EYE CRAFT
Design & Decor

Decorative Insulation Systems

Technical Sheet

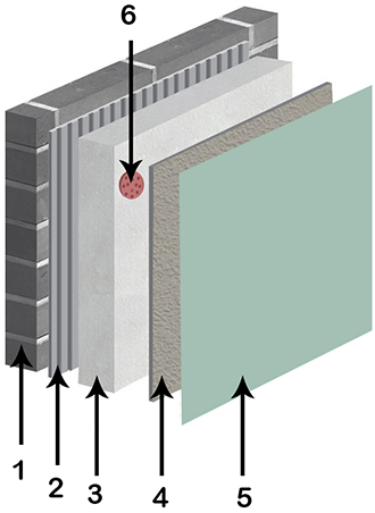
U and K Values

A U-Value is a measure of heat loss in a building element such as a wall. It is useful as it is a way of predicting the composite behavior of an entire building element rather than relying on the properties of individual materials. A low U-Value usually indicates high levels of insulation. This means the lower the U-Value – the better insulation and performance you get from the system, and vice versa, the higher the U-Value the worse the thermal performance of the building envelope.

In the table below are the U-values according to the thickness of the EPS Board thickness used, based on 200mm concrete hollow blocks.

Eye Craft System Thickness mm	U-Value W/ (m^2.k)	K-Value W/(m.K)
35	0.75	0.0263
40	0.68	0.0272
50	0.58	0.029
60	0.50	0.030

Product Componants



1. **Building blocks/ structure.**

2. **Adhesive:** Base coat adhesive cement used to adhere the expanded polystyrene insulation board on the exterior wall.

3. **Insulation EPS Board.**

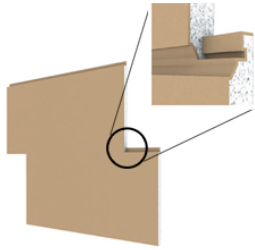
4. **Elastic fibred plaster:** applied as a 2 mm layer on top od the insulation sheets.

5. **Finishing layer/ Paint.**

6. **T - Dowel:** screwd on top of the insulation sheet to ensure maximum fit.

Products and design

1. Joints:



Over lapping joints are used as connecting detail between the plates/sheets edges, to ensure that they are engaged and interlocked in the façade. Humidity, mold, or cracks do not occur as the connection system prevents possible condensation by eliminating thermal bridges.

2. Dowels:

These are special types of screws/ wall plugs that are used to secure plates/sheets of polystyrene in place. 6 T-dowels are screwed in each 1 m^2, at the edges of the sheets and in connection points to ensure maximum fit.

3. Adhesive:

A special type of adhesive is used to glue polystyrene plates to the wall. Surface should be clean free of dust and oil, and the paint coat should be scratched. The adhesive is smoothed out on the back of the sheet covering the whole surface. And then the sheet is pressed against the wall to adhere.

4. Elastic Fibered plaster:

Acrylic copolymer based elastic structured plaster. Used for filling and flattening exterior and interior surfaces. It is used for surface flattening. Applied on the polystyrene sheet to cover it and to enhance it. Its acrylic based and helps prevent cracks, elastic, Invulnerable to UV rays, steady against mechanical damage, increases noise and heat insulation, waterproof and provides perfect adherence with primer or paint.

5. Polyurethane Coating Adhesive:

fast drying polyurethane adhesive. Applied on joint points of jambs and exterior decoration panels where cracks formation is possible. It is highly Durable, cures Rapidly and is waterproof. It is applied on the surface by means of a spatula or a brush as a thin film to attached the other surface without any gaps.

Finishing Coats

The finishing coat determines the final result or look of the product, which would be the property façade. We have a large variety of finishes that can be categorized into:

1. Textures.

There are four main finishing textures that are 100% acrylic based which is both decorative and weather resistant. These types –shown in the figure- are coated with paint, any paint color you can think of!

Fine Finish Medium Finish Coarse Finish Swirl Finish

2. Ceramic/Marble Spray Coating.

3. Decorative Cladding

The system itself, or the EPS boards to be specific are very flexible, we can shape them to form the texture of wood, bricks and stone, or cut them to resemble painted wooden panels. See the figure. We can also cut them to desired motifs and patterns, check Design section for more details and figures.

On Site Application

1. if the surface has a finishing coat like paint, tiles, mosaic, or mineral plaster, the coating layer should be removed using the suitable means, and then the surface should be dry, clean of any free of any dust or oil prior to application. The back of the polystyrene insulation sheet should also be dry, clean and free of dust and oil, to ensure sufficient adherence.

2. Surface of application should be measured and scaled vertically and horizontally, to ensure it is leveled, if there is any faults detected it should be repaired and leveled for the surface to be even, and wait for it to cure to ensure best application and adherence.

3. Decorative panel adhesive is applied on the back of the polystyrene insulation sheet. It is applied and smoothed out evenly covering the whole surface with average thickness of 3 mm.

4. During application of polystyrene insulation sheets, an overlapping joint connection is established between adjacent boards to ensure maximum fit and best application.

5. Polyurethane coating adhesive is applied on all the four edges of the board to connect the edges of the adjacent sheets and insure that there is no gaps between then that may lead to heat bridges.

6. Insulation polystyrene boards are fixed on the surface in forming a checker pattern.

7. T – Dowel are screwed on top of the insulation sheets. For each m2 at least 6 T – Dowels are screwed. Dowels insure connection and stability for the structure of the boards.

8. T – Dowel are then covered with elastic fibered plaster. It is applied on top of the dowel and on any area that has a defect, most commonly in joints, and then the surface is smoothed out and let to dry.the boards.

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