



Concrete and BFL-Mastix waterstops

Concrete is a modern, solid and durable construction material.
The materials necessary in concrete are the same and as old as the surrounding rock.

Concrete can be compared with artificial rock.

The most important qualities of concrete are its hardness against pressure stress and - when rebars are added- also against traction and shear forces.

Concrete has allowed to realize important structures in civil works, such as power dams, highways, bridges, basins, harbour structures and in the field of buildings, also sky scrapers and outstanding structures and imaginative creations by great architects.

A concrete structure is generally complex, made of many single elements, progressively connected every day. Between the single concreting stages, it is to be avoided, that water can flow through cracks and joints. Therefore, these joints must be treated together with the construction progress.

Water is concrete's friend and enemy.

Water is a friend, when added to cement in adequate proportion, leading to a solid and durable structure. However, water is not concrete's friend, when it can flow - often aggressively – through joints and cracks in the concrete structure.

Render joints waterproof is often difficult, because important damage to the structure cannot be avoided, when inadequate waterproofing means are applied.

BFL-Mastix waterstops form a couple, assuring a proved watertightness in the joints.

BFL-Mastix waterstops offer particular properties to the concrete structure, that concrete alone cannot procure.

Concrete sticks or connects itself only with porous materials, able to absorb water, also in fresh concrete.

In case of fresh concrete connected to non absorbing materials, such as glass or steel, synthetics or plastic, a waterproofing of the interface is not possible.

The case of an existing and a new concrete requires, that the old concrete can absorb water out of the new concrete, in order to adhere tightly to the old one.

The contact surface between a hard and a new concrete must be clean, rough and porous.

Observations on job sites have shown, that it is difficult to follow the mentioned conditions, when waterproofing means are used, which swell when in contact with water. Therefore cleaning of the hard concrete has been more and more avoided.



BFL-Mastix waterstops have a rough and porous mineral surface, allowing a very good anchorage with fresh concrete.

The surface roughness of BFL-Mastix waterstops is the decisive element to assure a real waterproof joint.

BFL-Waterstops act as the return to the fundamental concrete



BFL-Mastix waterstops consist of two components, a deformable bitumen/rubber core and a tightly anchored fine crushed gravel coating.

BFL-Mastix waterstops are considered as part of the concrete.

Various types of waterstop profiles are available. They have a part or total fine gravel coating.

Type R4

Bands for waterproofing work joints.

They are placed into the fresh concrete.

Type R

Bands for waterproofing work joints between hard and new concrete.

They are glued with Mastix MS-Polymer on hard, moist or wet concrete, on steel, PVC or on membranes, etc.

Type R 4 1/2

These waterstops serve the waterproofing of retreat and settlement joints.

Bands shall be glued on hard concrete in a groove.

Type R 4 1/2 D

These waterstops serve the waterproofing of retreat and settlement joints.

They are glued with Mastix MS-Polymer on hard, moist or wet concrete, on steel, PVC or on membranes, etc.

Type RG

These waterstops serve the waterproofing of work joints in corners.

They are glued with Mastix MS-Polymer on hard, moist or wet concrete or on steel.

Type RGD

These waterstops serve the waterproofing of work joints in corners with simultaneous movements.

They are glued with Mastix MS-Polymer on hard, moist or wet concrete or on steel.

Type RB

These waterstops serve the waterproofing of work joints and programmed retreat joints.

They are placed into fresh concrete.

Type N

These waterstops are used for connecting precast elements.

They are glued with Mastix MS-Polymer on hard, moist or wet concrete, on steel, PVC or on membranes, etc.

The BFL-Mastix catalogue should be consulted, to determine the adequate profile for the designed concrete element, the type of joint and the nature of the water.

As conclusion it can be said, that modern concrete is considered to be watertight, when produced in factories with permanent quality control.

All concrete structures show, that waterproofing of work joints is always a problem.

The use of BFL-Mastix waterstops offers a proven solution, because they are a of the same nature, than the adjacent concrete.