

# Berechnung der Wärmeübertragungskoeffizienten Rahmen $U_f$ / $\Psi$

## Calculation of the heat transfer coefficient for frame $U_f$ / $\Psi$

System

\$\$\$tem

Ausführung

\$\$\$ign:

Grundlagen

\$\$\$cs:

Programm

\$\$\$are

**MIRAcour / MIRA contour integral / (weitere Flügel- und Profilvarianten)  
(additional sash- and profile variants)**

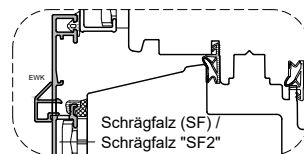
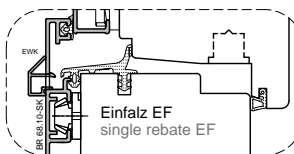
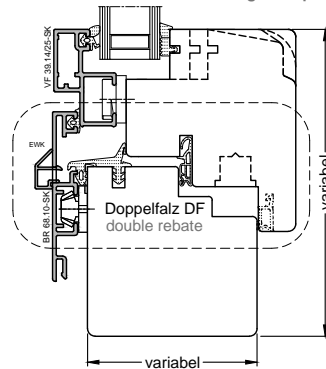
Doppel-, Einfach- u. Schrägfalzkonstruktionen Holzdicke 68 / 78 / 88 mm

\$\$\$le/ single / inclined rebate design timber frame thickness 68 / 78 / 88 mm

DIN 4108, EN ISO 10077-1, EN ISO 10077-2, EN 12412-2

Sommerinformatik, WinIso 2D, Vers. 7.5, ift-FEM

Konstruktionsvarianten: design samples:



**Psi-Werte ( $\Psi$ ) Glasabstandhaltersysteme:**

**Psi values ( $\Psi$ ) glass spacer systems:**

3-fach-Verglasungen triple glazing			
Aluminium	Nirotec 017	Thermix TX.N plus	Swisspacer Ultimate
	0,057 W/mk <sup>*2</sup>	0,043 W/mk <sup>*2</sup>	0,030 W/mk <sup>*2</sup>
2-fach-Verglasungen double glazing			
Aluminium	Nirotec 017	Thermix TX.N plus	Swisspacer Ultimate
0,08 W/mk <sup>*1</sup>	0,056 W/mk <sup>*2</sup>	0,045 W/mk <sup>*2</sup>	0,032 W/mk <sup>*2</sup>

\*1 Nachweis: DIN EN ISO 10077-1: 2010-05

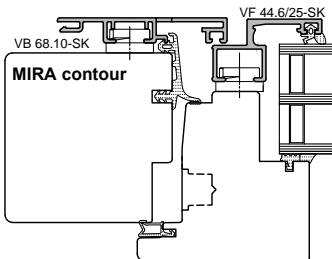
\*1 Confirmation: DIN EN ISO 10077-1: 2010-05

\*2 Psi-Wert lt. Datenblätter BF, AK "Warme Kante"

\*2 Psi-value as per data pages BF, AK "Warme Kante"

Empfehlung zur Vermeidung von Tauwasser am Scheibenrand: Einsatz von "Warmen Randverbundsystemen", wie Nirotec, Thermix oder Swisspacer  
We recommend the use of warm edge spacers to avoid condensation at the glass pane as Nirotec, Thermix or Swisspacer

**Ausführungsbeispiele: design samples:**



Flügelvarianten<sup>\*3</sup> sash profile variants

VF39.6-SK - VF66.6-SK  
VF39.14/25-SK - VF71.14/25-SK  
VF39.6/25-SK - VF66.6/25-SK  
GHP 41.14 SK-I  
VFM 39.25-SK - VFM 110.25-SK

**Wärmedurchgangskoeffizient Rahmen ( $U_f$ )**

**Heat transfer coefficient for frame ( $U_f$ )**

Rahmenmaterial frame material	Holz Rohdichte: 450 kg/m <sup>3</sup> (0,11) straight timber density: 450 Kg / m <sup>3</sup>		
Holzdicke Wood thickness	68 mm	78 mm	88 mm
$U_f$ Wert $U_f$ value	1,5 W/m <sup>2</sup> K <sup>*1</sup>	1,4 W/m <sup>2</sup> K <sup>*1</sup>	1,3 W/m <sup>2</sup> K <sup>*1</sup>

\*1 Nachweis: Systemhausberechnungen

\*1 Confirmation: calculation system house

Rahmenmaterial frame material	Holz Rohdichte: 500 kg/m <sup>3</sup> (0,13) straight timber density: 500 Kg / m <sup>3</sup>		
Holzdicke Wood thickness	68 mm	78 mm	88 mm
$U_f$ Wert $U_f$ value	1,6 W/m <sup>2</sup> K <sup>*1</sup>	1,5 W/m <sup>2</sup> K <sup>*1</sup>	1,5 W/m <sup>2</sup> K <sup>*1</sup>

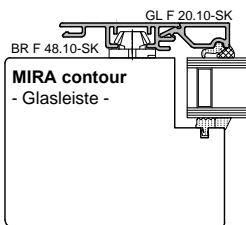
\*1 Nachweis: Systemhausberechnungen

\*1 Confirmation: calculation system house

Rahmenmaterial frame material	Holz Rohdichte: 700 kg/m <sup>3</sup> (0,18) straight timber density: 700 Kg / m <sup>3</sup>		
Holzdicke Wood thickness	68 mm	78 mm	88 mm
$U_f$ Wert $U_f$ value	1,9 W/m <sup>2</sup> K <sup>*1</sup>	1,8 W/m <sup>2</sup> K <sup>*1</sup>	1,8 W/m <sup>2</sup> K <sup>*1</sup>

\*1 Nachweis: Systemhausberechnungen

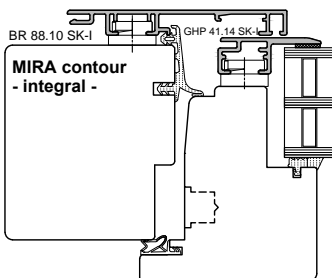
\*1 Confirmation: calculation system house



Glasleisten- Varianten<sup>\*3</sup>

glazing bar- variants

GL F 20.10-SK  
GL F 20.6-SK



Flügelvarianten<sup>\*3</sup> sash profile variants

GHP 41.14 SK-I

\*3 Systemhausberechnung  
calculation system house



Nr. K-01643

Version: 00