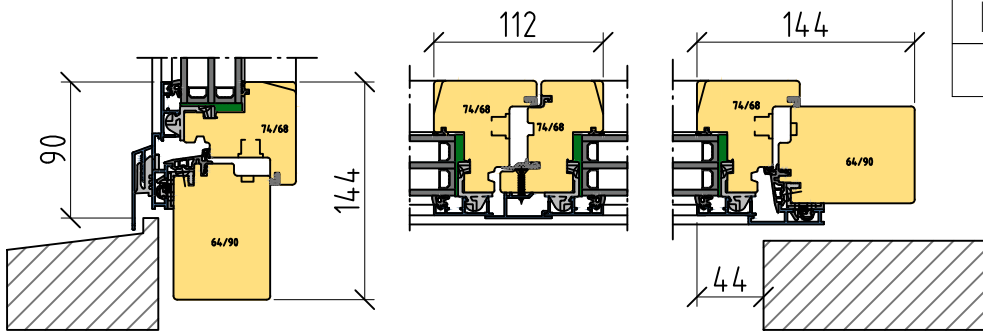


U-Wert Übersicht, windura classic SK FV, Ra. 64mm



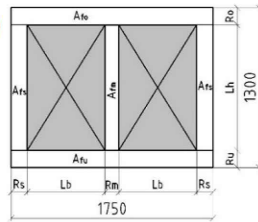
Download DWG

DE	FR	IT
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1. U-Wert Fensterrahmen Uf

(Bruttoabmessung B x H: 1.75m x 1.3m)

Schnitt	Rahmenbreite
Oben	144 mm
Seitlich	144 mm
Mittelpartie	112 mm
Unten	144 mm



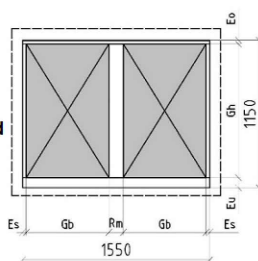
Holzarten (Wärmeleitwert)			
Thermofichte	Fichte, Tanne	Lärche, Kiefer	Eiche
0.09 W/mK	0.11 W/mK	0.13 W/mK	0.18 W/mK

2. U-Wert Fenster Uw

(Im eingebauten Zustand, Abmessung:

Mauerlicht Aussen 1.55m x 1.15m)

Schnitt	Rahmeneinstand
Oben	44 mm
Seitlich	44 mm
Unten	90 mm



	Rahmen Uf-Werte [W/m²K]			
Oben	1.134	1.290	1.433	1.747
Seitlich	1.134	1.290	1.433	1.747
Mittelpartie	1.111	1.233	1.347	1.603
Unten	1.14	1.296	1.440	1.756

mittlerer Rahmen Uf-Wert [W/m²K]			
1.133	1.285	1.424	1.732

	Randverbund	Psi-Werte	Uw-Werte [W/m²K]			
Ug = 0.7 W/m²K	Edelstahl	0.060	1.0	1.1	1.1	1.2
	ACS+ / Thermix TX pro (Fa. Ensinger)	0.042	0.96	0.99	1.0	1.1
	TGI Spacer M (Fa. Technoform)	0.042	0.96	0.99	1.0	1.1
	ACSplus / ECO-Spacer Super Spacer TriSeal	0.030	0.91	0.95	0.98	1.1
	Multitech G (Fa. Rolltech)	0.029	0.91	0.94	0.98	1.0
Ug = 0.6 W/m²K	Edelstahl	0.060	0.95	0.99	1.0	1.1
	ACS+ / Thermix TX pro (Fa. Ensinger)	0.042	0.88	0.92	0.95	1.0
	TGI Spacer M (Fa. Technoform)	0.042	0.88	0.92	0.95	1.0
	ACSplus / ECO-Spacer Super Spacer TriSeal	0.030	0.84	0.87	0.90	0.97
	Multitech G (Fa. Rolltech)	0.029	0.83	0.87	0.90	0.97
Ug = 0.5 W/m²K	Edelstahl	0.060	0.87	0.91	0.94	1.0
	ACS+ / Thermix TX pro (Fa. Ensinger)	0.042	0.81	0.84	0.87	0.94
	TGI Spacer M (Fa. Technoform)	0.042	0.81	0.84	0.87	0.94
	ACSplus / ECO-Spacer Super Spacer TriSeal	0.030	0.76	0.79	0.83	0.90
	Multitech G (Fa. Rolltech)	0.029	0.76	0.79	0.82	0.89
Ug = 0.4 W/m²K	Edelstahl	0.060	0.80	0.83	0.86	0.93
	ACS+ / Thermix TX pro (Fa. Ensinger)	0.042	0.73	0.76	0.80	0.87
	TGI Spacer M (Fa. Technoform)	0.042	0.73	0.76	0.80	0.87
	ACSplus / ECO-Spacer Super Spacer TriSeal	0.030	0.68	0.72	0.75	0.82
	Multitech G (Fa. Rolltech)	0.029	0.68	0.71	0.75	0.82

