

## TERMOFLEX® ADHESIVE MORTAR FOR EPS/XPS (with fibres)

elastic adhesive mortar strengthened with armoring fibers for bonding thermo insulation EPS/XPS boards on different bases when thermo insulating buildings



### Scope of use

TERMOFLEX® ADHESIVE MORTAR FOR EPS/XPS (with fibres) is a high quality construction adhesive for bonding expanded polystyrene (EPS) and extruded polystyrene (XPS) boards (skinless). The adhesive is cement-based and possesses high adhesion power to all types of mineral bases, so as to polystyrene and ensures strong bonding of the thermal-insulation boards to very strong bases. The armoring fibers within the adhesive's content increase its strength and mechanic stability.

The adhesive mortar is an element of the integrated thermal-insulation systems TERMOFLEX® CLASSIC and TERAPOR® ULTRA and is suitable both for newly erected buildings and old buildings – within the process of renovation or improvement of their thermal-insulation. The air-entraining additives within the mortar increase its thermo-insulation properties with more than 10%.

TERMOFLEX® REINFORCING MORTAR FOR EPS & XPS or adhesive and reinforcing solution TERMOFLEX® CONTACT should be used over the bonded boards when applying a plaster armored with a fiberglass mesh.



### Properties

great adhesion to EPS	high adhesion to mineral bases
high vapor permeability	increased strength
strengthened with armored threads and fibers	water and frost resistance

### Composition

Homogenous cement-based powder, modified with high quality polymers and cellulose additives.

## Packaging and Indicative consumption

### Package:

25 kg paper bags

### Indicative consumption:

from 4,5 kg/m<sup>2</sup> to 8,0 kg/m<sup>2</sup>

depending on the smoothness of the base and the method for application of the adhesive mortar

## Expiration date and Storage

Store and transport in tightly sealed original packaging in dry and cool place (best on pallets). Keep away from moisture!

The product is good for use 12 months after production date of an unopened original packaging.

## Instructions for Use

### Base Preparation

TERMOFLEX® ADHESIVE MORTAR FOR EPS/XPS (with fibres) bonds to all mineral bases, which are bearing and do not contain separating substances (grease, bitumen, dust). The base should be clean, dry and stable, without cracks and leveled in advance. All flimsy areas and layers with low mechanical resistance should be preliminary removed. Irregularities greater than 20 mm should be leveled with lime-cement rough coat TERAFLIX® MASTER FIX three days prior to mounting of thermal insulation boards. All types of dirt, leftovers from separating substances and steam impermeable paint coverings should be completely removed (with high pressure sprayer). Areas covered with mould and mildew should be mechanically scrubbed (with a steel wire brush), and then disinfected with a proper detergent. Carbonized areas of the base should be swept and brushed off. Old walls without any coverings or with strong enough coverings should be dusted off with a brush, pressure washed with water and then let dry completely. When working with bases steeped with moisture, the source of moisture should be removed and then the base should be let dry completely.

All slightly crumbly and sandy bases should be primed and strengthened with NANOGRUND® – DEEPLY PENETRATING PRIMER WITH NANO PARTICLES at least 4-5 hours prior to bonding. Highly absorbent bases (lightweight concrete walls or gypsum blocks) should be primed with POPOGRUND® – POROUS BASE PRIMER. Priming is not necessary when having gypsum boards, cement plasters and mortars (plastered at least 1 month prior), concrete (poured at least 3 months prior).

When mounting thermal insulation boards on areas subject to high water pressure (base boards, ground and underground walls, roofs, terraces and others), the installation of hydro insulation system HYDRO and SPLIT PROTECTION<sup>2</sup> is mandatory prior to mounting.

## Mixture preparation

In a clean stainless steel container pour about 6,25 l clean water with no additives and gradually add the contents of the bag (25 kg). Stir the ready mixture with an electric stirrer until reaching homogenous mixture without lumps. Add water or dry mixture if needed for reaching the necessary density. Leave the mixture to “mature” for about 10 min until all filling agents dissolve, and then stir again. The ready-made mixture is ready for work and keeps its properties for about 2 hours at 20-25°C.

