IMPERMAX QC

Fast curing liquid polyurethane waterproofing membrane

DESCRIPTION

One component liquid semi-thixotropic waterproofing composition, after polymerization gives an elastomeric, cold-applied polyurethane membrane. The membrane cures in a continuous and elastic form, as a totally adhered layer. This waterproofing layer guarantees total water tightness and withstands building movements. Its fast-curing rate allows its use as a base coat or reinforcing layer when the usual Impermax curing time makes the overall job to take undesirably long time to complete (e.g. low temperature applications).

APPLICATION

- Balconies, terraces, (showers), kitchens and difficult access spots.
- Flooring with light pedestrian traffic.
- Stairs, stadiums, stands.
- Water pipes and reservoirs

ADVANTAGES

Elastic and seamless coating, weather resistant and excellent bonding. No reinforcement usually required except at critical points.

CERTIFICATIONS

- ETA: European Technical Assessment document Nº 06/0263 – CE marking: 10 and 25 years.

TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

<table>
<thead>
<tr>
<th>Chemical description</th>
<th>Solvent borne single-component aromatic polyurethane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid-paste</td>
</tr>
<tr>
<td>Packaging</td>
<td>Metal container: 6 / 10 / 25 kg</td>
</tr>
<tr>
<td>Non-volatile content (%)</td>
<td>85%</td>
</tr>
<tr>
<td>Flash point</td>
<td>45ºC (ASTM D 93)</td>
</tr>
</tbody>
</table>

Available colours

Available colours listed in the current price list.

Densidad: 1.3 g/cm³ (20°C)

Viscocidad (Brookfield) Approximate values:

<table>
<thead>
<tr>
<th>Temp (ºC)</th>
<th>RPM</th>
<th>Viscosity (mPas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>100</td>
<td>10000</td>
</tr>
<tr>
<td>35</td>
<td>100</td>
<td>1500</td>
</tr>
</tbody>
</table>

VOC (g/L & %)

VOC content: 184 g/L

Product subclass: I Solvent based single-component performance products

Limit from 01/01/2010: 500 g/L

Pot Life: 4 - 6 hours (1 kg, 20°C, 50% hr)

Storage

Keep at a temperature below 30ºC, away from ignition sources and moisture

Product may be used up to 12 months after manufacture in its sealed original Container (Note: 9 months if white or black pigmented).

INFORMATION ON THE FINAL PRODUCT

Final appearance: Solid elastomeric membrane

Colour: According to the specific pigmentation

Hardness (shore): 65-70 A (ISO 868)

Density film: 1.3 g/cm³

Tear strength: 14 N/mm (ISO 34–1, Method B)

Water vapour permeability: 20 g/m² day

Abrasion: 14,3 mg (Taber, 1000 cycles, CS–10, UNE 48250)

Mechanical properties:

- Maximum elongation: 617%
- Tensile stress: 4.1 MPa

Elongation (%) stress (mPa)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>2.0</td>
</tr>
<tr>
<td>200</td>
<td>2.8</td>
</tr>
<tr>
<td>300</td>
<td>3.0</td>
</tr>
<tr>
<td>400</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Chemical resistance

Permanent contact

- Chemical Conditions Result
- Water 24 h, 25ºC 5
- Salt water 24 h, 90ºC 5
- Hydrochloric acid solutions
  - 200 g/l, 24 h, 25ºC 4
  - 200 g/l, 2 h, 80ºC 4
  - 3 g/l, 24 h, 25ºC 5
  - 3 g/l, 24 h, 80ºC 4
- Sodium hydroxide 40g/l, 24 h, 25ºC 5
- Ammonia 3% 24 h, 25ºC 5
- Acetone 24 h, 25ºC 1
- Ethyl acetate 24 h, 25ºC 3
- Xylene 24 h, 25ºC 5
- Motor oil 24 h, 25ºC 5
- Brake fluid 24 h, 25ºC 2

Adhesion

- Surface Force (mPa)
  - Concrete 2.0
  - Ceramics 2.6
  - Polyurethane foam 1.4

UV resistance

Products includes anti UV additives. A colour change is expected due to its aromatic polyurethane composition. This discoloration does not affect its properties.

Thermal resistance

Stable up to 120ºC

Fire resistance

B roof+11 (External fire exposure test).

