



**PAINT PERFORMANCE, CORROSION/HEAT RESISTANT COATING,
250 °C, MAX**

WSS-M2P178-A

**PAINT PERFORMANCE, CORROSION/HEAT RESISTANT COATING,
350 °C, MAX**

WSS-M2P178-A2

**PAINT PERFORMANCE, CORROSION/HEAT RESISTANT COATING,
450 °C, MAX**

WSS-M2P178-A3

1. SCOPE

These specifications define the performance requirements for a heat and corrosion resistant coating for brake components.

2. APPLICATION

These specifications were released originally for brake system components. Typical substrates include cast iron calipers, drums and rotors, low carbon steel brackets and other miscellaneous brake components.

WSS-M2P178-A: Typical applications would include drums, rotors, calipers and brackets where operating temperatures do not exceed 250 °C.

WSS-M2P178-A2: Originally released for the brake rotor hat and brake drum where operating temperatures do not exceed 350 °C

WSS-M2P178-A3: To be used on fully coated brake rotors which require exceptional heat and corrosion protection.

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 CLEANING

All surfaces to be coated must be free from oil, grease, rust and other foreign materials. Phosphating or other surface preparations must comply with the coating manufacturer's recommendations.

Date	Action	Revisions
2005 10 28	Revised	Rev header, para 1, 2, 3.3, 3.4, 3.5, 3.6, 3.9 & 3.10; deleted 3.7, 3.8 & 3.11 G. Stevens
2002 08 28	Revised	Rev header & para 3.3, 3.8 & 3.9, inactivated WSS-M2P178-B & added A2 & A3 G. Stevens
1996 01 10	Activated	

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3.3 FILM THICKNESS

(FLTM BI 117-01, Eddy Mag 2000/Oxford CM1700 or equivalent)

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

3.4 COLOR

Black or as specified
on Engineering Drawing

3.5 ADHESION

(ASTM D 3359, Method A;
adhesion tape - 3M No. 898)

Grade 5A

Adhesion tests to be performed 24 hours after force curing and heat cycles. For air dry coatings, age samples for 72 hours prior to the adhesion tests.

3.6 MATERIAL CURE

Materials conforming to the specification shall be cured according to the coating manufacturer's recommendation and must be listed on the applicators Control Plan.

3.9 HEAT RESISTANCE

Heat components or simulated test panels as follows:

A1: 250 °C, 180 minutes, water quench (0 + 2 °C)

A2: 350 °C, 180 minutes, water quench (0 + 2 °C)

A3: 450 °C, 180 minutes, water quench (0 + 2 °C)

Upon removal, the samples shall show no blistering, chipping, flaking or cracking. Adhesion tests are to be performed 24 hours after heat cycle testing (Par 3.5) and the samples must meet the Grade 5A requirement.

3.10 CORROSION RESISTANCE

After cure and heat resistance tests (par 3.9), samples must pass 10 cycles of FLTM BI 123-03 and must meet rust grade #6 or better per ASTM D 610. For air dry coatings, age samples for 72 hours prior to testing.

Components coated to these specifications must meet the Corporate Standard for Total Vehicle Corrosion per ARL 18-0034 (DVM-0161-18).