

CONSTRUCTION/ENERGY

CFT Harz

THREE COMPONENT INJECTION RESIN

DESCRIPTION

Instantly setting three component injection resin, CFC and halogen-free. CFT Resin, component A is a mixture of various polyols and additives. CFT Resin, component B is a polyisocyanate. CFT-Resin, component C is an accelerator.

The mixed resin penetrates the structure which has to be sealed. The majority of any water in there is displaced due to the hydrophobic nature and the viscosity of the resin. Traces of water make the resin foam.

APPLICATION AND USE

This resin is designed for sealing and consolidation in water-bearing strata.

- Sealing of accessible sewers
- Sealing against strong water ingress (including seawater)
- Sealing against static water pressure e. g. from strata, dams or shaft walls
- Stabilisation and sealing work in tunnels
- Repair of old shafts and tunnels
- Consolidation in wet and water-bearing strata
- Many other special applications

Applicable at temperatures between -25 °C and 30 °C, recommended for sealing water at temperatures below 15 °C.

ADVANTAGES

- Part of the Minova CT sealing philosophy, to be combined with CarboPur WF and WT
- Very fast setting
- Immediate sealing effect
- Stabilising effect
- Compatible with groundwater

TECHNICAL DATA

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

MATERIAL DATA

Parameter	Unit	Comp. A	Comp. B	Comp. C	Standard
Density at 25° C	kg/m ³	1010 ± 30	1230 ± 30	1230 ± 30	DIN 12791-1
Colour	-	honey	dark brown	colourless	-
Flash point	°C	> 150	> 150	> 100	DIN 53213
Viscosity at 25° C	mPa*s	200 ± 50	200 ± 50	60 ± 10	ISO 3219
Viscosity at 15° C	mPa*s	430 ± 100	550 ± 100	-	ISO 3219
Viscosity at 10° C	mPa*s	640 ± 150	920 ± 150	-	ISO 3219

REACTION DATA FOR MIXING RATIO 100 p.p.v. A : 1.5 p.p.v. C

Mixing Ratio: 100 p.p.v. A : 1.5 p.p.v. C=A/C 100 p.p.v. A/C : 100 p.p.v. B	Without contact to water		With contact to water (1 % relative to mix)		Test Procedure
	10 °C	15 °C	10 °C	15 °C	
Starting temperature	10 °C	15 °C	10 °C	15 °C	-
Start of foaming	-	-	32 s ± 5 s	25 s ± 5 s	MCT PV 10-301
End of foaming/ Setting time	31 s ± 5 s	24 s ± 5 s	45 s ± 10 s	37 s ± 10 s	MCT PV 10-301
Foaming factor	1	1	3 – 12	3 – 12	MCT PV 10-301

REACTION DATA FOR MIXING RATIO 100 p.p.v. A : 3 p.p.v. C

Mixing Ratio: 100 p.p.v. A : 3.0 p.p.v. C = A/C 100 p.p.v. A/C : 100 p.p.v. B	Without contact to water		With contact to water (1 % relative to mix)		Test Procedure
	10 °C	15 °C	10 °C	15 °C	
Starting temperature	10 °C	15 °C	10 °C	15 °C	
Start of foaming	-	-	27 s ± 5 s	18 s ± 5 s	MCT PV 10- 301
End of foaming/ Setting time	22 s ± 5 s	17 s ± 5 s	37 s ± 10 s	25 s ± 10 s	MCT PV 10- 301
Foaming factor	1	1	3 – 12	3 – 12	MCT PV 10- 301

MECHANICAL DATA

Mixing Ratio: 100 p.p.v. A : 3.0 p.p.v. C = A/C 100 p.p.v. A/C : 100 p.p.v. B	Without contact to water	Test procedure
Adhesive Strength at 30 °C after 30 min	7.2 N/mm ²	DMT-method
Shore hardness	D80 ± 3	ISO 7619-1

APPLICATION METHOD

1. Premix

By the addition of component C, the system can be adjusted to suit the local requirements for

temperature and curing time. As a standard, we recommend a dosage of:

3 p.p.v. comp. C : 100 p.p.v. comp. A

The C component is mixed into the A component in appropriate amounts.

2. Injection:

The premixed components A /C and the component B are mixed in a volume ratio of 1:1 via a two-component pump. Before entering a previously drilled borehole the components are mixed by a static mixer. The grout is then injected through a wellbore (packer) behind the shaft or channel wall.

In contact with water, the resin foams. Imposing water is displaced by the resulting foam and the subsequent reaction mixture. This is no longer foaming, since it no longer finds water and hardens to a non-porous material. In this way, a watertight veil is achieved in one operation.

3. Final Product:

Depending on its contact with water, the resin will foam to a greater or lesser extent. Thus, the mechanical properties will vary. The cured resin is resistant against many acids, alkali and salt brines as well as organic solvents (if in doubt consult Minova).

Professional processing provided, there are no objections against the use of CFT Resin in respect of groundwater.

After one-year storage in air and under water, sulphuric acid and sodium hydroxide solution, compressive strength and modulus are slightly increased: there is no swelling nor shrinking.

SAFETY INSTRUCTIONS AND LIMITATIONS

Observe the usual precautionary measures when handling chemicals, see material safety data sheets.

It needs to be assured that the product temperature is between 15°-30°C before processing. When the material is warmed up, local overheating, e. g. at the container wall, must be avoided.

If the product is strong cooled down (<0°C) or at short notice lower temperatures (< -10°C), it

should be warmed up before application to the recommended processing temperature.

PACKAGING AND TRANSPORTATION

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

The components can be delivered in 18/26/200/1000 l units.

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

STORAGE AND SHELF LIFE

At least 6 months from date of delivery respectively 18 months after production when stored in a dry place between 10°C and 30°C. When this time is exceeded, we recommend having the material checked by Minova for compliance with specification.

The local legislation on storage has to be observed.

DISPOSAL

Follow local regulations.

APPROVALS AND CERTIFICATES

1. **DIBt:** German approval Z-42.3-482 (DIBt, 2019)

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ADDITIONAL DOCUMENTATION

- MSDS of CFT Harz component A
- MSDS of CFT Harz component B
- MSDS of CFT Harz component C

CUSTOMER SERVICE

For additional support options available at your area, contact our local offices.

www.minovaglobal.com/emea-cis