Grenzwert	Uw ≤ 1.0 W/m²K
Grenzwert	Uw ≤ 0.80 W/m²K

Uf-Berechnungen nach EN ISO 10077-2:2012
 Uw-Werte berechnet nach Minergie-Reglement 2021

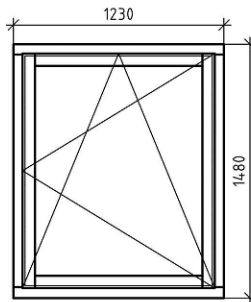
U-Wert Übersicht Rahmen/Flügel 68 mm



1. U-Wert Fensterrahmen U_f

(Bruttoabmessung B x H: 1.23m x 1.48m)

Schnitt	Rahmenbreite
Oben	122 mm
Seitlich	122 mm
Unten	122 mm
Aw	1.82 m ²
Glasfläche	1.219 m ²
Länge Psi	4.444 m



Holzarten (Wärmeleitwert)		
Fichte, Tanne	Lärche, Kiefer	Eiche
0.11 W/mK	0.13 W/mK	0.18 W/mK

	Rahmen U _f -Werte [W/m ² K]		
Oben	1.278	1.405	1.680
Seitlich	1.278	1.405	1.680
Unten	1.323	1.460	1.760

mittlerer Rahmen U _f -Wert [W/m ² K]		
1.289	1.419	1.700

	Randverbund	Psi-Werte	U _w -Werte [W/m ² K]		
U_g = 0.7 W/m²K	Edelstahl	0.060	1.0	1.1	1.2
	ACS+ / Themix TX pro (Fa. Ensinger)	0.042	1.0	1.0	1.1
	TGI Spacer M (Fa. Technoform)	0.042	1.0	1.0	1.1
	ACSplus / ECO-Spacer Super Spacer TriSeal	0.030	0.97	1.0	1.1
	Multitech G (Fa. Rolltech)	0.029	0.97	1.0	1.1
U_g = 0.6 W/m²K	Edelstahl	0.060	0.97	1.0	1.1
	ACS+ / Themix TX pro (Fa. Ensinger)	0.042	0.93	0.97	1.1
	TGI Spacer M (Fa. Technoform)	0.042	0.93	0.97	1.1
	ACSplus / ECO-Spacer Super Spacer TriSeal	0.030	0.90	0.94	1.0
	Multitech G (Fa. Rolltech)	0.029	0.90	0.94	1.0
U_g = 0.5 W/m²K	Edelstahl	0.060	0.91	0.95	1.0
	ACS+ / Themix TX pro (Fa. Ensinger)	0.042	0.86	0.91	1.0
	TGI Spacer M (Fa. Technoform)	0.042	0.86	0.91	1.0
	ACSplus / ECO-Spacer Super Spacer TriSeal	0.030	0.83	0.88	0.97
	Multitech G (Fa. Rolltech)	0.029	0.83	0.87	0.97
U_g = 0.4 W/m²K	Edelstahl	0.060	0.84	0.88	0.98
	ACS+ / Themix TX pro (Fa. Ensinger)	0.042	0.80	0.84	0.93
	TGI Spacer M (Fa. Technoform)	0.042	0.80	0.84	0.93
	ACSplus / ECO-Spacer Super Spacer TriSeal	0.030	0.77	0.81	0.90
	Multitech G (Fa. Rolltech)	0.029	0.76	0.81	0.90

