

76 - Brick Cladding Specification

EuroBrick

1.1 Description of Product

1.1.1 EuroBrick Insulated Brick Cladding System is assessed for use as weather resistant, thermally insulating decorative exterior finish. The standard system comprises extruded polystyrene foam insulation boards in various thicknesses. The skin provides a precise horizontal joint spacing track for 15mm nominal thick fire clay brick slips which are applied by EuroBrick Systems Limited supplied adhesive. The vertical and horizontal joints between the brick slips are grouted with EuroBrick Systems Limited supplied premixed cement based mortar.

1.1.2 The bonded polystyrene insulation with vacuum formed skin is supplied in panels 1200mm by 2400mm, the horizontal joint track being at right angles to the long edges. The panels are delivered to site in shrink wrapped packs. The adhesive is supplied in 600ml sausages, the brick slips are delivered boxed and the pointing mortar is supplied in 25 kg bags.

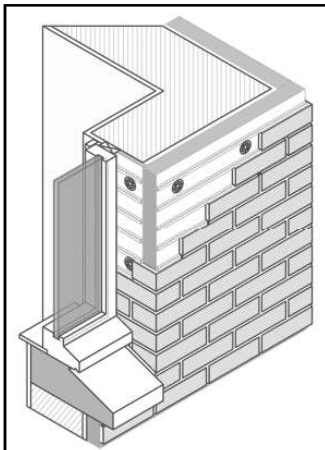
1.1.3 Mechanical fixings for fixing to timber, metal or masonry are supplied by EuroBrick Systems Limited for fixing the polystyrene panels to the masonry, dense concrete, metal or timber substrate.

1.2 Product Performance

1.2.1 EuroBrick Insulated Brick Cladding System will provide a weather resistant external wall insulation cladding with a brickwork appearance for masonry, dense concrete, metal or timber frame construction.

1.2.2 EuroBrick Insulated Brick Cladding System will provide additional thermal resistance to an existing wall. The thermal conductivity of the layer of polystyrene insulation has been measured as 0.03 W/mK.

U-Values of 0.34W/m²K and 0.31W/m²K can be achieved when insulating 225mm solid wall and 275mm cavity wall respectively with 75mm backer panel.



1.2.3 Tests have shown that the EuroBrick Insulated Brick Cladding System will limit the amount of water able to reach the substrate. The cladding can be classified as Type 4 insulating cladding for impermeability to water, as defined in UEAtc MOAT No 45. It is considered that the cladding system is suitable for geographic areas including those classified as having "very severe" exposure to wind driven rain, when assessed with reference to BS 5628: Part 3: 1985 and BS 8104: 1992. Reference must be made to BRE document BR 143 "Thermal Insulation-Avoiding Risks".

1.2.4 The cladding, when tested for surface spread of flame in accordance with BS 476: Part 7: 1987, and to BS 476: Part 6: 1983, achieves a Class O rating with respect to the appropriate Building Regulations. There will be a maximum surface area restrictions for the system for use near to other unprotected areas or to boundaries, as detailed in Section 2 below. EuroBrick Insulated Brick Cladding System must not be considered as providing any contribution towards the overall fire resistance performance of a wall.

The insulation boards must be separated by horizontal fire barriers at intervals of not less than the line of every other floor in the construction from the second floor, except in England and Wales where there is no such requirement unless deemed a compartment wall/floor. The fire barriers must be applied in accordance with the instructions of EuroBrick Systems Limited.

1.2.5 The EuroBrick Insulated Brick Cladding System has a vapour resistance of 130 Mns/g. Calculations performed in accordance with BS 5250:1989 show that under conditions typical for the UK, interstitial

condensation will not occur within the system with 50mm standard thickness insulation for masonry, dense concrete, metal or timber frame construction. With metal and timber frame construction, where additional insulation is installed between the frame, it is essential that any vapour barrier on the warm side of the structure is fully effective.

1.2.6 Tests on the EuroBrick Insulated Brick Cladding System have shown that the system has adequate resistance to the forces of wind suction and pressure for locations where the basic wind speed is up to 52 m/s in accordance with CP3: ChapterV: Part2: 1972. Variations in temperature and moisture content should not cause detachment of the brick slips and grout from the insulation panel over the range of operating temperatures that may be anticipated in the UK subject to expansion joints being provided. The system being installed in accordance with documented instructions is resistant to cyclic freezing and thawing action and after prolonged exposure to such conditions exhibits no detachment or spalling of the brick face.

1.2.7 Tests have shown that the brick slips will not detach under the effects of hard body impacts up to 15J. Localised damage may occur in situations where the system is subjected to impact energies above 7.5J.

1.2.8 When installed in accordance with the manufacturer's instructions and the requirements of this certificate, no dust or insects should be able to penetrate through the system.

1.2.9 The EuroBrick Insulated Brick Cladding System is considered to be durable for at least 30 years on the building on which it is incorporated provided that the system is installed in accordance with the requirements of the manufacturer and that any accidental damage to the finish is effectively repaired.

2. Technical Appraisal

2.1 Performance Tests

Tests and inspection of test data have been carried out to determine the properties and performance of the EuroBrick Insulated Brick Cladding System for:-

- Wind loading
- Durability
- Adhesion between layers
- Performance in relation to fire
- Resistance to water penetration & water vapour
- Transmission
- Resistance to impact
- Resistance to cyclic freezing & thawing
- Resistance to thermal & moisture cycling

Some of the results are outlined in Table 1

Assessment has been made of the products and practicality of installation. Buildings recently clad with the system have been inspected.

TABLE 1 : Properties of The System	
Property	Result
Fire Performance	
Building Regulations Classification	Class 0 Surface
Water Vapour Resistance	130 MNs/g
Impact Resistance - Hard Body	7.5 J - No Damage
	Affecting Safety
Thermal Conductivity of Insulation	0.030 W/mK
Adhesion Between Layers	Minimum 0.6 N/mm ²
Weight of System (Average)	Nominal 36 kg/m ²