 STAFFORD UMBERGER DR, WYTHEVILLE VA 24382

FLUID APPLIED COATING SYSTEMS

Class A

1. **Deck:** NC **Incline:** 5
   Insulation: Any UL Classified insulation, any thickness.
   Barrier Board: 1/4 in. G-P Gypsum ″Dens-Deck″.
   Base Coat: ''System 1000'' Base Coat, 1-1/4 gal/sq.
   Top Coat: ''System 1000'' Top Coat 1-1/4 gal/sq.

MAINTENANCE AND REPAIR SYSTEMS

1. **Deck:** NC **Incline:** 5
   Existing Roof System: Class A, B or C roof system (gravel surfaces may be removed) covered with:
   Insulation: Any UL Classified insulation, any thickness.
   Barrier Board: 1/4 in. G-P Gypsum ″Dens-Deck″.
   Base Coat: ''System 1000'' Base Coat, 1-1/4 gal/sq.
   Top Coat: ''System 1000'' Top Coat 1-1/4 gal/sq.

ADCO PRODUCTS INC **R20739**

17340 MUNN RD, CHAGRIN FALLS OH 44023

SINGLE PLY MEMBRANE SYSTEMS

Class A, B or C (See Note)

1. **Deck:** NC (See Note 1) **Incline:** See Note 1
   Insulation: Any UL Classified, any thickness, adhered with ″Millennium Pourable Foam Insulation Adhesive.″
   Membrane: Any UL Classified modified bitumen system, BUR system or CPE, CSM, CSPE, EPDM, NBP, PIB, PVC, TPO or TRE membrane system suitable for use with any roof insulation.

Note 1: Classification (A, B or C) and maximum incline will be the same as that of the Classified Roofing System (TGFU) currently limited to noncombustible deck.

2. **Deck:** NC (See Note 1) **Incline:** See Note 1
   Insulation: Any UL Classified, any thickness, adhered with ″Millenium One Step™ Foamable Adhesive.″
   Membrane: Any UL Classified modified bitumen system, BUR system or CPE, CSM, CSPE, EPDM, NBP, PIB, PVC, TPO or TRE membrane system suitable for use with any roof insulation.

Note 1: Classification (A, B or C) and maximum incline will be the same as that of the Classified Roofing System (TGFU) currently limited to noncombustible deck.

3. **Deck:** NC (See Note 1) **Incline:** See Note 1
   Insulation: Any UL Classified, any thickness, adhered with ″Millennium PG-1 Pump Grade Adhesive″.
   Membrane: Any UL Classified modified bitumen system, BUR system or CPE, CSM, CSPE, EPDM, NBP, PIB, PVC, TPO or TRE membrane system suitable for use with any roof insulation.

Note 1: Classification (A, B or C) and maximum incline will be the same as that of the Classified Roofing System (TGFU) currently limited to noncombustible deck.

4. **Deck:** NC (See Note 1) **Incline:** See Note 1
   Insulation: Any UL Classified, any thickness, adhered with ″Millennium One Step™ Green Foamable Adhesive.″
   Membrane: Any UL Classified modified bitumen system, BUR system or CPE, CSM, CSPE, EPDM, NBP, PIB, PVC, TPO or TRE membrane system suitable for use with any roof insulation.

Note 1: Classification (A, B or C) and maximum incline will be the same as that of the Classified Roofing System (TGFU) currently limited to noncombustible deck.

Roofing Systems (TGFU)−*Continued*

ADCO PRODUCTS INC **R13473**

4401 PAGE AVE P O BOX 457, MICHIGAN CENTER MI 49254

SINGLE PLY MEMBRANE SYSTEMS

Class A - Ballasted

1. **Deck:** NC **Incline:** 2
   Insulation: Glass fiber, polyurethane, perlite/polyurethane composite or glass fiber/polyurethane composite, 4 in. max. Loose laid or mechanically fastened with metal fasteners to deck.
   Membrane: Any UL Classified EPDM or TPO. EPDM splices may be primed with ″HSSP-1″ primer, ″CP-1″ primer, ″CP-2″ primer, ″SPC-3″ primer, ″SPC-4 Splice Primer″, ″SPC-5 Splice Primer″, ″Primer 240″, ''Millennium Single Ply Primer'', or ''Millennium CP-2EPDM Primer'' and are covered with ″SP-505 Roof Tape″, ″SP-510 Roof Tape″, ″SP-610 Roof Tape″ or ''Millennium EPDM Seam Tape'', Type 1, 2 or 3 flashing material or ″Quickseam Batten Cover Strips″ or ″Quickseam Flashing (PS4020)″. As an alternate the splices may be sealed with ″SC-200 Splice Adhesive″ applied at 50 sq ft per gal. The EPDM membrane joint's edges are sealed with nominal 1/4 in. bead of ″High Solids, Low VOC Lap Sealant″, ″ADCO F-343 Black Lap Sealant″ or ″F343W White Lap Sealant″or ''Millennium EPDM Edge Sealant'' or ″LS-600W/LS-601 White Lap Sealant″. The TPO membrane joint's edges are sealed with nom 1/4 in. bead of ″TPC-1 TPO Sealant″, ''Millennium TPO Edge Sealant'' or ''LS-600W/LS-601 White Lap Sealant''.
   Surfacing: River bottom stone (3/4 to 1-1/2 in. diam) at 1000 lbs/sq.

ADUREL INTERNATIONAL INC **R25716**

820 WATER ST, RACINE WI 53403

FLUID APPLIED COATING SYSTEMS

Class A

1. **Deck:** NC **Incline:** Unlimited
   Surfacing: ''MS2200″ metal SBES roof coating at 2 gal per sq (may be applied in two coats at 1 gal sq coat).

ADVANCED COATING SYSTEMS INC **R21050**

SUITE 150 BLDG 1000 2230 TOWNE LAKE PKY, WOODSTOCK GA 30189

FLUID APPLIED COATING SYSTEMS

Class A

1. **Deck:** NC **Incline:** 2
   Barrier Board (Optional): 1/4 in. G-P Gypsum DensDeck®.
   Prime Coat: ″Acu-Rust Prime″ or ″Acu-Prime All″ (Not UL Classified), 100 ft^2 gal.
   Intermediate Coat: ″Acu-Flex″, ″Acu-Flex: ceramic″, ″Acu-Shield″, ″Acu-Shield:ceramic″, ″Acu-Caulk″ or ''Unicoat'', 30 ft^2 /gal.
   Polyester Scrim: One layer polyester scrim, max 2.0 oz/sq yd, embedded in the intermediate coat.
   Top Coat: ″Acu-Flex″, ″Acu-Flex: ceramic″, ″Acu-Shield″, ″Acu-Shield:ceramic″, ″Acu-Caulk″ or ''Unicoat'', 30 ft^2 /gal.

ADVANCED EPOXY SYSTEMS INC **R18038**

5603 IRIS LN, KATY TX 77493

FLUID APPLIED ROOF COATING SYSTEMS

Class A

1. **Deck:** NC **Incline:** Unlimited
   Insulation (Optional): Cellular concrete, gypsum concrete, vermiculite concrete, perlite concrete or structural concrete.
   Surfacing: Two applications of ''AES-100FR'', 1-gal/sq/application.

ADVANCED POLYMER TECHNOLOGY CORP **R14488**

109 CONICA LN PO BOX 160, HARMONY PA 16037

FLUID APPLIED COATING SYSTEMS

Class A

1. **Deck:** NC **Incline:** 4
   Primer Coat: ''Quaiipur 152'' at 1 gal/400 sq ft and silica sand at 2.5 lbs/100 sq ft.
   Base Coat: ''Qualipur 252'' at 1 gal/64 sq ft.
   Intermediate Coat: ''Qualipur 252'' at 1 gal/107 sq ft and silica sand at 100 lbs/sq.
   Top Coat: ''Qualipur 451'' at 1 gal/160 sq ft.
2. **Deck:** NC **Incline:** Unlimited
   Primer Coat: ''Qualipur 152'' at 1 gal/400 sq ft and silica sand at 2.5 lbs/100 sq ft.
   Base Coat: ''Qualipur 262'' at 1 gal/64 sq ft.

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Roofing Systems (TGFU)−*Continued*

Intermediate Coat: "Qualipur 262" at 1 gal/107 sq ft and silica sand at 100 lbs/sq.
Top Coat: "Qualipur 451" at 1 gal/160 sq ft.

ADVANCED PROTECTIVE PRODUCTS R6426

UNIT 6 10621 BLOOMFIELD ST, LOS ALAMITOS CA 90720

OTHER SYSTEMS

Class A

1. **Deck:** C-15/32 **Incline:** No limitation
Coating System: Roof deck is covered with a field-mixed insulating coating composed of 6-2/3 cu ft of perlite, 7 lbs of "TC-500 Masterbatch", 94 lbs of Portland cement and 17 gal of water. This coating is spray-applied to a min 1/2 in.

MAINTENANCE AND REPAIR

Class A

1. **Deck:** C-15/32 **Incline:** No limitation
Existing Roof System: Class A, B or C covered with:
Coating system: Field-mixed insulating coating composed of 6-2/3 cu ft. of perlite, 7 lbs of "TC-500 Masterbatch", 94 lbs of Portland cement and 17 gals of water. This coating is spray applied to a min. 1/2 in.
Insulation: EPS, 4 in. max
Coating System: Field mixed insulating coating composed of 6-2/3 cu ft. of perlite, 7 lbs of "TC-500 Masterbatch", 94 lbs of Portland cement and 17 gals of water. This coating is spray applied to a min. 1/2 in.

ADVANCED ROOFING TECHNOLOGY INC R26584

1601 W DETROIT AVE, BROKEN ARROW OK 74012

OTHER SYSTEMS

Class A

Coated steel panels (surfacing) identified as "ARTK12", "ARTK16" and "ARTK18".

1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. (min). G-P Gypsum DensDeck® or 1/4-in min thick USG "SECUROCK®" Glass Mat Board with all joints staggered a min of 6 in. from the plywood joints.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace ″Ice and Water Shield″.
Surfacing: Coated Steel roofing panels, mechanically fastened.
2. **Deck:** NC **Incline:** No Limitations **Impact:** Class 4
Barrier Board: 1/4 in. (min). G-P Gypsum DensDeck® or 1/4-in min thick USG "SECUROCK®" Glass Mat Board.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace ″Ice and Water Shield″.
Surfacing: Coated Steel roofing panels, mechanically fastened.
3. **Deck:** NC **Incline:** No Limitations **Impact:** Class 4
Barrier Board: 7/16 OBS or 5/8 in. plywood over polyisocyanurate insulation board or polyisocyanurate composite board, any thickness.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace ″Ice and Water Shield″.
Surfacing: Coated Steel roofing panels, mechanically fastened.
4. **Deck:** NC **Incline:** No Limitations **Impact:** Class 4
Barrier Board: Polyisocyanurate, glass fiber, perlite or wood fiber, any thickness.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace ″Ice and Water Shield″.
Surfacing: Coated Steel roofing panels, mechanically fastened.
5. **Deck:** NC **Incline:** No Limitations **Impact:** Class 4
Surfacing: Coated Steel roofing panels, mechanically attached to purlins.
6. **Deck:** C-15/32 **Incline:** No Limitations **Impact:** Class 4
Barrier Board: 1/4 in. (min). G-P Gypsum DensDeck® or 1/4-in min thick USG "SECUROCK®" Glass Mat Board with all joints staggered a min of 6 in. from the plywood joints.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace ″Ice and Water Shield″.

Roofing Systems (TGFU)−*Continued*

7. **Deck:** C-15/32 or spaced sheathing **Incline:** Unlimited **Impact:** 4
Underlayment: One layer ″VersaShield Underlayment″, mechanically fastened.
Ply Sheet: One layer Type 30 base sheet or ″VersaShield″, mechanically fastened.
Surfacing: Coated Steel roofing panels, mechanically fastened.
8. **Deck:** C-15/32 or spaced sheathing **Incline:** Unlimited **Impact:** 4
Underlayment: One or more plies ″VersaShield Underlayment″, mechanically fastened.
Surfacing: Coated Steel roofing panels, mechanically fastened.

MAINTENANCE AND REPAIR

Class A

1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** 4
Existing Roof System: Any class A, B or C shingle.
Slip Sheet: One layer ″VersaShield Underlayment″, mechanically fastened.
Surfacing: Coated Steel roofing panels, mechanically fastened.

ADVANTAGE METAL ROOFS R26101

SUITE 107 111 RAMBLE LN, AUSTIN TX 78745-2280

BUILDING UNITS

Class A

Coated steel or aluminum panels (surfacing) identified as "Sure-Lock".

1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck® with all joints staggered a min of 6 in. from the plywood joints.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace ″Ice and Water Shield″.
Surfacing: Coated steel or aluminum roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
2. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck®.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace ″Ice and Water Shield″.
Surfacing: Coated steel or aluminum roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
3. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 7/16 OBS or 5/8 in. plywood over polyisocyanurate insulation board or polyisocyanurate composite boad, any thickness.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace ″Ice and Water Shield″.
Surfacing: Coated steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
4. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Insulation: Polyisocyanurate, glass fiber, perlite or wood fiber, any thickness.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace ″Ice and Water Shield″.
Surfacing: Coated steel or aluminum roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
5. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Insulation: None required, however any UL Classified insulations may be used over open purlin spans. Any combination and any total thickness of insulation may be used.
Surfacing: Coated steel or aluminum roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
6. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck® with all joints staggered a min of 6 in. from the plywood joints.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace ″Ice and Water Shield″.

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Roofing Systems (TGFU)–*Continued*

Surfacing: Coated steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.

7. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Underlayment: One ply "VersaShield Underlayment" mechanically fastened.
Ply Sheet: One ply Type 30 base sheet or "VersaShield", mechanically fastened.
Surfacing: Coated steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
8. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Underlayment: Two plies "VersaShield Underlayment".
Surfacing: Coated steel or aluminum roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
9. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Underlayment: One or more plies "VersaShield Underlayment" mechanically fastened.
Panels: Coated steel standing seam roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.

Class C

1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Surfacing: Coated steel or aluminum roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.

AEP SPAN, DIV OF ASC PROFILES R16746

2110 ENTERPRISE BLVD, WEST SACRAMENTO CA 95691

OTHER SYSTEMS

Class A

Coated steel panels (surfacing) identified as "Skyline", "Nor-Clad", "Strata-Rib", "Delta-Rib", "Delta-Rib III" and "2-1/2 Corrugated".

One or more layers of Elk Corp. "VersaShield Underlayment," mechanically fastened, may be used in lieu of the Barrier Board in all combustible Classifications.

