



Non-Woven Scrim or Facing Materials

1 Scope

1.1 Material Description. This specification describes non-woven polyester or polyester rayon blends used as facings or scrims on insulation materials primarily for use in the engine compartment.

1.1.1 Two type of scrims are defined under this specification:

Type I: Surfaces where water repellency is required.

Type II: Surfaces where water repellency (resistance to penetration by water) is not required.

1.2 Symbols. Not applicable.

1.3 Applicability. Insulation materials primarily for use in the engine compartment.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

FMVSS 302	ISO 8510-2	ISO 9073-2	ISO/IEC 17025
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2.2 GM Standards/Specifications.

GMW3010	GMW3182	GMW3232	GMW16853
GMW3059	GMW3221	GMW14444	

2.3 Additional References.

TMC003 Material Safety Data Sheet guidance documents (available at www.gmsupplypower.com).

3 Requirements

3.1 Requirements on Test Specimens. Reference GMW3221.

3.2 Emissions Testing of Interior Materials and Parts. For all Code E designated parts per GMW14444, reference GMW16853 for emissions testing of interior materials and parts.

3.3 Lab testing shall be performed by a laboratory that meets requirements of ISO/IEC 17025 and is acceptable to the responsible GM Department. Test reports must conform to 5.10.2 and 5.10.3 of ISO/IEC 17025. Supplier shall submit a letter of compliance.

3.3.1 Composition. The composition shall be a polyester or polyester/rayon blend.

3.3.2 Color. Unless otherwise specified, color shall be black.

3.3.3 Manufacture. The material shall be non-woven so as to insure a uniform product, free from any foreign materials or lumps. There shall be no splices in the material, in accordance with the applicable drawing.

3.3.4 Mass and Thickness. Mass per unit area per GMW3182, and thickness per ISO 9073-2 shall be specified on engineering drawing or math files.

3.3.5 Tensile Strength and Elongation (GMW3010). Test to be done to Table A1 Code A.

3.3.5.1 Tensile strength shall be reported in both across machine direction, (AMD) and in machine direction (MD). The minimum tensile strengths shall be as follows:

- AMD 40 N/100 cm
- MD 30 N/100 cm

3.3.5.2 Elongation shall be reported in both across machine direction, (AMD) and in machine direction (MD). The minimum percent elongation values, at break, shall be as follows:

- AMD > 10%
- MD > 3%

3.3.6 Water Repellency. Required for Type I materials only

3.3.6.1 Condition sample 100 mm x 100 mm at 180 °C for 15 minutes. Place white paper on flat surface and then test sample over white paper. Using pipette put 0.5 g of deionized water at three different locations on the test piece. After 1 h, deionized water must not have penetrated through scrim or facing materials.

3.3.7 Resistance to Chemicals. Materials shall not stain or show degradation after immersion in the following chemicals for 30 minutes and allowed to drain for 24 h.

- Transmission fluid
- Gasoline/alcohol blend
- Diesel fuel
- Coolant
- Motor oil
- Windshield washer fluid
- Brake fluid

3.4 Composite Tests. The following tests are to be done as a composite:

3.4.1 Adhesion (ISO 8510-2). Scrim materials approved to this specification must show cohesive failure when molded or bonded to fibrous materials.

3.4.2 Temperature Resistance. The materials shall withstand a 24 h soak at 180 °C ± 2 °C with no visible deterioration of the composite part.

3.4.3 Flammability (GMW3232). The composite materials must comply with FMVSS 302 when tested to GMW3232.

4 Manufacturing Process

Not applicable.

5 Rules and Regulations

5.1 Legal Regulations. All materials must satisfy applicable laws, rules, regulations and recommendations valid in the country of usage.

5.2 Language. In the event of conflict between the English and domestic language, the English language shall take precedence.

5.3 Inspection and Rejection. Samples of components or materials released to a GM material specification shall be tested for conformity with the requirements of this material specification and approved by the responsible Engineering department prior to commencement of delivery of bulk supplies.

A new approval must be received for any changes, e.g., properties, manufacturing process, location of manufacture, etc. If not otherwise agreed, all testing and documentation normally required for initial release must be completed.

It is the responsibility of the supplier to inform the customer in a timely manner, without solicitation, and to include documentation of all modifications of materials and/or processes and to apply for a new release.

If not otherwise agreed, all release tests shall be repeated and documented by the supplier prior to commencement of delivery of non-conforming bulk supplies. In individual cases, a shorter test can be agreed to between the responsible Engineering department and the supplier.

5.4 Material Safety Data Sheets/Safety Data Sheets (MSDS/SDS). For new product submissions, or when a change in chemical composition of an existing product has occurred, a complete copy of the Material Safety Data Sheet/Safety Data Sheet must be submitted in compliance with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) requirements or other country-specific MSDS/SDS requirements. In addition, product MSDS/SDS submissions must be in compliance with specific country General Motors TMC003 Material Safety Data Sheet/Safety Data Sheet guidance documents where available.

5.5 All materials supplied to this standard must comply with the requirements of GMW3059, Restricted and Reportable Substances for Parts.

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