

Floor Tiling Enhancers

RAZON

Master Mortar MM-101B & TG-135

MM-101B: Liquid Additive for floor bedding - Machan in Crushed Stone Sand or Manufactured sand, enhancing leveling time upto 6 hours along with workability and strength of cementatious mortars.

MASTER MORTAR – MM101B

Master Mortar-MM 101B is a highly efficient admixture, a very powerful water reducer plasticizer, a waterproofing compound and it is specifically developed as an additive to prevent premature stiffening in m-sand or crushed sand mortars for bedding or "machan" applications.

Manufactured sand or Crushed stone sand is available easily, and economical compared to depleting natural sand.

Due to the distribution of coarse & fines in manufactured sand, it is observed that the water content of cement mortars is compromised for workability.

Advantages

- High range water reduction.
- Ensures very high Compressive, Tensile Bond Adhesion and Flexural Strength of cementatious mortars at all ages over conventional mortars.
- Improves homogeneity of mixed mortar.
- Plays dual role of plasticizer & integral waterproofing agent.
- Ensures workability in SSD mortars (machan or bedding mortars) upto 6 hours for tiling.
- Improves Wet compaction & further dry density of SSD mortars.
- Eliminates mortar flocculation & lumps formation in m-sand (crushed sand) mortar thus eliminates re-tempering with water ensuring higher strengths
- Improves leveling & finish of SSD mortars
- Reduces sag susceptibility of SSD mortars once tiles are placed - practically eliminating hollow sound
- Provides substantial savings in cement with synchronous improvement in quality
- Provides consistent working times and strength in spite of minor variation in sand gradation

Standards

Master Mortar MM101B confirms to IS 2250-1981 (reaffirmed 2010) Code of Practice for Preparation and Use of Masonry Mortars & IS 10262-2009 Recommended Guidelines for Concrete Mix Design

Performance

Results obtained in a 1:6 Cement & Crushed stone sand mortar using 850 ml Razon Master Mortar MM101B at a 0.70 water cement ratio

Particulars	Test Method	Result
Plastic Density		2355 kg/m^3
Flow Achieved	-	60%
Open Leveling time	-	Upto 360 minutes
7 Day Compressive Strength	BS 6319 Pt 2	12.64 N/mm^2
28 Day Compressive Strength	BS 6319 Pt 2	18.91 N/mm^2

Applications

Master Mortar MM101B is ideal for all cement - sand mortars, where the sand may be of a natural source, crushed from basalt, or washed silica. It is ideally used for cement & crushed stone sand mortars in masonry, floor bedding (machan), ghotai, IPCC or brick bat waterproofing mortars, screeds in basements, swimming pools, terraces, balconies, etc. as it tends to improve the impermeability of cement sand mortar & practically eliminates possibility cracking in the mortar.

Best results in floor tiling are achieved when Master Mortar MM-101B is added to bedding mortar & Razon TG-135 is added in cement slurry over which tiles are placed. Razon TG-135 is a powder additive which ensures slurry is highly cohesive, enhancing bonding properties & strength between tiles and bedding mortar or “machan”.

MM 101B is developed specially to retain the workability of mortars without the necessity of re-tempering with water. This ensures a dense, cohesive, durable, high strength cement-sand matrix.

Master Mortar-MM 101B has shown tremendous increase in the bond strength between the cement mortar applied and the concrete or masonry substrate as compared to conventional mortars without additive.

Dosage & Method of use

500 ml – 1 ltr per 50 kg cement. Mix dry cement & sand as usual, add about 75-80 % water and mix to uniform consistency. Add Master Mortar MM101B to the balance water which can be charged to the mortar for good dispersion in the mix.

Product Data

No.	Particulars	Data
1.	Colour	Brownish Black Liquid
2.	Specific Gravity	1.20 +/-5 %
3.	Chlorides & Sulfates	Nil. MM101B neither initiates nor promotes corrosion of steel
4.	Consistency	Free flowing liquid
5.	pH	> 7
6.	Dosage	500 ml – 1000 ml per 50 kg of cement
7.	Storage – Shelf life	1 year when Stored in sealed container away from direct sunlight, in a cool and dry place.
8.	Cement Compatibility	OPC, PPC
9.	Standards	IS 2250-1981 IS 10262-2009
10.	Packing	5, 20 & 55 kg can,

TG-135: Powder Additive for Cementatious Slurry used in laying tiles for superior bonding & strength between bedding mortar (machan) and tiles.

