Etch Cleaner 6 LF

Etch Cleaner 6 LF is a high quality, phosphate free, strongly alkaline product, which has been formulated specifically for the simultaneous cleaning and etching of aluminum and aluminum alloys (wrought and cast). Etch Cleaner 6 LF has been formulated specifically to provide a high reserve alkalinity for installations where long-life solution is a paramount factor. Aside from having a high reserve alkalinity, Etch Cleaner 6 LF has been formulated to a greater degree to minimize the scale build-up on plate coils and tank walls. Etch Cleaner 6 LF may be used in lines which process aluminum alloys for welding, anodizing, chromatin and plating.

Features & Benefits

Non-dusting	Free flowing powder
Wide operating temperature	Effective at low temperatures
Medium to heavy etch	Controlled foam blanket

Operating Conditions

Concentration	4 – 16 oz/Gal (30 – 120 g/L)
Temperature range	90°F – 180°F (32°C – 82°C)
Specific Temperature	120°F – 140°F (49°C – 60°C)
Equipment	Mild steel tank and heating oil
Ventilation	Suggested. Required at operating temperatures in excess of 220°F (43°C)

<u>Tank Make-Up Procedure</u>
Fill tank 2/3 full of cold water and add full amount of Etch Cleaner 6 LF. Mix in the cleaner and add the remainder of the water. Bring solution to desired operating temperature.

Fresh Addition Procedure
Slowly add the powdered Etch Cleaner 6 LF to the heated solution of Etch Cleaner 6 LF. The additions of the powdered Etch Cleaner 6 LF will raise the solution's temperature. A too rapid addition may cause the solution to "boil out" of the tank, especially at the higher temperatures.
While Etch Cleaner 6 LF is classified as both an etch and cleaner, there will be operations which may still require a pre-cleaner prior to immersion in the Etch Cleaner 6 LF solution. Heavy oil films, if not removed first in a non-etch soak cleaner, will cause an unusual etch pattern on the aluminum's surface.

Another point to consider when selecting an alkaline pre-soak is if the rinsing is quite poor or even non-existent between the soak and the Etch Cleaner 6 LF solution, one should select a non-silicate soak cleaner. Carrying silicates into Etch Cleaner 6 LF will ultimately result in a spotty etch surface.

Note: The specific temperature range is the temperature where the bulk of the jobs are processed. The lower temperature can be used to obtain a fine grain etch or where energy savings are required. The higher temperatures are used when a rapid-heavy etch is required.

Time: 30 seconds to 4 minutes. The proper time and concentration will have to be determined by the degree of etch wanted.

Titration Method

1. Pipette 10 mL of Etch Cleaner 6 LF solution into a 250 mL Erlenmeyer flask.
2. Add 50 mL of water and 5 drops Phenolphthalein indicator to the Erlenmeyer flask.
3. Titrate with 0.5 N HCl until the pink color disappears. Record the mL used.
4. To the titrated solution add 30 mL of Potassium Fluoride (20% wt.) solution. The solution will become pink again.
5. Titrate with 0.5 N HCl until the pink color disappears. Record mL used.
6. Add 30 mL of Potassium Fluoride solution again. If the pink color does not appear within 30 seconds, do not titrate any further. However, should the pink color appear, titrate again and add this figure to step 5. It may be necessary to repeat this procedure again, especially when the aluminum content in the Etch Cleaner 6 LF solution is high.

Calculations

Active Concentration (oz/Gal) = (mL step 3 x 0.29) - (mL step 5 x 0.094)

Concentration of Dissolved Aluminum (oz/Gal) = (mL step 5 x 0.07)

Test Kit Method

1. Fill sample bottle ¼ full of water. Using the syringe, transfer a ½ mL sample of cleaner in the sample bottle.
2. Add 5 drops of Phenolphthalein Indicator.
3. Add 0.72 N Hydrochloric Acid dropwise until the pink color disappears.
4. Record the number of drops used.

Calculation

Concentration = # Drops of 0.72 N HCl x 0.286

Waste Disposal

Discharge rinse waters and spent solutions to a permitted disposal system. In order to be completely informed on the latest regulations for your area, please contact the local authorities.

Caution

Etch cleaner 6 LF is an alkaline product and should be handled accordingly. Avoid skin and eye contact. Wear protective clothing, goggles and gloves. Flush exposed areas immediately with clean cold water. Contact a doctor promptly in case of injury. Consult SDS for details.

WARRANTY: HUBBARD-HALL INC. IS NOT RESPONSIBLE FOR THE MISUSE, MISAPPLICATION, OR MISHANDLING OF THIS PRODUCT. SEE THE TERMS AND CONDITIONS OF SALE ON OUR WEBSITE FOR ADDITIONAL TERMS AND CONDITIONS CONCERNING OUR PRODUCTS, INCLUDING BUT NOT LIMITED TO, LIMITATIONS AND DISCLAIMERS OF WARRANTIES AND LIABILITIES.

Our People. Your Problem Solvers.

For more information on this process,
please call us at 203.756.5521 or email: techservice@hubbardhall.com

Hubbard-Hall holds certifications for **ISO 9001:2015**, Responsible Distribution, as accredited by the **ACD** (Alliance for Chemical Distributors) and as a **Women-Owned Small Business**, as well as maintaining an association with **Omni-Chem**[136].