

Jablite External Wall

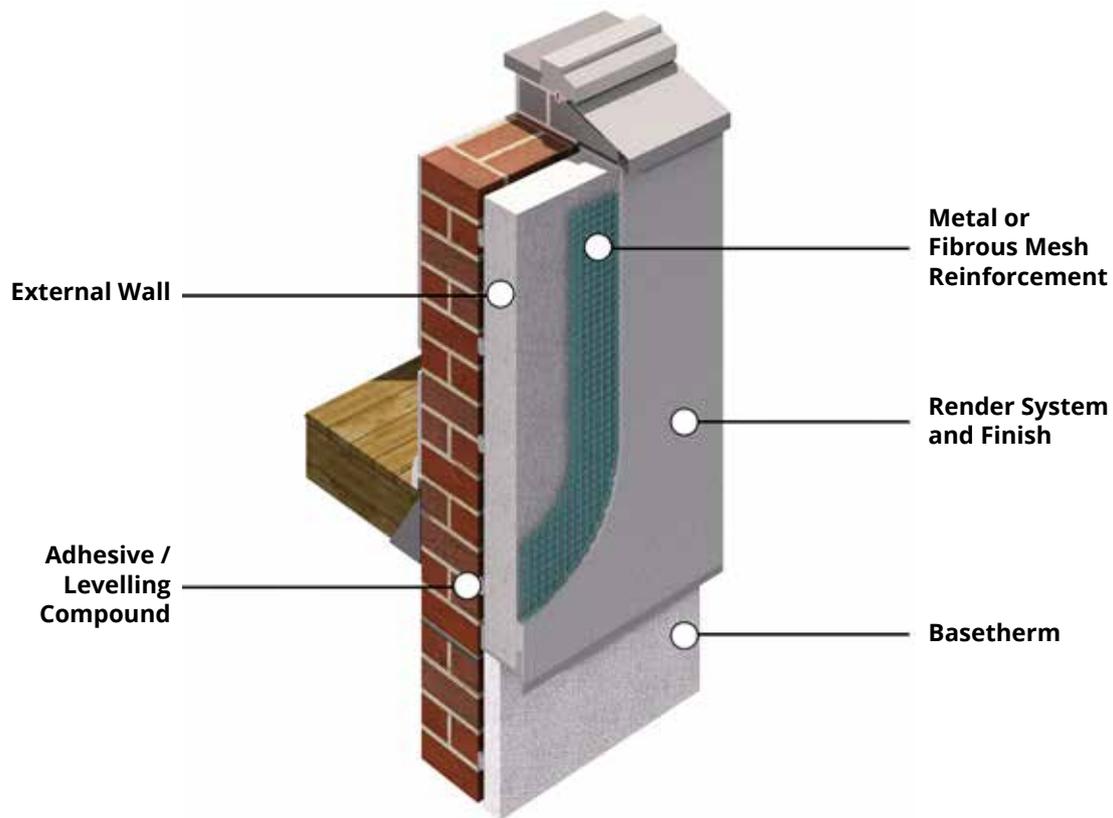
Technical
Information

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1.0

JABLITE EXTERNAL WALL



Jablite External Wall is suitable for adding insulation to the external face of external wall constructions, and can be used in conjunction with a finish of timber or plastic weatherboarding, tile hanging, cladding, and reinforced-render systems.

Jablite External Wall is available in a range of thicknesses for use in different wall insulation systems. Although the technique is commonly used to upgrade existing buildings, where it can also improve the appearance of the building and reduce the risk of rain penetration, it is equally applicable to new build.

Easy to handle

Jablite External Wall is manufactured from expanded polystyrene (EPS), which is lightweight and easy to handle.

Permanent

Jablite External Wall is rot-proof and durable and will remain effective for the life of the building; the recommended fixing methods will retain the boards permanently in position. It also has the added advantage of being flood-proof.

Easy to install

Jablite External Wall is easily installed and there is generally no need for specialised trades or equipment. Disruption to the building occupants is minimal.

Environment

Expanded polystyrene has been awarded an A+ rating by the BRE's Green Guide to Specification.

Type

Jablite board is supplied as EPS 70 as defined in BS EN 13163, Reaction to Fire Class E, containing a flame-retardant additive. Jablite board for use with a rendered finish should be "aged" material.

Approvals

Proprietary reinforced render systems are generally applied in accordance with the technical requirements of INCA (Insulated Render and Cladding Association). Such systems would normally have been assessed and approved by the British Board of Agrément.

Dimensions

Standard size: 2400 x 1200mm

Standard thickness: 40, 50, 60, 75, 80, 100, 110, 120, 130 and 150mm

Fire

When properly installed, the insulation is protected by the cladding or other facing material and will have no adverse effect on either the surface spread of flame rating or the fire resistance of the wall. Any necessary fire performance is provided by the facing material.

Thermal Resistance

The thermal resistance, R-value, of Jablite board for a range of common thicknesses is as follows:

- 40mm 1.05m²K/W
- 50mm 1.30m²K/W
- 60mm 1.55m²K/W
- 75mm 1.95m²K/W
- 80mm 2.10m²K/W
- 100mm 2.60m²K/W
- 110mm 2.89m²K/W
- 120mm 3.15m²K/W
- 130mm 3.42m²K/W
- 150mm 3.95m²K/W

Water vapour transmission

Jablite External Wall has a significant resistance to the passage of water vapour, but should not be regarded as a vapour-control layer.

Condensation calculations covering typical environmental conditions show that the dew point of an external-wall insulation system will occur on the external face of the insulation. This is the ideal situation.

U-values

The following tables show a selection of common wall constructions using a range of materials and give the U-values achieved when using standard thicknesses of Jablite External Wall. The values given are based on a k value of 0.038W/mK for the insulation.

U-value Tables

Render Finish

U-VALUES (W/m ² K)												
	Plaster internal finish						Plasterboard on Dabs internal finish					
Thickness of Jablite board (mm)	80	100	110	120	130	150	80	100	110	120	130	150
150mm Dense Concrete Block	0.40	0.33	0.31	0.29	0.27	0.24	0.39	0.32	0.30	0.28	0.26	0.23
200mm Dense Concrete Block	0.39	0.33	0.30	0.28	0.26	0.23	0.38	0.32	0.30	0.28	0.26	0.23
215mm Brick	0.38	0.32	0.30	0.28	0.26	0.23	0.37	0.31	0.29	0.27	0.25	0.22
150mm Lightweight Block	0.36	0.30	0.28	0.26	0.25	0.22	0.35	0.30	0.28	0.26	0.24	0.22
200mm Lightweight Block	0.34	0.29	0.27	0.26	0.24	0.21	0.33	0.28	0.27	0.25	0.24	0.21
150mm Insulating Block	0.32	0.28	0.26	0.24	0.23	0.21	0.31	0.27	0.25	0.24	0.23	0.20
200mm Insulating Block	0.30	0.26	0.24	0.23	0.22	0.20	0.29	0.25	0.24	0.23	0.21	0.19
102mm Brick/100mm Dense Block Cavity Wall	0.36	0.31	0.29	0.27	0.25	0.22	0.35	0.30	0.28	0.26	0.24	0.22

80 & 110mm are External Wall render system companies standard insulation sizes.

