



Paintable Pumpable Paint Shop Sealer Compatible with High Bake Waterborne Primer

1 Scope

This specification details the requirements of a Paintshop sealer that is designed for compatibility with high bake (20 minutes at 165 °C) waterborne liquid primer and standard bake (20 minutes at 135 °C) topcoat systems. This material is high appearance paintable and pumpable. The material is applied in the paint shop after the electrodeposition coating (e-coat) bake, before primer surfacer, and must be capable of being either manually or robotically applied. The material is intended to seal interior and exterior body joints against water, dust, air intrusion, and corrosion. The material must be compatible with high bake waterborne liquid primer surfacer and standard bake topcoat systems resulting in high appearance requirements.

1.1 Material Description. The material must be a smooth and homogeneous mixture free of air, lumps, unmixed particles or foreign materials. It must be capable of being dispensed with approved and validated standard production displacement pumping and robotic application equipment including: single point streaming, ribbon tip (flat stream), automated hem sealing, manual tip and flow brushing. It must not have a noxious or toxic odor in either the uncured or cured state. In addition, the material must not adversely affect personnel handling it.

1.1.1 The Material must adhere to all approved production e-coat substrates. It must have good durability and not accelerate the rusting of steel over which it is applied.

1.2 Symbols. Not applicable.

1.3 Applicability. Paint shop sealer designed for use in high bake paint shops and is compatible with high bake waterborne liquid primer systems.

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.

GMW3059	GMW14270	GMW16087	GMW17405
GMW3221	GMW14444	GMW16853	

2.3 Additional References.

- Design Failure Mode and Effects Analysis (DFMEA)
- Formulation Footprint
- Key Control Characteristic (KCC)
- Key Product Characteristic (KPC)
- Process Capability Study and Measurement Systems Analysis
- Process Flow and Control Plan
- Product and Process Specific Design Matrix
- Product Failure Mode and Effects Analysis (PFMEA)

3 Requirements

3.1 Requirements on Test Specimens.

3.1.1 Material Testing and Validation. This material must be tested and validated to the requirements in GMW16087.

3.2 Emissions Testing of Interior Materials and Parts. For all Code E designated parts per GMW14444, reference GMW16853 for emissions testing of interior materials and parts.

3.3 Sample Conditioning. All samples are to be conditioned prior to each requirement test to GMW3221, Code D.

3.4 Performance Requirements. All performance requirements are detailed in GMW16087.

3.5 Production Part Approval Process (PPAP). In addition to the requirements detailed in 3.1 thru 3.4, all new material must comply with and meet all PPAP documentation requirements including (but not limited to): Product and Process Specific Design Matrix, Design Failure Mode and Effects Analysis (DFMEA), Product Failure Mode and Effects Analysis (PFMEA), Key Product Characteristic (KPC), Key Control Characteristic (KCC), Process Flow and Control Plan, Formulation Footprint, Process Capability Study and Measurement Systems Analysis.

3.5.1 Detailed technology specific bake charts must be developed and submitted to the appropriate GM Paint Engineer for approval.

3.6 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 standard, 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 the responsible engineer. 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 the standard, the supplier shall accept the responsibility for incoming shipments meeting this standard without dependence upon the purchaser's inspections. In addition, the supplier shall be responsible for submitting a Certificate of Analysis (COA) with each batch of material arriving at a plant. This document shall be prepared and shall provide data in accordance with the requirements detailed in GMW17405.

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.