



Fusion+ Tapered Insulation System

Description

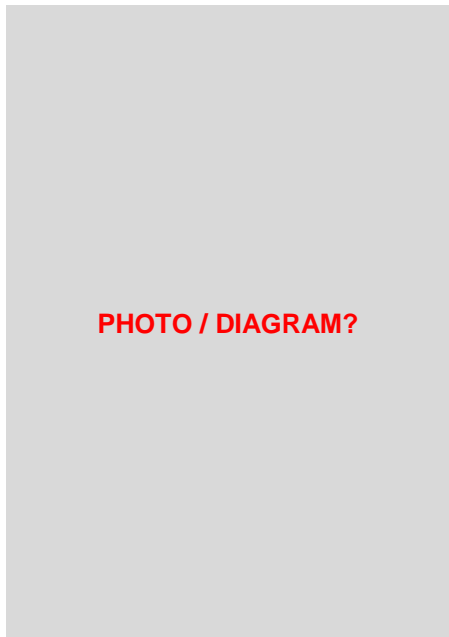
Fusion+ is a high-quality, cut-to-falls, tapered insulation hybrid system consisting of Mineral Wool (MW) and Expanded Polystyrene (EPS) rigid foam material. Specified for its advanced thermal properties and design versatility, our cost-effective EPS/MW system is a combination of two high performance insulation materials allowing flat roofing systems to utilise the advanced characteristics of each material.

Because boards are pre-cut in the factory, this allows for a greater accuracy, quick installation and minimal wastage on site. The EPS 150 is available in any thickness ranging from 10mm up to 600mm as a single piece. Rigid flat Mineral Wool is available in thicknesses from 30mm to 185mm as a single piece. The Fusion+ system is available as a two-layer system non-bonded (on-site).

Fusion+ can be specified on all substrate types from timber to concrete. The hybrid solution uses tapered EPS 150 insulation to form the specified falls, whilst a layer of Mineral Wool is laid above and fixed to the EPS either mechanically or adhered. The Fusion+ tapered system is then encapsulated with a high-performance membrane. The Fusion+ hybrid system eliminates the need for timber firings or concrete screeds.



	EPS 150E	Mineral Wool	BS Accreditation
Plan Size (mm)	1200 x 1200	1200 x 1000	-
Thickness (mm)	10 to 600	30 to 185	-
Thermal Conductivity (W/m²k)	0.035	0.039	BS EN 12667
Compressive Strength @ 10% Compression (kPa)	150	60-100	BS EN 826
Water Vapour Resistance (MNs/g)	>238	5.9	BS EN 12086:B
BRE Global Green Guide Rating	A+	-	-
Manufactured to	BS EN ISO 13163 ISO 14000 BS EN ISO 9001	BS EN ISO 13163	-





U-Value Calculations

The flat roof U-Value is calculated in accordance with BS EN ISO 6946: 2007: Annex C (Building components and building elements – Thermal resistance and thermal transmittance – Calculation method). Tapered Plus will determine the board thicknesses required by using the specified thermal performance target U-Value or by referencing the Building Regulations Standards.

Supply & Installation

Tapered EPS boards are delivered and labelled the same as indicated on the Tapered Plus design scheme (A, B, C or 1, 2, 3 etc.). Flat Boards of Mineral Wool are provided separately, and laid butt jointed over the EPS in a staggered bond pattern for stability.

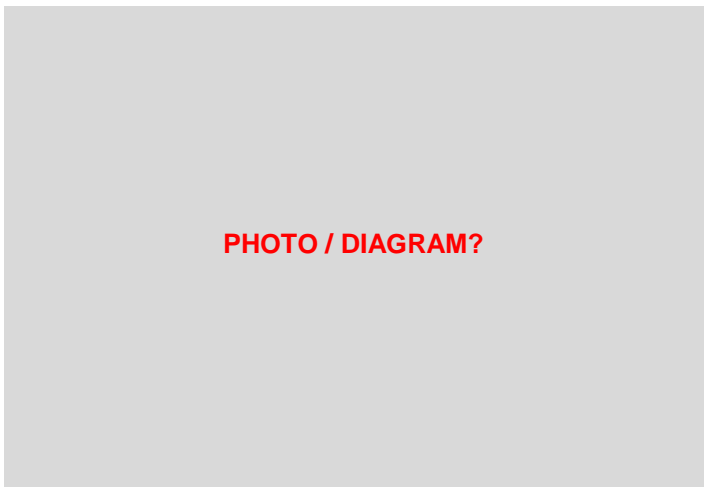
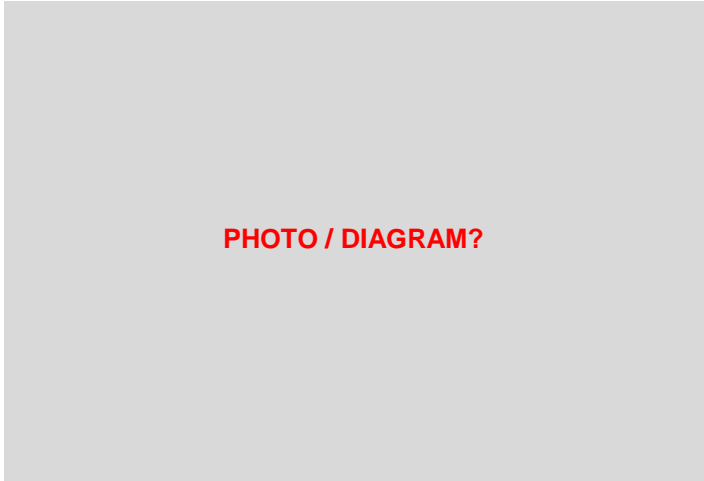
Roof Loads & Traffic