SUPPORT REQUIREMENTS

In order to achieve a good penetration and bonding, support must be:

1. Flat and leveled (Impermax is self-leveling)
2. Compact and cohesive (pull off test must show a minimum resistance of 1.4 N/mm²).
3. Even and regular surface
4. Free from cracks and fissures. If any, they must be previously repaired.
5. Clean and dry, free of dust, loose particles, oils, organic residues or laitance.
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RECOMMENDED ENVIRONMENTAL CONDITIONS
Support temperature should be between 0°C and 30°C. At higher temperatures, specific precautionary measures must be taken. Please follow manufacturer advice.
Air temperature must be between 0°C and 30°C.
High temperature and moisture conditions can reduce the pot life and lead to bubble formation under the membrane surface, and a deficient appearance.

MIXING AND APPLICATION GUIDELINES
Stir and homogenise the product before use. Some of the contents settle during storage and must be redispersed. Allow some minutes to release air bubbles.
Stirring should be done at low speed, avoiding mechanical means to prevent bubbles developing on the surface.
Apply by roller, brush, spreader or airless equipment. It is useful to apply in 2 differently coloured coats, at 1.5-2 kg/m² each. It is strongly recommended to use entirely the product of the container. Non used product even kept in a container, may develop a thick cured skin on the surface.

CURING TIME
Curing time is dependent on the environmental conditions. Curing rate increases with temperature and humidity rises. The following table gives a rough estimation of the curing time under diverse conditions for a 1 mm coat.

<table>
<thead>
<tr>
<th>Temperature(°C)</th>
<th>RH (%)</th>
<th>Dry to touch (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>50</td>
<td>4</td>
</tr>
<tr>
<td>27</td>
<td>60</td>
<td>1</td>
</tr>
</tbody>
</table>

RETURN TO SERVICE
At usual conditions (25°C, 50%) the membrane achieves up to 90% of its final properties in 3 to 4 days. Final hardness is not achieved until 10 or 15 days. It is preferable to wait this time before permanent contact with water is allowed.
Resubmission is possible as soon as the curing state of the first coat allows walking and working on it, and it should be done before 48 hours.

TOOL CLEANING
Liquid Impermax QC can be cleaned with Rayston Solvent, acetone and alcohols. Once hardened, it cannot be dissolved. It is recommended to clean equipment as soon as possible.

FAQ

<table>
<thead>
<tr>
<th>Problem</th>
<th>Question</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not cure</td>
<td>Suitable solvent?</td>
<td>Some thinning solvents are not suitable</td>
<td>Apply a second coat using only Rayston Solvent as a diluant</td>
</tr>
<tr>
<td></td>
<td>Too diluted</td>
<td>An excess of solvent slows the curing rate</td>
<td>Use less diluted product</td>
</tr>
<tr>
<td></td>
<td>Temperature is too low?</td>
<td>Use of Superaccelerant is possible</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High viscosity</td>
<td>Normal evolution in storage. Can be adjusted using Rayston solvent</td>
<td></td>
</tr>
</tbody>
</table>

SAFETY
Impermax QC contains isocyanates and flammable solvents. Always follow the instructions provided in the material safety data sheet and take the precaution described there. As a general rule, suitable ventilation must be ensured and all ignition sources must be avoided. This product is intended to be used only for the uses and in the way here described. This product is to be used only by industrial or professional users. It is not suitable for DIY-type uses.

ENVIRONMENTAL PRECAUTIONS
Empty containers must be handled taking the same precautions as if they were full. Containers must be considered as hazardous waste, to be transferred to an authorized waste manager. If there is some residual product in the containers, do not mix it with other substances without checking for possible dangerous reactions.

OTHER INFORMATION
The information contained in this DATA SHEET, as well as our advice, both written as verbal or provided through testing, are based on our experience, and they do not constitute any product guarantee for the installer, who must consider them as simple information.
We recommend to study deeply all information provided before proceeding to the use or application of any of our products, and strongly advise to conduct tests "on-site" in order to determine their convenience for a specific project.
Our recommendations do not exempt of the obligation of installers to deeply study the right application method for these systems before use, as well as to conduct as many preliminary tests as possible should any doubt arise. The application, use and processing of our products are beyond our control, and therefore under the exclusive responsibility of the installer. In consequence, the installer will be the only responsible of any damage derived from the partial or total in-observation of our indications, and in general, of the inappropriate use or application of these materials.
This Data Sheet supersedes previous versions.

KRYPTON CHEMICAL SL
C/ Martí i Franquès, 12 - Pol. Ind. les Tàpies
43890 l’Hospitalet de l’Infant - Spain
Tel: +34 917 822 245 - Fax: +34 917 823 977
www.kryptonchemical.com – rayston@kryptonchemical.com

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