| TECHNICAL CHARACTERISTICS | |
|---|---|
| Series: Nobilis | Brand: Marazzi |
| Format (cm): 20x120 RT - 22.5x180 RT | Thickness (mm): 09 |

In compliance with EN 14411:2016 standards, annex G, group BIa - GL
In compliance with ISO 13006:2018 standards, annex G, group BIa - GL

| Technical Characteristics | Test Method | Unit of Measure | Typical Average Values | Expected Limit Values | | |
|---|---|---|---|---|---|---|
| **DIMENSIONAL PROPERTIES AND SURFACE QUALITY** | | | | | | |
| Dimensions | | | | Nominal length of side N (cm) 7 ≤ N < 15 | Nominal length of side N (cm) N ≥ 15 | |
| **Length and width** (*) | ISO 10545-2 | (mm) (%) | Compliant with standards | ±2% (max 5 mm) | ±2% (max 5 mm) | ±2% (max 5 mm) |
| **Length and width** (**) | | | | | | |
| Non-Rectified | | | Compliant with standards | ±0.9 mm | ±0.6% | ±2.0 mm |
| Rectified | | | | ±0.4 mm | ±0.3% | ±1.0 mm |
| **Thickness** | | | | | | |
| Non-Rectified | | | Compliant with standards | ±0.5 mm | ±5% | ±0.5 mm |
| Rectified | | | | ±0.5 mm | ±5% | ±0.5 mm |
| **Straightness of sides** | | | | | | |
| Non-Rectified | | | Compliant with standards | ±0.75 mm | ±0.5% | ±1.5 mm |
| Rectified | | | | ±0.4 mm | ±0.3% | ±0.8 mm |
| **Rectangularity** | | | | | | |
| Non-Rectified | | | Compliant with standards | ±0.75 mm | ±0.5% | ±2.0 mm |
| Rectified | | | | ±0.4 mm | ±0.3% | ±1.5 mm |
| **Flatness c.c - e.c. - w.** | | | | | | |
| Non-Rectified | | | Compliant with standards | ±0.75 mm | ±0.5% | ±2.0 mm |
| Rectified | | | | ±0.6 mm | ±0.4% | ±1.8 mm |
| **Surface quality** | | | Compliant with standards | ≥ 95% | | |

| Technical Characteristics | Standard Method | | Declared Average Value | Requirements |
|---|---|---|---|---|
| Nominal size | ASTM C499 | | Compliant | MIN – 3.00 % MAX 2.00 % |
| Caliber Range | ASTM C499 | | Compliant | MIN – 0.25% or –0.03 in (–0.8 mm)(1)<br>MAX 0.25% or 0.03 in (0.8 mm)(1) |
| Wedging | ASTM C502 | | Compliant | MIN – 0.25% or –0.03 in (–0.8 mm)(1)<br>MAX 0.25% or 0.03 in (0.8 mm)(1) |
| Edge warpage | ASTM C485 | | Compliant | MIN – 0.40% or – 0.05 in (– 1.3 mm)(3) or –1.8 mm(4)<br>MAX 0.40% or 0.05 in (1.3 mm)(3) or 1.8 mm(4) |
| Diagonal warpage | ASTM C485 | | Compliant | MIN – 0.40% or – 0.07 in (– 1.8 mm)(1)<br>MAX 0.40% or 0.07 in (1.8 mm)(1) |
| Thickness (2) | ASTM C499 | | Not affected | Range: 0.040 in (1.02 mm) |

Marazzi Group Srl a Socio Unico Viale Regina Pacis, 39 41049 Sassuolo (MO) Italy
T +39 0536 860800 F +39 0536 860644 info@marazzi.it www.marazzi.it

