



Adhesive Primer, Black, Polyurethane to Glass

1 Scope

This specification covers a glass primer used in conjunction with an Isopropyl Alcohol (IPA) or as primer Number 2 of a two-step system. Both primer systems are 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 an application of either IPA (see 9981293) or a clear glass primer (see 9982278) and interfaces a polyurethane adhesive sealing compound. See 9982280.

1.2 Symbols. Not applicable.

1.3 Applicability. Materials approved to this specification are intended for use in bonding adhesive to stationary automotive safety glass. In conjunction, the glass is bonded to painted automotive body openings. The bonding applications are typically windshield, back-lite and liftgate glass.

1.4 Remarks. None.

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.

9981293	GMW3041	GMW3368	GMW15735
9982278	GMW3059	GMW3371	
9982280	GMW3221	GMW14270	

2.3 Additional References.

 None.

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	0.92 Kg/L to 0.96 Kg/L	ASTM D1475
Viscosity	12 s to 14 s	ASTM D1200, Ford Number Four (4) Cup.
Volatile Organic Compound (VOC)	75% to 77%	EPA TM Number 24, Procedure B
Solids Content	23% to 25%	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 shear adhesion per GMW3371, and quick knife adhesion, per GMW3368. As specified in GMW3041, when used in conjunction with IPA (see 9981293) or a clear glass primer (see 9982278) and a GM North America (GMNA) approved glass bonding adhesive sealing compound. See 9982280. The GMNA adhesive sealing compound will be agreed to by the approving GM Engineering Group and the approved material supplier.

3.2.1.1 Material Stability, GMW15735. The requirements of 9982279 must be met after the following environments.

3.2.1.2 Elevated Temperatures. 72 h at 50 °C ± 2 °C.

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

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

3.2.1.5 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 submit a full material composition disclosure to GM via the International Material Data System (IMDS) or via a completed **GMW3059** report form.

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). Three (3) µm to 20 µm (0.12 mils to 0.78 mils) dry film of 9982279 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 either varnish makers and painters (VM&P) Naphtha or 9981293, Isopropyl Alcohol (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 9982279 has an open time of 10 s to 24 h from the time of application. If the primed glass is not used within 24 h, it must be wiped as described in 4.3 and re-primed with 9982279 only. Only one (1) re-prime 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.