PAINT PERFORMANCE, METAL SUBSTRATES, LOW VISIBILITY, 4 WEEK RESISTANCE — **WSS-M2P177-C1**

PAINT PERFORMANCE, METAL SUBSTRATES, MODERATE VISIBILITY, 6 WEEK RESISTANCE — **WSS-M2P177-C2**

PAINT PERFORMANCE, METAL SUBSTRATES, HIGH VISIBILITY, 9 WEEK RESISTANCE — **WSS-M2P177-C3**

1. SCOPE

These specifications define the minimum performance requirements for a protective finish for chassis and engine components. These parts are generally not top coated at the assembly plant.

2. APPLICATION

These specifications were originally released for chassis and engine components that do not experience continuous operating temperatures above 121 °C (250 °F) and which receive a minimal amount of direct ultraviolet exposure. Where temperature exceeds 121 °C, a high temperature paint system should be considered. In applications where prolonged exposure to UV light is expected, epoxy resins should not be used.

These specifications are typically used for epoxy based e-coat or powder coatings. These specifications are not intended to limit the coating to any specific material type or process, but instead define the performance of the system. The following components should use the following performance levels.

WSS-M2P177-C1	Knuckles, non-visible castings, engine block
WSS-M2P177-C2	Stabilizer bars, control arms, brackets, shocks, sub-frames, frames, bumper beams
WSS-M2P177-C3	Tow hooks, trailer hitches, fuel system components

3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.2 SUBSTRATE PROPERTIES

3.2.1 Substrate

As specified on the Engineering Drawing. Except for Chip Resistance, all requirements of these specifications must be validated with actual production intent components.

Date	Action	Revisions	Rev. 2
2011 09 19	Revised	See Summary of Revisions	A. Wedepohl, NA
2010 05 25	Revised	See Summary of Revisions	A. Wedepohl, NA
2009 05 21	Activated	Replaces WSS-M2P177-B1/B2	A. Wedepohl, NA

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3.2.2 Metal Preparation

The surface to be coated must be free from oil, alkaline residues, rust, dirt, moisture and other foreign materials. A preliminary shot blasting or pickling operation is required on castings, forgings, and scaled steel.

A zinc phosphate pretreatment per WSS-M3P36-A1 is recommended for electrocoated or powder coated components.

3.3 FILM PROPERTIES

3.3.1 Color

Black or as specified on the engineering drawing.

3.3.2 Initial Hardness

The finish shall be sufficiently cured at the time of packing to withstand normal handling and shipping without damage.

3.3.3 Adhesion
(ASTM D3359)

Method A, X-cut Tape Test	4A or better
Method B, Cross-Cut Tape Test	4B or better

Available surface area and contour of the component determines which method to use. If both methods are suitable, then Method B is preferred. When using Method A, a minimum of three X-cuts per part is required to increase sampling area.

3.3.4 Film Thickness, min
(FLTM BI 117-01, ASTM B 487)

Coating thickness must be sufficient to meet all the performance requirements of these specifications. Minimum coating thickness must be listed on the print and should be based on production intent parts. The type of coating shall also be referenced on the print.

Example: E-coat per WSS-M2P177-C2, 20 µm min

3.4 RESISTANCE PROPERTIES

3.4.1 Chip Resistance 5BA max
(SAE J400, Method C, Method II) (less than 49 chips
Chip size < 3 mm)

Test shall be conducted on production intent components or on panels. The test panel must have the same substrate i.e. cold rolled/hot rolled steel, cast iron, wrought/cast aluminum and be painted on the same system as the production intent component.

or (FLTM BI 157-06) 6 min

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