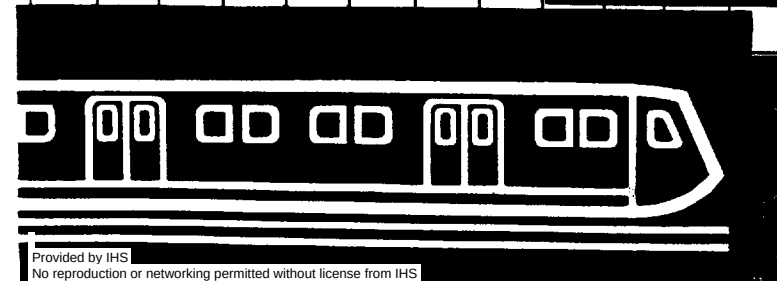
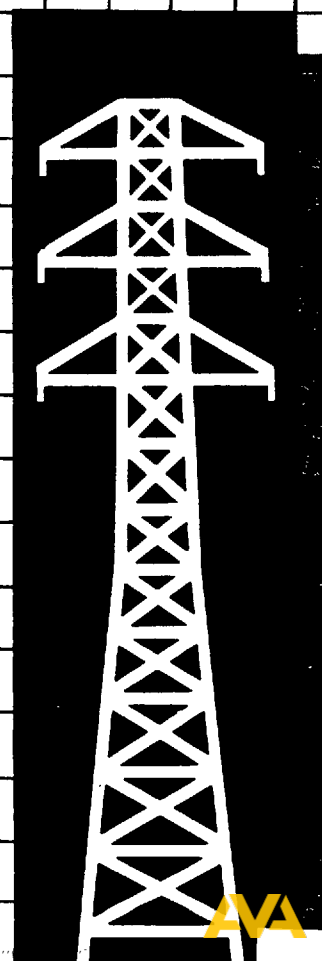
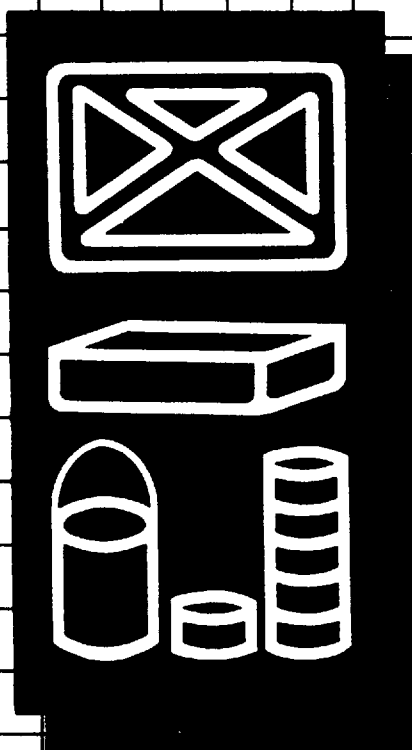
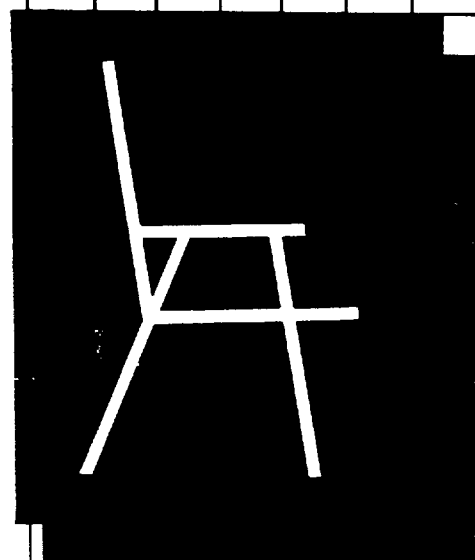
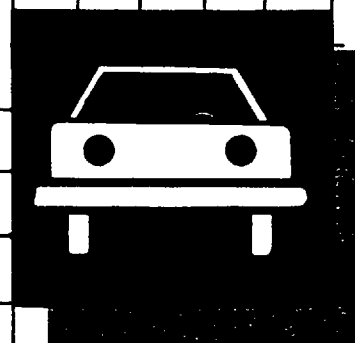
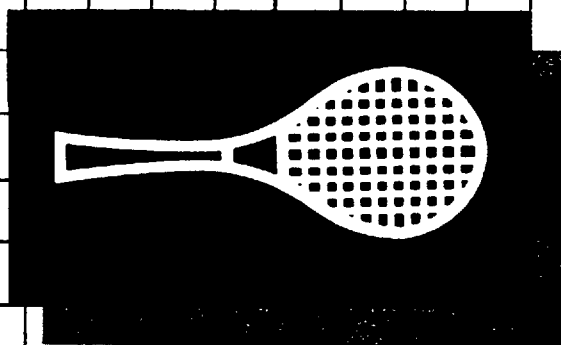


