



Confederate Chemicals Ltd

Mochdre Industrial Estate Newtown Powys SY16 4LE

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FEDERCROM PC – TECHNICAL DATA SHEET

Description

A three part process designed to produce chromate/phosphate coatings on aluminium and its alloys. These coatings can vary from light, clear conversions to heavy green coatings dependent upon operating conditions. It is supplied as three products, FEDERCROM PC, PC Replenisher and PC Accelerator.

The Control of Substances Hazardous to Health Regulations 2002 (COSHH)

For a Safety Data Sheet on this product please contact Confederate Chemicals by telephone, or by e-mail at lab@confederatechemicals.co.uk

Instructions for use

Process Sequence

(1) CLEANER as recommended by Confederate Chemicals Ltd.

Rinse

(2) ACID or ALKALINE ETCH as recommended.

Rinse

(3) DESMUT if required

Rinse

(4) FEDERCROM PC

Rinse

(5) Demineralised water rinse

(6) Force dry

Initially make up the tank as follows.

FEDERCROM PC	5 - 12% v/v	(60 - 144kg/1000 litres)
PC Accelerator	0.3 – 0.6% v/v	(3.6 – 6.2kg/1000 litres)

If heavier coating weights are required, higher concentrations of FEDERCROM PC can be used, but only after consultation with your Confederate Chemicals' representative.

Temperature: ambient to 42°C

Time: 30 seconds - 3 minutes (immersion)

30 seconds - 1.5 minutes (spray)

The coating weight is controlled by PC Accelerator additions. To increase coating weight, increase the accelerator concentration. If process temperatures and times are changed, it will be necessary to adjust the Accelerator content to compensate.

Control

(1) *Pointage*: To a 2ml sample add 25mls distilled water, 25mls 10% Sulphuric Acid and approximately 2gm Potassium Iodide. Shake to dissolve and add a small amount of "Iodine" or starch indicator.

Titrate to the green end point using 0.1N Sodium Thiosulphate solution. Each ml is considered 1 point. The pointage is normally maintained between 7.0 and 10.0. To increase the concentration by 1 point, add PC Replenisher at the rate of 13.2kg (11 litres)/1000 litres of solution volume.



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(2) *Accelerator:* The Accelerator content is controlled by coating weight determination. If the coating weights increase, reduce the Accelerator additions. If the coating weights decrease, add more Accelerator. Additions should normally be made pro rata with PC Replenisher when the correct ratio is established.

(3) *Coating Weights:* Immerse a clean 15cm x 10cm aluminium test panel in the solution using the normal production sequence. Rinse and air dry the panel. Weigh the panel then remove the coating in concentrated Nitric Acid and reweigh. Calculate the coating weight as follows.

$$\text{Coating weight (grams per square meter (g/m}^2\text{))} = \text{weight loss in grams} \times 33.33$$

Equipment

All tanks and equipment should be heavy gauge 316 or 304 stainless steel. PVC lined mild steel is also suitable. DO NOT USE mild steel, glass lined, rubber or lead lined tanks.

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