Rev 0
10/20



INDUSTRIAL PROTECTOR

# TERMOTEK

Rigid two-component closed-cell polyurethane foam

## DESCRIPTION

TERMOTEK is a two-component rigid polyurethane resin, with closed cells, expanding, applicable by spray (with special machines for the application of highly reactivity coatings). This system consists in spraying the compound on the surface to be insulated (roof, wall, attic, terraces, etc.) as if it were a common painting. The mixture of the two components is also applicable on vertically arranged surfaces without danger of it flowing down.
Its expansion begins immediately and the consolidation is completed in a very short time. Polyurethane foam is one of the best thermal insulators currently on the market and TERMOTEK, given its particular chemical composition, allows the obtaining of high chemical-mechanical resistance, combined with high expansion, also due to the formation of a duroelastic film (a few mm thick) surface, permeable to water vapor, but impermeable to water.

## GENERAL CHARACTERISTICS

TERMOTEK being a rigid polyurethane foam is one of the few plastic materials that can be produced, using special machinery and specific formulations, directly on site with considerable performance, economic and speed of intervention advantages. The polyurethane foam in place, or in situ, according to the wording used by the technical standards, is applied with the spray technology, by projection directly on the surfaces to be insulated, or by injection or casting inside the cavity or the product.

TERMOTEK is ideal for:

- Thermal insulation (lambda)
- Continuous insulating layer without thermal bridges
- Humidity and condensation control
- Mechanical properties
- Energy saving
- Improvement of the indoor microclimate
- Recovery of spaces
- Lightness
- Adaptability to any type of surface (even irregular)
- Excellent water tightness even in the presence of pressures of 500 Kpa
- Walkable for painting, waterproofing and maintenance
- Vapor permeable
- Versatile and quick to apply
- Possibility to intervene even on occupied buildings
- GREENHOUSE GAS: contribution with zero emissions to the Ozone balance.

SHEET

## FIELDS OF APPLICATION

Thanks to its characteristics, TERMOTEK can be used in various applications and more precisely:

- Insulation for the building industry

- Insulation in the constructions of buildings and elements such as walls and ceilings, roofs, air curtains, false ceilings, plinths, pipes, tanks, storage, cold rooms.

TERMOTEK closed-cell polyurethane foam is a very versatile material that allows us to offer solutions to numerous insulation problems in construction, combining the high insulation itself, water resistance and structural mechanical properties. The insulation with continuous foam coat guarantees an energy saving of about 30% compared to a building with poor insulation and allows you to carry out quick and simple interventions with great savings of time and money by the builder. In the case of application with pumps connected to a static helical mixer (for injection, therefore), the particular chemical-mechanical stability, due to the presence, in addition to traditional polyether polyols, of special hydrophobic reactive resins with very high performance, allows the use of TERMOTEK in the following sectors:

- Waterproofing and consolidation of rocks, friable soils, structures affected by high pressure water flows, as well as the conveyance of water in groundwater areas and the filling of voids and cavities.
- Tunnels: waterproofing of substantial water flows through cracks or through the recovery joints of the ashlars.
- Dams and hydraulic works: repair/sealing of cracks, even in the presence of aquifer.
- Wells: waterproofing / sealing of joints, cracks, cracks, in the case of heavy water leaks
- Cavities: sealing and insulation.
- Subfoundations: waterproofing.
- Friable and de-cohesive soils: consolidation.
- Masonry and bulkheads: waterproofing under the groundwater level.

TERMOTEK, thanks to its particular composition, is able to penetrate into the smallest cracks, sealing them even in the presence of significant water infiltration. TERMOTEK always hardens, in the presence or absence of water, forming a stable and resistant foam, hard-elastic and compact, characterized by high chemical-mechanical stability.
The hardening /foaming reaction takes place in a very short time but, for particular needs, or in case of low application temperatures (inf. +15 ° C), it can be accelerated by introducing, in component A, small quantities (0.5-1% by weight) of a special catalyst (AT1 accelerator) or, when possible, increasing the temperature of the two components in the machine and in the pipes (55-60 ° C, according to the ambient and support temperature).
Our technical department is available to advise on the quantities and application methods in the various problems.

## WORKABILITY AND STORAGE

TERMOTEK requires good agitation before use, so both component A and component B must be shaken carefully before use, in order to re-homogenize any additives deposited. Component A can undergo a significant increase in viscosity if stored at low temperatures.
TERMOTEK in the original sealed packaging, stored in a cool and dry place, at temperatures between +5° C and +35°C, has a duration of 6 months.

## SPECIFICATIONS

(at +23°C and 60% R.H.)
Comp. color Apaglierino-amber
Comp. color Bbruno (Italy)
MV comp. A1,070 ± 0.02 Kg/dm 3
MV comp. B1,230 ± 0.03 Kg/dm 3
Viscosity comp. A200 –300 mPas
Viscosity comp. B160 –240 mPas
Mixing ratio100 + 100 parts in volume/100+115 parts by weight (A+B)

Start reactioninf. at 10 seconds
Full hardening3-5 minutes

SHEET

| | |
|---|---|
| | (according to environmental conditions) |
| Expansion factorca 30 times the initial volume | . |
| Specific gravity at full expansion | 30-32 Kg/m$^3$ |
| Lambda factor, stabilized thermal conductivity ΛD 10 °C W/mK | 0.020-0.024 |
| Compressive strength | sup. to 2.5 Kg/cm$^2$ (perfectly walkable after a few minutes) |
| Operating temperature | - 25°C / + 90 °C |

Chemical resistance:

TERMOTEK is resistant to most chemicals used in construction, such as:

- solvents
- paints
- bituminous materials,
- Sealants
- plasticizers,
- mineral oils,
- dilute acids and alkalis
- aggressive industrial atmospheres.

TERMOTEK is resistant to the attack of biological agents and does not favor the development of condensation or mold inside the structures.

## DISPOSAL

TERMOTEK is an inert and non-biodegradable material that can be disposed of in normal landfills. Its possible disposal in landfills is therefore not a possible pollution factor.

Polyurethane foams are considered waste similar to municipal solid waste. Therefore they can be disposed of in any public landfill.

## ENVIRONMENTAL ASPECTS

Compared to any other insulating material, the polyurethane foam applied on site reduces the environmental impacts caused by the transport of the material on site.

The on-site expansion of the foam involves, compared to the liquid phase of the two components, an increase in volume between 25 and 30 times depending on the conditions of application.

Using a single means used to transport equipment and components, it is possible to isolate a surface that would require the transport of more than 200 cubic meters of preformed insulation material.

The product does not contain CFCs, nor does the expansion take place by means of flammable products (e.g. pentane).

## PACKS

Drums:

- Component A: 250 kg
- Component B: 220 kg

## LEGAL

The information contained in this technical sheet, although representing the most advanced stage of knowledge, does not exempt the user from performing accurate preliminary tests in their conditions of use and operation. We therefore decline any responsibility for the improper use of the product.

SHEET