End-Use Guide

The Aluminum Association

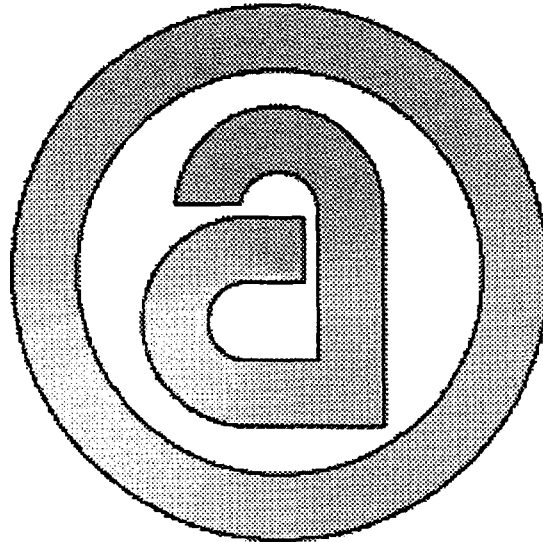


End-Use Guide



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**END USE GUIDE FOR REPORTING SHIPMENTS
OF SEMIFABRICATED ALUMINUM PRODUCTS
FOR 1998**



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Statistical & Market Research Committee
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PREFACE

The End Use Guide was developed by the **Statistical and Market Research Committee** and is the official manual for implementing the End Use Reporting System and is not necessarily intended to be a complete list of all aluminum end uses but rather a classification system for the association's End Use report series. It is designed to provide reporting companies with guidelines for uniform and systematic coding of aluminum product shipments. The guide itself is under continual review by the statistical committee to make the distinction among end uses clearer and more meaningful.

End Use Reporting System - Purpose

The End Use Reporting System is designed to provide Association members with sufficient and significant data about markets for aluminum products on a useful and regular basis in order that a company may:

- o) Have better knowledge of the major markets and end uses to which it sells or may wish to sell aluminum products.
- o) Observe past trends and forecast future demand for aluminum products.
- o) Measure its company performance in each major market and end use compared to the industry.
- o) Plan for future requirements of raw materials, products, facilities, personnel, funds, market research and development.

End Use Reporting System - Philosophy

The determination of the level of end use that is to be reported is a complex process aimed at providing data which are most useful to Association members. The level can be an ultimate end use such as autos, airplanes or houses, or it can be an intermediate end use such as windows, roofing, fin stock, air conditioning or motors. Ideally the End Use Reporting System should classify shipments to ultimate end uses, while at the same time retaining sufficient flexibility to utilize intermediate stages of classification where considered advisable. In each specific instance the decision is a compromise agreement among members of the Association as represented by the Statistical & Market Research Committee.

To the extent possible, comparability of classifications is maintained with governmental and other collection agencies. This is true for both end use and product classifications. For example, major market 0400: ELECTRICAL is patterned closely after the Standard Industrial Classifications and National Electrical Manufacturers Association reporting; and product classifications are kept comparable to those of the Bureau of the Census survey CIR M33D - "Aluminum Ingot and Mill Products".

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OVERVIEW

The End Use Guide is presented in numerical order by major market and by individual end use, with descriptions of each end use. Participants should report the aluminum weight of all semifabricated product shipments to customers (including shipments for further fabrication into semifabricated products), distributors and interplant shipments for fabrication beyond the semifabricated state.

Semifabricated product categories are designated below with accompanying Aluminum Association and Bureau of the Census CIR M33D product codes.

<u>Product</u>	<u>Assn Code</u>	<u>M33D Code</u>
Sheet, nonheat-treatable	3100	8211
Sheet, heat-treatable	3200	8221
Plate, nonheat-treatable	3300	8231
Plate, heat-treatable	3400	8241
Foil	3500	8251
Drawing Stock (redraw rod)		
continuous cast or rolled	4110	8311
Wire, Bare, conductor or nonconductor	4300	8321
ACSR & Aluminum Cable, bare	4400	8331
Wire & Cable, insulated or covered	4500	8341
Rod & Bar, rolled and/or extruded	4700	
Alloys other than 2000 & 7000 series	5110	8511
Alloys in 2000 & 7000 series	5120	8521
Pipe & Tube, extruded or drawn	5700	
Alloys other than 2000 & 7000 series	5519	8531
Alloys in 2000 & 7000 series	5520	8541
Extruded Shapes	5300	
Alloys other than 2000 & 7000 series	5310	8551
Alloys in 2000 & 7000 series	5320	8561
Powder & Paste		
Atomized	6100	8711
Flaked	6200	
Paste	6300	
Other flaked, powder & paste		8721
Forgings	7100	8811
Impacts	7400	8821

