**MARVEL GEMS**

**COLOURED BODY PORCELAIN TILES**

Compliant with EN 14411 (ISO 13006) Appendix G group Bis.

### Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Test Method</th>
<th>Requirements for nominal size N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Text Method</td>
<td>T cm N = 15 cm N = 15 cm</td>
</tr>
<tr>
<td></td>
<td>(mm) (mm)</td>
<td>No. rectified (mm) No. rectified (mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Matt rectified (mm)</td>
</tr>
</tbody>
</table>

**Size**

90x15 cm 47 1/4"x94 1/2"
9mm

**Sizes**

- Length and width
- Thickness
- Straightness of sides
- Rectangularity (Measurement only on short edges when L ≥ 12)
- Surface flatness

**Regularity characteristics**

- Deviazione massima ammissibile della curvatura dello spigolo, in % oppure mm, in rapporto alle dimensioni di fabbricazione (W).
- Deviazione ammissibile, in % oppure mm, dello spessore medio di ogni piastrella dallo spessore riportato nella dimensione di fabbricazione (W).
- Deviazione ammissibile, in % oppure mm, della dimensione media di ogni piastrella (2 oppure 4 lati) dalla dimensione di fabbricazione (W).

**Structural features**

- Water absorption level (in % by mass)
- Breaking strength
- Modulus of Rupture

**Bulk mechanical features**

- Bending Strength and Breaking Load
- Impact resistance, as coeff. cent of restitution
- Surface hardness

**Mohs hardness**

- EN 101
- MOHS 5
- MOHS 6

**Thermo-atomic features**

- Coefficient of linear thermal expansion (Coefficient of linear thermal expansion)
- Thermal shock resistance
- Moisture expansion (in mm/m)

**Physical properties**

- Bond strength/adhesion for improved cementous adhesives
- Reaction to fire
- Resistance to household chemicals and water/ing postcode salts
- Resistance to low concentrations of acids and alkalis
- Resistance to high concentrations of acids and alkalis
- Resistance to staining for glazed tiles

**Chemical features**

- Bond strength/adhesion (Bond strength/adhesion for improved cementous adhesives)
- Reaction to fire
- Resistance to household chemicals and water/ing postcode salts
- Minimum Class B
- Declared Class

**Safety characteristics**

- Pendulum Friction Test
- Dynamic coefficient of friction (DCOF)
- Coefficient of friction (COF)

**Coefficient of friction (COF)**

- Declared value
- Minimum Class B
- Class P3
- Class P5

**Dynamic coefficient of friction (DCOF)**

- ANA A 17.1

**Static values**

- BS 7976
- Pendulum Friction Test
- AN 4586

**Declared value**

- BS 7976: PTV: 36 classifies the surface as “low slip risk”
- Pendulum Friction Test: Declared Classification of the new porcelain surface materials according to the Pendulum Test
- AN 4586: Declared value

**Dynamic values**

- Dynamic coefficient of friction (DCOF)
- ANA A 17.1: Requires a minimum value of 0.42 for level indoor surface expected to be walked upon when wet.

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**Notes:**

1. Deviazione massima ammissibile della curvatura dello spigolo, in % oppure mm, in rapporto alle dimensioni di fabbricazione (W).
2. The minimum permissible deviation from warpage, in % or mm, related to diagonal calculated from the work sizes (W).
3. Determinazione della resistenza allo scivolamento delle superfici pedonabili (sciabilità delle superfici pedonabili (sciabilità)
4. Reaction to staining for glazed tiles (Reaction to staining for glazed tiles).
### Sizes

<table>
<thead>
<tr>
<th>Size</th>
<th>50x110 cm</th>
<th>40x80 cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>15 5/8&quot; x 43 1/4&quot;</td>
<td>15 3/4&quot; x 31 1/2&quot;</td>
</tr>
<tr>
<td>Thickness</td>
<td>± 0.75 (**)</td>
<td>± 0.5 (***)</td>
</tr>
<tr>
<td>Length</td>
<td>± 0.5 (**)</td>
<td>± 0.5 (**)</td>
</tr>
<tr>
<td>Depth</td>
<td>± 0.5 (**)</td>
<td>± 0.5 (**)</td>
</tr>
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</tr>
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<td>Length</td>
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<td>± 0.5 (**)</td>
</tr>
<tr>
<td>Depth</td>
<td>± 0.5 (**)</td>
<td>± 0.5 (**)</td>
</tr>
</tbody>
</table>

### Characteristics

- **Length and width**: ± 0.75 (**) ± 0.5 (***) ± 0.2 (***)
- **Thickness**: ± 0.10 (**) ± 0.03 (***)
- **Rectangularity**

### Requirements for nominal size N

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Test Method</th>
<th>MARVEL GEMS WALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>ISO 10545-2</td>
<td>± 0.3 ± 0.1mm</td>
</tr>
<tr>
<td>Length and width</td>
<td>ISO 10545-2</td>
<td>± 0.3 ± 0.1mm</td>
</tr>
<tr>
<td>Depth</td>
<td>ISO 10545-2</td>
<td>± 0.3 ± 0.1mm</td>
</tr>
</tbody>
</table>

### Regularity characteristics

- **Thickness**: ± 0.10 (**) ± 0.03 (***)
- **Rectangularity**
- **Surface flatness**
- **Surface roughness**

### Water absorption level (5% by mass)

- **Bond strength/adhesion for improved cementitious adhesives**
- **Resistance to household chemicals and swimming pool salts**
- **Resistance to low concentrations of acids and alkalis**
- **Resistance to high concentrations of acids and alkalis**

### Physical properties

- **Bond strength/adhesion for improved cementitious adhesives**
- **Reaction to fire**

### Chemical properties

- **Resist to staining for glazed tiles**
- **Resistance to slip and hight for glazed tiles**
- **Resistance to slip for semi-gloss and gloss tiles**
- **Resistance to slip for semi-gloss and gloss tiles**

### Compliant with standards

- **EN 14411:2012 annex L group BIII**
- **ISO 10545-1**
- **ISO 10545-2**
- **ISO 10545-3**
- **ISO 10545-4**
- **ISO 10545-5**
- **ISO 10545-6**
- **ISO 10545-7**
- **ISO 10545-8**
- **ISO 10545-9**
- **ISO 10545-10**
- **ISO 10545-11**
- **ISO 10545-12**
- **ISO 10545-13**
- **ISO 10545-14**
- **ISO 10545-15**

### Other properties

- **Modulus of Rupture**
- **Breaking strength**
- **Surface properties**
- **Coefficient of linear thermal expansion**
- **Water absorption level (in % by mass)**

### Other information

- **Compliant with standards EN 14411:2012 annex L group BIII**
- **Compliant with standards ISO 10545**
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### Additional notes

- **Compliant with standards ISO 10545**
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### References

- **ISO 10545-1**
- **ISO 10545-2**
- **ISO 10545-3**
- **ISO 10545-4**
- **ISO 10545-5**
- **ISO 10545-6**
- **ISO 10545-7**
- **ISO 10545-8**
- **ISO 10545-9**
- **ISO 10545-10**
- **ISO 10545-11**
- **ISO 10545-12**
- **ISO 10545-13**
- **ISO 10545-14**
- **ISO 10545-15**

### Web references

- [www.atlasconcorde.com](http://www.atlasconcorde.com)