



High performance engineering plastic

Perforation holes for effective passage of air

Available with or without unique gas barrier tape



Thermobar
Warm Edge Spacer Tube

Available in black, grey or white

phA
advanced component



The Thermobar™ range is the result of 37 years of dedication to insulated glass.



SAVE energy with Lowest Conductivity Spacers - **0.14W/mK**

SAVE energy with lowest Psi values

SAVE energy with reduced overall window U-values

SAVE costs on the best futureproof window components

| | Plastic window frame | Wood window frame |
|----------------|----------------------|-------------------|
| Double Glazing | 0.032 | 0.031 |
| Triple Glazing | 0.030 | 0.029 |

Lower Psi values available with Hot Melt.

www.thermobarwarmedge.com





Thermobar™

Warm Edge Spacer Tube

For further information on specifying Thermobar in various window types contact Thermoseal Group on: 0845 331 3950, International: +44 121 331 3950

| THERMOBAR - Thermal performance in various window types | | | | | | |
|---|---|-----------------|-----------|---|-----------------|-----------|
| | DOUBLE GLAZING | | | TRIPLE GLAZING | | |
| Spacer System | Aluminium | Stainless Steel | Thermobar | Aluminium | Stainless Steel | Thermobar |
| WOODEN 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: $U_f = 1.3 \text{ W/m}^2\text{K}$; Glass value: $U_g = 0.7 \text{ W/m}^2\text{K}$ | | |
| Psi value [W/mK] | 0.082 | 0.053 | 0.031 | 0.089 | 0.054 | 0.029 |
| Window, U_w 1-pane [W/m ² K] | 1.40 | 1.32 | 1.27 | 1.10 | 1.02 | 0.95 |
| Window, U_w 2-pane [W/m ² K] | 1.52 | 1.41 | 1.33 | 1.26 | 1.13 | 1.04 |
| Minimal surface temperature* [°C] | 4.1 | 7.3 | 9.7 | 6 | 9.6 | 12.1 |
| 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] | 0.076 | 0.051 | 0.032 | 0.078 | 0.050 | 0.030 |
| Window, U_w 1-pane [W/m ² K] | 1.32 | 1.26 | 1.21 | 1.05 | 0.98 | 0.93 |
| Window, U_w 2-pane [W/m ² K] | 1.42 | 1.33 | 1.26 | 1.19 | 1.08 | 1.01 |
| Minimal surface temperature* [°C] | 5.3 | 8.3 | 10.4 | 6.7 | 9.9 | 12.0 |
| 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] | 0.094 | 0.059 | 0.032 | 0.100 | 0.060 | 0.030 |
| Window, U_w 1-pane [W/m ² K] | 1.43 | 1.34 | 1.28 | 1.17 | 1.08 | 1.00 |
| Window, U_w 2-pane [W/m ² K] | 1.57 | 1.44 | 1.34 | 1.35 | 1.21 | 1.10 |
| Minimal surface temperature* [°C] | 2.2 | 6.1 | 8.8 | 4.4 | 8.6 | 11.3 |
| 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] | 0.110 | 0.068 | 0.036 | 0.120 | 0.064 | 0.031 |
| Window, U_w 1-pane [W/m ² K] | 1.54 | 1.44 | 1.36 | 1.30 | 1.17 | 1.09 |
| Window, U_w 2-pane [W/m ² K] | 1.72 | 1.56 | 1.45 | 1.53 | 1.32 | 1.21 |
| Minimal surface temperature* [°C] | 4.7 | 8.4 | 10.8 | 6.8 | 10.6 | 12.9 |

The equivalent heat conductivity was calculated as per the ift WA-17/1 guidelines. The representative Psi values were calculated under the conditions laid down in the ift WA-08/2 guidelines.

Psi value: linear heat throughput at edge of glass
[W/mK] as per EN ISO 10077-2:2012-06

* corresponds to conditions in DIN 4108-3

External temperature T_a : -10°C
Internal temperature T_i : +20°C

| Geometry | Wood | PVC | Wood-Aluminium | Aluminium |
|--|-------------|-------------|----------------|-------------|
| Total Area: (1.23 x 1.48m) A_{gl} in m ² | 1.82 | 1.82 | 1.82 | 1.82 |
| Frame width b_f in mm: | 110 | 117 | 120 | 130 |
| Frame area A_f : in m ² (1-pane/2-pane) | 0.548/0.686 | 0.579/0.725 | 0.593/0.742 | 0.637/0.796 |
| Length of glass edge l_g : in m (1-pane/2-pane) | 4.540/6.840 | 4.484/6.742 | 4.460/6.700 | 4.380/6.560 |

