



ISPIRA Quality Standards

| Porcelain stoneware (International standard) | Vitrified stoneware (Indian standard) | 9 mm thickness | Rectified

Standards according to ISO 13006: Annex G - EN 14411: Annex G. Dry - Pressed Ceramic Tiles.

	TEST PROPERTIES	TEST METHOD	UNIT	ISO 13006:2018(E) E _v ≤0.5% GROUP Bla	ISPIRA VALUES (GVT / PGVT)			
					SIZE < 1200 mm		SIZE > 1200 mm (SLABS)	
					%	mm	%	mm
Dimension & Surface Quality	Width	ISO 10545 - 2	mm	± 0.3%	± 0.1%	± 0.8 mm	± 0.1%	± 1 mm
	Length	ISO 10545 - 2	mm	± 0.3%	± 0.1%	± 0.8 mm	± 0.1%	± 1.2 mm
	Thickness	ISO 10545 - 2	mm	± 5.0%	± 4%	± 0.5 mm	± 4%	± 0.5 mm
	Straightness of Side	ISO 10545 - 2	mm	± 0.3%	± 0.1%	± 0.8 mm	± 0.1%	± 1 mm
	Rectangularity	ISO 10545 - 2	mm	± 0.3%	± 0.1%	± 1.3 mm	± 0.1%	± 1.5 mm
	Surface Flatness	ISO 10545 - 2	mm	± 0.4%	± 0.1%	± 1.8 mm	± 0.2%	± 3 mm
	Surface Quality	ISO 10545 - 2	-	A minimum of 95% of the tiles are to be free from visible defects which can impair the appearance of a major area of tiles	95%		95%	
Physical Properties	Water Absorption	ISO 10545 - 3	%	≤ 0.5%, Individual 0.6%	Avg. ≤ 0.08%, Individual 0.2%		Avg. ≤ 0.08%, Individual 0.2%	
	Modulus of Rupture	ISO 10545 - 4	N/mm ²	Min. 35, Individual Min. 32	Min. 42		Min. 42	
	Breaking Strength	ISO 10545 - 4	N	Not less than 1300	Min. 1800		Min. 1800	
	Moisture Expansion	ISO 10545 - 10	mm/n	-	0,02		0,02	
					GVT	PGVT	GVT	PGVT
	Mohs Hardness of surface	NA	-	-	7	4	7	4
	Coefficient of linear thermal expansion from ambient temperature to 100 °C	ISO 10545 - 8	K ⁻¹	As declared by the Manufacturer	6x10 ⁻⁶ K ⁻¹ max		6x10 ⁻⁶ K ⁻¹ max	
	Thermal Shock Resistance	ISO 10545 - 9	-	As declared by the Manufacturer	No damage		No damage	
	Crazing Resistance: glazed tiles	ISO 10545 - 11	-	Required	No damage for Min. 10 Cycles		No damage for Min. 10 Cycles	
	Bulk Density	NA	gr/cc	2,2	2,2		2,2	
	Impact Resistant	ISO 10545 - 5	-	As declared by the Manufacturer	0,55		0,55	
	Frost Resistant	ISO 10545 - 12	-	As declared by the Manufacturer	No change		No change	
	Small colour differences	ISO 10545 - 16	-	Plain coloured tiles only where required GL: ΔE < 0.75 UGL: ΔE < 1.0	No change		No change	
Chemical properties	Resistance to staining	ISO 10545 - 14	Class	Minimum Class 3	Class 4		Class 4	
	Resistance to household chemicals and swimming pool salts	ISO 10545 - 13	Class	Minimum B	Compliant		Compliant	
	Resistance to acids & alkalis	ISO 10545 - 13	Class	As declared by the Manufacturer	Compliant		Compliant	