1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck® with all joints staggered a min of 6 in. from the plywood joints.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
2. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck®.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
3. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 7/16 OSB or 5/8 in. plywood over polyisocyanurate insulation board or polyisocyanurate composite board, any thickness.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
4. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Insulation: Polyisocyanurate, glass fiber, perlite or wood fiber, any thickness.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
5. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Insulation: None required, however any UL Classified insulations may be used over open purlin spans. Any combination and any total thickness of insulation may be used.
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
6. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck® with all joints staggered a min of 6 in. from the plywood joints.

ROOF-COVERING MATERIALS (TEVT)

Roofing Systems (TGFU)–*Continued*

Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.

AEP SPAN, DIV OF ASC PROFILES R16747

2110 ENTERPRISE BLVD, WEST SACRAMENTO CA 95691

Coated steel and aluminum panels identified as: "Cap-Seam", "High-Seam", "Span-Lok", (90° Seam), "SpanSeam", (180° Seam), "Snap-Seam", "Snap-on Batten Standing Seam", "Square Batten Standing Seam", "Multi-Lok 24", "Klip Rib", "Select Seam", "Super-Span" and "Design Span hp".

OTHER SYSTEMS

Class A

1. **Deck:** NC **Incline:** No Limitations
Barrier Board: 1/4 in. min G-P Gypsum DensDeck®.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Steel or aluminum roofing panels, mechanically fastened.
2. **Deck:** NC **Incline:** No Limitations
Barrier Board: 5/8 in. min plywood.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Steel roofing panels, mechanically fastened.
3. **Deck:** NC **Incline:** No Limitation
Barrier Board: 7/16 OBS or 5/8 in. plywood over polyisocyanurate insulation board or polyisocyanurate composite board, any thickness.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Steel or aluminum roofing panels, mechanically fastened.
4. **Deck:** NC **Incline:** No Limitations
Insulation: Polyisocyanurate, glass fiber, perlite or wood fiber, any thickness.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Steel or aluminum roofing panels, mechanically fastened.
5. **Deck:** NC **Incline:** No Limitations
Surfacing: Steel roofing panels, mechanically attached to purlins.
6. **Deck:** C-15/32 **Incline:** No Limitations
Barrier Board: 1/4 in. (min). G-P Gypsum DensDeck® with all joints staggered a min of 6 in. from the plywood joints.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Steel or aluminum roofing panels, mechanically fastened.

Class C

1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** 4
Surfacing: Steel or aluminum roofing panels, mechanically fastened.

AFM CORP R11812

SUITE 260 17645 JUNIPER PATH, LAKEVILLE MN 55044

"Foam-Control EPS Board", "Foam-Control EPS Tapered Board", and "Perform Guard EPS Boards" are acceptable alternates to all EPS insulations utilized in the following Classifications. These boards are available as "Type I", "Type VIII", "Type II", or "Type IX".

1/2 in. thick (min) UL Classified gypsum or 1/4 in. thick (min) UL Classified G-P Gypsum DensDeck® roofboard may be substituted for any coverboard material shown in these Classifications when placed immediately under any UL Classified Membrane. When this is done, the resulting roofing system is acceptable for use over any combustible or noncombustible roof deck. The joints of the gypsum and/or DensDeck® coverboard are offset 6 in. min with the joints of the roof deck. The gypsum and/or DensDeck® must overlay the polystyrene.

A noncombustible deck roofing system Classification that includes ½ in. wood fiberboard as cover board over EPS, may have as an alternate to the ½ in. (min.) thick fiberboard, a layer of 1 in. thick (min.) polyisocyanurate. To maintain the Classification, proper membrane/polyisocyanurate compatibility must be maintained and inclines restrictions observed.

ASPHALT FELT SYSTEMS WITH HOT ROOFING ASPHALT

Class A

1. **Deck:** NC **Incline:** 3 (See note)

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Roofing Systems (TGFU)−*Continued*

Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, ″Film Faced Foam-Control EPS″, or ″Foam-Control Nailbase″, any thickness, field covered with 1/2 in. min perlite, 1/2 in. min wood fiber, or 1/4 in. min DensDeck.
Ply Sheet: Three to five plies Type 15, G1 or G2.
Surfacing: Gravel or Type G3 mineral surfaced cap sheet.
Note: Incline is reduced to 1 in. when Type G3 mineral surfaced cap sheet is used as the surfacing.

2. **Deck:** C-15/32 **Incline:** 3 (See note)
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, ″Film Faced Foam-Control EPS″, or ″Foam-Control Nailbase″, any thickness, field covered with 3/4 in. min perlite.
Ply Sheet: Three to five plies Type 15, G1 or G2.
Surfacing: Gravel or Type G3 mineral surfaced cap sheet.
Note: Incline is reduced to 1 in. when Type G3 mineral surfaced cap sheet is used as the surfacing.

3. **Deck:** C-15/32 **Incline:** 3 (See note)
Insulation: Insulation:″Foam-Control EPS″, ″Foam-Control EPS Tapered″, ″Film Faced Foam-Control EPS″, or ″Foam-Control Nailbase″, any thickness, field covered with 3/4 in. min perlite.
Ply Sheet: Two or more plies Type 15, G1 or G2 (glass plies required with Type G3 cap sheet).
Surfacing: Gravel or Type G3 mineral surfaced cap sheet.
Note: Incline is reduced to 1 in. when Type G3 mineral surfaced cap sheet is used as surfacing.

SINGLE PLY MEMBRANE SYSTEMS

Class A - Ballasted

Unless otherwise indicated, insulation may be loose laid or mechanically fastened; membrane may be loose laid; mechanically fastened or adhered in place.

1. **Deck:** C-15/32 **Incline:** 2
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, ″Film Faced Foam-Control EPS″, or ″Foam-Control Nailbase″, any thickness, field covered with 1/2 in. min perlite.
Membrane: Any UL Classified membrane system.
Surfacing: River bottom stone (3/4 to 1-1/2 in. diam), 1000 lb/sq.

2. **Deck:** NC **Incline:** 2
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, ″Film Faced Foam-Control EPS″, or ″Foam-Control Nailbase″, any thickness.
Membrane: Any UL Classified membrane system.
Surfacing: River bottom stone (3/4 to 1-1/2 in. diam), 1000 lb/sq.

3. **Deck:** NC **Incline:** 2
Note: Deck must be one of the following: A.) Monolithic poured cementitious deck. B.) Steel covered with gypsum board or perlite board, 1/2 in. min. C.) Structural decks with all joints covered with Type 30 base sheet, extending 6 in. (min) on each side of joint. D.) Metal deck covered with cellular concrete, gypsum concrete, vermiculite concrete or perlite concrete.
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, ″Film Faced Foam-Control EPS″, or ″Foam-Control Nailbase″, any thickness.
Membrane: Any UL Classified membrane system.
Surfacing: River bottom stone (3/4 in. to 1-1/2 in. diam), 1000 lb/sq.

4. **Deck:** NC **Incline:** 2
Insulation: ″Foam-Control EPS-ST″, any thickness, mechanically attached.
Membrane: Any UL Classified membrane.
Surfacing: River bottom stone (3/4 in. to 1-1/2 in. diam), 1000 lb/sq.

Class A - Fully Adhered

1. **Deck:** NC **Incline:** 2
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness.
Base Sheet: Soprema ″EPS FLAM STICK″, self adhered.
Cap Sheet: Soprema ″Sopralene Flam 180 FR+ Granular″ or ″Sopralene Flam 250 FR+ Granular″, heat welded.

2. **Deck:** NC **Incline:** 2
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness.
Base Sheet: Soprema ″EPS FLAM STICK FR″, self adhered.
Cap Sheet: Soprema ″Sopralene Flam 180 FR+ Granular″ or ″Sopralene Flam 250 FR+ Granular″, heat welded.

3. **Deck:** C-15/32 **Incline:** 1
Barrier Board: 1/4 in. (min) G-P Gypsum DensDeck® or 1/2 in. (min) gypsum board with 6 in. offset to plywood joints.
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness.

Roofing Systems (TGFU)−*Continued*

Base Sheet: ″EPS FLAM STICK″, self adhered.
Cap Sheet: Soprema ″Sopralene Flam 180 FR + Granular ″ or″Sopralene Flam 250 FR + Granular ″, heat welded.

4. **Deck:** NC **Incline:** 1
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness.
Base Sheet: Polyglass ″ELASATOFLEX SA V FR BASE″, self adhered.
Ply Sheet (Optional): Polyglass ″ELASATOFLEX SA V FR BASE″, self adhered.
Membrane: Polyglass, ″ELASATOFLEX SA V FR ″, self adhered.

5. **Deck:** C-15/32 **Incline:** 1/2
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness.
Base Sheet: Polyglass ″ELASATOFLEX SA V FR BASE″, self adhered.
Ply Sheet (Optional): Polyglass ″ELASATOFLEX SA V FR BASE″, self adhered.
Membrane: Polyglass, ″ELASATOFLEX SA V FR ″, self adhered.

6. **Deck:** NC **Incline:** 1
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness.
Base Sheet: Polyglass ″ELASTOFLEX SA V FR BASE″, self adhered.
Ply Sheet (Optional): Polyglass ″ELASTOFLEX SA V FR BASE″, self adhered.
Membrane: Polyglass ″ELASTOFLEX VG FR″, heat adhered.

7. **Deck:** NC **Incline:** 3/4
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness.
Base Sheet: Ridglass Manufacturing ″Roofgard HD″ self-adhered.
Base/Ply Sheet: Ridglass Manufacturing ″Roofgard Base-Ply G″ self-adhered.
Membrane: Ridglass Manufacturing ″Roofgard FR G″ self-adhered.

8. **Deck:** NC **Incline:** 1/2
Insulation: ″Foam-Control EPS-ST″, any thickness, any density, mechanically attached.
Membrane: GAF Materials Corp. ″EverGuard Freedom TPO″ or GenFlex Roofing Systems ″GenFlex Peel & Stick TPO″, max. 60 mil, self-adhered.

Class A, B, or C (See note) - Fully Adhered

1. **Deck:** NC **Incline:** See note
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness, field covered with 1/2 in. min perlite or wood fiber.
Membrane: Any UL Classified modified bitumen system suitable for use with any roof insulation.
Surfacing: See note.
Note: Classification (A, B or C) will be the same as that for the original insulation/membrane roofing system. Maximum incline and surfacing shall be in accordance with the Classification established for the insulation/membrane roofing system. Base sheet (if any) shall be in accordance with the Classification established for the insulation/membrane roofing system

2. **Deck:** NC **Incline:** See note
Insulation: — EPS/perlite or EPS/wood fiber (perlite 3/4 in. min thickness or 1/2 in. min USG Interiors' ″Micore MC 180″, Huebert wood fiber, Georgia-Pacific Corp. ″Strudi-Top″, Wood Fiber Industries' ″Structodeck″, Celotex wood fiber, Temple-Inland ″Fiber Base″ or other wood fiber at 1 in. min thickness), any combination, any thickness of the following: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, field covered with perlite or wood fiber, any thickness.
Membrane: Any UL Classified EPDM, CPE, CSPE, PVE, CR, NBP or PIB membrane system suitable for use with any roof insulation.
Surfacing: See note.
Note: Classification (A, B or C) will be the same as that for the original insulation/membrane roofing system. Maximum incline, attachment of membrane, and surfacing of membrane shall be in accordance with Classification established for membrane/insulation roofing system.

3. **Deck:** NC **Incline:** See note
Insulation: ″Foam-Control Nailbase″, any thickness.
Membrane: Any UL Classified modified bitumen system suitable for use with any roof insulation.
Surfacing: See note.
Note: Classification (A, B or C) will be the same as that for the original insulation/membrane roofing system. Maximum incline and

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Roofing Systems (TGFU)–*Continued*

surfacing shall be in accordance with the classification established for the insulation/membrane roofing system. Base sheet (if any) shall be in accordance with the classification established for the insulation/membrane roofing system.

4. **Deck:** NC **Incline:** See note
Insulation: ″Foam-Control Nailbase″, any thickness.
Membrane: Any UL Classified EPDM, CPE, CSPE, PVC, CR, NBP, TPO or PIB membrane system suitable for use with any roof insulation.
Surfacing: See note.
Note: Classification (A, B or C) with be the same as that for the original insulation/membrane roofing system. Max incline, attachment of membrane and surfacing shall be in accordance with the classification established for the membrane/insulation roofing system.

Class A – Mechanically Fastened

1. **Deck:** NC **Incline:** 1
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness
Slip Sheet: Elk “VersaShield FB-1S.”
Membrane: Any UL Classified CPE, CSPE, PVC, NBP, TPA, or EIP.
2. **Deck:** NC **Incline:** 1/2
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness
Slip Sheet: Elk “VersaShield FB-1S.”
Membrane: Any UL Classified TPO or PIB.
3. **Deck:** NC **Incline:** 1/4
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness
Slip Sheet: Elk “VersaShield FB-1S.”
Membrane: Any UL Classified EPDM.
4. **Deck:** NC **Incline:** 1
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness
Slip Sheet: Atlas Roofing ″FR 10″ or ″FR 11″.
Membrane: HPG Roofing Systems ″SR 50″, ″SR 60″ or ″SR 80″.
5. **Deck:** NC **Incline:** 1
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness
Slip Sheet: Atlas Roofing ″FR 10″ or ″FR 11″.
Membrane: Seal-Dry/USA System ″3000″, ″5000″ or ″7000″ (PVC).
6. **Deck:** NC **Incline:** 3
Insulation: Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness
Slip Sheet: Atlas Roofing ″FR 10″ or ″FR 11″.
Membrane: JPS Elastomerics ″Hi-Tuff″ (CSM).
7. **Deck:** NC **Incline:** 2
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness
Slip Sheet: Atlas Roofing ″FR 10″ or ″FR 11″.
Membrane: Sarnafil ″S327″ or ″G410″.
8. **Deck:** NC **Incline:** 1/4
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness
Slip Sheet: Atlas Roofing ″FR 10″ or ″FR 11″.
Membrane: Cooley ″C3″ (TPA).
9. **Deck:** NC **Incline:** 3
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness
Slip Sheet: Atlas Roofing ″FR 10″ or ″FR 11″.
Membrane: Duro-Last ″Duro-Last″ (PVC).
10. **Deck:** NC **Incline:** 3
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness
Slip Sheet: Atlas Roofing ″FR 10″ or ″FR 11″.
Membrane: Bond Cote Roofing Systems ″Bond Cote″.
11. **Deck:** NC **Incline:** See Note
Insulation: ″Foam-Control EPS-ST″, any thickness.
Membrane: Any UL Classified CPE, CSPE, PVC, NBP, TPA, or EIP.
12. **Deck:** NC **Incline:** 1
Insulation: ″Foam-Control EPS-ST″, any thickness.
Membrane: Carlisle Syntec “Sure Weld” TPO Membrane.
13. **Deck:** NC **Incline:** 1/4
Insulation: ″Foam-Control EPS-ST″, any thickness.
Membrane: Firestone “FR-EPDM”.
14. **Deck:** NC **Incline:** 1/2

Roofing Systems (TGFU)–*Continued*

Insulation: ″Foam-Control EPS-ST″, any thickness and density, mechanically attached.
Membrane: Any UL Classified PVC, CSPE or TPO, max. 60 mil.

