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Tel: +420-412-709 222**Fax: +420-412-547 200****E-mail: chemotex@chemotex.cz****www.chemotex.cz****EBOLIT AB****TECHNICAL DATA SHEET****TL 148/2001**

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Product characteristics

EBOLIT AB is a bonding agent for acid-proof brickwork sealant on the basis of phenol-formaldehyde resin, suitable for medium-stressed acid-resistant fettlings and floorings. Product is a phenol-formaldehyde resol.

Use

It is processed in a mixture with pulverized FILLER AB, which is a blend of mineral flours with an acidic curing catalyst. It is processed to self-hardening sealant (hereinafter refer to as sealant AB) in weight proportions of 3 units of FILLER AB to 1 unit of **EBOLIT AB**. Sealant AB is used as a bonding agent of ceramic, carbon, stone, basalt and similar tiles and adapting pieces for the purposes of chemical-resist building protection and technological files.

Product features

EBOLIT AB in a blend with FILLER AB is hardening-able under normal temperatures between +15 °C to +20 °C. Hardened sealant is virtually hydrophobic and resistant up to 150 °C.

When the temperature is below +15 °C the hardening process is slowing down and when the temperature drops below +5 °C this process is about to be stopped. When the temperature moves over +20 °C the consistency of **EBOLIT AB** is diminishing but on the other hand, consumption of FILLER AB rises. The workability of mixed sealant is up to 2 hours in +20 °C. The hardening period of this sealant is 24 hours in the same temperature. Full chemical resistance does this sealant obtain after about 28 days of maturing.

Physical features of hardened sealant in 20 °C

compressive strength limit (MPa)	30 minimally
Tensile strength (MPa)	3 minimally
Bending strength (MPa)	7 minimally
Shrinkage during hardening (%)	about 0,3

Sealant FAL consists of below mentioned components:

Sealant AB is prepared from following components:

Resin EBOLIT AB

It is a brown-red resinous binding agent with a specific odour after used raw materials. When a storing period is longer rise of consistency as well as water condensation on the surface emerge. EBOLIT AB is workable up to consistency of 200 s.

Powdery hardening FILLER AB

It is a blend of mineral powders with the addition of sourly hardening-making catalyst. The crucial

qualitative condition of FILLER AB is the setting time of the sealant AB. When the temperature is 20 °C the sealant - prepared from 3 weight points of FILLER and 1 point of EBOLIT AB - must be stiffened to 24 hours.

The quality sign of this sealant is also indicated by its workability which must be at least 30 minutes in temperature of 20 °C \pm 1 °C.

EBOLIT AB must comply with these quality signs:

Quality sign	Value	Methodology of setting
Consistency 20 °C (sec.)	40 up to 60	ČSN ES ISO 2431
pH of water leach	7,5 up to 8,5	PN-ZM 148/2001

Product manufacturing

Into the weighted hardening FILLER AB resin is put and mixed. Created sealant paste is immediately manufactured. Only such a quantity of sealant is mixed up which we are able to work with during the stated time of workability that is about 45 minutes in temperature of 20 °C. When the temperatures are higher the workability time lessens. The resin **EBOLIT AB** always contains particular amount of water hence it requires to be put away for at least 24 hours before the manufacturing itself. Moreover the segregate layer of water must be poured thoroughly off out of the resin. Only when this is finished, the resin is capable of processing into a sealant. Powdery hardening filling is needed to protect from moisture thoroughly.

The preparation of Sealant AB for brick-work sealant

Into 30 weight points of powdery hardening FILLER AB for EBOLIT AB 10 weight points of liquid resin EBOLIT AB is mixed in. Subsequently is all mingled homogenously. Created sealant paste has the best properties for the workability until 45 minutes in 20 °C, it stiffens later on and is hardly workable.

The sealant hardening in dilatation joints of walling and its conversion into the solid state is up to 24 hours in temperature of 20 °C. After 96 hours to 1 week of hardening process, we do recommend pre-heating of walling for 6 to 10 hours onto 80 to 100 °C in order to the perfect sealant hardening in the dilatation joints would be reached. By this procedure, the good adhesion of sealant with foundation and bonded materials (bricks) is attained. At the same time, full chemical resistance and firmness of the sealant is secured. Hardened sealant is of dark colour.

