

TEST REPORT

(Report No.) : 25201903600

<b>Name of Sample</b>	VT001, VT002, VT003, VT004, VT005, VT006, VT007, VT008	<b>Received Date</b>	14/05/2019
<b>Customer Information</b>		<b>Lab Environment</b>	
<b>Applicant</b>		<b>Shape of Sample</b>	600mm x 1200mm x 10.5mm
<b>Testing Category</b>	See Below	<b>Quantity of Sample</b>	30 Pieces
<b>Test Standard</b>	See Below	<b>Reported Date</b>	15/05/2019 - 22/05/2019
Results of Inspection			

ISO 13006:2012 Ceramic tiles - Definitions, classification, characteristics and marking						
Clause	Properties	Test Method	Requirements	Results	Verdicts	
Annex G Table G1	<b>Dimensions and surface quality</b>					
	<b>Length</b> The deviation of the average size for each tile from the work size	ISO10545-2: 1995/Cor.1:1997	N≥15cm	±0.6% ±2.0mm	-0.01% ~0 -0.2mm~0	P P
	<b>Width</b> The deviation of the average size for each tile (2 sides) from the work size	ISO10545-2: 1995/Cor.1:1997	N≥15cm	±0.6% ±2.0mm	+0.01%~+0.03% +0.1mm~+0.2mm	P P
	<b>Thickness</b> The deviation of the average thickness of each tile from the work size thickness	ISO10545-2: 1995/Cor.1:1997	N≥15cm	±5% ±0.5mm	+0.1%~+0.6% 0~+0.1mm	P P
	<b>Straightness of sides</b> The maximum deviation from straightness related to the corresponding work sizes					
	<b>Length</b>	ISO10545-2: 1995/Cor.1:1997	N≥15cm	±0.5% ±1.5mm	0~+0.01% 0~+0.1mm	P P
	<b>Width</b>	ISO10545-2: 1995/Cor.1:1997	N≥15cm	±0.5% ±1.5mm	0~+0.01% 0	P P
	<b>Rectangularity</b> The maximum deviation from Rectangularity related to the corresponding work sizes					
	<b>Length</b>	ISO10545-2: 1995/Cor.1:1997	N≥15cm	±0.5% ±2.0mm	-0.02% -0.3mm~-0.2mm	P P
	<b>Width</b>	ISO10545-2: 1995/Cor.1:1997	N≥15cm	±0.5% ±2.0mm	-0.01%~+0.01% -0.1mm~0.1mm	P P
	<b>Surface Flatness:</b> The maximum deviation from flatness					
	a) centre curvature, related to diagonal calculated from the work size;	ISO10545-2: 1995/Cor.1:1997	N≥15cm	±0.5% ±2.0mm	+0.03% ~ +0.04% +0.5mm	P P
	b) edge curvature, related to the corresponding work sizes;					
	<b>Length</b>	ISO10545-2: 1995/Cor.1:1997	N≥15cm	±0.5% ±2.0mm	+0.04% ~ +0.05% +0.5mm ~ +0.6mm	P P
	<b>Width</b>	ISO10545-2: 1995/Cor.1:1997	N≥15cm	±0.5% ±2.0mm	0~+0.01% 0	P P
	c) Warpage related to diagonal calculated from the work size	ISO10545-2: 1995/Cor.1:1997	N≥15cm	±0.5% ±2.0mm	-0.03%~+0.03% -0.4	P P
	<b>Surface Quality</b>	ISO10545-2: 1995/Cor.1:1997	A minimum of 95% of the tiles shall be free from visible defects inspected vertically at 1.0m.		100%	P
	<b>Physical Properties</b>					
	<b>Water Absorption</b> Percent mass fraction	ISO10545-3:2018	E <sub>w</sub> ≤0.5%		0.23%	P
			Individual Minimum 0.6%		0.20%~0.28%	P
	<b>Breaking Strength, in N</b>	ISO10545-4:2014	≥1300		2481	P
	<b>Modulus of rupture, in N/mm<sup>2</sup></b> Not applicable to tiles with breaking strength ≥3000N	ISO10545-4:2014	Minimum 35		36.8	P
			Individual Minimum 32		33.5~38.9	P
	<b>Abrasion Resistance</b> Resistance to surface abrasion of glazed tiles intended for use on floors	ISO10545-7:1996	Report abrasion class		Class 4	---
			Report cycles passed		2100	---

Important Notes:

The results in this report apply to the samples only.

