

www.nzpfenestration.com

YOUR WINDOW TO A BETTER WORLD.

DO GREAT THINGS WITH US!

Protecting the climate. Keeping the oceans clean. Helping people. Even if you think that you can only make a limited contribution as an individual, we can create a great future together: with a PASSIVCanada premium window. We take sustainability, the environment and social responsibility just as seriously as you do



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PASSIVCanada PASSIVE HOUSE WINDOWS

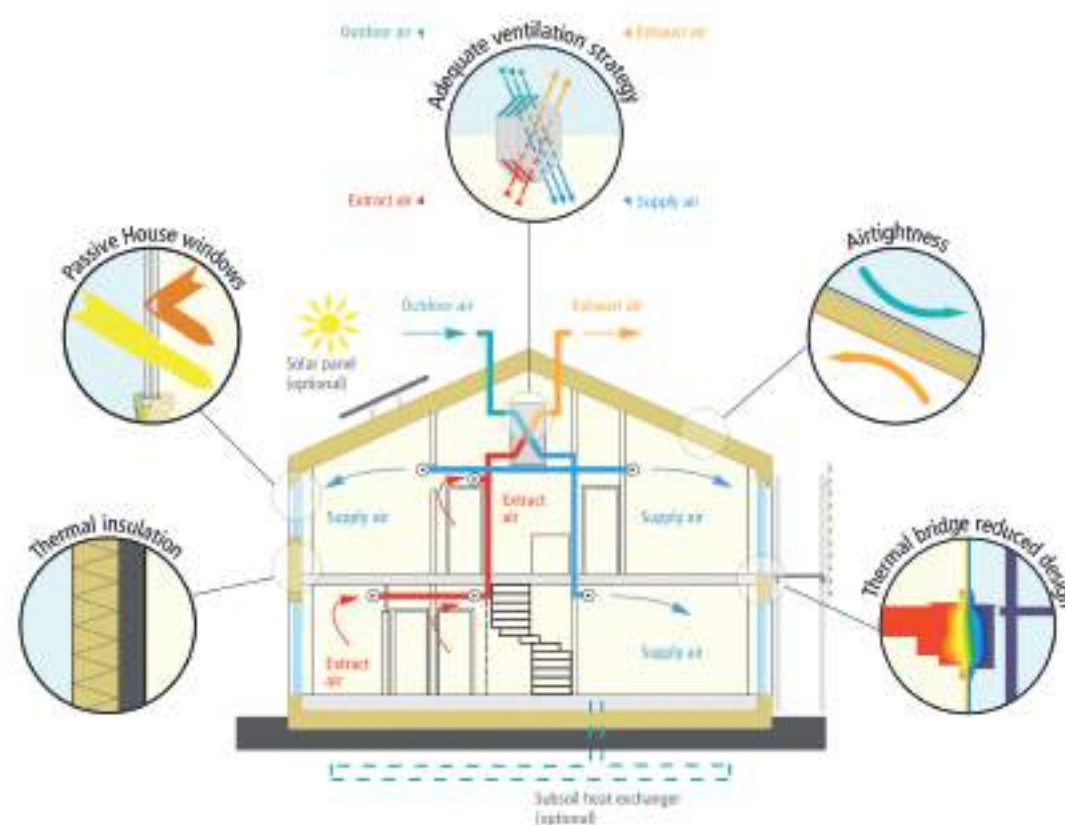
MADE IN CANADA

For the highest thermal
insulation requirements.



ABOUT PASSIVE HOUSE: WHAT IS A PASSIVE HOUSE?

Passive House is a world leading standard in construction that is truly **energy efficient, comfortable and affordable** at the same time. Passive House is not a brand name, but a tried and true construction concept that can be applied by anyone, anywhere. A Passive House requires as little as 10 percent of the energy used by typical Central European buildings meaning an energy saving of up to 90 percent. Owners of Passive Houses are barely concerned with increasing energy prices.