The consumption of SEALANT AB for the preparation of 1 m² of flooring

Joint configuration		1,2 kg
Foundation	Tiles	6 kg
	Bricks	8 kg

Conditions for the application of sealant AB for chemical walling

- a) Concrete or brick foundations with cemented plaster for the realized chemical walling must be utterly dry, well-isolated against the water and outer moisture, usually with a quality asphalt isolation. This is important especially in the cases of the emergence of aggressive waters. The foundations must be sufficiently statistically dimensioned for the indicated load.
- b) Concrete or brick foundations with cemented plaster should be furnished with impermeable chemically resistant membrane yet before the realisation of chemical walling usually in the form of asphalt isolation event. PVC foil, rubber, opanole or polyethylene and that on our recommendation.
- c) Sealant AB has a low adhesion to smooth glazed surfaces. Hence, we recommend

roughening of these surfaces yet before the joint configuration by grinding off with carborundum.

- d) In case of possible threat of local attack of acid-proof walling from EBOLIT AB by strongly aggressive substances such as for example concentrated sulphur acid, oleum, higher concentrations of nitric acid (break sealant), setting of the walling to the sealant layer from water glass is carried out in principle. The joint configuration itself is then made with a sealant on an **EBOLIT** basis. In this case, the rubbing with (neutralisation) of dilatation joints and sealant with 10 % of alcoholic hydrochloric acid is very important. After 24 hours, when the acid in the dilatation joints is thoroughly dried out, joint configuration on the **EBOLIT** basis should be carried out. The reason is that the sealants made up from water glass are highly alkaline and they would disable the hardening process of the sealant (resins AB, FA, FF, FAL).
- e) The dilatation joints of walling must be utterly dry, without any dust and grease before the bonding process is initiated. During the jointing and sealant hardening the realized work must be protected from the influences of steam and water. The width of dilatation joints is usually opted in the range from 6 to 10 mm. Ready-made dilatation joints are smeared with **EBOLIT AB** after 24 hours (20 °C). Water tightness as well as wear resistance of the sealant in dilatation joints will dramatically improve after hardening finalisation.
- f) For the miscibility of sealant AB is needed to use clean and dry bins and tools. The foulness with sealant, cement, lime or others substances on alkaline basis are utterly undesirable.
- g) Realized chemical walling must not be exposed to a corrosive effect until the sealants in the dilatation joints are thoroughly hardened.
- h) Non-hardened resin **EBOLIT AB** as well as sealant is well-soluble in acetone or ethyl acetate. That can be used as a cleanser of sealant-stained places. Stiffened sealant is further insoluble.

Chemical resistances of sealant AB

Harden-made sealant AB **resists** virtually all non-oxidizing inorganic acids and bears also organic acids. It also resists very well sulphur acid, hydrochloric acid of all concentrations, phosphoric acid of all concentrations, acetic acid, formic acid, higher fatty acids. It also resists the acids like benzenesulfonic acid, toluenesulfonic acid, naphthalenesulfonic acid and salts of the indicated acids. Sealant AB bears also well solutions of bicarbonate, ammonia and lime, however it is swiftly attacked by diluted solutions of sodium hydroxide or potassium hydroxide and hence we do not recommend its use for this corrosive environment. Good resistance features sealant AB against the most of hydrocarbon such as crude oil, fuel-air mixtures, mineral oils, toluene, benzene and chlorinated hydrocarbons.

Does not resist - sealant is broken by concentrated acids such as sulphur acid in concentration above 80 %, oleum and chloride sulphonic acid. The sealant is also deteriorated by substances and oxidizing acids such as sodium hypochlorite, nitric acid and chromic acid. The sealant is also broken by the hydrogenic fluoride acid. By the sealant AB there is also a need to count on low-resistant ability against alkali as well.

The only low-resistant ability by this sealant is also needed to be taken into account with respect to acetone, alcohol, butanole and esters e.g. methyl acetate, phenolic waters and diluted solutions of an organic bases.

To eliminate changeable effects of strongly acid and strongly alkaline environment, we do recommend the use of resin EBOLIT FA and against the effects of the oxidizing reagents EBOLIT FF. If the effects of fenols, pyridine bases, anilines and polar organic dissolvent are comprised, we recommend the application of EBOLIT FAL.

Packing and storage

EBOLIT AB is delivered in metal drums (200 litres) or in others containers that have been discussed in advance. Product is stored in closed containers at the places protected from direct climatic influences. Recommended storage temperature is between +5 up to +25 °C. This product must not be exposed to direct sunshine nor close to any sources of heat. Temperatures below 0 °C do not have any negative effect on the application characteristics of the product.

Transport

EBOLIT AB is transported in covered vehicles and is not subject to ADR/RID regulations.

Warranty

If the product is transported and stored according to the above mentioned conditions, the warranty is 6 months from the date of stock-out.

Note

Data about the product characteristics and its manufacturing were acquired by laboratory measurements and application tests. This technical sheet can only give a legal advice without any obligation. The manufacturing of the product must be adjusted to the specific conditions.