Class B – Mechanically Fastened

1. **Deck:** C-15/32 **Incline:** 1
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, min. 3/4″ thick
Slip Sheet: Two layers of Elk “VersaShield FB-1S.”
Membrane: Any UL Classified membrane.

Class A, B or C (See note) - Fully Adhered

Incline is reduced to 1 in. when Type G3 mineral surfaced cap sheet is used as the surfacing.
Unless otherwise indicated, insulation is mechanically fastened in place.

1. **Deck:** NC **Incline:** See note
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, ″Film Faced Foam-Control EPS″, or ″Foam-Control Nailbase″, any thickness, field covered with perlite 3/4 in. min thickness or 1/2 in. min USG Interiors ″Micore MC 180,″ Huebert wood fiber, Georgia-Pacific ″Sturdi-Top″, Wood Fiber Industries ″Structodeck″, Celotex wood fiber, Temple-Inland ″Fiber Base″ or other wood fiber at 1 in. min thickness)
Membrane: Any UL Classified modified bitumen system suitable for use with any roof insulation.
Surfacing: See note.
Note: Classification (A, B or C) will be the same as that for the original insulation/membrane roofing system. Max incline, attachment of membrane, and surfacing of membrane shall be in accordance with Classification established for membrane/insulation roofing system.
2. **Deck:** NC **Incline:** See note
Insulation: EPS/perlite or EPS/wood fiber (perlite 3/4 in. min thickness or 1/2 in. min USG Interiors’ ″Micore MC 180″, Huebert wood fiber, Georgia-Pacific Corp. ″Strudi-Top″, Wood Fiber Industries’ ″Structodeck″, Celotex wood fiber, Temple-Inland ″Fiber Base″ or other wood fiber at 1 in. min thickness), any combination, any thickness of the following: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, field covered with perlite or wood fiber, any thickness.
Membrane: Any UL Classified EPDM, CPE, CSPE, PVE, CR, NBP or PIB membrane system suitable for use with any roof insulation.
Surfacing: See note.
Note: Classification (A, B or C) will be the same as that for the original insulation/membrane roofing system. Maximum incline, attachment of membrane, and surfacing of membrane shall be in accordance with Classification established for membrane/insulation roofing system.
3. **Deck:** NC **Incline:** See note
Insulation: ″Foam-Control Nailbase″, any thickness.
Membrane: Any UL Classified modified bitumen system suitable for use with any roof insulation.
Surfacing: See note.
Note: Classification (A, B or C) will be the same as that for the original insulation/membrane roofing system. Max incline and surfacing shall be in accordance with the classification established for the insulation/membrane roofing system. Base sheet (if any) shall be in accordance with the classification established for the insulation/membrane roofing system.
4. **Deck:** NC **Incline:** See note
Insulation: ″Foam-Control Nailbase″, any thickness.
Membrane: Any UL Classified EPDM, CPE, CSPE, PVC, CR, NBP, TPO or PIB membrane system suitable for use with any roof insulation.
Surfacing: See note.
Note: Classification (A, B or C) with be the same as that for the original insulation/membrane roofing system. Max incline, attachment of membrane and surfacing shall be in accordance with the classification established for the membrane/insulation roofing system.

Class A, B or C (See note) - Mechanically Fastened

1. **Deck:** NC **Incline:** See note
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, ″Film Faced Foam-Control EPS″, or ″Foam-Control Nailbase″, any thickness, field covered with perlite 3/4 in. min thickness or 1/2 in. min USG Interiors ″Micore MC 180,″ Huebert wood fiber, Georgia-Pacific ″Sturdi-Top″, Wood Fiber Industries ″Structodeck″, Celotex wood fiber, Temple-Inland ″Fiber Base″ or other wood fiber at 1 in. min thickness)
Membrane: Any UL Classified single ply membrane sheet suitable for use with any roof insulation.
Surfacing: See note.

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Roofing Systems (TGFU)–*Continued*

Note: Classification (A, B or C) will be the same as that for the original insulation/membrane roofing system. Max incline, attachment of membrane, and surfacing of membrane shall be in accordance with Classification established for membrane/insulation roofing system.

2. **Deck:** NC **Incline:** See note
Insulation: ″Foam-Control Nailbase″, any thickness.
Membrane: Any UL Classified single ply membrane system suitable for use with any roof insulation.
Surfacing: See note.
Note: Classification (A, B or C) will be the same as that for the original insulation/membrane roofing system. Max incline, attachment of membrane and surfacing shall be in accordance with the classification established for the membrane/insulation roofing system.

MAINTENANCE AND REPAIR SYSTEMS

Class A

1. **Deck:** NC **Incline:** 1/2
Existing Roof System: Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced, gravel may be removed.
Insulation: ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, 1 in. max thickness.
Membrane: Mechanically fastened, one of the following:
1. Conklin ''Hi-Crown'' (CSPE).
2. Burke ''358'' (CSPE).
3. Stevens ''Hypalon''.
4. Seaman ''Fibertite'' (EIP).
5. Duro-Last (PVC).

2. **Deck:** C-15/32 **Incline:** 1/2
Existing Roof System: Class A, B or C built-up smooth surface, cap sheet or gravel surfaced, gravel may be removed.
Insulation: ″Foam-Control EPS ″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness.
Membrane: Loose laid, one of the following: CSPE, EIP, PVC, EPDM, TPO or CPA.
Surfacing: River bottom stone (3/4 in. to 1-1/2 in. diam), 900 lb/sq.

3. **Deck:** C-15/32 **Incline:** 1/2
Existing Roof System: Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced (gravel maintained) to retain the existing Classification.
Insulation: ″Foam-Control EPS-ST″, any thickness, any density, mechanically attached or adhered. Or, ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness, any density, covered by minimum 2 in. thickness of polyisocyanurate, mechanically attached or adhered.
Membrane: Any UL Classified PVC, EPDM, CSPE or TPO for use in an insulated non-ballasted application, max. 60 mil., mechanically attached or adhered.

4. **Deck:** NC **Incline:** 1
Existing Roof System: Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced, gravel to be maintained at 400 lb/sq.
Insulation: ''Foam-Control EPS'', ''Foam-Control EPS Tapered'' or ″Film Faced Foam-Control EPS″, any thickness, 1 in. max.
Slip Sheet: Atlas Roofing ″FR 10″ or ″FR 11″.
Membrane: HPG Roofing Systems ″SR-50″, ″SR-60″, ″SR-80″, mechanically fastened.

5. **Deck:** NC **Incline:** 1/4
Existing Roof System: Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced, gravel to be maintained at 400 lb/sq.
Insulation: ''Foam-Control EPS'', ''Foam-Control EPS Tapered'' or ″Film Faced Foam-Control EPS″, any thickness, 1 in. max.
Slip Sheet: Atlas Roofing ″FR 10″ or ″FR 11″.
Membrane: Cooley ″C3″ (TPA) or Firestone ″Ultraply 78+″, mechanically fastened.

6. **Deck:** NC **Incline:** 3
Existing Roof System: Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced, gravel to be maintained at 400 lb/sq.
Insulation: ''Foam-Control EPS'', ''Foam-Control EPS Tapered'' or ″Film Faced Foam-Control EPS″, any thickness, 1 in. max.
Slip Sheet: Atlas Roofing ″FR 10″ or ″FR 11″.
Membrane: JPS Elastomerics, ″Hi-Tuff″ (CSM), mechanically fastened.

Roofing Systems (TGFU)–*Continued*

7. **Deck:** NC **Incline:** 1
Existing Roof System: Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced, gravel to be maintained at 400 lb/sq.
Insulation: ''Foam-Control EPS'', ''Foam-Control EPS Tapered'' or ″Film Faced Foam-Control EPS″, any thickness, 1 in. max.
Slip Sheet: Atlas Roofing ″FR 10″ or ″FR 11″.
Membrane: Sarnafil ″G410″, ″G410 Felt″ or ″S327″, ″S327 Felt″, mechanically fastened.

8. **Deck:** NC **Incline:** 1
Existing Roof System: Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced (gravel maintained) to retain the existing Classification.
Insulation: ″Foam-Control EPS-ST″, any thickness, any density, mechanically attached or adhered. Or, ″Foam-Control EPS″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, any thickness, any density, covered by minimum 2 in. thickness of polyisocyanurate, mechanically attached or adhered.
Membrane: Any UL Classified PVC, EPDM, CSPE or TPO for use in an insulated non-ballasted application, max. 60 mil., mechanically attached or adhered.

Class A, B or C

1. **Deck:** NC **Incline:** 1/2
Existing Roof System: Class A, B or C built-up or modified bitumen system, (smooth surface, cap sheet or gravel surfaced with gravel maintained). Or Class A, B or C single-ply system (polystyrene in existing single-ply system must be below a coverboard or minimum 1 in. thickness of polyisocyanurate), to retain the existing Classification.
Insulation: ″Foam-Control EPS ″, ″Foam-Control EPS Tapered″, or ″Film Faced Foam-Control EPS″, 1 in.max thickness.
Membrane: Mechanically fastened, one of the following: CSPE, EIP, PVC, EPDM, TPO or CPA.

2. **Deck:** C – 15/32 **Incline:** 1/2
Existing Roof System: Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced (gravel maintained) to retain the existing Classification.
Insulation: ''Foam-Control EPS'', ''Foam-Control EPS Tapered'' or ''Film Faced Foam-Control EPS'', 1 in. max.
Membrane: Any UL Classified CSPE, EIP, PVC, TPA, NBP, TPO or Reinforced FR EPDM, mechanically attached.

AKZO NOBEL PAINTS (PUERTO RICO) INC R26880

630 CALLE FERIA, CAROLINA PR 00987-2754

FLUID APPLIED COATING SYSTEMS

Class A

1. **Deck:** NC **Incline:** Unlimited
Top Coat: ''Glidden Imperme-A-Seal Hydrosteel 9900'', applied at a rate of 2 gal/sq.

ALCO PRODUCTS L L C R13738

580 ST JEAN, DETROIT MI 48214

FLUID APPLIED COATING SYSTEMS

Class A

1. **Deck:** NC **Incline:** 1/2 **Impact:** 4
Base Coat: ''CAP Asphalt Mastic No. 270'', 2 gal/sq.
Fabric: Polyester ply sheet, (Not UL Classified), max 113 gal/sq ft.
Intermediate Coat: ''CAP Asphalt Mastic No. 270'', 2 gal/sq.
Top Coat: ''CAP Asphalt Mastic No. 270'', 2 gal/sq and embedded granules.

SINGLE PLY MEMBRANE SYSTEMS

Firestone ''APP 140'', ''APP 160'', ''APP 170'' and ''APP 180'' are interchangeable in applicable systems. Firestone ''SBS'', ''SBS Premium'', ''SBS Glass '', ''SBS Smooth'', ''SBS Glass Torch Grade'' and ''SBS Smooth Torch Grade'' are interchangeable in applicable systems.

Class A — Fully Adhered

1. **Deck:** NC **Incline:** 1/2
Insulation (Optional): Polyisocyanurate, glass fiber perlite, wood fiber, any thickness, mechanically fastened or adhered with hot roofing asphalt.
Base Sheet: Type G2, or U.S. Intec ''Intec Modified Base'', mechanically fastened, or adhered with hot roofing asphalt, or U.S. Intec ''Intec Bitumen Adhesive No. 269'', or U.S. Intec ''Matrix SB Cold Adhesive'' at 1 to 1-1/2 gal/sq.

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Roofing Systems (TGFU)−*Continued*

Ply Sheet (Optional): U.S. Intec "Intec Modified Base", adhered with "SBS Modified Bitumen Adhesive No. 269" or U.S. Intec "Matrix SB Cold Adhesive" at 1 to 1-1/2 gal/sq.
Membrane: U.S. Intec "Brai/Flex FR-3" adhered with "SBS Modified Bitumen Adhesive No. 269" or U.S. Intec "Matrix SB Cold Adhesive" at 1 to 1-/2 gal/sq.

2. **Deck:** C-15/32 **Incline:** 1/2
Insulation (Optional): Polyisocyanurate, glass fiber perlite, wood fiber, any thickness, mechanically fastened or adhered with hot roofing asphalt.
Base Sheet: Type G2 or U.S. Intec "Intec Modified Base," mechanically fastened, or adhered with hot roofing asphalt or "SBS Modified Bitumen Adhesive No. 269" at 1 to 1-1/2 gal/sq.
Ply Sheet: U.S. Intec "Intec Modified Base", adhered with "SBS Modified Bitumen Adhesive No. 269" or U.S. Intec "Matrix SB Cold Adhesive" at 1 to 1-1/2 gal/sq.
Membrane: U.S. Intec "Brai/Flex FR-3" adhered with "SBS Modified Bitumen Adhesive No. 269" or U.S. Intec ″Matrix SB Cold Adhesive at 1 to 1-1/2 gal/sq.

3. **Deck:** NC **Incline:** 1/2
Insulation (Optional): Polyisocyanurate, glass fiber perlite, wood fiber, 3/4 in. min., mechanically fastened or adhered with hot roofing asphalt.
Base Sheet (Optional): Type G2 or U.S. Intec "Intec Modified Base", mechanically fastened, or adhered with hot roofing asphalt or "SBS Modified Bitumen Adhesive No. 269" at 1 to 1-1/2 gal/sq.
Ply Sheet: U.S. Intec "Intec Modified Base", adhered with "SBS Modified Bitumen Adhesive No. 269" or U.S. Intec "Matrix SB Cold Adhesive" at 1 to 1-1/2 gal/sq.
Membrane: U.S. Intec "BRAI/FLEX FR-3" adhered with "SBS Modified Bitumen Adhesive No. 269" or U.S. Intec ″Matrix SB Cold Adhesive at 1 to 1-1/2 gal/sq.

4. **Deck:** NC **Incline:** 1/2
Insulation (Optional): Polyisocyanurate, glass fiber, perlite, wood fiber, any combination, any thickness, mechanically fastened.
Base Sheet: Type G2, mechanically fastened.
Membrane: U.S. Intec "BRAI SP-4", POLYGLASS "Polyflex", POLYGLASS "Duflex" or POLYGLASS "Polybond", (modified bitumen), heat fused in place.
Surfacing: " #215 Alumagard Fibered Aluminum Roof Coating" or " #214 Alumagard Nonfibered Aluminum Roof Coating" at 1-1/2 gal/sq.