All their edge strips; trims; etc. are to these sizes.

Installation

Render systems

Most companies marketing proprietary external-wall insulation systems will undertake a full design service, and provide installation through approved contractors. Typically, such a system will incorporate the following elements:

- adhesive/levelling compound
- “aged” Jablite board
- retaining system or fixings for the reinforcement and insulation
- metal or fibrous mesh reinforcement
- proprietary render system and finish

Cladding systems

The actual method of installation will depend on the chosen facing or cladding system. Typically, the wall should be battened horizontally or vertically, using treated timber fixed at appropriate centres to provide support for the cladding or tile battens.

Lengths of Jablite board should be cut to ensure a tight fit between the battens and should be wedged into position. If the design requires an air gap between the insulation and the cladding, the insulation boards should be pinned in place using corrosion-free fixings.

A breathable sarking felt should be placed over the insulation, and the edges and joints sealed. The specified cladding should be installed in accordance with the manufacturer's instructions.

In most cases, the use of a single layer of insulation fitted between standard 38-50mm battens will not provide a U-value which satisfies the Building Regulations. The use of a second layer of Jablite board, fixed over the battens, in addition to that fixed between, can be used to improve the insulation value to an acceptable level.

This option must ensure that the cladding system is efficiently fixed back to the main wall to prevent vertical downward drag of cladding. A double counter-batten system may be required. If so, then the battens on the main wall must be in the same orientation as the cladding battens.

2.0

JABLITE EPS DATASHEET

Jablite External Wall EPS is a lightweight cellular plastic material suitable for a wide range of building insulation applications. It is an excellent insulating medium which exhibits consistent thermal performance over the range of temperatures normally encountered in buildings.

The material is versatile, light in weight, clean and easy to handle, and provides a cost-effective means of including permanent insulation in walls to meet, and exceed, the standards laid down in the Building Regulations.

Technical Description

Composition

Jablite insulation products are manufactured from EPS. The material comprises expandable beads of polystyrene pre-foamed and fused together in a steam-heated mould under pressure. This produces a block of material, up to 7314mm long, which is then cut to and/or shape. After cutting to size, the material may be faced or laminated with other materials to suit its application.

Material Type

The following types of material are available, as defined in BS EN 13163:

- EPS 70
- EPS 100
- EPS 150
- EPS 200
- EPS 250.

In addition, each type is available as either Euroclass F, or Euroclass E containing a flame-retardant additive. Additional types are also available for specific applications; for example, types with compressive-stress values, at 10%, of 400 and 500kPa.

Shape and size

After moulding, the 'block' material is cut to size and thickness according to the intended end use; see individual product and application data.

Tolerances

In accordance with BS EN 13163 tolerances on the cut dimensions are defined as follows:

Length: $\pm 2\text{mm}$ or $\pm 0.6\%$ whichever is greater (L2)

Width: $\pm 2\text{mm}$ or $\pm 0.6\%$ whichever is greater (W2)

Thickness: $\pm 2\text{mm}$ (T2)

Squareness: $\pm 2\text{mm}$ per 1000mm (S2)

Flatness: 3mm/m (P3)

Alternative tolerances can be provided for specific applications.

Dimensional stability

In accordance with BS EN 13163 = DS(N)5 \pm 0.5% under constant laboratory conditions.

Density

The density range is 15-35kg/m³ for EPS types shown below.

Nominal Densities

- EPS 70 15kg/m³
- EPS 100 20kg/m³
- EPS 150 25kg/m³
- EPS 200 30kg/m³
- EPS 250 35kg/m³

Standards

Where relevant, Jablite products are produced to the requirements of BS EN 13163 'Thermal insulation products for buildings – Factory made products of expanded polystyrene (EPS) – specification'.

Jablite Limited has been assessed and approved to BS EN ISO 9001:2008 'Quality systems; for quality assurance in production, installation and servicing'.

Properties & Performance

Mechanical properties

Jablite EPS has a high strength to weight ratio.

Tensile strength

Ranges from 20-400kPa, according to type and product.

Compressive strength

Ranges from 70-250kPa, according to type and product; method of test, BS EN 826.

Bending strength

Ranges from 115-350kPa, according to grade and product; method of test BS 4370:Part 1, method 4.

Design load

Ranges from 20-100kPa for 1% nominal strain, according to type and product; method of test EN 826.

Moisture Properties

Although Jablite has significant resistance to the passage of water vapour, it should not be regarded as a damp-proof membrane or vapour-control layer, and will not provide a barrier against damp penetration.

A suitable damp-proof membrane or vapour-control layer will be required in most forms of construction: see individual product and application data.

Fire Properties

In common with all organic materials, EPS is combustible. However, provided it is specified and installed correctly and in accordance with the manufacturer's instructions and BS 6203, it will not present any undue fire hazard.

The standard recommends that for all applications, the material should be protected by either a laminated facing layer, or should be protected by being fully enclosed by the form of construction.

Euroclass E 'flame-retardant' additive material is available for most applications: this reduces the rate of flame spread but should not be considered as offering enhanced fire performance.

Combustion

EPS is 'combustible' as defined in BS 476:Part 4. When burning, EPS behaves like other hydrocarbons such as wood and paper. For Euroclass F material, the products of uncontrolled combustion are carbon monoxide, carbon dioxide, styrene, and water vapour; the decomposing styrene will give off a certain amount of dense black soot. Euroclass E material also emits hydrogen bromide when burning.

Ignition temperature

Flash ignition temperature is between 350 and 490°C depending on the application and the exact circumstances of use. Under certain circumstances the material can be readily ignited by a naked flame but providing it is correctly installed, this does not present any disadvantage in use.

Calorific value

40MJ/kg.

Specific heat capacity

1.13kJ/kg°C.

Surface spread of flame

Unfaced material, regardless of type, should not be exposed when installed in habitable areas.

Biological Properties

EPS will not sustain mould growth, and has no nutrient value to insects or vermin. The material is non-biodegradable and care should be taken to dispose of waste and offcuts at a licensed waste site.

Thermal Properties

Thermal movement

Coefficient of linear expansion, $0.6 \times 10^{-6}/^{\circ}\text{C}$.

The material is sufficiently resilient and flexible that no allowance need be made for thermal expansion in the method of installation.

Jablite EPS is suitable for meeting, and in many cases exceeding, the thermal insulation requirements set out in the Building Regulations Approved Documents:

- L1A - Conservation of fuel and power in new dwellings.
- L1B - Conservation of fuel and power in existing dwellings.
- L2A - Conservation of fuel and power in new buildings other than dwellings.
- L2B - Conservation of fuel and power in existing buildings other than dwellings.

Reference can be made to individual products sections to obtain specific details on meeting thermal values with Jablite products.

Working temperature range

EPS can be used within the temperature range -150°C to $+80^{\circ}\text{C}$. Jablite EPS is unaffected by the normal range of climatic temperatures and can be safely used in cold stores and similar applications.

During installation, and in service, contact with hot-water pipes or other surfaces where the temperature is likely to exceed 80°C for continuous periods should be avoided.

A minimum 12mm air gap should be maintained between the insulation and hot-water pipes, or they should be lagged. In roofing applications, care should be taken that hot bitumen is not allowed to 'pool' under the insulation during installation since this can result in burning of the underside.

