

TERAPOR® ULTRA

innovative external insulation system with extremely high thermal characteristics based on hi-tech insulating material with graphite reflectors and absorbers built in its structure



Scope of use

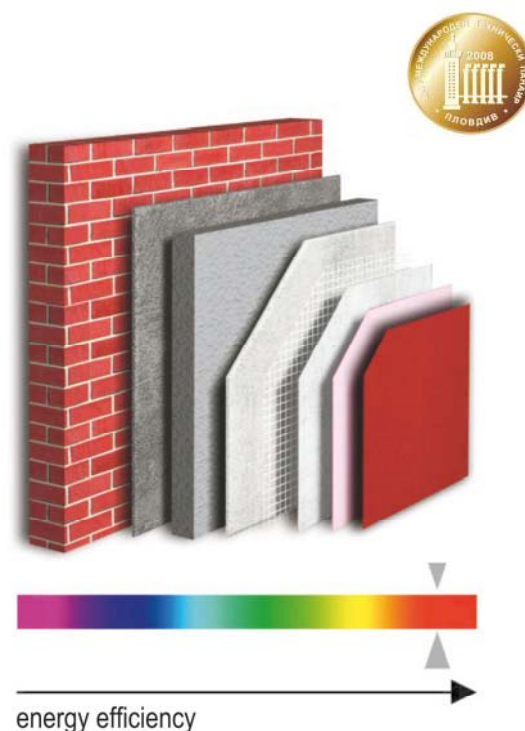
TERAPOR® ULTRA is a thermal insulation system with exceptional thermal characteristics made with facade polystyrene with graphite reflectors and absorbers integrated in its structure and plates of different thicknesses depending on the specific conditions and requirements. All its components are practically tested and cautiously selected to complement each other in an optimal way to be applied as a system. This ensures durability, efficiency and smooth operation in the climatic conditions, encountered in the local latitudes.

The system is particularly apt for low-energy and passive buildings. Graphite, built into the EPS-structure is reflecting and stopping infrared and UV rays. This is a feature of an excellent insulator and secure protector against penetration of radiation in the building. Using graphite polystyrene in insulation of the building increases its energy efficiency by about 20% - 25% compared to that of ordinary polystyrene. It is characterized by very high thermal performance in all seasons and is protecting premises against cooling in winter and overheating in summer, saving up to 80% of heating and cooling costs.

TERAPOR® ULTRA improves color stability and ease maintaining the cleanliness of the building facade. The proper installation ensures longevity of the facade, its hydrophobicity and mechanical protection. The system is actively "breathing" and vapor permeable and ensures healthy indoor environment, allowing the construction to "breathe", thus effectively preventing the accumulation of condensation and the developing mold therein and in the premises.

The ENERGY IN COLORS tinting system offers an array of opportunities for individual shaping of finishing coat of the thermal insulation by color and structure, offering a choice of over 2080 colors and five structure types of decorative plaster.

TERAPOR® ULTRA is tested and certified according to current European standards. It was awarded the Gold Medal at the International Plovdiv Trade Fair in 2008.



Areas of application

TERAPOR® ULTRA is optimized for low energy and passive buildings. This advanced thermal insulation system is also recommended for energy efficiency measures in buildings when maximal insulating effect and minimal energy costs are aimed. It is particularly suitable for thermal insulation of buildings of the cultural heritage or where maximum insulation effect is aimed simultaneously with a limited thickness of the mounted thermal insulation system.

Properties

| | |
|--|---|
| particularly high thermal characteristics | resistant to pollution and aging |
| extreme heating and cooling costs reduction | excellent durability and color stability |
| suitable for energy refurbishment of cultural heritage buildings | highly vapor permeable and allowing "breathing" of the construction |
| suitable for low-energy and passive houses | resistant to UV-rays |
| contains graphite reflectors and absorbers | quick and easy installation |
| integrated protection against fungi, mold and mildew | certified system, with 15 years warranty |

Components

THERMO INSULATION MATERIAL with thickness up to 25 cm

- **TERAPOR® EPS**
(facade thermal insulation boards from graphite EPS with increased thermal insulation properties, as an element of an integrated thermal insulation system)

FIXING OF THE THERMO INSULATION PLATES

- **TERMOFLEX® ADHESIVE MORTAR FOR EPS/XPS**
(adhesive mortar solution for bonding thermal-insulation expanded (EPS) and extruded (XPS) polystyrene boards on different bases, when thermo insulating buildings)
- **PLASTIC ANCHORS**
(hammer in anchors for mechanical montage of thermal insulating plates made of EPS or XPS)

ARMING PLASTER

- **REINFORCEMENT FIBERGLASS MESH**
(alkali proof fiber glass mesh for producing an armed mortar coat in an thermal insulation system and retrofitting of cracks on facade surfaces)
- **TERMOFLEX® REINFORCING MORTAR FOR EPS & XPS**
(construction reinforcing mortar for bonding and plastering thermo-insulation boards from expanded (EPS) and extruded (XPS) polystyrene when thermo insulating buildings)

PRIMER COVERING

- **TERMOFLEX® COLOUR PRIMER**
(coloured steam permeable primer, which penetrates within the base and improves adhesion prior to plaster application and facade painting)

