



Adhesive Primer, Clear, Polyurethane to Glass

1 Scope

This specification covers a glass primer/activator generally used as primer number 1 of a 2 step primer system. This primer is used in conjunction with a black glass primer and polyurethane adhesive sealing compound for bonding fixed automotive glass.

1.1 Material Description. This material is a clear, solvent based, silane type primer used to condition and promote adhesion to automotive glass. It conditions the glass surface in preparation for a second black glass primer, 9985395, that interfaces a polyurethane adhesive sealing compound. Reference 9986275 and 9986400.

1.2 Symbols. ADH (Adhesive).

1.3 Applicability. Materials approved to this specification are intended for use in bonding stationary automotive safety glass to painted vehicle glass openings. The automotive safety glass applications are typically fixed windshields/windcreens, rear windows and side glass. Other application can include trim such as fixed glass seals and hardware such as mirror buttons, sensor farm pins and locator pins.

1.4 Remarks. Users of these materials should become more familiar with the approved primer by reviewing the Material Safety Data Sheets (MSDS), process standards and MSDS documents.

2 References

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

2.1 External Standards/Specifications.

ASTM D56	ASTM D1475	EPA TM-24	SAE J1864
ASTM D1084	ASTM E502		

2.2 GM Standards/Specifications.

9985395	9986400	GMW3059	GMW15735
9986275	GMW3041		

3 Requirements

3.1 Physical Requirements. See Table 1 Properties.

Table 1: Physical Properties

Properties	Values	Test Methods
Color	Clear to Slight Amber	Visual inspection
Density	0.83 kg/L to 0.03 kg/L	ASTM D1475
Viscosity	30 s ± 3 s	ASTM D1084 Method D, Initial, RT #1 Zahn Cup
Volatile Organic Compound (VOC)	≤ 99%	EPA TM-24, Procedure B
Flash Point (Report)	-3 °C	ASTM D56 per ASTM E502

3.1.1 Materials approved to this specification shall meet the adhesion requirements of GMW3041 when used in conjunction with black glass primer 9985395. A GM approved glass bonding adhesive sealing compound shall be used for this purpose. The GM adhesive sealing compound will be agreed to by the GM Materials Engineering Group and the material supplier candidate prior to the onset of testing.

3.1.2 Material Stability, GMW15735. The requirements of 9985394 must be met after the following environments.

3.1.3 Elevated Temperatures. Seventy-two hours (72 h) at $50\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$.

3.1.4 Low Temperatures. Three (3) cycles of 17 h at $-30\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$ and 7 h $23\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$, $50\% \pm 5\%$ Relative Humidity (RH).

3.1.5 Shelf Life Storage Stability. One hundred eighty (180) days minimum at $35\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$, $50\% \pm 5\%$ RH. Shelf life of the material shall commence upon receipt from the manufacturer.

3.1.6 Pressure Stability, SAE J1864. As shipped, the primer must not separate or cake.

4 Manufacturing Process

4.1 Materials approved to this specification must be capable of being dispensed and processed with standard GM production equipment.

4.2 Ten Minute Open Time. Glass that has been primed with 9985394 must be primed with 9985395 within 10 minutes. If 9985395 is not applied within 10 minutes, the glass must be reprimed with 9985394 again prior to 9985395 application.

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 Classification and Labeling of Chemicals (GHS) requirements or other country-specific MSDS/SDS requirements.

5.5 All materials supplied to this standard must comply with the requirements of the International Material Data System (IMDS) and GMW3059, **Restricted and Reportable Substances**.

6 Approved Sources

Materials supplied to this specification must be approved by General Motors.

A list of approved materials can be found in MATSPC. This GM Material File is provided to third parties to reduce redundant testing of materials. If approved material already listed is used, the part supplier can use GM Material File reference for Production Part Approval Process (PPAP) material approval. If the decision is made to use a not yet approved material, contact Adhesives Subsystem Leadership Team for details on the approval process. The material approval process must be completed prior to PPAP start date of the part supplied to General Motors.