Trimagard 19

Organic Black Phosphate for Steel & Aluminium

Description

A high performance self-phosphating coating, that gives a black, low gloss coating on steel, which significantly increases corrosion resistance and the adhesion of paint and powder coatings.

Features

- A liquid blend of resin and black phosphate base, in solvent.
- A normal, thin (~ 8 µm) film has very good corrosion resistance when stoved, and enhanced durability can be achieved by applying further coats.
- Can be used as a finish, or overcoated satisfactorily with most stoving and powder coating products.
- Can be applied brush, dip or spray.
- A simple application, with no rinsing, heating or effluent.
- Good adhesion to metals including steel, zinc, aluminium and copper.
- Stable in dip tanks.
- Can be air dried, force dried or stoved.

Product Code

MP0486.

SG

0.90 ± 0.1 kg/l at 20°C.

Coverage

The rate of consumption will depend on the application method. By dip - the draining efficiency and tank viscosity; by spray - the coating build-up and the amount of overspray. As a guide the following ranges have proved reliable:

Spray: 7 – 10 m^2/kilo of Trimagard 19
Dip: 12 – 16 m^2/kilo of Trimagard 19.

Equipment

Spray: Normal spray guns and equipment are satisfactory, using a pot pressure of 0.3 to 0.7 bar where applicable. Work must be sprayed in an exhausted spray booth.
Dipping: dip tanks can be made of mild steel and should have high sides, a drain area back to the tank and a lid to reduce solvent loss. The area must have good ventilation but not be subjected to excessive draughts.

Application

Normally the process sequence is:

1. Degrease if necessary by solvent wiping with either:
    a. T Cleaner 2 **(MP0113)** or T Wipes 2 **(MP0302)**; or
    b. Solvent vapour degreasing with Triklone 'N' (**MP030**1).

2. Apply Trimagard 19 either by:
    a. **Dip** - at room temperature and immediately drain, jigging the work to avoid trapping and secondary runs. The bath may be thinned with Thinner (**MP0011**) to maintain a suitable viscosity, to give the coating thickness and appearance required (see **Control Points** below).
    b. **Spray** – apply sufficient Trimagard 19 to give the required film thickness. Thin with up to 1 volume of Thinner (**MP0011**) to 3 volumes of Trimagard 19 (see **Control Points** below).
    c. **Brush -** if other methods are not possible.

2. Drain/flash off until the coating is set up, and then air dry, force dry or stove (see **Drying** below).

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Application Notes:
(i) Aqueous cleaning and rinsing can be used, but is normally only for non-ferrous metals – if used, the work must be dried before applying Trimagard 19.
(ii) Mild steel should be free of rust and scale before applying Trimagard 19. T Deruster 4 (**MP0054**) is normally effective as a dip chemical treatment, or use T Wipes 4 (**MP0306**) for an easy manual technique.
(iii) Trimagard 19, thinned if necessary with Thinner (**MP0011**), can only be brush applied to small areas.
(iv) Regularly used small dip tanks should be stirred before production. Large tanks e.g. above 500 litres, may require a non-aerating circulation with a suitable in-line filter.
(v) The corrosion resistance of Trimagard 19 increases with film thickness although care must be taken with appearance when dipped at high viscosity. On steel sheet, testing of an 8 µm stoved film showed no rust creep after 72 hours with ASTM B 117 salt spray testing. The resistance can be improved by around 50% by doubling the film thickness, but may fall by a similar degree when the film is only air-dried.
(vi) After force drying the first coat for 5 – 10 min at 125° – 175°C, a second dip coat can be applied after cooling. Alternatively the first coat should be air dried for at least 1 hr before recoating.
(vii) Trimagard 19 imparts a high degree of protection and is usually employed as a finish. However, it may be overcoated by most industrial paint or powder coatings, provided the intercoat adhesion is checked and proves to be satisfactory. Results can be improved by varying the drying of the Trimagard 19 from a short air-dry to a high temperature stoving.

Control Points

	Brush or Dip	Spray
Viscosity (BSB4 cup at 25°C)	35 - 55 sec.	20 - 30 sec.
Temperature	Ambient	Ambient
Spray Pressure	n/a	2.5 - 3.5 bar
Immersion Time	No dwell time (avoid air traps)	n/a
Dry Film Thickness	8 - 16 µm	8 - 20 µm

The dip tank is simply controlled by a BSB4 viscosity check at 25°C, and maintained at the optimum figure to give best appearance and satisfactory performance. Replenish the bath to near the working level with Trimagard 19 and, if required, add Thinner (**MP0011**), with stirring, to the desired viscosity.

Drying

Either: air dry for up to 45 min at 18°C, or warmer, before handling, and up to 24 hr before assembling, etc.;
Or: flash off for 10 min, then stove for 10 min at 175°C (or 30 min at 125°C).
Notes:
a) If not to be overcoated, full corrosion resistance will only be attained by stoving.
b) If overcoating, do not force dry above 125°C before painting.

Flash Point

Below 21°C– low flash material.

Shelf Life

2 years from date of manufacture when correctly stored in unopened containers.

Storage

The product should be stored in cool, dry, frost-free conditions, in sealed containers.

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Health & Safety	**Refer to the product's Safety Data Sheet and safety advice on the product label before use.** Both Trimagard 19 and Thinner (MP0011) contain VOCs. The contents are: Trimagard 19 –790 g/kg; Thinner (MP0011) – 800 g/l.
Technical Support	For technical support in using this product, please contact: **e:** birminghamtech@trimite.com, or **t:** 0121 554 7000.
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