TG - 135

TG 135 is a unique formulation specially developed for tiling industry, commonly after spreading bedding mortar cement slurry is prepared which is spread on bedding mortar and tiles are placed. The cement slurry with incorrect rheology leads to inadequate adhesion & loose tiles, tiles falling and hollowness in the tiles.

Advantages

TG 135 is manufactured as a cement slurry performance enhancing additive:

- It improves cement slurry rheology& flow
- Improves bond strength.
- Enhances tackiness
- Provides a cohesive & non bleeding slurry.
- Ensures the slurry fills "valleys and peaks" of the "ripples" in bedding mortar.
- Reduces shrinkage of cement.
- Forms a distinct layer of bonding slurry above bedding mortar, which otherwise seeps into the mortar without TG 135 additive. This improves contact & bond between Tile – Slurry - Bedding Mortar.
- Ensures monolithic, continuous - seamless Impermeable, thus aids a waterproof laying of tiles.
- Imparts high tack for vertical tiling.
- Imparts self – curing properties, eliminating need of water curing post working.
- Reduces hollowness significantly as compared to conventional tiling.

Performance

Following results were obtained by preparing cementatious slurry as a bond coat placed between bedding mortar (machan) and tile, for floor tiling application using 50 kg Ordinary Portland Cement of 53 Grade, 40 litres of water and 5 kg of Razon TG-135 mixed by mechanical stirrer

Particulars	Test Method	Data
Tensile Pull Out Adhesion Strength of Floor tile on 28th day	ASTM D 4541	> 1 N/mm^2
Area Covered per 50 kg of cement used for preparing slurry	-	165 sq ft

Method of use

Use Razon Master Mortar MM 101 B along with cement & sand in the bedding mortar to obtain a firm, non sag and dense bedding mortar. Refer Technical Data Sheet of MM101B for best results in floor tiling.

While preparing cement slurry for floor tiling use the following proportions:

In a barrel or vessel empty out 40-50 litres of clean water, gradually at 50 kg of cement while

mixing using a mechanical stirrer. Thereafter add 5 kg of Razon TG-135 and continue to mix slurry until a uniform consistency is achieved. Use of mechanical stirrer for mixing is recommended.

Use this slurry as usual and lay tiles on the bedding mortar. When TG 135 is used in the slurry it is not recommended to puncture/ hack / "khacha" the mortar with the trowel (earlier this was done to improve the contact between the bedding mortar and tile), as done in conventional method

Human traffic may be permitted after 24 hours.

For wall tiling add 9-10 kg of TG-135 per 50 kg of cement for preparing a paste like consistency. This paste should be applied on Wall surface and Tile surface as well using a notched trowel for best results.

Tile grouting with cementations grouts may be done after 24 Hours, for epoxy grouts complete setting of bedding mortar & binder is essential, which may be feasible after 5-7 days.

Use Razon Tile Joint Sealer or Razon TJS-EPB epoxy Tile Grout for best results.

Application

TG 135 is useful for all tiling applications including wall and floor tilings, to be used with cement.

Product Data

Particulars	Data
Colour	Grey
Consistency	Granular Powder
Loose Bulk Density	0.80 – 0.95
Dosage	5-6 kg per 50 kg of cement for floor tiling 9-10 kg per 50 kg of cement for wall tiling
Packing	5kg bag, 20 kg bag
Storage & Shelf Life	1 year when stored in sealed condition away from moisture & direct sunlight, in a cool & dry place.
Cement Compatibility	OPC & PPC
Mixing	Preferably use Mechanical Mixers or stirrers for homogenous mixing of Cement, water and TG-135.

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It is strongly recommended that site trials be conducted using site conditions and available raw materials to evaluate the product. Since site materials and conditions are beyond our control and since above suggestions and recommendations are based on our site trials and laboratory product evaluation & trials, and since methods of use at site are beyond our control. Hence, no guarantee can either be implied or enforceable. All Razon datasheets are updated on a regular basis. It is the user's responsibility to obtain the latest version.



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