Participants manufacturing any product beyond the semifabricated state should report the interplant shipment of the final mill shape consumed. For example, a company which produces redraw rod, draws the rod into wire and finally manufactures nails, should report the weight of wire consumed under the product "Wire, Bare, Conductor & Nonconductor" and the end use 01-99: Other Building & Construction (see reporting form). A member who produces foil and subsequently manufactures food containers should report the weight of foil consumed under the product "Foil" and the end use 06-20: Semirigid Food Containers.

Captive plants which consume ingot or billet to produce semifabricated products should report the interplant shipment of the final mill product consumed. For example, if a reporting member buys ingot, extrudes the ingot into shapes and finally manufactures truck trailers, he should report the weight extrusions shipped to his trailer department plant under the product "Extruded Shapes" and the end use 02-40: Trailers & Semitrailers.

Exports of semifabricated products (from the listing above) should be coded to 0900: EXPORTS, even though the end use is known. Exports of finished products (except roofing sheet, rigid conduit and irrigation

pipe) such as nails, consumer foil, caps & closures and fencing should be coded to the appropriate end use. Exports of roofing sheet, rigid conduit and irrigation pipe should be coded to 0900: EXPORTS. Converted Foil should be coded to an appropriate End Use and not included in Exports. Shipments to distributors in foreign locations should be included in Exports.

The end use 0800: DISTRIBUTORS & JOBBERS is intended to include only shipments of semifabricated products as listed across the top of the form to general line distributors (plus shipments of ACSR and Wire & Cable, Insulated or Covered, to Electrical Distributors). Shipments to distributors selling predominately (at least 90%) to one industry (except shipments of ACSR and Wire & Cable Insulated or Covered, to Electrical Distributors) should be coded directly to the appropriate end use. Shipments of finished products such as nails, gutters, fences, etc. and shipments of roofing sheet, rigid conduit and irrigation pipe to distributors and jobbers are excluded. All shipments of these products should be coded to the appropriate end use. Shipments to Distributors outside the United States should be coded to exports.

SEMIFABRICATED PRODUCT CIR M33D DEFINITIONS

Cable, ACSR and aluminum (bare) - Aluminum stranded conductor reinforced by a core of steel (ACSR); or any other bare stranded aluminum conductor.

Drawing stock (redraw rod) (continuous cast or rolled) - A solid round product that is long in relation to cross section, 0.375" or greater in diameter, produced by continuous casting followed by size-rolling or by rolling from D.C. cast ingot, suitable for drawing into wire.

Foil - A flat rolled product, rectangular in cross section, of thickness less than 0.006".

Forgings (excluding impact extrusions) - A product worked to a predetermined shape by one or more processes such as hammering, upsetting, pressing, rolling, etc.

Impacts (excluding collapsible tubes and cans) - A product formed in a confining die from a metal slug, usually cold, by rapid simple stroke application of force through a punch, causing the metal to flow around the punch and/or through an opening in the punch or die.

Pipe and tube (extruded and drawn) - A hollow wrought product with a uniform wall thickness (except as affected by corner radii) that is long in relation to its cross-section, round, square, rectangular, hexagonal, octagonal, or elliptical in shape, produced either by hot extruding and/or brought to final dimensions by cold drawing through a die.

Plate, heat-treatable - A flat rolled product, in 2000, 6000, or 7000 alloy series (except 7072), rectangular in cross section, 0.250" or greater in thickness, which are strengthened by solution heat treatment and controlled aging.

Plate, nonheat-treatable - A flat rolled product, rectangular in cross section, 0.250" or greater in thickness, which derive strength from solid-solution or dispersion hardening and are further strengthened by strain hardening. Exclude cast tool and jig plate which is not a rolled product.

Powder, atomized - Powder produced by blowing or aspirating molten metal through an orifice.

Other flake, powder, and paste - Includes the following products:

- a. Powder - an aggregate of discrete particles of aluminum, substantially all of which are finer than 1,000 microns (minus 18 mesh).
- b. Paste - a blend of powder or flake with a thinner or plasticizer.
- c. Powder, flaked - Powder consisting of flat or scale-like particles of a thickness small compared with other dimensions, produced by milling in the presence of a lubricant.

