



Adhesive Primer, Black, Polyurethane to Glass, Preprime Glass Applications

1 Scope

This specification covers a glass primer used in conjunction with an Isopropyl Alcohol (IPA) or as primer number two (2) of a two (2) step system. Either primer system is used in conjunction with a polyurethane adhesive sealing compound.

1.1 Material Description. This material is a black, solvent based, polyurethane type primer used to condition and promote adhesion to automotive glass. It is applied following the application of either IPA, 9981293, or primer number one (1), 9982278, and interfaces a polyurethane adhesive sealing compound, Reference: 9982280. It is intended to be used for glass applications where the primed surface has aged a minimum of 30 s. It is not intended for use at GM assembly plants where the cycle times may be less than 30 s between primer and urethane adhesive application.

1.2 Symbols. Not applicable.

1.3 Applicability. Materials approved to this specification are intended to be used for priming of automotive glass at a value add location and shipped part of assembly (POA) to the GM assembly facility. This application is commonly referred to as pre-primed glass. In conjunction, the pre-primed glass is bonded to painted automotive body openings to facilitate installation of fixed glass, windshields, rear windows, (backlites and liftgates) and side glass, such as quarter windows.

1.4 Remarks. Refer to the glass bonding decision tree of the GM materials engineering Preferred Materials Catalog (PMC) in the exteriors section for specific use of this material.

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 24	

2.2 GM Standards/Specifications.

9981293	9985397	GMW3059	GMW14270
9982278	GMW3041	GMW3221	GMW15735
9982280			

2.3 Additional References.

- Best Practice FXGLASS 24. (The supplier shall work with the GM responsible engineer to comprehend this requirement).
- Preferred Materials Catalog (PMC)
- Safety and Industrial Hygiene (S&IH) Technical Standard (TS), S&IH TS 3.4-160-02

3 Requirements

3.1 Sample Conditioning. 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	0.98 kg/L to 1.02 kg/L	ASTM D1475
Viscosity	10 s to 15 s	ASTM D1200, Ford Number Four (4) Cup
Volatile Organic Compound (VOC)	71% to 75%	EPA TM 24, Procedure B
Solids Content	25% to 29%	ASTM D2834
Flash Point (Report)	-3 °C	ASTM D56 per ASTM E502

3.2.1 Materials approved to this specification shall meet the bonding requirements of GMW3041 Performance Requirements for Bonding and Sealing of Stationary Automotive Glass, when used in conjunction with IPA, 9981293 or clear glass primer 9982278 and a General Motors North America (GMNA) approved glass bonding adhesive sealing compound. Reference 9985397 and 9982280. The GMNA adhesive sealing compound will be agreed to by the approving GM engineering group and the approved material supplier.

3.2.2 Material Stability, (GMW15735). The requirements of 9982283 must be met after the following environments.

3.2.2.1 Elevated Temperatures. Requirement: 72 h at 50 °C ± 2 °C.

3.2.2.2 Low Temperatures. Three (3) cycles of 17 h at -30 °C ± 3 °C and 7 h at 2 °C ± 3 °C and 50% relative humidity ± 5% relative humidity (RH).

3.2.3 Shelf Life Storage Stability. Requirement: 180 days minimum at 35 °C ± 3 °C and 50% RH ± 5% RH. Shelf life of the material shall commence upon receipt from the manufacturer.

3.2.4 Pressure Stability, SAE J1864. As shipped, the adhesive must not separate or cake.

3.3 All materials supplied to this standard must comply with **GMW3059, Restricted and Reportable Substances**, including the requirement to obtain a GM-approved International Material Data System (IMDS) submission.

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). A minimum of 3 µm (0.12 mil) dry film of 9982283 is required to ensure adequate adhesion of the polyurethane adhesive sealing compound to the glass.

4.3 Primed Surface Cleaning. The 9982283 primed surface must be kept clean at all times in preparation of the polyurethane adhesive application. Reference, Best Practice FXGLASS 24 (the supplier shall work with the GM responsible engineer to comprehend this requirement) in the Engineering Enterprise Knowledge System (E2KS). As necessary, the primed surface may be wiped with a clean, low lint, paint shop quality rag dampened with either Varnish Makers and Painters (VM&P) Naphtha, or 9981293, Isopropyl Alcohol (99% minimum IPA).

4.4 Open Time. Glass that has been primed with 9982283 has an open time from 30 s to 90 days from the time of application. If the primed glass is not used within 90 days, it can be wiped with solvent as described in 4.3 and reprimed with 9982283. One (1) re-prime only, is allowed. See the approval and compatibility section of GMW3041 for pre-primed 90 day open time requirements.

5 Rules and Regulations

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