



Adhesive Primer, Black, for Polyurethane to Glass

1 Scope

1.1 Material Description. Materials approved to this specification are intended to act as a medium for obtaining adhesion of polyurethane glass bonding adhesives to automotive glass. They are used in conjunction with a clear glass primer, activator, that is applied prior, e.g., 9982271, clear glass primer.

1.2 Symbols. Not applicable.

1.3 Applicability. Materials approved to this specification are capable of being applied by brush, felt or spray, manually or with automation and provide good wettability to the application substrates. Although not restricted to, these primers are typically used for bonding fixed automotive glass to vehicle openings, windshields, rear windows and quarter glass.

1.4 Remarks. Users of these materials should become familiar with the approved primer by reviewing the Primer Material Safety Data Sheets (MSDS), Process Standard and Product Data Documents.

2 References

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

2.1 External Standards/Specifications.

ASTM D56	ASTM D1475	ASTM E502	SAE J1864
ASTM D1200	ASTM D2834	EPA TM Number 24	

2.2 GM Standards/Specifications.

9982270	GMW3041	GMW3221	GMW15735
9982271	GMW3059		

2.3 Additional References.

Primer Material Safety Data Sheets (MSDS), Process Standard and Product Data Documents.

3 Requirements

3.1 Requirements on Test Specimens. Reference GMW3221. All samples are to be conditioned prior to each requirement test to GMW3221, Code A.

3.2 Physical Requirements. See Table 1 for Material Properties.

Table 1: Material Properties

Properties	Test Values	Test Methods
Color	Black	Visual
Density	0.93 kg/L to 0.97 kg/L	ASTM D1475
Viscosity	12 s to 16 s	ASTM D1200, Ford Number Four (4) Cup.
Volatile Organic Compound (VOC)	65% to 70%	EPA TM Number 24, Procedure B
Solids Content	30% to 35%	ASTM D2834
Flash Point (Report)	-5 °C	ASTM D56 per ASTM E502

3.2.1 Materials approved to this specification shall meet the bonding requirements of GMW3041, when used in conjunction with clear glass primer 9982271 and a GM approved glass bonding adhesive sealing compound, e.g., 9982270. The GM adhesive sealing compound must be agreed to by the approving GM Engineering Group and material supplier candidate prior to the onset of testing.

3.2.1.1 Material Stability, GMW15735. The requirements of this standard (9982272) must be met after the environments in 3.2.1.2 thru 3.2.1.5.

3.2.1.2 Elevated Temperatures. Seventy-two (72 h) at $54\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$.

3.2.1.3 Low Temperatures. Three (3) cycles of 17 h at $-30\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$, 7 h at $2\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$ and $50\% \pm 5\%$ Relative Humidity (RH).

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

3.2.1.5 Pressure Stability, SAE J1864. As shipped, the adhesive 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 Dry Film Thickness (DFT). Eight (8) to twenty-five microns ($8\text{ }\mu\text{m}$ to $25\text{ }\mu\text{m}$) (0.3 mil to 1.0 mil) dry film of 9982272 is required to ensure adequate adhesion of the polyurethane adhesive sealing compound to the glass.

4.3 Primed Surface. Primed surface must be kept clean at all times in preparation of the polyurethane adhesive application. As necessary, the primed surface may be wiped with clean, low lint, paint shop quality rag dampened with Isopropyl Alcohol (IPA) (99% minimum IPA). The dampened rag must be wet enough to leave a wet vapor trail, but not too wet where the solvent material runs uncontrolled.

4.4 Open Time. Glass that has been primed with 9982272 has an open time of 90 days from the time of application. If the primed glass is not used within 90 days, it must be wiped as described in 4.3 and reprimed with 9982272 only. One (1) reprime is allowed.

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 the GM Approved Materials Source List. This GM Material File is provided to third parties to reduce redundant testing of materials. If approved material already listed is used, the