



11. Specification for Plaster with UltraMod Sand

11.1 General

The scope of the document is to Define requirements sand for plaster and results of MAAD Ultra mod sand (Hence forth we term it as MAAD sand).

This document shall be read in conjunction with All applicable Indian Standards, CPWD requirements and other relevant technical documents

11.2 Applicable standards

Following are the standards applicable to Brick Masonry, Internal and External Plaster

IS 2250 : 1981	Code of practice for preparation and use of masonry Mortar.
IS 1661 : 1972	Code of Practice for the Application of Cement and Cement lime Plaster Finishes
IS 2116: 1980	Specification for Sand for Masonry Mortars
IS 4082 : 1996	Stacking & storage of construction materials and components at site – Recommendations
IS 1542:1992	Sand for Plaster
IS 1630:1984	Mason tools for plaster and pointing work
CPWD Specs,	Plaster

11.3 Standard Requirements

11.3.1 Silt Content

Sand shall be prepared for use by such screening or washing or both as necessary to remove all objectionable foreign matter while separating the sand grains to the required size fractions. Sand with silt content more than 5 % will not be permitted for use unless the same is washed and silt content is brought **within 5% by weight.**

MAAD Sand- There is no silt as there is no foreign material in this sand. 75 micron passing is limited to 5% maximum.

11.3.2 Deleterious Material

The percentage of deleterious substances in sand delivered to the mixer shall not exceed the following:

Sl.	Substances	Percent by weight Uncrushed : Crushed	IN MAAD ultra MOD sand
1.	Material finer than 75 micron I.S. sieve	3.00% : 15.00%	3% to 5%
2.	Shale	1.00% ---	0
3.	Coal and Lignite	1.00% : 1.00%	0
4.	Clay lumps	1.00% : 1.00%	0
5.	Total of all above substances including items 1 to 4 for uncrushed sand and items 3 & 4 for crushed sand.	5.00% : 2.00%	3% to 5%

11.3.3 Grading

Unless otherwise directed or approved, the grading of sand shall be within the limits indicated hereunder:p

Sl. No.	I.S. Sieve Designation	Percentage passing for			
		Zone - I	Zone - II	Zone - III	Zone - IV
1.	10 mm	100	100	100	100
2.	4.75 mm	90-100	90-100	90-100	95-100
3.	2.36 mm	60-95	75-100	85-100	95-100
4.	1.18 mm	30-70	55-90	75-100	90-100
5.	600 micron	15-34	35-59	60-79	80-100
6.	300 micron	5-20	8-30	12-40	15-50
7.	150 micron	0-10	0-10	0-10	0-15

Where the grading falls outside the limits of any particular grading zone of sieves, other than 600 micron I.S. sieve by total amount not exceeding **5% (five percent), it shall be regarded as falling within the grading zone.** This tolerance shall not be applied to percentage passing the 600-micron



Technical Documents

TD-Rev01, Dtd-02 Dec2013

I.S. sieve or to percentage passing any other sieve size on the coarser limit of Grading Zone-I or the finer limit of Grading Zone-IV. Fine aggregates conforming to Grading Zone-IV shall not be used unless mix designs and preliminary tests have shown its suitability for producing concrete of specified strength and workability.

UltraMod Sand- Fulfills all the requirements stated above. The grading is consistent.

11.3.4 Sand for Plaster

IS 1542 :1992 specified sand for plaster – Grading Requirements

Sieve	Percentage Passing
10 mm	100
4.75mm	95-100
2.36mm	95-100
1.18mm	90-100
600 Micron	80-100
300 Micron	20-65
150 Micron	0-15

For crushed stone sand and crushed gravel Sand, the permissible limit on 150 micron IS sieve is increased to 20%

UltraMod Sand- Grading of 41 samples attached below

Sieves	Percentage Passing- Average of 41 Samples
10 mm	100
4.75mm	100
2.36mm	99.21
1.18mm	73.41
600 Micron	46.70
300 Micron	23.22



Technical Documents

TD-Rev01,Dtd-02 Dec2013

150 Micron	10.55
75 Micron	2.75

UltraMod Sand

External Plastering is 600 micron passing required by standard is 80-100 percent is not possible in Mumbai and around region. This can not be achieved with Screend and washed natural sand, Processed natural sand or Ready made plaster sand. What best we can get is matched with MAAD sand.

11.3.5 Foreign Particles

The sand shall be clean, sharp, hard, durable, chemically inert and free from dust, vegetable substances, adherent coating, clay, organic matter, alkalis, mica, salt or other deleterious substances which can be injurious to the setting qualities/ strength/ durability. **No creek / sea sand shall be allowed.**

UltraMod Sand- Fulfills all the requirements stated above

11.3.6 Requirements for Machine Sand

Machine made sand will be acceptable provided the constituent rock/ gravel composition is sound, hard, dense, non-organic, uncoated and durable against weathering.

UltraMod Sand- Fulfills all the requirements stated above

11.3.7 FM requirements

External FM requirements – The Fineness Modulus of sand shall be not less than 2.4 for crushed sand and not less than 2.5 in natural sand. (IS 1542)



UltraMod Sand- FM of 41 samples tested is 2.47 and is consistent

11.3.8 Chemical Requirements

Chemical Test report – tested in NABL Accredited Global Lab- Test Ref No. 3901/02 tested on 18.04.2013

Sr.NO.	Type of Test	MAAD Sand	Reference/ Limits
1	Chloride%	0.008	IS 456:2000 8.2.5.2
2	Sulphate%	NIL	IS 456:2000 8.2.5.3
3	Total Deleterious Material	0.8%	Max 2%
4	Soundness (% by MgSO ₄)	4.6	Max 15%

11.4 Additional Information

11.4.1 Consistency in Grading

The manufacturing process is defined and controlled. The grading of MAAD sand is consistent and falls in ZONE II. There is no variations in grading when tested over a period of time. When 41 samples considered the standard deviation for 600 micron is well below 5%.

11.4.2 Specific Gravity

The Specific gravity of MAAD sand is 2.77 (tested at third party on 17.04.2013 in NABL accredited Global Lab. Test Ref NO. 3901/01. This is better when compared to natural sand.

11.4.3 Foreign Particles and Deleterious Material

Raw material for this is Natural stone which avoids any deleterious partials like vegetable substances, adherent coating, clay, organic matter, alkalis, mica, salt. It is also free from Shale, Coal and lignite. All the particles in MAAD sand belongs to Parent material i.e stone.

11.5 Application with MAAD Sand

11.5.1 CM Ratios

- For internal plaster CM of 1:4 plus bulkage is recommended



- For External plaster CM 1:4 plus bulkage with Glass Fibres (optional)
- For external plaster CM 1:4 plus bulkage with Glass Fibre (optional)

11.5.2 Bulkage

Bulkage for MAAD sand ranges from 12 to 30%. Necessary addition for bulkage to be done when doing volumetric mixing.

11.5.3 Other Areas for use of UltraMod sand

It can also be used in

- Water proofing
- Flooring
- Dado

11.6 Management Commitment

We here at **Ultramod sand** are committed to giving better, environmental friendly, Economic, Durable ,user friendly product to construction Industry.