

# DAM<sup>®</sup> JOINTS HDG

## WATERSTOPS AND ACTIVE SEALING JOINTS OF SODIUM BENTONITE HIGH DENSITY GEL

### CHARACTERISTICS

**DAM<sup>®</sup> JOINTS HDG** are swell able sodium bentonite gel profiles, produced with an innovative system of controlled prehydration and chemical stabilization of the bentonite.

**DAM<sup>®</sup> JOINTS HDG** swell in contact with water and seal the surrounding voids and pores of the confining concrete structure, preventing the water to pass trough.

**DAM<sup>®</sup> JOINTS HDG** are produced with triangular, trapezoidal or rectangular section by an innovative technique of blending and vacuum extrusion (2 cycles) which eliminates any porosity in the bentonite gel, obtaining the enhanced characteristics of high density gel (HDG) and an exceptional impermeability to the water ( $K=E^{-13}$  m/sec), in addition to a superior chemical stability, even if in contact with polluted or hard water and acid or basic environment as, for example, the case of fresh concrete poured over it.

**DAM<sup>®</sup> JOINTS HDG** contain green pigments having the function of tracing any infiltration of water not sealable by the normal expansion of the profiles (for instance, in presence of macroscopic concrete defects). This allows a specific and punctual maintenance of the system..

### FIELDS OF APPLICATION

The hydro-swelling **DAM<sup>®</sup> JOINTS HDG** are studied as form and dimension to meet the specific application needs in the construction field and to provide the water-tightness of the structure, even under extreme situations.

**DAM<sup>®</sup> JOINT HDG DJ 2025** – Profile of rectangular section, is produced in rolls 5 m long. Section dimensions: mm 20x25. Weight of the profile: 1 Kg/m.

**DAM<sup>®</sup> JOINT HDG DJ 3312** – Profile of trapezoidal section, is produced in bars 1 m long. Section dimensions: mm 33x12. Weight of the profile: 640 g/m

**DAM<sup>®</sup> JOINT HDG DJ TR35** – Profile of triangular section, produced in bars 1 m long. Dimensions of the two perpendicular sides: mm 35x35. Weight of the profile: 1,1 Kg/m.

**DAM<sup>®</sup> JOINT HDG DJ TR35**, is installed outside the structure along the slab to wall corner as hydro-swelling moulding. For its chemical composition the **DAM<sup>®</sup> JOINT HDG DJ TR35** can be combined with any waterproofing system (bituminous membranes, osmotic cements, etc.).

**DAM<sup>®</sup> JOINT HDG DJ TR35** is also used as water-stop profile when placed along the central line at the base of vertical walls, before the concrete pouring (the profile must be laid on its wider side)

**DAM<sup>®</sup> JOINT HDG DJ TR35** is recommended as efficient waterstop in case of middle-high hydraulic loads.

### INSTALLATION INSTRUCTION

**Support:** The concrete surface has to be clean and regular as much as possible. Remove every incoherent and loose element (sand, earth, grout debris, etc.).

**Product:** **DAM<sup>®</sup> JOINTS HDG** have a plastic and flexible consistency and can be fitted to the roughness and irregularity of the surface by the pressure of the fingers.

**Installation:** **DAM<sup>®</sup> JOINTS HDG** installed inside a concrete casting must be covered with a minimum of 7 cm of concrete, avoiding the contact with the connecting rods, reinforcement rods, spacer blades of the moulds. Using **DAM<sup>®</sup> JOINT HDG DJ TR35** as external hydro-swelling moulding along the corner between horizontal and vertical surfaces, it must be immediately covered with a **DAM<sup>®</sup> COVER JOINT** strip followed by a concrete layer or by the waterproofing membrane installation.



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**Fixing:** DAM<sup>®</sup> JOINTS HDG are fixed with wide-head nails to the surface every 20 / 25 cm. In case of concrete poured from a high point, the fixing must be improved with the specific perforated strips Fixo (supplied on demand) and wide –head steel nails 3– 4 cm long

**Please note:** The exceptional impermeability and the high density of DAM<sup>®</sup> JOINTS HDG allow their use also in presence of a wet support, without any needs of containment-net as normally requested by some other waterstops to slow down their too fast swelling.

**Please note:** When DAM<sup>®</sup> JOINT HDG DJ TR35 is used as a water stop, it must be fixed with the specific perforated plates (supplied on demand) which must be folded at 90° and installed on the profile with steel nails. When DAM<sup>®</sup> JOINT HDG DJ TR35 is used as a external moulding, it does not require any mechanical fixing but it must be immediately covered with a DAM<sup>®</sup> COVER JOINT strip. and then confined with a 10 cm thick concrete layer or with well compacted soil (should be use in a membrane system, it does not need the DAM<sup>®</sup> COVER JOINT nor any concrete on top, but only the compacted soil)

#### TECHINCAL DATA

|  |   |
|--|---|
| <b>Composition</b>                               | Sodium bentonite, water, stabilizing polymers in solution, green non-toxic pigment  |
| <b>Weight per m.</b>                             | DJ2025 = 1.0 Kg<br>DJ TR35 = 1.1 Kg<br>DJ 3312 = 640 gr   |
| <b>Dry Content</b>                               | about 70%   |
| <b>Maximum value of expansion in fresh water</b> | The isotropic expansion of the DAM <sup>®</sup> JOINT HDG is 6 times his dry volume without loss of cohesion of the mass  |
| <b>Free volumetric expansion in water</b>        | 24 hours -70% 48 hours -130%<br>144 hours -200% 360 hours -600%   |
| <b>Free volumetric expansion exposed to rain</b> | 24 hours -10% 48 hours -18%   |
| <b>Dry/wet cycles</b>                            | After 5 cycles substantial changes of the characteristics are not occurred  |
| <b>Stability in the time</b>                     | The pre-hydration, the high density and the chemical stabilization of the bentonite confers to the products a constancy of characteristics also in presence of salty, solfatic and rich in calcium and magnesium ions water (resistance to cationic exchange) |