5. Deleted
6. Deleted
7. Deleted
8. Deleted
9. Deleted
10. Deleted
11. Deleted
12. Deleted
13. Deleted
14. Deleted
15. Deleted

16. **Deck:** NC **Incline:** 1
Insulation (Optional): Perlite, wood fiber, glass fiber or polyisocyanurate, any thickness, mechanically fastened.
Base Sheet: One ply Type G2, mechanically attached.
Membrane: Firestone "APP 170", heat fused.
Surfacing: "#215 Alumagard Fibered Aluminum Roof Coating" or "#214 Alumagard Nonfibered Aluminum Roof Coating" at 1-1/2 gal/sq.

17. **Deck:** NC **Incline:** 1
Insulation (Optional): Perlite, wood fiber, glass fiber or polyisocyanurate, any thickness, mechanically fastened.
Base Sheet: One ply Type G2, mechanically attached.
Membrane: Firestone "SBS Premium", hot mopped.
Surfacing: " #215 Alumagard Fibered Aluminum Roof Coating", 1-1/2 gal/sq.

18. **Deck:** C-15/32 **Incline:** 1/2
Base Sheet: Two plies or more Type G2, bottom ply mechanically fastened and second ply hot mopped.
Membrane: Firestone "SBS Pemium", hot mopped.
Surfacing: " #215 Alumagard Fibered Aluminum Roof Coating", 1-1/2 gal/sq.

Class B-Fully Adhered

1. **Deck:** C-15/32 **Incline:** 1/4
Base Sheet: Type G2, mechanically fastened.

Roofing Systems (TGFU)−*Continued*

Membrane: U.S. Intec "BRAI SP-4" (modified bitumen), heat fused in place.
Surfacing: " #215 Alumagard Fibered Aluminum Roof Coating" or " #214 Alumagard Nonfibered Aluminum Roof Coating" at 1-1/2 gal/sq.

2. **Deck:** C-15/32 **Incline:** 1/2
Base Sheet: U.S. Intec "Ultra Base", mechanically fastened.
Membrane: U.S. Intec "BRAI/FLEX 170FR", adhered with "No. 269 Adhesive VOC", 1-1/2 gal/sq.

3. Deleted

4. **Deck:** C-15/32 **Incline:** 1/2
Base Sheet: Two plies or more Type G2, bottom ply mechanically fastened and second ply hot mopped.
Membrane: Firestone "APP 160", heat fused.
Surfacing: "#215 Alumagard Fibered Aluminum Roof Coating", 1-1/2 gal/sq.

MAINTENANCE AND REPAIR

Class A

1. **Deck:** NC **Incline:** 1/2
Existing Roof System: Class A, B or C covered with:
Base Coat: "CAP Asphalt Mastic No. 270" — 3 gal/sq.
Ply Sheet: Polyester (Not UL Classified)
Top Coat: "CAP Asphalt Mastic No. 270" — 4 gal/sq.
Surfacing: Gravel at min 400 lbs/sq.

ALDO PRODUCTS CO INC R14143

1604 N MAIN ST, KANNAPOLIS NC 28081

SPRAY APPLIED FOAM AND COATING SYSTEMS

Class A

1. Deleted
2. Deleted
3. Deleted
4. **Deck:** NC **Incline:** 3
Foam: BASF Polyurethane Foam Enterprises LLC ″FE 303″ any thickness.
Base Coat: ″ALDOCOAT 394 Silicone″ applied at 1½-gal/100-ft^2 ..
Top Coat: ″ ALDOCOAT 394 Silicone ″ applied at 1½-gal/100-ft^2.
5. **Deck:** NC **Incline:** 1
Foam: ″RT-2716,″ 2.5 to 3.0-lb/ft3-lb/ft3, 1½- to 2-in. thick.
Surfacing: ″ ALDOCOAT 394 Silicone″ applied at 2¼-gal/100-ft^2
6. **Deck:** NC **Incline:** 1
Foam: ″RT-2717,″ 2.5 to 3.0-lb/ft3 -lb/ft3, 1½- to 2-in. thick.
Surfacing: ″ ALDOCOAT 394 Silicone″ applied at 2¼-gal/100-ft^2.
7. **Deck:** NC **Incline:** 1
Foam: ″RT-2718″ any thickness.
Base Coat: ″ ALDOCOAT 394 Silicone″ applied at 1½-gal/100-ft^2.
Top Coat: ″ ALDOCOAT 394 Silicone″ applied at 1½-gal/100-ft^2.
8. **Deck:** NC **Incline:** 3
Base Coat: ″ ALDOCOAT 394 Silicone″ applied at 1½-gal/100-ft^2.
Top Coat: ″ ALDOCOAT 394 Silicone″ applied at 1½-gal/100-ft^2.
Surfacing: Broadcast application of No. 11 ceramic coated roof granules applied at 30-lb/100-ft^2.

Class B

1. Deleted
2. Deleted
3. Deleted
4. **Deck:** C-15/32 **Incline:** 1/2
Foam: ″RT-2716″ 1½-in. minimum.
Base Coat: ″ ALDOCOAT 394 Silicone″ applied at 1½-gal/100-ft^2.
Top Coat: ″ ALDOCOAT 394 Silicone″ applied at 1½-gal/100-ft^2.
Surfacing: No. 11 roofing granules embedded into wet coating applied at 30-lb/100-ft^2.
5. **Deck:** C-15/32 **Incline:** 1/2
Foam: ″ RT-2717,″ 2.5 to 3.0-lb/ft3, 2-in.
Base Coat: ″ ALDOCOAT 394 Silicone″ applied at ¾ to 1-gal/100-ft^2.
Top Coat: ″ ALDOCOAT 394 Silicone″ applied at ¾ to 1-gal/100-ft^2.
Surfacing: No. 11 roofing granules embedded into wet coating applied at 25-lb/100-ft^2.
6. **Deck:** C-15/32 **Incline:** 1/2
Foam: ″RT-2716,″ 2.5 to 3.2-lb/ft3, 1½-in. minimum.
Base Coat: ″ ALDOCOAT 394 Silicone″ applied at 1½-gal/100-ft^2.
Top Coat: ″ ALDOCOAT 394 Silicone″ applied at 1½-gal/100-ft^2.
Surfacing: No. 11 roofing granules embedded into wet coating applied at 30-lbs/100-ft^2.
7. **Deck:** C-15/32 **Incline:** 1/2

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Roofing Systems (TGFU)–*Continued*

Insulation: Minimum 1-in. thick "RT-2718" (2½ to 3.0¾-lb/ft3) spray applied foamed plastic
Base Coat: " ALDOCOAT 394 Silicone" applied at 1½-gal/100-ft^2.
Top Coat: " ALDOCOAT 394 Silicone" applied at 1½-gal/100-ft^2.
Surfacing: Broadcast application of No. 11 ceramic coated granules applied at a rate of 30 to 50-lbs/100-ft^2

SINGLE PLY MEMBRANE SYSTEMS

Class A

1. **Deck:** NC **Incline:** 3
Insulation: Dyplast Products LLC "Pyrox White Line," glass fiber, perlite or wood fiber, any thickness.
Membrane: Any UL Classified PVC, mechanically fastened.
Surfacing: " ALDOCOAT 394 Silicone" applied 1½-gal/100-ft^2
2. **Deck:** NC **Incline:** 1/2
Insulation: Dyplast Products LLC "Pyrox White Line," glass fiber, perlite or wood fiber, any thickness.
Membrane: Any UL Classified hypalon, mechanically fastened.
Surfacing: " ALDOCOAT 394 Silicone" applied at 1½-gal/100-ft^2
3. **Deck:** NC **Incline:** 2-1/2
Insulation: Celotex "Hy-Tec" any thickness.
Membrane: Any UL Classified PVC, mechanically fastened.
Surfacing: " ALDOCOAT 394 Silicone" applied at 1½-gal/100-ft^2.
4. **Deck:** NC **Incline:** ¼
Insulation: Celotex "Hy-Tec" any thickness.
Membrane: Any UL Classified hypalon, mechanically fastened.
Surfacing: " ALDOCOAT 394 Silicone" applied at 1½-gal/100-ft^2.

MAINTENANCE AND REPAIR SYSTEMS

Class A, B or C

1. **Deck:** C-15/32 **Incline:** See Note 1
Existing Roof System: Any UL Classified existing single-ply membrane system, to retain existing Classification, covered with:
Surfacing: " ALDOCOAT 394 Silicone" applied at 1½-gal/100-ft^2
Note 1: Classification (A, B or C) and maximum incline will be the same as that of the Classified Roofing System (TGFU).
2. **Deck:** C-15/32 **Incline:** ½
Existing Roof System: Any UL Classified existing single-ply membrane system, to retain existing Classification, covered with:
Surfacing: " ALDOCOAT 394 Silicone" applied at 1½-gal/100-ft^2.

ALLIANCE STEEL INC R7973

3333 S COUNCIL, OKLAHOMA CITY OK 73179

OTHER SYSTEMS

Class A

1. **Deck:** C-15/32 or spaced sheathing **Incline:** Unlimited **Impact:** 4
Underlayment: One layer "VersaShield Underlayment", mechanically fastened.
Ply Sheet: One layer Type 30 base sheet or "VersaShield", mechanically fastened.
Shingles or Panels: "Alliance PBR", "Alliance Lok 216", "Alliance M" and "Alliance IP".
2. **Deck:** C-15/32 or spaced sheathing **Incline:** Unlimited **Impact:** 4
Insulation: Rmax "Ultramax" 1 in. min, mechanically fastened.
Panels: "Alliance PBR", "Alliance Lok 216", "Alliance M" and "Alliance IP".
3. **Deck:** C-15/32 or spaced sheathing **Incline:** Unlimited **Impact:** 4
Underlayment: One or more plies "VersaShield Underlayment", mechanically fastened.
Panels: "Alliance PBR", "Alliance Lok 216", "Alliance M" and "Alliance IP".
4. **Deck:** C-15/32 or spaced sheathing **Incline:** Unlimited
Underlayment: One layer "VersaShield Underlayment", mechanically fastened.
Ply Sheet: One layer Type 30 base sheet or "VersaShield", mechanically fastened.
Shingles or Panels: "Alliance Seam 24"
5. **Deck:** C-15/32 or spaced sheathing **Incline:** Unlimited
Insulation: Rmax "Ultramax" 1 in. min, mechanically fastened.
Panels: "Alliance Seam 24"

Roofing Systems (TGFU)–*Continued*

6. **Deck:** C-15/32 or spaced sheathing **Incline:** Unlimited
Underlayment: One or more plies "VersaShield Underlayment", mechanically fastened.
Panels: "Alliance Seam 24"
Coated steel panels (surfacing) identified as "NSF16".
One or more layers of Elk Corp. "VersaShield Underlayment," mechanically fastened, may be used in lieu of the Barrier Board in all combustible Classifications.
7. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck®, CertainTeed Gypsum GlasRoc or USG "SECUROCK®" Glass Mat Board with all joints staggered a min of 6 in. from the deck joints.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
8. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck®, CertainTeed Gypsum GlasRoc or USG "SECUROCK®" Glass Mat Board.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
9. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 7/16 OBS or 5/8 in. plywood over polyisocyanurate insulation board or polyisocyanurate composite boad, any thickness.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
10. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Insulation: Polyisocyanurate, glass fiber, perlite or wood fiber, any thickness.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
11. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Insulation (Optional): Any UL Classified insulations may be used over open purlin spans. Any combination and any total thickness of insulation may be used.
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
12. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck®, CertainTeed Gypsum GlasRoc or USG "SECUROCK®" Glass Mat Board with all joints staggered a min of 6 in. from the deck joints.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.

Class C

Coated steel panels (surfacing) identified as "NSF16".
1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
2. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Underlayment: Any UL Classified base/ply sheet.
Surfacing: Coated Steel roofing panels, min. 26 MSG.

ALLIED PROTECTIVE COATINGS L L C R25098

6812 INDUSTRIAL AVE, EL PASO TX 79915

SPRAY APPLIED FOAM AND COATING SYSTEMS

Class A

1. **Deck:** NC **Incline:** 4
Foam: Dow Chemical "Voracor CY 3053", any thickness.
Coating: Allied Protective Coatings "All Pro A625" Acrylic Coating; at 3-5 gal/sq.
2. **Deck:** NC **Incline:** 4
Foam: Dow Chemical "Voracor CY 3053", any thickness.

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Roofing Systems (TGFU)–*Continued*

Coating: Allied Protective Coatings ″All Pro A625″ Acrylic Coating; at 3-5 gal/sq.
Surfacing: Granules at 30 lbs/sq.

3. **Deck:** C- 15/32 **Incline:** 4
Barrier Board: ½ in. thick gypsum board or ¼ in. “Densdeck” (min.)
Foam: Dow Chemical “Voracor CY 3053”, any thickness.
Coating: Allied Protective Coatings ″All Pro A625″ Acrylic Coating; at 3-5 gal/sq.
4. **Deck:** C- 15/32 **Incline:** 4
Barrier Board: ½ in. thick gypsum board or ¼ in. “Densdeck” (min.)
Foam: Dow Chemical “Voracor CY 3053”, any thickness.
Coating: Allied Protective Coatings ″All Pro A625″ Acrylic Coating; at 3-5 gal/sq.
Surfacing: Granules at 30 lbs/sq.
5. **Deck:** NC **Incline:** 2 ½
Foam: BASF Elastospray “81252”, “81272”, “Alpha System”, “81302”, any thickness
Coating: Allied Protective Coatings ″All Pro A625″ Acrylic Coating; at 3-5 gal/sq.
6. **Deck:** NC **Incline:** 2 ½
Foam: BASF Elastospray “81252”, “81272”, “Alpha System”, “81302”, any thickness
Coating: Allied Protective Coatings ″All Pro A625″ Acrylic Coating; at 3-5 gal/sq.
Surfacing: Granules at 30 lbs/sq.
7. **Deck:** NC **Incline:** 2 ½
Barrier Board: ½ in. thick gypsum board or ¼ in. “Densdeck” (min.)
Foam: BASF Elastospray “81252”, “81272”, “Alpha System”, “81302”, any thickness
Coating: Allied Protective Coatings ″All Pro A625″ Acrylic Coating; at 3-5 gal/sq.
8. **Deck:** NC **Incline:** 2 ½
Barrier Board: ½ in. thick gypsum board or ¼ in. “Densdeck” (min.)
Foam: BASF Elastospray “81252”, “81272”, “Alpha System”, “81302”, any thickness
Coating: Allied Protective Coatings ″All Pro A625″ Acrylic Coating; at 3-5 gal/sq.
Surfacing: Granules at 30 lbs/sq.
9. **Deck:** NC **Incline:** 3
Foam: Foam Enterprises “FE 346”, “FE 347”, “FE 348”, “FE 350”, and BASF Elastospray “81284”, any thickness
Coating: Allied Protective Coatings ″All Pro A625″ Acrylic Coating; at 3-5 gal/sq.
Surfacing: Granules at 30 lbs/sq.
10. **Deck:** NC **Incline:** 1 ½
Foam: The Dow Chemical Co ″Voracor Cy 3019″, any thickness.
Base/Top Coat: Allied Protective Coatings ″All Pro A625″ Acrylic Coating; at 3-5 gal/sq.
11. **Deck:** NC **Incline:** 3 ½
Foam: The Dow Chemical Co ″Voracor CY 3019″, any thickness.
Base/Top Coat: Allied Protective Coatings ″All Pro A625″ Acrylic Coating; at 3-5 gal/sq.
Surfacing: Granules at 30 lbs/sq.
12. **Deck:** C- 15/32 **Incline:** 1 ½
Barrier Board: ½ in. thick gypsum board or ¼ in. “Densdeck” (min.)
Foam: Dow Chemical “Voracor CY 3019”, any thickness.
Coating: Allied Protective Coatings ″All Pro A625″ Acrylic Coating; at 3-5 gal/sq.
13. **Deck:** C-15/32 **Incline:** 3 ½
Barrier Board: ½ in. thick gypsum board or ¼ in. “Densdeck” (min.)
Foam: Dow Chemical “Voracor CY 3019”, any thickness.
Coating: Allied Protective Coatings ″All Pro A625″ Acrylic Coating; at 3-5 gal/sq.
Surfacing: Granules at 30 lbs/sq.

