



Certificate No. : TC-6265

# NATIONAL CERA LAB

## CERAMIC LABORATORY

Shop No. 16, 17, Ground Floor, Dariyalal Plaza,  
Nr. Argil Ceramic, 8-A, N/H, Morbi - 363 642 (Guj.) INDIA.

Ph. : 02822 244049, Mo. : 98252 62649, 96622 97605, 98257 99418  
E-mail : nationalceralab@rediffmail.com

### As per all Countries Export report of Wall, Floor, Vitrified Tiles & Sanitary Wares

**Ref. No.** NCL/Glazed Floor Tile / ISO/01/849/2019-20  
URL - TC62651900001430P

**Date :**  
Issue Date: Feb. 15. 2020

Receive date of test sample :- 07 02 2020

Issue to

M/S SIMPLON CERAMIC PVT LTD.  
Sr. No. 247 p2, Opp. CNG Pump, Jetpar Road, At - Bela (Rangpar) Dist-Morbi, Gujarat, India

**SAMPLE DECIPTION & NAME:** Ceramic Glazed Floor Tiles "First Grade" Nominal, size 600x600x9.5 mm (Rectified)  
as submitted by the party. Sample not drawn by National Cera Lab  
Received Sample in PLAZMA BOX ( GLAZED )

**TEST DESIRED:** As Per SASO ISO 13006:2018 Group B II a , Annex J

<p><i>Dimantion and surface quality</i></p> <p>I LENGTH &amp; WIDTH</p> <p>II THICKNESS</p> <p>III STRAIGHTNESS OF SIDES ( Facial sides )</p> <p>IV RECTANGULARITY</p> <p>V SURFACE FLATNESS</p> <p>VI SURFACE QUALITY</p> <p><b>B Physical Property</b></p> <p>I WATER ABSORPTION %</p> <p>II MODULUS OF RUPTURE ( MOR ) N/mm<sup>2</sup></p> <p>III BREAKING STRENGTH</p> <p>IV CRAZING RESISTANCE</p> <p>V THERMAL SHOCK RESISTANCE</p>	<p>VI CO EFFICIENT OF LINEAR THERMAL EXPANTION</p> <p>VII RESISTANCE TO SURFACE ABRASION</p> <p>VIII SCRACH HARDNESS</p> <p>IX BULK DENSITY</p> <p>X MOISTURE EXPANSION</p> <p>XI IMPACT RESISTANCE</p> <p><b>C Chemical Property</b></p> <p>I Resistance to house chemical</p> <p>II Resistance to swimming pool salt</p> <p>III Resistance To Low Concentration OF Acid &amp; Alkali</p> <p>IV Resistance to Stain</p> <p>V LEAD AND CADIDIUM RELEASE in mg/dm<sup>2</sup></p> <p>VI SMALL COLOUR DIFFERENCES</p>
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#### TEST REPORT

A	Require	Test Method	Result
<b>A DIMANTION AND SURFACE QUALITY</b>			
<b>I DEVIATION IN LENGTH (l) &amp; WIDTH(w) :-</b>			
<b>1 Length</b> The deviation in mm of the average size of each tile ( 2 sides ) from the average of 10 test specimens ( Sides )	± 1 mm	SASO ISO10545 - 2	Ave + 0.33 mm Ave - 0.00 mm Pass
<b>2 Width</b> The deviation in mm of the average size of each tile ( 2 sides ) from the average of 10 test specimens ( Sides )	± 1 mm	SASO ISO10545 - 2	Ave + 0.35 mm Ave - 0.00 mm Pass
<b>II THICKNESS :-</b> The deviation in mm of the average thickness of 10 tile from the work size thickness	Party givan Thickness 9.50 mm	10 Pices Average 9.45 mm	± 0.5 mm SASO ISO10545 - 2 Ave + 0.00 mm Ave - 0.05 mm Pass
<b>III STRAIGHTNESS OF SIDES :-</b> Maximum deviation from straightness in mm related to the corresponding work size	±0.8 mm	SASO ISO10545 - 2	Max.+ 0.15 mm Max. - 0.17 mm Pass
<b>IV RECTANGULARITY :-</b> Maximum deviation from rectangularity in mm related to the corresponding work size	±0.8 mm	SASO ISO10545 - 2	Max.+ 0.18 mm Max. - 0.21 mm Pass

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### TEST REPORT

**V SURFACE FLATNESS :-**

**( a ) Centre Curvature**

Centre curvature related to diagonal calculated from the work size.

**(b) Edge curvature**

Edge curvature related to the corresponding work size.

**( c ) Warpage**

Warpage related to diagonal calculated from the work size.

Test Method	Require	Feb. 15. 2020 Result
SASO ISO10545 - 2	± 2.0 mm	Max.+ 0.15 mm Max. - 0.00 mm Pass
	± 2.0 mm	Max.+ 0.14 mm Max. - 0.00 mm Pass
	± 2.0 mm	Max.+ 0.14 mm Max. - 0.00 mm Pass
SASO ISO10545 - 2	95%	99% Pass

**VI SURFACE QUALITY**

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.

