

MINING / CONSTRUCTION / ENERGY

WilkitFoam F

TWO COMPONENT SILICATE RESIN SYSTEM

DESCRIPTION

Rapidly reacting, strongly expanding foam filler, flame-resistant, suitable for spray-on application, CFC-free.

WilkitFoam F, Comp. A is a modified water glass, and component B is a modified isocyanate. At the bottom of the cans, some minor flocking may be observed, which does not affect the processability. The components contained are flame retardants.

After mixing the resin starts producing carbon dioxide gas and water vapour within a few seconds, thus forming a light-weight foam. In free-rise foaming, the surface has a brittle touch in the beginning (“sanding off”), but after some hours, the foam becomes semi elastic throughout.



APPLICATION AND USE

This resin is designed for:

- Rapid filling of cavities
- Consolidation and sealing in strata and soil
- Stopping of water intrusions
- Stabilisation of cavities caused by rock falls in tunnelling

Applicable at ambient temperatures between 5 °C and 40 °C.

At a product temperature <10°C flocculation can occur.

ADVANTAGES

- Presence of water does not affect the reaction; the foam floats in water
- The foam is resistant against water, diluted acids and alkaline brines
- It is flame-resistant and complies with DIN 4102, part 2, B2

TECHNICAL DATA

The data below are laboratory data. They may vary in practice due to thermal exchange between resin and strata, shear of the resin in cracks, pressure, and other factors.

MATERIAL DATA

Details	Unit	WilkitFoam F Comp. A	WilkitFoam F Comp. B
Density at 25 °C	kg/m ³	1310 ± 30	1215± 30
Colour		colourless	brown
pH-Value		11	-
Flash Point	°C	-	> 170
Viscosity at 5 °C	mPa*s	43 ± 15	560 ± 100
Viscosity at 10 °C	mPa*s	25 ± 10	370 ± 75
Viscosity at 15 °C	mPa*s	20 ± 10	250 ± 50
Viscosity at 20 °C	mPa*s	17 ± 10	180 ± 50
Viscosity at 25 °C	mPa*s	15 ± 10	130 ± 30
Viscosity at 30 °C	mPa*s	13 ± 5	100 ± 30
Viscosity at 35 °C	mPa*s	11 ± 5	70 ± 20
Viscosity at 40 °C	mPa*s	9 ± 5	30 ± 15

REACTION DATA

Starting temperature	Start of foaming	End of foaming	Foaming factor
5 °C	24 s ± 15 s	1 min 10 s ± 30 s	approx. 25
10 °C	22 s ± 15 s	58 s ± 25 s	approx. 28
15 °C	15 s ± 5 s	43 s ± 20 s	approx. 33
20 °C	14 s ± 5 s	31 s ± 15 s	approx. 33
25 °C	11 s ± 4 s	27 s ± 15 s	approx. 45
30 °C	8 s ± 3 s	22 s ± 10 s	approx. 45
35 °C	6 s ± 3 s	20 s ± 10 s	approx. 45
40 °C	4 s ± 2 s	17 s ± 5 s	approx. 48

APPLICATION METHOD

The two WilkitFoam F components, A and B, are pumped via a dual component pump, e. g. Minova SK 90, at the volumetric ratio 1 : 1, then they are mixed passing a static in-line mixer prior to either free discharge from the injection pipe or being sprayed from a discharge nozzle.

WilkitFoam F may be applied to vertical and overhead surfaces.

After leaving the mixer, the liquid resin shall not undergo major shear forces (flow through narrow cracks). This would lead to a decrease of the foam factor. Free discharge from a nozzle provides an optimum foam factor. If the rising foam is hit by a beam of liquid resin, the foam factor is decreased considerably.

For flushing the B-side of the pump, we recommend water free oil. For the A-side, however, we recommend water with a surfactant (e. g. dishwashing agent). Oil affects the formation of foam.

SAFETY INSTRUCTIONS AND LIMITATIONS

Observe the usual precautionary measures for the handling of chemicals, see MSDS.

We recommend that before processing, the product 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 30 °C. When the

material is warmed up, local overheating, e. g. at the container wall, must be avoided by any means.

PACKAGING AND TRANSPORTATION

All forms of packing are approved to the danger goods regulation road, railway, domestic shipping.

The components can be delivered in 20/26/200/1000 l units.

Other packaging units are available on request. Details are shown in the offer.

STORAGE AND SHELF LIFE

At least six months from date of delivery when stored in a dry place between 10 °C and 30 °C. When this time is exceeded, we recommend having the material checked by Minova for compliance with specification.

Frost may damage the A-component (flocculation; consult Minova).

The local legislation on storage has to be observed.

DISPOSAL

Follow local regulations.

APPROVALS AND CERTIFICATES

1. Durability test of Wilkit Foam T (LPI Ingenieuresellschaft mbH, 2008) leaned

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ADDITIONAL DOCUMENTATION

- MSDS of WilkitFoam F

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