PASSIVE HOUSE DEFINITION:

- **Heating Demand:** $\leq 15 \text{ kWh / (m}^2\text{a)}$
- **Air Infiltration Rate:** $n_{50} \leq 0.6 \text{ h}^{-1}$
- **Primary Energy Demand:** $\leq 120 \text{ kWh / (m}^2\text{a)}$ incl. electricity

ADDITIONAL FUNCTIONAL REQUIREMENTS:

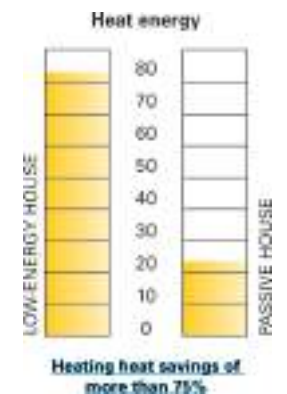
- **Structural Connection:**
 $U_{\text{window, installed}} \leq 0.85 \text{ W / (m}^2\text{K)}$
- **Stability**
- **Water and Air Tightness**
- **Sound Protection**
- **Burglar Resistance**



Yet, a Passive House is more than just a low-energy building:

Passive Houses allow for space heating and cooling related energy savings of up to 90% compared with typical building stock and over 75% compared to average new builds. Passive Houses use less than 1.5 litres of oil or 1.5 m³ of gas to heat one square meter of living space for a year – substantially less than common „low-energy“ buildings. Vast energy savings have been demonstrated in warm climates where typical buildings also require active cooling.

Passive Houses make efficient use of the sun, internal heat sources and heat recovery, rendering conventional heating systems unnecessary throughout even the coldest of winters. During warmer months, Passive Houses make use of passive cooling techniques such as strategic shading to keep comfortably cool.



Passive Houses are praised for the high level of comfort they offer. Internal surface temperatures vary very little from indoor air temperatures, even in the face of extreme outdoor temperatures. Special windows and a building envelope consisting of a highly insulated roof and floor slab as well as highly insulated exterior walls keep the desired warmth in the house – or undesirable heat out.

A ventilation system imperceptibly supplies constant fresh air, making for superior air quality without unpleasant draughts. A highly efficient heat recovery unit allows for the heat contained in the exhaust air to be re-used.

