

CONSTRUCTION

GEOFLEX HS

DUAL-COMPONENT SILICATE RESIN

DESCRIPTION

GEOFLEX HS is a non-expanding, elastified dual-component silicate resin with high bond strength.

GEOFLEX HS Component A is a special sodium silicate with additives. GEOFLEX HS Component B is a modified polyisocyanate.

The curing of Component A results in a silicate; simultaneously a solid polyisocyanurate/polyurea is formed from Component B.

The mixture of these two Components creates a tough, elastic, solid silicate resin (organic-mineral resin).

APPLICATION AND USE

Adhesive class: instantaneous

For application in cracks of more than 0.24 mm width.

Suitable for:

- Solidification and stabilization of the face-to-track transition
- Grouting of injection bolts
- Renovation of old drifts
- and other applications



ADVANTAGES

- Final strength after 15 minutes
- High bond strength (> 5 N/mm²)
- Non-foaming
- Elastic
- Achieves final strength much faster than other resins, even when applied in thin layers
- Just a few minutes after application, it already exceeds a bond strength of 1 N/mm² and is therefore classified as “immediately load bearing”
- Cured GEOFLEX HS is resistant against acids, alkali, salt solutions and many solvents.

TECHNICAL DATA

The technical data below is as recorded under laboratory conditions. In practice variations may be observed 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	Standard
Density at 25 °C	kg/m ³	1460 ± 20	1130 ± 20	DIN 12 791-1
Colour	-	slightly brown	black brown	-
Flash point	°C	-	> 100	DIN 53 213
Viscosity at 25 °C	mPa*s	260 ± 40	130 ± 30	ISO 3219

REACTION DATA

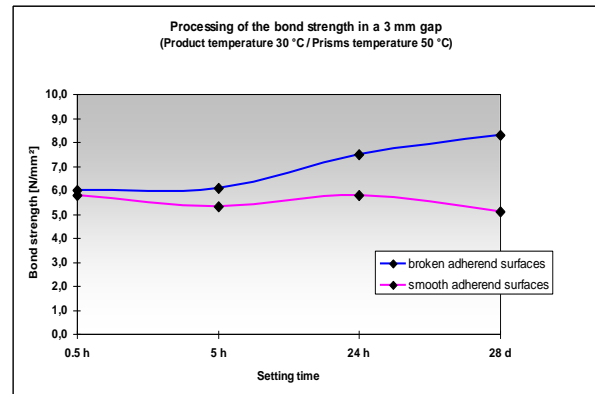
Initial temperature	30 °C	Standard
Flow time	1 min 20 s - 2 min 10 s	MCT PV 10-344
Setting time	2 min 35 s - 3 min 45 s	MCT PV 10-344
Foam expansion factor	1	MCT PV 10-309
Max. reaction temperature	105 °C	MCT PV 10-314

MECHANICAL DATA

Determination under application conditions

- Volume rate 10 l/min CT-PM remote dredging pump
- BVS40M
- Strength investigation dry (Class I)

PROCESSING OF BOND STRENGTH



Parameter	Unit	0.5 h	5 h	24 h	28 d
Bond strength at broken adherend surfaces	N/mm ²	6.0	6.1	7.5	8.3
Bond strength at smooth adherend surfaces	N/mm ²	5.8	5.3	5.8	5.1

FRACTURE DEFLECTION AND DEFORMATION

Deflection fracture, 3 mm gap	Unit	30 min	5 h	24 h	28 d	Standard
Broken adherend surfaces	mm	0.12	0.15	0.10	0.21	According to DIN EN 196 part 1
Smooth adherend surfaces	mm	0.11	0.13	0.12	0.18	According to DIN EN 196 part 1
Deformation work, 3 mm gap		30 min	5 h	24 h	28 d	
Broken adherend surfaces	Nmm	800	857	1047	1646	According to DIN EN 196 part 1
Smooth adherend surfaces	Nmm	759	579	784	928	According to DIN EN 196 part 1

COMPRESSIVE AND TENSILE STRENGTH

Parameter	Unit	24 h	Standard
Compressive strength (at 50 % compression set)	N/mm ²	22.2	DIN EN ISO 604
Bending tensile strength	N/mm ²	7.3	DIN EN ISO 604

APPLICATION METHOD

The two components are pumped by a dual component pump at the volume ratio of 1: 1 and injected into a previously created hole through a hole lock with integrated mixer into the rock mass.

Once the components have been thoroughly mixed, the viscous emulsion that results is immiscible with water and does not absorb any water (e. g. from the surrounding soil or rock strata). Due to its density, it tends to sink in water.

For detailed instructions on use in particular before a change of the injection resins, consult the „Technical handbook for the safe use of injection resins in the mining sector “.

It needs to be assured that the product temperature is between 15°-30°C before processing and during application

When the material is warmed up, local overheating, e. g. at the container wall, must be avoided by any means.

SAFETY INSTRUCTIONS AND LIMITATIONS

Observe the usual precautionary measures for handling chemicals, see MSDS of GEOFLEX HS A- and B-Component.

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 20/26/200/1000 l units.

Other packaging units are 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. When this time is exceeded, we recommend having the material checked by Minova for compliance with specification.

The local legislation on storage needs to be considered.

DISPOSAL

Follow local regulations.

APPROVALS AND CERTIFICATES

1. LOBA Approval of the District Government of Arnsberg 62.12.22.67-7-4
2. Data sheet of the determination of properties (DMT, 2011)

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ADDITIONAL DOCUMENTATION

- MSDS of GEOFLEX Component A
- MSDS of GEOFLEX Component B
- Instructions for Handling Injection Resins

LIST OF REPRESENTATIVES

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