BONDERITE

BONDERITE M-CR 1200

Known as Alodine 1200
January 2014

PRODUCT DESCRIPTION

BONDERITE M-CR 1200 provides the following product characteristics:

Technology	Metal Pre-Treatment
Product Type	Conversion Coating
Application	Immersion

A rapid process which forms a protective golden coloured conversion coating on aluminium and its alloys.

Application Areas

BONDERITE M-CR 1200 is a powdered chemical used to produce a protective coating on aluminum which ranges in colour from light iridescent golden to tan. The process is operated at room temperature. The coating produced minimizes corrosion and provides an improved bond for paint.

BONDERITE M-CR 1200 coating chemical, being listed on the Qualified Product List QPL for MIL-DTL-81706, is an approved material to be used by Method C (immersion processing) to produce Class 1A and 3 coatings, bare or unpainted, in accordance with Military Specification MIL-C-5541 B.

TECHNICAL DATA

Appearance	brown powder
pH-Value (1.5%, DI-water)	1.2 to 1.8

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

Solution Make-up

For each 1000 l of bath, add to the water with stirring or circulating by the pump add 7.5 - 15 kg BONDERITE M-CR 1200 .

Points Cr(VI)	6.7 to 13.5
pH	1.8 to 2.1
Temperature, ° C	21 to 38
Time, min.	1 to 5
Class 3 - Time, min.	0.25 to 3.0

Process sequence

Operation No. 1 - Clean
Operation No. 2 - Rinse
Operation No. 3 - Deoxidize
Operation No. 4 - Rinse
Operation No. 5 - Coat with Alodine 1200
Operation No. 6 - Rinse
Operation No. 7 - Rinse with deionized water
Operation No. 8 - Dry

The work, after processing and drying, is ready for use either painted or unpainted.

Control Procedure for BONDERITE M-CR 1200

Henkel

BONDERITE M-CR 1200 Titration

1. Pipette 10 ml sample of the BONDERITE M-CR 1200 coating chemical bath into a flask and dilute with 50 ml distilled water.

2. Add 20 ml of 25 % H_2SO_4 and 2 - 3 g KJ.

3. Titrate against 0.1 N sodium thiosulphate solution until the colour changes from brown to yellow.

4. Add several ml of soluble starch solution to the sample and continue the titration until the blue-black colour disappears.

5. Record the number of ml of 0.1 N sodium thiosulphate solution used as Cr(VI)-points.

Replenishment:

Add 1,1 kg of BONDERITE M-CR 1200 per 1000 l of bath for each Cr(VI)-point lacking. The bath should be kept within 6.7 and 13.5 Cr(VI)-points.

pH Control

A pH determination should be made each time the BONDERITE M-CR 1200 coating chemical bath has been replenished.

The optimum pH lies between 1.8 and 2.1.

NOTE: The pH of the Alodine 1200 is adjusted with diluted caustic solution and nitric acid, respectively.

Storage

Temperature, °C	-10 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.
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 of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.0

Henkel AG & Co. KGaA
40191 Düsseldorf, Germany
Phone: +49-211-797-0

Henkel Corporation USA
Madison Heights, MI 48071
Phone: +1-248-583-9300

Henkel (China) Co. Ltd.
201203 Shanghai, China
+86.21.2891.8000