

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 97005, 98257 99418
E-mail : nationalceralab@rediffmail.com

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

Ref. No. Report no NCL/Glazed Vitrified Tile /EN/01/355/2021-22

Date :

Issue date of report Jan. 05. 2022

TEST REPORT

Page 1 of 4

Name of Company	M/s SILON GRANITO LLP
Company Address	Survey No.14p1, 14p2, 15p1, 15p2, 15p3, At-Sartanpar, Tal-Wankaner, Dist-Morbi, Gujarat, India.
Name and Identity of test sample	Ceramic Tiles/ NCL/2021-2022/NON/290
Receive Date	23rd Dec. 2021
Date of Test	24/12/2021 to 29/12/2021 (dd/mm/yy)
Type	Dry Press Ceramic Tiles with low water absorption $E_v \leq 0.5\%$ Group BI a
Nominal size (N)	1200X600 mm (Rectified)
Work Size (Sw)	1200x600x5.00 mm (Rectified)
Nature of surface	Glazed (GL.)
Party Given description	Ceramic Vitrified Slim Tiles
Received Box	
Quantity of sample	10 Pieces.
Reference Test standard	EN 14411 : 2016 - Annex G , Dry Press Ceramic Tiles with low water absorption ($E_v \leq 0.5\%$) Group BI a
No of pages of the report	4 Page
Test Standard	EN 14411 : 2016 Ceramic tiles - Definitions , classification , characteristic and marking Annex G Dry pressed ceramic tiles $E_v \leq 0.5\%$ Group BI a

Test Name	Standard No. for test method
1 Determination of Dimensions & Surface Quality	EN ISO 10545 - 2
A Length & Width	EN ISO 10545 - 2
B Thickness	EN ISO 10545 - 2
C Straightness of Sides	EN ISO 10545 - 2
D Rectangularity	EN ISO 10545 - 2
E Surface Flatness	EN ISO 10545 - 2
F Surface Quality	EN ISO 10545 - 2
2 Determination Water Absorption in %	EN ISO 10545 - 3
3 Determination of Breaking Strength in N, & Modulus of Rupture N/mm ²	EN ISO 10545 - 4
4 Resistance to Surface Abration	EN ISO 10545 - 7
5 Coefficient of Linear Thermal Expansion	EN ISO 10545 - 8
6 Thermal Shock Resistance	EN ISO 10545 - 9
7 Crazing Resistance	EN ISO 10545 - 11
8 Frost resistance	EN ISO 10545 - 12
9 Moisture Expansion mm/m	EN ISO 10545 - 10
10 Small colour differences	EN ISO 10545 - 16
11 Impact Resistance	EN ISO 10545 - 5
12 Bulk Density , in (g/cc)	EN ISO 10545 - 3
13 Resistance to Stain	EN ISO 10545 - 14
14 Resistance To Low Concentration of Acid & Alkali	EN ISO 10545 - 13
15 Resistance To High Concentration of Acid & Alkali	EN ISO 10545 - 13
16 Resistance to house chemical	EN ISO 10545 - 13
17 Resistance to swimming pool salt	EN ISO 10545 - 13
18 Lead and Cadium Release in mg/dm ³	EN ISO 10545 - 15

Notes -

- 1 All inspection are carried out conscientiously to the best of our knowledge and ability.
- 2 This report shall not be reproduced, except in full , without the prior written approval from the issuing laboratory.
- 3 The result in this report apply to the sample only.

Tested by

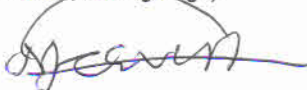
Inspected by

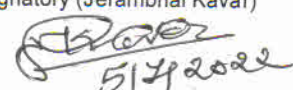
Approved by

Nimesh Kavar (Testing Eng.)

Jerambhai Kavar (T.M.)

Authorised signatory (Jerambhai Kavar)





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Kind Of Test	Test Method	Requirements	Result	Verdicts
		N ≥ 15 cm		
1 Dimensions and Surface Quality				
A Length				
The deviation in mm of the average size of each tile (2 sides) from the work size	EN ISO 10545-2	±0.5%	Avg. 0.02%	P
			Avg. - 0.00%	
		±1 mm	Avg. 0.21mm	P
			Avg - 0.00mm	
Width				
The deviation in mm of the average size of each tile (2 sides) from the work size	EN ISO 10545-2	±0.5%	Avg. 0.06%	P
			Avg. - 0.00%	
		±1 mm	Avg. 0.36mm	P
			Avg - 0.00mm	
B Thickness 5.0 Party declared				
The deviation in mm of the average thickness of 10 tile from the work size thickness	EN ISO 10545-2	±5%	Avg. 0.00%	
			Avg. - 1.28%	P
		±0.5 mm	Avg. 0.00mm	
			Avg - 0.06mm	P
C Straightness of Sides				
The maximum deviation from straightness related to the corresponding work size				
Length				
	EN ISO 10545-2	±0.5%	Max 0.03%	P
			Max - 0.03%	P
		±0.8 mm	Max 0.31mm	P
			Max - 0.33mm	P
Width				
	EN ISO 10545-2	±0.5%	Max 0.04%	P
			Max - 0.04%	P
		±0.8 mm	Max 0.23mm	P
			Max - 0.24mm	P
D Rectangularity				
The maximum deviation from straightness related to the corresponding work size				
Length				
	EN ISO 10545-2	±0.5%	Max 0.03%	P
			Max - 0.03%	P
		±1.5 mm	Max 0.36mm	P
			Max - 0.37mm	P
Width				
	EN ISO 10545-2	±0.5%	Max 0.04%	P
			Max - 0.04%	P
		±1.5 mm	Max 0.25mm	P
			Max - 0.26mm	P
E Surface Flatness The maximum deviation from flatness				
a Centre curvature related to diagonal calculated from the work size.				
Length				
	EN ISO 10545-2	±0.5%	Max 0.02%	P
			Max - 0.00%	
		±1.8 mm	Max 0.41mm	P
			Max - 0.00mm	
Width				
	EN ISO 10545-2	±0.5%	Max 0.03%	P
			Max - 0.00%	
		±1.8 mm	Max 0.29mm	P
			Max - 0.00mm	



