

SOLIDCRYL

Properties:

SOLIDCRYL is a four-component injection gel on an acrylate or methacrylate basis which hardens to form a product with high compressive strength.

SOLIDCRYL is characterised by its extremely low viscosity of mixture which is very close to the viscosity of water.

SOLIDCRYL is used for soil and stone stabilisation, for consolidation of water-saturated sand in addition to masonry injection.

Due to its high-quality material basis, *SOLIDCRYL* has good chemical resistance to many acids, alkalis, solvents, adhesives etc in its hardened condition.

Varying pot-lives adapted to the application and the surrounding temperature can be produced by varying the All quantity (see pot life table).

Technical Data:

Substance data of components:

Component AI

Consistency	liquid	
Colour	transparent	
Odour	ester-like	
Spec. density (20°C)	approx. 1.07 g/cm ³	DIN EN ISO 3675
Dyn. viscosity (20°C)	approx. 13 mPas	DIN EN ISO 2555

Component All

Consistency	liquid	
Colour	colourless	
Odour	amine-like	
Spec. density (20°C)	approx. 1.12 g/cm ³	DIN EN ISO 3675
Dyn. viscosity (20°C)	approx. 280 mPas	DIN EN ISO 2555

Component BI

Consistency	liquid	
Colour	transparent	
Odour	ester-like	
Spec. density (20°C)	approx. 1.04 g/cm ³	DIN EN ISO 3675
Dyn. viscosity (20°C)	approx. 10 mPas	DIN EN ISO 2555

Component BII

Consistency	solid	
Colour	white	
Odour	odourless	
Spec. density (20°C)	approx. 2.59 g/cm ³	
Bulk density (20°C)	approx. 1.15 g/cm ³	

Mixture of A-and B-component:

Processing temperature *	5 - 40°C	substrate temperature
Viscosity of mixture (20°C)	approx. 12 - 13 mPas	DIN EN ISO 2555

Reaction data at 20°C:

Pot-life **	approx. 40 s - 13 min	DIN EN 14022
Final curing **	approx. 10 - 30 min	

Properties after curing:

Consistency	hard-elastic	
Colour	opaque	
Compressive strength (dried samples) ***		DIN EN 12190
pure product	approx. 15.0 N/mm ²	
with silica sand 0.1 - 0.3 mm	approx. 17.6 N/mm ²	
with silica sand 0.7 - 1.2 mm	approx. 20.0 N/mm ²	
Compressive strength (sample stored in water) ***		DIN EN 12190
with silica sand 0.1 - 0.3 mm	approx. 5.0 N/mm ²	
Water absorption in tap water		DIN EN ISO 62
pure product	approx. 8 %	
solidified sand	approx. 1 %	

* The declared range of temperature complies with our recommendations. Generally, the product reacts even at very low temperatures (from experience down to approx. -15°C) or distinct higher values than +40°C. Admittedly, problems might occur, which are not directly related to the properties of the product. At sharp frost the air line of the pump might freeze or even present ice inside the structural element to be sealed can cause difficulties. At temperatures above-average too short reaction times can arise, which prevent an entire and successful filling of the injection area. Beside that it might happen that the activated A-component at very high temperatures starts curing even without addition of the B-component, which results in a blockage of the injection pump.

** The stated times can be achieved by varying quantities of All component.

*** The compressive strengths to be obtained depends on soil characteristics (composition, void content, water content etc.). We recommend detecting the consolidation on-site by means of test injection.

Processing:

20 kg of AI components are mixed in homogenously with 0.15 - 5.0 kg of All component (standard mixture with 2.5 kg of All component). The ready-for-use (activated) A component prepared in the way remains stable for approx. 24 hours

In case of using lower quantities of All component as given in standard mixture the "missing volume" in the A component has to be replaced by water.

When using higher quantities of All component as given in standard mixture the corresponding water quantity has to be added to the B component in order to achieve the same volume in the mixed A and B components.

During the process a mixing time of 3 min should be observed.

20 kg of BI components are mixed homogenously with a solution consisting of 0.4 kg of BII component in 1.7 l of water. During the process a mixing time of 3 min should also be observed here. The activated B component remains stable for approx. 5 hours.

The activated A and B components are then applied at a mixture ratio of

$$A : B = 1 : 1$$

with suitable 2K injection pumps.

Indicated injection pumps: *BOOSTER 10 A*
MINIBOOSTER 5 U
TPH INJECT AirPower S25-3K, VA

Varying pot-lives can be set depending on the All quantity and the temperature.

Pot-life in dependence on All quantity:

All amount [kg]	pot-life [min:s] at 10°C	pot-life [min:s] at 20°C
0.15	19:12	13:01
0.20	15:47	10:13
0.25	11:59	08:31
0.50	06:32	03:58
1.00	03:17	01:51
1.50	02:10	01:23
2.00	01:55	01:10
2.50	01:48	01:01
5.00	01:01	00:43

The indicated All amounts refer to 20 kg component AI. The determined pot-life can fluctuate depending on the batch. That's why we recommend detecting the actual pot-life on-site before starting the injection work.

Safety information:

SOLIDCRYL component AI, BI and BII is classified as hazardous according to Regulation (EC) 1272/2008 (CLP).

It is therefore necessary, before beginning processing, to become familiar with the precautions and safety advice as indicated in the material safety data sheet.

Packaging:

Component AI	20 kg plastic canister
Component AII	5 kg plastic canister
Component BI	20 kg plastic canister
Component BII	0.4 kg plastic can

Bigger packaging on request.

Storage:

Shelf life at least 12 month in original packaging when stored in dry conditions between 15-25°C, protected from heat, frost and direct sunlight.

After the expiration the use of the product is generally not recommended, unless an approval has been provided by TPH. This approval can only be obtained by the quality assurance department of TPH releasing the material after verification of main properties being within specification.

Disposal:

Small quantities of cured product residues can be disposed of as normal domestic waste. Dispose of not cured product components must be effected in accordance with the corresponding local regulations. For further information please refer to the material safety data sheets.

Test certificates:

Examination of the leaching behaviour with reversed flow direction of the acrylate gel *SOLIDCRYL* (column trial referring to DIBt Guideline "Assessments of the effects of construction products on soil and ground water"); MFPA Leipzig 2011



Behaviour of injection resins in contact with anhydrite rock and shell limestone; MFPA Leipzig 2015

Laboratory tests on sand samples injected with plastic solutions; TU München 2020

Legal notice:

The correct and thus successful application of our products is not subject to our control. A guarantee can be issued for the quality of our products within the framework of our sales and supply conditions, however not for successful processing. All data and specifications in this specification sheet are based on the present state of the art and the right to changes and adaptations for the sake of development remains explicitly reserved. The consumption specifications designated by us can be only average empirical values, where deviations are possible on an individual basis and therefore cannot be excluded by us.

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