

Eco-Brite® is a two sided single foil for use as a heat reflective lining within the fabric of sustainable homes, most prefabricated domestic and commercial building components including portable and modular structures. Eco-Brite has an emissivity of only 0.048, so 96.1% of radiant heat is reflected back (hot or cold).

Every square metre used will save up to 23Kg of CO₂ per annum on an un-insulated wall and 12.33 Kg of CO₂ per annum on an insulated wall.

Quality

It has BBA Approval, (Certificate No. 08/4576) Dubai Municipality Certification and fire certification to BS476 Part 6 and Part 7, and has been designed and tested to last the lifetime of a house.

The Eco-Brite® system is primarily intended for installation within floors, walls, ceilings and roofs. Its inclusion will reduce the thickness of the soft insulation required, substantially minimising energy needs and improve comfort for occupants.



Eco-Brite installed in prefabricated wall panels

The membrane eliminates excessive heat gain caused by incoming solar radiation yet can keep the room warm during cold weather. No matter the season, room temperatures are far easier to control. For example, solar heat striking a roof will conduct through the tiles and insulation layers crossing any air spaces as unwanted infrared energy, eventually warming the inner skin and overheating the room. Conversely, useful heat from within the room will conduct through the inner skin, radiate across any air space into the insulation and be lost. In both scenarios the system blocks the radiating heat.

Vapour Control Layer

The membrane, with a low moisture transmission rate of less than 0.048 g/m, can be used as an excellent vapour barrier to seal new or existing soft insulation. Ensuring insulation performance is not compromised by interstitial condensation, which reduces insulation performance and may cause damage to the overall construction. Dust particles are also sealed-in reducing levels to acceptable safe levels.

Adhesive tape

Apollo's high performance acrylic adhesive tape can be used to seal the joints between adjacent sheets, around stud-work, door or window frames. Without using a variety of mastics or other tapes the structure can be effectively sealed preventing air infiltration and ensuring the building meets its mandatory air pressure test.

Installation

To act as a radiant barrier Eco-Brite® is installed within a structure facing at least one air space, (usually 19mm to 25mm). When used in conjunction with mineral wool, or foam insulation Eco-Brite® can improve the u-value of that structure by up to 18%.

Apollo's HRMs R Values

Using an emissivity value of 0.05, the thermal resistance (m²KW⁻¹) of the products is shown below

Element of Structure	Thermal Resistance Values of The Products With A Minimum Air Space of 25mm on one side
Ceiling	0.45 m ² KW ⁻¹
Upwards heat flow	
45 Degree Pitched Roof	0.51 m ² KW ⁻¹
Upwards heat flow	
Wall	0.67 m ² KW ⁻¹
Horizontal heat flow	
Floor	0.80 m ² KW ⁻¹
Downward heat flow	

Tested to BBA Approval

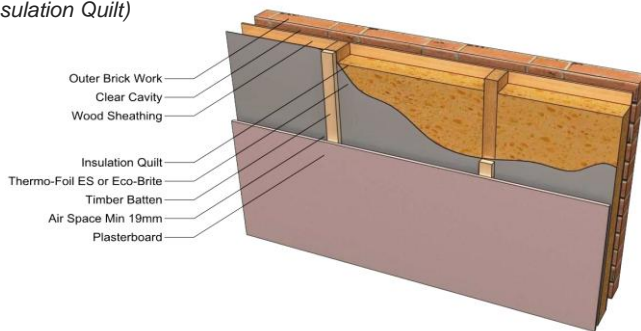


Eco-Brite® installed in a prefabricated school complex

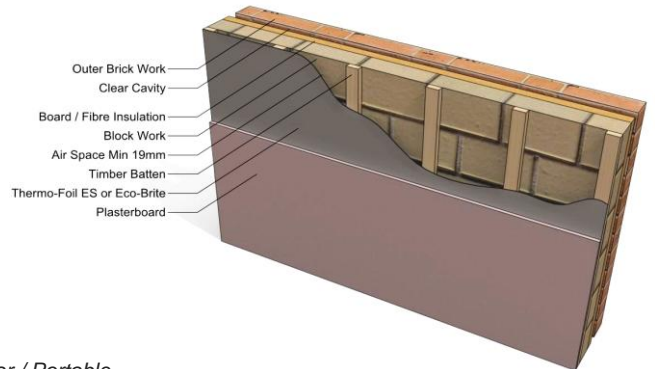


Sample Installation Guide

*Timber Frame Wall
(Insulation Quilt)*



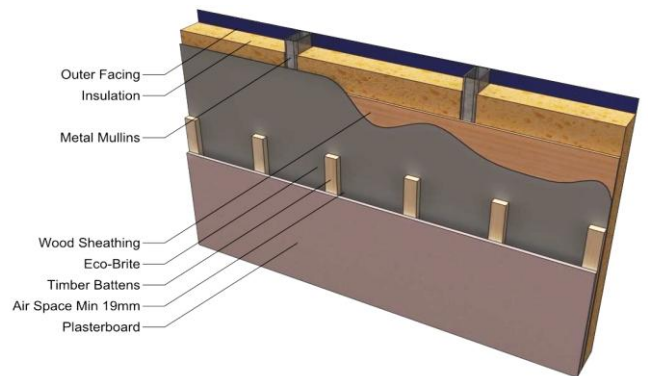
Masonry Wall



*Pitched Roof
Ceiling application*



*Modular / Portable
Building Wall*



Summary of Physical Characteristics to ASTM and BS Standards

Reflectivity (ASTM E903)	96.10%
Emissivity (ASTM E408)	0.048
Carbon Emissions Saved	23kg on un-insulated wall, 12.33kg on insulated wall per m2 per annum
Roll Size and Weight	96m x 1.25m 120m ² 18.72 kg
Nominal Thickness	135 microns
Tear Resistant Machine Direction (MD) (ASTM D882)	Tensile MD 3.905kN/m, Trouser tear MD 10.2N, Elongation at break MD 232.8%
Tear Resistant Cross Direction (CD) (ASTM D882)	Tensile CD 4.096kN/m, Trouser tear CD 15.6N, Elongation at break CD 100.4%
Beach Puncture Resistance (ASTM D774)	40.5kg-cm
Moisture/vapour Transmission Rate (ASTM E96, Procedure B, MVTR)	0.045g/m ² .
Corrosion resistant	Unique surface coating
UV resistant	Testing for the equivalent of 30 years 100% humidity & 100% UV
BS476 Part 6 Fire Propagation	Class 0
BS476 Part 7 Surface Flame Spread	Class 1
Temperature Resistant	-50°C to +127°C

Some Projects Incorporating an Apollo HRM



Log Cabin - UK



Cabin Floor - UK



Attic Room - UK



Pavilion - UK