

PRODUCT DETAILS

Composition

The Vacuum Insulation Panels comprise a rigid vacuum insulation with a microporous core, which is evacuated, encased and sealed in a thin, gas-tight envelope.

The infill panels comprise a high-performance rigid extruded polystyrene insulation.

Standards and Approvals

The VIP Panel is manufactured to the highest standards under a management system certified to ISO 9001: 2008 (Quality Management Systems. Requirements), ISO 14001: 2004 (Environmental Management Systems. Requirements), BS OHSAS 18001: 2007 (Health and Safety Management Systems. Requirements) and ISO 50001: 2011 (Energy Management Systems. Requirements with Guidance for Use).

Standard Dimensions

The Vacuum Insulation Panels are available in the following standard size(s):

Nominal Dimension	Availability
Length	(mm) 300 - 1200
Width	(mm) 300 - 600
Insulant Thickness	(mm) 20 - 60

Other sizes may be available dependent on order quantity. Please contact Alumasc Roofing for more details.

Compressive Strength

The compressive strength of the Kingspan OPTIM-R panels typically exceeds 150 kPa at 10% compression when tested to BS / I.S. EN ISO 826: 1996 (Thermal insulating products for building application. Determination of compression behaviour).

Durability

If installed correctly and protected from damage and penetration, the Alumasc VTherm Vacuum Insulated System can provide reliable long-term thermal performance over the lifetime of the building.

Resistance to Solvents, Fungi & Rodents

The Alumasc VTherm Vacuum Insulated System should not be used in association with solvent-based adhesive systems. Damaged boards or boards that have been in contact with solvents or acids should not be used.

The insulation core and facings used in the manufacture of the Alumasc VTherm Vacuum Insulated System resist attack by mould and microbial growth, and do not provide any food value to vermin.

Fire Performance

The Alumasc VTherm Vacuum Insulated System, when subjected to the British Standard fire test specified in the table below, will achieve the result shown, when the surface finish is either minimum 50 mm gravel ballast or minimum 40 mm paving slabs.

Test	Result
BS 476-3: 2004 (External fire exposure roof test)	FAA rating

Further details on the fire performance of products may be obtained from the Alumasc Technical Service Department (see back cover).

A minimum distance of 300 mm should be maintained between the top of the insulation upstand and the bottom of the horizontal roof insulation. Wall insulation should also be carried up into parapets as high as the flat roof insulation upstand. Please contact the Alumasc Technical Department (see back cover) for further advice.

Thermal Properties

The values detailed below are quoted in accordance with BS / I.S. EN 12667: 2001 (Thermal performance of building materials and products. Determination of thermal resistance by means of guarded hot plate and heat flow meter methods. Products of high and medium thermal resistance), with allowance for ageing and edge effect of the encapsulating film to form the design value.

Thermal Conductivity

The Vacuum Insulation Panels achieve a thermal conductivity (K-value) of 0.008 W/mK (aged design value allowing for edge effect).

Thermal Resistance

Thermal resistance (R-value) of the Vacuum Insulation Panels varies with thickness and is calculated by dividing the thickness of the panel (expressed in metres) by the thermal conductivity (K).

Insulant Thickness (mm)	Thermal Resistance (m ² -K/W)
20	2.857
25	3.571
30	4.285
40	5.714
50	7.143
60	8.571

