

TECHNOPROOF THERMO



Thermal protection and waterproofing product for roofs



■ PROPERTIES

Top quality, advanced new technology elastomeric thermal protection and roof waterproofing product (2 in 1), without solvents. Based on modified polyurethane and acrylic resins, its application creates a uniformed protective membrane without seams or joints with exceptionally powerful bonding ability and flexibility, resistance to permanent moisture, standing water, and frost. In addition, due to the glass microspheres contained in its formula and its excellent resistance to UV radiation, its whiteness, and reflectivity, it also provides excellent thermal insulating properties to the surfaces where it is applied.

Among its most important advantages resulting from its application, is the cost reduction for heating and cooling (winter-summer) and the remarkable energy savings.

Certified as a 'Cool' material of low thermal conductivity and high reflectivity by the National Technical University of Athens (Mining and Metallurgical Engineering department). Classified as product for surface protection of concrete surfaces per EN 1504-2.

■ ADVANTAGES

- Covers hairline and capillary cracks and prevents their reappearance.
- Does not require the addition of reinforcing polyester mesh.
- Easily applied using a paint roller, an emulsion brush or airless spray.
- It is not affected by UV radiation (no chalking).
- Maintains its whiteness.
- Does not saponify.
- It is water vapour permeable.

The technical specifications and directions of use contained in this technical brochure are the results of the knowledge and experience of the company's research and development department, as well as from the real-life applications of the product. The recommendations and suggestions regarding the use of the products are made without guarantee since the respective conditions during their application are beyond the control of the company. For this reason, it is the user's responsibility to make sure that the product is suitable for the intended application as well as the application conditions of the project.

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- It is walkable, without sticking (after its complete cure).
- Extremely resistant to adverse weather conditions.
- Unaffected by atmospheric pollutants.
- Maintains its flexibility, properties, and strength at temperatures from -30°C to +90°C, over time.
- Does not take up space and does not add weight to the building.
- Low cost, compared to other insulation systems.
- Easy to spot-repair, if worn from misuse or other cause.
- Compatible with existing thermal insulating and waterproofing systems.
- Presents 50% lower thermal conductivity than other white waterproofers.
- **Reflective thermal protection:** Thermal comfort - protection from external temperatures - energy efficiency. ✓ Prevents the condensation of water vapour inside the building, while at the same time it protects the membrane formed by the product application, from the growth of microorganisms (black and green mold). ✓ Reduces heat absorption, due to the glass microspheres it contains, which give it excellent reflective and dispersion properties that return back in the environment the solar (thermal) radiation they receive (the coated surfaces), at a rate of over 90%.
- Significantly reduces energy consumption for heating or cooling. In combination with the thermoceramic energy efficient paint THERMOELASTIC COLOUR, it reduces the temperature in the summer months and at the same time forming a strong, energy efficient protective coat.
- As a coating product, it is a smart and affordable solution in terms of waterproofing and thermal protection of new or existing buildings, especially those built before 1980.
- Contributes to the energy upgrade of buildings and residences.

■ APPLICATIONS

TECHNOPROOF THERMO of DUROSTICK thermally protects and at the same time waterproofs, new concrete surfaces without any waterproofing, but also surfaces already waterproofed with acrylic,

hybrid, cementitious products, or even torch-down roofing materials.

It can also be applied to already thermally insulated surfaces to maintain their properties. It can be applied to metal roofs of homes, factories and storage facilities, and other roofing materials (worn-out roof panels of any type, but also on trailer/mobile homes, RV/motor homes, etc.). Suitable for application on containers for storage and transport of products that may be sensitive to high and/or low temperatures.

■ USE

1. Preparation of cementitious, uninsulated surface:

Using a roofing scraper or a wide chisel, remove all deteriorated sections, if any. Continue by using a hard, street type, broom. If any moss, lichen or grease stains are present, remove them by using D-95 CLEANER of DUROSTICK, or a bleach-water solution at a dilution ratio of 1:1. Scrub the surface thoroughly and rinse with plenty of clean water. All application surfaces must be dry and should not get wet for the next 48 hours, in order to avoid surface moisture from being trapped.

2. Preparation of surfaces coated with waterproofing product(s):

- **Elastomeric or cementitious waterproofer in good condition:** Just apply over to protect them from future damage and to achieve thermal protection in addition to waterproofing.

- **Detached torch-down roofing materials:** Remove them using a wide roofing scraper and roofing torch or other mechanical means. Thoroughly clean and prime the entire surface with WATERPROOF EPOXY PRIMER AQUA. Use the same primer for non-absorbent tiles. The application of TECHNOPROOF THERMO takes place up to 12 hours after the application of the primer.

- **Well adhered existing torch-down roofing materials:** Remove all the dust from their surface and seal any detached sections (if any). Prime with AQUAFIX, diluted by 20% with clean potable water, to stabilize its pebbles.

