MK polimero

GASKETS IN HYDRO-EXPANSIVE RUBBER

Description

The gaskets MK polimero (hydro-expansive tapes) are very secure and efficient in waterproofing joints in field of construction and civil engineering. The gaskets are made of an elastomeric PUR by means of a special procedure. MK polimero has a typical elasticity, similar to rubber, but in contact with water, it starts to swell proportionally with the absorbed amount of liquid.
Due to the swelling, and the consequentially created pressure, the joints will immediately adapt to the variations in joint dimensions. The profiles of MK polimero will 'auto-seal' the joints.
It is known that the swelling of the polymer can create considerable pressures which can, in certain cases, cause damage to reinforced concrete structures.
To avoid these dangerous situations, the maximum limit of swelling of the MK polimero is limited.
MK polimero does not contain volatile substances, and thus can not become brittle vs. time. The typical flexible characteristic of the elastomer remains for many years: a material with optimal durability. The resistance to temperature fluctuations is excellent.

Advantages characteristics

MK Polimero swells in contact with water and adapts shape to the roughness of the joint. The product does not transport water. The profiles MK polimero are fabricated with a high quality elastomer, with a good ability to return to the original shape after swelling phase.
MK polimero has excellent mechanical characteristics as well in dried condition as expanded. The MP polimero develops an isotropic hydro-expansion in all areas where there is contact with water. The hydro-expansion follows and seals all irregularities in the substrate.

Indicated use

MK polimero is used in the following situations offering economic as technical advantages:

- Sealing of connection joints.
- Sealing of dilatation joints.
- Sealing of pre-fabricated panels.
- Sealing of pavement joints (tiles or slabs).
- Sealing of retainment reservoirs.
- Sealing of cables or tubes.
- Restoration of dilatation joints.

And in all cases structural joints need to be waterproofed in presence of water or solutions.
Due to the simplicity and fastness of application at favourable cost, the profiles MK polimero will waterproof at exceptional low costs.
The profiles MK polimero, in flexible elastomer of very high quality, can be used in the production of garage boxes, as sealing profile for glass, or installation or fixing of roofs, etc…

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Method of use In the typical applications as joints in concrete, the profiles MH Polimero are positioned and glued with a suitable adhesive. In case of irregular substrates (concrete), it is advisable to use the hydro-expansive putty P203. On very smooth substrates it is possible to work with rapid hardening cyanoacrylate adhesives. The components of these adhesives do not affect the MK polimero. Also mechanical fixations is possible (nails, screws..), but is not recommended.
Depending on the isotropic hydro-expansive behaviour of the profiles, with the varying length in contact with humidity, the profiles can be embarked and do not require the contact with the joint surface.
The connection, head to head, of the profiles must be performed with maximum care, and in case of mechanical fixation, the profiles must be applied drawing near the ends.
An additional fixation by glue of the joint ends is not required, but can be done using a cyanoacrylate contact adhesive.
NOTE: fix the tapes always in the middle of the structure of the joint, and always at the inside of the reinforcement.

Remarks During the swelling process of MK polimero no gelatinous substances are being released like is the case with the sealing tapes based on acrylates. The gasket MK polimero conserve also after swelling the mechanical properties are not disrupted by structural movements and are not washed out by water pressure, even in severe situations.
The quality and secured functionality of the products are specially and permanently surveyed and guaranteed by our analytical quality control.
MK polimero is not flammable; however it does not drip in contact with fire. For reasons of security the maximum swelling capacity of MK Polimero is limited at 150% of its volume. Doing so, any risk of damaging the concrete is avoided.
MK polimero is chemically inert. Does not contain substances which can damage the concrete, steel reinforcement or materials as PVC, bitumen, or SR8. The product is neutral for the environment, and does not contain poisonous ingredients, so it can be applied and discarded without problems. It is not harmful for ground water. The chemical resistance is very good, and similar to traditional rubber – PU profiles. MK Polimero is naturally resistant against components in the concrete, gas oil, mineral oils, and many acids, and does not become brittle in presence of light or ozone.

Storage The MK polimero profiles must be stored in dry place, if possible, in the original packaging.

Packaging Beside the standard size, the MK polymer can be supplied in every shape possible: tapes, slabs, cords. Depending on the client demands, also special qualities are available with very different expansion properties.
For the usual applications in construction, the quality with maximum 250% expansion in volume is required.
For the usual applications in reinforced concrete following typical profiles are standard available :
20x5 mm box of 108 linear meter
18x8 mm box of 60 linear meter
20x25 mm box of 21 linear meter

- On request, also a variety of circular, triangle or trapezoidal shapes are available with different levels of expansion.

In the case that, for specific applications, the isotropic expansion behaviour of the profile can be an obstruction, than on request also fibre mesh reinforced profiles are available.
The reinforced MK polimero profiles expand in transversal direction only, and not longitudinal, due to the uni-directional fibre.

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Technical characteristics (typical values)

• Expansion % in volume:	
at 6 hours	9%
at 3 days	34%
at 7 days	63%
final	~ 80%
• Specific weight	1,02 Kg/dm^3

The MK polimero tapes, with their specific hydro-expansion properties, can be applied without limitation for each water quality. The hydro-expansion of the polymer is insensitive to the presence of electrolytes in water solution (Me++ and Me+). The profiles can be used in contact with salt water, and even with sea water.
The properties of MK polimero are very durable in time. The maximum swelling, depending on size and dimensions of the profiles, will be reached after 60 to 240 hours. The hydro-expansion is perfectly reversible during drying, and immediately reacts again in contact with water.

Safety indications

Read carefully the safety indications on the packaging, or consult the relevant Material Safety Datasheet of this product.

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