

MASTERTOP™ 33

Curing aid, hardening, sealing and dust proofing compound for concrete

Description

MASTERTOP 33 is a clear, inorganic, water-soluble, curing, hardening, sealing and dustproofing compound. It is easy to apply, leaves no residue and dries quickly. It contains no VOCs.

Uses

Use it for freshly placed and finished concrete and in renovation of aged concrete. Applications include:

- Concrete floors and pavements
- Curing of fresh concrete
- Renovation of aged concrete
- Industrial, processing and brewing plants
- Educational, medical and nursing facilities
- Utility, public and multi-residential buildings
- Warehouses & storage areas
- Aircraft hangers, workshops & garages
- Public parking areas

Advantages

- Improved abrasion resistance
- Effective consolidation - reduced dusting
- Protects floors during construction
- Maintains breathability of surface
- Aid for curing new concrete
- Imparts life time sheen (best if polished)

Mechanism of action

Cementitious binders produce lime as by-product during their hydration process. This lime is loosely bind to the concrete macro-structure and keeps liberating to the surface creating unpleasant dusting and resulting open pore structure of the concrete surface. The pores aggravate staining and unpleasant appearance. MASTERTOP 33 is based on advance inorganic chemistry which changes the state of free and friable lime to hard crystalline structures in the porous matrix of the concrete. This crystalline action results in to elimination of dusting, sealing of porous matrix and resulting increase in the hardness of the concrete surface. The hard crystalline structure is chemically very stable and provides long lasting and durable hardness to the top concrete surface. Mechanised polishing of the MASTERTOP 33 treated surface results in to smooth, dust free and durable shiny surfaces.

Specification Clause

The liquid surface hardening compound shall be MASTERTOP 33, a clear non-organic, voc-free, surface applied solution. The product shall improve the compressive strength of concrete by 15%; pull-off adhesion by 15% and abrasion resistance by 40%.

Typical properties

Aspect	: Clear liquid
Improvement in abrasion resistance, over control (ASTM C501, H22 wheel)	: > 40% at 7 Days
Improvement in moisture retention, over control (in freshly cast concrete)	: > 30%
Improvement in compressive strength, over control (rebound hammer test)	: > 15% at 7 Days
Improvement in pull-off bond strength, over control (ASTM D4541)	: > 15% at 7 Days
Chloride ion content	: < 0.2%

Directions for use

Surface Preparation

NEW CONCRETE: Freshly finished concrete surfaces require no surface preparation if MASTERTOP 33 is to be applied immediately after the final finishing operation. On areas where forms have been recently removed, all form oil or bond-breaking compound residue must be removed.

EXISTING CONCRETE/TERAZZO (CURED 28 DAYS PLUS): To remove all dust and dirt, sweep all areas to be treated with a fine-bristled broom or hose off with water and let stand until completely dry. The surface must be free from all contaminants that will inhibit the penetration of MASTERTOP 33 into the pores of the concrete. Any curing, scaling, or coating agents must be chemically or mechanically removed before MASTERTOP 33 is applied. If acid is used to remove surface coatings, the surface must be flushed sufficiently and neutralized before application of MASTERTOP 33. A floor buffing machine with an aggressive pad can be used along with citrus degreaser or other cleaners to remove existing compounds. Carry out dry-grinding to remove the top cementitious sealing layer and to open the pores of concrete substrate. Clean the area with water-jetting and allow to surface-dry.

Application

MASTERTOP 33 is not a film-forming product, but should fully saturate the concrete for maximum effect. Perform enough applications for MASTERTOP 33 to saturate (but not puddle) the concrete by following the instructions below.

NEW CONCRETE: Spray-apply undiluted MASTERTOP 33 on the concrete surface with a low-pressure sprayer following final finishing operation and after all surface water has evaporated and the concrete surface is hard. To ensure proper performance, apply MASTERTOP 33 to the entire surface area as soon as the surface can bear foot traffic. Keep the entire surface wet for 30 minutes by

spraying MASTERTOP 33 or by brooming excess material from low spots to saturate dry spots. Keep MASTERTOP 33 from drying out on surface for a full 30 minutes. As MASTERTOP 33 begins to penetrate into the surface, lightly sprinkle the surface with water to aid penetration. As MASTERTOP 33 begins to dry a second time, flush the surface with water and squeegee the surface to remove any excess material and other impurities that were brought to the surface.

BROOM OR ROUGH-FINISHED NEW CONCRETE SURFACES: Follow the basic application methods as described above. Move excess material with broom instead of squeegee for newly placed concrete. Rough finished concrete will absorb the MASTERTOP 33 material quickly. After 30 minutes, final flushing with water may not be necessary unless puddles of MASTERTOP 33 remain on the surface. Do not let unabsorbed material stand on the surface.

EXISTING CONCRETE/TERRAZO (28 DAYS PLUS): Saturate the surface with undiluted MASTERTOP 33 by sprayer, squeegee, or brooming. If dry spots appear, move excess material onto them or re-spray them immediately so that entire surface is wet with MASTERTOP 33 for a minimum of 30 minutes. Complete job using one of the following finishing options:

- If after 30 to 40 minutes the majority of MASTERTOP 33 has been absorbed into the surface, broom or squeegee any excess material from the low spots so it may be absorbed into the surface or completely removed from it. Flush floor clean with water.
- Use a floor buffing machine with a non-aggressive pad to help work MASTERTOP 33 into fully cured concrete during application.

Drying Time

MASTERTOP 33 penetrates in approximately ½ – 1 hour per application, influenced somewhat by temperature, humidity, and job conditions. Each application must penetrate thoroughly before proceeding with next. A floor treated with MASTERTOP 33 must completely dry before accepting any traffic. Allow 24 hours before subjecting to heavy traffic.

Finishing

Dry buffing 24 hours after the application will improve the sheen of finished floor. With time (after three to nine months) sheen would improve on the surface due to improved sealing and polishing with use.

Coverage

One litre will cover approximately 4 – 8 m² depending upon on the texture and porosity of substrate. Because of different surface types and textures, coverage can vary dramatically with this type of material. Use following chart as guideline:

Finish\ Floor age	Coverage (m ² /Litre)	
	Newer	Old
Rough trowel finish	4 – 6	4 – 5
Broom or Flat finish	5 – 7	5 – 6
Hard trowel finish	6 – 8	6 – 7

Packaging

MASTERTOP 33 is available in 20 litre carboy.

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 at least 12 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 advices 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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TDS Ref. no. : Mtpxxx33/01/1206