ORGANOSOL™ XP FR

Phthalate-free, fire retarded, fast reacting, high foaming, organo-mineral injection grout for void filling, ground and rock consolidation

Product Description

ORGANOSOL™ XP FR is a two-component, phthalate-free, fire retarded, foaming organo-mineral grout with 1/1 mixing ratio. When injected through a specially designed two-component injection head with static mixer, the grout will expand and cure in a short time. Faster reaction times can be set by using the (optional) accelerator.

ORGANOSOL™ XP FR is supplied in a two-component set:

- A-component : mineral resin
- B-component : polyurethane
- Mixing ratio : 1/1 volumetric

Field of Application

- Due to its high reactivity, ORGANOSOL™ XP FR is well suited for filling voids over very short injection distances.
- Instant stabilisation of the immediate surrounding area.
- In tunnels: for void filling and consolidation of fragmented rock formations, and stabilising semi-permeable soils, very rough sands, and for crevasse filling.
- For the bonding and filling of tubular consolidations, umbrella techniques.
- In mines where only low polymerisation temperatures are allowed.

Product Advantages

- Fire resistant to Class M1
- ADR free transport
- Phthalate-free resin, REACH compliant
- Solvent-free
- Fast reaction times: 60 seconds after mixing of the two components (15°C)
- Due to rapid expansion consumption rate is reduced
- Good compressibility accommodates itself to slight movements of the soil
- Hardened foam does not dissolve into water
- Low polymerisation temperature

Application

1. Equipment

- Two-or three-component pumps with a 1/1 ratio, equipped with individual pressure gauges at the pressure side, in order to control the balance of pressures and flow of the components.
- Power supply: compressed air.
- Performance: at least 3 times the reaction pressure of the resin and/or the highest natural counter pressure (Highest factor taken in consideration first).
- The IP 2C-Highflow a compact two-component 1/1 ratio, air driven, pump, that will allow the pressurised injection of twocomponent resins (1/1 ratio).
- All pumps must be flushed regularly with Washing Agent, a special, non-volatile, cleaning agent.

2. Injection

- Injection pressures vary for different applications: e.g. smaller cracks will result in higher friction losses, to be overcome by higher pump pressures. Larger cracks will require lower injection pressures. Usually the rise in pumping pressures will become evident at the final stage, when the crack is completely volume-filled.
- Pressures during injections in rock and soil, such as generated by compression and friction, during the permeation in lowpermeability, low cohesion soils or fractured rock formations are to be limited below the maximum stress bearing capacity of the given formation. In these conditions, the injection pressures will be decided after a thorough analysis of the geological and structural conditions, counter pressures and substrate stability.

3. Packers

- Mechanical or inflatable packers are used. Size and length of packers is determined according to the application.

Technical Data/Properties

PROPERTY		VALUE		NORM
	Resin (A)		Hardener (B)	
Density (20°C)	approx. 1.180kg / dm^3		approx. 1.200kg / dm^3	EN ISO 2811
Viscosity (25°C)	approx. 20 mPas		approx. 500 mPas	EN ISO 3219
Mixing Ratio (vol.)	1		1	
Mixing Ratio (weight)	1.18		1.21	
Compressive Strength		> 30 kPa (free foam)		EN 12190
Compressive Strength		approx. 5 MPa (confined geocomposite)		EN 12190

Appearance

A-component: Transparent liquid B-component: Dark brown liquid

Packaging

RESIN	
22.5L plastic jerry-can	approx. 26.55kg
180L metal dru	approx. 212.5kg
HARDENER	
22.5L metal dru	approx. 27kg
180L metal drum	approx. 216kg
1 pallet ORGANOSOL™ XP FR	
12 plastic jerry-cans A-component	
12 metal drums B-component	

OR

2 x 180L metal drums A-component
2 x 180L metal drums B-component.

Storage

ORGANOSOL™ XP FR is sensitive to moisture and should be stored in original containers in a dry area. Storage temperature must be between 5°C and 30°C. Once a drum or pail has been opened, the useful life of the material is greatly reduced and should be used as quickly as possible. Shelf life at 20°C of Resin (A) and Hardener (B) is 1 year (in unopened packaging).

TYPICAL POLYMERISATION		
Temperature	12°C	20°C
Start	0’60”	0’50”
End	2’30”	2’00”
Expansion rate (Can be influenced by back pressure)	approx. 30V	approx. 30V

Consumption

Has to be estimated by the engineer or operator and depends on width and depth of the cracks and voids to be filled.

Accessories

To be ordered separately

- IP 2C-Highflow pneumatic two-component injection pump.
- Washing Agent.
- Packers and connectors.
  (See respective Technical Data Sheets)

Health and Safety

ORGANOSOL™ XP FR A-component is classified as irritant.
ORGANOSOL™ XP FR B-component is classified as harmful.

All persons in contact with the materials should wear the appropriate protective clothing and gloves. Spills should be washed immediately with abundant quantities of clean water.

For full information, consult the relevant Material Safety Data Sheet.

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