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Kind Of Test	Test Method	Requirements	Result	Verdicts
		N ≥ 15 cm		
b Edge curvature related to the corresponding work size.		Whichever is less is applicable		
Length	EN ISO 10545-2	±0.5%	Max 0.04%	P
			Max - 0.00%	
		±1.8 mm	Max 0.43mm	P
Width	EN ISO 10545-2	±0.5%	Max 0.05%	P
			Max - 0.00%	
		±1.8 mm	Max 0.30mm	P
		Max - 0.00mm		
c Warpage related to diagonal calculated from the work size.				
Length	EN ISO 10545-2	±0.5%	Max 0.03%	P
			Max - 0.00%	
		±1.8 mm	Max 0.44mm	P
Width	EN ISO 10545-2	±0.5%	Max 0.04%	P
			Max - 0.00%	
		±1.8 mm	Max 0.32mm	P
		Max - 0.00mm		
F Surface Quality	EN ISO 10545-2	A minimum 95% of tile shall be free from visible defects that would impair the appearance of a major area of tiles	100%	P
2 Water Absorption %	EN ISO 10545-3	Ev ≤ 0.5 % Individual maximum 0.6%	Average - 0.085% Maximum - 0.094%	P
3 Breaking Strength in N	EN ISO 10545-4	Not less than 700 Thickness < 7.5 mm	Average - 724.27 N Minimum - 715.28 N	P
3 Modulus of Rupture (MOR)	EN ISO 10545-4	Minimum 35 Individual minimum 32	Average - 51.15 N/mm ² Minimum - 50.08 N/mm ²	P
4 Resistance to Surface Abrasion a) Resistance to surface abrasion of glazed tiles	EN ISO 10545-7	Report abrasion class and cycles passed	Class - III 1500 Revolution pass	P
5 Coefficient of Linear Thermal Expansion from ambient temperature to 100°C	EN ISO 10545-8	9X10 ⁻⁶ Max	5.39x10 ⁻⁶	P
6 Thermal Shock Resistance	EN ISO 10545-9	Test method available	Fully resistance	P
7 Craze Resistance	EN ISO 10545-11	Two cycle must pass	Fully resistance	P
8 Frost resistance	EN ISO 10545-12	Required		N/A


 5/1/2022

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Kind Of Test	Test Method	Requirements	Result	Verdicts
9 Moisture Expansion mm/m	EN ISO 10545-10	Test method available	0.012 mm/m	P
10 Small colour differences	EN ISO 10545-16	Plain coloured tiles only where required GL: $\Delta < 0.75$		N/A
11 Impact Resistance Coefficient of restitution (COR)	EN ISO 10545-5	Test method available	0.59	P
12 Bulk Density , in (g/cc)	EN ISO 10545-3	2.2 min	2.2940 g/cc	P
Chemical Properties				
13 Resistance to staining				
a) Green stain in light oil	EN ISO 10545-14	Min Class - 3	Class 4	P
b) Red stain in light oil		Min Class - 3	Class 4	P
c) Iodine , 13g/L in alcohol		Min Class - 3	Class 4	P
d) Olive oil		Min Class - 3	Class 5	P
14 Resistance to Low Concentration of Acid & Alkali				
a) Hydrochloric Acid solution 3% v/v	EN ISO 10545-13	Manufacturer to state classification	GLA	P
b) Citric Acid Soln. 100gm/L		Manufacturer to state classification	GLA	P
c) Potassium Hydroxide Soln. 30gm/L		Manufacturer to state classification	GLA	P
15 Resistance to High Concentration of Acid & Alkali				
a) Hydrochloric Acid solution 18% v/v	EN ISO 10545-13	Test method available	GHA	P
b) Lactic acid 5% v/v		Test method available	GHA	P
c) Potassium Hydroxide Soln. 100gm/L		Test method available	GHB	P
16 House hold chemical resistance Ammonium chloride solution 100gm/L	EN ISO 10545-13	Minimum Class B	GA	P
17 Swimming pool salt : Sodium Hypochlorite solution 20mg/L	EN ISO 10545-13	Minimum C Minimum Class B	GA	P
18 Lead And Cadmium Releas				
Lead release, in mg/dm ²	EN ISO 10545-15	Test method available	0.008mg/dm ²	P
Cadmium release , in mg/dm ²	EN ISO 10545-15	Test method available	0.004mg/dm ²	P

Possible test case verdicts

- 1 P(ass) ; Test item does meet the requirement
- 2 F(Fail) : Test item does not meet the requirement.
- 3 N/A : Test case does not apply to the item.

End of the Test Report

(Signature)
5/1/2022