Grenzwert KfW	U _w ≤ 0.95 W/m ² K
Grenzwert	U _w ≤ 0.80 W/m ² K

U_f-Berechnungen nach EN ISO 10077-2:2017

U_w-Berechnungen nach EN ISO 10077-1:2017

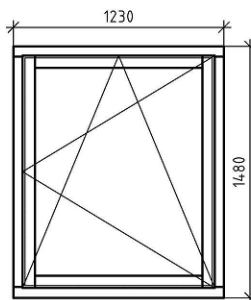
U-Wert Übersicht Rahmen/Flügel 78 mm



1. U-Wert Fensterrahmen U_f

(Bruttoabmessung B x H: 1.23m x 1.48m)

Schnitt	Rahmenbreite
Oben	132 mm
Seitlich	132 mm
Unten	132 mm
Aw	1.82 m ²
Glasfläche	1.175 m ²
Länge Psi	4.364 m



Holzarten (Wärmeleitwert)		
Fichte, Tanne	Lärche, Kiefer	Eiche
0.11 W/mK	0.13 W/mK	0.18 W/mK

Rahmen U _f -Werte [W/m ² K]			
Oben	1.139	1.255	1.504
Seitlich	1.139	1.255	1.504
Unten	1.238	1.371	1.664

mittlerer Rahmen U _f -Wert [W/m ² K]		
1.164	1.284	1.544

	Randverbund	Psi-Werte	U _w -Werte [W/m ² K]		
U _g = 0.7 W/m ² K	Edelstahl	0.060	1.0	1.1	1.1
	ACS+ / Themix TX pro (Fa. Ensinger)	0.042	0.97	1.0	1.1
	TGI Spacer M (Fa. Technoform)	0.042	0.97	1.0	1.1
	ACSplus / ECO-Spacer Super Spacer TriSeal	0.030	0.94	0.98	1.1
	Multitech G (Fa. Rolltech)	0.029	0.93	0.98	1.1
U _g = 0.6 W/m ² K	Edelstahl	0.060	0.94	0.99	1.1
	ACS+ / Themix TX pro (Fa. Ensinger)	0.042	0.90	0.94	1.0
	TGI Spacer M (Fa. Technoform)	0.042	0.90	0.94	1.0
	ACSplus / ECO-Spacer Super Spacer TriSeal	0.030	0.87	0.91	1.0
	Multitech G (Fa. Rolltech)	0.029	0.87	0.91	1.0
U _g = 0.5 W/m ² K	Edelstahl	0.060	0.88	0.92	1.0
	ACS+ / Themix TX pro (Fa. Ensinger)	0.042	0.84	0.88	0.97
	TGI Spacer M (Fa. Technoform)	0.042	0.84	0.88	0.97
	ACSplus / ECO-Spacer Super Spacer TriSeal	0.030	0.81	0.85	0.94
	Multitech G (Fa. Rolltech)	0.029	0.81	0.85	0.94
U _g = 0.4 W/m ² K	Edelstahl	0.060	0.81	0.86	0.95
	ACS+ / Themix TX pro (Fa. Ensinger)	0.042	0.77	0.81	0.91
	TGI Spacer M (Fa. Technoform)	0.042	0.77	0.81	0.91
	ACSplus / ECO-Spacer Super Spacer TriSeal	0.030	0.74	0.79	0.88
	Multitech G (Fa. Rolltech)	0.029	0.74	0.78	0.88