SASO ISO10545 - 3	Pass
Require	3% < Eb ≤ 6%
	Individual maximum 6.5%

**B PHYSICAL PROPERTIES :-**

**I WATER ABSORPTION:- %**

1	3.58 %
2	3.10 %
3	2.73 %
4	4.25 %
5	2.49 %

**Average 3.23 %**

SASO ISO10545 - 4	Pass
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**II MODULUS OF RUPTUREE ( M O R )**

1	24.13 N/mm <sup>2</sup>	6	25.03 N/mm <sup>2</sup>
2	27.93 N/mm <sup>2</sup>	7	24.74 N/mm <sup>2</sup>
3	29.28 N/mm <sup>2</sup>	8	29.49 N/mm <sup>2</sup>
4	26.13 N/mm <sup>2</sup>		
5	23.92 N/mm <sup>2</sup>		

**Average 26.33 N/mm<sup>2</sup>**

Minimum 22  
Individual minimum 20

**III BREAKING STRENGTH IN N**

1	1068.65 N	6	1127.62 N
2	1226.70 N	7	1140.66 N
3	1293.40 N	8	1334.96 N
4	1234.91 N		
5	1094.93 N		

**Average 1190.23 N**

SASO ISO10545 - 4	Pass
Thickness ≥ 7.5 mm	
Not less than 1000	

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	Test Method	Require	Result
<b>IV CRAZING RESISTANCE :-</b> 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±20 Kpa 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	SASO ISO10545-11	No Crazing	Confirm Pass
<b>V THERMAL SHOCK RESISTANCE.</b> 15/145°C 10cycle	SASO ISO10545-9	10 cycle,Min	Confirm Pass
<b>VI COEFFICIENT OF LINEAR THERMAL EXPANTION:-</b> Expantion from ambient temperature to 100°C ( K - 1)	SASO ISO10545-8	9X10 <sup>-6</sup> Max	5.01x10 <sup>-6</sup> Pass
<b>VII RESISTANCE TO SURFACE ABRASION :-</b> Visual failure was observed at 2100 revolution when the t tiles were subjected to abrasion stage of 150,600,750,1500 up to 2100 revolution . 1500 revolution pass	SASO ISO10545-7		Class - III 1500 revolution pass Pass
<b>VIII SRACH HARDNESS OF SURFACE ( MOH'S SCALE ) :-</b>	IS 13630 - 13	5 moh's scal	5 Moh's Pass
<b>IX BULK DENSITY , IN ( g/cc )</b>		2.2 min	2.2346 g/cc Pass
<b>X MOISTURE EXPANSION mm/m</b>	SASO ISO10545-10	0.02 mm/m max	0.01 mm/m max Pass
<b>XI IMPACT RESISTANCE</b> Coefficient of restitution ( COR )	SASO ISO10545 -5	0.55 Min	0.56 Pass
<b>C CHEMICAL PROPERTIES:</b>		Require	Result
<b>I House hold chemical resistance</b> Ammonium chloride solution 100G/L	No visual changes observed after immersion for 24 hrs ; Pencil lines removed with wet wiping removed	SASO ISO10545-13	Min Class-GC Class GA Pass
<b>II Swimming pool salt :</b> Sodium hypochlorite solution , 20mg/L	No visual changes observed after immersion for 24 hrs ; Pencil lines removed with wet wiping removed	SASO ISO10545-13	Min Class-GC Class GA Pass
<b>III Acid &amp; Alkalies :-</b> <b>A Low Concentrations ( L )</b> i) Hydrochloric Acid solution 3% ( V/V )	No visual changes observed after immersion for 4 days ; Pencil lines removed with wet wiping removed	SASO ISO10545-13	Min Class-GLC Class GLA Pass



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	Test Method	Require	Result
ii) Citric Acid Soln. 100gm/l No visual changes observed after immersion for 4 days ; Pencil lines removed with wet wiping removed	SASO ISO10545-13	Min Class-GLC	Class GLA Pass
iii) Potassium Hydroxide Soln 30gm/l No visual changes observed after immersion for 4 days ; Pencil lines removed with wet wiping removed	SASO ISO10545-13	Min Class-GLC	Class GLA Pass
<b>IV RESISTANCE TO STAIN</b> Red Past in Light Oil ( Fe2O3 ) Iodine in Alcohol 13g/l Olive Oil	SASO ISO10545-14	Min Class - 3 Min Class - 3 Min Class - 3	Class - 5 Class - 4 Class - 5 Pass
<b>V LEAD AND CADMIUM RELEASE in mg/dm<sup>2</sup></b> <b>LEAD RELEASES</b> Test Solution Acetic Acid Solution 4% ( v/v ), ( in 960ml distilled water )	SASO ISO10545-15	Limit 0.1mg/dm <sup>2</sup>	Result 0.00 mg/dm <sup>2</sup> Pass
<b>CADMIUM RELEASE</b> Test Solution Acetic Acid Solution 4% ( v/v ), ( in 960ml distilled water )		0.1mg/dm <sup>2</sup>	Result 0.00 mg/dm <sup>2</sup> Pass
<b>VI SMALL COLOUR DIFFERENCES</b>	SASO ISO10545-16	$\Delta E < 0.75$	No Difference Pass

**CONCLUSION:**

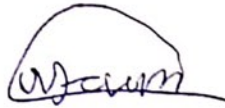
The sample drawn by party from the above lot complies with SASO ISO 13006 : 2018 Group BII a

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Test Procedure as per ISO 10545

Verify by  
Testing Engineer

Nimesh J. Kavar  
( Nimesh J. Kavar )



For  
National Cera Lab

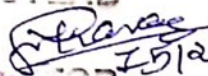
Name of Authorised signatory :  
Designation of signatory :

J.M. Kavar  
Technical Manager



NATIONAL CERA LAB

PROPRIETOR

  
15/2/2020

