

BONDERITE C-IC AL-85

October 2017

PRODUCT DESCRIPTION

BONDERITE C-IC AL-85 provides the following product characteristics:

Technology	Metal Pretreatment
Product Type	Acid Cleaner
Application	Aluminium

BONDERITE C-IC AL-85 is a liquid acidic product specially developed for cleaning and deoxidizing of aluminium surfaces in one step, for aviation applications.

BONDERITE C-IC AL-85 is applied by dip particularly as a pretreatment prior to anodizing.

It can be used also as a pretreatment prior to conversion coating before painting.

Appearance	clear liquid
Color	colorless to yellowish
Specific Gravity	1.3
Solubility:	readily soluble in water
pH-value (in a solution of 10 g/L)	~1.5
High content of surfactants	

DIRECTIONS FOR 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.

On the anodizing lines, BONDERITE C-IC AL-85 is used on the first step for cleaning and deoxidizing of the aluminium surfaces.

- Cleaning / deoxidizing: BONDERITE C-IC AL-85
- Cascade rinsing
- Anodizing
- Cascade rinsing
- Rinsing with demineralized water
- Sealing
- Final rinse with demineralized water

In order to reduce the consumption of water, the use of reverse cascade rinsing is recommended.

Operating Data:

Concentration, g/L	25 to 50
Temperature, °C	ambient to 40
Treatment time, min	2 to 5 (2 to 3 min for the alloys serie 2000 and 3 to 5 min for the alloys serie 7000)

NB: The conditions of use may have to be modified depending of the type of soils on the surface, the history of the surface and the metal removal required. It is possible to increase the etching rate by Addition of the fluorinated additive (for example BONDERITE C-IC 4104 at a concentration of 0.3 to 5 g/L). A slight Agitation or recirculation of the working solution is beneficial for a good renewal of the solution in contact with the surface but it should not be too vigorous in order to avoid foaming.

Bath Control:

- Take a sample of the solution and let it cool to room temperature.
- With a pipette, take 20 mL of the solution and pour it in an Erlenmeyer.
- Add about 50 mL distilled water and 3 to 5 drops of methylorange indicator.
- Titrate with a 1 N caustic soda solution until the titration end point from red to orange.
- Record the volume V of 1 N caustic soda solution added:

- Free acidity (in points) = V

- Concentration BONDERITE C-IC AL-85 (% by vol) = $V \times 0.87$

- Concentration BONDERITE C-IC AL-85 (g/L) = $V \times 11.3$

Replenishment:

The working bath is maintained at a regular concentration preferably with a dosing pump.

A bath at 5 % vol concentration titrates 5.7 points.

The free acidity is increased by 1 Point by Addition of 0.87 % vol (or 0.87 g/L) BONDERITE C-IC AL-85

Caution:

BONDERITE C-IC AL-85 is an acidic product and should be handled with protective goggles and gloves. In case of contact with eyes or skin, immediately rinse and wash with plenty of water and seek for medical attention. Store separately from caustic products.

Equipment:

BONDERITE C-IC AL-85 should be used in tanks and accessories equipments with an acid resistant coating, or PVC or stainless steel type AISI 304 or 316 (mandatory with use of fluorinated additives).

An exhaust line for the vapours is recommended.

Storage:

Recommended Storage Temperature, °C	5 to 35
Shelf-life, months (in unopened original packaging)	36

Classification:

Please refer to the corresponding **safety data sheets** for details on:

- Hazards identification**
- Transport information**
- Regulatory information**

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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:

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. 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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, Resin Technology Group, Inc., or Henkel Canada Corporation, the following disclaimer is applicable:

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage: [Except as otherwise noted] All trademarks in this document are trademarks and/or registered trademarks of Henkel and its affiliates in the U.S. and elsewhere.

Reference 0.2