Redraw rod - See drawing stock.

Rod and bar (rolled and/or extruded) - A solid round, square, rectangular, hexagon, or octagonal shaped product that is long in relation to cross section, 0.375" or greater in diameter or in at least one perpendicular distance between parallel faces, produced by continuous casting or rolling or by extruding; other than drawing stock and D.C. cast ingot.

Shapes, extruded - A produced by extruding, that is long in relation to its cross sectional dimensions and has a cross section other than that of rod and bar and pipe and tube.

Sheet, heat-treatable - A rolled product, in 2000, 6000, or 7000 alloy series (except 7072), flat or coiled, rectangular in cross section, of 0.006" thickness but under 0.250" thickness, which are strengthened by solution heat treatment and controlled aging.

Sheet, nonheat-treatable - A rolled product, flat or coiled, rectangular in cross section, of 0.006" thickness but under 0.250" thickness, which derive strength from solid-solution or dispersion hardening and are further strengthened by strain hardening.

Wire, bare, conductor and nonconductor - A solid wrought product that is long in relation to cross section, which is square, round, rectangular, hexagonal, or octagonal in shape, whose diameter or greatest perpendicular distance between parallel faces (except for flattened wire) is less than 0.375".

Wire and cable, insulated or covered - All aluminum insulated wire, or stranded conductor, or cable for transmitting electrical energy, signals or communications. Include electronic wire and cable, telephone wire and cable, power cable, control and signal wire and cable, building wire, apparatus wire and cable, weatherproof and service drop cable, shipboard and ground support cable, etc., and magnet wire.

CIR M33D REPORTING INSTRUCTIONS

Instructions for reporting shipments are based on the CIR M33D to assure comparability. For your convenience we have provided excerpts from these instructions below.

SHIPMENTS - Report in thousands of pounds metal *physically* shipped.

Include the following:

- o Shipments to all customers
- o Shipments to outside companies
- o Shipments of metal made under toll arrangements even though title/ownership of the metal may remain with the shipper of record.
- o Shipments to companies in which you have an interest. Include metal shipped to other plants in your company unless you have informed the Bureau of the Census that you are making a consolidated report for all plants in your company.
- o Shipments within your company for fabrication beyond the mill stage.
- o Shipments from jointly owned smelters should be reported by each owning company on an ownership basis.
- o Shipments made under trade (swap, switch, barter or convenience exchange) agreements even though no sale is involved.

Exclude:

- o Shipments of products purchased for resale.
- o Shipments made to other plants in your company if you are making a consolidated report.
- o Sales and trades of metal if there is no physical movement of the metal.
- o Do not report as a shipment the stock you produce which is required to the product (that is , report the product shipped in its most advanced form.

END USE CATEGORIES FOR 1994 - SUMMARY**0100: BUILDING & CONSTRUCTION**

- 01-02: Doors & Windows, Residential
- 01-03: Doors & Windows, Nonresidential
- 01-08: Screen Frames & Screening
- 01-10: Awnings & Canopies
- 01-15: Residential Siding, Soffits & Fascia including Trim Coil
- 01-20: Industrial Roofing & Siding
- 01-25: Rural Roofing & Siding
- 01-28: Commercial & Residential Roofing and Accessories incl. Commercial Siding and Shingles
- 01-30: Pre-engineered (Prefabricated) Industrial, Commercial & Farm Buildings & Structures
- 01-35: Mobile Homes
- 01-40: Duct
- 01-42: Louvers & Vents
- 01-45: Other Heating & Ventilating
- 01-50: Curtain Wall, Store Fronts and Entrances
- 01-61: Highway & Street Signs & Blanks
- 01-62: Lighting Standards & Parking Meter Pipe Stands
- 01-63: Other Bridge, Street & Highway Uses
- 01-70: Gutters & Down-spouts
- 01-71: Shower and Tub Enclosures
- 01-75: Builders' Hardware
- 01-80: Venetian Blinds
- 01-83: Swimming Pools
- 01-99: Other

0200: TRANSPORTATION

- 02-02: Aerospace & Missiles
- 02-04: Aircraft & Helicopter
- 02-21: Naval & Commercial Marine
- 02-30: Rail
- 02-40: Trailers & Semitrailers
- 02-45: Trucks & Buses
- 02-50: Passenger Cars
- 02-71: Travel Trailers & Recreational Vehicles
- 02-90: Military Vehicles
- 02-99: Other

