



Technical Description of **Kelyfos** External Thermal Insulation system , certified by **EOTA** ( European Organization Of Technical Approvals ), based on the technical instruction **ETAG 004** .

## **EXTERNAL THERMAL INSULATION SYSTEM KELYFOS**

### **A. Materials**

1. Insulation boards of extruded polystyrene, RAVATHERM-XPS-X-ETICSL with p Labeling CE safety (coefficient of thermal conductivity  $\lambda=0.030$  W/mK ), dimensions 600 x 1250 mm , thickness 50 mm , with rebate edges (grooving).
2. Profile Extruded Polystyrene, outer, corners 10 or 20 mm X-LB and, structural Exposures 10 or 20 mm X-LB , coefficient of thermal conductivity  $\lambda=0.030$  W/ mK ) of dimensions 600 x 1050 mm .(This particular accessory is Heretical)
3. Adhesive polyurethane base Instastik of Dupont , after consultation with the technical support of the system .
4. Reinforced , cementitious- based, the adhesive, reinforced, with polymer components (resins), Kelyfos Bond .
5. Anti-alkali reinforcing, glass, mesh weight, 160 gr / m<sup>2</sup> Kelyfos , width 100 cm with frame opening 5 x 5 mm .
6. Anti-alkali mesh special configuration , reinforcement of opening angles.
7. Acrylic water primer, high quality Kelyfos Primer .
8. Topcoat, of, plaster, base, acrylic, m with various granulometries aggregates ( Kelyfos Finish - A ) or cementitious base ( Kelyfos Finish - C ) - ( Fine for, smooth, or, Décor for rough surface), reinforced resins, or white color , according to the requirements of the study.
9. Fixed angles and angles with water dropper (made of PVC with glass mesh on both sides), to strengthen the outer corners.
10. Aluminum support guide with water dropper (width 50 mm )

In addition to the above, materials and micronutrients are included ,

- a. Aluminum Support leveling. attachment . plugs
- a. mechanical
- b. Securing ing heat insulation , Termoz company Fischer .
- b. Plastic support distance alignment spacers .
- c. Formative cutters .
- d. Waterproofing silicone , MARIRFLEX-PU 30 SL
- e. Polyurethane Great Stuff Pro company DUPONT

which are necessary for the complete and artful completion of the work.



## B. Application of the Kelyfos system

1. **Background Control - Surface Preparation - Application Temperatures .** The background should be clean, dry, free of loose materials, dust, oil residue and other foreign bodies. The temperatures during the application of the system should be between 35 ° & 5 C .

2. **Installing Kelyfos support guide .** The aluminum guide, 50 mm wide , is placed parallel to the ground and above it at least 5 mm. The gap is sealed with polyurethane mastic MARIFLEX - PU -30 SL to,avoid,water penetration. The flatness of the Guide by using plumb line. Between successive support guides, a gap of 2-3 mm is left (which will receive the contractions ) .

3. **Ass ollisi Prophet Solve extruded polystyrene 10or20mm .** The layering of the glue on the thermal insulation board is as follows:

- Apply adhesive inorganic base mortar Kelyfos Bond or adhesive Instastik , over the corners q extruded polystyrene.

The **optional profiles** are glued to the outer corners and circumferentially have shaped edges (shoulders) - to avoid the formation of thermal bridges - by means of which stickers placed and aligned. Immediately after placing each profile in the substrate, its leveling, verticalization and flatness are checked . With the corner profiles, the joints of the insulating plates in the corners of the building are avoided and they give a straight vertical edge.

4. **Adhesion of thermal insulation boards RAVATHERM-XPS-X-L .**

5. **The layering of the glue on the thermal insulation board is as follows:**

- Application,of Kelyfos Bond mineral,base,adhesive mortar or Instastik glue , on the hot insulating plates:

**a) Case of smooth substrate:** The Kelyfos Bond glue is universally laid on the surface of the insulating plate with a notched spatula No 10 .

**b) Case of non-smooth substrate:** on a substrate with imperfections , the glue is applied to the contour of the plate and to a horizontal line in the middle.

In **case of using Instastik** , it is applied in vertical lines every 10 cm .

The plates around the perimeter have shaped edges (mats) - to avoid creating thermal bridges - with the help of which they are glued and aligned. The gluing of the thermal insulation boards starts from one corner of the building in horizontal overlapping layers. Each new row of slabs should be shifted by half a slab to achieve an intermittent vertical joint arrangement. The vertical joints above door or window openings should not be formed in continuation of these candles. Immediately after placing each plate on the substrate, its leveling, verticality and flatness are checked .

5. **Application,of Termoz mechanical support plugs by Fischer . Termoz plugs are installed 24 hours after the application of thermal insulation boards (5-6 plugs per m<sup>2</sup>).**
6. **Installation of special Kelyfos reinforcement pieces . Using the adhesive material ( Kelyfos Bond ), the special pieces for strengthening the outer corners (fixed angles and angles with water dropper , made of PVC ) are placed , and the specially shaped glass mesh for strengthening the corners of windows and doors.**
7. **Kelyfos Bond basic,coating and Kelyfos glass mesh installation . Kelyfos Bond adhesive is also used as the main coating of the system. The base coat is universally coated on the surface of the RAVATHERM XPS X ETICS L thermal insulation boards (with a notched spatula No 10) to a thickness of. 3 mm . The application will be done in strips ~ 1.20 m wide , followed by the boxing of the reinforcing, anti- alkaline glass mesh Kelyfos (weight 160 gr / m<sup>2</sup>). The Kelyfos glass mesh is boxed while the base coat is still fresh, so that it is completely covered. Glass strips should overlap by at least 10 cm . Near the ground is placed a horizontal double layer of fiberglass (1 m wide strip ), for increased strength.**
8. **Coating,of,final acrylic coating ( Kelyfos Finish - A ) or cementitious ( Kelyfos Finish - C ). As a final coating and after the intermediate reinforcing layer is completely dry, the final coating with the elastic, resinous, acrylic ( Kelyfos Finish - A ) or cementitious ( Kelyfos Finnish - C ) 1.5 - 3 mm thick , in any color, follows. depending on the requirements of the study. The plaster is applied either by hand (with a plastic spatula or a metal American spatula) or with a ready-made shot-throwing machine, after priming the substrate with a special Kelyfos Primer primer .**

#### **IN ADDITION**

- Legs windows and openings will be inclined at least 1.5% outwardly for removal of rainwater .
- Reinforced parapets will have a slope of 1.5% inside the rooms.

**The upper-Provided,with,a,Guarantee by the Company with a Ravago Hellas .**