Compatibility with other materials

EPS is soluble in aromatic, halogenated solvents and ketones; it should be protected from contact with hydrocarbons and strong solvents using a suitable membrane.

The material is unaffected by contact with solvent-free bitumen providing that, where necessary, the precautions set out above regarding temperature are observed.

EPS should not be permitted to come into contact with PVC-sheathed electrical cables since this will lead to migration of plasticiser from the PVC resulting in embrittlement of the cable sheath. Cables should be protected by the use of a physical barrier, for example by being enclosed in a conduit or by an air gap.

Service Life

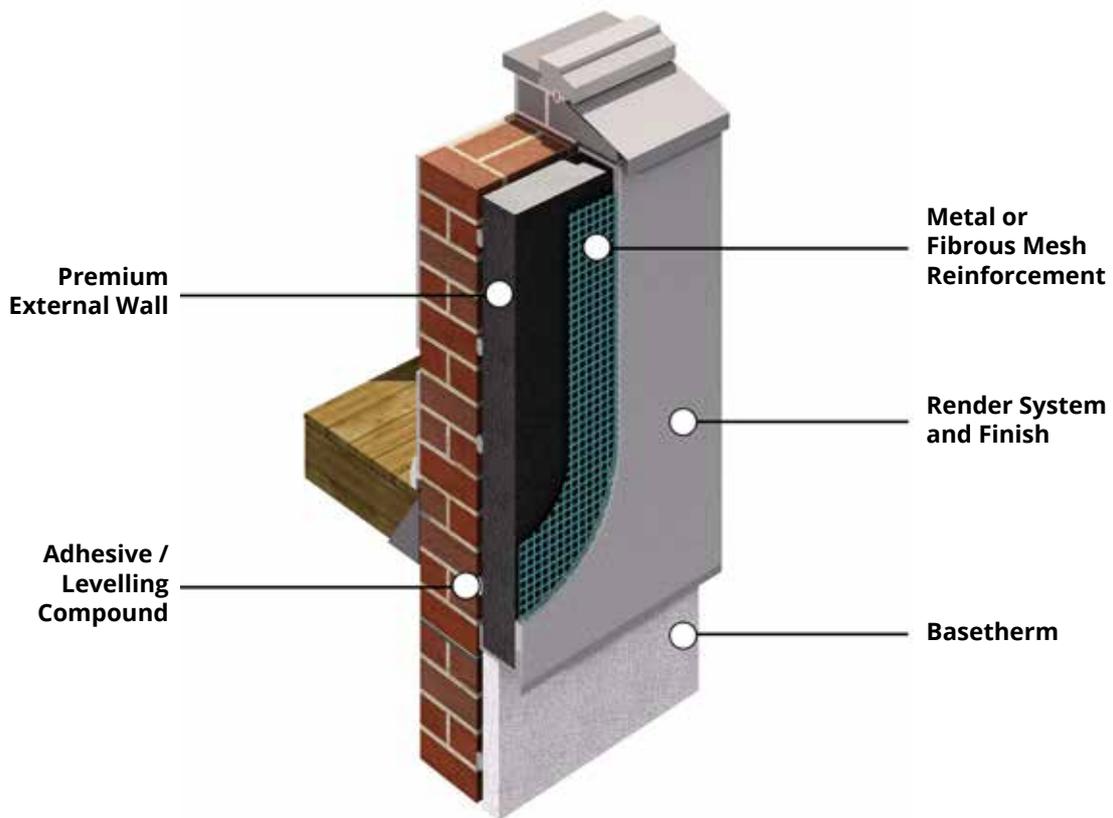
Providing it is correctly installed and protected, Jablite will remain effective for the life of the building.

Storage

Store Jablite boards under cover, protected from high winds and out and out of direct sunlight. Care should be taken in storage not to bring the boards into contact with highly flammable materials such as paint, solvent or petroleum products. Smoking should be prohibited in the storage area and the products must not be exposed to flame or other ignition source.

3.0

JABLITE PREMIUM EXTERNAL WALL



Jablite Premium External Wall is suitable for adding insulation to the external face of external wall constructions, and can be used in conjunction with a finish of timber or plastic weatherboarding, tile hanging, cladding, and reinforced-render systems.

Jablite Premium External Wall is available in a range of thicknesses for use in different wall insulation systems. Although the technique is commonly used to upgrade existing buildings, where it can also improve the appearance of the building and reduce the risk of rain penetration, it is equally applicable to new build.

Easy to handle

Jablite Premium External Wall is manufactured from expanded polystyrene (EPS), which is lightweight and easy to handle.

Permanent

Jablite Premium External Wall is rot-proof and durable and will remain effective for the life of the building; the recommended fixing methods will retain the boards permanently in position. It also has the added advantage of being flood-proof.

Easy to install

Jablite Premium External Wall is easily installed and there is generally no need for specialised trades or equipment. Disruption to the building occupants is minimal.

Environment

Expanded polystyrene has been awarded an A+ rating by the BRE's Green Guide to Specification.

Type

Jablite Premium External Wall is supplied as EPS 70 as defined in BS EN 13163, Reaction to Fire Class E, containing a flame-retardant additive. Jablite board for use with a rendered finish should be "aged" material.

Approvals

Proprietary reinforced render systems are generally applied in accordance with the technical requirements of INCA (Insulated Render and Cladding Association). Such systems would normally have been assessed and approved by the British Board of Agrément.

Dimensions

Standard size: 2400 x 1200mm

Standard thickness: 40, 50, 60, 75, 80, 100, 110, 120, 130 and 150mm

Fire

When properly installed, the insulation is protected by the cladding or other facing material and will have no adverse effect on either the surface spread of flame rating or the fire resistance of the wall. Any necessary fire performance is provided by the facing material.

Thermal Resistance

The thermal resistance, R-value, of Jablite board for a range of common thicknesses is as follows:

- 40mm 1.25m²K/W
- 50mm 1.56m²K/W
- 60mm 1.88m²K/W
- 75mm 2.34m²K/W
- 80mm 2.50m²K/W
- 100mm 3.13m²K/W
- 110mm 3.44m²K/W
- 120mm 3.75m²K/W
- 130mm 4.06m²K/W
- 150mm 4.69m²K/W

Water vapour transmission

Jablite Premium External Wall has a significant resistance to the passage of water vapour, but should not be regarded as a vapour-control layer.

Condensation calculations covering typical environmental conditions show that the dew point of an external-wall insulation system will occur on the external face of the insulation. This is the ideal situation.

U-values

The following tables show a selection of common wall constructions using a range of materials and give the U-values achieved when using standard thicknesses of Jablite board. The values given are based on a k value of 0.032W/mK for the insulation.

