

TECHNICAL SPECIFICATIONS Glazed Vitrified Tiles

Packing Details				
Size (In mm.)	No. of Tiles Per Carton	Covered Area Per Carton		
		(In Sq. Mtr.)	(In Sq. ft.)	
600X1200 (SKD)	2	1.44	15.5	
195X1200 (SKD)	4	0.94	10.11	
600X600 (SKD)	4	1.44	15.5	
145X600 (SKD)	8	0.70	7.50	





Group B Ia as per ISO 13006:2012 and Group B Ib as per IS 15622:2017					
Characteristics	Test Methods	Requirement as per ISO 13006 ≤ 0.5 Group B Ia	Requirement as per IS 15622:2017 0.08<E ≤ 3% Group B Ib		OBL Norms
			Unrectified	Rectified	
Dimension & Surface Quality	IS 13630 (Part 1):2006				
Deviation in Length & Width		±0.6%	± 0.4%	± 0.1 %	± 0.1 %
Deviation in Thickness		±5%	± 5.0 %		± 4 %
Straightness of Sides		±0.5%	± 0.3 %	± 0.1 %	± 0.1 %
Rectangularity		±0.5%	± 0.3 %	± 0.1 %	± 0.1 %
Surface Flatness		±0.5%	± 0.5 %		± 0.2 %
Surface Quality		Min. 95 % tiles should be free from visible defects	Min. 95 % tiles should be free from visible defects		Conforms
Physical Properties					
Water Absorption	IS 13630 (Part 2):2006	Avg ≤ 0.5, Individual max, 0.6	Avg 0.08<E ≤ 3, Individual 3.3, Max		Avg ≤ 0.5, Individual max, 0.6
Modulus of Rupture in [N/mm ²]	IS 13630 (Part 6):2006	Minimum 35, Individual 32, Min	Avg 30, Individual 27, Min		Avg 38 Min, Individual 35, Min
Breaking Strength in N	IS 13630 (Part 6):2006	< 7.5 mm thickness: 700, Min ≥ 7.5 mm thickness: 1300, Min	< 7.5 mm thickness: 700, Min ≥ 7.5 mm thickness: 1100, Min		1500, Min
Moisture Expansion in mm/m	IS 13630 (Part 3):2006	Declare Value	0.02, Max		< 0.02
Scratch Hardness of Surface (Moh's Scale)	IS 13630 (Part 13):2006	NA	5, Min		5 to 8 Depending on Design/Surface
Resistance to Surface Abrasion of Glazed Tiles (Class I to V)	IS 13630 (Part 11):2006	Test Method Available	Class II, Min		Class-III to Class-V Depending as per Design / Surface
Co-efficient of Linear Thermal Expansion from Ambient Temperature to 100°C	IS 13630 (Part 4):2006	Test Method Available	7x10 ⁻⁶ K ⁻¹ , Max		Conforms
Thermal Shock Resistance	IS 13630 (Part 5):2006	Test Method Available	10 cycles, Min		Passed
Crazing Resistance	IS 13630 (Part 9):2006	Test Method Available	4 Cycles@7.5 bar, Min		4 Cycle @ 7.5 Bar Min
Frost Resistance	IS 13630 (Part 10):2006	Required	Required		Resistance
Bulk Density, in (g/cc)	IS 13630 (Part 12):2006	NA	2.0, Min		> 2.1
Impact Resistance- Coefficient of Restitution	IS 13630 (Part 14):2006	Manufacturer to State	0.55, Min		0.7-0.85
Chemical Properties					
Resistance to Staining of Glazed Tiles	IS 13630 (Part 8):2006	Min, Class 3	Class I, Min		Conforms
Resistance to Household Chemicals		Min, GA	Class AA, Min		Conforms
Resistance to Acids and Alkalis (with exception of hydrofluoric acid and its compounds)		Test Method Available	Required, if agreed		Conforms

Packing Details			
Size (In mm.)	No. of Tiles Per Carton	Covered Area Per Carton	
		(In Sq. Mtr.)	(In Sq. ft.)
145X600 (SKD)	8	0.70	7.50

