



Requirements for Assembly Plant Introduction of Glass Bonding Adhesives

1 Scope

1.1 Material Description. The adhesive material is typically a one (1) component, warm or cold temperature applied, moisture cure, black polyurethane adhesive sealing compound. The adhesives are used in conjunction with compatible glass and body side primers for bonding automotive glass to body openings. Based on compatibility, the adhesive may be used with or without (primerless) a body side primer for bonding to specific paint systems.

1.2 Symbols. The material abbreviation according to ISO 11469 is <PUR>.

1.3 Applicability. This specification describes the requirements for introducing an approved adhesive sealing compound to GM vehicle assembly facilities. The requirements include laboratory and in-plant testing that determine the compatibility of new combinations of approved adhesive systems to plant body paint and program specific fixed automotive glass. Applications for materials that qualify to this specification include the bonding and sealing of fixed automotive glass. These are typically windshields, backlites, fixed liftgate, side and encapsulated glass.

1.4 Remarks. The purpose of this requirement is to enable successful introduction of glass bonding adhesive systems with minimal disruption to the vehicle assembly process. It was developed from best practice (MATEXTT-38). The supplier shall work with the GM Design Responsible Engineer to comprehend this requirement. The adhesive change may occur via plant and/or manufacturing necessity, engineering requirements or Adhesive and Sealers Creativity Team direction. Initial communications should be made with product, manufacturing paint engineering, and identified target plant representatives.

2 References

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

2.1 External Standards/Specifications.

ISO 11469

2.2 GM Standards/Specifications.

GMW3041	GMW3221	GMW14729	GMW16569
GMW3059	GMW3368	GMW15959	GMW16898

2.3 Additional References.

(ID) = This is a specification/web site that is limited to internal distribution within General Motors. Contact the GM Lead Engineer for further instructions.

- FXGLASS-43 and MATEXTT-38, found in the GM Auros Knowledge System (ID)
- Process Control Plan – P03 – Fixed Glass (Prime and Urethane) available at:
<https://gae.me.gm.com/main/pcp/index.jspx> - (ID)

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3 Requirements

Vehicle assembly plant processes must be considered when introducing glass bonding adhesive sealing compounds. Along with the selection of an adhesive and target plant, the following requirements should be met when introducing a glass bonding material. This requirement assumes the adhesive candidate system has met GMW3041, and is GM approved. Unless otherwise specified, adhesive testing of this requirement must meet the requirements of GMW3041.

3.1 Requirements on Test Specimens. Reference GMW3221.

3.1.1 Sample Conditioning. All samples are to be conditioned prior to each requirement test to GMW3221 Code A.

3.2 Program and Plant Material Compatibility. GM program and target plant material must be established prior to assembly plant consideration.

3.2.1 GMW15959 Qualification of Blackout Coating (Frit) for Automotive Glazing. The requirements of GMW15959, frit adhesion and acid resistance must be met prior to GM Assembly Plant trial. This validation of plant specific vehicle program glass should be ordered by the regionally responsible materials engineering group. Unless otherwise specified, it will be accomplished by the adhesive system supplier with support of the program specific glass source(s).

3.2.2 GMW16569 Paint/Glass Bonding Compatibility. Row F requirements from GMW16569 must be met prior to GM Assembly Plant trial introduction. This testing will be requested by the regionally responsible materials engineering group. Unless otherwise specified, it will be accomplished by the adhesive system supplier with support of the plant specific paint source.

3.2.3 Productive Materials Review (PMRv). A minimum of six (6) months prior to the adhesive system trial introduction, the regionally responsible GM Materials Engineering designee completes a PMRv form request online for each material considered for use at the target assembly plant. The adhesive supplier candidate supports PMRv with a full disclosure Material Safety Data Sheet (MSDS) upon request. The adhesive supplier candidate may also be required to further support with data/information as required.

3.2.4 Conversion Team. Cross functional representatives of the following disciplines should be identified to support assembly plant adhesive system material conversions.

- Manufacturing Engineer - Glass install equipment and process support.
- Paint Contact Engineer - Engineering interface to plant specific Original Equipment Manufacturer (OEM) paint supplier.
- Paint Engineering Plant Liaison
- Plant Paint Shop Engineer - e.g., Paint Shop Planner.
- Plant Maintenance Engineer and/or Supervisor.
- Plant General Assembly (GA) Champion - Could be engineer or production supervisor.
- Product Engineering – Designing Engineer (DE) to support product release and introduction.
- Adhesive Supplier Team - Material supplier laboratory and plant support representatives.
- GM Purchasing - Bulk Adhesives and Sealers Buyer.

3.4.5 Engineering Work Order (EWO). Design Engineers initiate Test Work Orders (TWOs) and EWOs as required. The responsible materials engineer works with the product DE to identify materials and regional material part numbers to be referenced in the future work orders.

3.2.6 Local Approval. Local assembly plant approval is required for new bulk materials. An MSDS must be provided to the assembly plant safety team for review and approval prior to the shipping new adhesive system materials into the target assembly plant.

3.2.7 Plant Specific Validation.

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