

TEST REPORT
(Report No.) : 201001801432

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|-----------------------|---------------------|-----------------|-------------|
| Name of Sample | MVG1329, 1330, 1331 | Received Date | 2018/04/28 |
| Testing Category | See Below | Reported Date | 2018/05/07 |
| Test Standard | ISO 13006:2012 | Shape of Sample | 75x3000x7mm |
| Quantity of Sample | 30 | | |
| Results of Inspection | | | |

| Test Item | | Provisions of Standard | Test Results | Judgement | Test Method |
|--|------------------|--|---|-----------|-----------------|
| Length | | The deviation, in %, of the average size for each tile (2/4 sides) from the work size: $\pm 0.5\%$ ($\pm 2.0\text{mm}$) | -0.2%~+0.2% | Passed | ISO10545-2 1995 |
| Width | | The deviation, in %, of the average size for each tile (2/4 sides) from the work size: $\pm 0.75\text{mm}$ | +0.4mm~+0.7mm | Passed | |
| Thickness Deviation | | The deviation, in %, of the average thickness of each tile from the work size: $\pm 10\%$ ($\pm 0.5\text{mm}$) | -2.7%~+1.4% | Passed | |
| Straightness of sides | | The maximum deviation from straightness, in %, related to the corresponding work sizes: $\pm 0.3\%$ ($\pm 1.5\text{mm}$) | -0.1%~+0.1% | Passed | |
| Rectangularity | | The maximum deviation from Rectangularity, in %, related to the corresponding work sizes: $\pm 0.5\%$ ($\pm 2.0\text{mm}$) | -0.2%~+0.2% | Passed | |
| Surface Flatness | Centre Curvature | Centre curvature, related to diagonal calculated from the work size: -0.3%~+0.5% (-1.5mm~2.0mm) | -0.1%~+0.2% | Passed | |
| | Edge Curvature | Edge curvature, related to the corresponding work size: -0.3%~+0.5% (-1.5mm~2.0mm) | -0.2%~+0.3% | Passed | |
| | Warpage | Warpage, related to diagonal calculated from the work size: $\pm 0.5\%$ ($\pm 2.0\text{mm}$) | -0.1%~+0.3% | Passed | |
| Surface Quality | | A minimum of 95% of the tiles shall be free from visible defects that would impair the appearance of a major area of tiles. | Passed | Passed | |
| Water Absorption | | Average: $E > 10\%$ Individual minimum: 9% | Average: 16% Individual minimum: 17% | Passed | ISO10545-3 1995 |
| Breaking Strength | | Thickness < 7.5mm, $\geq 200\text{N}$ | 522N | Passed | ISO10545-4 2014 |
| Modulus of rupture | | Thickness < 7.5mm, $\geq 15\text{Mpa}$ | 19Mpa | Passed | |
| Impact Resistance | | Test Method Available | Average: 0.58 | --- | ISO10545-5 1996 |
| Resistance to surface abrasion of glazed tiles | | Report abrasion class & cycles passed | Class 3 at 750 revolutions | --- | ISO10545-7 1996 |
| Coefficient of linear thermal expansion | | Test Method Available | 6.6x10 ⁻⁶ /°C | --- | ISO10545-8 2014 |
| | | | 6.7x10 ⁻⁶ /°C | | |
| Thermal shock resistance | | Fully resistant | Fully Resistant | Passed | ISO10545-9 2004 |

Important Notes:
The results in this report apply to the samples only.

| Test Item | Provisions of Standard | Test Results | Judgement | Test Method |
|---|--------------------------------------|-----------------------|-----------|------------------|
| Moisture Expansion | Test Method Available | Average:0.01% | --- | ISO10545-10 1995 |
| Crazing Resistance | No craze on glazed surface | No Craze | Passed | ISO10545-11 1994 |
| Resistance to Frost | No crazing or peeling | No crazing or peeling | Passed | ISO10545-12 1995 |
| Resistance to low concentrations of acids and alkalis | Manufacturer to state classification | GLA | --- | ISO10545-13 1995 |
| Resistance to household chemicals and swimming pool salts | Minimum GB | GA | Passed | |
| Resistance to staining | Minimum Class 3 | Class 5 | Passed | ISO10545-14 1995 |

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