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MasterProtect® 180 (formerly known as MasterProtect 1818)

Non-toxic, solvent free, high build epoxy resin, protective coating for concrete and metal

DESCRIPTION

MasterProtect 180 is a two-component epoxy resin system, comprising pigmented base and a hardener, specifically formulated to protect concrete and steel. On mixing of the two components, it yields a high build, chemical resistant protective coating, which cures to a semi glossy, ultra dense surface that is easily cleaned, hygienic and safe for contact with foodstuff and potable water.

RECOMMENDED USES

MasterProtect 180 is recommended as a protective coating for the inside surfaces of tanks, sumps and walls and as a pore free surface sealer resistant to the growth of bacteria. Applications include:

- Coating drink water reservoirs
- Chemicals storage tanks.
- Dairies & grain silos
- Pulp and paper plants
- As a gas and vapour barrier coating to concrete and metal surfaces.
- Meat processing, food industries & breweries.
- Clean rooms in pharmaceutical facilities
- As protective coating in oil refineries, paper mills, power stations, garages, hospitals, hangars, etc.

FEATURES AND BENEFITS

- **Non-toxic & non-tainting:** Safe for drinking water & Contact with food stuff
- **Impermeable** – Vapour barrier for low RH areas
- **High chemical resistance** - Suitable for many industries
- **Solvent free** – Virtually no odour, Zero VOC
- **High build coating** – Tough & durable
- **Hard surface** - Easy to clean and Resistant to mould growth & abrasion

PROPERTIES

| | |
|-------------------------|-----------------------|
| Volume Solids | 100% |
| Pot life | 60 Minutes at 25°C |
| | 30 Minutes at 40°C |
| Mixed density | 1.55 kg/litre at 25°C |
| Mixing Ratio, by weight | 100: 14.4(A:B) |
| Touch dry | 4 Hours at 30°C |

| | |
|--|-----------------------------|
| Recoatable | 12 -18 Hours at 30°C |
| Open to foot traffic | 24 Hours at 30°C |
| Final cure | 5 Days at 30°C |
| Adhesive bond strength to concrete, (ASTM D 4541) | >1.5 MPa (concrete failure) |
| Abrasion resistance CS17 wheel (ASTM D4060, 1000 cycles) | < 20 mg |
| DFT, in two coats | 400 - 500 microns |

Chemical resistance

MasterProtect 180 is resistant to intermittent spillages of the following typically encountered chemicals:

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|------------------------------------|
| Formaldehyde , 40% solution |
| Sulphuric Acid, 50% solution |
| Hydrochloric Acid, 50% solution |
| Hydrochloric Acid 5% solution |
| Lactic Acid, 50% solution |
| Nitric Acid, 10% solution |
| Sodium Hydroxide, 50% solution |
| Diesel oil |
| Wine |
| Sea and brackish water |
| Aviation hydraulic fuels (Skydrol) |
| Vegetable oils |

Note: Higher concentration of mineral acids may cause matting of the surface and colour changes.

APPLICATION

Surface preparation

It is most important to ensure that thorough surface preparation is undertaken prior to application of the **MasterProtect 180** coating.

Temperature Requirements

Substrate temperatures: 15°C – 35°C

Material temperatures: 15°C – 30°C

Very low or very hot temperatures will make application more difficult and careful consideration should be given to storage of materials. In the cold weather conditions, pre-condition materials by keeping it in a heated room. In hot weather conditions, some form of air-conditioned storage is required. Pre-conditioned materials at 20-25°C will



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reduce the possibilities of flash/slow setting and other defects.

Concrete

Ensure concrete is at least 28 days old and sound. Oil, grease, mould release agent, curing membrane, and such other contaminants must be removed by mild detergent and water, and by thoroughly scrubbing with a soft brush. If the wall surface is damp or water is seeping out, it is necessary to stop the leakage before coating. For advice on the appropriate method for the site situation, contact BASF.

Where a hygienic surface is critical, even out all unevenness such as blowholes, pin holes and other surface defects with **MasterBrace ADH 2200** before application of coating.

Steel

Remove all previous surface treatments and corrosion products by sand/shot blasting to SA 2½ finish or to bright metal finish. Application of **MasterProtect180** should be as soon as the steel is prepared to avoid surface rusting.

Mixing

MasterProtect 180 is supplied in two pre-weighed components, Base and Hardener. Properly stir each component separately before mixing together to ensure uniform consistency.

MasterProtect 180 is supplied in pre-proportioned kits for complete mixing. Combine Hardener and Base component in a suitably sized container. Ensure to scrape the sides of the containers to ensure a complete reaction.

Mix properly for 3 minutes with a slow-speed drill and wing style mixing paddle at 300-400 rpm until a homogeneous colour is achieved. Keep the paddle below the surface to avoid entrapping air. Do not mix by hand.

Application **MasterProtect 180** can be applied using short nap roller, shorthaired brushes or by airless spray. Apply in two coats, each at a W.F.T. of 180 to 250 microns, the second coat applied

after the first coat has dried (12-18 hours at 30°C) and at right angles to it. Should the application of second coat be delayed, abrade the previous coat to give an adequate mechanical key and wipe with a suitable before the application.

Airless spray

For application by airless spray, use a pump with 45:1 or higher ratio, minimum 9 mm dia hoses and a nozzle tip of size 0.48 mm to 0.58 mm.

ESTIMATING DATA

MasterProtect 180 Each 5 kg pack yields 3.2 L on mixing and is sufficient to coat approximately 8 m² in 2 coats of 200 microns each, on a fair faced concrete surface.

Actual coverage depends on the numbers of coats, surface profile, loss and wastage.

PACKAGING

MasterProtect 180 is supplied in 5kg packs

SHELF LIFE

MasterProtect 180 has a shelf life of 12 months. Store out of direct sunlight, clear of the ground on pallets protected from rainfall.

PRECAUTIONS

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the BASF Material Safety Data Sheet (MSDS) from our office or our website.

MasterProtect180/02/0616

STATEMENT OF RESPONSIBILITY (Disclaimer)

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