Metall Etch 291L

Concentrated acidic etch-cleaner for aluminium.

Product Description

Metall Etch 291L is a clear, colourless, concentrated liquid acid detergent which has been formulated especially for cleaning and brightening aluminium surfaces prior to painting by immersion.

Applications

Metall Etch 291L enjoys widespread use in the metal finishing industry where it is used as a simultaneous clean/etch solution for aluminium components prior to chromate conversion coating. Use by immersion only in a suitable acid-proof tank. Adequate ventilation must be provided.

Features and Benefits

- Simultaneous removal of light oil and grease deposits along with etching of aluminium.
- Produces a white, bright finish on aluminium.
- Economical to use because of low concentrations required.
- Excellent rinsability ensures streak-free surfaces.
- Simultaneous cleaning and etching of aluminium prior to painting.

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Directions for Use

These recommendations are based on field experience and may require variation for specific applications.

Application	:	Immersion
Concentration	:	3 - 6%
Temperature	:	Ambient
Time	:	2 - 10 mins

Control Procedure

1. Take a 10ml sample from the working bath.
2. Add approx. 50ml water and a few drops of Bromocresol Green indicator.
3. Titrate with 1.0N sodium hydroxide to a blue end point.
4. Calculate: No. of mls x 1.25 = % Metall Etch 291L v/v

ADDITIONAL CONTROL PROCEDURES

A working bath may be monitored and maintained more accurately by measuring free acid (FA) and total acid (TA) as follows:

1. Take a 10ml sample of the bath.
2. Add phenolphthalein indicator.
3. Titrate with 1.0 N NaOH to a slight permanent pink.
4. Number of Mls used = Total Acid (TA).
5. Take a 10ml sample of the bath.
6. Add phenolphthalein indicator and 10ml of 20% potassium fluoride solution.
7. Titrate with 1.0 N NaOH to a slight permanent pink.
8. Number of Mls used = Free Acid (FA).

Bath activity is a function of the ratio TA/FA.

A new bath has a TA/FA ratio of 1.0 which increases as dissolved aluminium increases in the solution, and bath activity is suppressed as aluminium increases.

The TA/FA ratio indicates activity (inversely), and may increase to more than 4 in an old bath.
A ratio of >4 indicates low activity.

The ratio can be reduced by increasing product concentration (FA).
However, dumping solution to reduce dissolved aluminium is more cost effective when the TA/FA ratio reaches >3

Aluminium concentration is expressed in g/lt = approx 1.5 (TA-FA)

Plant Recommendations

Tanks for Metall-Etch 291L and associated rinse tanks must be made of acid-proof materials.

Small tanks may be made of plastics such as PVC, polyethylene or even fibreglass. Large tanks are usually made of 316 stainless steel because of the danger of damaging plastic materials in large lines. 316 stainless steel has been proven to be satisfactory in use, even though there may be some attack on the surface resulting in darkening of the metal surface. Welds must be good quality since the welded areas are most vulnerable to acid attack.
Mild steel must not be used and is unsatisfactory even as an outer tank with a PVC liner due to the possibility of leakage through damage.

Packaging

Available in 25, 200 and 1000 litre containers.

Safety, Transport and Storage Information

Please refer to the Safety Data Sheet.

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