



Certificate No: EWWS488A



This certificate is valid for Building Regulations & associated technical guidance in force on the date of registration and for the regulations in the countries indicated

Kingspan Optim-R Vacuum Insulation Panel (VIP)

Description of Product

Optim-R is a rectangular shaped Vacuum Insulation Panel (VIP), containing an open cell (fumed silica based) core material, within an envelope of a three layer laminate of metallized polyester films and LLDPE heat seal layer, where the internal pressure within the envelope is much lower than the ambient air pressure.



Key Factors Assessed

- Mechanical Resistance & Stability
- Safety in case of Fire
- Health, Hygiene and Environmental
- Safety in Use
- Energy Economy and heat retention
- Durability serviceability and identification

Validity

This certificate was first issued on 28th April 2014 and is valid until 28th April 2018.

Issue Dated 8th May 2015

Scope of Registration

This assessment is for the Optim-R vacuum insulation panels themselves and the associated Kingspan Optim-R 'fix' or 'flex' infill panels. It does not convey approval for any other components making up the floor, wall or roof structure in which Optim-R is incorporated. Those other elements must in all cases be designed and specified in accordance with relevant design standards and guidance for the particular form of construction selected.

Optim-R is a thermal insulation for use in the building envelope in dwellings and buildings with similar temperature and humidity conditions, designed and constructed in accordance with the relevant clauses of Kingspan Optim-R BDA Agrément BAE 15-035-01-C.

Conditions of Certificate

Optim-R has been assessed for use in accordance with Kingspan Insulation Ltd recommendations and stipulations as the insulating layer in:

- flat roof structures generally
- flat roof structures forming balconies and terraces
- the cheeks and roofs of structural timber dormers
- solid or cavity masonry walls (as an external wall insulation with self-supporting render or decorative cladding)
- rainscreen cladding systems applied to structural masonry or steel external walls
- ground bearing or suspended concrete floors.

This assessment is for the Optim-R vacuum insulation panels themselves and the associated Kingspan Optim-R 'fix' or 'flex' infill panels. It does not convey approval for any other components making up the floor, wall or roof structure in which Optim-R is incorporated. Those other elements must in all cases be designed and specified in accordance with relevant design standards and guidance for the particular form of construction selected.

The recommendations of Kingspan Insulation Ltd must be followed in the design, handling and Installation of Optim-R. In particular the sections titled 'Design Considerations' and 'Sitework' within the product literature.

The assessed thermal performance of Optim-R vacuum insulation panels will be negated if the panels are cut, pierced or damaged in any way. Kingspan Optim-R 'fix' or 'flex' infill panels must be used wherever boards are to be cut, or where fixings must penetrate the insulation layer.

Optim-R panels must not be allowed to come into contact with sub-soil, solvents or plasticisers.

Kingspan Insulation Ltd must be consulted at design stage to determine the optimum arrangement of Kingspan Optim-R 'fix' or 'flex' infill panels.

In assessing the thermal performance of a whole wall, floor or roof Kingspan Insulation will provide design to demonstrate that the configuration of Kingspan Optim-R 'fix' or 'flex' infill panels can be properly accounted for in the u-value calculation to comply with required targets.

Optim-R has not been assessed for use within the cavity of masonry or timber-framed cavity walls.

Optim-R is not suitable for use in walls at heights greater than 18m above ground level.

The system is non-loadbearing and is mechanically fixed to masonry or concrete substrate. Wind load suction calculations to be provided to confirm fixing required. Pull out tests to be carried out for each project in accordance with ETAG 014.

No effect on external flame spread or unprotected areas. Fire test reports provided demonstrate Kingspan Optim-R VIP has a Reaction to Fire (RtF) classification of E (Euroclass).

When used over existing construction the extract fan ductwork and retro fit boiler flue to be extended by a competent person in accordance with ADJ.

Appropriate thermal analysis will be provided in each instance to demonstrate continued compliance with Approved Document L 2013

For LABC Warranty purposes:

Approved subject to the product not been used as full fill in an external cavity wall.

For Scotland purposes:

The specifications and materials referred to have been assessed and approved in accordance with the Building (Scotland) Regulations 2004 and in accordance with the supporting guidance in the Domestic Technical Handbooks which came into force with effect from 1 October 2013.