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- **Detached or deteriorated elastomeric waterproofers:** They have to be removed using a wide roofing scraper or a razor blade.
- **Detached elastomeric materials that are not visible:** Locate them by using a garden hose. Pour water on the roof surface from about 1 meter high and listen carefully. Notice the change of the sound the water makes when it hits the detached parts of the waterproofing and mark them. Cut the detached sections using a razor blade, a scraper or other mechanical means. Scrape the defective material off.
- **Metal roof panels:** Pressure wash the roof to remove surface rust and other deposits. It is recommended to apply RUST REMOVER of DUROSTICK on very rusty surfaces, and then protect them from corrosion using either the NATURAL RED LED or the METAL PRIMER of DUROSTICK. Seal around the installation screws with the polyurethane sealant DUROFLEX-PU of DUROSTICK before the application of TECHNOPROOF THERMO.

3. Application

Using a roller and a brush, first prime cementitious surfaces with the water-soluble, micromolar stabilizer AQUAFIX or the SOLVENT-BASED PRIMER, diluted 50% with THINNER 101 of DUROSTICK. When working on a worn-out cementitious surface that is dusting, prime with WATERPROOF EPOXY PRIMER AQUA, as described before. Once the primer has been absorbed into the surface and is completely dry, it is possible for some hairline cracks to become visible. Treat those cracks by applying several coats of TECHNOPROOF THERMO, until they are completely sealed. Seal wider cracks ($\geq 1\text{mm}$) using the elastomeric sealant DS POLYMER or by using the polyurethane elastomeric sealant DUROFLEX-PU of DUROSTICK. Once the sealant is dry, apply two coats of TECHNOPROOF THERMO to the sealed sections. The waterproofing/thermal protection is completed by applying 2-3 universal coats* (crosswise, covering any small defects of the substrate) with a difference of 6-18 hours between them, depending on the weather conditions or once the previous coat has dried and become walkable.

*Apply it without any dilution with a roller, brush, or airless spray.

■ HELPFUL TIPS - NOTES

- Mix well before use with a low rpm mixer.
- Protect all vertical surfaces around the roof (parapet walls), at their entire height.
- Avoid exceeding thicknesses of 0.5mm per coat.
- Low ambient temperatures delay the final curing time while high ambient temperatures speed up the curing process.
- Avoid applying the product in high humidity conditions or when there is possibility of rain within the next 24 hours.
- The product is walkable after 4-5 days, while it acquires its full mechanical strength after 20-25 days (depending on weather conditions).

■ CLEANING

Clean all tools with water and soap or detergent, if necessary, immediately after use.

■ CONSUMPTION

- Minimum consumption 1.0kg/m² for two coats, depending on the substrate and the application method.
 - 1.5kg/m² for three coats, depending on the substrate and the application method (long-lasting protection - exceeding 15 years).
- STORAGE: Store in shaded places protected from frost, for 24 months from production date. If opened, it will keep for 18 months, as long as it is sealed tightly.

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■ SAFETY DIRECTIONS

The product needs no hazard labeling under current European and national legislation. However, it is recommended to keep away from the reach of children. If swallowed, seek medical advice and show the container or label.

■ PACKAGING

4kg, 12kg & 20kg container.

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TECHNICAL SPECIFICATIONS	
■ Form-Color	Viscous paste - White
■ Density	1.20±0.05kg/lit
■ Elongation at break (per ASTM D 412)	After 8 days of curing and at 1mm thick membrane, the elongation at break was determined at 400%
■ Full tightness	7 Atm per DIN 1048
■ Capillary water absorption	0.01kg/m ² ·h ^{0.5} (EN 1062-3, requirement EN 1504-2: w < 0.1)
■ Permeability s _D to CO ₂ per EN 1062-6	s _D > 50m
■ Water vapour permeability s _D per EN ISO 7783	s _D = 1.17m (water vapour permeable class I, s _D < 5m)
■ Adhesion to concrete per EN 1542	1.2 N/mm ² (requirement for flexible systems without traffic: 0.8 N/mm ²)
■ Impact resistance per EN ISO 6272-1	10Nm (class II)
■ Application temperature	From +8°C to +30°C
■ Temperature resistance	From -30°C to +90°C

V.O.C. (Volatile Organic Compounds):

Limit value of maximum V.O.C. content according to EU (Directive 2004/42/EC) for the particular product (category A/c: 'Coatings for exterior walls of mineral substrate', Type WB): 40gr/lit (2010). The ready to use product contains maximum 12gr/lit V.O.C.

DUROSTICK S.A.
 ASPROPYRGOS ATHENS PC:193 00
 GREECE 22

DoP No.: 163
EN 1504-2
TECHNOPROOF THERMO
 Surface protection product Coating

Permeability to CO ₂ :	s _D >50m
Water vapour permeability:	Class I (permeable)
Capillary absorption:	w<0.1kg/m ² ·h ^{0.5}
Adhesion (pull of test):	≥0.8N/mm ²
Artificial weathering:	Pass
Reaction to fire:	Euroclass F

Dangerous substances comply with 5.4

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