



UV/Thermal Dual Cure Primer for Plastic Substrates

1 Scope

This specification covers the requirements for an ultraviolet (UV)/thermal dual cure solventborne sealing primer for plastic substrates.

1.1 Material Description. This sealing primer is part of the total painted product system and must provide a smooth, adhesion-promoting coating direct to a substrate and to subsequent coatings.

1.1.1 Materials Qualified to this Specification. This primer is part of a total painted product system and must meet requirements set forth in the specifications for other materials with which it is used. This specification shall be used in conjunction with the Approved Paint on Plastics Systems (APOPS), a section of GM Materials Approved Source List which lists approved substrate, cleaning, priming, and topcoat combinations. APOPS test requirements are defined in GMW14797.

1.2 Symbols. Not applicable.

1.3 Applicability. This sealing primer is typically used on plastic substrates that are prone to pinholing or blow-out during painting operations. Examples of plastic substrates are Sheet Molded Compound (SMC) and reinforced Reaction Injected Molded (RIM) compound.

1.4 Remarks. None.

2 References

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

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

9984804	GMW14270	GMW17105	GMW17328
GMW3059	GMW14797		

2.3 Additional References.

None.

3 Requirements

3.1 Performance Requirements. A material submitted for qualification to this specification must meet the requirements of GMW17105. The supplier must clearly define the usage target in their submission letter.

3.1.1 Delamination Resistance. Delamination Resistance testing (GMW17328) must be completed for each type of substrate that the dual cure primer is intended to be used on.

3.1.2 Paint Pop Suppression Test. The Paint Pop Suppression test (outlined in 9984804) must be completed for each type of SMC or RIM substrate that the dual cure primer is intended to be used on.

3.2 Processing Requirements. For exterior grade parts, this primer is applied then cured/baked prior to application of an approved topcoat system. The supplier must define the recommended flash time prior to UV cure.

3.2.1 Bake Window. Cure charts must be developed for each specific product as outlined in GMW17105. A separate cure chart is required for the UV and thermal portions of the cure process. The UV dosage window must also identify the type of lamp and the dosimeter used for creation of the cure window.

3.2.1.1 Once developed and approved, the bake chart is signed by Manufacturing Engineering Vehicle Systems Paint Engineering and is the only acceptable document for defining cure.

3.3 All materials supplied to this standard must comply with GMW3059, **Restricted and Reportable Substances**, including the requirement to obtain a GM-approved International Material Data System (IMDS) submission.

4 Manufacturing Process

All shipments of material or parts under contract or purchase order manufactured to this specification shall be equivalent in every respect to the initial samples approved by engineering. There shall be no changes in either formulation or manufacturing processes permitted without prior notification and approval by engineering. Lack of notification by the supplier constitutes grounds for rejection of any shipment. While samples may be taken from incoming shipments and checked for conformance to this specification, the supplier shall accept the responsibility for incoming shipments meeting this specification without dependence upon purchaser's inspection. In addition, the supplier shall be responsible for submitting a Certificate of Analysis with each batch of material arriving at a plant.

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.

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.

5.5 Incoming Material Approval. No shipment shall be made by the supplier until it is demonstrated that each shipment or batch complies with acceptance criteria established during Production Part Approval Process (PPAP).

6 Approved Sources

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

The appropriate GM Materials Engineering Department (Product Engineering or Manufacturing Engineering) must confirm materials as meeting the requirements of this specification. Only materials/sources listed in the GM Materials Approved Source List under this standard number have been qualified by Engineering as meeting the requirements of this standard.

Engineering qualifications of an approved source are required for this standard. Only sources listed in the GM Materials File (i.e., GM SupplyPower) under this standard number have been qualified by engineering as meeting the requirements of this standard. To access this list, reference GMW14270 for latest location.