

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS G-9012
		Former Designation: <i>TMS-9012</i>
TITLE: IMC Properties for SMC Parts		CURRENT REV No.: 1404
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<i>This specification may involve hazardous materials, equipment, and procedures. This specification does not purport to address all of the safety issues associated with its use. The user is responsible to consult appropriate safety and health practices and to determine the applicability of regulatory limits prior to use.</i>		
Change Notice: Change to new MPAPS format; editorial changes.		

1.0 APPLICATION

This specification covers the in-mold coating (IMC) process and requirements for compression molded SMC parts that subsequently require finish paint to NAVISTAR specifications. Typical parts include hood and fender assemblies and similar exterior applications.

2.0 SCOPE

This specification covers surface appearance and dry film properties of in-mold coating (IMC), inspection, quality control and source approval for coated SMC parts prior to shipment to NAVISTAR. It also includes repair of IMC surfaces and handling of IMC parts.

2.1 Restricted Chemical Substances

Effective January 1, 2007, all product supplied to the requirements of this specification must comply with the requirements of the MPAPS B-50 specification.

3.0 REFERENCE DOCUMENTS

Unless otherwise specified the latest issue of all referenced standards shall apply. The following Specifications, Standards, and Regulations are referenced in this specification.

Quality System Standard *ISO 9001 or TS-16949*

CFR Title 29, Part 1910

NAVISTAR Manufacturing Std. MS-D-13

NAVISTAR CEMS GT-5A

NAVISTAR CEMS GT-5B

NAVISTAR CEMS GT-5C

NAVISTAR CEMS GT-4D

NAVISTAR CEMS GT-6B

NAVISTAR TMS-9005

NAVISTAR MPAPS D-22

NAVISTAR Eng. Design Std. A-16

NAVISTAR CEMS GT-7E

NAVISTAR CEMS GT-14A

NAVISTAR CEMS GT-18

NAVISTAR CEMS GT-28

ASTM D4138

SAE J400

4.0 GENERAL REQUIREMENTS

This specification is not intended to limit or specify the exact process and materials to be used in providing SMC parts ready for topcoating at NAVISTAR paint operations. The control of the IMC

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quality and its application shall be the responsibility of the SMC part supplier. All IMC parts supplied must be compatible with the finish paint operations employed by the using NAVISTAR facility.

4.1 Priming of SMC parts that use IMC requires special treatment. In cases where coverage of the part is essentially complete, the use of only a spot primer may be satisfactory or no additional primer application may be needed (i.e. topcoat direct to IMC). In cases where coverage of the part with IMC is less than complete, the use of a sealer-primer will be required to seal the substrate. If the incompletely covered area is less than 2 inches in diameter, no priming may be necessary if the area does not show through after topcoat and does not promote surface defects, e.g. pitting and porosity. If the incompletely covered area is greater than 2 inches in diameter, or more than 3 instances of bare substrate occur, the use of a primer-sealer must be employed.

4.2 It is recognized that certain defects, such as porosity, may not be detectable in an IMC part until after topcoat application. Isolated instances of porosity, as defined in Table 1, shall not be cause for rejection. Chronic cases of porosity requiring significant rework shall be cause for rejection and the responsibility of the vendor to correct. It is the responsibility of the supplier to ensure that all IMC parts are completely free of visible porosity and other defects, which would cause significant rework, prior to shipping the using NAVISTAR facility. . This will require close cooperation between the supplier, NAVISTAR Materials Engineering, and the paint facility.

4.3 Performance Requirements

4.3.1 Appearance

Unless otherwise stated, all parts with IMC designated application shall be considered Zone I appearance parts (See Table 1 – Zone I Requirements). This means the part is a primary, exterior, glamour surface, which requires the highest cosmetic standards and fewest defects. IMC coverage should be >99%. Areas with bare substrate shall be repaired in accordance with TMS-9005 and/or section 4.1 above.

4.3.2 Dry Film Requirements

Dry film properties are given in Table II. The requirements apply to the IMC as processed in the mold after cure and part cool down.

4.3.3 Bake Temperatures

Parts requiring primer application shall be oven-cured within the minimum and maximum schedules for time and temperature prescribed by the primer supplier.

4.3.4 Inspection

Parts shall be inspected for appearance requirements at a distance of 2 feet under a fluorescent light. Samples illustrating acceptable and unacceptable surface conditions shall be displayed in the inspection area.

4.4 Repair Procedure

4.4.1 Priming Of Surface Repairs

Sand-through of the IMC or incompletely covered areas greater than 2 inches in diameter must be primed and baked. Spot priming of these areas is acceptable if there is no show-through of primer boundaries and the surface is adequately sealed. If show-through occurs or the surface is not sufficiently sealed, the entire part must be primed and baked. Spot priming without bake is acceptable