

TGI – Spacers

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In accordance with agreement, the Danish Technological Institute, Building Components has calculated the equivalent thermal conductivity of TGI spacer profiles according to DS 418, Annex I.

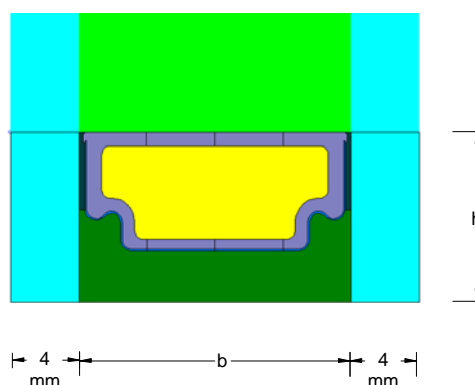
When calculating the linear thermal transmittance, figure I.1 of DS 418, Annex I could be used.

THERM, version 5.2 has been used for the calculations.

Material Data and Dimensions

The following material data has been used when performing the calculations:

Material	λ in W/m ² K
Float glass	1.000
Polyisobutylene	0,240
Polysulfide	0.400
Polypropylene	0.220
Softwood	0,130
EPDM	0,250
Stainless steel	17,000



Energy labelled panes have been used with $U = 1.2 \text{ W/m}^2\text{K}$.

Table 1. Dimensions, equivalent thermal conductivity and L-value of TGI spacer profiles

b mm	h mm	Box measurements b x h mm x mm	λ_k equivalent W/m K	L ^{*)} value W/mK
8	10.0	8x10.0	0.340	0.425
10	10.0	10x10.0	0.350	0.350
12	10.0	12x10.0	0.360	0.300
14	10.0	14x10.0	0.365	0.261
16	10.0	16x10.0	0.365	0.228
18	10.0	18x10.0	0.365	0.203
20	10.0	20x10.0	0.370	0.185
22	10.0	22x10.0	0.370	0.168
24	10.0	24x10.0	0.370	0.154

$$*) L = \frac{\lambda_k \cdot h}{b}$$

Calculations on the spacers have been carried out by using 0.25 mm butyl rubber along both sides of the spacer, and 3 mm polysulfide along the lower part of the spacer.

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