TEST REPORT

(Report No.) : 25201904597

Name of Sample	MVG1012, MVG1013, MVG1014, MVG1015, MVG1016, MVG1017, MVG1018, MVG1019, MVG1020, MVG1021, MVG1022, MVG1023	**Received Date**	21/10/2019
Customer Information		**Lab Environment**	
Applicant		**Shape of Sample**	120mm x 120mm x 8.0mm
Testing Category	See Below	**Quantity of Sample**	1 box/ 80pcs
Test Standard	**MS ISO 13006:2014** *Ceramic tiles - Definitions, classification, characteristics and marking*	**Reported Date**	

Results of Inspection

ISO 13006:2018 ***Ceramic tiles - Definitions, classification, characteristics and marking***

Clause	Properties	Test Method	Requirements		Results	Verdicts
Annex G Table G1	**Dimensions and surface quality**					
	Length The deviation of the average size for each tile from the work size	MS ISO 10545-2:2002	N≥15cm	±0.5%	-0.41% ~ -0.23%	P
				±2.0mm	-1.2mm ~ -0.7mm	P
	Width The deviation of the average size for each tile from the work size	MS ISO 10545-2:2002	7cm≤N≥15cm	±0.75mm	+0.1mm ~ +0.3mm	P
	Thickness The deviation of the average thickness of each tile from the work size thickness	MS ISO 10545-2:2002	N≥15cm	±10%	-1.1% ~ +0.5%	P
				±0.5mm	-0.1mm ~ 0	P
	Straightness of sides The maximum deviation from straightness related to the corresponding work sizes					
	Length	MS ISO 10545-2:2002	N≥15cm	±0.3%	+0.01% ~ +0.03%	P
				±1.5mm	0 ~ +0.1mm	P
	Width	MS ISO 10545-2:2002	7cm≤N≥15cm	±0.5mm	-0.1mm ~ +0.1mm	P
	Rectangularity The maximum deviation from Rectangularity related to the corresponding work sizes					
	Length	MS ISO 10545-2:2002	N≥15cm	±0.5%	+0.05% ~ +0.15%	P
				±2.0mm	+0.1mm ~ +0.5mm	P
	Width	MS ISO 10545-2:2002	7cm≤N≥15cm	±0.75mm	-0.2mm ~ 0	P
	Surface Flatness: The maximum deviation from flatness					
	a) centre curvature, related to diagonal calculated from the work size;	MS ISO 10545-2:2002	N≥15cm	+0.5% -0.3%	+0.07% ~ +0.12%	P
				+2.0mm -1.5mm	+0.2mm ~ + +0.4mm	P
	b) edge curvature, related to the corresponding work sizes;					
	Length	MS ISO 10545-2:2002	N≥15cm	+0.5% -0.3%	+0.11% ~ +0.18%	P
				+2.0mm -1.5mm	+0.3mm ~ +0.5mm	P
	Width	MS ISO 10545-2:2002	7cm≤N≥15cm	+0.75mm -0.5mm	+0.2mm ~ +0.4mm	P
	c) Warpage related to diagonal calculated from the work size	MS ISO 10545-2:2002	N≥15cm	±0.5%	+0.10% ~ +0.16%	P
				±2.0mm	+0.3mm ~ +0.5mm	P
	Surface Quality	MS ISO 10545-3:2001	A minimum of 95% of the tiles shall be free from visible defects inspected vertically at 1.0m.		100%	P
	Physical Properties					
	Water Absorption Percent mass fraction	MS ISO 10545-3:2001	E_b>10%		16.9%	P
			Individual Minimum 9%		16.7% ~ 17.3%	P
	Breaking Strength, in N	MS ISO 10545-4:2003	≥600		736	P
	Modulus of rupture, in N/mm² Not applicable to tiles with breaking strength ≥3000N	MS ISO 10545-4:2003	≥12		20.7	P
	Abrasion Resistance Resistance to surface abrasoin of glazed tiles intended for use on floors	MS ISO 10545-7:2001	Report abrasion class		Class 4	---
			Report cycles passed		2100	---

Important Notes:

The results in this report apply to the samples only.

ISO 13006:2018 *Ceramic tiles - Definitions, classification, characteristics and marking*					
Clause	**Properties**	**Test Method**	**Requirements**	**Results**	**Verdicts**
Annex G Table G1	**Crazing Resistance:** glazed tiles	MS ISO 10545-11:2001	Required	Fully Resistance	P
	Chemical Properties				
	Resistance to Chemicals				
	Resistance to household chemicals and swimming pool salts				
	a) Household chemicals: Ammonium chloride, 100g/L	MS ISO 10545-13:2018	Minimum GB	A	P
	b) Swimming pool salts: Sodium hypochlorite solution 20mg/L	MS ISO 10545-13:2018	Minimum GB	A	P
	Resistance to low concentrations of acids and alkalis				
	a) Hydrochloric acid solution, 3% (v/v)	MS ISO 10545-13:2018	Manufacturer to state classification	LA	---
	b) Citric acid solution, 100g/L	MS ISO 10545-13:2018	Manufacturer to state classification	LA	---
	c) Potassium hydroxide, 30g/L	MS ISO 10545-13:2018	Manufacturer to state classification	LA	---
	Resistance to high concentrations of acids and alkalis				
	a) Hydrochloric acid solution, 18% (v/v)	MS ISO 10545-13:2018	Test Method Available	HA	---
	b) Lactic acid, 5% (v/v)	MS ISO 10545-13:2018	Test Method Available	HA	---
	c) Potassium hydroxide, 100g/L	MS ISO 10545-13:2018	Test Method Available	HA	---
	Resistance to Staining				
	a) Green staining agent in light oil	MS ISO 10545-14:2018	Minimum Class 3	Class 5	P
	b) Red staining agent in light oil	MS ISO 10545-14:2018	Minimum Class 3	Class 5	P
	c) Iodine, 13g/L solution in alcohol	MS ISO 10545-14:2018	Minimum Class 3	Class 5	P
	d) Olive oil	MS ISO 10545-14:2018	Minimum Class 3	Class 5	P

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