

## TERMOFLEX® EPS W-40

### THERMAL INSULATION BOARDS FROM EPS

thermal insulation boards from EPS with extremely strength for thermal insulation of heavily loaded places



#### Product description

TERMOFLEX® EPS W-40 is a high quality self-extinguishing thermal insulation material from expanded polystyrene (EPS) with very high strength and mechanical properties, cut in the shape of boards. The boards are quite suitable and optimized for thermal insulation of premises that are subjected to extreme loading pressure (planted roofs, walking area roofs, under screeds, under flat, sloping or inclined roof, roof terraces, floors between levels, floor heating and others). Recommended also for thermal insulation and avoiding thermal bridges (balconies, windows and doors, concrete columns, beams and bay-windows and others).



The material has very good vapour permeability and its structure allows “breathing” of the building construction, and in this way effectively helps prevent condense and mold accumulation in it and also in the premises. The boards possess very good thermal insulation properties, accurate dimensions and are resistant to aging. They do not change their shape and do not shrink.

TERMOFLEX® EPS W-40 is an element of the integrated thermal insulation system TERMOFLEX® CLASSIC and is suitable both for newly erected buildings, so as for already existing buildings – in the process of their renovation and thermal insulation improvement.

When mounting thermal insulation at facades and external walls, TERMOFLEX® EPS F or TERMOFLEX® EPS F-EXTRA should be used.

#### Properties and scope of use

##### Properties:

- \_\_\_\_\_ very high strength characteristics
- \_\_\_\_\_ excellent thermal insulation properties
- \_\_\_\_\_ high vapour permeability
- \_\_\_\_\_ resistant to aging , do not deform or shrink

##### For application on:

- \_\_\_\_\_ all dry, clean and stable surfaces

## For thermal insulation:

flat roofs, terraces and balconies  
floors between levels  
under screeds and underfloor heating systems

## Packaging and indicative consumption

### Packaging:

<i>packaging</i>	<i>Quantity/unit</i>	<i>pallet</i>
package	10 mm; 55 boards (27,5 m <sup>2</sup> ) 20 mm; 29 boards (14,5 m <sup>2</sup> ) 30 mm; 19 boards (9,5 m <sup>2</sup> ) 40 mm; 14 boards (7,0 m <sup>2</sup> ) 50 mm; 11 boards (5,5 m <sup>2</sup> ) 60 mm; 10 boards (5,0 m <sup>2</sup> ) 70 mm; 8 boards (4,0 m <sup>2</sup> ) 80 mm; 7 boards (3,5 m <sup>2</sup> ) 90 mm; 6 boards (3,0 m <sup>2</sup> ) 100 mm; 6 boards (3,0 m <sup>2</sup> )	-

### Indicative consumption:

for 0,50 m <sup>2</sup>	1 board
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## Composition

Thermal insulation boards from expanded polystyrene granules.

## Expiration date and storage

Store in tightly closed original packaging in a dry and cool place at a minimum distance of 1,5 m from heating objects. Keep away from UV rays (direct sunlight), moisture and mechanical damages!

The product is ready 24 months from the date of manufacture in unpacked original packaging.

## Instructions for use

- dimensions of the board: 1000 x 500 mm
- coefficient of thermal conductivity:  $\lambda = 0,031 \text{ W/mK}$

## Base preparation

The base on which thermal insulation boards TERMOFLEX® EPS W-40 are to be mounted should be clean, dry and stable, without cracks and leveled in advance. It should be strong, bearing and should not contain separating substances (grease, bitumen, dust). 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 TERAFLEX® MASTER FIX three days prior to mounting of thermal insulation boards. All types of dirt, leftovers from separating substances and vapour 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.

## Application

TERMOFLEX® EPS W-40 should be bonded to the base with TERMOFLEX® ADHESIVE FOR EPS or with TERMOFLEX® CONTACT. 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 tightening the adhesive solution (approximately 2 days), sanding the boards (if necessary), then mechanically fixing them. 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 at temperature of the base and environment from +5°C to +30°C and air humidity below 65%.

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.

## Hazards description

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

Apply in well-ventilated premises or in the exterior! Store into safe place, without children access!

For more information see the Safety Data Sheet.

## Classification

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

European Standard	Type	Testing protocols
EN 13163 EN 13501-1	EPS 250	№ 1094/28.10.2009 № 259/11.03.2008 № PIT-ES-047-5/14.12.2007 № FIRES-RF-033-09-AUNE № FIRES-RF-034-09-AUNE № FIRES-CR-034-09-AUPE

## Designation code

EPS-EN 13163 L2 – W2 – T2 – S2 – P4 – DS(N)2 – DS(70,-)1 – CS(10)250 – BS350 – TR200 – WL(T)2

## Technical data

Testing protocols are issued by Notified Body (NB 1950) for compliance evaluation with Research Institute of Building Materials NIISM Ltd., Sofia and Notified Body (NB 1396) FIRES s.r.o., Slovakia.

## Thermal resistance (m<sup>2</sup>K/W)

10 mm	20 mm	30 mm	40 mm	50 mm	60 mm	70 mm	80 mm	90 mm	100 mm
0,323	0,645	0,968	1,290	1,613	1,935	2,258	2,581	2,903	3,226

Parameter	Measure	Testing method	Testing result
Thermal conductivity at 10° C ( $\lambda$ )	W/(mK)	EN 12667	0,031
Thermal resistance at 5 cm ( $R_b$ )	(m <sup>2</sup> K)/W	EN 12939	1,61
Compressive stress at 10% deformation ( $\sigma_{10}$ )	kPa	EN 826	250
Bending strength ( $\sigma_b$ )	kPa	EN 12089	380
Tensile strength perpendicular to faces ( $\sigma_{mt}$ )	kPa	EN 1607	320
Long-term water absorption by total immersion, 7d ( $W_{it}$ )	volume %	EN 12087	1,60
Long-term water absorption by partial immersion, 48h ( $W_{ip}$ )	kg/m <sup>2</sup>	EN 1609	0,075
Reaction to fire	-	EN 13501	E (Euro class)

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.