



# Technical Process Bulletin

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## **ALUMIPREP® 33**

Cleaner And Conditioner For Aluminum

### 1. Introduction:

ALUMIPREP 33 is a non-flammable phosphoric acid based cleaner, brightener and prepaint conditioner for aluminum. ALUMIPREP 33 should not be used on high copper bearing aluminum alloys or aluminum castings. Cleaning with ALUMIPREP 33 produces a chemically clean and corrosion free aluminum surface.

ALUMIPREP 33 can be used to deep clean and brighten an aluminum surface prior to welding, painting or to prepare the surface for a subsequent conversion coating. ALODINE 1201 (opaque) and ALODINE 1001 (invisible) coating chemicals produce the best affordable substrate for both paint adhesion and corrosion resistance.

### 2. Operating Summary:

#### Brush Application:

For light oxidation and corrosion removal dilute one part ALUMIPREP 33 with five parts water.

For heavy oxidation and corrosion removal dilute one part ALUMIPREP 33 with two parts water.

#### Immersion Application:

For each 100 parts of bath, add 25 parts of ALUMIPREP 33 to 75 parts of water.

#### Spray Application using 62-G Applicator:

Set dilution control on 3 allowing a mix of one part ALUMIPREP 33 to three parts water.

### 3. The Process:

The usual process to clean and condition aluminum surfaces consists of the following steps:

- A. Apply the ALUMIPREP 33 solution
- B. Water rinse
- C. Dry

The usual process to prepare the aluminum surfaces for a chemical coating consists of the following steps:

- A. Apply the ALUMIPREP 33 solution
- B. Water rinse
- C. Apply an ALODINE coating solution
- D. Water rinse
- E. Dry

#### 4. Materials:

ALUMIPREP 33  
ALODINE® 1201 (optional)  
ALODINE 1001 (optional)

#### 5. Equipment:

Acid resisting (rubber, stainless steel or plastic) buckets, troughs or other suitable container should be used to hold the diluted ALUMIPREP 33 solution. Ordinary steel pails may be used, but only for a short time. Galvanized containers should not be used. If production conditions warrant, troughs may be installed to collect the ALUMIPREP 33 coating chemical run-off for reuse.

Long-handled, window type brushes, clean cloths or synthetic sponges may be used to brush on the ALUMIPREP solution.

#### 6. Apply the ALUMIPREP 33 solution:

##### Buildup:

For brush application for light oxidation and corrosion removal, dilute one part ALUMIPREP 33 with five parts water.

For brush application for heavy oxidation and corrosion removal, dilute one part ALUMIPREP 33 with two parts water.

For immersion application, add 25 parts of ALUMIPREP 33 to 75 parts of water for each 100 parts of bath.

For spray application using 62-g applicator, set dilution control on 3 allowing a mix of one part ALUMIPREP 33 to three parts water.

NOTE: Operators should be equipped with rubber gloves, aprons and goggles to avoid contact with the solution. Adequate ventilation should be provided.

##### Operation:

Selecting the size area to be treated at one time will depend on the method of application, condition of the metal surface, temperature and part configuration. A typical treatment time is where the ALUMIPREP 33 solution is in contact with the metal surface between two and five minutes.

ALUMIPREP 33 solution is normally applied at temperatures between room and 120° Fahrenheit. If drying does occur, rewet the surface with ALUMIPREP 33 solution, prior to water rinsing.

ALUMIPREP 33 solution should not be allowed to dry on the metal surface or permitted to reoxidize prior to a thorough rinse. A thorough rinse with clean water is necessary to remove both residual ALUMIPREP 33 solution and oils that have been lifted from the metal surface.

Good results start with cleaning. A clean surface is a "water break-free surface". The rinse water sheets out over the aluminum surface, while oil remaining on the surface will cause the water to bead up. Chemical cleaners will lift and break down oils on the surface and assist in rinsing them from the surface on the metal.

ALUMIPREP 33 cleaning and conditioning chemicals aggressively attack aluminum oxidation and corrosion to completely remove them, leaving a bright clean metal surface. In the case of heavy corrosion, its removal can be aided by the use of scrubbing. Often a scotch-brite pad is used for scrubbing.

Thorough rinsing after treatment is necessary to remove the residual salts and soils. Their removal will not contaminate a coating chemical or leave a surface condition that will again have a high potential for corrosion.

To avoid streaks and patterns, work from bottom to top.

#### 7. Storage Requirements:

ALUMIPREP 33 will freeze at 15° Fahrenheit. Freezing is not detrimental to the product. It is recommended that the product be kept from freezing. However, should the product freeze, simply thaw it in a warm place and stir it prior to use.

#### 8. Waste Disposal Information:

Applicable regulations concerning disposal and discharge of chemicals should be consulted and followed.

Disposal information for the chemical products used in this process is given on the Material Safety Data Sheet for each product.

#### 9. Precautionary Information:

Before handling the chemical products used in the process, the first aid and handling recommendations on the Material Safety Data Sheet for the product should be read, understood and followed.

The processing bath is acidic. Do not get in eyes, on skin or on clothing. In case of contact, follow the recommendations found in the Material Safety Data Sheet for ALUMIPREP 33.

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