TEST REPORT
CERAMIC TILES - DETERMINATION OF RESISTANCE TO STAINS
UNI EN ISO 10545-14: 2015

Test report n. 4509/2017 /I
Date of report: 12/11/2017
Customer: FLORIM CERAMICHE S.p.a.
Via Canaletto, 24
41042 FIORANO MODENASE (MO)
Requested on: 12/04/2017
Our ref. number: 21369
Execution place of tests: Scandiano (RE)
Description of the sample: "Ceramic tiles 60x120 cm marked: Serie Le Veneziane, articolo Santa Croce, superficie lucido, spessore 10 mm, marchio Cerim"
Sampling: carried out by the customer
Receipt date of samples: 12/05/2017
Execution date of tests: start: 12/06/2017 end: 12/07/2017
Test specification: UNI EN ISO 10545 - 14:2015 Determination of resistance to stains

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Principle: determination of the resistance to stains by maintaining test solutions and materials in contact with the proper surface of the tiles for a suitable length of time; the surfaces are then subjected to defined cleaning methods, and finally inspected for visual changes.

N. samples tested: 0

Test results:

<table>
<thead>
<tr>
<th>Staining agents</th>
<th>Sample 1 Class</th>
<th>Sample 2 Class</th>
<th>Sample 3 Class</th>
<th>Sample 4 Class</th>
<th>Sample 5 Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stains leaving a trace (pastes)</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Green staining agent in light oil</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Stains having chemical/oxidizing action</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Iodine, alcoholic solution 13 g/l</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Stains forming a film</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Olive oil</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Classification procedure of the test of resistance to stains:

- **Class 5:** Procedure A, stain removed with warm water (55 ± 5) °C, allowed to flow for 5 min
- **Class 4:** Procedure B, stain removed manually using a natural non-abrasive sponge and weak cleaning agent, (pH 6.5-7.5) (Ajax liquid)
- **Class 3:** Procedure C, stain removed mechanically for 2 min using a strong cleaning agent containing abrasive (pH 9-10) (Cif)
- **Class 2:** Procedure D, stain removed by immersing the sample in a suitable solvent for 24 hours.
- **Class 1:** Stain not removed

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