








GRESTEK
Digital Glazed Vitrified Tiles

CHARACTERISTICS	Requirement as per ISO 13006:2018 Gr Bla E < 0.5%	Requirement as per IS 15622:2017 Gr Bla E < 0.08%	AGL VALUE	TEST METHOD
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(A) DIMENSION & SURFACE QUALITY

 Deviation In Length & Width	± 0.3%, ± 1.0mm	± 0.1%	± 0.1%	ISO 10545 Part-2 IS 13630 Part-1
 Deviation In Thickness	± 5.0%, ± 0.5mm	± 5.0%	± 0.3%	ISO 10545 Part-2 IS 13630 Part-1
 Straightness of Edge	± 0.3%, ± 0.8mm	± 0.1%	± 0.1%	ISO 10545 Part-2 IS 13630 Part-1
 Rectangularity	± 0.3%, ± 1.5mm	± 0.1%	± 0.1%	ISO 10545 Part-2 IS 13630 Part-1
 Surface Flatness	± 0.4%, ± 1.8mm	± 0.5%	± 0.2%	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
 Glossiness	-	-	> 85	Glossmeter

(B) PHYSICAL & TERMAL PROPERTIES

 Water Absorption % By Wt.	≤ 0.5, Ind. 0.6 Max.	≤ 0.08, Ind. 0.1 Max.	< 0.08%	ISO 10545 Part-3 IS 13630 Part-2
 Flexural Strength (MOR) In N/mm ²	Avr. 35, Ind. Min. 32	Avr. 35, Ind. Min. 32	Min.40 N/mm ²	ISO 10545 Part-4 IS 13630 Part-6
 Breaking Strength in N	1300 N Min.	1300 N Min.	Min.1300N	ISO 10545 Part-4 IS 13630 Part-6
 Bulk Density (gm/cc)	2.0 Min.	2.2 Min.	Min. 2.25	ISO 10545 Part-3 IS 13630 Part-2
 Impact Resistance	> 0.40	> 0.55	> 0.55	ISO 10545 Part-5 IS 13630 Part-14
 Resistance to Surface Abrasion	Manufacturer to State Class	PEI II Min.	PEI II Min.	ISO 10545 Part-7 IS 13630 Part-11
 Co-efficient of Linear Thermal Expansion from ambient temp to 100°C (K ⁻¹)	9x10 ⁻⁶ Max.	6x10 ⁻⁶ Max.	≤ 6x10 ⁻⁶	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	0.02 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. 5	Min. 5	EN 101 IS 13630 Part-13

(C) CHEMICAL PROPERTIES

 Resistance To House hold 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	Resistance	ISO 10545 Part-14 IS 13630 Part-8

Packing Specification

Size (mm)	Thickness (mm)	Weight (Kg.)	No. of Tiles / Set	Area Sq. mtr./ Box
1200x600mm	9.0 mm	29.0 kgs.	02 pcs.	1.44m ²
1200x200mm	10.5 mm	32.3 kgs.	06 pcs.	1.41m ²
600x600mm	8.5 mm	26.5 kgs.	04 pcs.	1.44m ²

GRESTEK | Elevation
Digital Glazed Vitrified Tiles

CHARACTERISTICS	Standard as per ISO - 13006 / EN 14411 GROUP Bia	AGL VALUE	TEST METHOD
DIMENSION & SURFACE QUALITY			
Deviation In Length & Width	± 0.5%	± 0.2%	ISO-10545-2
Deviation In thickness	± 5.0%	± 4.0%	ISO-10545-2
Straightness in side	± 0.5%	± 0.2%	ISO-10545-2
Rectangularity	± 0.5%	± 0.2%	ISO-10545-2
Surface flatness	± 0.5%	± 0.2%	ISO-10545-2
Color difference	Unaltered	No Change	ISO-10545-16
STRUCTURAL PROPERTIES			
Water absorption	< 0.50%	< 0.05%	ISO-10545-3
Apparent density	>2.0 G/CC	>2.1 G/CC	DIN 51082
MASSIVE MECHANICAL PROPERTIES			
Modulus of rupture	Min. 35 N/mm ²	Min. 40 N/mm ²	ISO-10545-4
Breaking strength	Min. 1300 N	> 1300 N	ISO-10545-4
SURFACE MECHANICAL PROPERTIES			
Surface abrasion resistance	As per mfg	Min. class-3	ISO-10545-7
MOH's Hardness	As per mfg	Min. 6	EN 101
THERMO HYGROMETRIC PROPERTIES			
Frost resistance	No Damage	No Damage	ISO-10545-12
Thermal shock resistance	No Damage	No Damage	ISO-10545-9
Moisture expansion	Nil	Nil	ISO-10545-10
Thermal expansion (COE)	Max. 9.0 x 10 ⁻⁶	Max. 6.5 x 10 ⁻⁶	ISO-10545-8
Crazing resistance	As per mfg	Min. 4 cycle	ISO-10545-11
CHEMICAL PROPERTIES			
Chemical Resistance	No Damage	No Damage	ISO-10545-13
Stain resistance	Resistant	Resistant	ISO-10545-14
SAFETY PROPERTIES			
Slip resistance	As per mfg	>0.40	ISO-10545-17
Fire resistance	As per mfg	Fireproof	N.A.

Packing Specification

Size (mm)	Thickness (mm)	Weight (Kg.)	No. of Tiles / Set	Area Sq. mtr./ Box
600x300mm (Elevation)	9.0 mm	17.50 kgs.	05 pcs.	0.9m ²