0300: CONSUMER DURABLE GOODS

- 03-02: Refrigerators & Freezers
- 03-03: Air conditioners, Window & Portable
- 03-04: Air Conditioning, Central or Unitary
- 03-10: Other Major Appliances
- 03-30: Portable Appliances
- 03-40: Cooking Utensils, (nonelectric) Kitchen Tools, Giftware
- 03-50: Furniture
- 03-60: Pleasure Boats & Outboard Motors
- 03-90: Sporting & Athletic Goods, Toys
- 03-99: Other

0400: ELECTRICAL

- 04-01: Electrical Machinery & Equipment
- 04-20: Lighting Fixtures & Electric Lamps
- 04-30: Power Transmission & Distribution
- 04-35: Bus Bar (Bus Conductor)
- 04-50: Electronics & Communications Apparatus & Equipment
- 04-60: Rigid & Flexible Conduit & E.M.T.
- 04-70: Capacitors (Condensers)
- 04-99: Other

0500: MACHINERY & EQUIPMENT EXCLUDING ELECTRICAL

- 05-04: Industrial, Agricultural and Mining Equipment
- 05-05: Lithographic Printing Plates
- 05-20: Irrigation Pipe
- 05-30: Process Industries
- 05-50: Service Equipment & Supplies
- 05-55: Ladders & Scaffolds
- 05-60: Professional, Scientific & Controlling Apparatus & Equipment
- 05-70: General Components
- 05-98: Other

0600: CONTAINERS & PACKAGING

- 06-01: Flexible Packaging
- 06-20: Semirigid Food Containers
- 06-30: Consumer Foil
- 06-35: Institutional Foil
- 06-40: Caps & Closures
- 06-51: Metal Beverage Cans
- 06-52: Metal Nonbeverage Cans
- 06-55: Composite Cans including Canisters, and Metal Ends & Tabs for Composite Cans
- 06-99: Other

0700: SHIPMENTS FOR CONVERSION INTO SEMIFABRICATED PRODUCTS

0800: DISTRIBUTORS & JOBBERS OF SEMIFABRICATED FABRICS

0900: EXPORTS

- 09-90: Exports to Canadian Distributors
- 09-99: Other Exports

1000: ALL OTHER END USES

- 10-10: Weapons & Ammunition, including Rocket Ammunition
- 10-20: Explosives & Pyrotechnics
- 10-30: Solid fuel for missiles and rockets
- 10-41: Metallurgical Uses
- 10-42: Powder Metallurgy
- 10-50: Chemical Applications
- 10-60: Paint, organic coatings and filler applications
- 10-99: All Other End Uses

1100: TOTAL SHIPMENTS

END USE CATEGORY DEFINITIONS**0100: BUILDING & CONSTRUCTION**

Report all shipments to fabricators of end products. If you manufacture nails, gutters, roofing sheet, or other end products, report the inter-plant shipments of the final semifabricated product consumed.

For example, report sheet consumed in the manufacture of awnings under the end use 01-10: Awnings & Canopies and the product "Sheet." Include shipments of end products to jobbers and distributors. Exports of finished products (such as awnings and canopies) should be coded to the appropriate end use. Exports of roofing sheet should be coded to Category 09-00: EXPORTS.

01-02: Doors & Windows, Residential
 Doors, including Interior Doors
 Windows
 Accessories for Doors & Windows
 Combination Doors & Windows
 Storm Doors
 Storm Windows

Note: Residential doors & windows are those doors & windows most generally used in, but not necessarily limited to, residential type buildings (such as one and two family dwellings, low rise apartments three stories in height or less, etc)

01-03: Doors & Windows, Nonresidential
 Doors, including Interior Doors
 Windows
 Accessories for Doors & Windows
 Combination Doors & Windows
 Storm Doors
 Storm Windows

Note: Nonresidential doors & windows are those doors and windows most generally used in, but not necessarily limited to, nonresidential construction (such as office buildings, industrial buildings, institutional buildings, as well as high rise apartment buildings).

Note: Doors and windows designed for and used as an integral part of curtain wall systems and store front systems are excluded and should be coded to 01-50.

01-08: Screen Frames & Screening
 Screen Doors

Note: Include shipments for screen frames (screen frame inserts) and screening for windows and doors, whether separate or combination windows and doors or for sliding glass doors.

01-10: Awnings & Canopies
 Awnings
 Cabanas
 Canopies
 Carports
 Marquees, Residential Types only
 Patio Covers