U-value Tables

Render Finish

U-VALUES (W/M ² K)												
Thickness of Jablite board (mm)	Plaster internal finish						Plasterboard on Dabs internal finish					
	80	100	110	120	130	150	80	100	110	120	130	150
150mm Dense Concrete Block	0.36	0.30	0.27	0.25	0.23	0.20	0.34	0.28	0.26	0.24	0.22	0.20
200mm Dense Concrete Block	0.36	0.29	0.27	0.25	0.23	0.20	0.33	0.28	0.26	0.24	0.22	0.19
215mm Brick	0.35	0.29	0.26	0.24	0.22	0.20	0.32	0.27	0.25	0.23	0.21	0.19
150mm Lightweight Block	0.30	0.26	0.24	0.22	0.21	0.18	0.29	0.25	0.23	0.21	0.20	0.18
200mm Lightweight Block	0.29	0.24	0.23	0.21	0.20	0.18	0.27	0.23	0.22	0.20	0.19	0.17
150mm Insulating Block	0.28	0.24	0.23	0.21	0.20	0.18	0.27	0.23	0.22	0.20	0.19	0.17
200mm Insulating Block	0.26	0.23	0.21	0.20	0.19	0.17	0.25	0.22	0.20	0.19	0.18	0.16
102mm Brick/100mm Dense Block Cavity Wall	0.33	0.27	0.25	0.23	0.22	0.19	0.31	0.26	0.24	0.22	0.21	0.19

80 & 110mm are External Wall render system companies standard insulation sizes.

All their edge strips; trims; etc. are to these sizes.

Installation

Render systems

Most companies marketing proprietary external-wall insulation systems will undertake a full design service, and provide installation through approved contractors. Typically, such a system will incorporate the following elements:

- adhesive/levelling compound
- “aged” Jablite board
- retaining system or fixings for the reinforcement and insulation
- metal or fibrous mesh reinforcement
- proprietary render system and finish

Cladding systems

The actual method of installation will depend on the chosen facing or cladding system. Typically, the wall should be battened horizontally or vertically, using treated timber fixed at appropriate centres to provide support for the cladding or tile battens.

Lengths of Jablite Premium External should be cut to ensure a tight fit between the battens and should be wedged into position. If the design requires an air gap between the insulation and the cladding, the insulation boards should be pinned in place using corrosion-free fixings.

A breathable sarking felt should be placed over the insulation, and the edges and joints sealed. The specified cladding should be installed in accordance with the manufacturer's instructions.

In most cases, the use of a single layer of insulation fitted between standard 38-50mm battens will not provide a U-value which satisfies the Building Regulations. The use of a second layer of Jablite board, fixed over the battens, in addition to that fixed between, can be used to improve the insulation value to an acceptable level.

This option must ensure that the cladding system is efficiently fixed back to the main wall to prevent vertical downward drag of cladding. A double counter-batten system may be required. If so, then the battens on the main wall must be in the same orientation as the cladding battens.

4.0

JABLITE PREMIUM EPS DATASHEET

Jablite Premium low lambda EPS is a lightweight cellular plastic material suitable for a wide range of building insulation applications. It is an excellent insulating medium which exhibits consistent thermal performance over the range of temperatures normally encountered in buildings.

The material is versatile, light in weight, clean and easy to handle, and provides a cost-effective means of including permanent insulation in walls to meet, and exceed, the standards laid down in the Building Regulations.

Technical Description

Composition

Jablite Premium insulation products are manufactured from EPS. The material comprises expandable beads of low lambda polystyrene pre-foamed and fused together in a steam-heated mould under pressure.

Alternatively, the beads may be moulded into a finished, shaped section which requires no further processing.

Jablite Premium is supplied as Reaction to Fire Class E, containing a flame retardant additive.

Tolerances

In accordance with BS EN 13163 tolerances on the cut dimensions are defined as follows:

Length: $\pm 2\text{mm}$ or $\pm 0.6\%$ whichever is greater (L2)

Width: $\pm 2\text{mm}$ or $\pm 0.6\%$ whichever is greater (W2)

Thickness: $\pm 2\text{mm}$ (T2)

Squareness: $\pm 2\text{mm}$ per 1000mm (S2)

Flatness: 3mm/m (P3)

Alternative tolerances can be provided for specific applications.

Dimensional stability

In accordance with BS EN 13163 = DS(N)5 $\pm 0.5\%$ under constant laboratory conditions.

Standards

Where relevant, Jablite products are produced to the requirements of BS EN 13163 'Thermal insulation products for buildings – Factory made products of expanded polystyrene (EPS) – specification'.

Jablite Limited has been assessed and approved to BS EN ISO 9001:2008 'Quality systems; for quality assurance in production, installation and servicing'.

Properties & Performance

Mechanical properties

Jablite Premium EPS has a high strength to weight ratio.

Moisture Properties

Although Jablite Premium has significant resistance to the passage of water vapour, it should not be regarded as a damp-proof membrane or vapour-control layer, and will not provide a barrier against damp penetration.

A suitable damp-proof membrane or vapour-control layer will be required in most forms of construction: see individual product and application data.

Fire Properties

In common with all organic materials, Jablite Premium is combustible. However, provided it is specified and installed correctly and in accordance with the manufacturer's instructions and BS 6203, it will not present any undue fire hazard.

The standard recommends that for all applications, the material should be protected by either a laminated facing layer, or should be protected by being fully enclosed by the form of construction.

Euroclass E 'flame-retardant' additive material reduces the rate of flame spread but should not be considered as offering enhanced fire performance.

Combustion

EPS is 'combustible' as defined in BS 476:Part 4. When burning, EPS behaves like other hydrocarbons such as wood and paper. For Euroclass F material, the products of uncontrolled combustion are carbon monoxide, carbon dioxide, styrene, hydrogen bromide and water vapour; the decomposing styrene will give off a certain amount of dense black soot.

Ignition temperature

Flash ignition temperature is between 350 and 490°C depending on the application and the exact circumstances of use. Under certain circumstances the material can be readily ignited by a naked flame but providing it is correctly installed, this does not present any disadvantage in use.

Biological Properties

EPS will not sustain mould growth, and has no nutrient value to insects or vermin. The material is non-biodegradable and care should be taken to dispose of waste and offcuts at a licensed waste site.

Thermal Properties

Thermal movement

Coefficient of linear expansion, $0.6 \times 10^{-6}/^{\circ}\text{C}$.

The material is sufficiently resilient and flexible that no allowance need be made for thermal expansion.

Working temperature range

EPS can be used within the temperature range -150°C to $+80^{\circ}\text{C}$.

Compatibility with other materials

EPS is soluble in aromatic, halogenated solvents and ketones; it should be protected from contact with hydrocarbons and strong solvents using a suitable membrane.

The material is unaffected by contact with solvent-free bitumen providing that, where necessary, the precautions set out above regarding temperature are observed.

EPS should not be permitted to come into contact with PVC-sheathed electrical cables since this will lead to migration of plasticiser from the PVC resulting in embrittlement of the cable sheath. Cables should be protected by the use of a physical barrier, for example by being enclosed in a conduit or by an air gap.

Health Safety and Environment

EPS is non-toxic and biologically inert. It is not irritating to the eyes or skin and no medical treatment or action is required as a result of accidental ingestion.

No special precautions are required during handling or cutting when carried out in well ventilated areas.

The volume of EPS boards is 98% air; consequently the components in a given volume are typically 18-26kg/m³. In polystyrene, styrene monomer, shown to be safe in use, constitutes a maximum of 0.1% by weight of the product. This minute trace of styrene monomer constitutes no risk to health.

The expanding agent, pentane, is a saturated hydrocarbon and is non-toxic and constitutes no threat to the ozone layer.

