



Primer Surfacer – High Solids, High Bake

1 Scope

This specification covers the qualification and performance requirements of a thermosetting, sandable, high-solids, solvent-borne primer surfacer.

1.1 Material Description. The primer surfacer covered in this specification is intended to be applied and baked over electrodeposition (ELPO, E-Coat, Electrocoat) primer prior to topcoat. The nominal bake for this system is 25 minutes at 163 °C (325 °F) substrate temperature.

1.2 Symbols. Not applicable.

1.3 Applicability. The primer surfacer is intended to provide a smooth, adhesion promoting coating over baked electrodeposition primer. It is also intended to provide an easily sanded surface.

1.4 Remarks. The primer surfacer is typically applied by electrostatic spraying and is subsequently topcoated with high solids acrylic enamels or waterborne color coats.

2 References

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

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

GM4389M

GMW3002

GMW3059

2.3 Additional References.

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

3 Requirements

Individual material sources may differ in their physical or chemical properties. Upon submission, all material properties, system performance and system processing properties shall be established and documented. Such properties shall form the basis of all subsequent lots.

3.1 Requirements on Test Specimens. Materials approved to this specification must meet all the material, performance, and processing requirements of GMW3002. Only exceptions or requirements specific to this type of material are noted herein. The primer must be evaluated for plant-specific material layering and processing before release for production use.

3.1.1 Film Thickness. Materials approved to this specification must meet all specified appearance and durability requirements within the following film ranges:

- Interior Primers: 15 µm to 30 µm (0.6 mil to 1.2 mil)
- Exterior Primers: 20 µm to 40 µm (0.8 mil to 1.4 mil)

Note: Mil = one thousandths of an inch. See 7.2.

3.1.2 Bake. Products that are approved to this specification have a typical bake range of 160 °C to 182 °C (315 °F to 360 °F). Time at substrate temperature typically ranges from 15 minutes to 90 minutes. Refer to the approving GM engineer for additional information regarding exceptions to the typical processing bake temperature and time ranges.

3.1.3 Bake Window. Must be developed as specified in GMW3002 to define technology limits for each product. Once developed, the bake window must be approved and signed by the appropriate Manufacturing Engineering

(ME) Vehicle Systems (VS) Paint and Seal Materials Engineer and it is the only acceptable document defining cure.

3.1.4 Melt-in. The material must be able to melt-in with wet-on-wet materials. The overspray cannot telegraph or have read-through to the topcoat.

3.1.5 Color. The color match, color standards, and color panels must be approved by the responsible GM engineer.

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.

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) for a minimum of identified attributes per GM4389M.

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.

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 File (MATSPC) under this standard number have been qualified by Engineering as meeting the requirements of this standard.

7 Notes

7.1 Glossary.

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

7.2 Acronyms, Abbreviations, and Symbols.

E-Coat Electrodeposition, Electrocoat, ELPO

ELPO E-Coat, Electrodeposition, Electrocoat

GHS Globally Harmonized System of Classification and Labeling of Chemicals

ME Manufacturing Engineering