



ENGINEERING MATERIAL SPECIFICATION

**ANODIZING, BRIGHT OVER ALUMINUM OR ALUMINUM
ALLOY - INTERIOR**

WSB-M4P9-B1

**ANODIZING, BRIGHT OVER ALUMINUM OR ALUMINUM
ALLOY - EXTERIOR**

WSB-M4P9-B2

**ANODIZING, ORGANICALLY COLORED OVER ALUMINUM
OR ALUMINUM ALLOY - INTERIOR**

WSB-M4P10-B1

**ANODIZING, ELECTROLYTICALLY COLORED OVER
ALUMINUM OR ALUMINUM ALLOY - EXTERIOR OR
INTERIOR**

WSB-M4P11-B1

1. SCOPE

These specifications define performance requirements for bright, organically colored, or electrolytically colored anodized aluminum finishes.

2. APPLICATION

These specifications were released originally where a bright, combination colored and bright, and fully colored decorative and protective anodic finish is required on aluminum and aluminum alloy surfaces. Levels of performance are defined as follows:

WSB-M4P9-B1 Bright interior part applications, e.g., bezels, moldings.

WSB-M4P9-B2 Bright exterior part applications, e.g., bodyside, rocker, window moldings, bumpers, etc.

WSB-M4P10-B1 Colored interior part applications subjected to minimal ultraviolet (sunlight) and abrasion environments.

WSB-M4P11-B1 Colored interior or exterior part applications that must withstand ultraviolet and abrasion exposures, e.g., bodyside, window moldings, etc.

CAUTION: Based upon production and accelerated laboratory testing experience, anodic coatings are temperature sensitive and will craze (i.e., crack) when exposed to temperatures approaching 90° C and higher. Therefore, anodized aluminum parts must be masked prior to paint repair oven exposure.

3. REQUIREMENTS

All requirements identified for each 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.

Date	Action	Revisions
2003 08 28	Revised	Para 3.0 inserted; Para 3.9 & 4 deleted
1987 12 14	SM/ER 1621 TC	Released J.A. Burke, B. Manoukian, J.A. Fennell, WAAO, J. Lines, EAO



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 COMPOSITION OF THE ANODIC COATING

The coating desired shall consist essentially of transparent hydrated aluminum oxide of uniform density and film thickness. Parts anodized and sealed to the WSB-M4P10-B1 specification shall have a suitable organic dye and/or pigment applied to achieve the desired appearance. The coloring of parts produced to the WSB-M4P11-B1 specification is achieved by the electrolytic deposition of metal salts in the anodic coating.

3.3 METAL FORMING

All parts directly exposed to the exterior environment that are processed to the requirements of these specifications shall be formed (fabricated) prior to anodizing to prevent crazing of the anodic coating.

3.4 ANODIC COATING THICKNESS, min (ASTM B 659)

WSB-M4P9-B1	2.5 μm
WSB-M4P10-B1	2.5 μm
WSB-M4P9-B2	7.5 μm
WSB-M4P11-B1	7.5 μm

Note: The WSB-M4P11 minimum thickness requirement for both exterior and interior applications is 7.5 μm because the appearance is coating thickness related.

3.5 ANODIC COATING WEIGHT, min (ASTM B 137)

WSB-M4P9-B1	6.2 g/m^2
WSB-M4P10-B1	6.2 g/m^2
WSB-M4P9-B2	18.6 g/m^2
WSB-M4P11-B1	18.6 g/m^2

Note: The coating weight values obtained from the acid dissolution test sample (para 3.6) may be used for this test.

3.6 ACID DISSOLUTION TEST (A.D.T.), (FLTM BQ 007-02)

6.0 max.

3.7 ACCELERATED CORROSION RESISTANCE (CASS),

16 h

There shall be no base metal (white corrosion) following the CASS test.