

BFL-Mastix bands Description

Composition

BFL-Mastix bands have a square or rectangular form. In order to allow the highest degree of deformability, the core of the bands is made of a soft and watertight material based on a bituminous elastomer rubber. To assure a high adherence on all usual construction materials, the heated contact surface is capable to stick perfectly on the relief of a hard concrete element.

The same adherence is assured on resin and bituminous concrete, asphalt, steel, copper, wood and fibre-cement.



The use of a glue (single or two components bonding agent) is recommended for certain applications. To assure adherence to fresh concrete, the bands are totally or partly coated with a fine crushed special gravel, tightly anchored on the core surface. This kind of wrapping allows the **BFL-Mastix** bands to combine firmly with fresh concrete, thus assuring their anchorage in the concrete.



The core presents as a rubber and bituminous elastomer material. This material is plasto-elastic.

The behaviour of the core is similar to a very high viscosity liquid. Like this one, it fills in the environing space and cannot brake in a static system. In the presence of external stresses such as hydrostatic pressure and if the construction joint is open, the use of core-confined bands is recommended.

The core of the **BFL-Mastix** bands adapts to movements inside the structure during its service life.

The core is highly resistant against aggressions in a natural surrounding. It is chemically neutral and insensible to the concrete alkalinity. In a confined surrounding, the core offers high resistance to chemical aggression by hydrocarbons.

The lengthening capacity of the core is situated between 200 and 300 %.
The apparent density of the core material is 1.28 g/cm³.



The watertightness between the core of the BFL-Mastix bands and the concrete is assured by the crushed fine gravel wrapping.

The granulated material, tightly anchored on the core, is wrapped by the cement paste like the sand and the gravel in the concrete.

The physical-chemical connection between the band's granulated wrapping and the cement paste corresponds to the connection of the aggregates in the general structure of the concrete. The resulting effect is a total compatibility with the concrete, an outstanding chemical stability and the conservation of the mechanical properties of the bands in the course of time.



Adaptation to movements

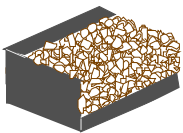
Concrete structures deform themselves due to temperature variations, frost and defrost cycles, soil settling, long term shrinkage, creeping, vibrations and seismic movements.

If the materials which constitute the waterproofing barrier are rigid, they cannot follow the movements produced within the structures and result a detaching and an opening to infiltration of water or any other liquid.

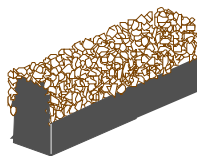
BFL-Mastix bands are very deformable, thanks to the composition of their core.

Four types of bands are made with an elastic reserve :
types RGD, R4 1/2, R4 1/2 D, N.

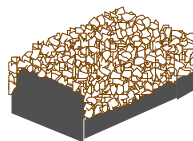
The elastic reserve is constituted by a gravel-free surface on the core. The available core volume can then freely follow deformations without breakage of the connection between the gravel wrapped band surface and the glued surface on its concrete support.



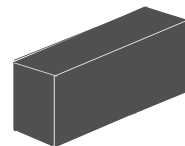
RGD



R4 1/2



R4 1/2 D

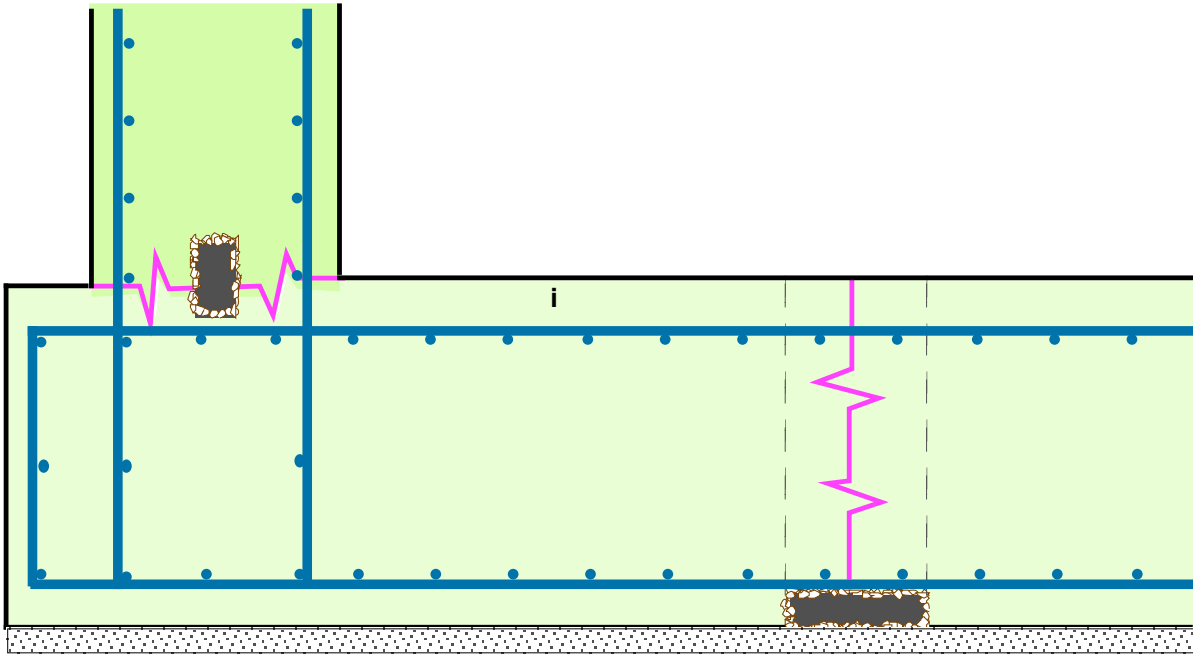


N

Resistance against mechanical aggressions

BFL-Mastix bands are mostly placed inside the concrete, they are therefore protected against mechanical aggressions.

Maintenance works, structural transformations, introducing new service ducts might damage external waterproofing layers during the whole life of the construction. For this reason it is recommended to place the bands inside a concrete element.



Resistance against chemical aggressions

BFL-Mastix bands assure high resistance against aggression in a natural surrounding. They are chemically neutral and insensible to the concrete alkalinity.

In a confined surrounding, they present an excellent resistance against chemical aggressions by hydrocarbons.

The bands are highly resistant against ammonium sulphate 10 g/l, ammonium chloride 10 g/l, caustic soda 30 g/l, ammoniac 25 %, acetic acid 20 %, sulphuric acid 50 %, pure oleic acid and ethyl alcohol (ethanol).

The bands assure high resistance against de-icing salt water, acid waters, sulphated water and chlorinated water in swimming pools.