ALPHA SYSTEMS INJECTION MOLDING DIV R26698

5120 BECK DR, ELKHART IN 46516

SINGLE PLY MEMBRANE SYSTEMS

Class A - Ballasted

1. **Deck:** NC **Incline:** 2
Insulation: Any UL Classified, any thickness, loose laid or mechanically fastened.

ROOF-COVERING MATERIALS (TEVT)

Roofing Systems (TGFU)–*Continued*

Membrane: Any UL Classified EPDM membrane, loose laid, mechanically fastened or fully adhered. The EPDM membrane joint’s edges are sealed with “1035HS Lap Sealant” applied according to manufacturer’s installation instructions.
Surfacing: River bottom stone (3/4 to 1-1/2 in. diam) at 1000 lbs/sq.

ALT GLOBAL L L C R26750

3 EDISON PL, FAIRFIELD NJ 07004

FLUID APPLIED COATING SYSTEM

Class A

1. **Deck:** NC **Incline:** 1
Insulation: Any thickness polyisocyanurate mechanically fastened or adhered with any UL Classified insulation adhesive
Primer: One application ″ALT Primer 222″ applied at 0.4-kg/m^2
Base Coat: One application ″ALT R230 Resin″ applied at 2.0-kg/m^2
Reinforcement: One ply 110-g/m^2 polyester mat or 450-g/m^2 fiberglass mat embedded into wet base coat
Top Coat: One application ″ALT R230 Resin″ applied at 1.3-kg/m^2
Surfacing: One application of ″ALT Finish 288″ applied at 0.6-kg/m^2 or ″ALT Finish 288″ followed by the broadcast application of quartz sand applied at 5-kg/m^2 or ″ALT R268 Textured Coating″ trowel applied at 3.5-kg/m^2 or ″ALT RS233 Mortar″ trowel applied at 3.5-kg/m^2
2. **Deck:** C-15/32 **Incline:** 1
Insulation (optional): Any thickness polyisocyanurate mechanically fastened or adhered with any UL Classified insulation adhesive
Barrier Board: Minimum ¼-in. thick GP Gypsum Corp. ″DensDeck ® Roofboard″ or ″DensDeck Prime® Roofboard″ or ″DensDeck Dura-Guard™ Roofboard″ or minimum ¼-in. thick USG Co. ″Securock™ Roofboard″ mechanically fastened with insulation butt joints staggered a minimum of 6-in. from plywood deck joints
Primer: One application ″ALT Primer 222″ applied at 0.4-kg/m^2
Base Coat: One application ″ALT R230 Resin″ applied at 2.0-kg/m^2
Reinforcement: One ply 110-g/m^2 polyester mat or 450-g/m^2 fiberglass mat embedded into wet base coat
Top Coat: One application ″ALT R230 Resin″ applied at 1.3-kg/m^2
Surfacing: One application of ″ALT Finish 288″ applied at 0.6-kg/m^2 or ″Altl Finish 288″ followed by the broadcast application of quartz sand applied at 5-kg/m^2 or ″ALT R268 Textured Coating″ trowel applied at 3.5-kg/m^2 or ″ALT RS233 Mortar″ trowel applied at 3.5-kg/m^2
3. **Deck:** C-15/32 **Incline:** ¼
Insulation (optional): Any thickness polyisocyanurate mechanically fastened with insulation butt joints staggered a minimum of 6-in. from plywood deck joints
Barrier Board: Minimum ¼-in. thick GP Gypsum Corp. ″DensDeck ® Roofboard″ or ″DensDeck Prime® Roofboard″ or ″DensDeck Dura-Guard™ Roofboard″ or minimum ¼-in. thick USG Co. ″Securock™ Roofboard″ mechanically fastened with insulation butt joints staggered a minimum of 6-in. from plywood deck joints
Primer: One application ″ALT Primer 222″ applied at 0.4-kg/m^2
Base Coat: One application ″ALT R230 Resin″ applied at 2.0-kg/m^2
Reinforcement: One ply 110-g/m^2 polyester mat or 450-g/m^2 fiberglass mat embedded into wet base coat
Top Coat: One application of ″ALT Finish 288″ applied at 0.6-kg/m^2 or ″ALT Finish 288″ followed by the broadcast application of silica applied at 5-kg/m^2 or ″ALT R268 Textured Coating″ trowel applied at 3.5-kg/m^2 or ″ALT RS233 Mortar″ trowel applied at 3.5-kg/m^2
4. **Deck:** NC **Incline:** 3
Primer: One application ″ALT Primer 222″ applied at 0.4-kg/m^2
Base Coat: One application ″ALT R230 Resin″ applied at 2.0-kg/m^2
Reinforcement: One ply 110-g/m^2 polyester mat or 450-g/m^2 fiberglass mat embedded into wet base coat
Top Coat: One application ″ALT R230 Resin″ applied at 2.0-kg/m^2
Surfacing: One application of ″ALT R230 Resin″ applied at 1.3-kg/m^2 followed by the broadcast application of 5-kg/m^2 of quartz sand
5. **Deck:** C-15/32 **Incline:** 3
Insulation (optional): Any thickness polyisocyanurate mechanically fastened with insulation butt joints staggered a minimum of 6-in. from plywood deck joints
Barrier Board: Minimum ¼-in. thick GP Gypsum Corp. ″DensDeck ® Roofboard″ or ″DensDeck Prime® Roofboard″ or ″DensDeck Dura-Guard™ Roofboard″ or minimum ¼-in. thick USG Co. ″Securock™ Roofboard″ mechanically fastened with insulation butt joints staggered a minimum of 6-in.
Primer: One application ″ALT Primer 222″ applied at 0.4-kg/m^2

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Roofing Systems (TGFU)–*Continued*

Base Coat: One application "ALT R230 Resin" applied at 2.0-kg/m^2
Reinforcement: One ply 110-g/m^2 polyester mat or 450-g/m^2 fiberglass mat embedded into wet base coat
Top Coat: One application "ALT R230 Resin" applied at 2.0-kg/m^2
Surfacing: One application of "ALT R230 Resin" applied at 1.3-kg/m^2 followed by the broadcast application on 5-kg/m^2 of quartz sand

MAINTENCE AND REPAIR SYSTEMS

Class A, B or C

Unless otherwise indicated, the following systems are intended to be applied over an existing Class A, B or C roof covering systems with a view to maintain the existing Class A, B or Classification.

1. **Deck:** C-15/32 **Incline:** ½
Existing Roof System: Class A, B or C insulated or uninsulated smooth surfaced BUR, APP or SBS modified bitumen roof covering system
Insulation (optional): Minimum 1-in. thick polyisocyanurate mechanically fastened or adhered with UL Classified insulation adhesive
Primer: One application "ALT Primer 222" applied at 0.5-kg/m^2
Base Coat: One application "ALT R230 Resin" applied at 2.0-kg/m^2
Reinforcement: One ply 110-g/m^2 polyester mat or 450-g/m^2 fiberglass mat embedded into wet base coat
Top Coat: One application "ALT R230 Resin" applied at 1.3-kg/m^2
Surfacing: One application of "ALT Finish 288" applied at 0.6-kg/m^2

AMERICAN BUILDING COMPONENTS R15755

6975 DANVILLE RD, NICHOLASVILLE KY 40356

OTHER SYSTEMS

Class A

Coated steel panels (surfacing) identified as "R" or "PBR", "Ultra-Dek", "Double-Lok", "BattonLok" or "SuperLok", "Vistasheen", "Craftsman Series SB", "Craftsman Series LB", "Craftsman Series HB", "MultiRib", "7.2 Panel", "LokSeam", "S-36", "5V-Crimp", "Royal Lock", "SL-16", "Estate Panel", "Slimeline", "Storm Proof" or "Imperial Rib", "Ameri-Drain" or "Rain Guard", "Regal Rib", "Monarch Rib", "Rugged Rib", "C" or "PBC", "3/4 High Rib" or "Heritage Panel", "Perma-Clad", "Vintage Rib", "1/2 In. Corrugated", "1/4 In. Corrugated", "D" or "PBD", "7/8 Wide Rib" or "Weather Safe" .

1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck® with all joints staggered a min of 6 in. from the plywood joints.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
2. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck®.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
3. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 7/16 OBS or 5/8 in. plywood over polyisocyanurate insulation board or polyisocyanurate composite boad, any thickness.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
4. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Insulation: Polyisocyanurate, glass fiber, perlite or wood fiber, any thickness.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
5. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Insulation: None required, however any UL Classified insulations may be used over open purlin spans. Any combination and any total thickness of insulation may be used.

Roofing Systems (TGFU)–*Continued*

Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
6. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck® with all joints staggered a min of 6 in. from the plywood joints.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.

Class C

Coated steel panels (surfacing) identified as "R" or "PBR", "Ulta-Dek", "Double-Lok", "BattonLok" or "SuperLok", "Vistasheen", "Craftsman Series SB", "Craftsman Series LB", "Craftsman Series HB", "MultiRib", "7.2 Panel", "LokSeam", "S-36", "5V-Crimp", "Estate Panel", "Slimeline", "Storm Proof" or "Imperial Rib", "Ameri-Drain" or "Rain Guard", "Regal Rib", "Monarch Rib", "Rugged Rib", "C" or "PBC", "3/4 High Rib" or "Heritage Panel", "Perma-Clad", "1/2 In. Corrugated", "1/4 In. Corrugated", "D" or "PBD", "7/8 Wide Rib" or "Weather Safe" .

1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Surfacing: Coated Steel roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.

AMERICAN BUILDINGS CO R6025

1150 STATE DOCKS RD, EUFAULA AL 36072

Coated steel identified as "Multi-Rib," "Long Span III," "Standing Seam II," "Loc-Seam," "Loc-Seam 360," "SeamLoc 12," "SeamLoc 16," "Seam-Loc 18," "Standing Seam 360" .

OTHER SYSTEMS

Class A

1. **Deck:** NC **Incline:** Unimitated **Impact:** Class 4
Barrier Board: 1/4 in. min G-P Gypsum DensDeck®.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield."
Surfacing: Coated Steel roofing panels, mechanically fastened.

Class C

1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Surfacing: Coated Steel roofing panels, mechanically fastened.

AMERICAN CONSTRUCTION METALS R25330

1600 PARK AVE, BELOIT WI 53511

OTHER SYSTEMS

Class A

Coated metal panels (surfacing) identified as "KenLOC, StayLOC, MechLOC, 5V Crimp and Perfect Rib".

One or more layers of Elk Corp. "VersaShield Underlayment," mechanically fastened, may be used in lieu of the Barrier Board in all combustible Classifications.

1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck® with all joints staggered a min of 6 in. from the plywood joints.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated steel, aluminum or copper roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
2. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck®.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated steel, aluminum or copper roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
3. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 7/16 OBS or 5/8 in. plywood over polyisocyanurate insulation board or polyisocyanurate composite boad, any thickness.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace "Ice and Water Shield".
Surfacing: Coated steel, aluminum or copper roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.

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Roofing Systems (TGFU)–*Continued*

4. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Insulation: Polyisocyanurate, glass fiber, perlite or wood fiber, any thickness.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace ″Ice and Water Shield″.
Surfacing: Coated steel, aluminum or copper roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
5. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Insulation: None required, however any UL Classified insulations may be used over open purlin spans. Any combination and any total thickness of insulation may be used.
Surfacing: Coated steel, aluminum or copper roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
6. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min. G-P Gypsum DensDeck® with all joints staggered a min of 6 in. from the plywood joints.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace ″Ice and Water Shield″.
Surfacing: Coated steel, aluminum or copper roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.

Class C

Coated metal panels (surfacing) identified as “KenLOC”, “StayLOC”, “MechLOC”, “5V Crimp” and “Perfect Rib”.

1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Surfacing: Coated steel, aluminum or copper roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.

AMERICAN HYDROTECH INC R9098

SUITE 2700 TIME LIFE BLDG 303 E OHIO ST, CHICAGO IL 60611

FLUID APPLIED COATING SYSTEMS

Class A

1. **Deck:** NC **Incline:** 2
Fluid Coating: ‘‘Monolithic Membrane 6125’’ applied as a hot fluid forming a min 1/8 in. thick membrane or 1/4 in. thick totally reinforced membrane when cooled or cold fluid ‘‘Liquid Membrane 6090’’ mixed at 50# base to 1 pt. activator (activator need not be labeled). Applied as a cold fluid forming a min 1/16 in. thick membrane.
Insulation: Dow Chemical ‘‘Styrofoam’’, any thickness, applied loose over one layer ‘‘Hydroflex Protection Sheet’’ (not Classified).
Surfacing: Crushed stone, applied loose at 10 lb/ft sq min over one layer of any of the following 2 oz/sq yd mats (not Classified): Phillips Fibers ‘‘P3B’’, Confil ‘‘D689H’’, or Fabrene ‘‘VIE’’, concrete paver blocks, poured in place, concrete slab or Sytrofoam panels surfaced with 3/8 in. min. concrete mortar butted together.
2. **Deck:** NC **Incline:** 1
Fluid Coating: ‘‘Monolithic Membrane 6125’’ applied as a hot fluid forming a min. 1/8 in. thick or 1/4 in. thick totally reinforced membrane when cooled.
Cap Sheet: ‘‘Hydrocap 160’’ (modified bitumen) embedded in liquid membrane.
3. **Deck:** C-15/32 **Incline:** 2
Fluid Coating: ″Monolithic Membrane 6125″ applied as a hot fluid forming a min 1/4 in. thick totally reinforced Membrane when cooled or cold fluid ″Liquid Membrane 6090″ mixed at 50# base to 1 pt. Activator (activator need not be labeled), applied as a cold fluid forming a min 1/8 in. thick totally reinforced membrane.
Insulation: Dow Chemical Co.’s ″Styrofoam″, any thickness, applied loose over 1 layer ″Hydroflex Protection Sheet″ (not Classified).
Surfacing: Crushed stone, applied loose at 10 lbs/ft sq. min. over any of the following 2 oz/sq yd mats (not Classified): Phillips Fibers ″P3B″, Confil ″D689H″ or Fabrene ″VIE″ concrete paver blocks or poured in place concrete slab.

