Technical Process Bulletin

Technical Process Bulletin No. 235107
This Revision: 01/08/2004

ALODINE® 1001
Brush or Immersion Application

1. Introduction:

ALODINE 1001 is a nonflammable, chromic acid based, coating chemical that will produce a chrome conversion coating on aluminum and its alloys.

The coating formed by ALODINE 1001 is clear in color and it becomes a part of the aluminum surface. This chrome conversion coating offers the best affordable substrate for both paint adhesion and corrosion resistance.

ALODINE 1001 is used when it is desired to retain the silver white aluminum finish, either unpainted or with a clear finish over the chemical coating.

2. Operating Summary:

Brush Application:

Dilute one part ALODINE 1001 with one part water.

Immersion Application:

For each 100 parts of bath, add 25 parts ALODINE 1001 to 75 parts of water.

Operation and Control:

Time	2 to 5 minutes
Temperature	Ambient to 100° Fahrenheit

3. The Process:

The process to prepare metal for painting normally consists of the following steps:

A. Cleaning (ALUMIPREP 33, Technical Process Bulletin No. 1146)
B. Water rinsing
C. Apply ALODINE 1001
D. Water rinsing
F. Drying

The process for polished aluminum where a minimal metal etch is desired normally consists of the following steps:

A. Cleaning (METALPREP 79, Technical Process Bulletin No. 1119)
B. Water rinsing
C. Apply ALODINE 1001
D. Water rinsing
F. Drying

The work, after processing and drying, is ready to be painted.

4. Materials:

ALODINE 1001
ALUMIPREP® 33, or
METALPREP® 79

5. Equipment:

Acid resisting (rubber, stainless steel or plastic) buckets, troughs or other suitable containers should be used to hold the ALODINE 1001 or diluted ALODINE 1001 solution. Steel and galvanized containers should not be used. If production conditions warrant, troughs may be installed to collect the ALODINE 1001 coating chemical run-off for reuse.

Long handled, window type brushes, clean cloths or synthetic sponges may be used to brush on the ALODINE 1001.

6. Surface Preparation:

Cleaning:
ALUMIPREP 33 or METALPREP 79 are recommended for cleaning.

ALUMIPREP 33 is a phosphoric acid based cleaner which produces a chemically clean and corrosion free aluminum surface. Instructions for use of ALUMIPREP 33 are found in Technical Process Bulletin No. 1146.

METALPREP 79 is a multi-purpose phosphoric acid based cleaner, for most metals, which leaves the surface chemically clean and corrosion free. Instructions for use of METALPREP 79 are found in Technical Process Bulletin No. 1119.

Water Rinsing:
After cleaning, the metal must be thoroughly rinsed with water. Inadequate rinsing may contaminate an ALODINE 1001 immersion bath or result in a surface condition which may cause corrosion of the finished part.

7. Applying ALODINE 1001:

Buildup:
For brush application, ALODINE 1001 is one part with one part water.

For immersion application, ALODINE 1001 is diluted by mixing 25 parts of ALODINE 1001 and 75 parts of water for each 100 parts of bath volume required.

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

Operation:
Time: 2 minutes to 5 minutes.
Temperature: room temperature to 100° Fahrenheit.

ALODINE 1001 coating chemical should not be allowed to dry on the metal surface. With brush application the surface should be rewet with fresh ALODINE 1001 several times during the treatment time. If drying does occur, rewet with ALODINE 1001 coating solution prior to water rinsing.

Selecting the size of the area to be treated at one time depends on the method of application, condition of the metal surface, method in which the surface was cleaned, temperature and part configuration.

Powdering of a chrome conversion coating can result from poor cleaning, drying, over reacting, or for other reasons. Powder can affect paint adhesion. Gently wipe and remove the powder, without abrading the chemical coating, with a dry, clean rag after the work has dried. Caution should be taken not to redeposit oils, lint or other soils back on the aluminum surface.

8. After Treatment:

Water Rinsing:
A thorough rinse with clean water is necessary to remove residual ALODINE 1001 coating chemical salts from the metal surface. Blistering and corrosion problems under paint are often the results of poor rinsing. Chemical salts trapped under a paint film will eventually result in blistering or corrosion problems.

Drying:
As an aid to drying, heating the treated part, blowing off with clean, dry, filtered, forced air or gently wiping with a dry, clean rag will lessen the time required. Do not allow the aluminum metal temperature to exceed 140 Fahrenheit.

Paint soon after the work is dry in order to prevent soils or oxidation from recontaminating the prepared metal surface.

9. Storage Requirements:

ALODINE 1001 coating chemical will freeze at 32° Fahrenheit. It is recommended that the product be stored where freezing will not occur. However, should it freeze, simply thaw it in a warm place and stir it prior to use.

10. 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.

The processing bath is acidic and contains hexavalent chromium. Waste treatment and neutralization may be required prior to discharge to sewer.

11. Precaution:

Consult the appropriate Material Safety Data Sheets for safety and handling guidelines for the products listed in this bulletin.

-* * * * *-

32100 Stephenson Highway
Madison Heights, MI 48071
Telephone: 248-583-9300
Fax: 248-583-2976

Form Revised 04 June 2001