



Thermobar Warm Edge Spacer Bars and bespoke injection moulded fittings are exclusively manufactured by **THERMOSEAL GROUP** in the UK.

The Thermobar range is the result of 35 years of dedication to insulated glass.



Thermobar™

Warm Edge Spacer Tube

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

CERTIFICATE

Certified Passive House Component
Component-ID 0794sp01 valid until 31st December 2016

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany

Efficiency class

phA
phA+
phA
phA+

Category: Spacer for low-E-glazing
Manufacturer: Thermoseal Group Limited, Birmingham, United Kingdom
Product name: Thermobar

This certificate was awarded based on the following criteria:

Depending on the climatic region, the spacer prevents high surface temperatures, which can cause mould. At least 3 out of the 7 reference frames fulfilled the spacer hygiene criteria for the relevant climatic region.

Hygiene $f_{rel} \geq 0.70$

The specific resistance of the spacer's edges is greater than the climate-independent minimum requirement.

Efficiency $R_E = 5.50 \text{ m}^2 \text{ K/W} \geq 1.50 \text{ m}^2 \text{ K/W}$

Height Box 2
6.50 mm

Thermal conductivity Box 2
0.14 W/(m K)

arctic climate

Passive House efficiency class

phE phD phC phB phA phA+

COMPONENT
Passive House Institute

www.passivehouse.com

'WARM EDGE' WORKING PARTY

November 2014 - No.27 - Revision Index 0

BF
RAL
GÜTEZEICHEN
ZERTIFIZIERT

Data sheet Psi values for windows

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

THERMOSEAL GROUP
Dedicated to Insulated Glass

Thermoseal Group Ltd
Gavin Way, Naxos Point,
Off Holford Drive
Birmingham B6 7AF, United Kingdom

Product name	Spacer height in mm	Material	Thickness d in mm
Thermobar™	6.5	modified polypropylene glass filled / modified polyester film	1.0 / 1.2 / 0.027
Representative frame profile			
	Metal with thermal break	Plastic	Wood
			Wood / Metal
Double-sheet insulating glass $U_{g,1} = 1.1 \text{ W/m}^2 \text{ K}$	0.036	0.032	0.031
Triple-sheet insulating glass $U_{g,1} = 0.7 \text{ W/m}^2 \text{ K}$	0.031	0.030	0.029
Space between panes in mm			
Space between panes	Can be used for all spacer widths		0.40

$h_1 \cdot h_2 = 6.5 \text{ mm}$

0.14 W/mK

0.029

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". This representative low-glass transfer coefficients calculated in this way (representative psi values) apply to typical frame profiles and glass heat transfer conditions. Frame profiles, glazing, glass mounting depth, back covering, primary and secondary sealant) defining conditions in the IFT guideline WA-08/2 "Thermally improved spacers - Part 1: Determination of the representative Psi values in the IFT guideline WA-08/2". This guideline also governs the area of validity and application of the representative psi values. The data sheet has been given at 0.001 W/mK. The method for the submethod determination of the psi values is given in IFT guideline WA-08/2. For further information, refer to the Bulletin 004/2008 "Compass "Warm Edge".

Passive House: www.passivehouse.com

Bundesverband Flachglas Dati: www.bundesverband-flachglas.de



THERMOSEAL GROUP
Dedicated to Insulated Glass





Product Details

Thermobar™

Warm Edge Spacer Tube

Thermobar: STANDARD/LITE

Density: ~ 1.20 g/cm³

Thermal Conductivity Values

BF Data Sheet: 0.14 W/mK

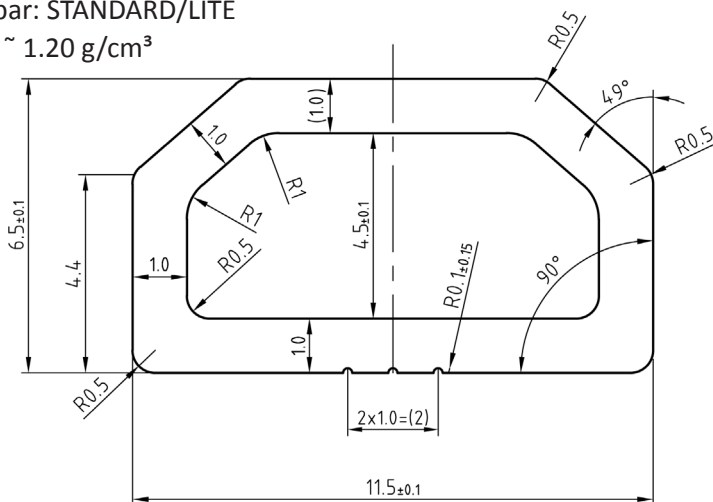
Passive House Certificate: phA+ rating with Hot Melt.

$\lambda_{eq,2B} = 0.140 \text{ W/(m K)}$

Reference Test Report - Nr. 14-000623-PR05 (PB-K10-06-en-01)

ift Rosenheim - ift-Guideline WA-17engl/1 in general accordance to EN 12664: 2001

EN ISO 10456: 2008



Thermobar is available in sizes: 4mm, 7.5mm, 9.5mm, 11.5mm, 13.5mm, 15.5mm, 17.5mm and 19.5mm.
Standard spacer height 6.5mm ± 0.10mm width.

Zweifelscheibensystem 638/639	0,036	0,032	0,031	0,032
Dreifelscheibensystem 638/639	0,031	0,030	0,029	0,030

Thermobar (with high performance gas barrier tape) complies with BS EN1279 parts 2, 3 and 6 with all sealant types.

This standard version of Thermobar is recommended for gas filled sealed units.

Thermobar LITE (with no gas barrier tape) complies with BS EN1279 parts 2 and 6 with hotmelt sealants only.

Mechanical Properties*

Performance	Test Method	Unit	Value
Tensile strength	ISO 527/ASTM D638	MPa	≥ 45
Tensile Modulus	ISO 527/ASTM D638	MPa	≥ 5200
Tensile strain at break	ISO 527/ASTM D638	%	≥ 1.5
Impact strength	ISO 1797/ASTM D256	KJ / m ²	≥ 8

* All test values are carried out at ~ 23°C on injection moulded samples.

Thermal Properties

Performance	Test Method	Unit	Value
Coefficient of linear thermal expansion - longitudinal	ISO 11359/ASTM D696	10 / K	~ 2
Maximum Service Temperature	-	°C	~ 105
Melting Point	ISO 3146	°C	> 160

Please note:

- Test figures required within different countries and zones may vary. Please select the correct data from the values stated above. If further values are required for Thermobar, please do not hesitate to contact Thermoseal Group.
- Finished units should be glazed according to recognised standards to give the longest life span. For the minimum requirements please read; Glass and Glazing Federation Data Sheet 4.2 - 'Systems Design and Glazing Considerations for Insulating Glass Units.'



Download QR Code reader on your mobile phone to scan image above for online location of data sheets and downloads

www.thermosealgroup.com

These details are based on our current knowledge. Therefore, it is not intended to assure legally binding or to guarantee the nature of the products, the trade capability of the products and the suitability for a certain use. We reserve the right to make technical alterations.

