



Adhesive Application Approval Requirements

1 Scope

1.1 Material Description. 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 Symbols. Not applicable.

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

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

1.4 Remarks. AAA is required for Production Part Approval Process (PPAP) in accordance with the latest revision level of this standard.

1.5 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.

ISO/IEC 17025 ISO/TS 16949

2.2 GM Standards/Specifications.

GMW3041	GMW14892	GMW15921	GMW16195
GMW3059	GMW15200	GMW16016	GMW16232
GMW3221	GMW15671	GMW16183	GMW16742
GMW14874			

2.3 Additional References.

TMC003 Material Safety Data Sheet guidance documents (available at www.gmsupplypower.com).

3 Requirements

3.1 Testing Requirements. Perform AAA testing as indicated in Table A1.

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

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

3.1.3 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.

3.1.4 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.

3.1.5 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.

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

3.1.7 Test Review. When testing is completed, the tested components will be reviewed by the responsible GM Materials Engineer.

3.1.8 Test Conditions. Tests shall be conducted using the latest issue of the test methods indicated in Appendix A, Table A1. 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.

3.2 Requirements on Test Specimens. Reference GMW3221.

3.2.1 Sample Conditioning. 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.

3.2.2 Safety. This standard may involve hazardous materials, operations, and equipment. This standard does not propose to address all the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

3.2.3 All tested samples shall be retained by the supplier for review by the appropriate GM Materials Engineer at least until AAA is obtained.

3.3 Changes in Processing.

3.3.1 Notification. 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 AAA release using the AAA Request Form in Appendix A, Table A3.

3.3.2 Process Changes. After the initial AAA has been established, any change in processing parameters as recorded on the Adhesive Bonding Process Data Sheet (Appendix A, Table A2), requires evaluation with the responsible GM Materials Engineer.

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

3.4 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 A4.

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

4 Manufacturing Process

Not applicable.

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.

If not otherwise agreed, all release tests shall be repeated and documented by the supplier prior to commencement of delivery of non-conforming bulk supplies. In individual cases, a shorter test can be agreed to between the responsible Engineering department and the supplier.

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. In addition, product MSDS/SDS submissions must be in compliance with specific country General Motors TMC003 Material Safety Data Sheet/Safety Data Sheet guidance documents where available.

5.5 All materials supplied to this standard must comply with the requirements of GMW3059, **Restricted and Reportable Substances for Parts.**

6 Approved Sources

A list of approved materials can be found in MATSPC. This GM Material File is provided to third parties to reduce redundant testing of materials. If approved material already listed is used, the part supplier can use GM Material File reference for Production Part Approval Process (PPAP) material approval. If the decision is made to use a not yet approved material, contact the Adhesives Global Subsystem Leadership Team for details on the approval process. The material approval process must be completed prior to PPAP start date of the part supplied to General Motors.

7 Notes

7.1 Glossary.

MATSPC: Global repository of GM approved materials for corresponding GM Engineering Standards.

7.2 Acronyms, Abbreviations, and Symbols.

AAA	Adhesive Application Approval
DUNS	Data Universal Number System
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
MSDS	Material Safety Data Sheet
PPAP	Production Part Approval Process
SDS	Safety Data Sheet
TS	Technical Specification

8 Coding System

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

Material per GMW15625

9 Release and Revisions

This standard was originated in June 2007. It was first approved by the Global Adhesives Team in June 2008. It was first published in June 2008.

Issue	Publication Date	Description (Organization)
1	JUN 2008	Initial publication.
2	JUN 2011	Added Tables to Appendix A. (Adhesives GSSLT)
3	AUG 2014	Added GMW16742 to Appendix A, Table A1. (Materials-Adhesives GSSLT)