ISO 13006:2012 Ceramic tiles - Definitions, classification, characteristics and marking						
Clause	Properties	Test Method	Requirements	Results	Verdicts	
Annex G Table G1	<b>Coefficient of linear thermal expansion:</b> From ambient temperature to 100°C	ISO10545-8:2014	Test Method available	5.6 x 10 <sup>-6</sup> °C <sup>-1</sup>	---	
	<b>Thermal Shock Resistance</b>	ISO10545-9:2013	Test Method available	Fully Resistance	---	
	<b>Thermal Shock Resistance</b>	ISO10545-9:2013	Test Method available	Fully Resistance	---	
	<b>Crazing Resistance:</b> glazed tiles	ISO 10545-11:2001	Required	Fully Resistance	P	
	<b>Chemical Properties</b>					
	<b>Resistance to Chemicals</b>					
	Resistance to household chemicals and swimming pool salts					
	a) Household chemicals: Ammonium chloride, 100g/L	ISO10545-13:2016	Minimum GB	A	P	
	b) Swimming pool salts: Sodium hypochlorite solution 20mg/L	ISO10545-13:2016	Minimum GB	A	P	
	Resistance to low concentrations of acids and alkalis					
	a) Hydrochloric acid solution, 3% (v/v)	ISO10545-13:2016	Manufacturer to state classification	LA	---	
	b) Citric acid solution, 100g/L	ISO10545-13:2016	Manufacturer to state classification	LA	---	
	c) Potassium hydroxide, 30g/L	ISO10545-13:2016	Manufacturer to state classification	LA	---	
	Resistance to high concentrations of acids and alkalis					
	a) Hydrochloric acid solution, 18% (v/v)	ISO10545-13:2016	Test Method Available	HA	---	
	b) Lactic acid, 5% (v/v)	ISO10545-13:2016	Test Method Available	HA	---	
	c) Potassium hydroxide, 100g/L	ISO10545-13:2016	Test Method Available	HA	---	
	<b>Resistance to Staining</b>					
	a) Green staining agent in light oil	ISO10545-14:2015	Minimum Class 3	Class 5	P	
b) Red staining agent in light oil	ISO10545-14:2015	Minimum Class 3	Class 5	P		
c) Iodine, 13g/L solution in alcohol	ISO10545-14:2015	Minimum Class 3	Class 5	P		
d) Olive oil	ISO10545-14:2015	Minimum Class 3	Class 5	P		

DIN 51130:2014 Testing of floor coverings - Determination of the anti-slip property - Workrooms and fields of activities with slip anger, walking method - Ramp test		
Properties	Method	Results
<b>Slip Resistance (Ramp Test)</b>	DIN51130:2014	Mean overall acceptance angle:10.4° Slip Resistance assessment group: R10

EN15771:2010 Vitreous and porcelain enamels - Determination of surface scratch hardness according to the Mohs scale		
Properties	Method	Results
<b>Scratch hardness of surface according to Mohs</b>	EN15771:2010	7

AS4586-2013 Slip resistance classification of new pedestrian surface materials		
Properties	Method	Results
<b>Slip Resistance, Wet pendulum test method, Slider 96</b>	AS4586-2013 Appendix A	SRV: 39 Class: P3
<b>Slip resistance, oil-wet including platform test method</b>	AS4586:2013 Appendix D	Corrected mean overall acceptance angle:26° Classification: R11

**Important Notes:**

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