







# Ceramic

FLOOR TILES

CHARACTERISTICS	Requirement as per ISO 13006:2018 Gr B1a 3.0 ≤ E ≤ 6.0%	Requirement as per IS 15622:2017 Gr B1a 3.0 ≤ E ≤ 6.0%	AGL Value	Test Method
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## (A) DIMENSION & SURFACE QUALITY

 Deviation In Length & Width	± 0.3%, ± 1.0 mm	± 0.1%	± 0.1%	ISO 10545 Part-2 IS 13630 Part-1
 Deviation In Thickness	± 5.0%, ± 0.5 mm	± 5.0%	± 3.0%	ISO 10545 Part-2 IS 13630 Part-1
 Straightness of Edge	± 0.3%, ± 0.8 mm	± 0.1%	± 0.1%	ISO 10545 Part-2 IS 13630 Part-1
 Rectangularity	± 0.3%, ± 1.5 mm	± 0.1%	± 0.1%	ISO 10545 Part-2 IS 13630 Part-1
 Surface Flatness	± 0.4%, ± 1.8 mm	± 0.5%	± 0.25%	ISO 10545 Part-2 IS 13630 Part-1
 Surface Quality	Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles	Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles	Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles	ISO 10545 Part-2 IS 13630 Part-1

## (B) PHYSICAL & THERMAL PROPERTIES

 Water Absorption % By Wt.	3.0 ≤ Eb ≤ 6.0, Ind. 6.5 Max.	3.0 ≤ Eb ≤ 6.0 Ind. 6.2 Max.	5.0-6.0%	ISO 10545 Part-3 IS 13630 Part-2
 Flexural Strength (MOR) In N/mm <sup>2</sup>	Avr. 22, Ind. Min. 20	Avr.22, Ind. Min. 20	≥ 25 N/mm <sup>2</sup>	ISO 10545 Part-4 IS 13630 Part-6
 Breaking Strength in N	1000 N Min.	1000 N Min.	> 1000 N	ISO 10545 Part-4 IS 13630 Part-6
 Resistance to Surface Abrasion	Manufacturer to State Class	PEI II Min.	Min. III	ISO 10545 Part-7 IS 13630 Part-11
 Co-efficient of Linear Thermal Expansion from ambient temp to 100°C (K <sup>-1</sup> )	9x10 <sup>-6</sup> Max.	9x10 <sup>-6</sup> Max.	≤ 9x10 <sup>-6</sup>	ISO 10545 Part-8 IS 13630 Part-4
 Thermal Shock Resistance	10 Cycles Min.	10 Cycles Min.	No Damage after 10 Cycles	ISO 10545 Part-9 IS 13630 Part-5
 Moisture Expansion in mm/M	Test Method Available	0.03 Max.	Nil	ISO 10545 Part-10 IS 13630 Part-3
 Crazing Resistance	Required	4 Cycles at 7.5 bar Min.	Resistance	ISO 10545 Part-11 IS 13630 Part-9
 Frost Resistance	Resistance	Resistance	Resistance	ISO 10545 Part-12 IS 13630 Part-10
 Moh'S Scratch Hardness	Min. 5	Min. 4	Min. 4	EN 101 IS 13630 Part-13

## (C) CHEMICAL PROPERTIES

 Resistance To Household Chemicals	No Damage	Min. Class AA	Class AA	ISO 10545 Part-13 IS 13630 Part-8
 Resistance To Acids & Alkalis (Except HF Acid)	No Damage	Min. Class AA	Class AA	ISO 10545 Part-13 IS 13630 Part-8
 Stain Resistance	Min. Class 3	Min. Class 1	Class 1	ISO 10545 Part-14 IS 13630 Part-8




















\*\*Not Applicable for structured Tiles

## Packing Specification

Size (mm)	Thickness (mm)	No. of Tiles / Box	Area Sq. mtr./ Box
397x397mm	8.0 mm	05 pcs.	0.79m <sup>2</sup>
397x397mm	8.0 mm	06 pcs.	0.94m <sup>2</sup>