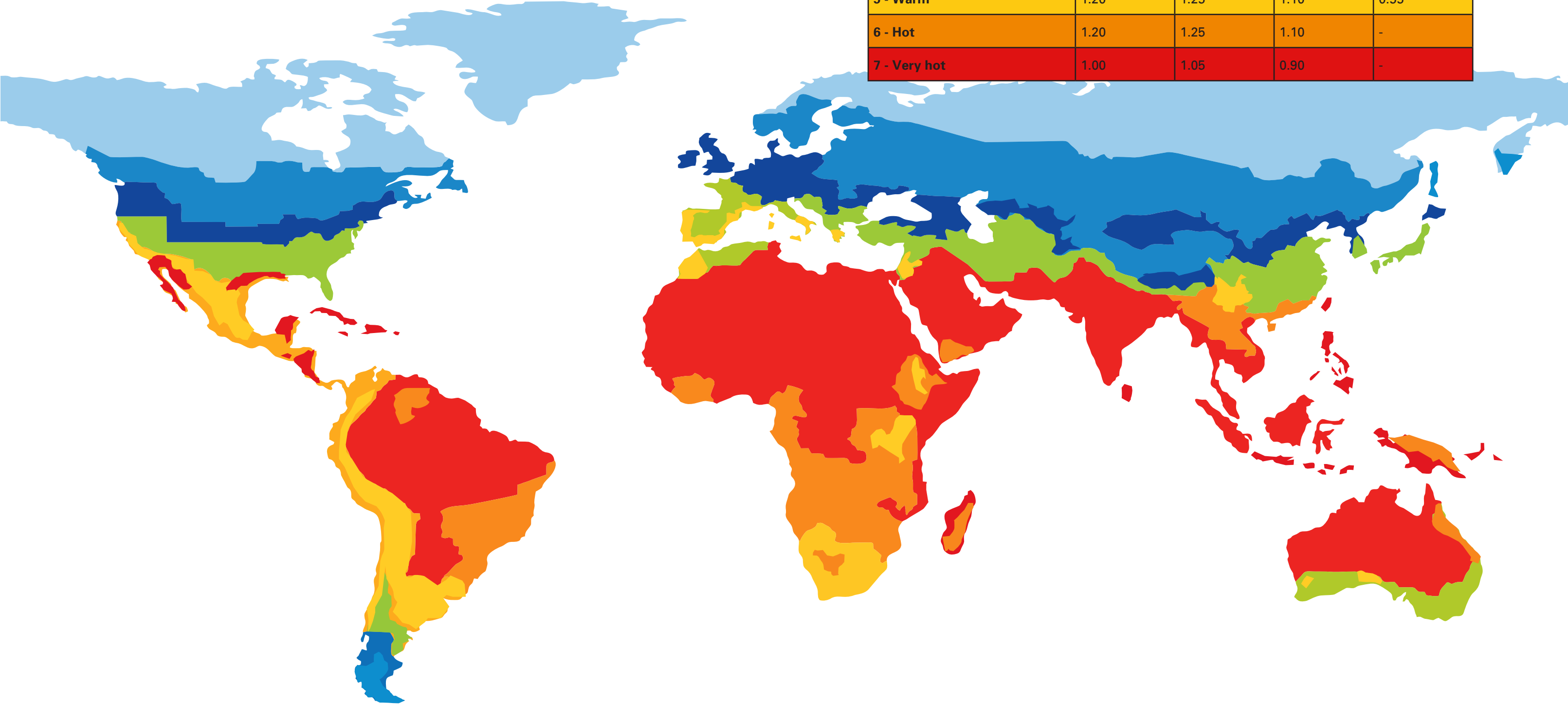
REQUIREMENTS FOR PASSIVE HOUSE WINDOWS

- **Thermal Comfort**
 - small surface temperature difference
 - avoiding draught
- **Energy Saving:**
 - low U-Value to minimise heat losses
- **Solar Gains:**
 - positive energy balance
 - more gains than losses



CLIMATE ZONE AS PER PASSIVE HOUSE INSTITUTE

Climate zone Reference size: 1.23 m x 1.48 m	U_w [W/(m²K)]	$U_{w, \text{ installed}}$ [W/(m²K)]	U_g for cert. [W/(m²K)]	$f_{RSi=0.25 \text{ m}^2\text{K/W}}$ -
1 - Arctic	0.40	0.45	0.35	0.80
2 - Cold	0.60	0.65	0.52	0.75
3 - Cool-temperate	0.80	0.85	0.70	0.70
4 - Warm-temperate	1.00	1.05	0.90	0.65
5 - Warm	1.20	1.25	1.10	0.55
6 - Hot	1.20	1.25	1.10	-
7 - Very hot	1.00	1.05	0.90	-





PASSIVHAUSCERTIFIED

WINDOWS

PASSIVCanada



What makes a passive house window perfect?

Passive house are amazing performers. And it is especially their windows that have to fulfil particularly demanding specifications. PASSIVCanada is a new generation of PVC-U window profiles – with intelligent insulation technology, large installation depth, and slim profile sight lines. In other words, an elegant look, ideal proportions, and efficient solar gains. Never before was it possible to make windows for passive houses of such beauty or perfection. In future therefore, the look of passive house will be marked by extremely slim profile sight lines – a new era has dawned.

To the present day, stringent demands for extreme thermal insulation have greatly contributed to the look of window profiles, especially for the passive house. With ultra modern window technology, contemporary design, and a perfected underlying concept we have succeeded in bringing together extreme demands in harmony



- **Certified as a component suitable for passive houses.**
- **Design of offset straight lines with perfect profile proportions.**
- **Slim profile sight lines for greatest possible incoming light and higher solar gains.**
- **High torsion resistance owing to adhesive bond transmitting forces between window sash and pane.**
- **Full face window walls – sashed doors up to 2.5 m in height.**
- **Full recyclability thanks to possibility of separating inserted polystyrene thermal insulation parts.**

Our system has replaced lead with eco friendly calcium and zinc for its stabilisers – the first manufacturer to do so on the entire sector.

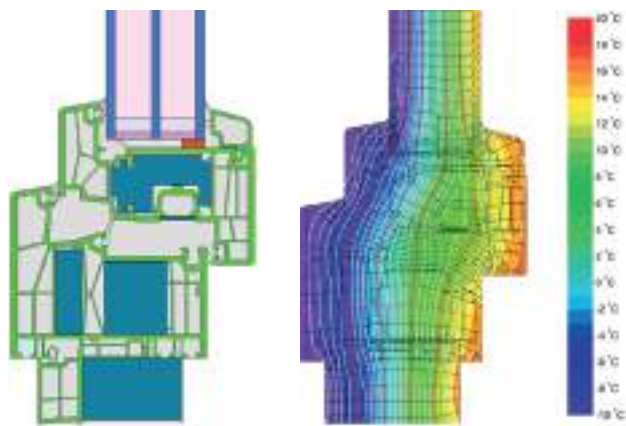
Its consistent commitment to sustainability makes PASSIVCanada a safe investment in the future.





