Data sheet *Psi values for windows*

*Based on determination of the equivalent thermal conductivity of spacers by measurement*

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**Cross-section**

<table>
<thead>
<tr>
<th>Product name</th>
<th>Spacer height in mm</th>
<th>Material</th>
<th>Thickness d in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermix TX.N plus</td>
<td>7.0</td>
<td>Stainless steel Plastic</td>
<td>0.10 0.75/1.20</td>
</tr>
</tbody>
</table>

**Representative frame profile**

- **Metal with thermal break**
  - Double-sheet insulating glass \( U_G = 1.1 \text{ W/m}^2\text{K} \)
  - Representative psi value: 0.050
- **Plastic**
  - Double-sheet insulating glass \( U_G = 1.1 \text{ W/m}^2\text{K} \)
  - Representative psi value: 0.041
- **Wood**
  - Double-sheet insulating glass \( U_G = 1.1 \text{ W/m}^2\text{K} \)
  - Representative psi value: 0.041
- **Wood / Metal**
  - Double-sheet insulating glass \( U_G = 1.1 \text{ W/m}^2\text{K} \)
  - Representative psi value: 0.045

**Representative psi values for double-sheet thermally insulating glass**

<table>
<thead>
<tr>
<th>Cross-section</th>
<th>Space between panes in mm</th>
<th>( U_G \text{ in W/m}^2\text{K} )</th>
</tr>
</thead>
</table>

- **Can be used for all spacer widths**
  - Box 1: \( h_1 = 3 \text{ mm} \)  \( U_G = 0.40 \text{ W/m}^2\text{K} \)
  - Box 2: \( h_2 = 7 \text{ mm} \)  \( U_G = 0.32 \text{ W/m}^2\text{K} \)

**Explanations**

The equivalent thermal conductivity has been determined in accordance with the ift guideline WA-17/1 "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 \( U_G \) 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-08/2 "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 \( \pm 0.003 \text{ W/m}^2\text{K} \). Differences of less than 0.005 W/mK are not significant. For further information, refer to the Bulletin 004/2008 "Compass Warm Edge for Windows" of Bundesverband Flachglas.