

**CONSTRUCTION**

**GeoFlex BB (black)**

**TWO-COMPONENT SILICATE-ISOCYANATE RESIN**

**DESCRIPTION**

GeoFlex BB is a non-foaming, low viscous, elasticized two-component silicate-isocyanate resin with high bond strength. GeoFlex BB Component A is a special sodium silicate with additives. GeoFlex BB (black) 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**

- Consolidating loose material (ballast bonding)
- Pavement stabilisation and protection against erosion
- Solidification and stabilisation of the face-to-track transition
- Strengthening of construction structures (e.g. gabions walls)
- Strengthening of rock mass by grouting

**ADVANTAGES**

- Rapid curing gives very high final hardness of the resin in a very short time (approx' 30 min after application depending on temperature)
- Excellent penetration depths due to low initial viscosity
- Resistant to dynamic load
- Very good adhesion in dry conditions
- Cured GeoFlex BB (black) is resistant against acids, alkali (sodium hydroxide, sulfuric acid 10 %), salt solutions and many solvents

Fire classification according to DIN EN 13501-1: B – s2, d0

**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 <sup>3</sup>	1460 ± 30	1120 ± 20	DIN 12 791-1
Colour	-	yellowish	black	-
Flash point	°C	-	> 100	DIN 53 213
Viscosity at 25 °C	mPa*s	260 ±40	160 ± 60	DIN EN ISO 3219

**REACTION DATA**

Initial temperature	25 °C	Standard
Setting time	6 min 30 s ± 30 s	MCT PV 10-304
Foaming factor	1	MCT PV 10-304
Max. reaction temperature	105 °C	MCT PV 10-314

**MECHANICAL DATA**

Parameter	Unit	Value	Test method
Compressive strength	MPa	> 22 (24 h)	DIN EN ISO 604
Compressive strength	MPa	> 27 (4 w)	DIN EN ISO 604
Shore D	-	> 50	ISO 7619-1
Diffusion resistance factor (water vapour diffusion)	MPa	1,9 x 10 <sup>3</sup>	ISO 7783
E-modulus *	MPa	>250	DIN EN ISO 178

\* (24 d, 23°C, 50%rel. humidity)

**APPLICATION METHOD**

The two components are pumped by a dual component pump at the volume ratio of 1:1.

GeoFlex BB (black) is applied directly to the surface by spraying penetration or into the rock mass or construction using grouting methods utilising an injection lance and where necessary an injection packer.

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.

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 BB (black) 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

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

We recommend an application on dry ballast, since the adhesion is highest here.

**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. Test report about the examination of GeoFlex BB on groundwater compatibility (Hygiene Institute, Gelsenkirchen, 2016)
2. Report of the classification of the reaction to fire behaviour - Reaction to fire classification according to DIN EN 13501-1 (Report 230010797-2, MPA Erwitte, 2017)

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**ADDITIONAL DOCUMENTATION**

- MSDS of GeoFlex BB (black) Component A
- MSDS of GeoFlex BB (black) Component B

**LIST OF REPRESENTATIVES**

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- CZECH REPUBLIC: Minova Bohemia s.r.o.
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