

# SurTec 650

## Trivalent Chromium Conversion Coating

**Description** Trivalent Chromium (Hexavalent Chromium-free) passivation treatment for Aluminium, which increases corrosion resistance and paint adhesion.

- Features**
- Forms a colourless to iridescent blue/green protective coating.
  - REACH, RoHS and WEEE compliant.
  - Low electric resistance.
  - Excellent pretreatment for powder coating or conventional paint.
  - Can be used on magnesium.
  - Applied by dip or spray.
  - For use with or without paint.
  - Meets MIL-DTL-81706B and MIL-DTL-5541F.
  - Drop-in replacement for hexavalent chromium passivation.

**Product Code** **MP0206.**

**SG** 1.00 ± 0.1 kg/l at 20°C.

**Equipment** The Surtec 650 tank and water rinse tanks can be made of polypropylene (recommended), rigid PVC or stainless steel.

**Initial Fill** Surtec 650 must be made up with deionized or demineralized water at concentrations from 3% to 50% by volume (see **Control Points**).

- Application** The process sequence is:
1. T Cleaner 70 dip for 3 - 15 min at 60°-70°C.
  2. Water rinse.
  3. Alukleen (acidic) or T Cleaner 79 (alkali) Dip 30 seconds to 10 min at ambient temperature.
  4. Deionised (Demineralised) Water Rinse.
  5. SurTec 650.
  6. Deionised (Demineralised) Water Rinse.
  7. Dry off (at maximum 60°C).

The addition of a nitric acid rinse before the Surtec 650 step can improve performance.

Further treatment should be applied no longer than 16 - 24 hours after Surtec 650 application.

**Control Points**

<b>For Bare Metal:</b>	
Concentration	18 - 25%
Acidity (pH)	3.9
Temperature	35° - 40°C
Time	1 - 5 min
<b>For under Paint or Powder Coating:</b>	
Concentration	5 - 10%
Acidity (pH)	3.5
Temperature	30° - 40°C
Time	1 - 5 min

**TECHNICAL DATA SHEET****SurTec 650****Trivalent Chromium Conversion Coating**

<b>Analytic Control</b>	<p><b>Titration:</b> Accurately measure 100 ml sample of the bath into a conical flask. Acidify with 10 ml of 40% sulphuric acid. Add 3 g of ammonium persulphate. Boil for 20 minutes. Cool to room temperature. Add 1 g of potassium iodide and 10 ml of 40% sulphuric acid. Leave for 1 minute. Add 0.5 g of iodine indicator. Titrate slowly against 0.1 M sodium thiosulphate. Titrate until colour changes to clear/light blue. Each ml required x 1.613 = concentration %. A Test Kit (<b>MP0614</b>) is available from Trimite containing all the necessary items.</p> <p><b>Replenishment:</b> Add 10 litres of Surtec 650 per 1000 litres of bath for each 1% by which the bath is short.</p> <p><b>Acidity:</b> Measure the pH of the bath with a reliable meter after replenishing with Surtec 650. If the pH is not within specification very carefully add 200 ml of 5% sulphuric acid or 1% sodium hydroxide solution to each 1000 litres of bath as appropriate and re-check. Add in further 100 ml increments if necessary. pH meters are available from Trimite.</p> <p><b>Spot Test:</b> As Surtec 650 does not always produce a visible colouration on parts, a spot test kit (<b>MP0615</b>) is available from Trimite, to prove the presence of the trivalent chrome layer.</p>
<b>Rinsing</b>	Rinse the work thoroughly in deionised or distilled water. The rinse bath should be regularly maintained. A second, hot (50° - 70°C) rinse can be used to improve the rinsing standard and assist in drying the work. This rinse should be changed regularly.
<b>Drying</b>	For most reliable results, the work should be dried in an indirect-fired oven at 60°C maximum.
<b>Tank Maintenance</b>	Based on usage, the tank should be regularly emptied, cleaned, and refilled.
<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>	Dec 2021.

Information provided in this leaflet is given in good faith but without warranty or assumed liability, as the conditions of application and use are beyond our control. Data are accurate to the best of our knowledge at the time of issue but may be revised in the light of new knowledge and the user should check that data are current before use. The user must satisfy themselves about the product's suitability for their own purpose and refer to the Safety Data Sheet for this product before use. For industrial use only unless specifically stated otherwise.