



PRETREATMENT, ALUMINUM

WSS-M10P12-A1

1. SCOPE

This specification defines the requirements for pretreatment coatings intended to enhance or promote adhesive bond durability, welding or other performance characteristics. The pretreatment may be used on wrought and cast aluminum; raw materials, components and fasteners.

The pretreatment coatings shall be specified in conjunction with the appropriate base aluminum specification.

2. APPLICATION

This specification was originally released for material used for automobile body parts requiring long term durable adhesive bonding performance. It has subsequently been applied to drawn-arc welded aluminum studs.

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 ADHESIVE AND SEALANT PERFORMANCE REQUIREMENTS

Material supplied to this specification shall demonstrate acceptable performance as detailed in the applicable adhesive and sealant material specifications. The adhesive and sealant compatibility test procedures shall be identified by Materials Engineering.

3.3 PAINTABILITY

The paintability para of the appropriate base aluminum material specification shall apply.

3.4 WELDABILITY (excluding castings) (FLTM BA 113-07 for sheet metal)

The weldability of WSS-M10P12-A1 shall meet the performance requirements outlined in FLTM BA 113-07 for sheet metal. Final approval of weldability will be determined by the affected manufacturing facility.

3.5 COATING WEIGHT

The coating shall be uniformly applied across the substrate surface at a given coating weight. The supplier will be responsible and will document the measurable in the control plan.

Date	Action	Revisions
2005 06 23	Revised	Inserted 3.0; revised 3.7 shelf life ext. 6 to 9 mths deleted 3.1, 3.9, 3.10 and 4 A Tautscher, N Heath
2001 06 21	Revised	Rev para 1, 2, 5.1 & updated N. Heath
2000 05 31	Activated	



3.6 COATING ADHESION

The supplier will be responsible for ensuring acceptable coating adhesion and will document the measurable in the control plan. In addition the pretreatment shall not flake off or add contamination to the stamping and forming process nor the phosphate or electrocoat paint baths.

3.7 SHELF LIFE

Siloxane based for sheet 9 months minimum

Titanium based for castings/extrusions/fasteners 6 months minimum

Titanium/Zirconium based for castings/extrusions/fasteners 6 months minimum

The pretreated aluminum substrate shall have the above stated shelf life when transported and stored in conditions that avoid condensation and contamination by foreign oil and grease. Aged substrate shall not alter the performance criteria defined by WSS-M10P12-A1 specification.

3.8 FUNCTIONAL APPROVAL

Materials being evaluated for approval to this specification shall be subjected to a production trial. Functional trial results must be approved by the affected stamping and assembly operation and Design Engineering. Results shall be made available to Materials Engineering prior to material approval.

5. GENERAL INFORMATION

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

5.1 COATING WEIGHTS OF TYPICAL PRETREATMENT SYSTEMS COVERED BY THIS SPECIFICATION:

Siloxane based for sheet - 100 mg/m²

Titanium based for castings/extrusions/fasteners - 10-20 mg/m², total weight of Titanium 2 - 5 mg/m²

Titanium/Zirconium based for castings/extrusions/fasteners - 120-180 mg/m², total weight of Titanium 10-20 mg/m²