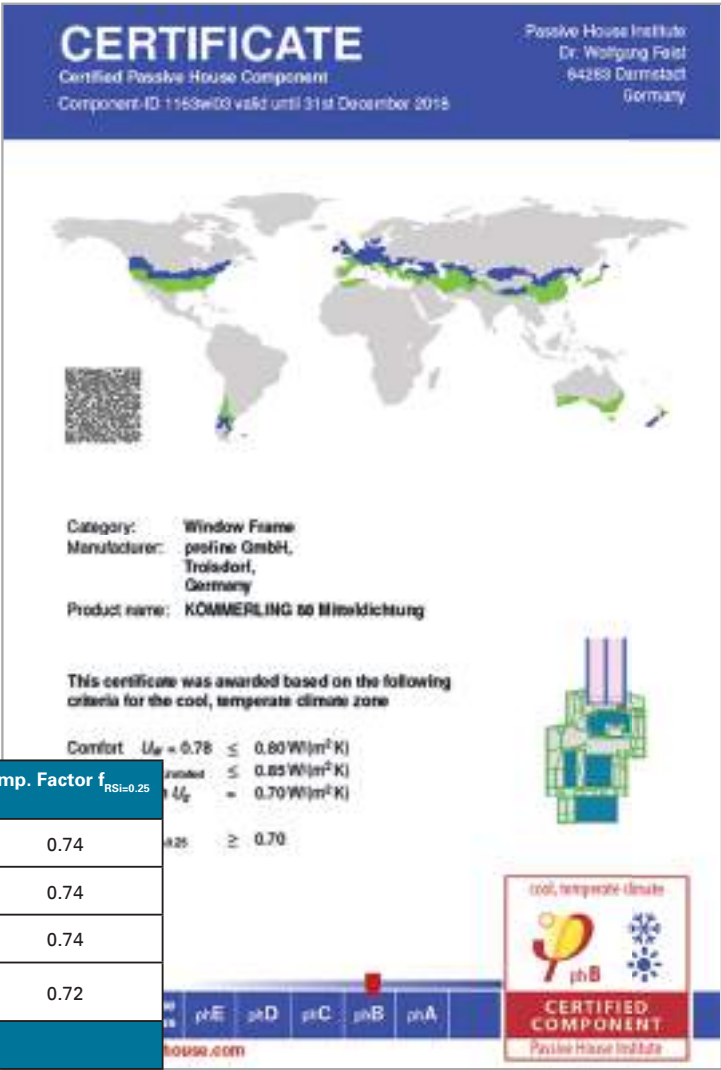
PASSIVE HOUSE CERTIFICATION

SYSTÈME 88
PASSIVCanada



Frame values	Frame width b, [mm]	U-value frame U _f [W/(m²K)]	Ψ-panel edge Ψ ₀ [W/(mK)]	Temp. Factor f _{RSI=0.25} [-]
Top (to)	116	0.78	0.025	0.74
Side (s)	116	0.78	0.025	0.74
Bottom (bo)	146	0.74	0.025	0.74
Mullion (fm) flying	154	0.85	0.024	0.72

Spacer: SWISSPACER Ultimate / Secondary seal: Polysulfide



As an independent institute, the Passive House Institute tests and certifies products with regard to their suitability for use in Passive Houses. Products bearing the "Passive House Suitable Component" certificate are tested according to uniform criteria, comparable in terms of their characteristic values and of excellent energetic quality.

Their use considerably facilitates the planner's task and makes a significant contribution to ensuring the perfect functioning of the resulting Passive House.



- Passive House guideline established in 1992.

- For determination U_f -Value only calculation according to DIN EN ISO 10077-2 is accepted.

- Calculate by Physibel Bisco of flixo in accordance to DIN EN ISO 10077-2.

- Complete Residential Building investigated.

- U_w -Value 0.8 W/(m²K); U_w installed 0.85 W/(m²K).

- U_g -Value 0.7 W/(m²K), include warm edge system.

- profine system like „KÖMMERLING 88plus Flügelüberschlagverklebung“ can only be produced in white color.

PHI-DARMSTADT IN COMPARISON TO IFT-ROSENHEIM

CONSIDERATIONS FOR THE WINDOW



- Passive House guideline WA/15 established in 2010.

- For determination U_f -Value only calculation and Hotbox-Testing according to DIN EN 12412-2 is accepted (U_f -Value by Hotbox-Result normally better or rather lower than calculating by DIN EN ISO 10077-2).

- If calculated we use Software flixo in accordance to DIN EN ISO 10077-2.

