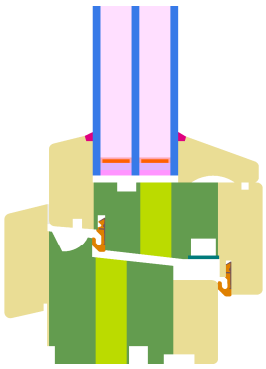
# Certificate

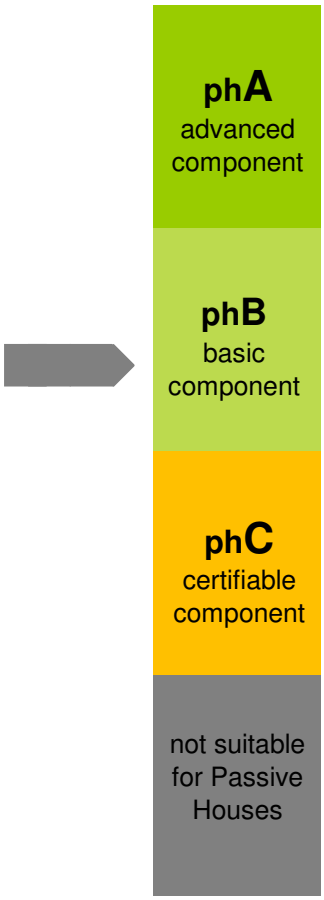
**Passive House suitable component**
for cool, temperate climate, valid until 31.12.2012

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
GERMANY

Category: **Window Frame**
Manufacturer: **Vale Passive Window Partnership Ltd**
**Pembrokeshire SA41 3TH, UK**
Product name: **The Vale Passive Window**



**Passive House Efficiency Class**




## The following comfort criteria were used in awarding this certificate:

Given a $U_g$ value of 0.70 W/(m²K) and a window size of 1.23 m by 1.48 m,

**$U_W$ = 0.79 W/(m²K) ≤ 0.80 W/(m²K)**

Taking into account the installation based thermal bridges, and provided that the installation is, with regard to the thermal bridges, equal or better than shown in the data sheet, the window meets the following criterion.

**$U_{W,installed}$ ≤ 0.85 W/(m²K)**

## Thermal data of the window frame

| | $U_f$-value [W/(m²K)] | Width [mm] | $\Psi_g$ [W/(mK)] | $f_{Rsi=0.20}$ [-] |
|---|---|---|---|---|
| Spacer | | | Swisspacer V* | |
| Bottom | 0.80 | 128 | 0.028 | 0.74 |
| Side/top | 0.77 | 128 | 0.028 | |

*Spacers of lower thermal quality, especially those made of aluminium, lead to significantly higher thermal losses and lower temperature factors.

