



PLATING, BRIGHT OR LOW GLOSS DECORATIVE OVER COPPER OR COPPER ALLOY - EXTERIOR

WSB-M1P80-B2

1. SCOPE

This specification defines exterior performance requirements for finished coatings of electrodeposited copper, nickel, and chromium for the decoration and protection of copper and copper alloy (e.g., brass) surfaces.

2. APPLICATION

This specification was released originally where a bright or low gloss decorative and protective metallic finish is required on exterior copper and copper alloy surfaces.

3. REQUIREMENTS

All requirements identified for this specification must be met to achieve acceptable field durability. No one requirement, exclusive of others, is capable of insuring satisfactory performance. Any deviations to the requirements of these specifications may be subject to additional performance requirements.

All part testing requirements apply to those areas of the part identified as a significant surface per para 5.2 unless otherwise specified on the engineering drawing.

3.1 APPROVED SOURCES

This specification is performance based and does not have approved sources.

3.2 STATISTICAL PROCESS

The following characteristics shall form part of the Control Plan but shall in no way preclude the control of additional characteristics deemed significant by the supplier and/or Ford SQA.

Significant Characteristics

(See requirement values within the body of this specification)

- . Plating Thickness
- . Plating Ductility
- . Microporosity
- . S.T.E.P. Potential
- . Sulphur Content

3.3 APPEARANCE

All parts shall have the finish (bright, low gloss or paint overlay) specified on the engineering drawing. The plated parts shall be free from surface imperfections. Low gloss or black parts shall match the approved Styling master sample for appearance.

Because of the potential adverse effect on corrosion resistance, buffing of final chromium plating on exterior parts is not permitted. Buffing or other approved mechanical treatment on the

Date	Action	Revisions	Rev 03
2018 03 06	Re-Activated	Updated to standard methods and paragraphs	K. Mueller, NA
2015 03 26	N-Status	No replacement or usage	M. Katz, NA
1988 04 20	SM/ER 3843 TC	Released J. Burke, JAF, MP. NAAO. J. Lines. EAO	



copper and nickel coatings are permitted provided that minimum plating thickness requirements are met after treatment.

3.4 PLATING ADHESION

- 3.4.1 Grind-Saw
(ASTM B571, The saw blade shall have 16 to 18 teeth/inch.)

No peeling, flaking, or lifting of the electroplate from the substrate or between layers.

- 3.4.2 Bend Test
(ASTM B571)

No peeling, flaking, or lifting of the electroplate from the substrate or between layers.

- 3.4.3 Stone Chip
(SAE J400, 45 PSI, 23 °C and -29 °C 1.4 L, Rating 5B
followed by 66 hours CASS per paragraph 3.7)

Submit photograph of stone chip panels to Product Design Engineer and Supplier Technical Assistance Engineer for review. Supplier to retain original for comparison.

3.5 DUCTILITY (ASTM B490)

Although this is considered a portion of the process control and not a requirement of part performance, the ductility of the electrodeposit on a finished part is considered acceptable when foils plated in the individual nickel baths meet or exceed the following values:

Semi-bright Nickel	80%
Bright Nickel	20%

3.6 PLATING THICKNESS (ASTM B487, ASTM B556, ASTM B504)

It is the supplier's responsibility to identify the plating thickness distribution for each unique part design and rack design by mapping the plating racks and plated parts and to employ any special processing techniques, e.g., the use of auxiliary anodes and/or shields, reducing the number of parts per rack etc., which may be required to consistently meet the specified minimum plating thicknesses on all significant surfaces.

The optical measurement of copper and nickel deposits on significant surfaces shall be considered the standard thickness test method (ASTM B487).

The chromium plate thickness on significant surfaces shall be checked by the spot test as described in ASTM B556 or by the Coulometric method, ASTM B504. In case of difference, ASTM B504 shall be the umpire method.