PAINT PERFORMANCE, ALUMINUM WHEELS, LEVEL 1 CORROSION	**WSS-M2P122-C1**
PAINT PERFORMANCE, ALUMINUM WHEELS, LEVEL 2 CORROSION	**WSS-M2P122-C2**
PAINT PERFORMANCE, ALUMINUM WHEELS, LEVEL 3 CORROSION	**WSS-M2P122-C3**
PAINT PERFORMANCE, STEEL WHEELS, LEVEL 1 CORROSION	**WSS-M2P122-C4**
PAINT PERFORMANCE, STEEL WHEELS, LEVEL 2 CORROSION	**WSS-M2P122-C5**
PAINT PERFORMANCE, STEEL WHEELS, LEVEL 3 CORROSION	**WSS-M2P122-C6**

1. SCOPE

These specifications define the performance requirements for color/clear coatings over wheels.

2. APPLICATION

These specifications were released originally for full or partially painted wheels.

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).

All requirements of this specification must be met with production intent wheels, unless otherwise noted.

3.2 COATING

The supplied coating shall be a continuous film, free of blisters, bubbles, foreign material and similar imperfections.

3.3 FILM PROPERTIES

3.3.1 Film Thickness

Coating thickness must be sufficient to meet all the requirements of these specifications. Each coating manufacturer's thickness requirements are to be specified on the applicators Control Plan.

To protect against filiform corrosion, the recommended thickness for bright machined, clear coated wheels is 0.070 mm.

Primer and Color usage will be defined on the Engineering Drawing.

Date	Action	Revisions	Rev 03
2012 02 06	Revised	See summary of revisions	C. Mracna, NA
2010 09 27	Revised	Added 3.3.4, clarified 3.9 & 3.10, deleted 3.12.1, modified 4.3	C. Mracna, NA
2008 06 20	Activated		C. Mracna, FNA

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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 Color and Gloss
(FLTM BI 109-01 and BI 110-01)

Paint suppliers must certify color and gloss as required on Engineering Drawing for each batch of paint. Paint areas and gloss levels on wheels must match master samples originally approved by the Design Center.

3.3.4 Gas Soak
(Immerse samples for 1 hr at 23 +/- 2 °C in commercially available grade of 87 octane, lead free gasoline.)

After 5 minute recovery time, no color change in excess of Gray Scale rating 4 – 5 (AATCC Evaluation Procedure 1/ISO 105-A02), no gloss change (FLTM BI 110-01, 25% max), and no surface distortion or permanent softening permitted. Adhesion shall meet the requirements of para 3.4.

3.4 PAINT ADHESION — Grade 1 max
(FLTM BI 106-01, Method B, carbide tip scribe only)

Lightly hand sand paint film surface (10 double rubs, moderate pressure) with P600 paper until dull, before scribe operation and checking adhesion.

3.5 HIGH PERFORMANCE ADHESION

3.5.1 Thermal Shock
(FLTM BI 107-05) — 2 mm^2 max at scribe intersection or 1.5 mm from the scribe line

Alternate Method

3.5.2 Resistance Against High Pressure Cleaner
(FLTM BO 160-04, Method B) — 2 mm^2 max

Prior to testing the painted surface shall be X-scribed through to the substrate (30° angle).

3.6 FLUID SPOTTING RESISTANCE — Rating 4 - 5
(FLTM BI 168-01, Body & Exterior Trim, Methods A and B, AATCC Evaluation Procedure 1/ISO 105-A02. For Method A adhesion testing, Grade 2 max should be used.)

3.6.1 Gasoline Resistance

3.6.2 Diesel Fuel Resistance

3.6.3 Brake Fluid (DOT 3 or DOT 4)

3.6.4 Wheel Cleaner Resistance
(Motorcraft wheel cleaner - P/N ZC-37)

3.6.5 Tire Sealant Resistance
(Temporary Mobility Kit, P/N 4G7V-19L523-AB)

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3.7 CHIP RESISTANCE

3.7.1 Stone Chip Resistance — 4B max
(SAE J400, 0.5 L (1.05 pts.) of gravel, -20 & 23 °C)

Alternate Method

3.7.2 Grit Blast, Split Shot — Rating 7 min
(FLTM BI 157-06)

Test shall be conducted on flat test pieces cut from production wheels or simulated test panels.

3.8 WATER RESISTANCE, 240 h
(FLTM BI 104-01)

No blistering, no gloss change (FLTM BI 110-01, 25% max), no loss of adhesion, and/or any other coating failure. Adhesion shall be tested within 20 minutes after removal from water according to paragraph 3.4, Grade 2 max allowed.

3.9 WEATHERING RESISTANCE — 3000 hours
(SAE J2527, 0.55 W/m^2 Irradiance Borosilicate and Outer Filters)

Spare wheels are exempt from accelerated weathering.

Alternate Method

Natural Weathering — 2 years
(FLTM BI 160-01, Florida, 5° south, direct weathering inland)

No evidence of yellowing, crazing, checking, chalking or other degradation in film appearance after exposure to weathering. Test panels representative of the wheel material are acceptable.

3.9.1 Color Change — Rating 4 min
(AATCC Evaluation Procedure 1/ISO 105-A02)

3.9.2 Gloss Change — 25% max without polishing
(FLTM BI 110-01) — 10% max with polishing

3.9.3 Adhesion after Weathering per section 3.4 — Grade 2 max allowed

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