

FOAM SEAL PLUS

Properties:

FOAM SEAL PLUS is a two component, quickly reacting, slightly flexible, treated with flame retardants injection foam based on silicate. It is used for filling of cavities in tunneling, mining industry and civil engineering for solidification of rocks as well as for stopping of intruding water.

After the homogeneous mixing of the two components a low viscous emulsion arises, this does not absorb any water from its surrounding. On the contrary, due to its high density it has the ability to push the water ahead.

Technical Data:

Substance data of components:

Component A

Consistency	liquid	
Colour	colourless	
Odour	characteristic	
Spec. density (23°C)	approx. 1.3 g/cm ³	DIN EN ISO 2811-1
Dyn. viscosity (23°C)	approx. 30 mPas	DIN EN ISO 2555

Component B

Consistency	liquid	
Colour	brown	
Odour	characteristic	
Spec. density (23°C)	approx. 1.21 g/cm ³	DIN EN ISO 2811-1
Dyn. viscosity (23°C)	approx. 120 mPas	DIN EN ISO 2555

Mixture of A- and B-component:

Processing temperature	5 - 40°C	substrate temperature
Recommended temperature	15 - 30°C	product temperature
Mixing ratio A : B	1 : 1 (parts by volume)	

Reaction data (at 23°C):

Cream time (start of foaming)	approx. 25 s	ASTM D7487
Free rise time (end of foaming)	approx. 50 s	ASTM D7487
Volumetric expansion factor	approx. 30	ASTM C1643
Max. reaction temperature	approx. 95°C	

Processing:

Both components are taken directly from the original packaging by means of a 2K injection pump and mixed homogeneously in a static mixer. Injection is done over packer or injection lances.

Indicated injection pumps: *TPH INJECT PS 25-II*
TPH INJECT PS 5-II

Due to the open cellular structure and slightly external tendency to sanding of *FOAM SEAL PLUS* it does not reach its maximum foaming factor when it is used in closed and limited places like cracks, gaps, joints etc. Thereby it creates strongly solid, compact and resistant foam.

Reaction time depending on different temperatures:

Temperature [°C]	Cream time [min : s]	Free rise time [min : s]
5	1 : 30	3 : 45
10	0 : 48	1 : 30
15	0 : 36	1 : 10
20	0 : 28	0 : 45
25	0 : 25	0 : 37
30	0 : 22	0 : 30
35	0 : 20	0 : 28

* Standard ASTM D7487

Safety information:

FOAM SEAL PLUS components A and B are 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 A 26 kg metal canister

Component B 24 kg metal canister

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:

Screening of standard flammability (building material class B2) according to DIN 4102-1:1998-05; MFPA Leipzig 2017

FOAM SEAL PLUS - Examination of compressive strength depending on filling degree of an injection resin based on silicate; MFPA Leipzig 2018

Fire behaviour test of building products, Inflammability at directly flames according to DIN EN ISO 11925-1:2011-02 as a basis of a classification report; MFPA Leipzig 2018

Classification of fire behaviour in accordance with DIN EN 13501-1:2010; MFPA Leipzig 2018



Determination of landfill classes of spoil excavated from tunnel; BFM Umwelt GmbH München 2019

Laboratory investigation - gravelly soils with silicate foam; TU Munich 2019

Examination according to TrinkwV 2012 and Coatings Guideline; görtler analytical services gmbH Vaterstetten 2019

FOAM SEAL PLUS- Examination of the leaching behaviour of an injection resin based on silicate; MFPA Leipzig 2019

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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