Class B

1. **Deck:** NC **Incline:** 2-1/4
Fluid Coating: ″Monolithic Membrane 6125″ applied as a hot fluid forming a min. 1/8 in. thick or 1/4 in. thick totally reinforced membrane when cooled.

Roofing Systems (TGFU)–*Continued*

Cap Sheet: ″Hydrocap 160 FR″ (modified bitumen) embedded in liquid membrane.

AMERICAN WEATHERSTAR R25433

SUITE F 2100 GOVERNMENT ST PO BOX 6256, MOBILE AL 36660

FLUID APPLIED COATING SYSTEMS

Class A

1. **Deck:** NC **Incline:** Unlimited
Joint Treatment: All mechanical fasteners and any seams with a gap in excess of 1/16-in. shall be treated with an acrylic or single package urethane caulk. After the caulk has set, a 4 to 12-in. wide, 15 to 20-mil pass of ″Acrylic 211″ coating shall be applied over the center of caulk bead. A 4 to 12-in. wide application of ″Acrylic 211 Fabric″ is then embedded into the wet ″Acrylic 211″ coating.
Base Coat: One application ″Acrylic 211,″ applied at 1-gal/sq.
Reinforcement (Optional): ″Acrylic 211 Fabric,″ embedded into base coat.
Surfacing: Two or three applications ″Acrylic 211,″ applied at a rate of 1-gal/100-ft^2 /application.
2. **Deck:** NC **Incline:** 1-1/2
Joint Treatment: All mechanical fasteners and any seams with a gap in excess of 1/16-in. shall be treated with an acrylic or single package urethane caulk. After the caulk has set, a 4 to 12-in. wide, 15 to 20-mil pass of ″Acrylic 211″ coating shall be applied over the center of each caulk bead. A 4 to 12-in. wide application of ″Acrylic 211 Fabric″ is then embedded into the wet ″Acrylic 211″ coating.
Base Coat: One application ″Acrylic 211,″ applied at 1-gal/100-ft^2
Reinforcement (Optional): ″Acrylic 211 Fabric,″ embedded into wet base coating.
Surfacing: One or two applications ″Acrylic 211,″ applied at 1-gal/100-ft^2 /application.
3. **Deck:** NC **Incline:** 2
Insulation: Johns Manville ″ENRGY II,″ any thickness.
Ply Sheet: One or more plies polyester ply sheets embedded into primer.
Coating: ″ASW Silicone 410″ or ″ASW Silicone 412″ series applied 2 to 3-gal/100-ft^2.

SPRAY APPLIED FOAM AND COATING SYSTEMS

″ASW Silicone 412″ series silicon roof coating may be used in lieu of ″ASW Silicone 410″ series silicone roof coating in any applicable system.

BASF Polyurethane Foam Enterprises LLC ″FE303″ or ″FE348″ or ″Premium 241″ Series (may include have the suffix ″R,″ ″S,″ ″F,″ or ″W″) are acceptable alternates to Coating & Foam Solutions ″RT-2717″ Series

Bayer Material Science, LLC ″SC-200″ or ″SH-200-25/30″ or ″S245-25/30″ or ″Bayseal 2.5″ ″Bayseal 2.7″ or ″Bayseal 3.0″ or ″SW200-25/30″ Series (may include the suffix ″R,″ ″S,″ ″F″ or ″W″) are acceptable alternates to Coating & Foam Solutions ″RT-2717″ Series

Burtin Polymer Laboratories, Inc. ″BPL 1120″ or ″BPL 1445″ Series (may include the suffix ″R,″ ″S,″ ″F,″ or ″W″) are acceptable alternates to Coating & Foam Solutions ″RT-2718″ Series

Class A

1. **Deck:** NC **Incline:** ½
Foam: maximum 2-in. thick spray applied BASF Polyurethane Foam Enterprises LLC ″Elastospray 81272″ or ″Elastospray 81275″ or ″FE348″
Base Coat: ″Acrylic 211″ applied at 1¼ - 1½-gal/100-ft^2
Top Coat: ″Acrylic 211″ applied at 1¼ - 1½-gal/100-ft^2
Surfacing (optional): Broadcast application of No. 11 ceramic coated roofing granules applied at 35 - 40-lbs/100-ft^2
2. **Deck:** NC **Incline:** 1
Foam: maximum 2-in. thick spray applied The Dow Chemical Co. ″Styrofoam SPF RF 3070″ or ″Styrofoam SPF RF 3050″
Base Coat: ″Acrylic 211″ applied at 1¼ - 1½-gal/100-ft^2
Top Coat: ″Acrylic 211″ applied at 1¼ - 1½-gal/100-ft^2
Surfacing (optional): Broadcast application of No. 11 ceramic coated roofing granules applied at 35 - 40-lbs/100-ft^2
3. **Deck:** NC **Incline:** ½
Base Insulation: 4-in. Dow Chemical co. ″Deckmate Plus (xps)″ mechanically fastened
Foam: 1½-in. thick spray applied Dow Chemical Co. ″Styrofoam SPF RF 3070″ or ″Styrofoam SPF RF 3050″
Base Coat: ″Acrylic 211″ applied at 1¼ - 1½-gal/100-ft^2
Top Coat: ″Acrylic 211″ applied at 1¼ - 1½-gal/100-ft^2
Surfacing (optional): Broadcast application of No. 11 ceramic coated roofing granules applied at 35 - 40-lbs/100-ft^2

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Roofing Systems (TGFU)−*Continued*

4. **Deck:** NC **Incline:** 3
Foam: BASF Polyurethane Foam Enterprises LLC ″FE 303″ any thickness.
Base Coat: ″ASW Silicone 410″ or ″ASW Silicone 412″ series applied at 1½-gal/100-ft^2.
Top Coat: ″ASW Silicone 410″ or ″ASW Silicone 412″ series applied at 1½-gal/100-ft^2.
5. **Deck:** NC **Incline:** 1
Foam: Coating & Foam Solutions ″RT-2716,″ 2.5 to 3.0-lb/ft3-lb/ft3, 1½- to 2-in. thick.
Surfacing: ″ASW Silicone 410″ or ″ASW Silicone 412″ series applied at 2¼-gal/100-ft^2.
6. **Deck:** NC **Incline:** 3/4
Foam: Coating & Foam Solutions ″RT-2717,″ 2.5 to 3.0-lb/ft3 -lb/ft3, 1½- to 2-in. thick.
Surfacing: ″ASW Silicone 410″ or ″ASW Silicone 412″ series applied at 2¼-gal/100-ft^2.
7. **Deck:** NC **Incline:** 1
Foam: Coating & Foam Solutions ″RT-2718″ any thickness.
Base Coat: ″ASW Silicone 410″ silicone roof coating applied at 1½-gal/100-ft^2.
Top Coat: ″ASW Silicone 410″ silicone roof coating applied at 1½-gal/100-ft^2.
8. **Deck:** NC **Incline:** 3
Foam: Coating & Foam Solutions ″RT-2718″ any thickness.
Base Coat: ″ASW Silicone 410″ silicone roof coating applied at 1½-gal/100-ft^2.
Top Coat: ″ASW Silicone 410″ silicone roof coating applied at 1½-gal/100-ft^2.
Surfacing: Broadcast application of No. 11 ceramic coated roof granules applied at 30-lb/100-ft^2.

Class B

1. **Deck:** C-15/32 **Incline:** 1/2
Foam: Coating & Foam Solutions ″RT-2716″ 1½-in. minimum.
Base Coat: ″ASW Silicone 410″ or ″ASW Silicone 412″ series applied at 1½-gal/100-ft^2.
Top Coat: ″ASW Silicone 410″ or ″ASW Silicone 412″ series applied at 1½-gal/100-ft^2.
Surfacing: No. 11 roofing granules embedded into wet coating applied at 30-lb/100-ft^2.
2. **Deck:** C-15/32 **Incline:** 1/4
Foam: Coating & Foam Solutions ″RT-2717,″ 2.5 to 3.0-lb/ft3, 2-in.
Base Coat: ″ASW Silicone 410″ or ″ASW Silicone 412″ series applied at ¾ to 1-gal/100-ft^2.
Top Coat: ″ASW Silicone 410″ or ″ASW Silicone 412″ series applied at ¾ to 1-gal/100-ft^2.
Surfacing: No. 11 roofing granules embedded into wet coating applied at 25-lb/100-ft^2.

MAINTENANCE AND REPAIR SYSTEMS

Class A, B or C

1. **Deck:** C-15/32 **Incline:** 1-1/2
Existing Roof System: Class A, B, or C insulated or uninsulated smooth surface BUR to maintain existing rating.
Joint Treatment (Optional): All mechanical fasteners and any vertical seams with a gap in excess of 1/16-in. shall be treated with an acrylic or single package urethane caulk. After the caulk has set, a 4 to 12-in. wide, 15 to 20-mil pass of ″Acrylic 211″ shall be applied over the center of each caulk bead. A 4 to 12-in. wide application of ″Acrylic 211 Fabric″ is then embedded into the wet ″Acrylic 211″.
Base Coat: One application ″Acrylic 211,″ applied at 1-gal/100-ft^2.
Reinforcement (Optional): One ply ″Acrylic 211 Fabric,″ embedded into wet base coating.
Surfacing: One or two applications ″Acrylic 211,″ applied at 1-gal/100-ft^2 /application.
2. **Deck:** NC **Incline:** 2-1/2
Existing Roof System: Class A, B, or C insulated or uninsulated smooth surface BUR (excludes modified bitumen) to maintain existing rating.
Joint Treatment (Optional): All mechanical fasteners and any vertical seams with a gap in excess of 1/16-in. shall be treated with an acrylic or single package urethane caulk. After the caulk has set, a 4 to 12-in. wide, 15 to 20-mil pass of ″Acrylic 211″ coating shall be applied over the center of each caulk bead. A 4 to 12-in. wide application of ″Acrylic 211 Fabric″ is then embedded into the wet ″Acrylic 211″ coating.
Base Coat: One application ″Acrylic 211,″ applied at 1-gal/100-ft^2.
Intermediate Coat: One application ″Acrylic 211,″ applied at 1-gal/100-ft^2 followed by one ply of ″Acrylic 211 Fabric,″ embedded into the wet ″Acrylic 211″ coating.
Surfacing: Two applications ″ Acrylic 211,″ applied at 1-gal/100-ft^2 /application.
3. **Deck:** NC **Incline:** ½
Existing Roof System: Class A, B or C insulated or uninsulated smooth surface or mineral surfaced BUR or APP or SBS modified bitumen membrane to maintain existing Class A, B or C Classification covered with:
Base Coat: ″Acrylic 211″ applied at 1¼ - 1½-gal/100-ft^2
Top Coat: ″Acrylic 211″ applied at 1¼ - 1½-gal/100-ft^2
Surfacing (optional): Broadcast application of No. 11 ceramic coated roofing granules applied at 35 - 40-lbs/100-ft^2
4. **Deck:** NC **Incline:** 2
Existing Roof System: Class A, B or C insulated or uninsulated mechanically fastened or fully adhered EPDM to maintain existing Class A, B or C Classification covered with:
Base Coat: ″Acrylic 211″ applied at 1¼ - 1½-gal/100-ft^2
Top Coat: ″Acrylic 211″ applied at 1¼ - 1½-gal/100-ft^2
Surfacing (optional): Broadcast application of No. 11 ceramic coated roofing granules applied at 35 - 40-lbs/100-ft^2
5. **Deck:** C-15/32 **Incline:** See Note 1
Existing Roof System: Any UL Classified existing single-ply membrane system, to retain existing Classification, covered with:
Surfacing: ″ASW Silicone 410″ or ″ASW Silicone 412″ series applied at 1½-gal/100-ft^2
Note 1: Classification (A, B or C) and maximum incline will be the same as that of the Classified Roofing System (TGFU).
6. **Deck:** C-15/32 **Incline:** ½
Existing Roof System: Any UL Classified existing single-ply membrane system, to retain existing Classification, covered with:
Surfacing: ″ASW Silicone 410″ or ″ASW Silicone 412″ series applied at 1½-gal/100-ft^2.

SINGLE PLY MEMBRANE SYSTEMS

Class A

1. **Deck:** NC **Incline:** 3
Insulation: Dyplast Products LLC ″Pyrox White Line,″ glass fiber, perlite or wood fiber, any thickness.
Membrane: Any UL Classified PVC, mechanically fastened.
Surfacing: ″ASW Silicone 410″ series applied 1½-gal/100-ft^2.
2. **Deck:** NC **Incline:** 1/2
Insulation: Dyplast Products LLC ″Pyrox White Line,″ glass fiber, perlite or wood fiber, any thickness.
Membrane: Any UL Classified hypalon, mechanically fastened.
Surfacing: ″ASW Silicone 410″ or ″ASW Silicone 412″ series applied at 1½-gal/100-ft^2.
3. **Deck:** NC **Incline:** 2-1/2
Insulation: Dow ″Hy-Tec″ any thickness.
Membrane: Any UL Classified PVC, mechanically fastened.
Surfacing: ″ASW Silicone 410″ series applied at 1½-gal/100-ft^2.
4. **Deck:** NC **Incline:** ¼
Insulation: Dow ″Hy-Tec″ any thickness.
Membrane: Any UL Classified hypalon, mechanically fastened.
Surfacing: ″ASW Silicone 410″ or ″ASW Silicone 412″ series applied at 1½-gal/100-ft^2.

ANDEK CORP **R12202**

850 GLEN AVE PO BOX 392, MOORESTOWN NJ 08057

SPRAY APPLIED FOAM AND COATING SYSTEMS

Class A

1. **Deck:** NC **Incline:** 1
Foam: North Carolina Foam ″#584,″ 1-2 in. thick.
Coating: ″Polaroof RAC″, 2 gal/sq.

