

# Technical Specification

CHARACTERISTIC	STANDARD AS PER ISO13006:2012/ 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	± 0.50 %	± 0.10 %	± 0.10 %	ISO 10545-2 & IS 13630-1
Deviation in thickness	± 5.00 %	± 5.00 %	± 4.00 %	ISO 10545-2 & IS 13630-1
Straightness in side	± 0.50 %	± 0.10 %	± 0.10 %	ISO 10545-2 & IS 13630-1
Rectangularity	± 0.60 %	± 0.10%	± 0.10 %	ISO 10545-2 & IS 13630-1
Surface flatness Central Curvature	± 0.50 %	± 0.50 %	± 0.10 %	ISO 10545-2 & IS 13630-1
Surface flatness Edge Curvature	± 0.50 %	± 0.50 %	± 0.10 %	ISO 10545-2 & IS 13630-1
Surface flatness Warpage	± 0.50 %	± 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	ΔE < 0.75	N.A.	No Change	ISO 10545-16
Glossiness (With Nano Polished)	As per Manufacturer	As per Manufacturer	> 90**	Gloss Meter 60°
Glossiness (Without Polished)	As per Manufacturer	As per Manufacturer	7° < GLOSS < 14°*	Gloss Meter 60°
Glossiness (Satin)	As per Manufacturer	As per Manufacturer	15° < GLOSS < 25°*	Gloss Meter 60°
<b>Structural Properties</b>				
Water absorption	≤ 0.50 %	≤ 0.080 %	≤ 0.080 %	ISO 10545-3 & IS 13630-2
Bulk density	> 2.00 g/cc	Min. 2.20 g/cc	> 2.28 gm/cc	DIN51082 & IS 13630-2
<b>Massive Mechanical Properties</b>				
Modulus of rupture	Min. 35.0 N/mm <sup>2</sup>	Min. 35.0 N/mm <sup>2</sup>	Min. 37.0 N/mm <sup>2</sup>	ISO 10545-4 & IS 13630-6
Breaking strength thickness <5-6	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. 1100.0 N	Min. 1800.0 N	ISO 10545-4 & IS 13630-6
<b>Surface Mechanical Properties</b>				
MOH'S hardness	Min. 4	Min. 5	Min 6**(Matt) / Min. 4** (Gloss)	EN 101 & IS 13630-13
Surface abrasion resistance-Glossy #	As per Manufacturer	Min. Class II	Min. Class 2 / Min. Class II	ISO 10545-7 & IS 13630-11
Surface abrasion resistance-Matt #	As per Manufacturer	Min. Class II	Min. Class 3 / Min. Class II	ISO 10545-7 & IS 13630-11
<b>Thermal Hygrometric Properties</b>				
Moisture expansion	Max. 0.06	Max. 0.02	0.01	ISO 10545-10 & IS 13630-3
Thermal expansion(COE) at 100°C	As per Manufacturer	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 7.5 Bar	As per Manufacturer	Min. 4 Cycle	Min. 6 Cycle	ISO 10545-11 & IS 13630-9
Impact resistance(COR)	As per Manufacturer	Min. 0.55	Min. 0.55	ISO 10545-5 & IS 13630-14
Frost resistance	As per Manufacturer	As per Manufacturer	Frost Proof	ISO 10545-12 & IS 13630-10
<b>Chemical Properties</b>				
Resistance to Staining Glazed	Min. Class 3	Min. Class I	Min. Class 4/Min. Class I	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 Acidand Alkalis Glazed	As per Manufacturer	As per Manufacturer	Min. Class GLB***/Min. Class A***	ISO 10545-13 & IS 13630-8
**Resistance to High Concentrate Acidand Alkalis Glazed	As per Manufacturer	As per Manufacturer	Min. Class GHB***/Min. Class A***	ISO 10545-13 & IS 13630-8
<b>Safety Properties</b>				
Skid resistance(DCOF-DRY)	As per Manufacturer	As per Manufacturer	> 0.40(Matt)# / < 0.30(Gloss)#	ISO 10545-17
Slip resistance(DCOF)( R value )##	As per Manufacturer	As per Manufacturer	N.A.	ISO 10545-17
Determination of Lead & Cadmium Release for Glazed Tiles	As per Manufacturer	N.A.	Dose not yield Pb & Cd	ISO 10545-15
Fire Resistance	As per Manufacturer	As per Manufacturer	Fire Proof	N.A.

\* Glossiness 90% with nano technology  
 \*\* Without nano technology (Unpolished Vitrified tiles)  
 \*\*\* Except Hydrofluoric Acid & it's compound  
 # Glaze tiles Intended for use on floor  
 ## As per customer requirement

