

AC-131 Conversion Coating for Metal Alloys

Description

3M[™] Surface Pre-treatment AC-131 is a high-performance non-chromate conversion coating for use on aluminum, nickel, stainless steel, magnesium, and titanium alloys. It is designed for parts finished with epoxy-based or polyurethane-based organic coatings. 3M AC-131 pre-treatment is a sol-gel surface preparation that promotes enhanced adhesion as a result of the chemical interaction at the at the inorganic metallic interface on one side of the 3M AC-131 pre-treatment coating and the organic coating on the other side.

Product Benefits

AC-131 provides an excellent environmental alternative to the high performance requirements for modern coating systems.

- Superior adhesion of organic coatings to metal substrates.
- Eliminates chromates from surface treatment process.
- Reduces hazardous materials and waste compared to other conversion coating products and preparation methods.
- No scrubbing or rinsing required.
- Versatile application methods; brush, spray or dip applied.
- Available in kit sizes for specific applications; US Pints, Quarts, Gallons, Pails and Drums.
- Available in both blue (AC-131 BB) and clear (AC-131 CB) versions.
- Common surface preparation for mixed metal and nonmetal substrates. Minimizes masking time.
- Process time savings over conventional conversion coating applications.
- Brightening or deoxidizing step may be eliminated.
- Proven to significantly reduce Rivet Rash.

Testing

Coating systems using 3M AC-131 pre-treatment have been tested successfully at the OEM level and Depot level. The following testing has been performed with passing results.

- Condensing Humidity
- Rain Erosion
- 3000 hour salt spray
- Filiform Corrosion
- Wet and Dry Scribe Adhesion
- Paint Softening
- Acrylic Crazing
- Hydrogen Embrittlement

Test were performed using coatings systems (Primer and Topcoat)

How it Works

A Sol-Gel preparation, 3M AC-131 pre-treatment promotes enhanced adhesion as a result of the chemical interaction at the interfaces between the metal and the 3M AC-131 pre-treatment and the primer.







Financial Benefits

Time Savings

Reduction in process flow time comparing traditional conversion coatings methods yields a minimum of a 35% reduction in labor – time.

Enables lean manufacturing and work cell manufacturing concepts, reducing cycle times.

Hazardous Material

Elimination of hazardous chromate materials. Hazardous rinse water and waste water containment systems due to chromates are eliminated.

Minimal waste water associated with application of 3M AC-131 pre-treatment as there is no rinsing.

Environmental

- Non-Chromate
- Water-Based Solution
- No-Rinsing, Dry in Place
- No Fluorides
- No Strong Oxidizers
- No Strong Mineral Acids



Note: It may be necessary to deoxidize prior to applying 3M AC-131 pre-treatment if a water-break-free surface is not achieved by the cleaning process.

Product Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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