

## TECHNICAL DATA SHEET

**BONDERITE M-CR ALCRM1200 AERO**(also known as **Alocrom 1200**)**Chromium Conversion Coating (Gold)**

<b>Description</b>	A chemical powder which when dissolved in water, will impart an iridescent, golden chromate protective coating to aluminium and aluminium alloys.
<b>Features</b>	<ul style="list-style-type: none"><li>• A powder product for economy in use.</li><li>• Used at ambient temperatures, so no heating costs.</li><li>• Gives excellent protection from corrosion.</li><li>• An excellent base for paint or powder systems, allowing metal deformation after painting.</li><li>• The coating has low electrical resistance (less than 5K micro-ohms/sq.in.)</li><li>• Can be used to repair anodised coatings and refresh them before painting.</li><li>• Versatile treatment for industrial and electrical components, vehicle parts such as body panels, domestic appliances and aircraft components.</li><li>• Outside the UK, this product is known as <b>Alodine 1200</b>, and is also known as <b>Alocrom 1200</b>.</li></ul>
<b>Complies With</b>	SAE AMS 03-18, MIL-DTL-5541, MIL-DTL-81706, DEF STAN 03-18.
<b>Product Code</b>	<b>MP0002.</b>
<b>SG</b>	1.32 ± 0.1 kg/l at 20°C.
<b>Coverage</b>	The rate of consumption will depend on the coating weight obtained and drag-out losses. As a guide, the following range has proved reliable: DIP: 350 – 450 m <sup>2</sup> /kg of mixed material.
<b>Equipment</b>	The tank and water rinse tanks should be acid resistant, and made of polypropylene (recommended), stainless steel or rigid PVC. The tank should be sited in a well-ventilated area.
<b>Application</b>	All surface contamination must be removed and surfaces must be clean and oxide free.  Normally the process sequence is: <ol style="list-style-type: none"><li>1. Degrease if necessary by aqueous cleaning using T Cleaner 70 (<b>MP0035</b>), followed by a cold water rinse.</li><li>2. Residual surface oxides should be removed using one of:<ol style="list-style-type: none"><li>a. T Deoxidiser 6/16R (<b>MP0472 / MP0473</b>) – Aircraft approved (contains hexavalent chromium);</li><li>b. T Cleaner 79 (<b>MP0019</b>) alkaline etch;</li><li>c. T Deoxidiser 29 (<b>MP0119</b>).</li></ol></li><li>3. Cold water rinse to remove deoxidisers.</li><li>4. Desmut in 10% nitric acid if necessary.</li><li>5. Dip in ALCRM1200 AERO for 2 – 5 min at 18° – 27°C.</li><li>6. Rinse – normally in 2 stages (see <b>Rinsing</b> below).</li><li>7. Dry off (see <b>Force Drying</b> below).</li></ol> <b>Notes on Application:</b> Areas requiring touching-in, or which are too large for the bath, may be treated by brush with BONDERITE M-CR ALCRM1200BR AERO ( <b>MP0004/MP0005</b> or <b>MP0082</b> 2kg kit).

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**Initial Fill** Fill the bath with water, and for every 1000 litres of bath, add 8 kilos of ALCRM1200 AERO, and stir until dissolved. A new bath should be left for 24 before production begins to achieve the best performance.

**NOTE:** Complete dissolution in baths that cannot easily be stirred, especially in hard water, may take several hours. Demineralised/Deionised water will give best results, as the calcium and magnesium salts in hard water will affect performance.

<b>Control Points</b>	Pointage	3.3 – 4.0 ml
	Acidity (pH)	1.6 – 2.2
	Temperature	18 – 27°C
	Time	2 – 5 min.

**Analytic Control** The bath is primarily controlled by a Pointage Titration done routinely according to usage and after the bath has been brought to its normal level with water. A pH measurement is important especially if there can be acid or alkali carry-in, or work is treated without a Deoxidiser.

**1. Pointage Titration:** measure 5 ml of the bath into a flask and dilute to about 100 ml with water. Add approximately 1 gm of Potassium Iodide and approximately 10 ml of concentrated hydrochloric acid and agitate until dissolved. Titrate with 0.1 M sodium thiosulphate to a pale straw colour, then add approximately 0.5 gm of Iodine Indicator and continue the titration until the colourless end-point is achieved.

**Replenishment:** Add 2.0 kg of ALCRM1200 AERO per 1000 litres of bath for each ml. the titration is below the originally selected concentration.

**2. Acidity (pH):** measure the pH of the bath with an accurate and reliable meter after replenishing with ALCRM1200 AERO. The bath should be operated at a pH within the range of 1.6 – 2.2. To lower the pH, very carefully add 100 ml concentrated nitric acid for each 1000 litres of bath and re-check. Add in further 100 ml increments, if necessary.

If preferred, the pH can usually be lowered by increasing the ALCRM1200 AERO concentration, rather than adding concentrated nitric acid. To do this, add ALCRM1200 AERO in 1 gm per litre increments, and re-test the bath.

**NOTE:** Where the pH rises or falls due to drag-in of alkali or acid, improve the rinsing immediately and correct the rising pH with nitric acid as above; or, if falling, 100 gm additions of caustic soda (sodium hydroxide) carefully pre-dissolved in cold water.

A Test Kit **MP0603** containing all the necessary items and replacement chemicals is available from Trimite.

**Rinsing** Rinse the work thoroughly in water in a tank fitted with a weir and continuously overflowed with mains water. This water can be used, if desired, to overflow the rinse tank after deoxidising or aqueous cleaning. A second hot (50 – 60°C) rinse, preferably using demineralised water and T Rinse 10 (**MP0016**), could improve the rinsing standard and help drying the work. This rinse is not overflowed, and should be changed regularly.

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<b>Force Drying</b>	For best results work should be dried in an indirect-fired oven at 70°C for 45 minutes. Do not exceed 70°C or coating damage may result. Work can also be air dried for 24 hours.
<b>Maintenance</b>	ALCRM1200 AERO forms no appreciable sludge, but the surface should be skimmed occasionally, to remove any dust or oil released from blind holes, etc.
<b>Shelf Life</b>	For best before date, see label.
<b>Storage</b>	The product should be stored in cool, dry, frost-free conditions, in sealed containers.
<b>Health &amp; Safety</b>	<b>Refer to the product's Safety Data Sheet and safety advice on the product label before use.</b>
<b>Technical Support</b>	For technical support in using this product, please contact: e: <a href="mailto:birminghamtech@trimite.com">birminghamtech@trimite.com</a> , or t: 0121 554 7000.
<b>Date of Issue</b>	Oct 2023.

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