



CORROSION PROTECTIVE COATING ORGANIC TYPE - 120 H

WSD-M21P10-B2

CORROSION PROTECTIVE COATING ORGANIC TYPE - 240 H

WSD-M21P10-B3

1. SCOPE

These specifications define the performance levels of low temperature heat cured corrosion protection coatings for steel. B2 and B3 have oil/wax surface films or a self lubrication constituent. For maximum corrosion resistance B3 may be optionally oil sealed.

2. APPLICATION

These specifications were released originally for coating of higher strength steels where hydrogen embrittlement as a result of electroplating may be induced.

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 APPEARANCE

The coating shall be a uniform color as specified on the engineering drawing and shall be free from discontinuities. The coating shall be sufficiently cured to withstand normal handling, shipping, storage and installation without significant damage, flaking or peeling or other loss of adhesion.

For all types the color and gloss level shall be specified on the engineering drawing.

3.3 CORROSION RESISTANCE

Finished components shall be tested in accordance with ASTM B 117. After the specified test time, without using supplementary magnification, one red rust spot per 1600 mm² of significant surface area is acceptable provided the spot is no greater than 1.5 mm in diameter.

B2	120 h
B3	240 h

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.

Date	Action	Revisions	Rev 05
2016 03 22	Revised	B1 removed	G. Weber, NA
2012 12 04	N Status	B1 No replacement or usage	G. Weber, NA
2007 08 31	Revised	Format Update Only	
1987 07 31	Released	SM/ER 1108TC	



3.4 COATING MASS AND THICKNESS

	Coating Mass (Guidance value) g/m ² min	Minimum Local Thickness mm
B2	15	0.005
B3	-	0.005

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 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 an appropriate size bolt to 6g standard dimensions.

3.5 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 for B2 are shot blasting and/or zinc phosphate coating. B3 can be shot blasted followed by phosphate coating and hexavalent chromium free rinse. Due to shape and form mechanical cleaning may not be adequate alone. The phosphate coating shall have a minimum coating mass of 7.5 g/m².

3.6 LUBRICATION

Where the coating does not contain a self lubricating constituent, finished parts coated with B2 shall be coated with an oil/wax film as the final process. Maximum corrosion resistance of B3 is obtained by oil sealing. These oil films shall be dry to touch.

3.7 TORQUE TENSION RELATION

B2 and B3 possess lubricating properties. When used on threaded components the coatings shall meet the performance requirements of WZ100.

4. GENERAL INFORMATION

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

4.1 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.