Where reference is made on a plan or specification document to any Code of Practice, British or European Standard or manufacturer's instruction it shall be construed as a reference to such publication in the form in which it is in force at the date of this registered detail.

The materials specified shall not be changed without first gaining approval so to do. Failure to do so will invalidate the registered detail.

This Registered Detail should not be regarded as a formal approval under the building warrant process prescribed by the Building (Scotland) Act 2003 enacted from 1 May 2005.

This Registered Detail shall contribute to compliance with relevant Mandatory Standards specified under the Building (Scotland) Regulations 2004 as amended when read with the Scope of registration, Conditions of certificate and Regulations Sections to this Registered Detail.

LABC and LABSS consider that, Kingspan Optim-R Vacuum Insulation Panel (VIP), will meet the functional requirements of the Building Regulations (listed below) if the criteria detailed in this certificate are met;



The Building Regulations 2010 (as amended) England & Wales

Regulation 7	Materials and workmanship
Note:	The products are acceptable.
AD A	Structure
Note:	Subject to limitations detailed in Conditions section.
AD B	Fire Safety
Note:	Subject to limitations detailed in Conditions section.
AD C	Site preparation and resistance to contaminants and moisture
Note:	Subject to limitations detailed in Conditions section.
AD J	Combustion appliances and fuel storage systems
Note:	Subject to limitations detailed in Conditions section.
AD L	Conservation of fuel and power
Note:	The thermal insulation performance of this system should be considered in the context of the contribution made to the overall performance of the wall.



The Building Regulations 2010 (as amended) England

AD L	Conservation of fuel and power
Note:	The thermal insulation performance of this system should be considered in the context of the contribution made to the overall performance of the wall.



The Building Regulations 2010 (as amended) Wales

AD L	Conservation of fuel and power
Note:	The thermal insulation performance of this system should be considered in the context of the contribution made to the overall performance of the wall.



The Building (Scotland) Regulations 2004 (as amended)

Technical Handbooks Domestic and Non-Domestic

Regulation 8	Durability, workmanship and fitness of materials
0.8.5:	Ways of establishing the fitness of materials

Regulation 9	Building Standards applicable to construction
Note:	Construction shall be carried out so that the work complies with the applicable requirements of schedule 5.

Mandatory

Standard 3.10

Precipitation

Note:

The product can adequately resist the passage of moisture provided the envelope structures are constructed in accordance with the relevant British Standards as detailed in section 11 (2.2) of the BDA certificate.

Mandatory

Standard 3.15

Condensation

Note:

A wall, flat roof or solid ground floor formed using this product in accordance with the requirements of section 10 of the BDA certificate and BS5250, can be designed and constructed to comply with these standards.

Mandatory

Standard 6.1(b)

Carbon dioxide emissions

Note:

The thermal insulation performance of this product should be considered in the context of the contribution made to the overall performance of the building.

Mandatory

Standard 6.2

Building Insulation Envelope

Note:

The thermal insulation performance of this product should be considered in the context of the contribution made to the overall performance of the building envelope.

Non-Regulatory Information



LABC Warranty

LABC Warranty conditionally accepts the use of Kingspan Optim-R Vacuum Insulation Panel when installed and used in accordance with the Scope and Conditions of this Certificate. Visit www.labcwarranty.co.uk for our LABC Warranty Technical Manual requirements and Warranty conditions of acceptance.

Supporting Documentation

Kingspan Insulation Ltd Product Details:

- Optim-R Roofing System – First issue June 2013
- Optim-R Balcony and Terrace System - First issue July 2013
- Optim-R Dormer System - First issue July 2013
- Optim-R External Wall System - First issue July 2013
- Optim-R Rainscreen System - First issue July 2013
- Optim-R Flooring System - First issue April 2013
- Optim-R Data Sheet - Fourth issue February 2014

FIW Munich Test Reports L1-12-108 & 110 issued 23/10/2012

BDA Kiwa Test Reports 0310-C-11/1 & 11/2 issued 04/06/2012

Exova Warringtonfire Test Report WF 376767 issued 30/11/2016

Kingspan Optim-R BDA Kiwa Agrément BAE 15-035-01-C

Contact Information

Kingspan Insulation Ltd

Pembridge

Leominster

Herefordshire

HR6 9LA

Tel: 01544 388 601

Email: info@kingspaninsulation.co.uk

Web: www.kingspaninsulation.co.uk