CONSTRUCTION

CarboStop U

WATER-REACTIVE SINGLE-COMPONENT RESIN

Approval according to the German ZTV-RISS regulations as a pre-seal for sealing of concrete structures

DESCRIPTION

CarboStop U is a water-reactive single-component resin with integral catalyst. CarboStop U is free of CFC and phthalate plasticisers. CarboStop U consists of modified polyisocyanates with additives.

CarboStop U cures by reaction with ambient water yielding a polyurethane/polyurea foam. The expansion rate of the foam depends in the first place on the backpressure effected by the propagation of the resin into the structure to be sealed, i.e. wide cracks/gravel result in a high foaming factor, narrow cracks/sand in a low expansion rate and high strength.

APPLICATION AND USE

CarboStop U stops water inflows and provides a temporary seal, which often is satisfactory for the sealing of excavation sites during the construction work. CarboStop U also is used as a pre-seal for sealing work according to German ZTV-ING (Sealing and extendable joining of cracks in reinforced concrete). Following the injection of CarboStop U, CarboCrackSeal H is injected into the not fully cured foam.

- Stopping of water inflow (also salt water)
- Stopping of water ingress, also seawater, in cracks
- Seals in tunnel construction
- Consolidation of gravelly sand
- Sealing of drill holes

Application at ambient temperatures of between 0 °C and 40 °C.

ADVANTAGES

- Free of CFC and phthalate plasticisers
- Ready for use without mixing
- Works with high pressure water
- Grouts fine to grained sands
- Insignificant disturbance of the groundwater quality (tested for groundwater compatibility according to the official guidelines of the German Institute for Construction Technology (DIBt))
TECHNICAL DATA

The data below are laboratory data. They may vary in practice due to thermal exchange between the resin and strata, surface properties of the stone, humidity, pressure, and other factors.

MATERIAL DATA

<table>
<thead>
<tr>
<th>Parameter</th>
<th>CarboStop U</th>
<th>Unit</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density at 25 °C</td>
<td>1100 - 1140</td>
<td>kg/m³</td>
<td>DIN 12791-1</td>
</tr>
<tr>
<td>Colour</td>
<td>brown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 100</td>
<td>°C</td>
<td>DIN 53213</td>
</tr>
<tr>
<td>Viscosity at 5 °C</td>
<td>2500 - 6000</td>
<td>mPa*s</td>
<td>ISO 3219</td>
</tr>
<tr>
<td>Viscosity at 10 °C</td>
<td>1900 - 4500</td>
<td>mPa*s</td>
<td>ISO 3219</td>
</tr>
<tr>
<td>Viscosity at 15 °C</td>
<td>1100 - 2500</td>
<td>mPa*s</td>
<td>ISO 3219</td>
</tr>
<tr>
<td>Viscosity at 25 °C</td>
<td>270 - 1000</td>
<td>mPa*s</td>
<td>ISO 3219</td>
</tr>
</tbody>
</table>

REACTION DATA

<table>
<thead>
<tr>
<th>Initial Temperature</th>
<th>5 °C</th>
<th>10 °C</th>
<th>15 °C</th>
<th>20 °C</th>
<th>25 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start of Foaming</td>
<td>27 s</td>
<td>26 s</td>
<td>24 s</td>
<td>22 s</td>
<td>20 s</td>
</tr>
<tr>
<td>End of Foaming</td>
<td>4 min</td>
<td>3 min</td>
<td>2 min</td>
<td>2 min</td>
<td>2 min</td>
</tr>
<tr>
<td>Foam Factor (free rise)</td>
<td>30-60</td>
<td>30-60</td>
<td>30-60</td>
<td>30-60</td>
<td>30-60</td>
</tr>
</tbody>
</table>

SAFETY INSTRUCTIONS AND LIMITATIONS

Observe the usual precautionary measures for handling chemicals, see MSDS of CarboStop U.

PACKAGING AND TRANSPORTATION

All forms of packing are approved to the danger goods regulation road, railway, domestic shipping.

CarboStop U can be delivered in 20/26/200/1000 l units.

Other packing units available on request. Details are shown in the offer.

STORAGE AND SHELF LIFE

At least six months from date of delivery when stored in a dry place between 10 °C and 30 °C. During this time, the viscosity may increase for about 100%; this does not affect the operability of the product. When this time is exceeded, we recommend having the material checked by Minova for compliance with specification and usability.

The local legislation on storage has to be observed.
TECHNICAL DATA SHEET

DISPOSAL
Follow local regulations.

APPROVALS AND CERTIFICATES
1. Hygiene assessment with respect to ground water risks (Hygiene-Institut, Gelsenkirchen, 2006)
2. Report on basic trial of one- and two-component grouting process with filling grouts CarboCrackSeal H/ CarboStop U according to ZTV RISS (Institut für Massivbau Essen, 2003)
4. Registration number KR07-887 (Product register, Sweden 2008)
5. Certificate according to KTW-guidelines (LADR GmbH, 2010)

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ADDITIONAL DOCUMENTATION
• Operating instructions on proper use of Minova injection resins
• MSDS CarboStop U

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