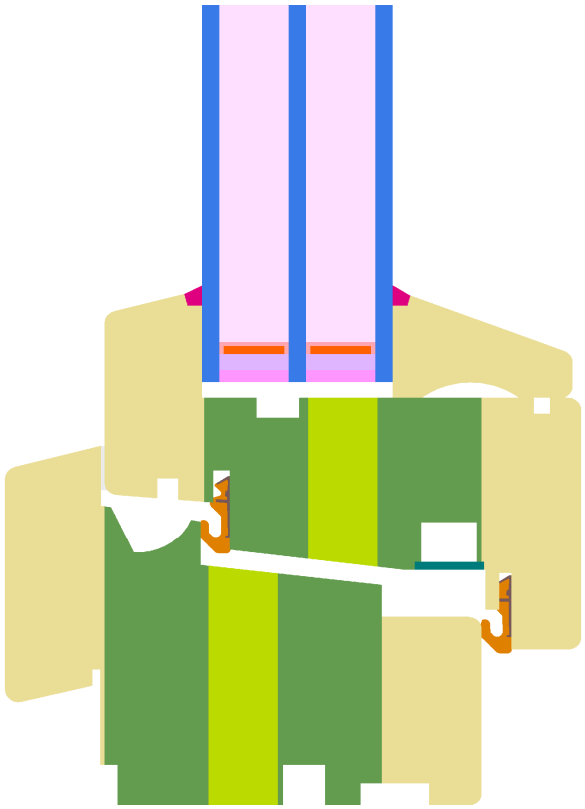
Further information see data sheet

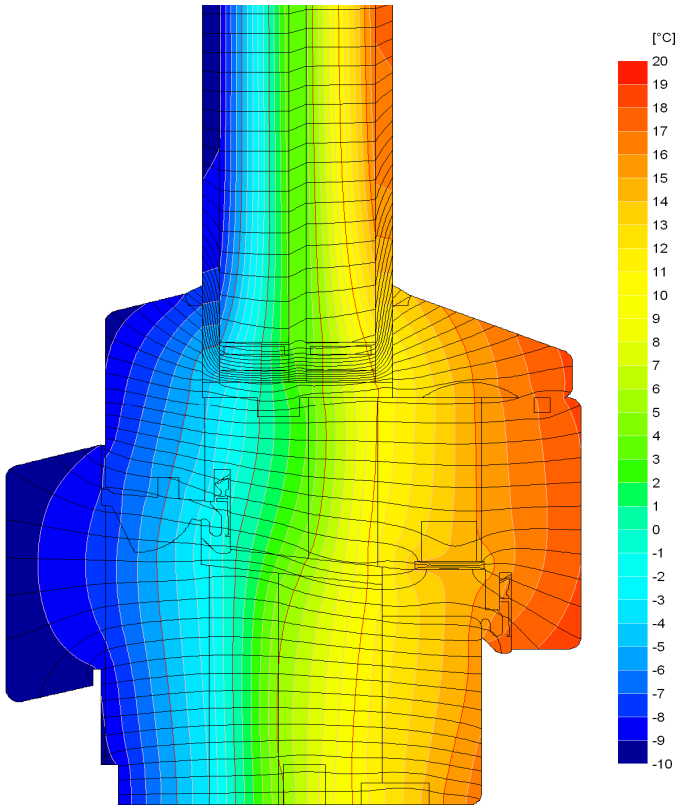
*Passive House suitable component*
*Dr. Wolfgang Feist*

**www.passivehouse.com**

# Data Sheet Vale Passive Window Partnership Ltd., The Vale Passive Window

**Manufacturer** Vale Passive Window Partnership Ltd.
Pembrokeshire SA41 3TH, UNITED KINGDOM
Tel.: 01239 891379
Email: info@thomasjoinery.co.uk, www.thomasjoinery.co.uk






Bottom section Isothermal

## Description

Larch window frame (0,15 W/(mK), insulated by PU Foam (0,048 W/mK and 0,09 W/(mK). Used Pane: 44 mm (4/16/4/16/4), intersection of the Glass: 22 mm. Used spacer: Swisspacer V

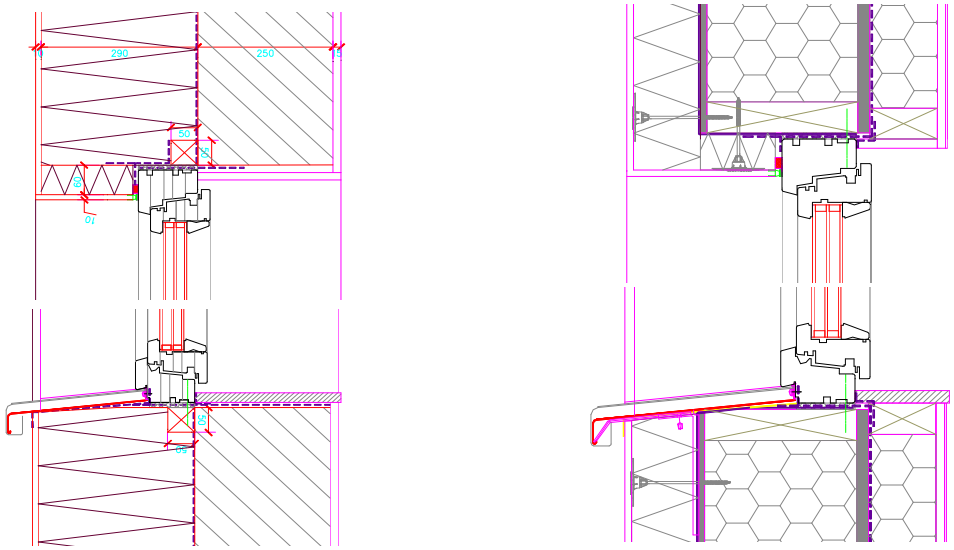
## Thermal data for the window frame

| | $U_f$-value [W/(m²K)] | Width [mm] | $\Psi_g$ [W/(mK)] | $f_{Rsi=0.20}$ [-] |
|---|---|---|---|---|
| Spacer | | | Swisspacer V* | |
| Bottom | 0.80 | 128 | 0.028 | 0.74 |
| Side/top | 0.77 | 128 | 0.028 | |
| Flying Mullion | | | | |

* Spacers of lower thermal quality leading to higher thermal losses and lower temperatures.

# Data Sheet Vale Passive Window Partnership Ltd., The Vale Passive Window

## Installation



## Installation based thermal bridge $\Psi_{instal.}$ in Passive House suitable walls

| Position | | EIFS | Timber construction wall | Insulated formwork blocks |
|---|---|---|---|---|
| **Bottom** | [W/(mK)] | 0.029 | 0.035 | |
| **Side/top** | [W/(mK)] | 0.010 | 0.011 | |
| $U_{W,instal.}$ | [W/(m²K)] | 0.84 | 0.78 | |

## Explanatory notes

The window U-values were calculated based on a 1.23 m by 1.48 m window $U_g$ = 0.70 W/(m²K).
If better glazing is used, the window U-value decrease as follow:

| | | | | |
|---|---|---|---|---|
| **U Glazing** | $U_g$ [W/(m²K)] | 0.66 | 0.60 | 0.54 |
| **U Window** | $U_W$ [W/(m²K)] | 0.77 | 0.73 | 0.69 |

Depending on the thermal losses through opaque elements, windows are categorised according to efficency classes. These thermal losses include the losses through the frame, multiplied by its width, the thermal bridge at the edge bond as well as the length of the edge bond.
Please ask the manufacturer for a detailed report containing all calculations and results.
For further information, please visit www.passivehouse.com or www.passipedia.org.