



## Specialty 835

Etch

### 1. Description

Specialty 835 is an alkaline material, which uniformly etches aluminum alloys. It contains an ingredient that minimizes the formation of aluminum scale build-up on tank walls and heating elements normally associated with most alkaline etch solutions.

- Economical
- Non-sludging formulation
- Long bath life

### 2. Application instructions

To ensure a uniform etch, the aluminum surface must be clean and free of oil.

Concentration: 4-6 oz/gal

Temperature: 130-150°F

Immersion time: 10 seconds - 10 minutes

### 3. Conditions for using Specialty 835

Water: Deionized or good quality tap water.

Tank: Tank and associated equipment should be constructed of stainless steel.

Concentration: To insure long life and consistent quality, maintain correct concentration. The rate of aluminum removal is proportional to the concentration of dissolved aluminum of available etch. Therefore the caustic should be raised as the sodium aluminate concentration rises.

Temperature: Automatic temperature control is recommended.

Etch rate increases with increase of temperature.

Care must be taken to keep temperature low enough so that work can be transferred to the rinse tank without streaking or drying on the work load.

Ventilation: Localized ventilation is recommended.

### 4. Solution makeup

1. Fill tank  $\frac{3}{4}$  full of water, do not heat the water yet.
2. Slowly add required amount of Specialty 835 to the water while slowly stirring.
3. Add water to operating level, mix again and heat to operating temperature.

## 5. Titration procedure

Reagents: 1.0 N Sulfuric acid  
0.5% Phenolphthalein Indicator  
10% solution Potassium Fluoride or ½ teaspoon powder

Procedure: 1. Pipette 10-ml cooled sample of working solution into 250 ml flask.  
2. Add 50-mls of distilled water  
3. Add 4 drops of phenolphthalein indicator.  
4. Slowly titrate with 1.0N sulfuric acid to a clear or absence of pink endpoint.  
5. Record mls of 1.0N acid used as "A".  
6. Add 30-ml 10% Potassium Fluoride (½ teaspoon powder)  
7. Rezero burette and slowly titrate with 1.0N sulfuric acid until pink color disappears.  
8. Record mls of acid used as "B"

Calculation: **oz/gal of Specialty 835** = A x 0.65

g/l of dissolved aluminum = B x 0.8

## 6. Storage

Store in original container in a cool dry location.  
Keep away from flammable liquids and acids.

## 7. Packaging

50 lb.  
100 lb.  
400 lb.

## 8. Product safety

We recommend that the company/operator read and review the **Material Safety Data Sheet** for the appropriate health and safety warnings before use.

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