FINISH COVERING

- **TERMOFLEX® PRO**
(ready to use colored paste-like plaster for thin film protective and decorative coatings with dragged or scratched surface)

ADDITIONAL COMPONENTS

- **CORNER PROFILES, CORNER PROFILES WITH DRIP CAP, LUTING PROFILES AND ACCESSORIES FOR THERMAL INSULATION SYSTEM**
(for watertight shaping and arming the edges of thermal insulation systems in the area of edges, corners, around windows, doors etc. and their contact with other elements)
- **ACCESSORIES FOR SET OFF AND CLOSING PROFILES**
(accessories for precise and reliable shaping of the set off and its integrating into a thermal insulation system)

Instructions for use

For more information and detailed description of all necessary operations, which should be performed refer to "Technological instruction for constructing thermal insulation systems TERMOFLEX® and TERAPOR®.

Attention!

The installation of the thermal insulation should be performed at dry weather at temperature of the base and environment from +5°C to +30°C and air humidity below 65%.

Classification

Complies with the requirements of European and Bulgarian standards and measures up to:

| European Standard | Type | Testing protocols |
|--|----------------------|------------------------|
| ETAG 004 | - | ETA-15/0730-18.12.2015 |
| EN 13501-1 | B s1 d0 (Euro class) | № 1871-CPD-RtF-104 |
| Production control certificate: | | № 1020-CPR-060042369 |

Technical data

Testing protocols are issued by Notified Body (NB 1020) for compliance evaluation with Technical and Test Institute for Construction, Czech Republic and Notified Body (NB 1871) Center for Testing and European Certification, Bulgaria.

| Parameter | Measure | Testing method ETAG 004 | Testing result | Requirements according to ETAG 004 |
|--|-------------------|----------------------------|--------------------------|---|
| Reaction to fire | - | - | Euro class B s1 d0 | EN 13501-1 |
| Water absorption after 1 hour and base coat: - TERMOFLEX® REINFORCING MORTAR FOR EPS & XPS - TERMOFLEX® PRO - TERMOFLEX® DRY MINERAL PLASTER | kg/m ² | cl.5.1.3.1 | 0,05 0,49 0,21 | ≤ 1 |
| Water absorption after 24 hours and base coat: - TERMOFLEX® REINFORCING MORTAR FOR EPS & XPS - TERMOFLEX® PRO - TERMOFLEX® DRY MINERAL PLASTER | kg/m ² | cl.5.1.3.1 | 0,38 0,86 0,86 | ≤ 0,5 |
| Freeze-thaw behavior | - | cl.5.1.3.2.1 | pass | None of the following defects occurred: - blistering or peeling - failure or cracking - detachment of the render |
| Bond strength after freeze/thaw cycles - TERMOFLEX® PRO - TERMOFLEX® DRY MINERAL PLASTER | N/mm ² | cl.5.1.3.2.2 | 0,21 0,15 | ≥ 0,08 |
| Impact resistance | - | cl.5.1.3.3 | Category III | - |
| Water vapour permeability - Equivalent air thickness: - TERMOFLEX® PRO - TERMOFLEX® DRY MINERAL PLASTER | m | cl.5.1.3.4 | 0,33 0,14 | ≤ 2 |
| Release of dangerous substances | - | cl.5.1.3.5 | No performance assessed. | |
| Bond strength between base coat (TERMOFLEX® REINFORCING MORTAR FOR EPS & XPS) and insulation product - After hydrothermal cycles on rig - On test sample at age of 28 days | N/mm ² | cl.5.1.4.1.1 | 0,16 0,13 | ≥ 0,08 |

| Parameter | Measure | Testing method ETAG 004 | Testing result | Requirements according to ETAG 004 |
|---|-------------------|----------------------------|----------------------|---------------------------------------|
| Bond strength between adhesive and substrate - No complementary conditioning - 2 days immersion in water + 2 h drying - 2 days immersion in water + 7 days drying | N/mm ² | cl.5.1.4.1.2 | 0,66 0,35 0,93 | ≥ 0,25 ≥ 0,08 ≥ 0,25 |
| Bond strength between adhesive and insulation product - No complementary conditioning - 2 days immersion in water + 2 h drying - 2 days immersion in water + 7 days drying | N/mm ² | cl.5.1.4.1.3 | 0,14 0,13 0,15 | ≥ 0,08 ≥ 0,03 ≥ 0,08 |
| Wind load resistance - Not placed at the panel joint - Placed at the panel joint | kN | cl.5.1.4.3 | 0,47 0,43 | > 0,45 > 0,40 |
| Bond strength after ageing | N/mm ² | cl.5.1.7.1.2 | 0,16 | ≥ 0,08 |

The information contained in the current document is based on our knowledge and recent technical achievements and experience that we have at the time of the last version. The technical recommendations concerning application that we offer in order to facilitate buyers and those working with our products are non-binding and are neither grounds for legal contract relations, or for additional obligations resulting from the purchase contract. They do not dispense buyers from the necessity to verify products application according to the instructions for every specific use. We as manufacturers guarantee the quality of the product, but cannot influence the circumstances and methods of its use. Application of the product should be performed by qualified personnel.