

Technical Data – The Ultimate Spacer Bar

SWISSPACER Ultimate is the next generation and the *best foiled warm edge spacer bar in the world and to ensure we produce the highest quality Triple and Double Glazed Units we use the best.

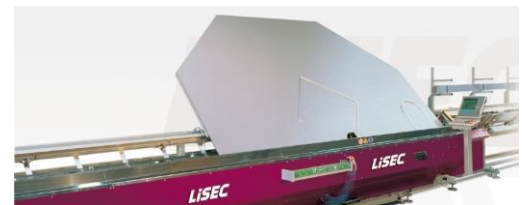
ULTIMATE was top of all leading foiled warm edge spacers for thermal performance in *official tests by ift Rosenheim (WA-17/1 &WA-08/2).

A warm edge spacer bar has to achieve the best thermal performance but it also has to maintain that performance for years by preventing insulating gas leaking out and moisture vapour getting into the sealed unit.

The ideal product design is a spacer bar material with outstanding thermal properties and a backing foil that is capable of stopping 100% of gas and moisture vapour transmission so it can maintain its energy saving performance over many years.

Ultimate's High Tech Gas Barrier is as good as metal backing foils such as steel or aluminium in preventing gas and moisture vapour transmission.

To ensure the Ultimate warm edge spacer bar achieves its ultimate thermic performance we have continued our investment by purchasing one of the world's leading high speed benders, sequential feed ensures maximum measurement precision during the bending process.



SWISSPACER – thermic performance in different types of window										
Spacer system	Double glazing					Triple glazing				
	Aluminium	Stainless steel	SWISSPACER A	SWISSPACER V	SWISSPACER U	Aluminium	Stainless steel	SWISSPACER A	SWISSPACER V	SWISSPACER U
Wooden frames:	Frame value: $U_f=1.4 \text{ W/m}^2\text{K}$; Glass value: $U_g=1.1 \text{ W/m}^2\text{K}$					Frame value: $U_f=1.4 \text{ W/m}^2\text{K}$; Glass value: $U_g=0.7 \text{ W/m}^2\text{K}$				
Psi value [W/mK]	0.081	0.053	0.047	0.032	0.031	0.086	0.052	0.046	0.031	0.029
Window, U_w 1-sash [W/m ² K]	1.4	1.3	1.3	1.3	1.3	1.1	1.0	1.0	1.0	0.98
Window, U_w 2-sash [W/m ² K]	1.5	1.4	1.4	1.3	1.3	1.3	1.2	1.1	1.1	1.1
Minimal surface temperature* [°C]	6.5	9.2	10.0	11.2		8.2	11.2	11.7	13.2	
PVC windows:	Frame value: $U_f=1.2 \text{ W/m}^2\text{K}$; Glass value: $U_g=1.1 \text{ W/m}^2\text{K}$					Frame value: $U_f=1.2 \text{ W/m}^2\text{K}$; Glass value: $U_g=0.7 \text{ W/m}^2\text{K}$				
Psi value [W/mK]	0.077	0.051	0.045	0.034	0.032	0.075	0.048	0.042	0.032	0.030
Window, U_w 1-sash [W/m ² K]	1.3	1.3	1.2	1.2	1.2	1.0	1.0	1.0	0.9	0.93
Window, U_w 2-sash [W/m ² K]	1.4	1.3	1.3	1.3	1.3	1.2	1.1	1.0	1.0	1.0
Minimal surface temperature* [°C]	7.7	10.2	10.7	12.0		9.0	11.5	12.0	13.0	
Wood-aluminium windows:	Frame value: $U_f=1.4 \text{ W/m}^2\text{K}$; Glass value: $U_g=1.1 \text{ W/m}^2\text{K}$					Frame value: $U_f=1.4 \text{ W/m}^2\text{K}$; Glass value: $U_g=0.7 \text{ W/m}^2\text{K}$				
Psi value [W/mK]	0.092	0.058	0.052	0.035	0.032	0.097	0.058	0.051	0.033	0.030
Window, U_w 1-sash [W/m ² K]	1.4	1.3	1.3	1.3	1.3	1.2	1.1	1.0	1.0	0.99
Window, U_w 2-sash [W/m ² K]	1.6	1.4	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1
Minimal surface temperature* [°C]	5.0	8.2	9.0	10.5		7.2	10.5	11.0	12.5	
Aluminium windows:	Frame value: $U_f=1.6 \text{ W/m}^2\text{K}$; Glass value: $U_g=1.1 \text{ W/m}^2\text{K}$					Frame value: $U_f=1.6 \text{ W/m}^2\text{K}$; Glass value: $U_g=0.7 \text{ W/m}^2\text{K}$				
Psi value [W/mK]	0.111	0.068	0.060	0.039	0.036	0.111	0.063	0.056	0.034	0.031
Window, U_w 1-sash [W/m ² K]	1.5	1.4	1.4	1.3	1.3	1.2	1.1	1.1	1.1	1.0
Window, U_w 2-sash [W/m ² K]	1.7	1.5	1.5	1.4	1.3	1.5	1.3	1.3	1.2	1.2
Minimal surface temperature* [°C]	7.2	10.2	10.7	12.0		9.2	12.2	12.7	14.0	

The technical values were determined in accordance with ift guideline WA-08/1 "Thermally Optimised Spacers – Part 1: Determining the Representative Psi Value for Window Frame Profiles".

Psi value: linear heat conductivity at edge of glass [W/mK] to satisfy EN ISO 10077-2, 10/2003	Window geometry	window, 1 sash:	window, 2 sashes:
* corresponds to the edge conditions set out in EN 10077	Total surface: (1.23 x 1.48 m)	$A_w=1.82 \text{ m}^2$	$A_w=1.82 \text{ m}^2$
Outside temperature: -5°C	Frame surface:	$A_f=0.55 \text{ m}^2$	$A_f=0.69 \text{ m}^2$
Inside temperature: +20°C	Length of glass edge:	$l_g=4.54 \text{ m}$	$l_g=6.84 \text{ m}$