

CORROSION PREVENTIVE COMPOUNDS FOR SHEET METAL

9981848 9981849

9981850 9981851

1 SCOPE. This specification describes the requirements of oil formulations that are compatible with current production processes and paint systems. These compounds are used to protect sheet metal against corrosion and stains during storage, shipment, or production stoppage with unusual corrosive conditions (humidity, fumes, or extended time). These products must be applied at a coating weight no more than 5.4 g/m² (500 mg/ft²) and are intended to provide corrosion protection superior to conventional mill oils.

2 REFERENCED STANDARDS.

GM3623M	GM9617P	9981842
GM9611P	9981833	9981849
GM9612P	9981836	9981850
GM9613P	9981848	9981851
GM9615P	9981839	

3 REQUIREMENTS. Specific material requirements and appropriate test methods are listed under properties. These materials are classified according to the surfaces being protected.

3.1 Surface Description.

- 9981848: Cold rolled, textured or hot rolled pickled and oiled sheet steel.
- 9981849: One side zinc coated sheet steel (hot dip galvanized or electrogalvanized).
- 9981850: Two side zinc coated sheet steel (hot dip galvanized or electrogalvanized).
- 9981851: Prepainted sheet steel.

3.2 Physical Properties.

3.2.1 Chemical Requirements. No silicone or lanolin compound of any kind is allowed as a component in the material.

3.3 Performance Requirements.

3.3.1 Corrosion Resistance (GM9617P). The material must provide corrosion and stain resistance that exceeds the performance of conventional mill oils for the purpose of protecting sheet metal during extended storage, shipment, or against unusual corrosive conditions.

3.3.1.1 The material tested per GM9617P must not exhibit more corrosion or staining than the control panels after 1, 5, 10, and 15 cycles with no more than slight stain or corrosion being acceptable after 15 cycles.

3.4 Process Requirements.

3.4.1 Compatibility with Structural Adhesives (GM3623M). The material must meet the requirements of GM3623M or otherwise specified.

3.4.2 Welding Requirement (GM9615P). The material must perform comparable to or better than the currently approved reference (control) 9981833.

3.4.3 Compatibility with Phosphate System (GM9611P). The supplier of the material must have an approved GM phosphate system source perform the test. The result must be submitted in writing to the appropriate GM Paint Engineering Activity.

3.4.3.1 Appearance. Immediately after the final rinse and before drying, the phosphated surfaces shall exhibit a continuous water film. The dry phosphated surface on all substrates, when visually compared, shall be uniform (no visible holes in the coating when viewed under 250X and 500X magnification).

3.4.3.2 Crystal Size (9613P). The crystal size shall be small when viewed under 250X magnification.

Small	2 - 10 μm
Medium	11 - 25 μm
Large	> 25 μm

3.4.3.3 Coating Mass. Coating mass shall be determined by the weigh-strip-weigh method.

Substrate	Coating Mass (g/m ²)
Cold Rolled Steel	1.1 - 2.7
Galvanized	1.6 - 3.3
Aluminum	1.1 - 2.2

NOTE: GM Paint Engineering Activity, not the phosphate supplier, will determine the disposition (pass or reject) based on the results.

3.4.4 Elpo Primer Compatibility (GM9612P). A rating of 6 or better on a scale of 0 to 10 (with 10 being the best) is required.

4 WASTE TREATMENT. The material must be compatible with existing waste treatment processes so that total removal can be achieved. The supplier shall be responsible to make known the processing procedures for any component of the material for which the waste treatability is in question.

5 INITIAL SOURCE APPROVAL. No shipment shall be made by any supplier until representative initial production samples have been approved by engineering as meeting the requirements of this specification.

5.1 Completed copies of the GM Material Safety Data Sheet and Critical Material Register (available from the engineering

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department or laboratory) must be submitted with any new submissions or where a composition change has occurred.

6 SOURCE SHIPMENT RESPONSIBILITY. It will be the responsibility of the supplier to insure that the material is not exposed to temperatures during shipment which would cause the material to fail to meet any of the requirements of this specification.

7 INSPECTION AND REJECTION. 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.

8 APPROVED SOURCES. Engineering qualification of an approved source is required for this specification. Only sources listed in the GM Material File under this specification number have been qualified by engineering as meeting the requirements of this specification.

9 GENERAL INFORMATION. This specification was issued by Fisher Body in March 1978. The latest revisions include the following: February 1989 revised scope and some editorial changes; September 1988 complete revision by the Paint Steering Committee.