

E-PASSivate™ AL

Clear Trivalent Passivate Finish for Aluminum

E-PASSivate AL is a liquid concentrate Trivalent passivation which is diluted in water and used to produce the maximum corrosion resistant passivate finish on all aluminum alloys.

It is applied at ambient temperatures (20-30°C, 68-86°F) by immersion.

The **E-PASSivate AL** finish provides excellent protection for aluminum surfaces and also serves as a base which inhibits undercoat corrosion of organic top coats. The resulting color is a slight bluish color. It does not contain any zirconium chemistry.

SOLUTION MAKE UP

Make Up:	100 gallons	
	E-PASSivate AL	10 gallons
	Water	90 gallons
Concentration:	8-12% by volume	
pH:	3-4	
	<i>To raise the pH, use 45% potassium hydroxide</i>	
	<i>To lower the pH, use nitric acid</i>	
Temperature:	68° to 86°F (20-30°C)	
Time:	30 seconds to 3 minutes	

FINISHING PROCEDURE

1. Non-etch alkaline clean with **EPI's E-Kleen 163** used at 10% by volume in water at 90-160°F.

Or

Acid Cleaner **E-Kleen 154** used at 10% by volume in water at 68° to 86°F (20-30°C)

2. Cold water rinse
3. Deoxidize and desmut with **EPI's E-Pik 210** used at room temperature.
4. Cold water rinse
5. Immerse work in **E-PASSivate AL** solution for 30 seconds to 3 minutes.
6. Cold water rinse
7. Hot water
8. Force dries with warm air

SOLUTION CONTROL

pH Control:

Calibrate pH meter with pH buffer 4.01
Adjust the pH down with nitric acid.
Adjust the pH up using Ammonium Hydroxide.

E-PASSivate Al Concentration

1. Pipette 20ml of the chromate sample into a 250 ml Erlenmeyer flask and dilute to 100 ml with distilled water.
2. Add 5 ml 20g/l Sodium hydroxide solution and 1 ml 35% Hydrogen Peroxide.
3. Boil solution for approximately 5 minutes.
4. Add 1 ml 10g/l Nickel Chloride Solution and continue boiling for an additional 2 minutes.
5. Cool solution to room temperature.
6. With mixing, add 10 ml Concentrated Hydrochloric Acid, 1 g Ammonium Bifluoride, 10 ml 10% Potassium Iodide and 2 ml 0.2% Starch Indicator Solution.
7. Titrate the solution to a clear/green endpoint using 0.10 N Sodium Thiosulfate.

Calculation:

Percent of **E-PASSivate Al** = ml 0.10 N Sodium Thiosulfate x 1.11

EQUIPMENT

Tanks should be constructed of 302 stainless steel, polyethylene PVC or Koroseal lined steel. Hooks, racks and baskets require the same materials. The working solution should be exhausted.

CAUTION

E-PASSivate Al solutions are acidic. Do not get in eyes, on skin or clothing. Causes skin burns and is very corrosive to eyes and mucous membranes.

Avoid splashing the **E-PASSivate Al** solution when preparing working solutions or while making additions. Avoid breathing mists and fumes from **E-PASSivate Al** solutions. While preparing and working with **E-PASSivate Al** solutions, wear goggles or face shield, rubber gloves and rubber apron.

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. For eyes, call a physician.

Do not mix the **E-PASSivate Al** powder or the working solution with cyanide, basic materials, organic materials, or with any other chemical substances. Do not work with **E-PASSivate Al** without first reading and understanding the **SAFETY DATA SHEET** furnished by **EPI**.

PACKAGING

5 gallon and 55-gallon non-returnable containers.

IMPORTANT NOTICE! For Industrial Use Only

The following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose: seller's and manufacturer's only obligation shall be to replace such quantity of the product as proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith. **Neither seller nor manufacturer shall be liable either in tort or in contract for any loss or damage, direct, incidental or consequential, arising out of the use or the inability to use the product.**

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