

## GRANAMITE SPECIFICATIONS

Sr. No.	REQUIREMENTS	BIS 15622 - 2017 [Group B1a]	TEST METHOD	RESTILE 300x300x9	RESTILE 600x600x9	RESTILE 800x800x10	
DIMENSIONAL PROPERTIES	1	Deviation in Length & Width	± 0.1%	BIS 13630-01 ISO 10545-02	± 0.1%	± 0.1%	± 0.1%
	3	Deviation in Thickness	± 5%	BIS 13630-01 ISO 10545-02	± 3%	± 3%	± 3%
	4	Straightness of Sides	± 0.1%	BIS 13630-01 ISO 10545-02	± 0.1%	± 0.1%	± 0.1%
	5	Rectangularity	± 0.1%	BIS 13630-01 ISO 10545-02	± 0.1%	± 0.1%	± 0.1%
	6	Surface Flatness					
		a. Centre Curvature	± 0.5%	BIS 13630-01 ISO 10545-02	± 0.11%	± 0.12%	± 0.12%
		b. Edge Curvature	± 0.5%	BIS 13630-01 ISO 10545-02	± 0.11%	± 0.12%	± 0.12%
	c. Warpage	± 0.5%	BIS 13630-01 ISO 10545-02	± 0.11%	± 0.12%	± 0.12%	
7	Surface Quality	Min. 95% free from visible defects.	BIS 13630-01 ISO 10545-02	Min 95%	Min 95%	Min 95%	
PHYSICAL PROPERTIES	8	Water Absorption by weight	Average < 0.08%, Individual 0.5 Max	BIS 13630-02 ISO 10545-03	≤0.05	≤0.05	≤0.05
	9	Modulus of Rupture (N/mm <sup>2</sup> )	Average 35, individual 32 Min	BIS 13630-06 ISO 10545-04	37	37	37
	10	Breaking Strength (N) Thickness >7.5mm	1300 Minimum	BIS 13630-06 ISO 10545-04	3800	2400	2400
	11	Moisture expansion (mm/m)	0.02 Max	BIS 13630-03 ISO 10545-10	Nil	Nil	Nil
	12	Scratch Hardness of surface [ on Moh's scale]	6 Minimum	BIS 13630-13	6 Min.	6 Min.	6 Min.
	13	Resistance to deep abrasion of unglazed vitrified tiles	140 Max	BIS 13630-12 ISO 10545-06	<144mm <sup>3</sup>	<144mm <sup>3</sup>	<144mm <sup>3</sup>
	15	Thermal Shock Resistance	10 Cycles Min	BIS 13630-05 ISO 10545-09	No damage	No damage	No damage
	17	Impact Resistance - Co-efficient of Restitution	0.55, Min	BIS 13630-14 ISO 10545-05	0.55	0.55	0.55
	18	Coefficient of Friction - Floor Tiles [Skid Resistance]	Manufacture to declare value	ISO 10545-17	u > 0.5 R > 11	u > 0.5 R > 11	u > 0.5 R > 11
	20	Bulk Density, in [g/cc]	2.2 Min	BIS 13630-02	>2.2	>2.2	>2.2
CHEMICAL PROPERTIES	21	Resistance to Stains - Unglazed Tiles	Class 2, Min	BIS 13630-08 ISO 10545-13	Class 2	Class 2	Class 2
	22	Resistance to Chemicals - Unglazed Tiles					
		a. Resistance to low concentrations of acids & alkalies	Required	BIS 13630-07 ISO 10545-13	Class A	Class A	Class A
		b. Resistance to high concentrations of acids & alkalies	Required		Class A	Class A	Class A
	c. Resistance household chemicals & swimming pool salts	Required	Class A		Class A	Class A	