



# TRIVECTA® SEALER 350

TECHNICAL DATA  
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## TRIVECTA® SEALER 350

*HIGH PERFORMANCE SEALER FOR PASSIVATED ZINC AND ZINC-ALLOY ELECTROPLATE*

- TRIVECTA® SEALER 350 is excellent for parts that require baking or are exposed to high service temperatures. Baking increases corrosion protection.
- TRIVECTA® SEALER 350 allows plating, passivate, sealer application, and bake in one continuous operation. This eliminates double handling associated with plating, baking, passivating, and sealing operation while saving substantial time and money.
- TRIVECTA® SEALER 350 provides extended salt spray resistance for a variety of zinc and zinc alloy passivates. Can be applied over clear, blue, iridescent, and black passivates.
- TRIVECTA® SEALER 350 is designed for use over passivated zinc and zinc-nickel electroplate.
- TRIVECTA® SEALER 350 increases passivate film hardness, gloss, scratch resistance and corrosion protection.

## SOLUTION MAKEUP

	<u>RANGE</u>	<u>OPTIMUM</u>
Temperature:	Ambient - 125°F / 46° - 52°C	120°F/48°C)
Dip Time:	20 - 30 seconds	
Agitation:	Recommended (mechanical or circulating pump) NOTE: Turn agitation off when not in use	

### ON BLACK PASSIVATE SURFACES

	<u>RANGE</u>	<u>OPTIMUM</u>
TRIVECTA® SEALER 350		
Rack	10 - 20% by vol	15% by vol
Barrel	20 - 25% by vol	20% by vol
pH	4.4 - 5.0	4.8

OPTIONAL ADDITIVE TO MINIMIZE DRIP MARKS

TRIVECTA® SEALER 350 ADDITIVE ND	0.25% - 3% by volume	1% by volume
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**ON CLEAR, BLUE, OR IRIDESCENT PASSIVATE SURFACES**

	<u>RANGE</u>	<u>OPTIMUM</u>
TRIVECTA® SEALER 350		
Rack	2 - 20% by vol	
Barrel	2 - 25% by vol	
pH	4.4 - 5.0	4.8

OPTIONAL ADDITIVE TO MINIMIZE DRIP MARKS

TRIVECTA® SEALER 350 ADDITIVE ND	0.25 - 3% by vol	1% by vol
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To raise the pH, use Caustic soda Liquid 50%  
To lower the pH, use Sulfuric Acid or Hydrochloric Acid

**MAINTENANCE ADDITIONS**

To maintain optimum appearance and performance of the TRIVECTA® SEALER 350, the following tests are recommended once per 8-hour shift.

1. **pH:** If necessary, adjust within optimum. (Optimum 4.4 to 5.0)  
High pH - slowly adjust with Sulfuric Acid within optimum range.  
Low pH - slowly adjust with Caustic Soda Liquid 50% within optimum range.
2. **Temperature:** Maintain temperature at optimum of ambient to 125°F/46° to 52°C.  
High temperature - If possible, cool to within optimum range.  
Low temperature - Heat to optimum.
3. **Chrome (Cr):** Using Atomic Absorption or X-Ray Fluorescence, determines content of chrome (Cr) in g/L or mg/L. Follow the Sealer Analytical Procedure. Optimum range is 870 to 5,800 mg/L (3 to 20%).

**ADJUSTING TRIVECTA® SEALER 350 WORKING SOLUTION CONCENTRATION**

See TRIVECTA® BLACK 350 Analytical Procedure and add back the required amount.

**TRIVECTA® SEALER 350 ADDITIVE ND**

MAKE-UP:

The TRIVECTA® SEALER 350 Additive ND should be trialed in off-line bucket to determine optimum concentration.

MAINTENANCE:

The TRIVECTA® SEALER 350 Additive ND is consumed by drag-out only. Maintain by analyzing the TRIVECTA® SEALER350 then add proportional amount of the TRIVECTA® SEALER 350 Additive ND.

## AGITATION

Agitation is not recommended for the TRIVECTA® SEALER 350 in rack applications. Shorter dip times and/or reduced barrel rotation are recommended for barrel applications. Air agitation is NOT recommended.

## *ANALYTICAL PROCEDURE*

### **TITRATION PROCEDURE**

#### **Items Needed**

1. DI Water
2. 20% Sodium Hydroxide Solution
3. 35% Hydrogen Peroxide Solution
4. 10% Nickel Chloride Solution
5. Conc. Hydrochloric Acid
6. Ammonium Bifluoride
7. 10% Potassium Iodide Solution
8. Starch Indicator Solution
9. 0.010N Sodium Thiosulfate Solution

#### **Procedure**

1. Pipette a 10 ml sample of working passivate into a 100 ml volumetric flask. Dilute to 100 ml with DI water.
2. Pipette 10 ml of the above diluted solution into a 250 ml Erlenmeyer flask and dilute to approx. 100 ml with DI water.
3. Add 5 ml of 20% Sodium Hydroxide solution and mix.
4. Add 1 ml of 35% Hydrogen Peroxide solution and mix.
5. Place solution on a hot plate and with mixing heat until boiling. Boil for 5 minutes.
6. Add 1 ml of 10% Nickel Chloride solution to the flask and continue boiling for an additional 2 minutes.
7. Remove solution from hot plate and cool to room temperature.
8. With mixing add the following in order; 10 ml of concentrated Hydrochloric Acid, 1-gram Ammonium Bifluoride, 10 ml Potassium Iodide, and 1 ml Starch Indicator.
9. Titrate solution with 0.010N Sodium Thiosulfate to a clear/slight greenish endpoint.

CALCULATION: mL of 0.010N Sodium Thiosulfate x 0.62 = % TRIVECTA® SEALER 350

## *HANDLING & STORAGE*

Columbia Chemical recommends referring to the specific product Safety Data Sheets for safety, handling, and storage precautions.

## *NON-WARRANTY*

The data contained in this bulletin is believed by Columbia Chemical Corp. to be accurate, true, and complete. Since, however, final methods of use of this product are in the hands of the customer and beyond our control, we cannot guarantee that the customer will obtain the results described in this bulletin, nor can we assume responsibility of the use of this product by the customer in any process which may infringe the patents of third parties.