Grenzwert KfW Uw ≤ 0.95 W/m²K

Grenzwert Uw ≤ 0.80 W/m²K

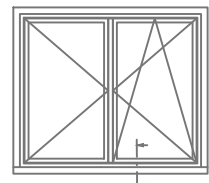
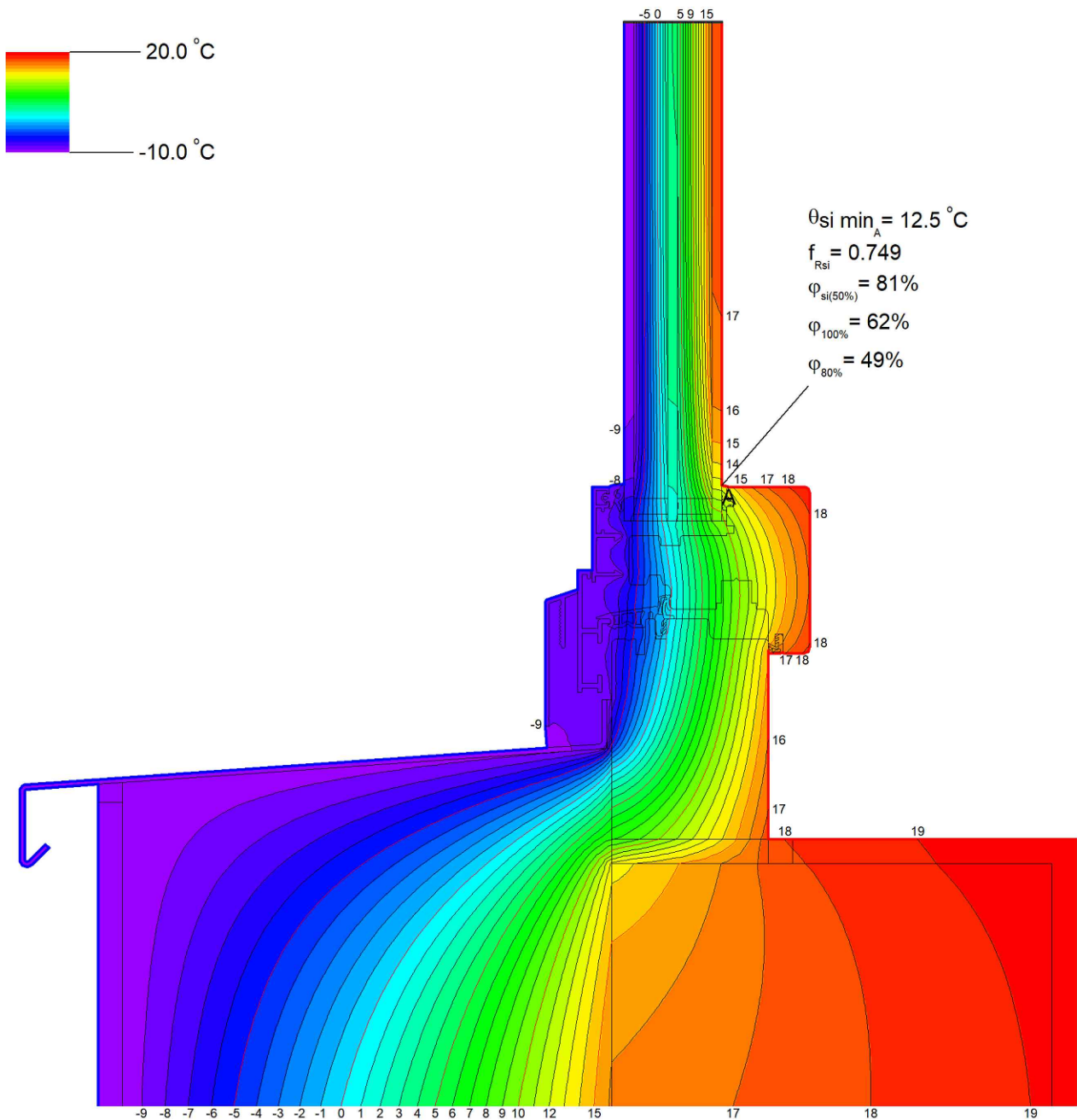
U_f-Berechnungen nach EN ISO 10077-2:2017

U_w-Berechnungen nach EN ISO 10077-1:2017

Isothermenverlauf, Anschluss unten, Kompaktfassade

Isolierglas 4/14/4/14/4, $U_g = 0.7 \text{ W/m}^2 \text{ K}$,
 Temperatur Aussen -10°C ,

