



# Data sheet Psi values for windows

based on determination of the equivalent thermal conductivity of spacers by measurement



Vetrotech Saint-Gobain (International) AG  
 Zweigniederlassung Kreuzlingen  
 Sonnenwiesenstrasse 15  
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Profile description	Product name	Spacer height in mm	Material	Thickness d in mm
		6.5 Spacer category C	Metalized multilayer polyester film "High Tech Gas Barrier Foil" / SAN-GF	~0.05 1.0

Representative frame profiles	Representative glass constructions	Metal with thermal break	Plastic	Wood	Wood/Metal
Representative psi value double-sheet thermally insulating glass W/mK		0.036	0.032	0.031	0.032
		0.031	0.030	0.029	0.030

Two Box model Characteristic values		Space between panes in mm	$\lambda_{eq,2B}$ in W/mK	
			Box 1 · h <sub>1</sub> = 3 mm	Box 2 · h <sub>2</sub> = 6.5 mm
		Can be used for all spacer widths	0.40	0.14

**Explanations**  
 The equivalent thermal conductivity has been determined in accordance with the ift guideline WA-17engl/1 "Thermally improved spacers – Determination of the equivalent thermal conductivity by measurement". The representative linear heat transfer coefficients calculated in this way (representative psi values) apply to typical frame profiles and glazing for the determination of the heat transfer coefficient U<sub>w</sub> of windows. They have been determined under the boundary conditions (frame profiles, glazing, glass mounting depth, back covering, primary and secondary sealant) defined in the ift guideline WA-08engl/3 "Thermally improved spacers – Part 1: Determination of the representative Psi value for window frame profiles". This guideline also governs the area of validity and application of the representative psi values. In order to avoid rounding errors, the psi values in the data sheet have been given at 0.001 W/mK. The method for the arithmetical determination of the psi values has an accuracy of ± 0.003 W/mK. Differences of less than 0.005 W/mK are not significant. For further information, refer to the Bulletin 004/2008 "Guide to Warm Edge" of Bundesverband Flachglas.

Characteristic values determined by:





# Data sheet Psi values for facade profiles

based on determination of the equivalent thermal conductivity of spacers by measurement



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Profile description	Product name	Spacer height in mm	Material	Thickness d in mm
		6.5	Metalized multilayer polyester film “High Tech Gas Barrier Foil” / SAN-GF	~0.05
		Spacer category C		1.0

Representative facade profiles	Representative glass constructions	Wood/metal	Metal with thermal break (d <sub>i</sub> = 100 mm)	Metal with thermal break (d <sub>i</sub> = 200 mm)
Representative psi value double-sheet thermally insulating glass W/mK	<p>Double-sheet insulating glass U<sub>g</sub>=1.1 W/m<sup>2</sup>K</p>	 0.055	 0.074	 0.078
		Representative psi value triple-sheet thermally insulating glass W/mK	<p>Triple-sheet insulating glass U<sub>g</sub>=0.7 W/m<sup>2</sup>K</p>	 0.050

Two-Box model Characteristic values		Space between panes in mm	λ <sub>eq,2B</sub> in W/mK	
			Box 1 · h <sub>1</sub> = 6 mm	Box 2 · h <sub>2</sub> = 6.5 mm
			Can be used for all spacer widths	0.40

**Explanations**  
 The equivalent thermal conductivity has been determined in accordance with ift guideline WA-17engl/1 “Thermally improved spacers – Determination of the equivalent thermal conductivity by measurement”. The representative linear heat transfer coefficients (representative psi values) determined thereby apply to typical facade profiles and glazing for determination of the coefficients of thermal conductivity U<sub>CW</sub> of curtain walls. They have been determined under the framework conditions (frame profiles, glazing, glass mounting depth, back covering, primary and secondary sealant) defined in ift guideline WA-22engl/1 “Thermally improved spacers – Part 3: Determination of the representative psi value for facade profiles”. This guideline also governs the area of validity and application of the representative psi values. In order to avoid rounding errors, the psi values in the data sheet have been specified to the nearest 0.001 W/mK. The calculation method for determining the psi values has an accuracy of ± 0.003 W/mK. Differences of less than 0.005 W/mK are not significant. Further information can be found in the bulletin 004/2008 “Guide to Warm Edge” published by Bundesverband Flachglas.

Characteristic values determined by:

