



Adhesion, Promoter, Rubber

1 Scope

This specification covers an adhesion promoter suitable for use on rubber substrates in order to enhance the bond strength to acrylic foam tapes.

1.1 Material Description. This adhesion promoter is a moisture cured system. It must be capable of being dispensed with current production equipment and shall be compatible with production systems.

1.2 Symbols. Not applicable.

1.3 Applicability. Materials approved to this specification are utilized to enhance the bond strength to acrylic foam tapes.

2 References

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

2.1 External Standards/Specifications.

ASTM D1144	ASTM D4339	ASTM E502	SAE J1524
ASTM D1875			

2.2 GM Standards/Specifications.

GMW3059	GMW15735	GMW16853	GMW16926
GMW14444			

3 Requirements

3.1 Stability (GMW15735). Material conditioned using potential storage conditions must be capable of passing all the requirements of this specification.

3.1.1 Elevated Temperature Stability. As shipped, the adhesive must be capable of withstanding a temperature of 55 °C for 72 h without separation or caking.

3.1.2 Low Temperature Stability. As shipped, the adhesive must be capable of withstanding 3 cycles of the applicable cycle schedule outlined in GMW15735.

3.1.3 Storage Stability. The shelf life of the adhesive in closed containers shall be 180 days at a temperature not to exceed 35 °C. Shelf life of the material commences upon the receipt of the material from the manufacturer.

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 Drying Time. Drying time of this promoter is approximately 1 minute. Ultimate bond strength is obtained if approximately 10 minutes lapses between primer application and tape application. Thirty (30) minutes should not be exceeded before tape is applied.

3.4 Application Requirements. The adhesion promoter must be applied at temperatures above 15 °C. The bonding surface must be cleaned of foreign materials with a ketone or alcohol solvent via a lint-free rag prior to application of the primer. The primer should be applied in a thin uniform coat (approximately 0.05 mm (2 mil)).

3.5 Material Properties – Uncured. See Table 1.

Table 1: Material Properties - Uncured

Properties	Values	Test Methods
Color	Clear amber	Visual
Odor	The material shall not have a noxious odor in either cured or uncured condition.	ASTM D4339
Homogeneity	Material must be homogeneous and free of lumps or air bubbles.	-
Open Time	30 minutes	ASTM D1144
Solids Content	8.0%	-
Viscosity	< 0.01 Pa•s (10 cP)	SAE J1524 (aged per GMW15735)
Density	880 kg/m ³	ASTM D1875
Infrared (IR) Scan	IR scan shall be on file for future reference.	-
Flash Point	4.4 °C	ASTM E502
Volatile Organic Compound (VOC)	810 g/L	-

3.6 Adhesive Properties. Test specimens, prepared as specified in the designated procedures, must meet the requirements of the following specification:

3.6.1 A bonded assembly (molding, adhesion promoter, foam tape, topcoated test panel) when pulled in tension per GMW16926 shall fail either at the paint-tape interface or through the tape. Allow a 2 h dwell period before pulling.

3.6.2 This procedure must be repeated for each bonding system under consideration for the application.

3.7 Other Tests May be Required to Validate the Specific Application.

3.8 Identification. The following information shall appear on each container: GM part number; manufacturer's identification, part number and batch number; date of manufacturer; and quantity and mass of material.

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.

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