- Only Residential Window investigated.

- U_w -Value 0.8 W/(m²K); U_w installed 0.85 W/(m²K).

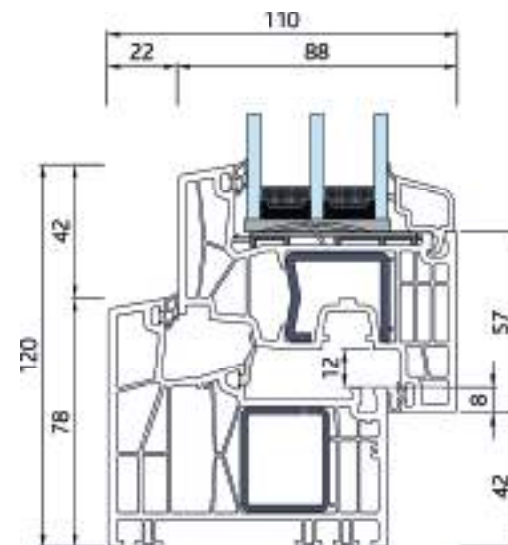
- U_g -Value 0.6 W/(m²K) (necessary to achieve U_w 0.8), include warm edge system.

- profine system like „KÖMMERLING 88plus proEnergyTec“ in accordance to WA 15/2 can be produced in all colors, in case of steel-reinforced sash.

SYSTEM 88 MD PASSIVE HOUSE WA 15/2



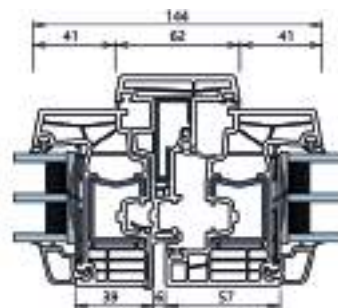
	Heat Transfer Coefficient up to $U_f = 0,95 \text{ W/(m}^2\text{K)}$	
	$U_w = 0,79 \text{ W/(m}^2\text{K)}$ at 1230 x 1480 mm with $U_g = 0,6 \text{ W/(m}^2\text{K)}$, $\psi_i = 0,032$	
	$U_{w, \text{Installation}} = 0,82 \text{ W/(m}^2\text{K)}$ at 1230 x 1480 mm with $U_g = 0,6 \text{ W/(m}^2\text{K)}$, $\psi_i = 0,032$	



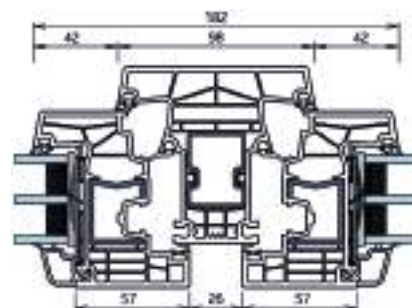
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HIGHLIGHTS AND ADDED VALUES

- Centre gasket system with 88mm profile depth.
- Passive house suitability according to ift guideline WA 15/2 - U_w value = $0.79 \text{ W/(m}^2\text{K)}$ - U_w , installation = $0.82 \text{ W/(m}^2\text{K)}$.
- Large glazing spectrum up to 60 mm thickness for the use of triple glazing or special functional glass.
- Safe load transfer of the high glass weights to the centrally arranged steel reinforcement.
- Classic white, laminated in wood structures, solid colours and metallic colours.
- Sealing colours for white profiles light grey or black.



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* Middle section from standard system (no WA 15/2 test)

Nachweis

Gutachtliche Stellungnahme - Passivhaustauglichkeit von Komponenten für Fenster

Gutachtliche Stellungnahme
Nr. 17-002057-PR01
(GAS-A01-11-de-02)



Auftraggeber: profine GmbH
International Profile Group
Zweibrücker Straße 200
66954 Pirmasens
Deutschland

Produkt: Einflügeliges Kunststoff-Fenster
Bezeichnung: System: KBE 88, KÖMMERLING 88, TROCAL 88, 88 mm
Klebeflügel (Rahmenprofile: siehe Anlage 1)
Rahmenmaterial: Polyvinylchlorid (PVC-U) hart, Stahl verzinkt, mit und ohne
Einlage aus modifiziertem Polystyrol - Hartschaum
Außenmaß: 1230 mm x 1480 mm
Fenster (B x H):

Leistungseigenschaften: Wärmedurchgang, Behaglichkeit,
Temperaturfaktor (Hygiene)
(nach ift-Richtlinie WA 15/2: 2011-02)

