

BONDERITE**BONDERITE C-AK FE-17L AERO**

Known as TURCO FORM ETCHANT 17 L

November 2014

PRODUCT DESCRIPTION

BONDERITE C-AK FE-17L AERO provides the following product characteristics:

Technology	Metal Pretreatment
Product Type	Alkaline Cleaner Etchant
Application	Immersion

BONDERITE C-AK FE-17L AERO is a specially compounded liquid etchant for use on high copper aluminium alloy in the Chem-Mill Process. BONDERITE C-AK FE-17L AERO has also been used with other aluminium alloys with superior results.

Application Areas

BONDERITE C-AK FE-17L AERO is a chemical milling etchant.

BONDERITE C-AK FE-17L AERO offers these features:

1. Fast etch rate.
2. Excellent surface finish.
3. Minimizes and tends to polish out flow lines and channelling in aluminium.
4. Can improve the surface finish of some alloys from an RMS of 100-200 to 35-50 RMS.
5. Supplied in liquid form for ease of handling.

TECHNICAL DATA

Appearance	brown liquid
Density, g/ml	1.36

DIRECTION OF USE**Preliminary Statement**

Prior to use it is necessary to read the **Material Safety Data Sheet** for information about precautionary measures and safety recommendations. Also, for chemical products exempt from compulsory labeling, the relevant precautions should always be observed. Please also refer to the local safety instructions and contact Henkel for analytical support.

Use instructions**Equipment:**

Tank: Mild steel, no lining required.

Agitation: Agitation is required only during addition of chemicals or water, or while heating the solution to operating temperature.

Solution make-up

BONDERITE C-AK FE-17L AERO 50 % by volume, N1=21-23, N2=0.8-1.2

Temperature 102 - 108° C

CHARGING AND OPERATING PROCEDURE

1. Fill tank to 1/2 of working capacity with water.
2. Add slowly and carefully required volume of BONDERITE C-AK FE-17L AERO . (NOTE: Continuous and vigorous agitation should be provided during the charging cycle).
3. Add water to operating level.
4. Agitate the solution until all solid material has been dissolved. This solution will have a N1=21-23 and N2=0.8-1.2.
5. Add heat to maintain an operating temperature of 102 - 108° C.
6. Suspend parts vertically or horizontally depending on part configuration. Rotate in the vertical plane as necessary.
7. Agitate solution during the etching cycle only. (NOTE: Continuous agitation should be minimized since it has a deteriorative effect upon the etchant; CO2 pick-up).
8. Etch rate at recommended concentrations are approximately 2.0 - 2.8 Mil/Side/Minute. Excessive etch rates cause deleterious side effects on the part.
9. Immediately after etching, rinse parts in cold water and remove smut, followed by a final water rinse.
10. A daily titration of the etchant solution will guarantee satisfactory performance and extended tank life.

Control Procedure for BONDERITE C-AK FE-17L AERO

Apparatus

- pH meter
- Magnetic stirrer
- Filter paper (Whatman No.2 or equivalent)
- Glass funnel and holder
- 250 ml beaker
- Pipette 5 ml
- Buret

1. Obtain a sample from tank and allow cooling to room temperature.
2. Take a 5.0 ml sample of bath.
3. Dilute to 50 ml with distilled water.
4. Titrate to pH 11.4 using 1.0 N H₂SO₄ and note as ml (A)
5. Continue the titration with 1.0 N H₂SO₄ until a pH of 8.2 is reached.

Calculation

- N1 = Number ml. 1 N H₂SO₄ to reach pH 11.4.
- N2 = Number ml. 1 N H₂SO₄ to go from pH 11.4 to 8.2.

Rejuvenation

1. Maintain N1 between 18-25 and N2 between 1.0-18.

Storage

Temperature, °C	0 to 40
Shelf-life (in unopened original packaging), months	24

Classification

Please refer to the corresponding **Material Safety Data**

Sheets for details on:

Hazardous Information
Transport Regulations
Safety Regulations

ADDITIONAL INFORMATION

Disclaimer

Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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