Where to Use

Idrostop Tuboflex is suitable for sealing horizontal and vertical construction joints in cast in-situ concrete for civil, industrial and hydraulic constructions.

Some application examples

- Water tanks, swimming pools, sewage-treatment tanks, reservoirs, dams and other hydraulic projects.
- Underground structures such as tunnels, metro stations, basements.
- Joints in suspended slabs and roof slabs.
- Joints for new to old concrete.
- Construction joints where conventional waterstops cannot be installed easily and securely because of complicated substrates such as sheet piling, diaphragm walls and contiguous pile walls.

Technical Characteristics

Idrostop Tuboflex is an injection hose system for transporting grouting materials to fill voids and cavities in concrete structures. The injection hose is made of high-grade PVC material which has micro-pores equally spaced along the tube’s length and circumference. These micro-pores act as valves, allowing only one-way discharge of grouting material to fill empty spaces around the hose in the joint, but does not allow return flow back into the hose. This feature makes the hose re-injectable, thus allowing future maintenance to ensure watertight joints.

Idrostop Tuboflex is fast and easy to install due to the simple connection method for its component parts. The optimised inner hose dimensions reduce consumption of grouting material and speed up the injection process.

Idrostop Tuboflex can be used with various grouting materials such as Mapegel 50 TF acrylic gel, micro-fine cements and polyurethane resins. It is re-injectable only when acrylic gel or micro-fine cement is used.

Idrostop Tuboflex is safe for use due to its low-pressure grouting process at 2-3 bars.

Idrostop Tuboflex can be grouted at 10 m to 12 m intervals between injection points. Long-length injections of up to 30 m can be achieved with special processes and the use of correct equipment.

Idrostop Tuboflex is imprinted with numerical markings every metre along the hose, making it easy to determine its length for installation and cutting purposes.

Recommendations

- Do not use Idrostop Tuboflex at movement or expansion joints.
- Do not use polyurethane resins if future re-injections are required.
- The concrete must be at least 4 weeks’ old before injections can be carried out.
APPLICATION PROCEDURE

Preparation of the substrate

The surface of the concrete must be sound, clean and free of dirt, oils and contaminants. Remove cement laitance and any deposits that may have been left during concrete pouring.

Installation of the product

Place Idrostop Tuboflex centrally on the width of the concrete section. Allow a minimum cover of 100 mm if the condition of the structure does not permit the hose to be placed centrally.

Lay Idrostop Tuboflex hose in continuous contact against the concrete surface by fixing it down with Tubo Clamps at 150 mm intervals. Gaps between the hose and the concrete surface may create voids for water ingress. Thus, if the concrete surface is undulating or uneven, install more Tubo Clamps at closer spacings.

For optimum injection operations, the recommended intervals between injection points is 10 m to 12 m.

Allow 150 mm overlaps of the hoses where they meet at injection point locations, with the two hoses running parallel 30 mm apart.

Installations with distances between injection points longer than the recommended intervals are possible. Please consult Mapei Technical Personnel for advice on injection points, injection materials and pumps to be used.

Injection Procedure

i) Firstly, check the continuity and injectability of the hose by flushing it with air or water (at low pressure, 0.5 bar to 1.0 bar).

ii) Inject grouting material into the injection socket until it flows out freely from the discharge point without air pockets. Close the injection nipple.

iii) Monitor the 2-component pump pressure gauge to assess the flow and volume of the grouting material.

iv) Continue injecting the grouting material until the pressure stabilizes, signalling that the grouting material has filled all accessible voids and cavities in the concrete. Stop the injection process at this point.

v) For future re-injections, it is necessary that the grouting material left in the injection hose must be flushed out prior to the material curing with the use of a pressure water pump.

Make sure the injection points are located in positions which allow permanent access. Mark and record their positions to facilitate future maintenance.

In situations, where the hose length between the last clamping position on the substrate and the injection point is longer than one metre, use the Tuboflex RPVC 12 hose (which has no micro-pores) to make the connection. This helps maintain injection pressure in the hose. Tie the Tuboflex RPVC 12 hose securely to reinforcement steel at close intervals, and especially at all turnings.

For concrete sections 800 mm thick or more, it is recommended to install two lines of Idrostop Tuboflex along the joint, placed one-quarter of the way in from each side of the concrete face.

PACKAGING

The Idrostop Tuboflex system comprises:

a) Idrostop Tuboflex hose, with lengths marked at 1 m intervals, 120 m roll.

b) Tuboflex RPVC 12 hose, reinforced PVC hose (no micro-pores), 50 m roll.

c) Tubo Clamp, hose clamps, 100 pieces per box.

d) Clamp Plug, for fixing clamps to the substrate, 100 pieces per box.

e) Tubo Coupler, for hose connections, 100 pieces per bag.

f) Tuboflex D Injection Socket, dual injection socket (can split into two single injection points), per piece.

g) Tuboflex DS Injection Socket, dual injection socket with spacer, per piece.
### TECHNICAL DATA (typical values)

<table>
<thead>
<tr>
<th>PRODUCT IDENTIFY</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material:</strong></td>
<td>high-grade PVC</td>
</tr>
<tr>
<td><strong>Form (Idrostop Tuboflex hose):</strong></td>
<td>pre-formed hose with micro-pores and inner square section</td>
</tr>
<tr>
<td><strong>Color:</strong></td>
<td>light blue</td>
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<tr>
<td><strong>Hose outer diameter (mm):</strong></td>
<td>13</td>
</tr>
<tr>
<td><strong>Hose inner section (mm):</strong></td>
<td>6 x 6</td>
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<tr>
<td><strong>Length markings:</strong></td>
<td>at 1 m intervals</td>
</tr>
<tr>
<td><strong>Micro-pore dimensions and locations:</strong></td>
<td></td>
</tr>
<tr>
<td>- Length (mm):</td>
<td>approx. 3</td>
</tr>
<tr>
<td>- Spacing along hose (mm):</td>
<td>approx. 10</td>
</tr>
<tr>
<td>- Spacing around circumference:</td>
<td>4 nos., equally spaced</td>
</tr>
</tbody>
</table>

#### STORAGE
Store **Idrostop Tuboflex** in a dry place at temperatures between +10°C and +40°C. Protect from mechanical damage.

#### SAFETY INSTRUCTION FOR PREPARATION AND APPLICATION
**Idrostop Tuboflex** is an article that does not require a Material Safety Data Sheet. When using this product we recommend wearing gloves and safety goggles, and to adhere to the safety guidelines for the area in which work is carried out.

**PRODUCT FOR PROFESSIONAL USE.**

**WARNING**
Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

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**All relevant references for the product are available upon request and from www.mapei.com**