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MASTERTOP™ 1740

Water-based epoxy floor screed for medium to heavy traffic

Description

MASTERTOP 1740 is a multi component system based on water dispersible epoxy resins, designed to provide continuous protection for concrete floors. Applied by trowel in thicknesses of 3mm and above, 1740 is suitable for use as a screed or repair mortar.

Uses

MASTERTOP 1740 is used for flooring and repairs in floors subject to heavy, abrasive-traffic or for edge repairs of heavily trafficked joints. MASTERTOP 1740 is non-tainting and is suitable for application where foodstuffs are processed and stored.

In continuously wet areas, MASTERTOP 1740 floors offer improved safety by providing a slip resistant finish. Application areas include:

- Food production and processing
- Vegetable and fruit canning
- Dairy products, bakeries and confectioners
- Chemical production and processing
- Textile production - bleaching and dying
- Metal processing and engineering

Advantages

- Durable even in high traffic areas.
- Safe in wet areas.
- Excellent adhesion and finish despite raising dampness.
- Bonds to damp or just a week old concrete
- Doesn't taint food

Typical properties

Mixed density	: 1.80 kg/litre
Pot Life	: 35 mins at 25°C 20 mins at 40°C
Setting time/ foot traffic	: 12 hours at 25°C
Vehicular traffic	: 48 hours at 25°C
Maximum service temperature	: 60°C
Compressive strength (ASTM C579)	: 40 MPa at 7 days
Flexural strength (BS 6319 part 3)	: 17 MPa at 7 days
Tensile strength (BS 6319 part 7)	: 14 MPa at 7 days
Abrasion Resistance H22 wheel (ASTM C501,1000 cycles)	: < 0.5 mg
Hardness, Shore D (ASTM D 2240)	: > 70
Adhesive bond strength to concrete (ASTM D4541)	: > 1.5 MPa (concrete failure)

Specification Clause:

The water based epoxy screed shall be MASTERTOP 1740, 4-part system consisting of graded fillers to provide the toughness. The system shall consist of MASTERTOP 1700, water based epoxy primer and topping of MASTERTOP 1740. Overall the system shall be able to offer good abrasion resistance; shall not exceeding wear loss of 0.5 mg/cycle when subjected to H22 test wheel on Taber apparatus as per ASTM C501. Also product shall have compressive strength minimum of 40 MPa at 7 days, flexural strength in minimum of 17 MPa at 7 days and tensile strength minimum of 14 MPa at 7 days.

Directions for use

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

Surface Preparation

MASTERTOP 1740 must be applied to a clean substrate free from dust, dirt, oil, grease and other contaminants. A clean well prepared surface will ensure adhesion between substrate and overlay.

The method of surface preparation will be dictated by the size of area to be treated, location and degree of contamination.

New construction: The removal of laitance and contaminants is best achieved by mechanical means such as vacuum recovery shot blasting or scarifying or grinding.

Existing concrete: All contamination must be removed and a sound, clean substrate exposed. Mechanical means of preparation are preferred followed by the removal of dust and other loose debris using an industrial vacuum or power washing.

In areas of deeply penetrating contamination by oils, greases and fats, hot compressed air, followed by impregnation with a low viscosity sealer / primer is the recommended treatment

Uneven concrete should be levelled to produce a smooth flat surface. For heavy wear situations carry out patch repairs using MASTERTOP 1740 before proceeding with the final topping.

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Expansion and isolation joints in concrete substrates should be carried through MASTERTOP 1740 floors and filled with a suitable MASTERFLEX series sealant.

At all details where MASTERTOP 1740 systems will terminate, for example, at expansion, control or movement joints, at doorways, channels or columns, the material must be given a mechanical bond to the substrate using tie chasers. Tie chasers are grooves cut in existing concrete about 10mm deep and wide. Tie chasers can be cast during initial construction using polythene coated timber battens, or cut prior to surface preparation.

Priming

Prime the substrate using MASTERTOP 1700 Primer.

Mix the two components using a slow speed drill with a suitable paddle. Mix for at least 1 minute or until a uniform consistency and colour is obtained. The components are preweighed and should not be split or divided. Apply onto the prepared surface at the rate of 4 – 6 m^2/kg using a roller or if the surface is absorbent with a stiff brush in a circular motion forcing the primer into the substrate. Allow it to dry.

If the surface looks patchy due to absorption, apply one more coat of the primer.

Mixing

Mixing should preferably be carried out using a forced action mixer. A slow speed drill and spiral paddle is also suitable for single unit quantities. Stir the base component thoroughly before use. Add the base, reactor and colour pack in to the mixer and completely empty the contents of the containers. Mix for 1 minute or until a uniform colour is achieved. Slowly add the aggregate component and mix for a further 3 minutes until a uniform colour and consistency is achieved. Mixing times should be varied according to temperature but typically 4 minutes is sufficient. It is important to maintain constant mixing times throughout the contract, to ensure consistent colour.

Placing

MASTERTOP 1740 can be applied to a damp substrate, but all standing water must be removed prior to application. Apply the MASTERTOP 1740 whilst the primer coat is still tacky. If the primer hardens or is readily absorbed by the substrate, reprime before continuing.

MASTERTOP 1740 is supplied in preweighed packs which should not be split or divided. It is important to use complete packs.

Where the finished floor is being used in a hygienic situation it is recommended to overcoat the MASTERTOP 1740 with a sealer coat of MASTERTOP 1110 T.

Coverage

A mixed 15.08 kg unit yields 8.3 Ltrs and is sufficient for 1.4 to 1.6 m^2 at 5mm average thickness. Coverage shall vary depending upon the substrate profile and application thickness

Packaging

MASTERTOP 1740 is supplied as a four component 15.08 kg pack

Components

Base	0.48 Kg
Hardener	1.25 Kg
Aggregate	13 Kg
Colour pack	0.35 Kg

Equipment care

Remove uncured MASTERTOP 1740 using water immediately after use. Hardened material will have to be removed mechanically.

Storage and Shelf life

Store under cover, out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air-conditioned environment.

Shelf life is 4 months when stored as above.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice please consult BASF's Technical Services Department.

Safety precautions

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use. Do not reuse containers for storage of consumable item. For further information refer to the material safety data sheet. MSDS available on demand or on BASF construction chemicals web site.

Note

All BASF Technical Data Sheets are updated on regular basis; it is the user's responsibility, to obtain the most recent issue.

Field services where provided, does not constitute supervisory responsibility, for additional information contact your local BASF representative.

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