




KÖSTER IN 4

Technical Data Sheet IN 240

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Flexible, very low viscosity 2 component polyurethane injection resin

	KÖSTER BAUCHEMIE AG Dieselstraße 1-10, 26607 Aurich 15 IN 240 EN 1504-5:2005 Concrete Injection for the elastic filling of cracks, voids, and defects U(D1)-W(1)-(1/3)-(1/2/3)-(8/30)
Adhesion capacity	> 1 N/mm ²
Elongation capacity	> 10 %
Water tightness	1 x 10 ⁵ Pa
Glass transition temperature	NPD
Injectability into dry medium	< 0,1 mm
Injectability into non-dry medium	< 0,1 mm
Injectability into wet medium	< 0,1 mm
Durability (Compatibility with concrete)	No failure during compressive tests; loss of deformation capability < 20 %
Corrosion behaviour	deemed to have no corrosive effect
Dangerous substances	NPD

Features

KÖSTER IN 4 is a solvent free, flexible, extremely low viscosity polyurethane for elastically sealing very fine cracks and construction joints in building structures. Due to its low viscosity and long pot life it is especially suitable for injection via injection hoses.

KÖSTER IN 4 acts passively when coming into contact with steel or iron, so that corrosion protection is achieved.

Advantages

- Extremely low viscosity for deeper penetration and injection of very fine cracks
- Long pot life for hose injection
- Elastic solid body resin with high elongation capacity
- Protects reinforcement from corrosion

Technical Data

Mixing ratio Component A : B

- by volume	1 : 1
Viscosity (+ 8 °C)	approx. 110 mPa·s
Viscosity (+ 21 °C)	approx. 50 mPa·s
Viscosity (+ 30 °C)	approx. 30 mPa·s
Modulus of Elasticity (+ 20 °C)	approx. 3.3 MPa
Tensile strength in crack (0.5 mm)	approx. 0.8 MPa
Tensile Strength (+ 20 °C)	approx. 0.9 MPa
Elongation at highest tensile force	approx. 35 %
Glass transition temperature	approx. - 12 °C
Pot life (1 l, + 20 °C)	approx. 180 min.
Application temperature	+ 5 °C to + 35 °C

Fields of Application

For waterproofing fine cracks, construction joints and for hose injection. For solidifying porous building structures.

Application

The A and the B components are best mixed at + 20 °C in the above stated mixing ratio using a slowly rotating electrical mixer preferably equipped with a KÖSTER Resin Stirrer. The material must be mixed until it is streak free and homogeneous in consistency.

Crack injection

Flowing water must first be stopped with KÖSTER IN 1. The layout of the injection packers depends on the crack geometry. Holes should be drilled on alternating sides of the crack with a spacing of 10 – 20 cm, depending on the thickness of the substrate. Drill the holes towards the crack at a 45° angle. Vertical cracks are injected from bottom to top. The injection is carried out using customary low pressure injection systems via suitable injection ports such as KÖSTER Superpackers. The injection can be carried out using a single component injection pump such as the KÖSTER 1C Injection Pump. Make sure no moisture enters the pump during work.

When injecting moist cracks the material is injected until streak free material exits the substrate. Subsequent injections with KÖSTER IN 4 can only be carried out within the pot life of the material. After removing the packers, the holes can be filled with KÖSTER KB-Fix 5.

Hose injection

The injection hoses are installed centrally within the wall in sections of approx. 10 to 15 m. The minimum concrete cover must be 8 to 10 cm. The injection hoses must be in continuous contact with the concrete substrate. The sealing caps of the holder boxes must be flush with the surface of the formwork and remain accessible. Injection should not take place until the concrete is 28 days old.

The injection is carried out using customary low pressure injection systems via suited injection ports. The injection is carried out using a single component injection pump such as the KÖSTER 1C Injection Pump. Make sure no moisture is allowed to enter the pump during work.

The injection hose is filled until the material comes out of the other end of the hose. Then that end of the hose is sealed off and further material is injected until the pressure shown on the manometer of the injection pump remains constant. Subsequent injections with KÖSTER IN 4 can only be carried out within the pot life of the material. Consult with the technical department for more detailed instructions.

Consumption

Approx. 1.1 kg/l void

Cleaning

Immediately after use with KÖSTER PUR Cleaner.

The information contained in this technical data sheet is based on the results of our research and on our practical experience in the field. All given test data are average values which have been obtained under defined conditions. The proper and thereby effective and successful application of our products is not subject to our control. The installer is responsible for the correct application under consideration of the specific conditions of the construction site and for the final results of the construction process. This may require adjustments to the recommendations given here for standard cases. Specifications made by our employees or representatives which exceed the specifications contained in this technical guideline require written confirmation. The valid standards for testing and installation, technical guidelines, and acknowledged rules of technology have to be adhered to at all times. The warranty can and is therefore only applied to the quality of our products within the scope of our terms and conditions, not however, for their effective and successful application. This guideline has been technically revised; all previous versions are invalid.

Packaging

IN 240 010

10 kg combipackage

Storage

Store the material at temperatures between + 10 °C and + 30 °C. In originally sealed packages it can be stored for 12 months.

Safety

Wear protective gloves and goggles when processing the material.

When carrying out injection work, make sure to protect the surrounding area from injection resin that may be discharged from the wall, packers, boreholes, etc. Do not stand directly behind the packers during injection.

Other

-Due to water displacements, reinjections may be necessary to address localized areas.

- KÖSTER IN 4 is not suitable for wide moving joints with considerably high dynamic movements.

The containers must be closed immediately after partial removal. Do not mix up the caps.

Related products

KÖSTER IN 1	Prod. code IN 110
KÖSTER IN 7	Prod. code IN 270
KÖSTER PUR Cleaner	Prod. code IN 900 010
KÖSTER Impact Packer 12 mm x 70 mm	Prod. code IN 903 001
KÖSTER Superpacker 13 mm x 115 mm	Prod. code IN 915 001
CH	
KÖSTER One-Day-Site Packer 13 mm x 120 mm PH	Prod. code IN 922 001
KÖSTER 1C Injection Pump	Prod. code IN 929 001
KÖSTER Hand Pump without manometer	Prod. code IN 953 001
KÖSTER Hand Pump with manometer	Prod. code IN 953 002

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