

**CORROSION PROTECTIVE COATING
ZINC ORGANIC TYPE, 480 H, COLORED****WSD-M21P11-B2****1. SCOPE**

These specifications define the performance levels of proprietary corrosion protection coatings for steel which are low temperature heat cured from a solvent based dispersion of aluminum, zinc flake and/or zinc particles and organic materials.

2. APPLICATION

These specifications were released originally for a corrosion protection coating on steel. Since hydrogen embrittlement is not induced, these coatings are suitable for springs and other high hardness parts. Because of the relatively low baking temperatures of 185 - 210 °C these coatings are suitable for many cold worked spring materials.

3. REQUIREMENTS**3.0 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 APPEARANCE

B2 The coating shall consist of a base coat of Type B1 with a top color-coat of WSD-M21P10-B2. The color and gloss level shall be specified on the engineering drawing

3.3 CORROSION RESISTANCE

480 h ferrous

Finished components shall be tested in accordance with ASTM B 117. After the specified test time the components shall show no corrosion products on significant surfaces.

Significant surfaces are those surfaces visible on a part as normally assembled, or surfaces which can be the source of corrosion products visible on an assembled vehicle.

3.5 COATING MASS AND THICKNESS

		COATING MASS (Guidance value) g/m ² min	MINIMUM LOCAL THICKNESS mm
WSD-M21P11-B2	BASE COAT	25	0.008

As there is no simple strip and weigh test method the coating mass has been included for guidance only. The local thickness includes the effect of any phosphate coating and shall be determined according to Ford Laboratory Test Method BI 117-01. Undersizing of threaded components is not permitted without prior approval of Engineering Standards for standard and

Date	Action	Revisions	Rev 07
2016 03 22	Revised	Separated from B2	G. Weber, NA
2012 12 04	B1 N Status	Replaced by WSS-M21P42-A3	G. Weber, NA
2011 02 24	B3/B5 N-STATUS	No replacement named. No longer in use.	G. Weber, NA
1987 06 30	SM/ER 4896TC	Released.	J. P. G. Lines EAQ



utility parts, or the responsible engineer for threaded production parts. The coating may be thicker at thread roots and in recesses, and thinner at crests and edges. Tightness to thread inspection ring gauges may be experienced, however, the coating thickness shall not adversely affect the mechanical performance of the part or have any adverse effect on normal installation and removal practices. It is recommended that coated threaded components are checked with an appropriate size nut to 6H standard dimensions or appropriate size bolt to 6g standard dimensions.

3.6 CLEANING

Prior to coating, the parts shall be free of oil, scale and similar foreign materials. The cleaning process shall have no detrimental effect on the substrate and shall leave it free from embrittlement. Suitable pre-treatments are shot blasting and zinc phosphate coating with hexavalent chromium free rinse.

Due to shape and form mechanical cleaning may not be adequate alone. Where phosphating is used the minimum phosphate coating mass shall be 7.5 g/m^2 .

3.7 ADHESION

The coating shall withstand normal handling, storage and installation without flaking or peeling or other loss of adhesion.

3.8 TORQUE/CLAMPING FORCE REQUIREMENTS

By use of suitable additives the coating can possess self lubricating properties. When used on ISO Metric threaded components the coating shall meet the performance requirements of WZ100.

5. GENERAL INFORMATION

The information given below is provided for clarification and assistance in meeting the requirements of these specifications.

5.1 FUNCTIONAL CONSIDERATION

Due to hydraulic lock up in processing, parts with flat surfaces which may be mated e.g. flat washers or parts that nest together may not be suitable for coating by this process without specialized processing techniques.

Due to the coating build up in recesses, parts with internal drive systems and parts with small holes may also require specialized process techniques.

5.3 VEHICLE CORROSION TESTING (CETP:00.00-R-3H)

Ford Motor Company, at its option, may conduct proving ground corrosion tests of materials/parts supplied to these specifications. The results of these tests shall be used to establish approval of new material sources and may be used to control quality of existing sources.