



## **Paint, One or Two Component, Underhood, for Polyamides**

### **1 Scope**

**1.1 Material Description.** This specification covers requirements for an underhood, waterborne or solvent borne, one or two component paint system for use on parts made of polyamides. These polyamides must be conditioned per GMW3221. Paint systems that pass the requirements of this specification must first pass the requirements of GMW17046 to be approved to this specification.

**1.2 Symbols.** Not applicable.

**1.3 Typical Applications.** Underhood beauty covers.

**1.4 Remarks.** Not applicable.

### **2 References**

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

#### **2.1 External Standards/Specifications.**

None

#### **2.2 GM Standards/Specifications.**

GMW3059

GMW3221

GMW17046

#### **2.3 Additional References.**

TMC003 Material Safety Data Sheet guidance documents (available at [www.gmsupplypower.com](http://www.gmsupplypower.com)).

### **3 Requirements**

**3.1 Paint System Requirements.** The paint system tested on the panels must be identical to the production intent paint system and processing. The film builds of the paint systems to be tested shall be submitted at 25  $\mu\text{m}$  +5  $\mu\text{m}$ /-2  $\mu\text{m}$ .

**3.1.1 Paint Technology Approval.** All paint technology approvals for this specification must pass the requirements of GMW17046.

**3.1.1.1 Sample Preparation and Identification.** The plastic substrates and paint system shall be identified per 3.2.1.1.1 and 3.2.1.1.2.

**3.1.1.1.1 Approved Plastic Substrate.** Per MATSPC:

- Vendor.
- Compound Number.

**3.1.1.1.2 Paint System.**

- Vendor.
- Paint Formulation.
- Processing conditions, including all reduction parameters, surface preparation, flash and cure times, and temperatures and dry film thickness, for each film of paint applied.

**3.1.1.2 Appearance.** The finished coating shall present a smooth, uniform, continuous appearance with the color on all surfaces of the assembled unit matching the approved master standard.

**3.1.2 Color Approval.** Each color of an approved technology must, in addition, be tested to the properties listed and outlined in GMW17046.

## 4 Manufacturing Process

All coatings approved to this standard must be applied and cured according to the submitted paint processing requirements per GMW17046 Section 4. Any painted plastic parts which do not conform to the cure, film build or appearance standards, shall be cause for rejection.

## 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

Materials supplied to this specification must be approved by General Motors.

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 Finishes and Coatings Global Subsystem Leadership Team (GSSLT) 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.

|              |                                                                        |
|--------------|------------------------------------------------------------------------|
| <b>GHS</b>   | Globally Harmonized System of Classification and Labeling of Chemicals |
| <b>GSSLT</b> | Global Subsystem Leadership Team                                       |
| <b>MSDS</b>  | Material Safety Data Sheet                                             |
| <b>PPAP</b>  | Production Part Approval Process                                       |
| <b>SDS</b>   | Safety Data Sheet                                                      |