

NordicPUR 180 Slow

Two Component (2C) Slow Setting Polyurethane resin

Product Description:

Slow reacting, two-component injection resin, free of CFCs and halogens.
For targeted sealing and solidification in water-bearing zones above +0 °C up to 40 °C:

- Consolidation in wet or water-bearing strata
- Sealing against water inflow from strata dams or shaft walls
- Restoration of wet shafts
- Many other sealing, 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	15 °C	25 °C
End of Foaming Time (No water contact)	Approx. 4 hours	Approx. 3 hours
Foaming factor	1 – 1,1	1 – 1,1
Start Foaming Time (1% water)	7 min ± 60 s	4 min ± 30 s
End Foaming Time	60 min ± 10 min	35 min ± 5 min
Start Foaming Time (2% water)	4 min ± 45 s	2 min ± 20 s
End Foaming Time	30 min ± 5 min	13 min ± 5 min
Foaming factor in water	1-3 ± 0.5	1-3 ± 0.5

Reaction process can be accelerated by a maximum of 25% catalyst to component A.

Material Data:	Component A	Component B
Density at 25 °C kg/m ³	1020 ± 40	1230 ± 30
Viscosity at 25 °C mPa*s	250 ± 50	200 ± 50

Mechanical Data:

Adhesive strength (wet surface)	2.1 ± 0.5 MPa after 15 min
Compressive strength	75 ± 15 MPa

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 foam. The foam 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. In contact with water, the resin then foams up. The following reaction mix displaces then the preceding one. Once the mixture does not meet any more water, it hardens without foaming to form a pore-free material. In case of appropriate conditions, a waterproof seal is achieved in a single operation. Due the very slow reaction time, the components can be mixed in a suitable clean and dry container by means effective stirrer and pumped with a one component pump.

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 25 °C.

Packaging:

Component A: 25 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. Small quantities of cured product residues may be disposed of as normal domestic waste. 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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