

PORCELAIN TILE SPECIFICATION SHEET 120X240 CM

SR.NO	PHYSICAL PROPERTIE	TEST METHOD	TEST REQUIREMENT	PORCELAIN SLAB PERFORMANCE	REMARKS
(1) DIMENSION AND SURFACE QUALITY					
1.1	DEVIATION IN LENGTH (L) & WIDTH (W)	ISO10545-2	± 1MM	Avg + 0.20mm Avg -0.00mm	COMPLIES
	(a) The Deviation in percentage of the average size of each tile (2 or 4 sides) from the work size (w) (b) The deviation in percentage of the average siz of each tile (2 or 4 sides) from the average size of the 10 test specimen (20 or 40 side)			Avg + 0.14mm Avg -0.00mm	
1.2	THICKNESS	ISO10545-2	± 1MM	Avg + 0.00mm Avg -0.15mm	COMPLIES
1.3	STRAIGHTNESS OF SIDES	ISO10545-2	± 0.8MM	Max + 0.14mm Max - 0.16mm	COMPLIES
1.4	RECTANGULARITY	ISO10545-2	± 0.8MM	Max + 0.16mm Max - 0.17mm	COMPLIES
1.5	SURFACE FLATNESS	ISO10545-2	± 1.8 mm	Max + 0.12 mm Max - 0.00 mm	COMPLIES
	(a) Centre Curvature Centre curvature related to diagonal calculated from the work size.		± 2 mm	Max + 0.14 mm Max - 0.00 mm	
	(b) Edge Curvature Edge Curvature related to the corresponding work size (c) Warpage Warpage related to diagonal calculated from the work size.		± 1.8 mm	Max + 0.12 mm Max - 0.00 mm	
1.6	SURFACE QUALITY	ISO10545-2	95%	99%	COMPLIES
	Tested by the visually Minimum 95 percent of tile shall be free from visible defect that would impair the appearance of the major area of tiles. No any defect found in the tiles surface area and lot pass the test				
(2) PHYSICAL PROPERTIES					
2.1	Water Absorption (%)	ISO10545-3	Require as per saso ISO 13006 < e 0.50%	Avg. 0.11%	COMPLIES
	(a) 0.109 % (b) 0.111 % (c) 0.118 % (d) 0.105 % (e) 0.108 %		Individual maximum 0.60%		
2.2	Modulus of rupture (MOR)	ISO10545-4	Minimum 35 Individual maximum 32	Avg. 39.27 N/mm ²	COMPLIES
	(a) 38.29 N/mm ² (b) 39.43 N/mm ² (c) 39.23 N/mm ² (d) 37.57 N/mm ² (e) 37.32 N/mm ² (f) 42.46 N/mm ² (g) 40.51 N/mm ² (h) 39.37 N/mm ²				
2.3	Breaking Strength in (N)	ISO10545-4	Require Thickness ≥ 7.5 mm Not less than 1300	Avg. 1805.57 N	COMPLIES
	(a) 1716.48 N (b) 1795.95 N (c) 1788.15 N (d) 1692.60 N (e) 1787.15 N (f) 1959.75 N (g) 1887.60 N (h) 1816.91 N				
2.4	Crazing Resistance	ISO10545-11	No crazing in two cycle one hour duration at a steam pressure of 750±20Kpa 6 Nos of tiles were subjected to autoclaving at a steam pressure of 750±20Kpa of saturated steam for two hour consisting of two cycle. None of the tiles show any sign of the crazing on the glaze surface and the lot pass the test	PASSED THE TEST	CONFIRM
2.5	Thermal shock resistance	ISO10545-9	Require 10 Cycle min	15/145 °c 10 cycle	CONFIRM
2.6	Co Efficient of linear thermal expanition	ISO10545-8	Require 9X10 l6 Max	4.74X10 ⁻⁶	COMPLIES
	Expanition from ambient temperature to 100 C (K-1)				
2.7	Resistance to surface abrasion	ISO10545-7	Visual failure was observed at 6000 revolution when the tiles were subjected to abrasion stage of 150,600,750,1500,2100 upto 6000 revolution, 2100 revolution pass.	2100 revolution pass	Class IV

2.8	Moisture expansion mm/m	ISO10545-10	0.02 mm/m max	No expansion	COMPLIES
2.9	Scratch Hardness of surface (MOH's Scale)	IS 13630-13	5 Moh's scal	5 Moh's	COMPLIES
2.10	BULK DENSITY	ISO10545-3	2.2MIN	2.2764g/cc	COMPLIES
2.11	Impact Resistance	ISO10545-5	0.55 Min	0.57	COMPLIES
(3) CHEMICAL PROPERTIES					
3.1	House hold chemical resistance Ammonium chlorine solution 100 G/L	ISO10545-13	Min Class-GC	Class GA	No visual changes observed after impression for 24 hours pencil lines removed with wet wiping removed
3.2	Swimming Pool Salt Sodium hypochlorite solution, 20 mg/L	ISO10545-13	Min Class-GC	Class GA	No visual changes observed after impression for 24 hours pencil lines removed with wet wiping removed
3.3	Acid & Alkalies	ISO10545-13	Min Class-GC	Class GA	No visual changes observed after impression for 4 hours pencil lines removed with wet wiping removed
3.3 (A)	Low Concentration (L)				
	Low Concentration (L) (a) Hydrochloric acid solution 3% (V/V)				
	(b) Citric acid soln. 100gm/l	ISO10545-13	Min Class-GC	Class GA	No visual changes observed after impression for 24 hours pencil lines removed with wet wiping removed
	© Potassium Hydroxide soln 30 gm/l	ISO10545-13	Min Class-GC	Class GA	No visual changes observed after impression for 4 hours pencil lines removed with wet wiping removed
3.3 (B)	High Concentration (H)	ISO10545-13	Min Class-GC	Class GA	No visual changes observed after impression for 4 hours pencil lines removed with wet wiping removed
	High Concentration (H) (a) Hydrochloric acid solution 18% (V/V)				
	(b) Lactic Acid Soln. 5% (V/V)	ISO10545-13	Min Class-GC	Class GA	No visual changes observed after impression for 4 hours pencil lines removed with wet wiping removed
	© Potassuim Hydroxide Soln. 200gm/l (V/V)	ISO10545-13	Min Class-GC	Class GA	No visual changes observed after impression for 4 hours pencil lines removed with wet wiping removed
3.4	Resistance to satin	Stain put on tiles up to 24 hrs			COMPLIES
	Red Past in light oil (Fe2O3) Loding in alcohol 13g/l Olive oil	Stain removed by hot water	Min Class - 3	Class -5	
		Stain removed by hot weak cleaning agent	Min Class - 3	Class -4	
		Stain removed by hot water	Min Class - 3	Class -5	
3.5	Lead and cadium release in mg/dm²	Digestion time -24 hrs (20±2°) Detected by ED XRF	0.1 mg/dm ²	0.00 mg/dm ²	COMPLIES
	Lead releases				
	Test Solution Acietic acid solution 4% (V/V) (In 960 ml distilled water				
	Cadmium Release	Digestion time -24 hrs (20±2°) Detected by ED XRF	0.1 mg/dm ²	0.00 mg/dm ²	COMPLIES
	Test Solution Acietic acid solution 4% (V/V) (In 960 ml distilled water				
3.6	Small colour differences	ISO10545-9	Require 10 Cycle min	Δ E < 0.75	No Difference