**Do not mix with cement, sand and other materials, because that leads to deterioration of the adhesive's qualities!**

## Application

The prepared mortar should be applied at a 4-5 cm strip along the board edges and at a few spots (3 to 6) in the middle with a diameter 7-8 cm. Then immediately mount the board to the wall evenly pressing on it. After pressing, the mortar should cover at least 40 % of the board's surface. In case of even and smooth surfaces the mortar should be applied in a corrugated manner by means of a notched trowel with a notch width of 20 mm. During application the notches of the trowel should reach the board so that deep enough ridges are formed and in this way after pressing the board to the wall is ensured enough space for spreading the mortar.

No mortar should get in the grouts between the boards or on their frontal sides and if that happens it should be removed. Wrongly installed areas or too big grouts should be sealed with the same insulation material. Grouts with width up to 5 mm may be sealed with polyurethane foam.

Board alignment should be performed bottom-up. The boards should be placed horizontally lengthwise the façade, tightly one next to another without leaving any space between them. Formation of cross-like grouts between the boards should not be allowed and for that reason they should pass each other horizontally with half a board. It should not be allowed for the grouts between the boards to continue the lines of the façade openings (windows, doors, etc.). Along the edges of the building the thermal-insulation boards should be crossed over in a notch like manner, which guarantees secure grip in those areas.

The surface of the already applied thermal insulation layer should be smooth, without steps or irregularities. Inequalities between the board levels should be removed through grinding. After TERMOFLEX® ADHESIVE MORTAR FOR EPS/XPS (with fibres) bonds (about 2 days) the boards should be grinded (if necessary) and then mechanically anchored. The number of dowels depends on the specific conditions of the construction site, but should not be less than 6 per square meter. The greatest pressure is concentrated along the outer edges of the building; therefore within a 2-meter strip of the edge the minimum number of dowels should be not less than 8 per square meter.

**Attention!**

Bonding of the boards should be performed at dry weather and temperature of the base and the environment from +5°C up to +30°C and air humidity below 65%.

The time for complete hardening of the base depends on the weather conditions (temperature and air humidity), but is not less than 72 hours and may last for up to 14 days.

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

**Hazard description:**

Does not contain dangerous chemical substances!

Quantity of soluble chrome (VI) within the ready-made mass of the product is ≤ 0,0002%.

Risk and Safety Statements	
R 36/37/38	Irritating to eyes, respiratory system and skin
S 08	Keep container dry
S 24/25	Avoid contact with skin and eyes

**Hazard symbol:**

**Xi** – Irritating product; contains cement.

## Classification

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

European Standard	Class	Testing protocols
EN 13499 EN 12004	- C2TE	№1144 /19.12.2007 №1128 /15.12.2007 № PIT-EC-010-6/19.12.2007

## Technical data

Testing protocols are issued by Notified Body (NB 1950) for compliance evaluation with Research Institute of Building Materials NIISM Ltd., Sofia.

Parameter	Measure	Testing method	Testing result
Mixing proportions (water/dry mix)			6,25 l water for 25 kg dry mix
Bulk density of hardened mortar	kg/m <sup>3</sup>	EN 1015-10	1560
Compressive strength at 28 day	N/mm <sup>2</sup>	EN 1015-11	18,2
Flexural strength at 28 day	N/mm <sup>2</sup>	EN 1015-11	5,5
Adhesive strength with the base (concrete)	N/mm <sup>2</sup>	EN 1015-12	1,0
Tensile adhesive strength on EPS: - after 28 day in standard conditions - after 3 cycles of conditioning	kPa	EN 13494 ETAG-004 (EOTA) EN 1062-11	125 120
Open time: tensile adhesion strength	N/mm <sup>2</sup>	EN1346+A1	2,2 after 30 min
Slip	mm	EN1308+A1	0,3
Water permeability: Liquid-water transmission rate W	kg/(m <sup>2</sup> *min <sup>0.5</sup> )	EN 1515-18	0,005 class W2
Water vapor diffusion: Water vapor transmission rate V	g/(m*d*Pa)	EN 1515-19	4,5*10 <sup>-4</sup>
Reaction to fire	-	EN 13501-1	class A1

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