

BauderVIP
Vacuum Insulation Panel



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BauderVIP is a vacuum insulation panel designed to provide high thermal performance in areas with limited installation height and is ideally suited for terrace and balcony applications with a hard or soft landscaped finish.

Introduction

The VIP panel is a factory pre-assembled board for warm roofs construction where the height of the construction is restricted. The insulating properties (calculated average value of thermal conductivity - 0.0063W/mk) achieved by BauderVIP is due to the vacuum silica core.

The BauderVIP silica core is created with a multi-layer composite aluminium foil, the air is removed from the silica to create a vacuum. The core is protected during installation and against normal construction processes by a 3mm thick rubber granulate mat on the underside and with 17mm Bauder High Density PIR on the upper surface. Both layers are bonded to the vacuum core to provide one complete encapsulated panel.

The panels are available in 60mm and 80mm thickness and used in conjunction with other Bauder insulation boards to further enhance U-values if required. As VIP panels cannot be cut it is necessary to use Bauder FA-TE insulation boards at the roof perimeters and penetrations. Bauder offers a design service for this and for calculation of the area weighted U-value for the roof area.

Product testing and certification

The Bauder VIP panels are certified under a European Technical Approval ETA-13/0493. This certification looks at a wide range of characteristics and at the following product performance:

- Reaction to Fire, Class E according to EN 13501-1:2018
- Density 190-220kg/m³ to EN 1602:2013
- Thermal Conductivity (core) 0.0072 W/mK to EN 12667:2001
- Compressive Strength >0.12N/mm² to EN 826:2013
- Dimensional Stability <1% to EN 13165:2012+A1:2015

Durability

If installed correctly and protected from damage and/or penetrations and used in conjunction with Bauder waterproofing systems, BauderVIP will provide reliable long-term thermal performance.

U Values – VIP 60mm and 80mm

60mm VIP PANEL		
150mm Concrete Deck, Reinforced Bitumen Membrane Waterproofing System - Humidity Class 04		
Build Up As Above (Example using 70% VIP & 30% FA-TE)		
Area Weighted U-Value	FA-TE Overlay	Total Thickness of Insulation
0.17	not required	60mm
0.14	30mm	90mm
0.13	40mm	100mm
0.12	60mm	120mm
0.10	80mm	140mm
0.10	100mm	160mm

80mm VIP PANEL		
150mm Concrete Deck, Reinforced Bitumen Membrane Waterproofing System - Humidity Class 04		
Build Up As Above (Example using 80% VIP & 20% FA-TE)		
Area Weighted U-Value	FA-TE Overlay	Total Thickness of Insulation
0.13	not required	80mm
0.12	30mm	110mm
0.11	40mm	120mm
0.10	60mm	140mm
0.09	80mm	160mm
0.08	100mm	180mm

Upstand height design considerations

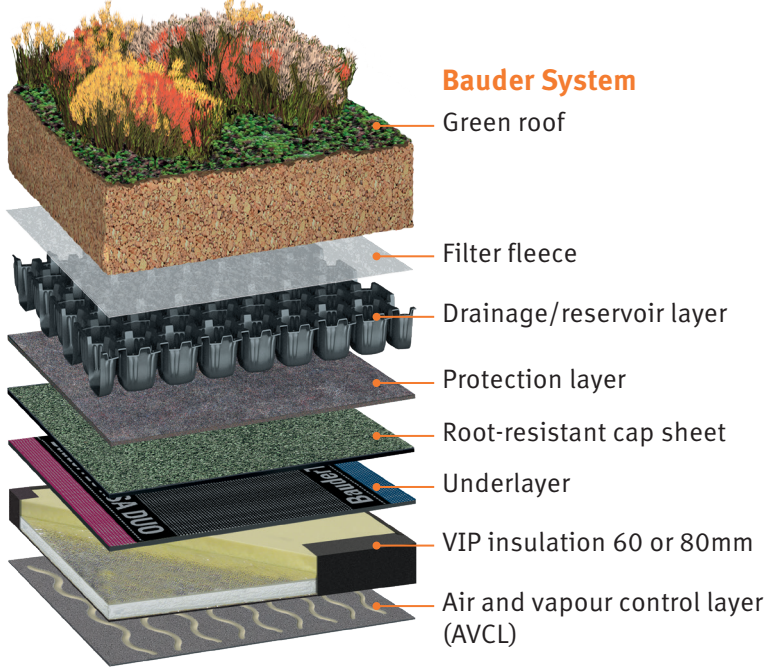
When faced with limited upstand height restrictions BauderVIP provides an ideal solution to the problem by reducing the height of the proposed system by 60mm compared to a foil-faced PIR board designed to achieve a U-value of 0.18. This could be the difference required to achieve the Codes of Practice suggested upstand height.

Specification and technical support for U-value calculations and BauderVIP layout designs

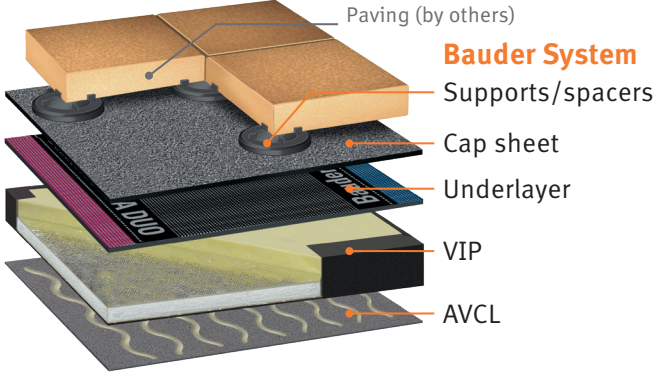
Your local Bauder Technical Manager will give individual project specification and design advice to meet the requirements of your project. Our technical department can undertake bespoke U-value calculations to confirm thickness required and/or U-value achieved, and can also provide a layout design service to aid with installation on site.

Example system configurations for bituminous applications utilising VIP

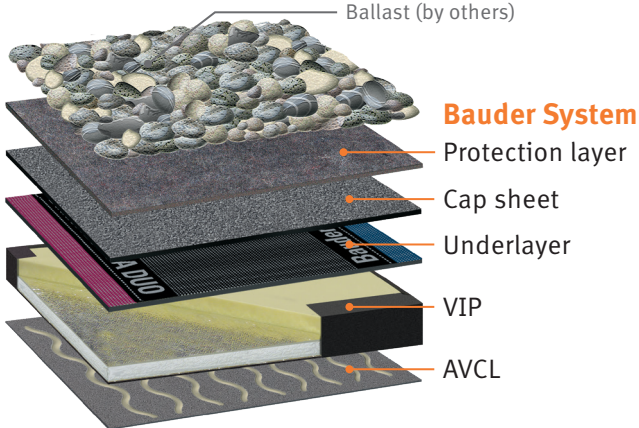
Green roof applications



Paving on Bauder supports



Stone ballast finish



BauderVIP can also be used with our single ply, cold applied, and hot melt waterproofing systems in the right scenarios.





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