Ergebnisse: $U_f = 0,93$ bis $0,96 \text{ W/(m}^2 \cdot \text{K)}$
 U_f der Rahmenprofile seitlich oben und unten, Rahmen-Ansichtsbreite $B = 116$ bis 134 mm
 $U_g = 0,6 \text{ W/(m}^2 \cdot \text{K)}$ und $0,5 \text{ W/(m}^2 \cdot \text{K)}$ ($< 0,7 \text{ W/(m}^2 \cdot \text{K)}$)
 $f_{0,13} \geq 0,88$ mit $f_{0,13} = 1 - R_{0,13}$
 $U_w = 0,74$ bis $0,80 \text{ W/(m}^2 \cdot \text{K)}$
Bezogen auf ein repräsentatives Bezugselement mit der Abmessung $1230 \text{ mm} \times 1480 \text{ mm}$, einer Verglasung mit $U_g = 0,6 \text{ W/(m}^2 \cdot \text{K)}$ und $U_g = 0,5 \text{ W/(m}^2 \cdot \text{K)}$, Aufbau 4/16/4/16/4 mm bzw. 4/16/4/16/4 mm und Abstandhalter „Chromalox Ultra F“
 $U_{w, \text{Installation}} = 0,77$ bis $0,83 \text{ W/(m}^2 \cdot \text{K)}$
Für den Wandaufbau „Monolithische Außenwand mit Wärmedämmverbundsystem“
 $f_{0,20/0,13} \geq 0,73$ für die Baukörperanschlüsse an dem genannten Wandaufbau
 $f_{0,20} \geq 0,73$ für den Glasrandbereich

Weitere Leistungseigenschaften
(nach EN 14351 Anhang ZA.1)

Eigenschaften	Wärmedurchgang gegen Windlast	Schallgedämmung	Stabilität	Wärmedurchgang	Luftdurchlässigkeit
Klasse/Wert	C5 / B5	9A	2	sehr oben	4

ift Rosenheim
10.01.2018

Robert Kolacny, Dipl.-Ing. (FH)
Stv. Prüfstellenleiter
Bauteile

Konrad Huber, Dipl.-Ing. (FH)
Prüfingenieur
Bauphysik

Grundlagen *)
ift - Richtlinie WA15/2 (2011-02)
EN 14351-1:2006 + A1:2010
*) und entsprechende nationale Fassungen (z.B. DIN EN)
ift - Prüfbericht 16-000586-PR01 (PB03-A01-06-de-01)
Gutachtliche Stellungnahme 16-002741 - PR06 (GAS-A06-02-03-10-de-01)
ift - Prüfbericht 17-002056-PR01 (PB-K02-06-de-02)
Gutachtliche Stellungnahme 17-002057-PR01 (GAS-A01-11-de-01)
Verwendungshinweise
Diese Stellungnahme dient zusammen mit den genannten Grundlagen zum Nachweis der Leistungseigenschaften gemäß oben genannter Richtlinien.
Die Werte / Klassen der weiteren Leistungseigenschaften beziehen sich jeweils auf den in den Einzelnachweisen beschriebenen Gegenstand. Für die Anwendung der Leistungseigenschaften gelten die nationalen bautechnischen Bestimmungen.
Gültigkeit
Die genannten Daten und Ergebnisse beziehen sich ausschließlich auf den geprüften und beschriebenen Gegenstand.
Die Prüfung der genannten Leistungseigenschaften ermöglicht keine Aussage über weitere Leistungs- und qualitätsbestimmende Eigenschaften der vorliegenden Konstruktion. Der Prüfbericht verleiht seine Gültigkeit, wenn die Richtlinie oder die in den Grundlagen zitierten Dokumente ihre Gültigkeit verlieren.
Veröffentlichungshinweise
Es gilt das ift-Merkblatt „Bedingungen und Hinweise zur Benutzung von ift-Prüfprotokollen“. Das Deckblatt kann als Kurzfassung verwendet werden.
Inhalt
Der Nachweis umfasst insgesamt 14 Seiten und Anlagen (10 Seiten).

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Prüfung und Zertifizierung - EN ISO/IEC 17025
Inspektion - EN ISO/IEC 17020
Zertifizierung Produkte - EN ISO/IEC 17065
Zertifizierung Managementsysteme - EN ISO/IEC 17021

Notified Body BSI
PRÜFSTELLE BAU 16



