

# BONDERITE L-FM 1801

Known as Cuprostone 1801  
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## PRODUCT DESCRIPTION

BONDERITE L-FM 1801 provides the following product characteristics:

<b>Technology</b>	Metal Pre-Treatment
<b>Product Type</b>	Galvanic Metal Treatment Product
<b>Application</b>	Conversion coating

BONDERITE L-FM 1801 is able to produce on steel made wires and rods an uniform strongly adhering layer of copper which facilitates the drawing operation.

### Application Areas:

BONDERITE L-FM 1801 is used by immersion; the treatment time can vary from 5 seconds to 15 minutes at a temperature ranging from 25°C to 65°C. The exact working parameters will depend on many factors such as: type of material to be treated, strength of the following drawing process, etc.

### Process components:

BONDERITE L-FM 1801 for make up and replenish  
Sulphuric acid 66°Bé additive

## 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.

### Make up:

Bath make up for 1000 L:

Fill the tank with cold water up to 2/3 of its volume and add 30-50 litres (55 - 92 Kg) of Sulphuric Acid 66 Bé and 24 - 40 Kg of BONDERITE L-FM 1801. (The exact amount of sulphuric acid will depend on the operating characteristics of the plant and of the material to be treated).

Fill up the tank, mix and heat it up to the operating temperature. To start the bath and get the best adhesion it is advisable to get it aged by adding about 10 g/l of iron.

### Control

A bath with 40g/L of BONDERITE L-FM 1801 and 92 g/L of Sulphuric Acid 66°Bé will have a Free acid of about 18 point and a copper concentration of abt. 8.0-8.5 g/L.

### Dissolved Iron (g/L)

Pipette 10 mL of BONDERITE L-FM 1801 solution into a 400 mL beaker, add 50 ml of distilled water and 10 drops of a solution of 50% Sulphuric Acid; titrate with KMnO<sub>4</sub> 0.1 N to a persistent pink colour. The mL of KMnO<sub>4</sub> 0.1 N multiplied by 0.56 corresponds to the dissolved Iron (g/L).

### Copper (g/L):

To the same sampling used for dissolved Iron titration, add 10 mL of ammonium hydroxide (NH<sub>4</sub>OH) 1:1 and, (carefully), 1 -2 g of Ammonium Bifluoride (NH<sub>4</sub>HF<sub>2</sub>); stir the solution, until a grey milky aspect is obtained. Add abt 2 g of Potassium Iodide and abt 10 drops of a Starch indicator. Titrate with Sodium Thiosulphate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) 0.1 N until the colour turns to pale milky grey.

$$\text{Cu (g/L)} = \text{mL 0.1N Na}_2\text{S}_2\text{O}_3 \times 0.64$$

### Free Acid:

Pipette 10 mL of bath solution into a 250mL beaker, add 5 drops of Methyl-orange Indicator (0.1% aqueous solution). Titrate with 1 N Sodium Hydroxide (NaOH) until an orange-yellow coloration appears.

The mL of 1N NaOH used for the titration is the F.A. value.

### Replenishing:

#### Copper pointage:

The concentration of the bath must be maintained at the initially fixed pointage through replenishment with BONDERITE L-FM 1801; to increase 1 g/L Copper add 4.6 kg BONDERITE L-FM 1801 for each 1.000L bath.

#### Free acidity:

must be maintained at the pointage fixed by HST Technical Service Department. To increase 1 pt F.A. add 4.9 kg of sulphuric acid 66 Bé for each 1.000l bath.

### Advices

After treatment with BONDERITE L-FM 1801 the material must be properly washed with continuously renewed cold water; it is mandatory to keep the tank in a good and clean condition; afterwards the material may be lubricated and dried.

The tanks for BONDERITE L-FM 1801 must be of an anti-acid material (e.g. rubber or lead lined iron) lead is particularly recommended for the heating coils.

### Storage:

Process Component	Recommended Storage Temperature, °C	Shelf life, months (in unopened original packaging)
BONDERITE L-FM 1801	0 to 40	36

**Classification:**

Please refer to the corresponding **Material 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.

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Reference 2