

Luster-On Products

Technical Data Sheet

LUSTER-ON ALUMINESCENT

Trivalent Chromium Conversion Coating for Aluminum Alloys

I. GENERAL DESCRIPTION

Luster-On Aluminescent is a powdered product used to form a non-hexavalent conversion coating on aluminum surfaces. The process provides excellent corrosion protection at low cost and forms a base for paint, lacquer, or rubber bonding. The coating can be applied by dip, spray, brush, swab, or roll coating, requires no electric current, cooling or exhaust. Luster-On Aluminescent yields clear, slightly iridescent films while forming a protective surface with low electrical resistance. Luster-On Aluminescent is suitable for both wrought and cast aluminum alloys and is designed for ease of operation with minimum control. Conversion coatings generated by Luster-On Aluminescent are compliant with European RoHS, ELV and WEEE directives. The Aluminescent is listed on the QPL for MIL-DTL-5541F, Type II, Class 1A and Class 3.

READ MATERIAL SAFETY DATA SHEET BEFORE USING THIS PRODUCT

II. TYPICAL CYCLE

Caution! In setting up production cycles for non-hexavalent conversion coatings it is imperative to avoid cross contamination. Clean, separate rinses and racks should be employed to avoid contamination with hexavalent chromium. Great care should be exercised to assure that there is no drag-in of hexavalent chromium.

1. Alkaline Cleaner - **Luster-On 401**
 - Concentration: 5-6 oz./gal.
 - Temperature: 130-140°F.
 - Time: 3-5 minutes.
2. Rinse.
3. Deoxidize and desmut - **Luster-On 485**
 - Concentration: Luster-On 485A – 5 oz./gal.
Luster-On 485B – 5 oz./gal.
 - Temperature: 70°F.
 - Time: 1-3 minutes.
4. Rinse.
5. **Luster-On Aluminescent**
 - Concentration: 1-2 oz/gal
 - pH 3.5 – 4.0
 - Temperature: 70°F.
 - Time: 3 - 5 minutes.
6. Rinse.
7. Rinse.
8. Dry.

III. PREPARATION FOR CONVERSION COATING

The quality of the conversion coating film formed from solutions of Luster-On Aluminescent is controlled directly by the pre-treatment. Proper cleaning and deoxidizing is essential. The wide variations in aluminum alloy composition as well as the appearance and function of the film demand many alternate procedures for surface preparation. They may be grouped as follows:

1. Pre-clean: Parts that are heavily soiled with organic contamination should be pre-cleaned by aqueous degreasing or emulsion cleaning.
2. Alkaline Etch: Luster-On 416 is suggested for greatest film adhesion. It may be deleted on parts with close dimensional tolerances.
3. Deoxidize and/or Desmut: Required to remove metallic oxides and smutting from cleaners or etch solutions. Luster-On 485 is suitable for most wrought alloys. Castings require a nitric-fluoride mix. Contact the Luster-On Customer Service Lab for recommendations on specific alloys.

IV. SOLUTION MAKE-UP AND OPERATING CONDITIONS

1. Luster-On Aluminescent solutions are prepared by dissolving the Luster-On Aluminescent in warm water with stirring.
2. Allow the solution to mix for a period of 4-6 hours to assure that the product is completely dissolved.
3. Let the bath stand overnight to allow the solution to stabilize before checking and adjusting the pH to the desired range.
4. Adjust the pH of the solution into the range of 3.5 – 4.0 before processing parts.
5. The pH of the working solution is a function of the concentration of Luster-On Aluminescent and the level of dissolved aluminum in the bath. A solution of 10% by weight potassium hydroxide should be used to raise the pH.
6. The preferable operating temperature is 70-80°F.
7. Immersion time may be varied between 1 and 5 minutes depending on the alloy being processed.
8. Filtration is recommended to keep solution free from precipitates forming during operation.

V. MAINTENANCE ADDITIONS

The concentration should be periodically checked using the recommended control procedure. The pH should be routinely checked daily and maintained in the recommended range.

VI. EQUIPMENT

Tank-Polypropylene or Koroseal lined.

Pumps and valves-316 Stainless Steel, PVC or Polypropylene.

Heaters-Teflon coated

Piping, Air Spargers, and Nozzles-PP or PVC.

VII. HELPFUL COMMENTS

1. Thorough rinsing is essential both before and after Luster-On Aluminescent immersion. Drag-in of acid or alkali should be avoided.
2. Contamination with hexavalent chromate solutions must also be avoided.
3. In the absence of suitable analytical equipment, please contact the Luster-On Customer Service Lab for assistance.

VIII. PACKAGE

Luster-On Aluminescent is available in 5, 10, 25, 50 and 100 pound containers.

IX. STORAGE

Keep container closed when not in use. Store container in a cool dry place out of direct sunlight

X. DISPOSAL

Luster-On Aluminescent solutions contain trivalent chromium. Dispose in accordance with Federal, State, and Local Regulations.

XI. SAFETY AND HANDLING PRECAUTIONS

HIGHLY ACIDIC INDUSTRIAL PRODUCT CONTAINS TRIVALENT CHROMIUM AND FLUORIDE

DANGER! Causes severe burns that may or may not be immediately painful or visible.

HARMFUL IF SWALLOWED OR INHALED.

Avoid contact with eyes, skin, and clothing.

Wear safety goggles, rubber gloves, and other suitable protective clothing when handling.

Wash thoroughly after handling.

Avoid inhalation of mist.

Use with adequate ventilation.

Do not take internally.

Avoid prolonged contact with glass, ceramic or concrete. If contact is made, flush promptly and thoroughly with water.

Keep concentrate away from combustible, organic, or readily oxidizable materials.

Avoid contact or mixing with materials containing chlorine.

Before opening container, loosen closure slowly to relieve any pressure build-up.

In case of spills and leakage, flush area with plenty of water.

Do not mop up or dry up with paper, rags, or sawdust.

FIRST AID IN CASE OF CONTACT

FOR EYES: Immediately flush with cool water for 15 to 30 minutes. Hold eyelids apart while flushing to insure contact of water with all surfaces of eyes and lids. Get immediate medical attention.

FOR SKIN: Immediately flush with large quantities of cool water until all acid is removed, paying particular attention to skin under the nails. Immediately remove contaminated clothing and shoes. Wash clothing and shoes before re-use. Get immediate medical attention.

IF SWALLOWED: Rinse out mouth thoroughly with water. Give water to drink without delay. Follow with milk or two (2) ounces of milk of magnesia, then soapy water or salty water (1 tablespoon per glass). Get immediate medical attention.

IF INHALED: Remove from exposure. Get medical attention, if warranted.

KEEP OUT OF REACH OF CHILDREN

FOR INDUSTRIAL USE ONLY

This product is sold for industrial use only. Our suggestions for its use are based upon tests and procedures, which from experience we believe to be reliable. Since the use is beyond our control, neither we nor our distributors can assume responsibility, either expressed or implied for the results and/or for violation of any patents or any claims resulting from such use.

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