

MINING

BEVEDOL WF21 - BEVEDAN 1 (OPTION BLACK DYED)

TWO-COMPONENT INJECTION RESIN

DESCRIPTION

Extremely fast reacting two-component injection resin, free of CFCs and halogen for solidification in dry or water bearing zones.

BEVEDOL WF21 is a mixture of various polyols and additives which reacts with BEVEDAN 1 to form a tough/hard polyurethane resin foam. BEVEDAN 1 is a modified polyisocyanate.



APPLICATION AND USE

Adhesive class: instantaneous

To be used for cracks of more than 0.04 mm width.

- Rock stabilization
- Injections bolting
- Sealing against gas

ADVANTAGES

- Rapid reaction time
- Excellent adhesive strength
- High mechanical resistance

TECHNICAL DATA

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

MATERIAL DATA

Parameter	Unit	BEVEDOL WF21	BEVEDAN 1	Standard
Density at 25 °C	kg/m ³	960 ± 50	1130 ± 50	DIN 12791-1
Colour	-	yellow/(black)	dark brown	-
Flash point	°C	> 140	> 150	DIN 53213
Viscosity at 5 °C	mPa*s	930 ± 150	835 ± 150	ISO 3219
Viscosity at 10 °C	mPa*s	600 ± 120	500 ± 110	ISO 3219
Viscosity at 15 °C	mPa*s	425 ± 90	350 ± 90	ISO 3219
Viscosity at 20 °C	mPa*s	290 ± 70	250 ± 70	ISO 3219
Viscosity at 25 °C	mPa*s	200 ± 50	170 ± 50	ISO 3219
Viscosity at 30 °C	mPa*s	160 ± 50	140 ± 40	ISO 3219

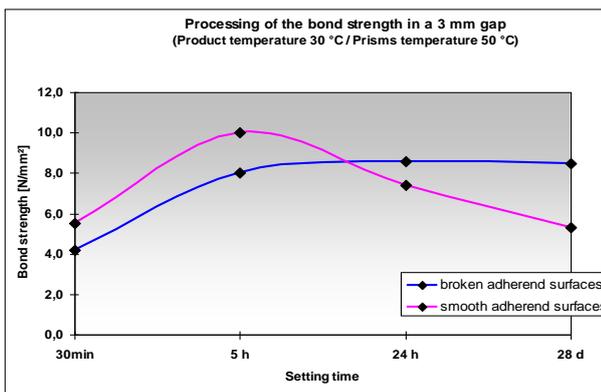
REACTION DATA

Starting temperature	Setting Time	Foaming factor	Standard
5 °C	2 min 10 s ± 15 s	1.0 – 1.2	MCT PV 10-301
10 °C	1 min 35 s ± 20 s	1.0 – 1.2	MCT PV 10-301
15 °C	1 min 15 s ± 20 s	1.0 – 1.2	MCT PV 10-301
20 °C	1 min ± 15 s	1.0 – 1.2	MCT PV 10-301
25 °C	45 s ± 10 s	1.0 – 1.2	MCT PV 10-301
30 °C	38 s ± 10 s	1.0 – 1.2	MCT PV 10-301
Max. Reaction temperature (30 °C)		122 °C	GesBergV

MECHANICAL DATA

Determination under application conditions

- Volume rate 10 l/min CT-PM remote dredging pump
- BVS40M
- Strength investigation dry (Class 1)



Parameter	Value	Standard
Shore hardness	D75 ± 5	ISO 7619-1

BOND STRENGTH¹

Setting time	Unit	30 min	5 h	24 h	28 d
Bond strength - broken adherend surfaces	N/mm²	4.2	8.0	8.6	8.5
Bond strength - smooth adherend surfaces	N/mm²	5.5	10.0	7.4	5.3

DEFLECTION FRACTURE¹

Deflection fracture, 3 mm gap	Unit	30 min	5 h	24 h	28 d
Broken adherend surfaces	mm	1.6	1.0	0.3	0.2
Smooth adherend surfaces	mm	1.6	0.5	0.1	0.1

DEFORMATION¹

Deformation work, 3 mm gap	Unit	30 min	5 h	24 h	28 d
Broken adherend surfaces	Nmm	6460	10429	2406	1126
Smooth adherend surfaces	Nmm	9208	5321	896	387

STRENGTH¹

Parameter	Unit	24 h
Compressive strength (at 50 % compression set)	N/mm²	19.3
Bending tensile strength	N/mm²	12.0

Classification according suitability for application in water bearing rocks

Strength investigation wet to bearing (Class II)		3 h
Bond strength	N/mm²	1.6
Strength investigation fastmoving water (Class III)		3 h
Bond strength	N/mm²	1.9

¹ Test performed at DMT. Essen

APPLICATION METHOD

The two components are pumped by a dual component pump at the volumetric ratio 1 : 1; they are mixed thoroughly in a static mixer unit prior to injection into strata via a packer installed in a previously drilled borehole.

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'.

SAFETY INSTRUCTIONS AND LIMITATIONS

Observe the usual precautionary measures for handling chemicals, see MSDS of BEVEDOL WF21 and BEVEDAN 1.

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

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. If this time is exceeded, we recommend having the material checked by Minova for compliance with specification.

DISPOSAL

Follow local regulations.

APPROVALS AND CERTIFICATES

1. **LOBA** Approval of the District Government of Arnsberg 84.12.22.67-2-10
2. Data sheet of the determination of properties (DMT, 2011)

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ADDITIONAL DOCUMENTATION

- Operating instructions on proper use of Minova injection resins
- BEVEDOL S21 – BEVEDAN 1F MSDS

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