Fusion+ is appropriate for light pedestrian traffic. Once the system is waterproofed and site work is still underway, the roof needs to be protected from excessive loads and potential damage caused by other trades on site.

Wind Loads

It is recommended that wind loads are calculated prior to installation using BS EN 1991-1-4: 2004+ A1: 2010 Eurocode 1, Actions on structures, General Actions, Wind Actions and the UK National Annex.

For further information and advice on your tapered insulation project please contact the Design Team





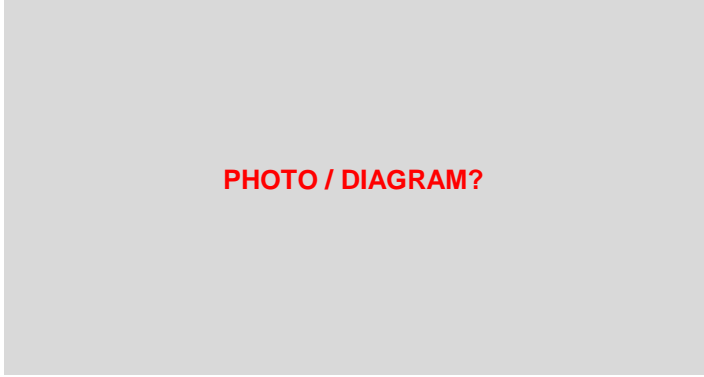
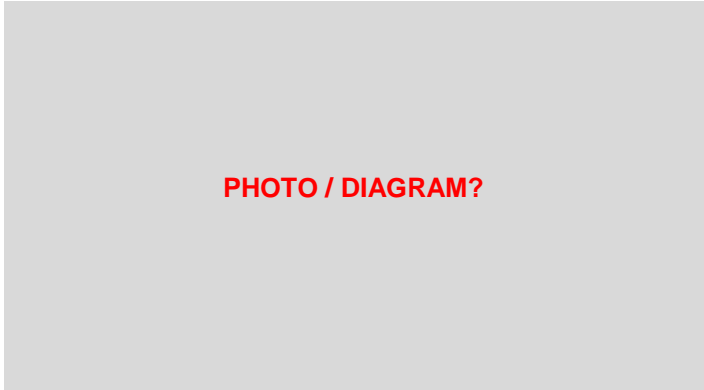
Environmental Responsibility

The Fusion+ system uses products made free from Chlorofluorocarbon (CFC) and Hydrochlorofluorocarbon (HCFC) blowing agents. They have no Ozone Depletion Potential (ODP) and are BREEAM compliant due to having a Global Warming Potential (GWP) of less than 5. Our EPS material is manufactured to BS EN ISO 14001:2004. The EPS meets the specification of the BRE and reaches a rating of A+.

Specification Clause

A typical Fusion+ installation consists of a tapered EPS 150 base layer with a Mineral Wool overlay and must be installed using approved methods in conjunction with a good practice guide. The Mineral Wool insulation is 'faced' and suitable for all membrane applications. Fusion+ can be manufactured to suit standard falls of 1:40, 1:60 and 1:80. Bespoke falls are also available, please contact the Design Team for assistance.

EPS 150 is manufactured to BS EN ISO 13163 under a Quality Assurance System approved to BS EN ISO 9001 and Environmental Management System to ISO 14001. Mineral Wool is manufactured to BS EN 13162, 'Thermal Insulation products for buildings – factory made mineral wool (MW) products specification.'



Services

Tapered Plus Ltd offer numerous services including site surveys, U-Value calculations, scheme designs, condensation risk analysis, technical support, consultancy and supply.

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