

Cleaner / Iron Phosphate

Sheet No. P/MP0215-1/1

FEATURES:

A liquid chemical which when diluted in warm water will simultaneously degrease and form a thin, protective phosphate conversion coating on steel, zinc and aluminium surfaces. It can be used by dip or spray (tunnel or washing machine) processes. Phosphate coatings on steel are usually 0.2 – 0.4 gram/m² and comply with DEF STAN 03-11/3 Class IV and EN 12476:2000 Feph, previously BS 3189 (1973) Type 4.

BENEFITS:

- Degreases normally oily surfaces.
- Treats steel, zinc (Mazak/Zintec/Galvanised) and aluminium.
- Improves paint and powder adhesion.
- Operates at low temperatures - reduced energy.
- Forms very little sludge – low maintenance costs.
- Concentrated product for economy.

AVAILABILITY:

Paintbond® 310 is stocked in 30 kg and 240 kg drums. Prices can be obtained from our Sales Office.

FLASHPOINT:

None.

STORAGE:

Paintbond® 310 should be kept in the original, closed containers and stored in a cool, dry area. Shelf life in unopened containers is 12 months minimum.

COVERAGE:

Consumption will depend greatly on bath losses through drag-out and overspray. As a guide the following ranges have proved reliable:

Dip: 100 – 200 m²/kilo of Paintbond® 310.
Spray: 150 – 300 m²/kilo of Paintbond® 310.

APPLICATION:

Normally, the process sequence is:

1. Phosphate by: Dip or Spray - normally 1 or 2 stages.
2. Rinse - normally 2 stages (see **RINSING** below).
3. Dry-off (See **DRYING** below).

NOTE: If the work is oily and/or corroded, initial treatments of aqueous cleaning (T Cleaner 70, MP0035 - Dip) and/or de-rusting (T Deruster 25, MP0006 – Manual, or T Deruster 9, MP0203 - Dip) will prolong the tank life of the phosphate process.

BATH MAKE-UP:

1. Fill the bath with mains water- for every 1000 litres of bath:

By Dip

2. Add 22 litres of Paintbond® 310.
3. Warm the bath and stir thoroughly.

By Spray

2. Add 10 litres of Paintbond® 310.
3. Warm the bath and circulate through the spray jets for 5 minutes.

NOTE: If the work is significantly oily, Paintbond Det. Add. A (MP0240) may be added to increase detergency, normally up to 1 part Paintbond Det. Add. A to 20 parts Paintbond®310.

CONTROL POINTS:

	Dip	Spray
Pointage cm ³	9 – 12	3 – 6
Acidity pH	4.0 – 4.5	4.0 – 4.5
Temperature °C	40 – 60	35 – 55
Time mins	3 – 6	2 – 4
Spray Pressure bar	N/A	0.8 – 1.5

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**BATH CONTROL/
REPLENISHMENT:**

The baths are 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 may be of value particularly if there can be alkaline drag-in.

1. Pointage Titration: Measure 10 cm³ of the bath into a flask and add 4 – 6 drops of Phenolphthalein Indicator solution. Titrate with 0.1M Sodium Hydroxide until the colour changes to a permanent pink.

Replenishment: Add 2.2 litres Paintbond® 310 per 1000 litres of bath for each cm³ the titration is below the operating level. If required, up to 0.5 litres of PB Det. Add. A (MP0240) may be added for every 10 litres of Paintbond® 310 used.

2. Acidity: Measure pH preferably using a reliable meter or narrow range (4 – 7) pH paper. Normally, the pH will be restored to the correct level when Paintbond® 310 is added. Should the pH remain high, our Technical Service team should be contacted; PB Acid Adjuster 2 (MP0226) may be needed to compensate for alkaline build-up from poor mains water or emulsified oils.

A Test Kit MP0604 containing all the necessary items and replacement chemicals are available from our Sales Office.

RINSING:

Dip: The work should be rinsed thoroughly with water in tanks fitted with weirs and continuously overflowed with mains water.

Spray: Similar holding tanks are suitable but the clean water is better introduced over the work through the last spray risers. The overflowed water can be used to overflow to any rinses prior to the Paintbond® 310 stage.

Improved results can be gained by using de-mineralised water, PBSeal A (MP0230) or PBSeal F (MP0232), the latter being a chromium-free option, in a warmed final rinse; in this case the rinse is not normally overflowed but should be changed regularly.

DRYING:

For most reliable results, the work should be dried in an indirect-fired oven at 70°C – 125°C.

MAINTENANCE:

Paintbond® 310 forms a small amount of sludge in normal use that will need periodic removal. The tank should be allowed to settle, the clear liquid transferred to an adjacent rinse tank, the tank and heating surfaces cleaned and the clear liquid returned when it should be replenished with water and Paintbond® 310.

EQUIPMENT:

Dip: The tanks can be made of mild steel with built-up welds.

Spray: The whole plant can be constructed of mild steel although the Paintbond® stage(s) should have pumps with stainless steel impellers, etc and suitable plastic or stainless steel jets.

Rinse tanks can be made of mild steel, preferably painted inside with a suitable paint, although polypropylene, rigid PVC or stainless steel should be used for de-ionised water tanks and spray equipment.

Guidance on suppliers of processing equipment may be obtained from Sales Office.

**ENVIRONMENTAL
CONSIDERATIONS:**

Paintbond® 310 contains no VOCs. The occasional discharge for either cleaning out or desludging requires conditions of temperature (usually not greater than 40°C), suspended solids (usually not greater than 500 ppm) and pH (usually 6 – 10) to be met. To increase the pH of 1000 litres of bath from 4 to 9, carefully add 3.0 kg of PB Alkali Adjuster 1 for each point of the bath strength and add slowly with stirring or circulation. The decrease in acidity can be checked with pH papers.

SAFETY:

Paintbond® 310 is a mildly acid liquid. Before use, refer to the Material Safety Data Sheet.

Information provided in this leaflet is given in good faith but without warranty on the understanding that users satisfy themselves about the product's suitability for their own purpose. Our Technical Service team is available to assist in cases of doubt. Any sale by this Company is strictly subject to our Conditions of Sale.