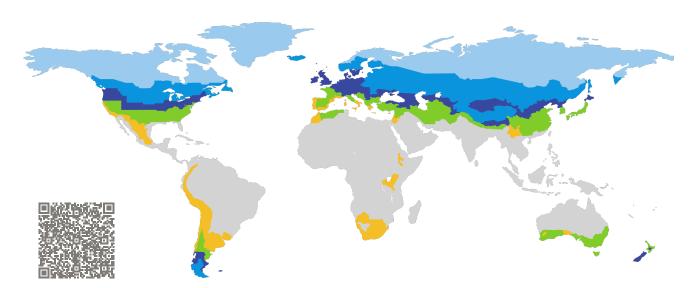
CERTIFICATE

Certified Passive House Component Component-ID 1472sp01 valid until 31st December 2 Passive House Institute Dr. Wolfgang Feist 64283 Darmstadt Germany



Category: Spacer for low-E-glazing Manufacturer: Edgetech Europe GmbH, Heinsberg, Germany

Product name: Super Spacer® Premium

This certificate was awarded based on the following criteria:

Depending on the climatic region, the spacer prevents high surface temperatures, which can cause mould. At least 3 out of the 7 reference frames fulfilled the spacer hygiene criteria for the relevant climatic region.

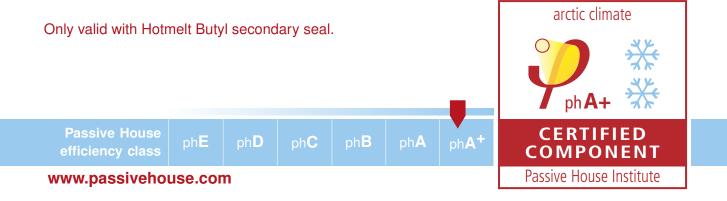
Hygiene $f_{Rsi} \ge 0.80$

The specific resistance of the spacer's edges is greater than the climate-independent minimum requirement.

Efficiency $R_E = 6.50 \text{ m K/W} \ge 1.50 \text{ m K/W}$

Type All-Plastic Height Box 2 4.70 mm Thermal conductivity Box 2 0.150 W/(m K)





Description

Only valid with Hotmelt Butyl secondary seal.

Flexible spacer made of silicone foam with integrated desiccant and side adhesive. For panes, the longest side is less than or equal to 1.5 m, a 5 mm height of secondary seal has to be used for determining the thermal bridge coefficient of the glass edge, for larger elements 7 mm.

Spacer height:4.70 mmThermal conductivity:0.150 W/(m K) (WA-17/1 measured)Available spacer widths:5.00–25.00 mm

Appropriate secondary seal	Specific edge resistance R_E	Efficiency class
Hotmelt Butyl	6.50 m K/W	phA+
Butyl	6.50 m K/W	phA+

Explanation

Spacers are categorized into different efficiency classes based on the resistance of their edges R_E . A secondary polysulfide sealant is typically used, unless the spacer is not approved for polysulfide. A detailed report with the calculations is available from either the manufacturer or the Passive House Institute.

The Passive House Institute has defined global component requirements for seven climate regions. In principle, components that have been certified for climates with higher requirements can also be used in climates with lower requirements. This may be economically advantageous.

Use in PHPP:

If individually calculated values are not available then the thermal bridge loss coefficient specified in this document can be used. In this case, the appropriate reference frame must be selected and a 10% safety margin should be applied.

Further information regarding certification is available on www.passivehouse.com and www.passipedia.org .