EPS, Class E, flame retardant material, contains around 0.5% of the flame retardant hexa-bromocyclododecane (HBCD) which is entrapped in the polymer matrix of the EPS.

Service Life

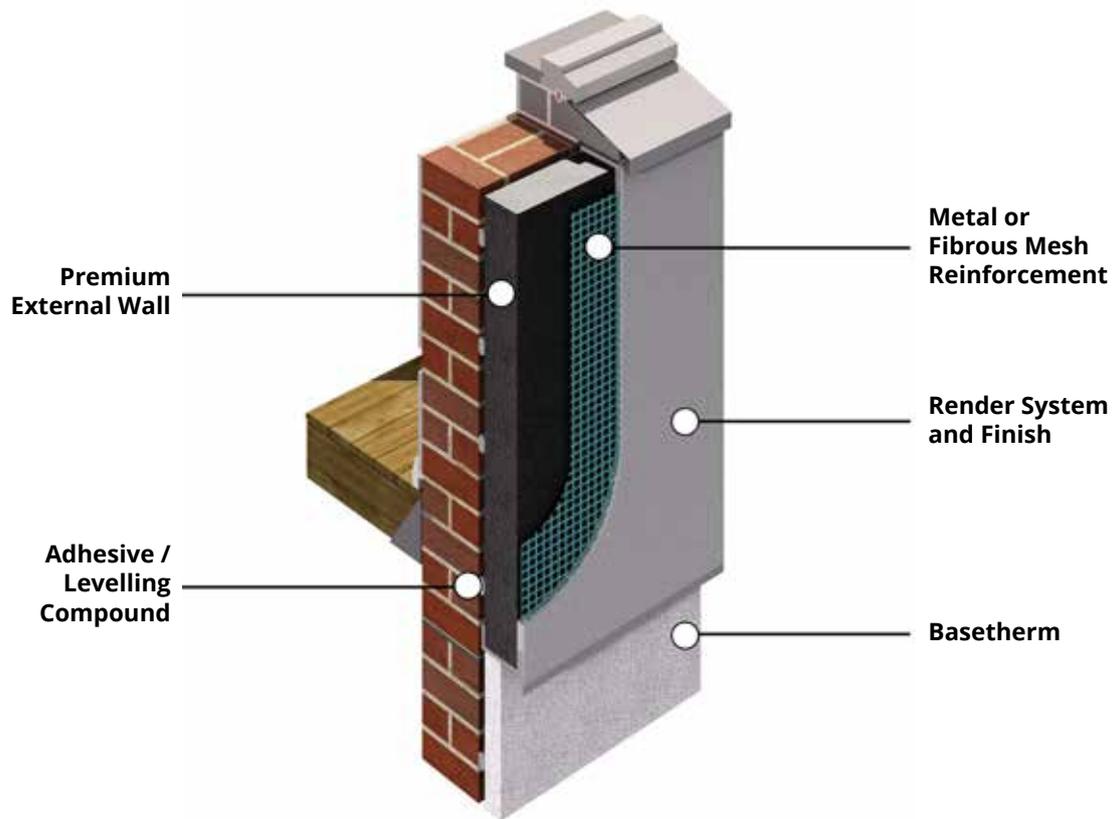
Providing it is correctly installed and protected, Jablite will remain effective for the life of the building.

Storage

Store Jablite boards under cover, protected from high winds and out and out of direct sunlight. Care should be taken in storage not to bring the boards into contact with highly flammable materials such as paint, solvent or petroleum products. Smoking should be prohibited in the storage area and the products must not be exposed to flame or other ignition source.

5.0

JABLITE BASETHERM



Jablite Basetherm is a high performance insulation that is designed specifically to insulate the plinth below the damp-proof course.

Jablite Basetherm is made of a special, low water absorption expanded polystyrene that maintains the thermal performance of the insulation even when in a damp environment.

6.0 SUSTAINABILITY

Jablite Insulation and the Code for Sustainable Homes

The Code for Sustainable Homes (the Code) is the national standard for the sustainable design and construction of new homes. The Code aims to reduce our carbon emissions and create homes that are more sustainable. It applies in England, Wales and Northern Ireland.

Code for Sustainable Homes, Category 3: Materials

Mat 01: Environmental Impact of Materials

Jablite external wall insulation products are made from EPS (expanded polystyrene) which has an A+ rating in the BRE Green Guide to Specification for EPS 100 and EPS 150.

The BRE Green Guide to Specification provides you with easy-to-use guidance on how to make the best environmental choices when selecting construction materials and components.

Environmental rankings: A+ represents the best environmental performance and E the worst environmental impact.

Code for Sustainable Homes, Category 6: Pollution

Jablite Insulation has a Global Warming Potential (GWP) of less than 5 and an Ozone Depletion Potential (ODP) of zero.

The blowing agent used during manufacture is pentane which has zero ODP and a GWP of less than 5.

Jablite Insulation and BREEAM

BREEAM (Building Research Establishment Environmental Assessment Method) sets the standard for best practice in sustainable design and in the measurement of a building's environmental performance.

BREEAM enables developers, designers and building managers to demonstrate the environmental credentials of their buildings to clients, planners and other parties.

BREEAM, Material 04 Insulation

In this category, the specified aim of BREEAM is to "recognise and encourage the use of thermal insulation which has a low embodied environmental impact relative to its thermal properties and has been responsibly sourced."

It is a pre-requisite of BREEAM that any new insulation specified for use within the following building elements must be assessed:

- 1 External Wall
- 2 Ground floor
- 3 Roof



Embodied Impact

Jablite insulation products are made from EPS which has been given an A+ rating by the BRE for EPS 100 and EPS 150.

The calculation of embodied impact relative to thermal performance is a function of the material volume (for each build), its BRE Green Guide Rating and its thermal conductivity.

The thermal conductivity of our products is available on both the product packaging and on relevant product technical datasheets which can be found on this website.

Responsible Sourcing

Jablite insulation products are manufactured in factories which are ISO 14001 certified and Jablite purchases raw material from suppliers who are ISO 14001 certified.

Key Process (Insulation Manufacture)

ISO 14001: Certificate Number EMS 559414

Supply Chain Processes (supply of materials for end products)

ISO 14001: Certificate Number NL 007629-1

Jablite Insulation and the Environment

Recycling

Jablite insulation products are 100% recyclable. We collect waste from building projects and recycle it.

Our manufacturing process

All Jablite insulation products are manufactured at sites with ISO 14001 certification.

Steam is the main ingredient used in the manufacture of Jablite insulation. The water consumption is low because the water is clean and can be re-used many times in the process.

No solid waste is generated during the manufacturing; any broken or faulty parts that do not pass our stringent quality control standards can be broken up and re-introduced into the process.

Jablite insulation products do not contain and are not manufactured using any substances which are controlled under Montreal or Kyoto Protocols.

Efficient use of natural resources

Jablite insulation products are 98% air and therefore extremely resource efficient. The lightweight nature of Jablite insulation means that less fuel is used when transporting from factory to building site.

Jablite insulation products are made from expanded polystyrene (EPS), a plastic that is obtained from oil. In Europe, the percentage of oil used in manufacturing EPS is 0.1%.

Styrene

The monomer styrene has been manufactured for more than 70 years and is used in a wide range of products.

