



Adhesive Application Approval Requirements

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. This specification describes the process and requirements for obtaining GM Adhesive Application Approval (AAA) for components or assemblies that contain adhesive bonds, structural and non-structural.

1.2 Applicability. Not all bonding applications will require approval. Only those applications that list this specification on the drawing requirements shall require approval.

1.3 Remarks.

1.3.1 Adhesive materials include; thermosetting polymeric liquids and pastes, pressure sensitive films and tapes, hot melts, and solvent or water-based contact cements.

1.3.2 Approvals are specific to the substrate/adhesive combination and to the facility where the adhesive application is performed.

2 References

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

2.1 External Standards/Specifications.

IATF 16949

ISO/IEC 17025

2.2 GM Standards/Specifications.

GMW3041

GMW15671

GMW16232

GMW18076

GMW3059

GMW15921

GMW16443

GMW18077

GMW3221

GMW16016

GMW16742

GMW14892

GMW16195

GMW17333

2.3 Additional References. None.

3 Test Preparation and Evaluation

3.1 Resources. All testing is the responsibility of the GM supplier that supplies a component containing an adhesive application.

3.1.1 Facilities. For AAA testing, all testing shall be performed in a laboratory accredited to ISO/IEC 17025. Laboratories meeting the requirements of IATF 16949 can be used with the consent of GM Materials Engineering.

3.1.1.1 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

3.1.1.2 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

3.1.2 Equipment. Not applicable.

3.1.3 Test Vehicle/Test Piece. Reference GMW3221.

3.1.3.1 All samples for testing shall be obtained from parts that have been created using production-intent materials and processes at the part/component build locations that will be used for manufacturing production

parts. For some plastic substrate materials, if regrind is allowed, all specimens for testing must be obtained from production parts that are made from the maximum allowable regrind as stated on the drawing.

3.1.3.2 Final AAA will be based on the results of testing performed on production parts for each combination of substrate, adhesive and manufacturing location. Tests may be performed on surrogate parts or plaques, only when approved in advance by GM Materials Engineering.

3.1.3.3 All materials used in the bond joint including substrates, paint, coatings, adhesion promoters, and adhesives, shall have been qualified and approved to the appropriate GM specifications.

3.1.3.4 All cure/activation schedules are to be those of the production system and must agree with the adhesive manufacturer's recommendations.

3.1.4 Test Time.

Calendar time:	Refer to the individual test specification
Test time:	Refer to the individual test specification
Coordination time:	Refer to the individual test specification

3.1.5 Test Required Information. Refer to the individual test specification

3.1.6 Personnel/Skills. All testing engineers shall be trained to perform the indicated tests.

3.2 Preparation. Not applicable.

3.3 Conditions. Unless otherwise specified, bonded samples shall be subjected to testing after a minimum aging period of 72 h following the curing/activation cycle. A shorter aging period may be used with approval of the appropriate GM engineer.

3.3.1 Environmental Conditions. Test samples shall be prepared and conditioned per GMW3221.

3.3.2 Test Conditions. Deviations from the requirements of this standard shall have been agreed upon. Such requirements shall be specified on component drawings, test certificates, reports, etc.

3.3.2.1 Tests shall be conducted using the latest issue of the test methods indicated in Table 1. Suitable precautions should be taken to ensure that applicable safe limits are not exceeded when conducting test procedures, processes and/or handling the materials required by this specification.

3.4 Instructions. Refer to the individual test specification.

3.5 Data. When testing is completed, the tested components will be reviewed by the responsible GM Materials Engineer.

3.6 Safety.

This Engineering Standard may involve safety requirements for hazardous materials, the method of operations and equipment. This standard does not propose to address all the safety issues associated with its use. It is the responsibility of the user of this standard to ensure compliance with all appropriate safety and health practices. This would include any specific training that may be required. The safety and health standards include site specific rules and procedures, company rules and procedures, and Government Standards. Contact shall be made with the appropriate site Safety and Health personnel for further direction and guidance in these matters.

3.7 Documentation. Samples of components or material released to this standard shall be tested for conformity with the requirements of this standard and approved by the responsible GM Department prior to the start of delivery of production level components or materials.

Any change to the component or material, e.g., design, function, properties, manufacturing process and/or location of manufacture requires a new release of the product. It is the sole responsibility of the supplier to provide the customer, unsolicited, with documentation of any change or modification to the product/process, and to apply for a new release.

If not otherwise agreed to, the entire verification test shall be repeated and documented by the supplier prior to start of delivery of the modified or changed product. In some cases, a shorter test can be agreed to between the responsible GM department and the supplier.

3.7.1 Test Results. Test reports shall be written per the Requirements for Test Report in ISO/IEC 17025. A checklist of all documents required for AAA is provided in Appendix A, Table A3. This checklist includes the forms shown in Appendix A, Tables A1 and A2.

4 Requirements and Procedure

Table 1: GM AAA Testing Requirements

Adhesive Application Type	Testing Specification
Interior	GMW14892
Stationary Glass Bonding	GMW3041
Mirror Button/Hardware Bonded to Glass	GMW16016
Tape-Attached Exterior Trim	GMW15671
Plastic Claddings for Wheels	GMW16232
Metal Bonding (Structural)	GMW18077
Metal Bonding (Anti-flutter)	GMW18076
Polymer Composite Bonding	GMW15921
Polymer (Plastic) Bonding	GMW15921
Roof Ditch Clip Attachment	GMW16195
Emblem Retention	GMW16742
Adhesion Performance Requirements for Adhesive Backed Light Trim and Foam	GMW16443
Adhesive Compatibility Approval for Foam Tape	GMW17333

5 Provisions for Shipping

Not applicable.

6 Notes

6.1 Glossary. Not applicable.

6.2 Acronyms, Abbreviations, and Symbols.

%	percent(age)
AAA	Adhesive Application Approval
DUNS	Data Universal Number System
GSSLT	Global Subsystem Leadership Team
IMDS	International Material Data System
mm	millimeter(s)
No.	Number

7 Additional Paragraphs

7.1 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).

8 Coding System

This standard shall be referenced in other documents, drawings, etc., as follows:
GMW15625