

NordicPUR Ultra Fine

One Component (1C) Polyurethane Resin for Structural Work

Purpose:

A resin for fine soils and structural work, which was developed as a low viscosity grout for deeper injection, injection into fine soils and sands and structural repairs. This is an ultra-low viscosity water-reactive single-component polyurethane resin, free of CFC and phthalate plasticizers, which, when reacted, is characterised by the closed cells.

- Stopping of moderate water ingress, including seawater under high pressure
- Injection into fine soils and sands
- Deep injection works
- Fixing of anchors and bolts in water-bearing fine sands
- Sealing of drill holes and loose rocks
- Stabilisation work
- Injection of sewers and large pipelines
- Can be injected simultaneously with cement grouting, creating a compound grout

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 stone, humidity, pressure and other factors.

Material data:	NordicPUR Ultra Fine	1 C Catalyst
Density at 25 °C kg/m ³	1100 ± 30	1020 ± 30
Viscosity at 25 °C mPa*s	30 ± 10	12 ± 6
Colour	brown	yellow

* Reaction data (start & end of foaming) by mixing 100 g of the resin into 200 g sand (H31) and different amount of Catalyst as below. Site conditions may give different reaction times.

Reaction Time data:	CAT Stop UF	CAT UF
Temperature	1%	2%
5 °C	70 s ± 25 s 335 s ± 25 s	50 s ± 25 s 177 s ± 25 s
15 °C	55 s ± 25 s 280 s ± 25 s	38 s ± 20 s 142 s ± 20 s
25 °C	45 s ± 20 s 230 s ± 20 s	38 s ± 20 s 130 s ± 20 s

* Foaming factor approximately 1,0

Mechanical data:

Compressive strength after 24 hours	4,45 MPa
Compressive strength after 7 days	9,2 MPa
Compressive strength after 21 days	11,2 MPa

Composition and properties:

This is a modified polyisocyanate, based on 4,4'-diphenylmethane diisocyanate (MDI). The catalyst is a blend. After the addition of the catalyst, the mixture has a shelf life of at least 48 hours, when completely protected from moisture.

Application:

Catalyst can be added to the resin (1 – 2,5% depending on the determined reaction time) quickly. The mixture can be stored for at least 48 hours without significant increase in viscosity under the condition that the grout mix is efficiently protected from moisture. The resin reacts with water. Therefore, in open cans a skin may be formed on the surface of the liquid by reaction with the humidity contained in the air; but this does not affect the pumping operation.

The resin is injected as a single component via packers into the water-bearing zones using application pumps. When in contact with water, it reacts strongly and hardens. If the zone to be sealed is dry, a full hardening of the product mass can be achieved by preliminary or subsequent water injection. After use clean the system and pump with recommended solvents from Nordic Geo Support.

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:

Standard Can Size: 19 kg in Metal can
Catalyser: 1 kg in Metal can
Other packaging units are available on request.

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. Once opened, the components should be used as soon as possible.

Disposal:

Small quantities of cured product residues can be disposed of as normal domestic waste. Dispose of not cured product components must be carried out 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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