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EBOLIT FAL

TECHNICAL DATA SHEET
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Product characteristics
EBOLIT FAL is a bonding agent for a chemically resistant putty based on fural aldol resin suitable for preparation of chemically resistant linings and floors.

Applications
Mixing **EBOLIT FAL** resin with a powdered FILLER FAL in the mass ratio of 27 to 30 units of the FILLER FAL to 10 units of **EBOLIT FAL** yields a self-hardening putty (denoted as PUTTY FAL hereafter). Such prepared putties are dense paste-like substances suitable for bonding chemical linings and floors made of acid-resistant or alkali-resistant bricks. The bonding can be performed by the usual technique utilised in case of common phenol putties.
Furthermore, the putty can be used for cementing asperities and cracks in concrete and masonry prior to coating, layered phenol masses and faolite as well as for bonding boardings made of these materials.

Product Features
Brown-black coloured liquid with a characteristic smell.
EBOLIT FAL can be hardened to chemically resistant putties at common temperature between +15 to +20 °C. More detailed information about chemical resistivity can be found in a booklet "Chemically resistant putties for linings and boardings".
The hardened putty withstands temperatures up to 150 °C.

EBOLIT FAL must comply with the following quality characteristics:

Quality characteristic	Value	Methodology of assessment
Consistency at 20 °C (s)	70 to 150	ČSN EN ISO 2431
pH of an aqueous leach	4 to 6	PN-ZM 150/2001

Putty adhesion to surfaces
The PUTTY FAL exhibits good adhesion to ceramics, Bakelite, masonry, wood and Eternit. It is not suitable
for bonding metals.

Physical properties of the hardened putty at 20 °C	
Compressive strength (MPa)	minimally 60
Tensile strength (MPa)	minimally 10
Density ($kg.m^{-3}$)	approx. 1800

The hardened putty resists strong non-oxidizing inorganic acids as well as organic acids and their salts, strong alkalis and all common organic solvent (such as ketones, alcohols, esters or hydrocarbons). Furthermore, it has good resistivity against phenols, chlorophenols, aniline, pyridine and sulphuryl chloride.
It does not withstand oxidizing substances and acids.

The PUTTY FAL consists of the following components:

1. **EBOLIT FAL resin**
2. **Hardening agent FILLER FAL**

   To harden EBOLIT FAL resin, it is mixed with a hardening agent FILLER FAL in the ratio of 27 to 30 units of mass of the powdered filler to 10 units of mass of EBOLIT FAL.

Directions for Use

We mix the measured quantity of **EBOLIT FAL** into the measured quantity of the hardening filler. The obtained paste-like putty is processed immediately. We mix only such quantity of the putty which we are able to process for the given working time, but no more than 3 kg. The working time of the putty is between 1 to 2 hours at 20 °C. After this period, the putty solidifies. In case the workability of the putty is shorter, which can be caused by e.g. faster reaction of older resin **EBOLIT FAL**, a new putty in which a portion of the FILLER FAL is replaced by a FILLER 0 (which does not contain a hardening catalyst) should be prepared.

At higher temperatures, its viscosity lowers. As a result, it is possible to add higher quantity of the filler to the putty to achieve the common density. This way, more hardening catalyst is added to the putty due to which it hardens significantly faster. Consequently, it is necessary to - if possible - adhere to the specified temperature and to avoid mixing a high quantity of the putty at once as the hardening is a strongly exothermic reaction. It is the other way around at lower temperatures - at 5 °C, the hardening process stops. It is forbidden to add water to the putty as it significantly deteriorates all its chemical and physical properties.
It is convenient to mix the putty in porcelain, enamel, stainless or plastic containers that are easily cleaned of its hardened leftovers.
The prepared putty hardens to a rubber-like state in 10 to 12 hours and to a solid state in 24 hours at 20 °C. The putty gains its full firmness in joints after around 10 days. It can be exposed to full chemical load after 28 days long maturing.
Linings bonded using **EBOLIT FAL** must not be exposed to corrosive environment before they are completely hardened.

Usage of the PUTTY FAL for preparation of 1 m^2 of a floor

when chinking	1.1 kg
when laying a bedding for a pavement	5.6 kg

Chemical resistivity of the hardened PUTTY FAL

- Hardened **EBOLIT FAL resists:**
- 85 % phosphoric acid
- 80 % sulphuric acid
- 37 % hydrochloric acid
- glacial acetic acid
- approx. 80 % formic acid
- nitric acid at a concentration to 5 %
- chloroacetic acid at a concentration to approx. 50 %
- potassium hydroxide at a concentration to approx. 25 %
- sodium hydroxide at a concentration to approx. 25 %
- 25 % ammonia
- phenol, tricresol, chlorophenol
- solvents - withstands acetone, ethanol - butanol, trichlorobenzene, ethyl acetate, chloroform, trichloroethylene, toluene, petrol, petroleum
- bases - withstands pyridine bases, pure pyridine, aniline
- chemicals - withstands hydrogen peroxide at a concentration to 5 %, sulphuryl chloride, 25 % sodium sulphide
- Against effects of oxidizing reagents, it is better to use EBOLIT FF.
- Against alternating effects of strongly acidic and strongly alkaline environment, it is better to use EBOLIT FA.
- Against strong organic and inorganic acids, it is better to use EBOLIT AB.

It does not resist aromatic, chlorinated hydrocarbons, esters and ketones in which it swells.
In any case and especially with more complex chemical agents, we recommend to perform a laboratory examination of a sample of the hardened PUTTY FAL in corresponding environment prior to its application.

Packaging & Storage

EBOLIT FAL is delivered in 200 l metallic barrels. Alternatively, it can be delivered in different containers that were discussed and agreed on in advance.
Store it in a sealed container in places protected from direct climatic influences. Recommended storage temperature is between +5 to +30 °C. Must not be stored in the sun or near heat sources. Storing at temperatures below 0 °C does not affect product's application properties.

Transport

EBOLIT FAL is transported by covered vehicles. It is not subject to ADR/RID Regulations.

Warranty

Provided the product is transported and stored in accordance with the above written conditions, its warranty is 6 months from the date it was delivered from a warehouse.

Note

Data about the product characteristics and its processing were obtained by laboratory measurements and application tests. This technical data sheet can provide solely legal advice without any engagements. Use of the product should be always adjusted to specific conditions.