

## Technical Specification

CHARACTERISTIC	STANDARD AS PER ISO13006:2018/ EN14411 Gr.Bla	STANDARD AS PER IS15622:2017 Gr.Bla	MEAN VALUE OF ELYSIA	TEST METHOD
<b>Regulatory Properties</b>				
Deviation in length and width	± 0.30 % (±1.00mm)	± 0.10 %	± 0.10 %	ISO 10545-2 & IS 13630-1
Deviation in thickness	± 5.00 % (±0.50mm)	± 5.00 %	± 4.00 %	ISO 10545-2 & IS 13630-1
Straightness in side	± 0.30 % (±0.80mm)	± 0.10 %	± 0.10 %	ISO 10545-2 & IS 13630-1
Rectangularity	± 0.30 % (±1.50mm)	± 0.10%	± 0.10 %	ISO 10545-2 & IS 13630-1
Surface flatness central curvature	± 0.40 % (±1.80mm)	± 0.50 %	± 0.20 %	ISO 10545-2 & IS 13630-1
Surface flatness edge curvature	± 0.40 % (±1.80mm)	± 0.50 %	± 0.20 %	ISO 10545-2 & IS 13630-1
Surface flatness warpage	± 0.40 % (±1.80mm)	± 0.50 %	± 0.10 %	ISO 10545-2 & IS 13630-1
Surface quality	> 95% defects free	> 95% defects free	> 95% defects free	ISO 10545-2 & IS 13630-1
Small color difference (for plain color)	ΔE < 0.75	N.A.	No Change	ISO 10545-16
Glossiness (without polished)	as per mfg.	as per mfg.	3° < GLOSS < 7°	Glossmeter 60°
Glossiness (satin)	as per mfg.	as per mfg.	7° < GLOSS < 18°	Glossmeter 60°
<b>Structural Properties</b>				
Water absorption	≤ 0.50 %	≤ 0.080 %	≤ 0.060 %	ISO 10545-3 & IS 13630-2
Bulk density	as per mfg.	Min. 2.20 g/cc	> 2.28 gm/cc	ISO 10545-3 & IS 13630-2
<b>Massive Mechanical Properties</b>				
Modulus of rupture (6, 9, 10 & 12mm)	Min. 35.0 N/mm <sup>2</sup>	Min. 35.0 N/mm <sup>2</sup>	Min. 40.0 N/mm <sup>2</sup>	ISO 10545-4 & IS 13630-6
Modulus of rupture (16 & 20mm)	Min. 35.0 N/mm <sup>2</sup>	Min. 35.0 N/mm <sup>2</sup>	Min. 42.0 N/mm <sup>2</sup>	ISO 10545-4 & IS 13630-6
Breaking strength thickness <7.5	Min. 700.0 N	Min. 700.0 N	Min. 1000.0 N	ISO 10545-4 & IS 13630-6
Breaking strength thickness ≥7.5	Min. 1300.0 N	Min. 1300.0 N	Min. 1800.0 N	ISO 10545-4 & IS 13630-6
Breaking strength thickness ≥7.5 (16 & 20mm)	Min. 1300.0 N	Min. 1300.0 N	Min. 7500.0 N	ISO 10545-4 & IS 13630-6
<b>Surface Mechanical Properties</b>				
MOH'S hardness	as per mfg.	Min. 5	Min 6*	BS EN 15771 & IS 13630-13
Surface abrasion resistance	as per mfg.	Min. Class II	Min. Class 2 / Min. Class IV	ISO 10545-7 & IS 13630-11
<b>Thermal Hydrometric Properties</b>				
Moisture expansion	Max. 0.06%(0.6mm/m)	Max. 0.02mm/m	0.02mm/m	ISO 10545-10 & IS 13630-3
Thermal expansion(COE) at 100°C	as per mfg.	Max. 7.0 x 10 <sup>-6</sup>	Max. 6.0 x 10 <sup>-6</sup>	ISO 10545-8 & IS 13630-4
Thermal shock resistance	Min. 10 Cycle	Min. 10 Cycle	Min. 10 Cycle	ISO 10545-9 & IS 13630-5
Crazing resistance at (ISO 500 ±20 kPa-1.59°C ±1°C) / (IS 750 ±20 kPa-1.68°C ±1°C)	as per mfg.	Min. 4 Cycle	Min. 6 Cycle	ISO 10545-11 & IS 13630-9
Impact resistance(COR)	Min. 0.55	Min. 0.55	Min. 0.55	ISO 10545-5 & IS 13630-14
Frost resistance	as per mfg.	as per mfg.	Frost Proof	ISO 10545-12 & IS 13630-10
<b>Chemical Properties</b>				
Resistance to staining glazed	Min. Class 3	Min. Class 1	Min. Class 4/Min. Class 1	ISO 10545-14 & IS 13630-8
Resistance to household chemicals & swimming pool salts glazed	Min. Class GB	Min. Class AA	Min. Class GA/Min. Class AA	ISO 10545-13 & IS 13630-8
Resistance to low concentrate acid and alkalis glazed	as per mfg.	as per mfg.	Min. Class GLB**/Min. Class A**	ISO 10545-13 & IS 13630-8
Resistance to high concentrate acid and alkalis glazed	as per mfg.	as per mfg.	Min. Class GHB**/Min. Class A**	ISO 10545-13 & IS 13630-8
<b>Safety Properties</b>				
Skid resistance(DCOF-DRY)#	as per mfg.	as per mfg.	> 0.40	ANSI/NFSI B101.3-2012
Slip resistance(DCOF) (R value)#	as per mfg.	as per mfg.	R9 to R13	DIN 51130
Determination of lead & cadmium release for glazed tiles	as per mfg.	N.A.	Dose not yield Pb & Cd	ISO 10545-15
Fire resistance	as per mfg.	as per mfg.	Fire Proof	N.A.

\* Unpolished vitrified tiles, Depending on application area (low or high intensity of traffic)

\*\* Except hydrofluoric acid & it's compound

# As per customer requirement



*elysia*