

BONDERITE**BONDERITE M-CR ALCRM1200 AERO**Known as Alocrom 1200
January 2014**PRODUCT DESCRIPTION**

BONDERITE M-CR ALCRM1200 AERO provides the following product characteristics:

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| 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 ALCRM1200 AERO offers these features:

Excellent corrosion resistance

BONDERITE M-CR ALCRM1200 AERO gives excellent protection against corrosion to both painted and unpainted aluminium surfaces.

Flexible adherent coating

BONDERITE M-CR ALCRM1200 AERO coatings are integral with the metal and will withstand bending and deformation of the surface.

Maximum paint adhesion

BONDERITE M-CR ALCRM1200 AERO provides an excellent foundation for paint and other organic finishes.

TECHNICAL DATA

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|---------------------------|--------------|
| 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**

Fill the bath to its operating level with water. Deionised or distilled water is recommended to prevent calcium or magnesium salts precipitating out and reducing the efficiency of the bath. Slowly add 8 kg of BONDERITE M-CR ALCRM1200 AERO

powder per 1000 litres of water and stir well until the powder has completely dissolved. The tank extract system must be running during bath make-up.

For the best results, a new bath should age for 24 hours and it should therefore be made up at least a day before production commences.

Precleaning:

Remove all grease by using BONDERITE cleaner. Rinse where necessary.

If the oxide skin is very light no further precleaning is required. However, if the oxide skin is heavier eg. on extrusions, heat treated sheet aluminium or cast alloys etc, it will normally need removing with Deoxidisers. Copper containing alloys tend to smut in etching alkali cleaners and the copper smut should be removed by dipping the component in 10% nitric acid or BONDERITE deoxidiser. Alloys containing more than about 1% of silicon, such as those commonly used for die castings, give a silicon smut if etched in alkali and this cannot be removed by nitric acid or any other practicable methods. Such alloys are best solvent degreased and given a light etch in BONDERITE deoxidiser before the BONDERITE M-CR ALCRM1200 AERO treatment.

Treatment

Immerse in the BONDERITE M-CR ALCRM1200 AERO bath for 2-5 minutes at 18-27°C. After removing the work from the bath allow it to drain over the tank for 15 seconds. This will avoid unnecessary contamination of the rinse and reduce drag out losses.

Rinsing:

Rinse for 15-30 seconds in clean running water. If the work piece needs to be painted, rinse finally in deionised water. The final rinse must be kept clean and it should be renewed once a day or, for continuous production, once a shift. Use deionised or distilled water for final rinse make-up if possible.

Drying

Air or oven dry the work. Oven drying speeds up production and a peak metal temperature of 70°C is recommended. At higher temperatures, there may be some loss of corrosion resistance, particularly on copper bearing alloys or where articles are to be left unpainted. There is no restriction on the stoving temperature of paint or other organic coatings applied over the BONDERITE M-CR ALCRM1200 AERO. The freshly formed BONDERITE M-CR ALCRM1200 AERO coating is quite soft and care must be taken not to damage it during rinsing and drying. When dry, BONDERITE M-CR ALCRM1200 AERO treated parts may be painted or put into service without further treatment.

Control Procedure for BONDERITE M-CR ALCRM1200 AERO

BONDERITE M-CR ALCRM1200 AERO Titration

- a. Adjust the BONDERITE M-CR ALCRM1200 AERO bath to its normal working level with water and stir.
- b. Pipette 5 cm³ of the BONDERITE M-CR ALCRM1200 AERO bath into a 250 cm³ flask and dilute to about 100 cm with water. Take care that none of the solution is spilt throughout the test.
- c. Add about 1 gram of potassium iodide and agitate to dissolve.
- d. Add about 5 cm³ of concentrated hydrochloric acid and mix. Leave to stand for about 1 minute.
- e. Titrate the solution with 0.1N sodium thiosulphate until a straw colour is obtained.
- f. Dissolve about 0.5 grams of iodine indicator (Iotect) in water and add to the flask. A blue-black colour will be obtained. Continue the titration to the colourless end point.

The number of cm³ of sodium thiosulphate added is the strength titration of the bath and this should be maintained at 3.3 - 4.0 cm³. Add 2 kg of BONDERITE M-CR ALCRM1200 AERO per 1000 litres of bath for each cm³ below the required value.

pH Control

For correct coating formation, BONDERITE M-CR ALCRM1200 AERO baths should be operated at a pH between 1.6 and 2.2. If the coating takes longer to form than normal and is lighter coloured or non-adherent, this indicates that the pH is rising and it should be lowered by adding concentrated nitric acid when replenishing the bath. Initially, add 100 cm³ of acid for each 4 kg of BONDERITE M-CR ALCRM1200 AERO needed to replenish the bath; if necessary increase the amount in 100 cm³ increments, up to a maximum of 1 litre/4 kg until consistent coatings are obtained. The amount of nitric acid added must be kept as low as possible and the maximum must not be exceeded. After each addition of acid, wait for several hours before adding more acid to ensure the bath has reached equilibrium. If preferred, the pH can usually be lowered by increasing the BONDERITE M-CR ALCRM1200 AERO concentration rather than adding concentrated nitric acid. To do this add BONDERITE M-CR ALCRM1200 AERO in 1 gram per litre increments until consistent coating are obtained. The total BONDERITE M-CR ALCRM1200 AERO concentration must not exceed 14 kg per 1000 litres which corresponds to a titration of 7 cm³. Once the optimum operating strength for a particular plant has been established, the bath should be maintained at that strength by small additions of BONDERITE M-CR ALCRM1200 AERO as indicated by titration.

Storage

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| 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.

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