

## TECHNICAL DATA SHEET

# KEMA SWELL

## Hydrophilic bentonite sealing strip



### PRODUCT DESCRIPTION

KEMASWELL is black flexible hydrophilic strip made of natural sodium bentonite clay and synthetic rubber. Permanently active system, which swells up to approximately 400 % of its original dry volume. The expansive clay mass will thus seal hair line cracks and voids in the joint. Highly elastic and plastic properties will easily counterbalance the initial concrete shrinkage of the structure.

### Field of use

It is designed for sealing construction joints, cold joints and working joints in concrete, around pipe penetrations, in sewer joints, against slurry walls, sheet piling, etc.

### Product properties

- Ecological and user friendly system
- It can resist hydrostatic pressure of up to 100 meters of water column=10 bar
- Durability and performance will exceed the design life of the structure (bentonite is natural product)
- It can fill small honeycombs
- Available in sizes 25 by 20 mm

### PRODUCT DATA

#### Basic information

Appearance	Black flexible hydrophilic strip
Packing	Cardboard boxes containing 30 meters of strip: 6 rolls of approx. 5 m length. A full pallet contains 24 cardboard boxes of 30 m = 720 m.
Storage and expiration date	KEMASWELL should be stored under cover, clear of the ground. Protect the materials from all sources of moisture and frost. Storage temperature must be between 5°C and 30°C. Shelf life is unlimited.

#### Technical data

Swelling capacity in contact with water	Swells approx. 400% of its original dry volume
Density	approx. 1,44 kg/dm <sup>3</sup>
Weight	approx. 0,72 kg/m
Resistance against hydrostatic pressure	Up to 100 m water column
Odour	Odourless

### INSTRUCTIONS FOR USE

#### Consumption

The necessary quantities depend on the length of the various (construction) joints, which need to be sealed. It has to be taken into consideration that a lateral overlapping of 5 to 10 cm between 2 lengths of KEMASWELL is necessary.

#### Base

KEMASWELL is preferably applied onto a smooth and dust-free concrete surface.

#### Base preparation

Remove dust, dirt and loose parts by brushing firmly. Level uneven and irregular surfaces.

#### Installation

KEMASWELL can be used under most weather conditions. Installation during heavy rain or in prolonged contact with water can result in a premature swelling of the strip, which should be avoided. No special precautions should be taken during the preparatory activities (installation of the reinforcement bars, placement of shuttering, etc) in view of the subsequent installation of the KEMASWELL strip. The KEMASWELL is applied during the installation of the 2nd phase reinforcement bars, in between inner and outer rows of reinforcing bars.

Application by means of glueing (horizontal applications only)

- Apply a layer of glue with a caulking gun on the concrete surface.
- Unroll the KEMASWELL strip and press firmly into the glue. Wait until the glue is dry before pouring concrete (a concrete cover of 7 cm at all sides should always be respected). The roll ends should have a lateral overlapping of 5 to 10 cm. The ends need to be pressed firmly together.
- Additional nailing or gun nailing will provide secure adhesion onto the concrete.

- Application by means of gun nailing with a steel netting
- Unroll the KEMASWELL strip (a concrete cover of 7 cm at all sides should always be respected). The roll ends should have a lateral overlapping of 5 to 10 cm. The ends need to be pressed firmly together.
  - Place the steel wire mesh profile over the KEMASWELL
  - Fix the system by nailing or gun nailing (use nails with washer, approx. 4 per meter).
  - In case of vertical or hanging applications, KEMASWELL cannot be glued with glue, only use the steel netting application method. KEMASWELL can be fixed around pipe penetrations with a steel wire

## LIMITATIONS

Base temperature +5°C min./ +30°C max.

Air temperature +5°C min./ +30°C max.

Material temperature +5°C min./ +30°C max.

### Warnings

- The swelling properties are created by the particle structure of the clay.
- KEMASWELL can only function properly in a confined space in order to develop sufficient expansion pressure and assure waterproofing.
- The expansion of KEMASWELL will create a certain pressure, which needs to be counteracted by at least 7 cm of concrete coverage at both sides (installation in the middle of the joint is preferred).
- The durability and performance of the KEMASWELL system are superior to the life expectancy of the construction, since it is composed out of inert rubber and clay, a natural product aged millions of years.

**Data source:** All technical data in this technical sheet was obtained by laboratory research. Actual data may differ due to different working conditions.

**Local restrictions:** Due to specific local regulations the installed product can differ from country to country. For exact instructions for use a country specific technical sheet should be obtained.

## LEGAL BASE

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