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| TECHNICAL CHARACTERISTICS | |
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| Series: Nobilis | Brand: Marazzi |
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| Technical Characteristics | Test Method | Unit of Measure | Typical Average Values | Expected Limit Values |
|---|---|---|---|---|
| **PHYSICAL PROPERTIES** | | | | |
| Water absorption | ISO 10545-3 | (%) | ≤ 0.5 | Eb ≤ 0.5 (max individual value 0.6%) |
| Color uniformity (8) | ASTM C609 and Section 9.3 | | Compliant | V0 – 3 Judds |
| Modulus of rupture | ISO 10545-4 | (N/mm²) | ≥ 35 | R ≥ 35 (min individual value 32 N/mm²) |
| Breaking strength | ISO 10545-4 | (N) | ≥ 1300 | ≥ 1300 (Thickness ≥ 7.5 mm) ≥ 700 (Thickness < 7.5 mm) |
| Surface abrasion resistance | Internal method | | Intended use - Class G | |
| Coefficient of linear thermal expansion | ISO 10545-8 | (x(10)-6/ °C) | ≤ 9 | Declared value (EN 14411:2016) Test method available (ISO 13006:2018) |
| Thermal shock resistance | ISO 10545-9 | | Compliant with standards | Complies per EN ISO 10545-1 (EN 14411:2016)**** Test method available (ISO 13006:2018) |
| Thermal shock (5) | ASTM C484 | | Pass | Pass |
| Crazing resistance | ISO 10545-11 | | Compliant with standards | Complies per EN ISO 10545-1 (EN 14411:2016) Required (ISO 13006:2018) |
| Frost resistance | ISO 10545-12 | | Compliant with standards | Complies per EN ISO 10545-1 (EN 14411:2016) Required (ISO 13006:2018) |
| Freeze resistance | ASTM C1026 | | No damage | Declared value |
| Reaction to fire | - | - | A1 FL / A1 | Class A1 or Class A1 FL (EN 14411:2016) |
| Color resistance to light exposure | DIN 51094 | | Compliant with standards | No sample shall show appreciable color alteration |
| Bond strength | ASTM C482 | | Compliant | ≥ 50 psi (0.34 MPa) |

(1) Whichever is less.
(2) May not apply to textured surfaces or tiles with irregular backs.
(3) Whichever is less, for tiles up to 24" (610 mm) on any side.
(4) Applies to tiles larger than 24" (610 mm) on any side.
(5) Glazed tiles only.
(6) When the installation is subject to freeze/thaw conditions.
(7) For level interior spaces expected to be walked on when wet (see Section 6.2.2.1.10).
(8) Class V0 tiles only.

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| Technical Characteristics | Test Method | Unit of Measure | Typical Average Values | Expected Limit Values |
|---|---|---|---|---|
| **CHEMICAL PROPERTIES** | | | | |
| Resistance to household chemicals and swimming-pool salts | ISO 10545-13 | | A | GB Minimum |
| Resistance to low-concentration acids and alkalis | ISO 10545-13 | | LA-LB | Declared value (EN 14411:2016)<br>Test method available (ISO 13006:2018) |
| Resistance to high-concentration acids and alkalis | ISO 10545-13 | | HA-HB | Declared value (EN 14411:2016)<br>Test method available (ISO 13006:2018) |
| Stain resistance | ISO 10545-14 | | Class 5 | Minimum class 3 (EN 14411:2016)<br>Minimum class 3 (ISO 13006:2018) |
| **SLIP-RESISTANCE PROPERTIES** | | | | |
| Slip resistance Ramp Method | DIN EN 16165 Annex B (ex DIN 51130); ASR A1.5 | | R9 | R9 to R13 |
| Slip resistance Ramp Method | DIN EN 16165 Annex A (ex DIN 51097) DGUV Information 207-006 | | B(A+B) | A to C |
| Slip resistance B.C.R. | D.M. N.236 14/6/89 | | μ > 0.40 | μ > 0.40 |
| Slip resistance Pendulum | UNE EN 16165 Annex C (ex UNE 41901:2017 EX - DB SUA) | | Class 1 | Class 0 to Class 3 |
| Mean dynamic coefficient of friction (DCOF) | ANSI 326:3:2021 | | ≥ 0.42 wet - IW | Interior Dry (ID) ≥ 0.42 dry,<br>Interior Wet (IW) ≥ 0.42 wet,<br>Interior Wet+ (IW+): Declared value,<br>Exterior Wet (EW): Declared value |

* The work size shall be chosen so that, for non-modular tiles, the difference between the work size and the nominal size is:

** Permissible deviation, in %, of the average size of each tile (2 or 4 sides) from the work size

**** See table 2 for applications where applicable

**c.c.** Maximum permissible deviation of the center curvature, in % or mm, relative to the diagonal calculated from the work size

**e.c.** Maximum permissible deviation of the edge curvature, in % or mm, relative to the corresponding work size

**w.** Maximum permissible deviation of warpage, in % or mm, relative to the diagonal calculated from the work size

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[PAGINA VOLUTAMENTE LASCIATA IN BIANCO]

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[PAGINA DEJADA EN BLANCO INTENCIONADAMENTE]

[CETTE PAGE A ÉTÉ LAISSÉE DÉLIBÉRÉMENT BLANCHE]

[SEITE WURDE ABSICHTLICH LEER GELASSEN]

Marazzi Group Srl a Socio Unico Viale Regina Pacis, 39 41049 Sassuolo (MO) Italy
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