

## BONDERITE C-AK 305

Known as Ridoline 305

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### PRODUCT DESCRIPTION

BONDERITE C-AK 305 provides the following product characteristics:

<b>Technology</b>	Cleaner
<b>Product Type</b>	Liquid alkaline cleaner
<b>Application</b>	Metal strip

BONDERITE C-AK 305 is a concentrated liquid etching cleaner for aluminium, steel, hot dip galvanised and electro galvanised steel surfaces normally applied in a spray washing plant.

The formulation provides good cleaning, low foam, low sludge and minimum scale so that the product is particularly useful for cleaning aluminium in continuous strip processing plant.

BONDERITE C-AK 305 bath can be chemically controlled using electronic control equipment.

### 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.

#### Bath Make-up:

For each 1,000 litres of bath add to the water with stirring the following quantity of BONDERITE C-AK 305, depending on substrate to be cleaned:

Aluminum, L	20 to 40
Hot dip galvanised, L	10 to 20
Steel and Electro galvanized, L	20 to 40

The precise operating strength will depend on the condition of the metal, the degree of etch required and the available processing time.

If the work is heavily soiled and extra cleaning power is required, BONDERITE detergent may be added to the bath.

#### Operating Data:

Temperature, °C	40 to 60
Treatment time, sec	5 to 25

### Bath Control:

#### Concentration when processing aluminium

- Pipette 10 cm<sup>3</sup> of the bath solution into a beaker and add about 100 cm<sup>3</sup> of distilled water.
- Add 4 to 6 drops of phenolphthalein indicator solution and mix by shaking.
- The solution will turn pink.
- Fill the burette to the zero mark with 0.1 N Hydrochloric acid and titrate the solution until the pink colour just disappears.
- The number of cm<sup>3</sup> added is Titration A.
- Add ½ teaspoonful of sodium fluoride and stir.
- The pink colour should reappear (see note below).
- Refill the burette to the zero mark and titrate again with 0.1 N Hydrochloric acid until the pink colour just disappears.
- The number of cm<sup>3</sup> added is Titration B.
- The concentration of the BONDERITE bath can be obtained from the following formula:  
$$[\text{Titration A} - (\text{Titration B})/3] \times 2.0 = \text{Number of litres of BONDERITE C-AK 305 per 1,000 L of bath.}$$
- Add BONDERITE C-AK 305 as necessary to bring the bath up to its original strength.

Note: When the bath is quiet new the pink colour does not reappear after adding the sodium fluoride. Titration B can be taken as zero, and the concentration taken as 2 x Titration A.

#### Concentration when processing steel and zinc coated steel

- Pipette 10 cm<sup>3</sup> of the bath solution into a beaker and add about 100 cm<sup>3</sup> of distilled water.
- Add 4 to 6 drops of phenolphthalein indicator solution and mix by shaking.
- The solution will turn pink.
- Fill the burette to the zero mark with 0.1 N Hydrochloric acid and titrate the solution until the pink colour just disappears.
- The number of cm<sup>3</sup> added is Titration A.
- The concentration of the BONDERITE bath can be obtained from the following formula:  
$$\text{Titration A} \times 2 = \text{No. of litres of BONDERITE C-AK 305 per 1000 L.}$$

### Titration of Total Alkalinity:

For all substrates:

As the cleaner is used and becomes contaminated, the total alkali value will rise. Thus the ratio of the total alkali to free alkali will also rise and this becomes a useful measure of the degree of contamination of the cleaner solution.

- Pipette 10 cm<sup>3</sup> of the bath solution into a beaker and add about 100 cm<sup>3</sup> of distilled water.
- Add 4 to 6 drops of bromo cresol green indicator solution and mix by shaking.

- The solution will turn blue.
- Fill the burette to the zero mark with 0.1 N Hydrochloric acid and titrate the solution until the solution turns distinctly yellow.
- The number of cm<sup>3</sup> added is the total alkalinity.
- Divide this titration by titration A above to determine the alkali ratio.
- The maximum value for the alkali ratio will vary depending on the metal mix, the soils present and on the cleaner bath temperature.
- The value can only be established from line observations, but usually is established at 2.0 or less.
- Either periodic dumping or a continuous over flow should be employed to maintain the ratio at its optimum value.

**Water Rinse:**

The work should be rinsed in cold water immediately after the BONDERITE. Flow sufficient water into the rinse tank to keep it clean.

**Equipment:**

The process tank, housings, pumps and piping for use with this solution may be constructed of mild steel. In spray applications, maintenance will be simplified if nozzles are constructed of 300 series stainless steel. The heat exchanger plates should be polished 316 stainless steel. All process circulating pump seals, valve seats and other elastomers which come into contact with the working process solution should be Teflon. Viton may be used but its life will be shorter. E.P.D.M. elastomers should be avoided. All chemical pump seals, valve seats and other elastomers which come into contact with the concentrated solution should be Teflon or Hypalon.

**Classification:**

Please refer to the corresponding **Material Safety Data Sheets** for details on:

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

**Storage:**

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

**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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Reference **N/A**