

## NordicSIR Flex UHS

### Two Component (2C) Ultra High Strength Silicate Resin

#### Product Description:

Non-foaming, expanding, two component injection silicate resin with elastic, ultra-high bond strength. It reaches a final strength of  $> 5 \text{ N/mm}^2$  within 15 minutes of the injection. The final product is alkali- and acid-resistant and ideal in many applications including:

- Consolidation and stabilisation of rock mass
- Grouting of injection rods
- Restoration of shafts and drifts
- Many other consolidation and stabilisation applications

#### Technical properties:

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

#### Reaction Data:

Temperature	30 °C
Flow time	90 to 130 s
Setting Time	3 mins $\pm$ 45 s
Max. Reaction Temperature	106 °C
Foaming factor in water	1

#### Material Data:

	Component A	Component B
Density at 25 °C kg/m <sup>3</sup>	1460 $\pm$ 20	1130 $\pm$ 20
Viscosity at 25 °C mPa*s	260 $\pm$ 40	130 $\pm$ 30

#### Mechanical Data:

	Units	30 mins	24 hours	28 days
Bond Strength Rough Surfaces	N/mm <sup>2</sup>	6	7	8
Bond Strength smooth surfaces	N/mm <sup>2</sup>	$> 5$	$> 5$	$> 5$
Compressive Strength	N/mm <sup>2</sup>	22,2		
Bending Strength (tensile)	N/mm <sup>2</sup>	7,2		

## Composition and properties:

Component A is a mixture of various polyols and additives; these react with component B to develop a tough and hard resin foam for sealing, filling and stabilisation.

Component B is a modified polyisocyanate on the basis of 4,4'-diphenylmethane diisocyanate (MDI). The mixed resin penetrates the structure to be sealed. The major part of water in there is displaced due to the hydrophobicity and the viscosity of the resin. Traces of water, either by purposeful addition or from the water in the ground, accelerate the reaction and make the resin expand. The expanded resin is tough-hard and thus capable of following movements in the ground to some extent.

## Application:

The two components are pumped by a dual component pump at the volumetric ratio of 1:1, then mixed thoroughly in a static mixer unit prior to injection into the strata via a packer installed in a previously drilled borehole. Once the mixture develops to an emulsion, the product is immiscible and will not absorb water from the surrounding rock or soil injected into.

## Recommendation:

We recommend that before processing, the product should be stored for at least 12 hours at a minimum temperature of 15 °C to achieve the recommended processing temperature of between 15 °C to 30 °C.

## Packaging:

Component A:	35 kg in PE can
Component B:	30 kg in PE can

## Storage, shelf life:

The shelf life of the product is six months from date of delivery. The product should be stored in a dry place at temperatures between 15 °C and 25 °C. Improper storage will shorten shelf life.

## Disposal:

Dispose of uncured product components in accordance with the local regulations. Empty cans should be cleared of liquid by punching a hole through the edge of the cover and turning them upside down, until liquid does not flow out any longer.

## Disclaimer:

The data in this sheet conform to our best knowledge and experience at the date of printing, which is indicated below. The state of knowledge and experience are evolving constantly. Please pay attention therefore, that you always refer to the current version of this data sheet. The description of the product application in this sheet cannot take the special conditions and circumstances into account emerging from the individual case. Application, use and processing of our product occur outside of our control capabilities. In particular, the processing results are exclusively subject to your own responsibility. No data in this sheet constitute a guarantee in a legal sense. Every time the user is obliged to check the product and auxiliary agents in terms of usefulness for his intended use.

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