Climate Arctic Cool Cool temperate Warm temperate/ Warm Glass Quadruple Triple Triple Triple Triple Glass 9716/6716/6 6/16/6716/6		Reference	e fram <u>es calcul</u>	ated with Hotmelt	Butyl	//
Glass package 4/12/3/12/3/12/4 6/18/2/18/6 6/16/6/16/6 6/16/6/16/6 6/16/6 Glass U-value 0.35 W/(m ² K) 0.52 W/(m ² K) 0.70 W/(m ² K) 0.70 W/(m ² K) Timber-aluminium integral trame 0.48 0.62 0.73 0.87 1.03 ψ_{Q} (W/(m K)) 0.024 0.026 0.027 0.026 0.031 ψ_{RS} [] 0.82 \checkmark 0.78 \checkmark 0.73 \checkmark 0.72 \checkmark 0.64 \checkmark Timber-aluminium 0.62 0.026 0.027 0.026 0.031 ψ_{Q} (W/(m K)) 0.025 0.026 0.027 0.027 0.033 ψ_{Q} (W/(m K)) 0.025 0.026 0.027 0.026 0.031 ψ_{Q} (W/(m K)) 0.022 0.024 0.025 0.026 0.031 ψ_{Q} (W/(m K)) 0.022 0.024 0.025 0.026 0.031 ψ_{Q} (W/(m K)) 0.026 0.027 0.299 0.030 0.036 ψ_{Q} (W/(m K)) 0.026 0.027 0.029 0.03	Climate					Warm
Glass U-value 0.35 W/(m² K) 0.52 W/(m² K) 0.70 W/(m² K) 0.70 W/(m² K) 1.20 W/(m² K) Timber-aluminium integral frame U/ [W/(m² K)] 0.48 0.62 0.73 0.87 1.03 v_g [W/(m K)] 0.024 0.026 0.027 0.026 0.031 Timber-aluminium v_g [W/(m K)] 0.82 \checkmark 0.78 \checkmark 0.73 \checkmark 0.72 \checkmark 0.64 \checkmark Timber-aluminium v_g [W/(m K)] 0.54 0.57 0.75 0.97 1.19 v_g [W/(m K)] 0.025 0.026 0.027 0.027 0.033 v_g [W/(m K)] 0.025 0.026 0.027 0.027 0.033 Imber-aluminium v_g v_g v_g v_g v_g 0.66 \checkmark 0.71 \checkmark 0.68 \checkmark 0.56 \checkmark Imber v_g v_g v_g v_g v_g v_g v_g v_g 0.64 \checkmark Imber v_g v_g v_g v_g v_g v_g v_g v_g v_g	Glass	Quadruple	Triple	Triple	Triple	Double
Timber-aluminium integral frame 0.48 0.62 0.73 0.87 1.03 ψ_g [W(m K)] 0.024 0.026 0.027 0.026 0.031 f_{rss} [-] 0.82 0.78 0.73 0.72 0.64 U [W(m ² K)] 0.54 0.57 0.75 0.97 1.19 ψ_g [W(m K)] 0.025 0.026 0.027 0.027 0.033 f_{rss} [-] 0.79 0.76 0.71 0.68 0.56 \checkmark Timber-aluminium 0.025 0.026 0.027 0.027 0.033 f_{rss} [-] 0.79 0.76 0.71 0.68 0.56 \checkmark Timber 0.51 0.53 0.78 0.86 0.99 ψ_g [W(m K)] 0.022 0.024 0.025 0.026 0.031 f_{rss} [-] 0.51 0.53 0.78 0.86 0.99 ψ_g [W(m K)] 0.022 0.024 0.025 0.026 0.031 f_{rss} [-] 0.50 0.79 0.75 0.74 0.64 \checkmark U_f [W(m^2K)]	Glass package	4/12/3/12/3/12/4	6/18/2/18/6	6/16/6/16/6	6/16/6/16/6	6/16/6
integral frame image	Glass U-value	0.35 W/(m ² K)	0.52 W/(m ² K)	0.70 W/(m ² K)	0.70 W/(m ² K)	1.20 W/(m ² K)
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	integral frame					