Styrene exists naturally and can be found in many foodstuffs including strawberries, beans, nuts, beer, wine, coffee beans and cinnamon.

Pentane

Pentane, a non-CFC expansion agent is used to expand polystyrene granules into the cellular structure that makes the production of EPS possible.

Pentane is a slightly volatile liquid in the same chemical family as methane, ethane, propane and butane and is continually being formed in natural processes in the digestive systems of animals and the decomposition of vegetables. It is not considered a substance harmful to health by European health authorities.

Pentane does not contain chlorine and therefore does not harm the ozone layer.

No CFCs (chloroflourocarbons) or HCFCs (hydrochloro-fluorocarbons) are used in the manufacture of Jablite products.

Global Warming Potential = <5

Ozone Depletion Potential = 0

7.0 APPENDICES

7.1

JABLITE EXTERNAL WALL DECLARATION OF PERFORMANCE

No:	03458510030
1 Unique identification code of the product-type:	Jablite Classic – External Wall Insulation Board
2 Type, batch or serial number or any other element allowing identification of the construction product as required pursuant to Article 11(4) of the CPR:	EPS Classic External Wallboard – Square Edge
3 Intended use or uses of the construction product, in accordance with the harmonised technical specification, as foreseen by the manufacturer:	External wall insulation for use with render systems
4 Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11(5):	Jablite Ltd, Infinity House, Anderson Way, Belvedere, Kent, DA17 6BG
5 Where applicable, name and contact address of the authorised representative whose mandate covers the tasks specified in Article 12(2):	Not Applicable
6 System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V:	AVCP System 3
7 In case of the declaration of performance of the construction product covered by a harmonised standard: - name and number of notified body:	British Board of Agrément; BRE (RtF)
- performed:	Thermal Conductivity Water Absorption by immersion Reaction to Fire (RtF) Shear strength
- under system:	System 3
- and issued:	Test Report on Application

Declared Performance

Essential Characteristic	Performance	Harmonised technical standard
Length and Width	L3 & W2	BS EN 13163:2012
Thickness	T2	BS EN 13163:2012
Squareness	Sb5	BS EN 13163:2012
Flatness	P30 - up to 60mm thickness P15 - up to 120mm thickness P10 - up to 180mm thickness P5 - over 181mm thickness	BS EN 13163:2012
Reaction to Fire	Euroclass E	BS EN 13501-1:2007+A1:2009
Thermal Conductivity λ_D	0.038W/mK	BS EN 13163:2012
Thermal Resistance	See Table 3	BS EN 12667:2001
Compressive Strength at 10% deformation	CS(10)70	BS EN 13163:2012
Compressive Creep	cc(2/1.5/50)0.3 σ_{10}	BS EN 13163:2012
Water Vapour Transmission	20 - 40 μ	BS EN 12086:2013
Dimensional Stability	DS(N)5	BS EN 1603:2013
Water Absorption by Immersion	WL(T)i = 4%	BS EN 12087:2013
Shear Strength	SS65	BS EN 12090:2013
Tensile strength perpendicular to faces	TR80	BS EN 1607:1997

The performance of the product identified in points 1 and 2 is in conformity with the declared performance.

This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

On behalf of the manufacturer by:



Wayne Brown, Manufacturing Director

Belvedere – 1st January 2014

Thermal Resistance - Table 3

Nominal Board Thickness	Thermal Resistance (m ² K/W)
20	0.5263
25	0.6579
30	0.7895
35	0.9211
40	1.0526
45	1.1842
50	1.3158
55	1.4474
60	1.5789
65	1.7105
70	1.8421
75	1.9737
80	2.1053
85	2.2368
90	2.3684
95	2.5000
100	2.6316
105	2.7632
110	2.8947
115	3.0263
120	3.1579
125	3.2895
130	3.4211
135	3.5526
140	3.6842
145	3.8158
150	3.9474
155	4.0789
160	4.2105
165	4.3421
170	4.4737
175	4.6053
180	4.7368
185	4.8684
190	5.0000
195	5.1316
200	5.2632
205	5.3947
210	5.5263
215	5.6579
220	5.7895
225	5.9211
230	6.0526
235	6.1842

Nominal Board Thickness	Thermal Resistance (m ² K/W)
240	6.3158
245	6.4474
250	6.5789
255	6.7105
260	6.8421
265	6.9737
270	7.1053
275	7.2368
280	7.3684
285	7.5000
290	7.6316
295	7.7632
300	7.8947

7.2

JABLITE PREMIUM EXTERNAL WALL DECLARATION OF PERFORMANCE

No:	08458500030
1 Unique identification code of the product-type:	Jablite Premium – External Wall Insulation Board
2 Type, batch or serial number or any other element allowing identification of the construction product as required pursuant to Article 11(4) of the CPR:	EPS Premium External Wallboard – Square Edge
3 Intended use or uses of the construction product, in accordance with the harmonised technical specification, as foreseen by the manufacturer:	External wall insulation for use with render systems
4 Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11(5):	Jablite Ltd, Infinity House, Anderson Way, Belvedere, Kent, DA17 6BG
5 Where applicable, name and contact address of the authorised representative whose mandate covers the tasks specified in Article 12(2):	Not Applicable
6 System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V:	AVCP System 3
7 In case of the declaration of performance of the construction product covered by a harmonised standard: - name and number of notified body:	British Board of Agrément; BRE (RtF)
- performed:	Thermal Conductivity Water Absorption by immersion Reaction to Fire (RtF) Shear strength
- under system:	System 3
- and issued:	Test Report on Application

Declared Performance

Essential Characteristic	Performance	Harmonised technical standard
Length and Width	L3 & W2	BS EN 13163:2012
Thickness	T2	BS EN 13163:2012
Squareness	Sb5	BS EN 13163:2012
Flatness	P30 - up to 60mm thickness P15 - up to 120mm thickness P10 - up to 180mm thickness P5 - over 181mm thickness	BS EN 13163:2012
Reaction to Fire	Euroclass E	BS EN 13501-1:2007+A1:2009
Thermal Conductivity λ_D	0.038W/mK	BS EN 13163:2012
Thermal Resistance	See Table 3	BS EN 12667:2001
Compressive Strength at 10% deformation	CS(10)70	BS EN 13163:2012
Compressive Creep	cc(2/1.5/50)0.3 σ_{10}	BS EN 13163:2012
Water Vapour Transmission	20 - 40 μ	BS EN 12086:2013
Dimensional Stability	DS(N)5	BS EN 1603:2013
Water Absorption by Immersion	WL(T)i = 4%	BS EN 12087:2013
Shear Strength	SS65	BS EN 12090:2013
Tensile strength perpendicular to faces	TR80	BS EN 1607:1997

The performance of the product identified in points 1 and 2 is in conformity with the declared performance.

