

 INCREMENTAL CHANGE

Release Notification Date: 03/08/2023

SPM 70-00-99 S1221 - CONSUMABLE MATERIALS - THIN FILM SULFURIC ACID ANODIZING
HEXAVALENT CHROMIUM FREE SEALING SOLUTION

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HIGHLIGHTS

HIGHLIGHT REFERENCE DESCRIPTION OF CHANGE

tk70-00-99-801-820	Technical Change: Changed consumable name of C03-127 from Superseal 2S to Surtec 345 Hardwall.
tk70-00-99-801-820	Technical Change: Added Solution Sheet S1221 for a thin film sulfuric acid anodizing hexavalent chromium free sealing solution.

TASK 70-00-99-801-820

1. Commercial Products.

- A. Surtec 345 Hardwall is an alternative solution to hexavalent chromium containing sealants applied after anodizing.

2. Composition.

Subtask 70-00-99-350-021

<u>Consumable Product</u>	<u>No.</u>	<u>Concentration (Initial Mix)</u>
Surtec 345 Hardwall	C03-127	80-100 g/L

NOTE: It is recommended to keep Surtec 345 Hardwall concentration close to low limit due to risk of formation of silica gel that may clog the filtering system.

3. Preparation.

Subtask 70-00-99-350-022

WARNING: ACID SOLUTIONS ARE VERY ACTIVE AND CAUSE SERIOUS BURNS. AVOID CONTACT WITH SKIN, EYES, AND CLOTHING. AVOID BREATHING OF VAPORS. IF CONTACT OCCURS, WASH IMMEDIATELY WITH ABUNDANT QUANTITY OF WATER.

WARNING: OPERATOR SHOULD WEAR FACE SHIELD, GLOVES, PROTECTIVE CLOTHING, AND PROTECTIVE SHOES.

- A. Fill the bottom of the tank with demineralized water.

- B. Add the required quantity of Surtec 345 Hardwall (C03-127), top with demineralized water up to the optimal fill level and stir.

- C. Heat the tank up to 97-100°C (206.6-212°F). Prepared solution pH must be between 10.5-12.

4. Check.

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Subtask 70-00-99-350-023

- A. Determine the concentration of bath parameters as follows:

Reagents Required:*Sulfuric Acid, 0.1N solution (H₂SO₄)

*Phenolphthalein 1% alcohol

Method:

*Pipette 25 ml of bath solution into a titrating flask

*Dilute with distilled water to 100 ml

*Add 0.5 ml of phenolphthalein (indicator)

*Titrate with 0.1N sulfuric acid until the solution becomes pure colorless (without any pink shade)

*Consumption of titration call "A" ml

Calculation:

Surtec 345 Hardwall = A x 3.9

- B. Follow the manufacturer's control procedures to maintain the solution.

In order to avoid smut and dust on sealed aluminum, continuous filtration of the sealing bath through 5 or 10 micron filter is mandatory, with a flow rate able to complete the whole filtration of the tank minimum 3 times per hour: for example a 20 m³ tank requires a pump with a minimum capacity of 60 m³/hour.

It is mandatory to install water spray rinses over the Surtec 345 Hardwall tank. The spray should run when the material comes out from the Surtec 345 Hardwall tank.

5. Regeneration.

Subtask 70-00-99-350-024

- A. If required, follow the manufacturer's regeneration procedures to maintain the solution.

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