# Ceramic | UNRECTIFIED

FLOOR TILES

CHARACTERISTICS	Requirement as per ISO 13006:2018 Gr B11a 3.0 ≤ E ≤ 6.0%	Requirement as per IS 15622:2017 Gr B11a 3.0 ≤ E ≤ 6.0%	AGL Value	Test Method
<b>(A) DIMENSION &amp; SURFACE QUALITY</b>				
 Deviation In Length & Width	± 0.6%, ± 2.0 mm	± 0.4%	± 0.4%	ISO 10545 Part-2 IS 13630 Part-1
 Deviation In Thickness	± 5.0%, ± 0.5 mm	± 5.0%	± 3.0%	ISO 10545 Part-2 IS 13630 Part-1
 Straightness of Edge	± 0.5%, ± 1.5 mm	± 0.3%	± 0.3%	ISO 10545 Part-2 IS 13630 Part-1
 Rectangularity	± 0.5%, ± 2.0 mm	± 0.3%	± 0.3%	ISO 10545 Part-2 IS 13630 Part-1
 Surface Flatness	± 0.5%, ± 2.0 mm	± 0.5%	± 0.4%	ISO 10545 Part-2 IS 13630 Part-1
 Surface Quality	Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles	Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles	Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles	ISO 10545 Part-2 IS 13630 Part-1
<b>(B) PHYSICAL &amp; THERMAL PROPERTIES</b>				
 Water Absorption % By Wt.	3.0 ≤ Eb ≤ 6.0, Ind. 6.5 Max.	3.0 ≤ Eb ≤ 6.0 Ind. 6.2 Max.	5.0-6.0%	ISO 10545 Part-3 IS 13630 Part-2
 Flexural Strength (MOR) In N/mm <sup>2</sup>	Avr. 22, Ind. Min. 20	Avr.22, Ind. Min. 20	≥ 25 N/mm <sup>2</sup>	ISO 10545 Part-4 IS 13630 Part-6
 Breaking Strength in N	600 N Min.	600 N Min.	> 800 N	ISO 10545 Part-4 IS 13630 Part-6
 Resistance to Surface Abrasion	Manufacturer to State Class	PEI II Min.	Min. III	ISO 10545 Part-7 IS 13630 Part-11
 Co-efficient of Linear Thermal Expansion from ambient temp to 100°C (K <sup>-1</sup> )	9x10 <sup>-6</sup> Max.	9x10 <sup>-6</sup> Max.	≤ 9x10 <sup>-6</sup>	ISO 10545 Part-8 IS 13630 Part-4
 Thermal Shock Resistance	10 Cycles Min.	10 Cycles Min.	No Damage after 10 Cycles	ISO 10545 Part-9 IS 13630 Part-5
 Moisture Expansion in mm/M	Test Method Available	0.03 Max.	0.02 Max.	ISO 10545 Part-10 IS 13630 Part-3
 Crazing Resistance	Required	4 Cycles at 7.5 bar Min.	Resistance	ISO 10545 Part-11 IS 13630 Part-9
 Frost Resistance	Resistance	Resistance	Resistance	ISO 10545 Part-12 IS 13630 Part-10
 Moh'S Scratch Hardness	Min. 5	Min. 4	Min. 4	EN 101 IS 13630 Part-13
<b>(C) CHEMICAL PROPERTIES</b>				
 Resistance To Household Chemicals	No Damage	Min. Class AA	Class AA	ISO 10545 Part-13 IS 13630 Part-8
 Resistance To Acids & Alkalis (Except HF Acid)	No Damage	Min. Class AA	Class AA	ISO 10545 Part-13 IS 13630 Part-8
 Stain Resistance	Min. Class 3	Min. Class 1	Class 1	ISO 10545 Part-14 IS 13630 Part-8

\*\*Not Applicable for structured Tiles

## Packing Specification

Size (mm)	Thickness (mm)	No. of Tiles / Box	Area Sq. mtr./ Box
300x300mm (Unrectified)	7.2 mm	10 pcs.	0.90m <sup>2</sup>