Group B Ia as per ISO 13006:2012 and Group B Ib as per IS 15622:2017				
Characteristics	Test Methods	Requirement as per IS 15622:2017 0.08<E ≤ 3% Group B Ib		OBL Norms
		Unrectified	Rectified	
Dimension & Surface Quality	IS 13630 (Part 1):2006	± 0.4%	± 0.1 %	± 0.1 %
Deviation in Length & Width		± 5.0 %		± 4 %
Deviation in Thickness		± 0.3 %	± 0.1 %	± 0.1 %
Straightness of Sides		± 0.3 %	± 0.1 %	± 0.1 %
Rectangularity		± 0.5 %		± 0.2 % ☺☺
Surface Flatness		Min. 95 % tiles should be free from visible defects		Conforms
Surface Quality				
Physical Properties				
Water Absorption	IS 13630 (Part 2):2006	Avg 0.08<E ≤ 3, Individual 3.3, Max		Conforms ☺
Modulus of Rupture in [N/mm ²]	IS 13630 (Part 6):2006	Avg 30, Individual 27, Min		Conforms
Breaking Strength in N	IS 13630 (Part 6):2006	< 7.5 mm thickness: 700, Min ≥ 7.5 mm thickness: 1100, Min		1200, Min ☺☺
Moisture Expansion in mm/m	IS 13630 (Part 3):2006	0.02, Max		< 0.02
Scratch Hardness of Surface (Moh's Scale)	IS 13630 (Part 13):2006	5, Min		5 to 8 Depending on Design/Surface
Resistance to Surface Abrasion of Glazed Tiles (Class I to V)	IS 13630 (Part 11):2006	Class II, Min		Class-III to Class-V Depending as per Design / Surface
Co-efficient of Linear Thermal Expansion from Ambient Temperature to 100°C	IS 13630 (Part 4):2006	7x10 ⁻⁶ K ⁻¹ , Max		Conforms
Thermal Shock Resistance	IS 13630 (Part 5):2006	10 cycles, Min		Passed
Crazing Resistance	IS 13630 (Part 9):2006	4 Cycles@7.5 bar, Min		4 Cycle @ 7.5 Bar Min ☺☺
Frost Resistance	IS 13630 (Part 10):2006	Required		Resistance
Bulk Density, in (g/cc)	IS 13630 (Part 12):2006	2.0, Min		> 2.1
Impact Resistance- Coefficient of Restitution	IS 13630 (Part 14):2006	0.55, Min		0.7-0.85
Chemical Properties				
Resistance to Staining of Glazed Tiles	IS 13630 (Part 8):2006	Class I, Min		Conforms
Resistance to Household Chemicals		Class AA, Min		Conforms
Resistance to Acids and Alkalis (with exception of hydrofluoric acid and its compounds)		Required, if agreed		Conforms

TECHNICAL SPECIFICATIONS Digital & Non Digital Tiles

Packing Details				
Size (In mm.)	No. of Tiles Per Carton	Covered Area Per Carton		
		(In Sq. Mtr.)	(In Sq. ft.)	
395X395-Digital (SKD)	6	0.94	10.11	
395X395-Non Digital (SKD)	6	0.94	10.11	
300X300-Non Digital (SKD)	12	1.08	11.62	

As Per Indian Standards (IS 15622:2017) Group B IIa				
Characteristics	Testing Methods	Required as per IS 15622:2017 3 < E ≤ 6 % (Group B II a)		OBL Norms
Dimension & Surface Quality	IS 13630 Part 1 / ISO 10545-2	Unrectified	Rectified	
Deviation in Length & Width		± 0.4 %	± 0.1 %	Conforms
Deviation in Thickness		± 5.0 %		±4.0%
Straightness of Sides		± 0.3 %	± 0.1 %	Conforms
Rectangularity		± 0.3 %	± 0.1 %	Conforms
Surface Flatness		± 0.5 %		± 0.3 % 
Surface Quality		Min. 95 % tiles should be free from visible defects		Conforms
Physical Properties				
Water Absorption	IS 13630 Part 2/ ISO 10545-3	Avg 3 < E ≤ 6, Individual Max,6.2		5-6%
Modulus of Rupture in [N/mm ²]	IS 13630 Part 6/ ISO 10545-4	Avg 22, Individual 20, Min		>28 
Breaking Strength in N		< 7.5 mm thickness: 600, Min ≥ 7.5 mm thickness: 1000, Min		>1000 
Moisture Expansion in mm/m	IS 13630 Part 3	0.03, Max		< 0.03
Scratch Hardness of Surface (Moh's Scale)	IS 13630 Part 13	4, Min		Min 5
Resistance to Surface Abrasion of Glazed Tiles (Class I to V)	IS 13630 Part 11/ ISO 10545-7	Class II, Min		PEI Class 3-5 (depending on surface)
Co-efficient of Linear Thermal Expansion from Ambient Temperature to 100°C	IS 13630 Part 4/ ISO 10545-8	9x10 ⁻⁶ K ⁻¹ , Max		Conforms
Thermal Shock Resistance	IS 13630 Part 5	10 cycles, Min		Passed
Crazing Resistance	IS 13630 Part 9/ ISO 10545-9	4 Cycles@7.5 bar, Min		Passed 
Frost Resistance	IS 13630 Part 10	Required, if agreed		NA
Impact Resistance- Coefficient of Restitution	IS 13630 Part 14	0.55, Min		Conforms
Chemical Properties				
Resistance to Staining of Glazed Tiles	IS 13630 Part 8/ ISO 10545-13 and ISO 10545-14	Class I, Min		Conforms
Resistance to Household Chemicals		Class AA, Min		Conforms
Resistance to Acids and Alkalis (with exception of hydrofluoric acid and its compounds)		Required, if agreed		Conforms