f_{fasi} [-] 0.82 0.78 0.73 0.72 0.64 Timber-aluminium 1 1 1 1 1 1 ψ_q [W/(m²K)] 0.54 0.57 0.75 0.97 1.19 ψ_q [W/(mK)] 0.025 0.026 0.027 0.033 f_{rasi} [-] 0.79 0.76 0.71 0.68 0.56 Timber 1 1 1 1 1 1 U_f [W/(m²K)] 0.51 0.53 0.78 0.86 0.99 ψ_q [W/(mK)] 0.022 0.024 0.025 0.026 0.031 f_{rasi} [-] 0.80 0.79 0.75 0.74 0.64 Vinyl 0.80 0.79 0.75 0.74 0.64 Vinyl 0.80 0.79 0.75 0.74 0.64 U_f [W/(m²K)] 0.70 0.75 0.82 1.02 1.16 W_g [W/(mk)] 0.026 0.027 0.029 0.030 0.036 U_f [W/(m²K)] 0.60 0	/-	0.48	0.62	0.73	0.87	1.03
U_{f} [W/(m ² K)] 0.54 0.57 0.75 0.97 1.19 v_{g} [W/(m K)] 0.025 0.026 0.027 0.027 0.033 f_{rsi} [-] 0.79 0.76 0.71 0.68 0.56 0.71 Timber v_{g} [W/(m K)] 0.51 0.53 0.78 0.86 0.99 v_{g} [W/(m K)] 0.022 0.024 0.025 0.026 0.031 f_{si} [-] 0.80 0.79 0.75 0.74 0.64 0.64 Vinyl 0.026 0.027 0.029 0.030 0.036 0.79 U_f [W/(m K)] 0.026 0.027 0.029 0.030 0.036 U_f [W/(m K)] 0.026 0.027 0.029 0.030 0.036 I_{rsi} [-] 0.80 0.78 0.75 0.74 0.63 0.75 Aluminium 0.025 0.027 0.029 0.030 0.036 0.75 U_f [W/(m K)] 0.60 0.61 0.71 0.73 0.74 0.65 U_f [W/(m K)] 0.60 0.6	0 - · · · -					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Timber-aluminium					
$f_{fsi}[-]$ 0.79 0.76 0.71 0.68 0.56 Timber 1 0.53 0.78 0.86 0.99 U_l [W/(mK)] 0.022 0.024 0.025 0.026 0.031 f_{rsi} [-] 0.80 0.79 0.75 0.74 0.64 1 Vinyl 1 0.026 0.027 0.029 0.030 0.036 U_l [W/(mK)] 0.026 0.027 0.029 0.030 0.036 f_{rsi} [-] 0.80 0.78 0.75 0.74 0.63 V_{inv} [W/(mK)] 0.026 0.027 0.029 0.030 0.036 f_{rsi} [-] 0.80 0.78 0.75 0.74 0.63 I_{inv} U_l [W/(mK)] 0.025 0.027 0.029 0.030 0.037 f_{rsi} [-] 0.80 0.61 0.71 0.73 1.17 U_g [W/(mK)] 0.60 0.65 0.66 0.71 1.11 U_g [W/(mK)] 0.034 0.034 0.036 0.035 0.047 I_{rsi}	<i>U</i> _f [W/(m ² K)]	0.54	0.57	0.75	0.97	1.19
Timber Image: Construction of the second secon	$\Psi_g \left[W / (m K) \right]$	0.025	0.026	0.027	0.027	0.033
U_{l} [W/(m ² K)] 0.51 0.53 0.78 0.86 0.99 U_{g} [W/(mK)] 0.022 0.024 0.025 0.026 0.031 f_{Rel} [-] 0.80 0.79 0.75 0.74 0.64 Vinyl 0.75 0.82 1.02 1.16 U_{g} [W/(mK)] 0.026 0.027 0.029 0.030 0.036 U_{g} [W/(mK)] 0.80 0.78 0.75 0.74 0.63 U_{g} [W/(mK)] 0.026 0.027 0.029 0.030 0.036 I_{Rel} [-] 0.80 0.78 0.75 0.74 0.63 \checkmark Aluminium Image: Imag	f _{Rsi} [-]	0.79	0.76	0.71 🗸	0.68 🗸	0.56 🗸
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Timber					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	<i>U</i> _f [W/(m ² K)]	0.51	0.53	0.78	0.86	0.99
Vinyl Image: Constraint of the second s	Ψ_g [W/(mK)]	0.022	0.024	0.025	0.026	0.031
