

**MINING / CONSTRUCTION**

# Krzemopur HS

## SILICATE INJECTION RESIN

### DESCRIPTION

Krzemopur HS is two-component silicate and isocyanate system, obtained after mixing component A (aqueous solution of sodium silicate with auxiliary agents) and component B (polymeric MDI isocyanate with additives) in a volume ratio of 1:1.

### APPLICATION AND USE

The adhesives property allows use of them under various geological and mining conditions. Application parameters of the adhesives can be adjusted to customer specific requirements.

### ADVANTAGES

- High compressive strength
- Obtaining a desired strength in a short time
- Insensitivity to water
- High adhesion ability to various rocks
- Good rock mass penetration ability
- Low hardening temperature
- Good hydro-insulation and gas-insulation;
- Does not increase the endogenous fire risk
- Does not disturb gas indicator readings
- Anti-electrostatic properties
- Low flammability
- Ability to apply with "Long Distance Pumping" (LDP) technique - pumping over long distances (components and pump located up to 5000 m away from the bonding area)



### TECHNICAL DATA

The data below are laboratory data. They may vary in practice due ambient temperature, pressure and other factors.

### MATERIAL DATA

Component parameters	Krzemopur HS	
	A	B
components volume ratio	1	1
density [g/cm <sup>3</sup> ]	~1.5	~1.2
viscosity [mPas]	<500	<500

## REACTION DATA

System Parameters	Krzemopur HS (A+B)
reaction end time <sup>(1)</sup> [min]	< 10
maximum reaction temperature [°C]	<115
compressive strength [MPa], not less than	55
flexural strength [MPa], not less than	25
foaming factor	1
flammability	self-extinguish
electrostatic properties	dissipating

(1) upon request it is possible to narrow down the adhesive's reaction time range.

## APPLICATION METHOD

The adhesive is pumped into the rock mass with injection techniques. Using a pump-set, the components (in a volume ratio of 1:1) are fed via a static mixer. While reacting, the adhesive penetrates the gaps and fissures within a few meters from the injection hole, where it hardens and thus strengthens and seals the rock mass. For details, please see the Application Instructions.

## SAFETY INSTRUCTIONS AND LIMITATIONS

When applying the product, use standard PPE meant for work with chemicals: safety gloves and goggles, protective clothing etc. Immediately change the clothes if they become soaked with components. For detailed safety information please see the Krzemopur HS Material Safety Data Sheet.

## PACKAGING AND TRANSPORTATION

Adhesive components are packed into barrels/canisters with a capacity of 20 or 30 liters. Containers are delivered on pallets. After arranging with the customer, the material can be delivered in alternative packages (for instance 200 liters barrels or 1000 liters containers).

## STORAGE AND SHELF LIFE

The components A and B shall be stored in airtight containers and in dry and well-ventilated areas at 10 - 30 °C. The warranty period for properly stored components (A and B) is 6 months.

## DISPOSAL

Follow local regulations.

## APPROVALS AND CERTIFICATES

1. Certificate - safety mark "B"
2. Hygienic assessment (PZH)

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## ADDITIONAL DOCUMENTATION

- Krzemopur HS MSDS

**LIST OF REPRESENTATIVES**

- AUSTRIA: Minova MAI GmbH
- CZECH REPUBLIC: Minova Bohemia s.r.o.
- FRANCE / BELGIUM: Sales office Minova France / Belgium
- GERMANY: Minova CarboTech GmbH
- ITALY: Minova CarboTech GmbH Italy branch
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