Class B

1. **Deck:** NC **Incline:** 2-1/2
Foam: North Carolina Foam ″#584,″ 1-2 in. thick.
Coating: ″Polaroof RAC″, 2 gal/sq.

FLUID APPLIED COATING SYSTEM

Class A

1. **Deck:** NC **Incline:**
Primer (optional, not UL Classified): ″Polaprime″ or ″Polaprime 2″ at 300sq ft/gal.

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Roofing Systems (TGFU)–*Continued*

Base Coat: "Polaroof AC" applied at 1 ½ gal/sq
Top Coat: "Polaroof AC" applied at 1 ½ gal/sq

APOC, SUB OF GARDNER ASPHALT CORP **R11333**
PO BOX 5449, TAMPA FL 33675

ASPHALT FELT SYSTEMS WITH HOT ROOFING ASPHALT

Class A

1. **Deck:** C-15/32 **Incline:** 3
Insulation (Optional): Min 3/4 in. thick UL Classified perlite, polyisocyanurate or glass fiberboard roof insulation. UL Classified wood fiber insulation is suitable only for systems installed over noncombustible decks.
Base Sheet: "APOC 26 Tuff-Felt".
Ply Sheet: Two or more layers "APOC 46 Tuff-Felt".
Surfacing: Gravel or slag.

COLD APPLICATION SYSTEMS

Base sheets are mechanically fastened to combustible decks unless otherwise indicated. Ply sheets are set in "APOC Fibrex Col-Ply Adhesive" at 1-1/2 gal/sq.

"APOC 400 Sunbrite" may be used in lieu of "APOC 211 Aluminum Roof Paint", "APOC 212 Aluminum Fibre Roof Coating" or "APOC 208 AF Economy Aluminum Fibre Roof Coating" in any of the following Classifications. The application rate is 1-2 gal/sq.

Class A

1. **Deck:** NC **Incline:** 2
Protective Coating: "APOC 300 Plain Emulsion" 10 gal/sq with 3.3 lbs glass fiber or 8 gal/sq with 2.6 lbs glass fiber or 3 gal/sq with 3 lbs glass fiber. "APOC 300 Plain Emulsion" and glass fiber are sprayed simultaneously from a special gun.
Surfacing: (Optional) "APOC 212 Aluminum Fibre Roof Coating", "APOC 400 AF Sunbrite", 1-1/2 gal/sq or "APOC 211 Aluminum Roof Paint", 1 gal/sq.
2. **Deck:** C-15/32 **Incline:** 1
Vapor Retarder (Optional): Type G2 glass base, Type G3 invented or UL Classified vapor retarder.
Insulation (Optional): One or more layers or combination of the following: Manville's "ISO 1", polyisocyanurate, perlite, glass fiber or wood fiber.
Base Sheet: One layer Type G2 or Type G3 inverted.
Ply Sheets: Three layers Type G1 or Type G2.
Protective Coating: Min 3 gals/sq of "APOC 302 AF Fibrated Emulsion" or "APOC 300 Plain Emulsion", 9 gal/sq with 3 lbs chopped glass fiber. Emulsion and glass fiber are sprayed simultaneously from a special gun.
Surfacing: "APOC 212 Aluminum Fibre Roof Coating", 1-1/2 gal/sq "APOC 400 Sunbrite", 1gal/sq or "APOC 252 White Elastomeric Roof Coating", 1-1/2 gal/sq.
3. **Deck:** NC **Incline:** 2
Insulation (Optional): Perlite, wood fiber, glass fiber or polyisocyanurate, any thickness, mechanically fastened.
Base Sheet: One ply Type G2, mechanically fastened.
Ply Sheet: Two plies polyester fabric embedded in "Apoc 300 Plain Emulsion", 4 gal/sq.
Intermediate Coating: "Apoc 300 Plain Emulsion", 4 gal/sq.
Top Coating: "Apoc 400 AF Sunbrite", 1 gal/sq.
4. **Deck:** C-15/32 **Incline:** 3
Insulation (Optional): Perlite, wod fiber, glass fiber or polyisocyanurate, any thickness.
Base Sheet: One ply Type G2, mechanically fastened, adhered with "Apoc Fibrex Col-Ply Adhesive" at 2-1/2 to 3 gal/sq or hot mopped.
Ply Sheets: Two or more layers Type G2 base sheet adhered with "Apoc Fibrex Col-Ply Adhesive" at 2-1/2 to 3 gal/s or hot mopped.
Coating: "Apoc 300 Plain Emulsion" at 9 gal/sq with 3 lbs chopped glass fiber. Emulsion and glass fiber are simultaneously sprayed from a special gun.
Surfacing: "Apoc 400 AF Sunbrite", 1 gal/sq.
5. **Deck:** NC **Incline:** 3
Coating: 2 coats "Apoc 252 White Elastomeric", 1-1/3 gal/sq/coat.
6. **Deck:** NC **Incline:** 3/4
Insulation (Optional): Any thickness, one or more layers UL Classified perlite, wood fiber, glass fiber, polyisocyanurate, polyisocyanurate/composite or PAROC roof insulation.
Base Sheet (Optional): Any Type G1 or G2 product.
Ply Sheet: One or more layers Type G1 or G2 product.
Coating and Surfacing Options:

Roofing Systems (TGFU)–*Continued*

A. **Coating:** "APOC 300 Plain Emulsion, "APOC 337 Modified Emulsion"" or "Fields F750 RainGard", 2.5 or more gal/sq; "Fields F880 SunGard" 1-2 gal/sq.
Surfacing: "Fields F880 SunGard", 1-2 gal/sq.
B. **Coating:** "Fields F880 SunGard", 1-2 gal/sq.
C. **Coating:** "APOC 300 Plain Emulsion", "APOC 337 Modified Emulsion" or "Fields F750 RainGard", 2.5 or more gal/sq.
Surfacing: No. 11 roofing granules at 50 lbs/sq.

COMBINATION HOT AND COLD SYSTEMS

"APOC 400 Sunbrite" may be used in lieu of "APOC 211 Aluminum Roof Paint", "APOC 212 Aluminum Fibre Roof Coating" or "APOC 208 AF Economy Aluminum Fibre Roof Coating" in any of the following Classifications. The application rate is 1-2 gal/sq.

Class A

1. **Deck:** NC **Incline:** 1/2
Base sheet: Type G1 or G2, nailed or sprinkle mopped.
Ply sheet: Two or more layers Type G1 or G2, applied with hot roofing asphalt.
Surfacing: "APOC 400 Sunbrite", 1 to 1-1/3 gal/sq.
2. **Deck:** NC **Incline:** 1
Ply Sheet: Three plies OCF "Perma-Ply IV", "Perma-Ply R" or "Perma Ply No. 28", applied with hot roofing asphalt.
Surfacing: "APOC 302 Fibrated Emulsion", 3 gal/sq.
3. **Deck:** NC **Incline:** 1
Insulation (Optional): Polyisocyanurate, wood fiber, glass fiber, perlite, any thickness.
Base sheet: One ply Type G1, mechanically fastened or hot mopped.
Ply sheet: Two or more plies Type G1, hot mopped.
Surfacing: "APOC 400 AF Sunbrite", 2 gal/sq.
4. **Deck:** C-15/32 **Incline:** 1
Vapor Barrier (Optional): One ply Type G2, mechanically fastened or hot mopped.
Insulation (Optional): P Glass fiber, polyisocyanurate, wood fiber, perlite, any thickness.
Base sheet: One ply Type G2, mechanically fastened or hot mopped.
Ply sheet: Two or more plies Type G1, hot mopped.
Coating: "APOC 300 Plain Emulsion", 9 gal/sq, min, 3 lb glass fiber reinforcement.
Surfacing (Optional): Any of the following: "APOC 400 AF Sunbrite", 1-1/2 gal/sq, "APOC 212 AF Aluminum Fibre Roof Coating", 1-1/2 gal/sq or "APOC 211 Aluminum Roof Paint", 1 gal/sq.
5. **Deck:** NC **Incline:** 1
Insulation (Optional): Polyisocyanurate, glass fiber, wood fiber, perlite, any thickness.
Base Sheet: One ply Type G-1, mechanically fastened or hot mopped.
Ply Sheet: Two or more plies Type G-1, hot mopped.
Surfacing: "APOC 302 AF Fibrated Emulsion", 3 gal/sq.
6. **Deck:** NC **Incline:** 1
Insulation (Optional): Glass fiber, polyisocyanurate, wood fiber, perlite, any thickness.
Base Sheet: One ply Type G-1, mechanically fastened or hot mopped.
Ply Sheet: Two or more plies Type G-1, hot mopped.
Coating: "APOC 302 Fibrated Emulsion", 3 gal/sq.
Surfacing: "APOC 212 AF Aluminum Fibre Roof Coating", 1-1/2 gal/sq.
7. **Deck:** NC **Incline:** 1/2
Insulation (Optional): Glass fiber, polyisocyanurate, wood fiber, perlite, any thickness.
Base Sheet: One ply Type G-1, mechanically fastened or hot mopped.
Ply Sheet: Two or more plies Type G-1, hot mopped.
Surfacing: "APOC 212 AF Aluminum Fibre Roof Coating", 2 gal/sq.
8. **Deck:** NC **Incline:** 1
Insulation (Optional): Polyisocyanurate, glass fiber, wood fiber, perlite, any thickness.
Base Sheet: One ply Type G-1, mechanically fastened or hot mopped.
Ply Sheet: Two or more plies Type G-1, hot mopped.
Surfacing: "APOC 302 AF Fibrated Emulsion", 3 gal/sq.
9. **Deck:** NC **Incline:** 1
Insulation (Optional): Glass fiber, polyisocyanurate, wood fiber, perlite, any thickness.
Base Sheet: One ply Type G-1, mechanically fastened or hot mopped.
Ply Sheet: Two or more plies Type G-1, hot mopped.
Coating: "APOC 302 Fibrated Emulsion", 3 gal/sq.
Surfacing: "APOC 208 AF Economy Aluminum Fibre Roof Coating", 1-1/2 gal/sq.

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Roofing Systems (TGFU)−*Continued*

10. **Deck:** NC **Incline:** 1/2
Insulation (Optional): Glass fiber, polyisocyanurate, wood fiber, perlite, any thickness.
Base Sheet: One ply Type G-1, mechanically fastened or hot mopped.
Ply Sheet: Two or more plies Type G-1, hot mopped.
Surfacing: "APOC 208 AF Economy Aluminum Fibre Roof Coating", 2 gal/sq.
11. **Deck:** NC **Incline:** 1/2
Insulation (Optional): Any thickness, one or more layers UL Classified perlite, wood fiber, glass fiber, polyisocyanurate, polyisocyanurate/composite, EPS/wood fiber, EPS/perlite, EPS/composite or PAROC roof insulation.
Base Sheet (Optional): Any Type G1 or G2 product.
Ply Sheet: One or more layers Type G1 or G2 product.
Coating and Surfacing Options:
A. **Flood-Coat (Optional):** Hot roofing asphalt covered with one of the following surfacings:
Surfacing: ″Fields F500 SunShield2 or F550 SunShield″, ″Fields F640 SolrShield2, Fields F650 SolrShield″, ″APOC 300 Plain Emulsion, "APOC 337 Modified Emulsion″, "Fields F750 RainGard″, ″Fields F880 SunGard, ″Fields M860 PolrBrite″or ″Fields M850 PolrShield″, 1-2 gal/sq.
B. **Coating:** ″Fields F110 PowrLap″ or ″Fields F350 Cold Ply Adhesive″, 2.5 or more gal/sq.
Surfacing: ″Fields F540 SunShield2 or F550 SunShield″ or ″Fields F640 SolrShield2, or F650 SolrShield″, 1-2 gal/sq; Fields ″F880 SunGard″, ″Fields M860 PolrBrite″ or ″Fields M850 PolrShield″, 1-2 gal.
C. **Coating:** ″Fields M860 PolrBrite″ or ″Fields M850 PolrShield″, 2-3 gal/sq.
D. **Coating:** ″APOC 300 Plain Emulsion, "APOC 337 Modified Emulsion"″ or ″Fields F750 RainGard″, 2.5 or more gal/sq with or without chopped roving glass, 1 or more lb/sq.
Surfacing (Optional): ″Fields F540 SunShield2 or F550 SunShield″, ″Fields F640 SolrShield2, F650 SolrShield″, ″Fields F880 SunGard″, ″Fields M860 PolrBrite″ or ″Fields M850 PolrShield″, 1-2 gal/sq.
12. **Deck:** NC **Incline:** 3/4
Insulation (Optional): Any thickness, one or more layers UL Classified perlite, wood fiber, glass fiber, polyisocyanurate, polyisocyanurate/composite, EPS/wood fiber, EPS/perlite, EPS/composite or PAROC roof insulation.
Base Sheet (Optional): Any Type G1 or G2 product.
Ply Sheet: One or more layers Type G1 or G2 product.
Coating and Surfacing Options: —
A. **Coating:** ″APOC 300 Plain Emulsion, "APOC 337 Modified Emulsion"″ or ″Fields F750 RainGard″, 2.5 or more gal/sq.
Surfacing: ″Fields F880 SunGard″, 1-2 gal/sq.
B. **Coating:** ″APOC 300 Plain Emulsion", "APOC 337 Modified Emulsion″ or ″Fields F750 RainGard″, 2.5 or more gal/sq.
Surfacing (Optional): No. 11 roofing granules at 50 lbs/sq or more.
13. **Deck:** NC **Incline:** 1/2
Insulation (Optional): Any thickness, one or more layers UL Classified perlite, wood fiber, glass fiber, polyisocyanurate, polyisocyanurate/composite, EPS/wood fiber, EPS/perlite, EPS/composite or PAROC roof insulation.
Ply Sheet: One or more layers Type G1 or G2 product.
Coating and Surfacing Options:
A. **Flood-Coat (Optional):** Hot roofing asphalt covered with one of the following surfacings:
Surfacing: ″Fields F540 SunShield2 or F550 SunShield″, ″Fields F640 SolrShield2, F630 SolrShield3 or F650 SolrShield″, 1-2/gal/sq, ″Fields M860 PolrBrite″ or ″Fields M850 PolrShield″, 1 or more gal/sq.
B. **Coating:** ″Fields F100 PowrCoat″, ″Fields M100 RubrCoat Fibered Roof Coating″, ″Fields F110 PowrLap″ or ″Fields M150 RubrSeal″, 2.5 or more gal/sq.
Surfacing: ″Fields F540 SunShield2 or F550 SunShield″, ″Fields F640 SolrShield2 or F650 SolrShield″, 1-2 gal/sq. ″Fields M800 RubrStar″, ″Fields F880 SunGard″, ″Fields M860 PolrBrite″ or ″Fields M850 PolrShield″, 1-2 gal.
C. **Coating:** ″Fields F100 PowrCoat″, ″Fields M100 RubrCoat Fibered Roof Coating″, ″Fields F110 PowrLap″ or ″Fields M150 RubrSeal″, 2.5 or more gal/sq.
Surfacing: Aluminum Flakes at 3 lbs/sq or No. 11 granules at 50 lbs/sq.
D. **Coating:** ″APOC 300 Plain Emulsion", "APOC 337 Modified Emulsion" or ″Fields F750 RainGard″, 2.5 or more gal/sq.
Surfacing: Aluminum flakes at 3 or more lbs/sq.

