Technical Data Sheet
Issue: 27-04-2016

ECOCRYL

CE-marking in accordance with EN 1504-5

Properties:

ECOCRYL is a three-component, water-swelling hydrogel based on acrylate or methacrylate that hardens to an elastic product.

ECOCRYL is especially noted for its low blending viscosity that is almost equivalent to the viscosity of water. *ECOCRYL* can be applied in the case of grout curtains and ground stabilisation.

Differing pot lives can be defined (see table pot life below), adapted to the application and environmental temperature, by varying the B-amount of salt (100 g up to 1000 g based on 20 kg AI component).

Technical Data:

Substance data of components:		
Component AI		
Consistency	liquid	
Colour	blue	
Odour	characteristic	
Spec. density (20°C)	approx. 1.19 g/cm^3	DIN EN ISO 3675
Dyn. viscosity (20°C)	approx. 40 mPas	DIN EN ISO 2555
Component AII		
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 B		
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	
Retarder		
Consistency	liquid	
Colour	yellowish	
Odour	small	
Spec. density (20°C)	approx. 1.00 g/cm^3	DIN EN ISO 3675
Dyn. viscosity (20°C)	approx. 1 mPas	DIN EN ISO 2555
Mixture of A- and B-component:		
Processing temperature *	5 - 40°C	substrate temperature
Viscosity of mixture (20°C)	approx. 4.2 mPas	DIN EN ISO 2555

Reaction data at 20°C:

Pot-life **	15 s - 60 min	DIN EN 14022
Final curing **	2 - 70 min	

Properties after curing:

Consistency	soft-elastic	
Colour	blue	
E-modulus	approx. 0.26 MPa	DIN EN ISO 527
Tensile strength	approx. 0.04 MPa	DIN EN ISO 527
Elongation at break	approx. 510 %	DIN EN ISO 527
Water absorption	approx. 100 %	DIN EN ISO 62

* 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 indicated times are reached through different quantities of B component and *ECOCRYL* Retarder.

Processing:

The AII-container is emptied completely into the AI container and mixed for approx. 3 minutes.

The B-component is filled into a container equivalent to the AI component and filled with 18 litres tap water. Then it is mixed again for 3 minutes.

The A and B components prepared in this way should be processed at mixing ratio 1 : 1 (parts by volume) by means of a 2-component injection pump.

Appropriate injection pumps: *BOOSTER 10 A*
MINIBOOSTER 5U

Different pot-lives can be defined depending on the amount of B salt and the temperature. The indicated quantities of salt (B component) must not fall short or be exceeded.

Pot-life depending on B-amount and temperature:

25 °C	0:47	0:27	0:17	0:12	0:10
20 °C	0:56	0:33	0:21	0:17	0:15
15 °C	1:10	0:48	0:27	0:20	0:17
10 °C	1:56	1:07	0:37	0:30	0:23
5 °C	3:11	1:12	0:40	0:33	0:26
	100 g	**200 g**	**500 g**	**800 g**	**1000 g**

(Amounts based on 20 kg AI- and 1 kg AII-component)

Longer reaction times can be achieved by use of the *ECOCRYL retarder*. This retarding additive (1kg PE bottle) is being emptied fully into the prepared water bucket together with the appropriate quantity of salt component.

The quantity of water must be equal to the quantity of AI and AII component (20kg AI + 1kg AII). The mixture of water, salt and retarder is being mixed for at least 3 minutes.

Pot-life depending on B-amount and temperature in case of using ECOCRYL retarder:

25 °C	28:48	10:12	6:44	4:48	3:30
20 °C	40:30	15:10	10:20	7:00	5:40
15 °C	61:40	24:48	13:24	9:23	7:24
10 °C	102:42	40:20	21:36	12:44	11:28
5 °C	157:44	60:16	34:16	24:04	19:28
	200 g	**400 g**	**600 g**	**800 g**	**1000 g**

(Amounts based on 20 kg AI-component , 1 kg AII-component and 1 kg retarder)

A reaction time of 2 to 4 minutes should be defined in the case of grout curtains and ground stabilisation, to achieve optimal saturation of the ground.

It has been proved in extensive tests that faster reaction times have a negative effect as no uniform gel curtain or rather uniform distribution of the injection material can be achieved.

Safety information:

ECOCRYL component B 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	1 kg-plastic bottle
Component B	1 kg-plastic can
Retarder	1 kg-plastic bottle

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 *ECOCRYL* (column trial referring to DIBt Guideline "Assessments of the effects of construction products on soil and ground water"); MFPA Leipzig 2011

Determination of performance characteristics of the acrylate gel *ECOCRYL* according to DIN EN 1504-5; MFPA Leipzig 2012

CE

0505

TPH Bausysteme GmbH
Nordportbogen 8
D-22848 Norderstedt

12

GER0513/08

EN 1504-5:2004

ECOCRYL

Concrete injection product

Watertightness	S2
Viscosity	≤ 60 mPas
Corrosion behaviour	deemed to have no corrosive effect
Development and ratio of expansion after immersion in water	change by volume: 87,4 % change by mass: 75,7 %
Sensitivity to water	passed
Sensitivity to wet-dry cycles	passed
Durability (compatibiliy with concrete)	passed
Release of dangerous substances	NPD

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.

TPH Bausysteme GmbH
Nordportbogen 8
D-22848 Norderstedt

Tel.: +49 (0)40 / 52 90 66 78-0
Fax: +49 (0)40 / 52 90 66 78-78
e-mail info@tph-bausysteme.com
Web www.tph-bausysteme.com

Waterproofing Systems