This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

On behalf of the manufacturer by:



Wayne Brown, Manufacturing Director

Belvedere – 1st January 2014

Thermal Resistance - Table 3

Nominal Board Thickness	Thermal Resistance (m ² K/W)
20	0.6250
25	0.7813
30	0.9375
35	1.0938
40	1.2500
45	1.4063
50	1.5625
55	1.7188
60	1.8750
65	2.0313
70	2.1875
75	2.3438
80	2.5000
85	2.6563
90	2.8125
95	2.9688
100	3.1250
105	3.2813
110	3.4375
115	3.5938
120	3.7500
125	3.9063
130	4.0625
135	4.2188
140	4.3750
145	4.5313
150	4.6875
155	4.8438
160	5.0000
165	5.1563
170	5.3125
175	5.4688
180	5.6250
185	5.7813
190	5.9375
195	6.0938
200	6.2500
205	6.4063
210	6.5625
215	6.7188
220	6.8750
225	7.0313
230	7.1875
235	7.3438

Nominal Board Thickness	Thermal Resistance (m ² K/W)
240	7.5000
245	7.6563
250	7.8125
255	7.9688
260	8.1250
265	8.2813
270	8.4375
275	8.5938
280	8.7500
285	8.9063
290	9.0625
295	9.2188
300	9.3750

7.3

JABLITE BASETHERM DECLARATION OF PERFORMANCE

No:	03459450010050; 03459450010100
1 Unique identification code of the product-type:	Jablite Basetherm
2 Type, batch or serial number or any other element allowing identification of the construction product as required pursuant to Article 11(4) of the CPR:	EPS Basetherm – Square Edge
3 Intended use or uses of the construction product, in accordance with the harmonised technical specification, as foreseen by the manufacturer:	For use as first row of insulation/below ground in external wall insulation system
4 Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11(5):	Jablite Ltd, Infinity House, Anderson Way, Belvedere, Kent, DA17 6BG
5 Where applicable, name and contact address of the authorised representative whose mandate covers the tasks specified in Article 12(2):	Not Applicable
6 System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V:	AVCP System 3
7 In case of the declaration of performance of the construction product covered by a harmonised standard: - name and number of notified body:	British Board of Agrément; BRE (RtF)
- performed:	Thermal Conductivity Water Absorption by immersion Reaction to Fire (RtF) Shear strength
- under system:	System 3
- and issued:	Test Report on Application

Declared Performance

Essential Characteristic	Performance	Harmonised technical standard
Length and Width	L3 & W2	BS EN 13163:2012
Thickness	T2	BS EN 13163:2012
Squareness	Sb5	BS EN 13163:2012
Flatness	P3	BS EN 13163:2012
Reaction to Fire	Euroclass E	BS EN 13501-1:2007+A1:2009
Thermal Conductivity λD	0.034W/mK	BS EN 13163:2012
Thermal Resistance	See Table 3	BS EN 12667:2001
Compressive Strength at 10% deformation	CS(10)200	BS EN 13163:2012
Compressive Creep	cc(2/1.5/50)0.3 σ_{10}	BS EN 13163:2012
Water Vapour Transmission	40 - 100 μ	BS EN 12086:2013
Dimensional Stability	DS(N)5	BS EN 1603:2013
Water Absorption by Immersion	WL(T)i = 4%	BS EN 12087:2013
Shear Strength	NPD	BS EN 12090:2013
Tensile strength perpendicular to faces	TR100	BS EN 1607:1997

The performance of the product identified in points 1 and 2 is in conformity with the declared performance.

This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

On behalf of the manufacturer by:



Wayne Brown, Manufacturing Director

Belvedere – 1st January 2014

Thermal Resistance - Table 3

Nominal Board Thickness	Thermal Resistance (m ² K/W)
50	1.4706
100	2.9412

7.4

CONTROL OF SUBSTANCE HAZARDOUS TO HEALTH (COSHH) DATASHEET

1 IDENTIFICATION

Product Names

Jablite board	Jabvent	Jabfloor	Jabcore	Jabroll	Jablite Profile
Jabwall	Jabdec	Jablok	Jabfill	Jabtherm	Jablite Flat Roof Tapered
Jabsqueeze	Claymaster	Fillmaster	Floatmaster	Premium Jablite FRI	

Product Type Expanded Polystyrene (EPS), Euroclass F and E

Supplier Address Jablite Limited, Infinity House, Anderson Way, Belvedere, Kent, DA17 6BG

Contact Number 020 8320 9100

2 COMPOSITION / INFORMATION ON INGREDIENTS

Description

Expanded polystyrene containing residual amounts of Pentane expanding agent.

Euroclass E products also contain a brominated flame retardant, Hexabromocyclododecane (HBCDD)

Dangerous Components/Constituents

Component Name	CAS Number	EINECS	Content	Hazard
Pentane	109-66-0	203-692-4	< 1% wt	F+,R12
	78-78-4	201-142-8		
HBCDD	25637-99-4	247-148-4	> 0.1% wt	N, R50/53

Other Information CAS number for polymer component - 900 3-53-6 (polystyrene)

3 HAZARDS IDENTIFICATION

Human Health Hazard

EPS is not known to lead to any skin irritations and is regarded as biologically inert. Residual quantities of Pentane and styrene monomer are insignificant. However during hot wire cutting of EPS if ventilation is not adequate the fumes generated can cause irritation to the respiratory tracts and eyes. Where substantial dust is produced in subsequent processing of EPS (e.g., band sawing or grinding), suitable dust extraction must be provided, to ensure that exposure does not exceed 10 mg/m³ 8 Hours TWA (Occupational Exposure Limit for total inhalable dust).

Safety Hazards

EPS is organic and therefore combustible. The following fire precautions are recommended:

- 1 Smoking should be prohibited in the storage and processing areas.
- 2 EPS should be stored away from highly flammable material such as paint or petroleum products.
- 3 Storage and working areas should be kept free from rubbish which may spread fire or ignite spontaneously.
- 4 Fire extinguishers and/or hose reels should be available at an easily recognisable fire point and at all times close at hand when welding or burning adjacent to EPS.
- 5 Polystyrene dust, like other hydrocarbon based polymers in this form, is classified as a Group (a) flammable dust and precautions should be taken as required by Section 31 of the Factories Act 1961.
- 6 If there is an outbreak of fire, the Fire Brigade should be called immediately and advised that EPS is involved. The area should be evacuated by all personnel, except those fighting the fire.

4 FIRST AID MEASURES

First Aid – Inhalation

- Only dust produced from machining EPS or small particles are likely to be inhaled.
- Clear the respiratory tracts
- If recovery does not occur obtain medical attention

First Aid – Skin

- No specific measures

First Aid – Eye

- Flush EPS particles from the eye with water
- If rapid recovery does not occur obtain medical attention

First Aid – Ingestion

No specific measures.

First Aid – Fire

- Inhalation of smoke or fumes
 - Remove from exposure into fresh air
 - Keep warm and at rest
 - If there is respiratory distress, give oxygen
 - If breathing stops or shows signs of failing, apply artificial respiration
 - Obtain immediate medical attention
- Skin Contact
 - Molten Material – Immediately flood affected area and adhering molten polymer with plenty of cold water
 - DO NOT attempt to remove molten or solidified material from the skin
 - Obtain immediate medical attention

5 FIRE FIGHTING MEASURES

Specific Hazards

- Hazardous combustion products may include carbon monoxide and carbon dioxide
- Hydrogen bromide will also be released from flame retardant (Euroclass E) grades

Extinguishing Media

- Foam, water spray or fog
- Dry chemical powder or carbon dioxide.

6 ACCIDENTAL RELEASE MEASURES

The product is in solid form and releases no harmful substances.