Roofing Systems (TGFU)−*Continued*

Class B

1. **Deck:** C-15/32 **Incline:** 1/2
Base sheet: Johns Manville "Perma-Ply-IV", "Perma-Ply R" or "Perma-Ply No. 28", nailed or sprinkle mopped.
Ply sheet: Two or more layers Johns Manville "Perma-Ply IV", "Perma-Ply R" or "Perma-Ply No. 28", applied with hot roofing asphalt.
Surfacing: "APOC 400 Sunbrite", 1 to 1-1/3 gal/sq.
2. **Deck:** C-15/32 **Incline:** 1
Insulation (Optional): Polyisocyanurate, wood fiber, glass fiber, perlite, any thickness.
Base Sheet: One ply Type G2, mechanically fastened or hot mopped.
Ply Sheet: Two or more plies Type G1, hot mopped.
Surfacing: "APOC 400 AF Sunbrite", 2 gal/sq.
3. **Deck:** C-15/32 **Incline:** 1
Base Sheet: One ply Type G-2, mechanically fastened or hot mopped.
Ply Sheet: Two or more plies Type G-1, hot mopped.
Surfacing: "APOC 302 Fibrated Emulsion", 3 gal/sq.
4. **Deck:** C-15/32 **Incline:** 1
Base Sheet: One ply Type G-2, mechanically fastened or hot mopped.
Ply Sheet: Two or more plies Type G-1, hot mopped.
Coating: "APOC 302 Fibrated Emulsion", 3 gal/sq.
Surfacing: "APOC 212 AF Aluminum Fibre Roof Coating", 2 gal/sq.

MAINTENANCE AND REPAIR SYSTEMS

Class A

1. **Deck:** C-15/32 **Incline:** 3/4
Existing Roof System: Class A, B or C (gravel may be removed) covered with:
Vapor Retarder (Optional): One ply Type G2, mechanically fastened or hot mopped.
Insulation (Optional): Polyisocyanurate, glass fiber, wood fiber, perlite, any thickness.
Base Sheet: One ply Type G2, mechanically fastened or hot mopped.
Membrane: GS Roofing Products' "Flintlastic GTA or GTS", heat fused or "Flintglas GMS" (modified bitumen), hot mopped.
Surfacing: "APOC 212 AF Aluminum Fibre Roof Coating", 1-1/2 gal/sq.
2. **Deck:** NC **Incline:** 1
Existing Roof System: Class A, B or C (gravel may be removed) covered with:
Vapor Retarder (Optional): One ply Type G2, mechanically fastened or hot mopped.
Insulation (Optional): Polyisocyanurate, glass fiber, wood fiber, perlite, any thickness.
Base Sheet: One ply Type G2, mechanically fastened or hot mopped.
Membrane: GS Roofing Products' "Flintlastic GTA or GTS", heat fused or "Flintglas GMS" (modified bitumen), hot mopped.
Surfacing: "APOC 212 AF Aluminum Fibre Roof Coating", 1-1/2 gal/sq.
3. **Deck:** NC **Incline:** 1/2
Existing Roof System: Class A or B covered with:
Insulation (Optional): Any thickness, one or more layers UL Classified perlite, wood fiber, glass fiber, polyisocyanurate, polyisocyanurate/composite, or PAROC roof insulation.
Base Sheet (Optional): Any Type G2 product.
Ply Sheet (Optional): One or more layers Type G1 or G2 product.
Polyester: One or more layers polyester (Max weight 3 oz/sq yd) (Not UL Classified), applied in ″Fields F100 PowrCoat″, ″Fields F110 PowrLap″, ″APOC 337 Modified Emulsion″, ″APOC 300 Plain Emulsion″ or ″Fields F750 RainGard″, 2.5-3.5 gal/sq.
Coating and Surfacing Options: —
Note: — The following systems A through C are options only when ″Fields F100 PowrCoat″ or ″Fields F110 PowrLap″ is used to adhere the base, ply and/or Polyester.
A. **Coating:** ″Fields F100 PowrCoat″ or ″Fields F110 PowrLap ″, 2.5 or more gal/sq.
Surfacing: ″Fields F540 SunShield2 or F550 SunShield″ or ″Fields F640 SolrShield2 or F650 SolrShield″, 1-2 gal/sq.
B. **Coating:** ″Fields F100 PowrCoat″ or ″Fields F110 PowrLap ″, 2.5 or more gal/sq.
Surfacing: —″Fields F880 SunGard″, 1-2 gal/sq.
C. **Coating:** ″Fields F100 PowrCoat″ or ″Fields F110 PowrLap″, 2.5 or more gal/sq.
Surfacing: ″Fields M860 PolrBrite″ or ″Fields M850 PolrShield″, 1-2 gal/sq.

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Roofing Systems (TGFU)−*Continued*

Note: — The following systems D through F are options only when ″APOC 337 Modified Emulsion″, ″APOC 300 Plain Emulsion″ or ″Fields F750 RainGard″ are used to adhere the Polyester.

D. **Coating:** ″APOC 337 Modified Emulsion″, 2.5 or more gal/sq.
Surfacing (Optional): ″Fields F540 SunShield 2 or F550 SunShield″, ″Fields F640 SolrSheild2 or F650 SolrShield″, ″Fields M800 RubrStar″, ″Fields F880 SunGard″, ″Fields M860 PolrBrite″ or ″Fields M850 PolrShield″, 1-2 gal/sq or No. 11 roofing granules at 50 or more lbs/sq or aluminum flakes at 3 or more lbs/sq.

E. **Coating:** ″APOC 300 Plain Emulsion″, ″APOC 337 Modified Emulsion″, ″Fields F750 RainGard″, or ″Fields F880 SunGard″, 2.5 or more gal/sq.

F. **Coating:** ″APOC 300 Plain Emulsion″, ″APOC 337 Modified Emulsion″ or ″Fields F750 RainGard″, 3 or more gal/sq with or without chopped roving glass, 1 lb. or more/sq.
Surfacing (Optional): ″Fields F540 SunShield2 or F550 SunShield″, ″Fields F640 SolrShield2 or F650 SolrShield″, ″Fields M800 RubrStar″, ″Fields F880 SunGard″, ″Fields M860 PolrBrite″ or ″Fields M850 PolrShield″, 1-2 gal/sq.

Class B

1. **Deck:** C-15/32 **Incline:** 1/2
Existing Roof System: Class A or B covered with: —
Insulation (Optional): Any thickness, one or more layers UL Classified perlite, glass fiber, polyisocyanurate, polyisocyanurate/composite or PAROC roof insulation.
Base Sheet (Optional): Any Type G2 product, hot mopped.
Ply Sheet (Optional): One or more layers Type G1 or G2 product, hot mopped.
Polyester: One or more layers APCO (max weight 5.4 oz/sq yd) (Not UL Classified) applied in hot roofing asphalt, 25 lbs/sq.

A. **Flood-Coat:** Hot roofing asphalt covered with one of the following surfacings:
Surfacing: ″Fields F540 SunShield 2 or F550 SunShield″, ″Fields F640 SolrShield2 or F650 SolrShield″, ″APOC 300 Plain Emulsion, “APOC 337 Modified Emulsion”″, ″Fields F750 RainGard″, ″Fields F880 SunGard″, ″Fields M860 PolrBrite″ or ″Fields M850 PolrShield″, 1-2 gal/sq or ″APOC 300 Plain Emulsion”, “APOC 337 Modified Emulsion″ or ″Fields F750 RainGard″, 2.5 or more gal/sq with optional surfacing of No. 11 roofing granules, 50 or more lb/sq.

B. **Coating:** ″Fields F100 PowrCoat″ or ″Fields F110 PowrLap″, 2.5 or more gal/sq.
Surfacing: No. 11 roofing granules, 50 or more lb/sq or aluminum flakes at 3 lbs/sq.

Class A, B and C

1. **Deck:** C-15/32 **Incline:** 1/2
Existing Roof System: (To maintain existing Classifications) - Any Class A, B or C, uncoated, insulated or uninsulated, Type G3 mineral surfaced cap or modified bitumen membrane BUR systems.
Surfacing: ″APOC 252 Sunwhite FR″, “APOC 252 FR Tan” or “APOC 252 FR Gray”, 2 coats at 1.5 gal/sq per coat.
2. **Deck:** C-15/32 **Incline:** 1/4
Existing Roof System: (To maintain existing Classifications) - Any Class A, B or C, uncoated, insulated or uninsulated, Type G3 mineral surfaced cap or modified bitumen membrane BUR systems.
Surfacing: 120 lbs granules or 400 lbs gravel per square, adhered with “APOC 525 Armor-Flex” and “APOC 525 Armor-Flex CTF” at a rate of 5 gal/sq.
3. **Deck:** C-15/32 **Incline:** 1/4
Existing Roof System: (To maintain existing Classifications) - Any Class A, B or C, uncoated, insulated or uninsulated, Type G3 mineral surfaced cap or modified bitumen membrane BUR systems.
Surfacing: 400 lbs gravel per square, adhered with “APOC 525 Armor-Flex” and “APOC 525 Armor-Flex CTF” at a rate of 10 gal/sq.

SINGLE PLY MEMBRANE SYSTEMS

Class A

1. **Deck:** NC **Incline:** 1/2
Insulation (Optional): Polyisocyanurate, phenolic, glass fiber, wood fiber, perlite, any thickness.
Base Sheet: One ply Type G2, mechanically fastened.
Membrane: Celotex’s “SBS Mineral Surface Cap Sheet-Mop Grade” (modified bitumen), hot mopped.
Surfacing: “APOC 400 AF Sunbrite or ” APOC 212 AF Aluminum Fibre Roof Coating″, 2 gal/sq.
2. **Deck:** NC **Incline:** 1
Insulation (Optional): Polyisocyanurate, glass fiber, wood fiber, perlite, any thickness.

ROOF-COVERING MATERIALS (TEVT)

Roofing Systems (TGFU)−*Continued*

Base Sheet: One ply Type G2, mechanically fastened.
Membrane: CertainTeed “Flintlastic GTA or GTS”, heat fused or “Flintglas GMS” (modified bitumen), hot mopped.
Surfacing: “APOC 212 AF Aluminum Fibre Roof Coating”, 1-1/2 gal/sq.
3. **Deck:** C-15/32 **Incline:** 1/4
Insulation (Optional): Polyisocyanurate, glass fiber, wood fiber, perlite, any thickness.
Base Sheet: One ply Type G2, mechanically fastened or hot mopped.
Membrane: CertainTeed “Flintlastic GTA or GTS”, heat fused or “Flintglas GMS” (modified bitumen), hot mopped.
Surfacing: “APOC 212 AF Aluminum Fibre Roof Coating”, 1-1/2 gal/sq.
4. **Deck:** NC **Incline:** 1/2
Insulation (Optional): Polyisocyanurate, glass fiber, wood fiber, perlite, any thickness.
Base Sheet: One ply Type G2, mechanically fastened or hot mopped.
Membrane: Celotex’s “APP Smooth Surface Cap Sheet-Torch Grade”, heat fused.
Surfacing: “APOC 302 AF Fibrated Emulsion”, 3 gal/sq.
5. **Deck:** NC **Incline:** 1
Barrier Board: 1/2 in. gypsum.
Ply Sheet: Owens-Corning Fiberglas’ “Perma-Ply IV”, “Perma-Ply R” or “Perma-Ply No. 28”, mechanically fastened.
Membrane: Owens-Corning Fiberglas’ “Derbigum SP or HPS”, torched.
Surfacing: “APOC 302 Fibrated Emulsion”, 3 gal/sq.
6. **Deck:** NC **Incline:** 1/2
Base Sheet (Optional): Type G2.
Membrane: Nord Bitumi’s “Nord Poly NP-5B”, “4B”, “4M”, “EM-4000”, “Nord 200”, “Nordflex S”, “Nordflex Ultra S”, “Nordflex 170” or “Nordflex Ultra M” (modified bitumen), heat fused or hot mopped.
Surfacing: “APOC 212 Aluminum Fibre Roof Coating”, 3 gal/sq.
7. **Deck:** NC **Incline:** 1
Vapor Retarder (Optional): Type G2 base sheet or UL Classified vapor retarder.
Insulation (Optional): One or more layers or combination of the following: Polyisocyanurate, perlite, glass fiber or wood fiber insulation.
Base Sheet: One layer CertainTeed Type G2 “Glasbase” base sheet.
Membrane: One layer CertainTeed “Flintlastic GTA, GTS” (modified bitumen), heat fused or “Flintlastic GMS”, hot mopped.
Surfacing: “APOC 212 Aluminum Fibre Roof Coating”, 1-1/2 gal/sq.

Class B

1. **Deck:** C-15/32 **Incline:** 1/2
Barrier Board: 1/2 in. Gypsum
Ply Sheet: Owens-Corning Fiberglas’ “Perma-Ply IV”, “Perma-Ply R” or “Perma Ply No. 28”, mechanically fastened.
Membrane: Owens-Corning Fiberglas’ “Derbigum SP or HPS”, torched.
Surfacing: “Fibered Emulsion Roof Coating”, 3 gal/sq.

ARCHITECTURAL BUILDING COMPONENTS INC **R14421**
11625 N HOUSTON ROSSLYN, HOUSTON TX 77086

OTHER SYSTEMS

Class A

Coated steel panels (surfacing) identified as ″Permaseam Panel″, ″SL Low Panel″, ″JSM 200″, ″Instaloc″, ″SERIES 300″ and “238T Roof Panel”
Copper panels (surfacing) identified as ″JSM 200″.

1. **Deck:** C-15/32 **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min G-P Gypsum DensDeck® with all joints staggered a min of 6 in. from the plywood joints.
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace ″Ice and Water Shield″.
Surfacing: Coated Steel or Copper roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
2. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4
Barrier Board: 1/4 in. min G-P Gypsum DensDeck®
Ply Sheet (Optional): Any UL Classified Type G1, G2 or G3 base/ply sheet, Type 15, 20 or 30 felt or UL Classified prepared roofing accessory or WR Grace ″Ice and Water Shield″.
Surfacing: Coated Steel or Copper roofing panels, mechanically fastened or with steel screws when roof deck fasteners (panel clips) not required.
3. **Deck:** NC **Incline:** Unlimited **Impact:** Class 4

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