



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

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

Ref. No. NCL/Glazed Vitrified Tile /VS EN/07/099/2020-21
URL - TC626519000001823P

Date :
July. 03. 2020

Receive date of test sample :- 23.06.2020

Issue to
M/s MARBILANO TILES LLP
Morbi Halvad Road , At - Unchi Mandal
Tal & Dist - Morbi ; Gujarat ; India

SAMPLE DECRPTION & NAME: Glazed Vitrified tiles/ Porcelain tiles " First Grade " , Nominal size 1200x600X9.25 mm (Rectified) as submitted by the party. Sample not drawn by National Cera Lab

Received Sample in MARBILANO BOX

TEST DESIRED: BS EN : 14411 : 2016 (Group B I a) ANNEX - G

A Dimantion and surface quality

- I Deviation in Length & Width
- II Thickness
- III Straightness Of Sides
- IV Rectangularity
- V Surface Flatness
- VI Surface quality

B Physical Property

- I Water Absorption %
- II Breaking Strength in N
- III Modulus of Rupture (MOR) N/mm²
- IV Resistance to surface abrasion
- V Coefficient of Liner Thermal Expansion
- VI Thermal Shock Resistance

VII Crazing Resistance

- VIII Moisture Expansion (in mm/mm)
- IX Impact resistance
- X Scrach hardness of Srface (mohs scale)
- XI Bulk density , lin (g/cc)

C Chemical Property

- I Resistance Stain
- II Resistance To Low Concentration OF Acid & Alkali
- III Resistance To High Concentration OF Acid & Alkali
- IV Resistance to house chemical
- VIII Resistance to swimming pool salt
- VIII Lead And Cadium Releas

TEST REPORT

A DIMANTION AND SURFACE QUALITY

Require	Test Method	Result
I Deviation in Length & Width		
1 Length	The diveation in mm of average size of each tile (2 sides) from the average of 10 test specimens (20 Sides)	± 1 mm EN ISO 10545 - 2 Avg+ 0.10 mm Avg - 0.00 mm
2 Width	The deviation in mm of the average size of each tile (2 sides) from the average of 10 test specimens (20 Sides)	± 1 mm EN ISO 10545 - 2 Avg+ 0.10 mm Avg - 0.00 mm
II Thickness	Party givan 10 Pices Thickness Average 9.25 mm 9.23 mm	± 0.5 mm EN ISO 10545 - 2 Avg+ 0.00 mm Avg - 0.18 mm
III Straightness Of Sides	Maxmum deviation from straightness in mm related to the corresponding work size	±0.8 mm EN ISO 10545 - 2 Max+ 0.12 mm Max - 0.14 mm
IV Rectangularity	Maximum deviation from rectangularity in mm related to the corresponding work size	±0.8 mm EN ISO 10545 - 2 Max+ 0.14. mm Max - 0.16 mm

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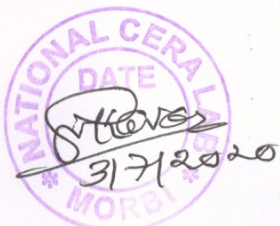
Ref. No.

Date :

TEST REPORT

July. 03. 2020

	Test Method	Require	Result
V Surface Flatness			
(a) Centre Curvature Centre curvature related to diagonal calculated from the work size.	EN ISO 10545 - 2	± 1.8 mm	Max+ 0.14 mm Max - 0.00 mm
(b) Edge curvature Edge curvature related to the corresponding work size.	EN ISO 10545 - 2	± 1.8 mm	Max+ 0.15. mm Max - 0.00 mm
(c) Warpage Warpage related to diagonal calculated from the work size.	EN ISO 10545 - 2	± 1.8 mm	Max+ 0.14 mm Max - 0.00 mm
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.	EN ISO 10545 - 2	95%	100% Free from defects
B PHYSICAL PROPERTIES :-			
I Water Absorption % %			
1 0.014 %	EN ISO 10545 - 3		Avg. 0.024%
2 0.029 %			Max. 0.029%
3 0.028 %			
4 0.027 %			
5 0.024 %			
Average 0.024 %		Ev \leq 0.5 % Individual maximum 0.6%	
II Breaking Strength in IN			
1 1997.15 N	EN ISO 10545 - 4		Avg. 2255.52 N
2 2320.66 N			Min. 1997.15 N
3 2370.81 N		Not lass than 1300	
4 2094.50 N		Thickness \geq 7.5 mm	
5 2399.33 N			
Average 2255.52 N			
III Modulus of Rupture (MOR)			
1 45.43 N/mm ²	EN ISO 10545 - 4		Avg. 50.34 N/mm ²
2 51.89 N/mm ²			Min.45.43 N/mm ²
3 52.75 N/mm ²			
4 47.88 N/mm ²		Minimum 35	
5 54.45 N/mm ²		Individual minimum 32	
Average 50.34 N/mm ²			



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	Test Method	Require	Result
III Resistance To High Concentration OF Acid & Alkali			
a Hydrochloric Acid solution 18% (V/V)	No visual changes observed after immersion for 4 days, pencil line removed with soft wet cloth.	EN ISO 10545 - 13	Min Class GHC
b Lactic Acid Soln. 5% (v/v)	No visual changes observed after immersion for 4 days, pencil line removed with soft wet cloth.	EN ISO 10545 - 13	Min Class GHC
c Potassuim Hydroxide Soln. 100gm/l	No visual changes observed after immersion for 4 days, pencil line removed with soft wet cloth.	EN ISO 10545 - 13	Min Class GHC
IV House hold chemical resistance			
Ammonium chloride solution 100gm/l	No visual changes observed after immersion for 24 hrs, pencil line removed with soft wet cloth.	EN ISO 10545 - 13	Min CLASS - GC
V Swimming pool salt			
Sodium Hypochorite solution 20mg/l	No visual changes observed after immersion for 24 hrs, pencil line removed with soft wet cloth.	EN ISO 10545 - 13	Min CLASS - GC
VI Lead And Cadium Releas			
a Lead Release		EN ISO 10545 - 15	Limit
Test Solution Acietic Acid Solution 4% (v/v), (in 960ml distilled water)	Digestion time- 24 hrs (20±2°) Detected by ED XRF		0.1mg/dm ²
b Cadium Release			Result
Test Solution Acietic Acid Solution 4% (v/v), (in 960ml distilled water)	Digestion time- 24 hrs (20±2°) Detected by ED XRF		0.00 mg/dm ²

CONCLUSION:

The sample drawn by party from the above lot complies with ISO STANDARD ISO 13006 :2018 Group BI a
Test Procedure as per ISO 10545

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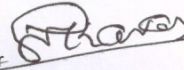
Verify by
Testing Engineer

Nimesh J. Kavar
(Nimesh J. Kavar)

For
National Cera Lab

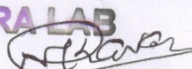
Name of Authorised signatory :
Designation of signatory :

J.M. Kavar
Technical Manager




NATIONAL CERA LAB

PROPRIETOR


3/7/2020