Personal Protection	No specific measures
Clean up Methods	Dispose of in accordance with section 13

7 HANDLING AND STORAGE

Store under cover in dry conditions taking into account recommendations in section 3 - Fire Precautions.

Stockpiles should not contain more than 60 cubic metres (about 1 tonne). If a bigger volume needs to be stored it should be divided into two or more stockpiles at least 20m apart.

EPS stockpiles should be sited so that in the event of a fire flowing or dripping molten material will not cause the spread of fire to other combustible materials or to other areas of a building, in particular staircases and corridors.

Storage should be in a level situation at ground level (not on ramps).

Raised thresholds to doorways or bunds should be provided where storage on upper floors is unavoidable (particularly to the edges of floors without upstands and around staircases).

The bund walls should be of fire-resisting and liquid-tight construction.

The capacity of the bund area should be at least 3% of the maximum volume of EPS stored.

Stockpiles should be sited in such a manner that permanently marked access ways can be maintained. Stockpiles should not impair the performance of any sprinkler system.

In warehouses or where large quantities of EPS are stored consideration should be given to the use of sprinklered premises.

On building sites EPS should be stored wherever possible in a fenced compound or building which can be secured, under cover protected from high winds and raised above damp surfaces. Protect from direct sunlight. Stack boards flat without bearers.

Storage temperature: Ambient.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

No specific protection is required when handling EPS

Occupational Exposure Standards

The following are the Maximum Exposure Limits (MEL) for the expansion agent and for the hazardous decomposition products:

Component Name	Limit type	Value	Unit	Other Info.
Expansion agent				
Pentane	TWA 8hr	1770	mg/m ³	UK Solvents
Pentane	STEL 15min	2210	mg/m ³	UK Solvents
Decomposition products				
Styrene Monomer	TWA 8hr	430	mg/m ³	EH40
Styrene Monomer	STEL 15min	1080	mg/m ³	EH40
Hydrogen Bromide (Euroclass E)	STEL 15min	10	mg/m ³	EH40

TWA = Time Weighted Average - STEL = Short Term Exposure Limit

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Cellular Foam
Form	Moulded shapes or sheets
Colour	White, pink (Claymaster), grey (Premium)
Density	Ranges from 10kg/m ³ to 60kg/m ³
Solubility in water	Not soluble
Solubility in other solvents	Soluble in aromatic, halogenated solvents and ketones
Softening Point	95-100°C
Ignition temperature in air	350°C

10 STABILITY / REACTIVITY

Stability	Stable under normal use conditions. Decomposes above 200°C
Conditions to avoid	Heat flames and sparks. Strong sunlight for prolonged periods.
Hazardous Decomposition Products	Styrene Monomer, Hydrogen Bromide products (Euroclass E) & Carbon Monoxide when burned

11 TOXICOLOGICAL INFORMATION

Expanded polystyrene is non-toxic and is not irritating to the skin or eyes.

12 ECOLOGICAL INFORMATION

All products are not biodegradable and non-toxic.

Euroclass E products contain a substance which is classified as dangerous for the environment. However recent studies on aquatic organisms have shown that articles such as PS foams, while containing this substance, do not need to be classified for environmental hazard.

All products have zero Ozone Depleting Potential (ODP) and virtually zero Global Warming Potential (GWP). Products may contain some residual Pentane that has a very low Global Warming Potential of <0.00044.

13 DISPOSAL CONSIDERATIONS

Waste Disposal

Recover or recycle if possible. Scrap expanded polystyrene is not classified as "Notifiable Waste" and may be disposed of in suitable land-fill tips or by incineration under approved conditions. Advice on the preferred method should be obtained at all times.

Flame retardant grades (Euroclass E) contain a halogen complex flame retardant additive encapsulated in the polystyrene which can give rise to the emission of gases such as hydrogen bromide during incineration of waste product.

14 TRANSPORT INFORMATION

UN Number	2211
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15 REGULATORY INFORMATION

EC Label Name	Expanded Polystyrene
R18	In use, may form flammable/explosive vapour-air mixture
S16	Keep away from sources of ignition - No smoking
R50/53	REACH regulation (EC) No 1907/2006 Products are an Article. Additional labelling is not necessary Contains Hexabromocyclododene above 0.1% (w/w) listed in the REACH Substances for Authorisation (18/2/11)

16 OTHER INFORMATION

Uses and Restrictions

Insulation of walls roofs and floors in domestic and other buildings. Cut Pieces for Packaging. Civil Engineering and Floatation, Protection of Foundations from Clay Movement.

ISSUE

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EH&S Distribution

This document contains important information to ensure the safe storage, handling and use of this product. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.



Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2008

This is to certify that: **Jablite Limited**
Boothferry Works
Howden
Goole
DN14 7EA
United Kingdom

Holds Certificate Number: **FM 01260**

and operates a Quality Management System which complies with the requirements of ISO 9001:2008 for the following scope:

The manufacture of expanded polystyrene bead, block, board and shaped moulded products, including laminated sheet for use within the construction industry with the exception of RDN grade. Products can be to British, in house or customer specifications.

For and on behalf of BSI:



Gary Fenton, Global Assurance Director

Originally registered: 01/08/1987

Latest Issue: 19/12/2013

Expiry Date: 10/01/2016



Page: 1 of 2

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Certificate No: FM 01260

Location	Registered Activities
Jablite Limited Boothferry Works Howden Goole DN14 7EA United Kingdom	The manufacture of expanded polystyrene bead, block, board and shaped moulded products, including laminated sheet for use within the construction industry with the exception of RDN grade. Products can be to British, in house or customer specifications.
Jablite Limited Belvedere Works Anderson Way Belvedere DA17 6BG United Kingdom	The manufacture of expanded polystyrene block, board and shaped moulded products, including laminated sheet for use within the construction industry with the exception of RDN grade. The products can be to British, in-house or customer specifications.



Originally registered: 01/08/1987

Latest Issue: 19/12/2013

Expiry Date: 10/01/2016

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Certificate of Registration

ENVIRONMENTAL MANAGEMENT SYSTEM - ISO 14001:2004

This is to certify that:

Jablite Limited
Boothferry Works
Howden
Goole
DN14 7EA
United Kingdom

Holds Certificate Number:

EMS 559414

and operates an Environmental Management System which complies with the requirements of ISO 14001:2004 for the following scope:

Manufacture and supply of expanded polystyrene products.

For and on behalf of BSI:



Gary Fenton, Global Assurance Director

Originally registered: 02/08/2010

Latest Issue: 09/07/2013

Expiry Date: 02/08/2016



Page: 1 of 2

...making excellence a habit.™

Certificate No: EMS 559414

Location	Registered Activities
Jablite Limited Boothferry Works Howden Goole DN14 7EA United Kingdom	Manufacture and supply of expanded polystyrene products.
Jablite Limited Belvedere Works Anderson Way Belvedere DA17 6BG United Kingdom	Manufacture and supply of expanded polystyrene products.



Originally registered: 02/08/2010

Latest Issue: 09/07/2013

Expiry Date: 02/08/2016

Page: 2 of 2

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**For more information
about Jablite:**

 0870 600 3666

 @jablite

 sales@jablite.co.uk

 www.jablite.co.uk