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MasterTop[®]300 (Formerly known as MASTERTOP230i)

Heavy duty cementitious, metallic aggregates filled floor topping

DESCRIPTION

Premixed industrial floor topping based on hydraulic binder and specially treated metallic aggregates.

RECOMMENDED USES

- Key areas subject to heavy abrasive traffic, impact and continuous wear, such as loading docks, aisles, waste transfer facilities, truck or tractor repair areas, and mill scale sluiceways.
- Areas where safety authorities have deemed other floor surfaces hazardous because of excessive wear dangerously buckled steel plates, etc.
- Bunkers and tunnels (used for iron, ore and coal).
- Areas subjected to attrition by tracked vehicles.
- Floors with scraper blades in constant contact.

Limitations

- Not suitable for areas where acids/ alkalis and / or other chemicals attack iron/ cement particles.

PROPERTIES

Aspect	: Grey powder
W/P Ratio, by weight	: 0.085
Fresh wet density	: 3,400 kg/m ³
E-modulus	: 27 GPa at 28 Days
Compressive strength (BS 6319, Part 2)	: 25 MPa at 24 Hours 50 MPa at 72 Hours 80 MPa at 28 Days
Flexural Strength (BS6319, Part 3)	: 8.8 MPa at 28 Days
Abrasion resistance, H22 wheel (ASTM C501, 1000 cycle)	: < 0.13 gm
Abrasion resistance, (Böhme)	: < 4 g/cm ³

Adhesive bond strength to concrete (ASTM D 4541)	: > 1.5 MPa (concrete failure)
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Specification Clause

The heavy-duty overlay shall be **MasterTop 300**; ready-to-use, metallic aggregates based powder. The product shall be high strength with compressive strength of 80 MPa at 28 days; flexural strength exceeding 8 MPa at 28 days. The product shall be capable of resisting metal crawler chassis and shall have abrasive wear less than 0.15 mg/cycle on H22 wheel, ASTM C501 test method. The product shall have adhesive bond strength in excess of 1.5 MPa when tested as per ASTM D4541.

APPLICATION

Surface Preparation

Topping on hardened concrete: The old surface shall be carefully prepared before the application of **MasterTop300**. Square cut the edges to the right depth; Chip old concrete to the desired depth with chipping hammer (with pointed chisel) until a good, solid and clean surface is obtained; with a surface amplitude of 5-6mm. All loose particles, as well as oil, grease, cement laitance, dust and other foreign matters shall be removed prior to the application of **MasterTop 300**. Use of a bonding agent such as MasterBrace 1414 is necessary.

Topping on green concrete: When laying **MasterTop 300** over a green concrete, the coarse substrate profile required for bonding purposes can be obtained by applying a surface retarder when the concrete is laid or water jetting the green but hardened concrete to expose the coarse aggregate.

Mixing

Measure the necessary mixing water and pour into mixing vessel. Start mixer and add **MasterTop 300**



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slowly. Continue mixing for 4 – 5 minutes until a homogeneous and lump free mortar is obtained.

Application

The mixed mortar is applied on the saturated but surface dry roughened concrete surface. An even and uniform spread is recommended. Level the **MasterTop 300** mortar by screeding. As soon as the mortar has sufficiently dried, start the floating process.

Floating MasterTop 300: With wooden hand floats, float the mortar on concrete adjacent to walls, forms, columns and doorways as soon as possible. Other finishers using power trowels with float blades should float the mortar on overall areas as soon the float blades do not dig into the surface. Time the floating operation so it will not be necessary to sprinkle water on the surface.

Additional floating: The surface may be further compacted by a third or fourth power floating if time and setting characteristics of the concrete and mortar permit.

First trowelling: When the surface stiffens further and loses some of its sheen, it should be trowelled by power trowel.

Second trowelling: When the surface "tightens" further it should be towelled again with a power trowel. The blades may be raised slightly for this trowelling.

Third trowelling (hand trowelling): When only a little paste clings to the trowel blade, a third, raised trowelling may be given to the floor. Pinholes and trowel marks should be removed in this hand trowelling operation

Curing

Just as soon the surface will not be marred by the application, apply two coats of the MasterKure 181 curing compound or do complete water ponding.

Protection

The area should be barricaded after the curing compound is applied. As soon as the curing compound has dried, adequately cover the floor surface to prevent staining, discoloration or physical damage which may be difficult to correct.

Alert other trades to the need for special protection against rolling or sliding heavy loads across the surface, oil drippings from pipe threaders, spillage of paint, plaster and mortar, acid washing of interior masonry walls, etc. Ensure that the covering is not damaged during the progress of the job.

ESTIMATING DATA

25kg **MasterTop 300** mixed with 2.0 to 2.25 litres of water shall produce 8 litres of mortar and shall cover 0.5m² at 16 mm thickness.

Minimum application thickness = 15mm

PACKAGING

MasterTop 300 is packaged in 25kg moisture-resistant bags.

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 6 months when stored as above.

PRECAUTIONS

- For heavy-duty traffic areas, concrete designed for at least 30 N/mm² should be used. Thickness of the slab and the type and amount of reinforcement in it are important design considerations.
- At temperatures > 30° C, at low humidity or when placing concrete without protection from wind or sun, erect sunshades or windbreaks and consider use of a curing compound from the MasterKure range.
- Do not use salt water or salt contaminated aggregate in concrete over which **MasterTop 300** will be applied.

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Cleaning

Cleaning with water as soon as the equipment is no longer in use and before the cementitious material starts to harden on the blades and trowels.

Sawing joints

Saw the joints as soon as possible, without spalling the **MasterTop 300**

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.

Mastertop 300/01/0214

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