



# 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 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 non-metal 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

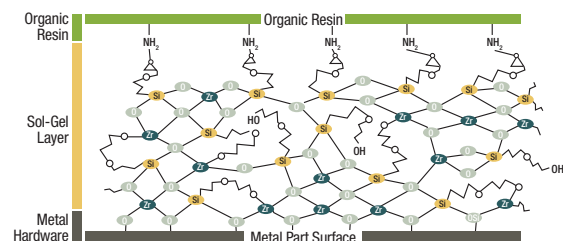
Coating systems using 3M AC-131 pre-treatment have been tested successfully at the OEM level and Depot level. The following testing has been performed with passing results.

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

## Application Process



**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.

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