U_{f} [W/(m ² K)] 0.70 0.75 0.82 1.02 1.16 Ψ_{g} [W/(m K)] 0.026 0.027 0.029 0.030 0.036 f_{Rsi} [-] 0.80 0.78 0.75 0.74 0.63 0.73 Aluminium Ψ_{g} [W/(m K)] 0.60 0.61 0.71 0.73 1.17 U_{f} [W/(m ² K)] 0.60 0.61 0.71 0.73 1.17 Ψ_{g} [W/(m K)] 0.60 0.61 0.78 0.78 0.78 0.78 0.65 Curtain wall timber Ψ_{g} 0.60 0.65 0.66 0.71 1.11 Ψ_{g} [W/(m K)] 0.034 0.034 0.036 0.035 0.047 U_{f} [W/(m ² K)] 0.67 0.73 0.73 0.79 1.33 U_{f} [W/(m ² K)] 0.67 0.73 0.73 0.79 1.33	f _{Rsi} [-]	0.80	0.79 🗸	0.75 🗸	0.74	0.64 🗸
W_g [W/(m K)] 0.026 0.027 0.029 0.030 0.036 f_{Rsi} [-] 0.80 0.78 0.75 0.74 0.63 Aluminium Image: Constraint of the second se	Vinyl					
t_{Rsi} [-] 0.80 0.78 0.75 0.74 0.63 Aluminium Image: Constraint of the second sec	<i>U</i> _f [W/(m ² K)]	0.70	0.75	0.82	1.02	1.16
Aluminium Image: Constraint of the second seco	$\Psi_g \left[W / (m K) \right]$	0.026	0.027	0.029	0.030	0.036
U_t [W/(m ² K)] 0.60 0.61 0.71 0.73 1.17 Ψ_g [W/(m K)] 0.025 0.027 0.029 0.029 0.037 f_{Rsi} [-] 0.82 0.81 0.78 0.78 0.78 0.65 0.65 Curtain wall timber $I_{IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII$	f _{Rsi} [-]	0.80 🗸	0.78 🗸	0.75 🗸	0.74 🗸	0.63 🗸
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Aluminium					
f_{Rsi} [-] 0.82 0.81 0.78 0.78 0.65 Curtain wall timber Image: Curtain wall timage: Curtain wall timber Imag	<i>U</i> _f [W/(m ² K)]	0.60	0.61	0.71	0.73	1.17
Curtain wall timber Image: Model of the time of the time of the time of	$\Psi_g \left[W / (m K) \right]$		0.027	0.029	0.029	0.037
U_f [W/(m²K)] 0.60 0.65 0.66 0.71 1.11 Ψ_g [W/(mK)] 0.034 0.034 0.036 0.035 0.047 f_{Rsi} [-] 0.78 0.77 0.74 0.74 0.61 Curtain wall aluminium 0.67 0.73 0.73 0.79 1.33 U_f [W/(m²K)] 0.039 0.039 0.042 0.042 0.042	f _{Rsi} [-]	0.82 🗸	0.81 🗸	0.78 🗸	0.78 🗸	0.65 🗸
Ψ_g [W/(m K)]0.0340.0340.0360.0350.047 f_{Rsi} [-]0.780.770.740.740.61Curtain wall aluminium0.670.730.730.791.33 U_f [W/(m²K)]0.0390.0390.0420.0420.042	Curtain wall timber	Diiia	[<u>]</u>	r *** 3	gev a	ţ+3
f_{Rsi} [-] 0.78 0.77 0.74 0.74 0.61 Curtain wall aluminium Image: Curtain wall aluminiu	<i>U</i> _f [W/(m ² K)]	0.60	0.65	0.66	0.71	1.11
Curtain wall aluminium Image: Curtain wall aluminium Image: Curtain wall aluminium Image: Curtain wall aluminium U_f [W/(m ² K)] 0.67 0.73 0.73 0.79 1.33 Ψ_g [W/(m K)] 0.039 0.039 0.042 0.042 0.062	$\Psi_g \; [W/(m K)]$	0.034	0.034	0.036	0.035	0.047
aluminium 0.67 0.73 0.79 1.33 Ψ_g [W/(mK)] 0.039 0.039 0.042 0.042 0.062	f _{Rsi} [-]	0.78	0.77 🗸	0.74 🗸	0.74 🗸	0.61 🗸
Ψ _g [W/(mK)] 0.039 0.039 0.042 0.042 0.062		<u>:</u>		L. I	- 	M
•	<i>U</i> _f [W/(m ² K)]	0.67	0.73	0.73	0.79	1.33
	•					
f_{Rsi} [-] 0.86 \checkmark 0.84 \checkmark 0.82 \checkmark 0.82 \checkmark 0.71 \checkmark	f _{Rsi} [-]	0.86 🗸	0.84 🗸	0.82 🗸	0.82 🗸	0.71 🗸

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