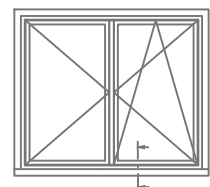
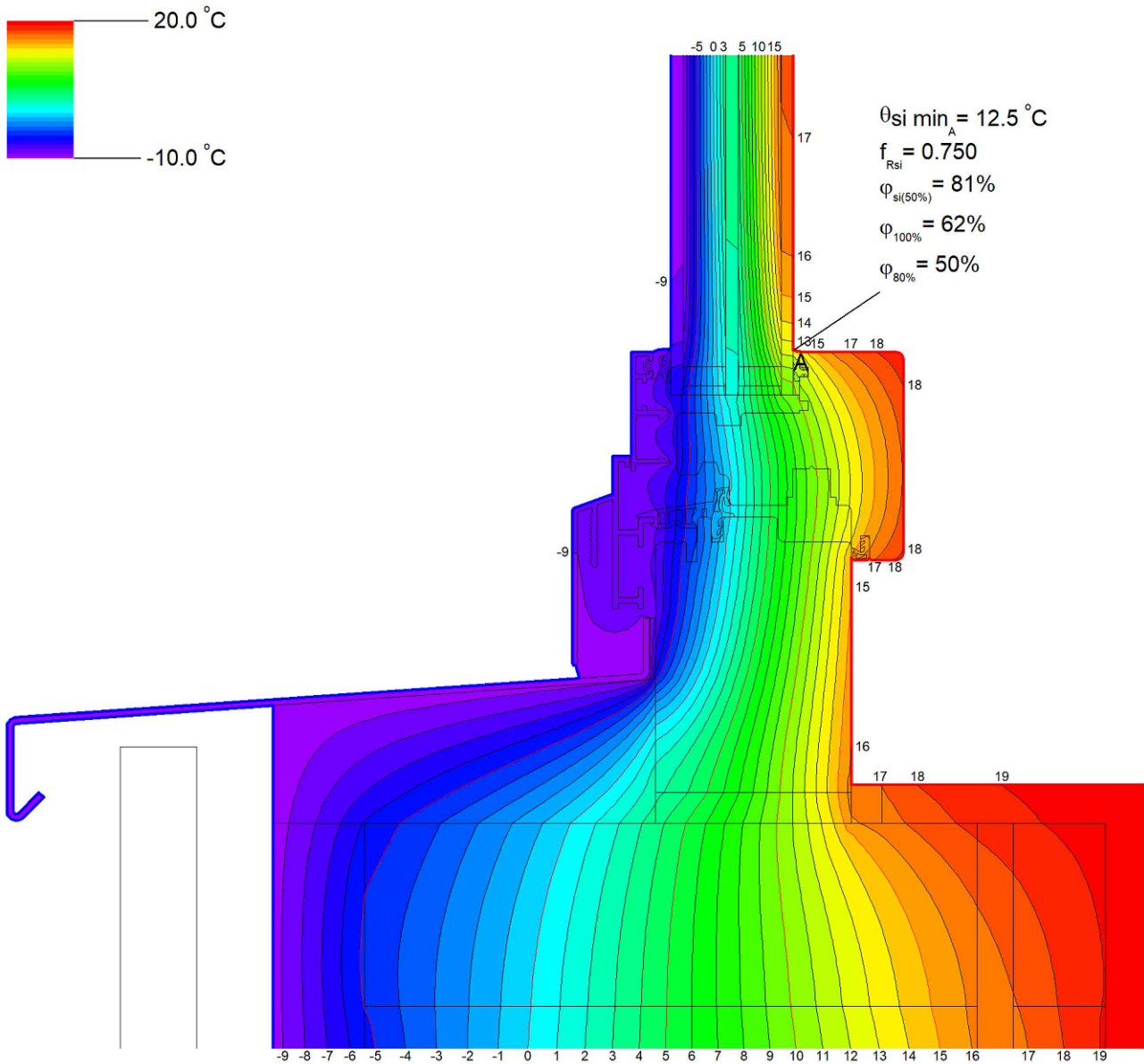
Randverb. Super Spacer TriSeal
 Innen $+20^\circ\text{C}$



Isothermenverlauf, Anschluss unten, Holzbaufassade

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 Temperatur Aussen -10°C ,

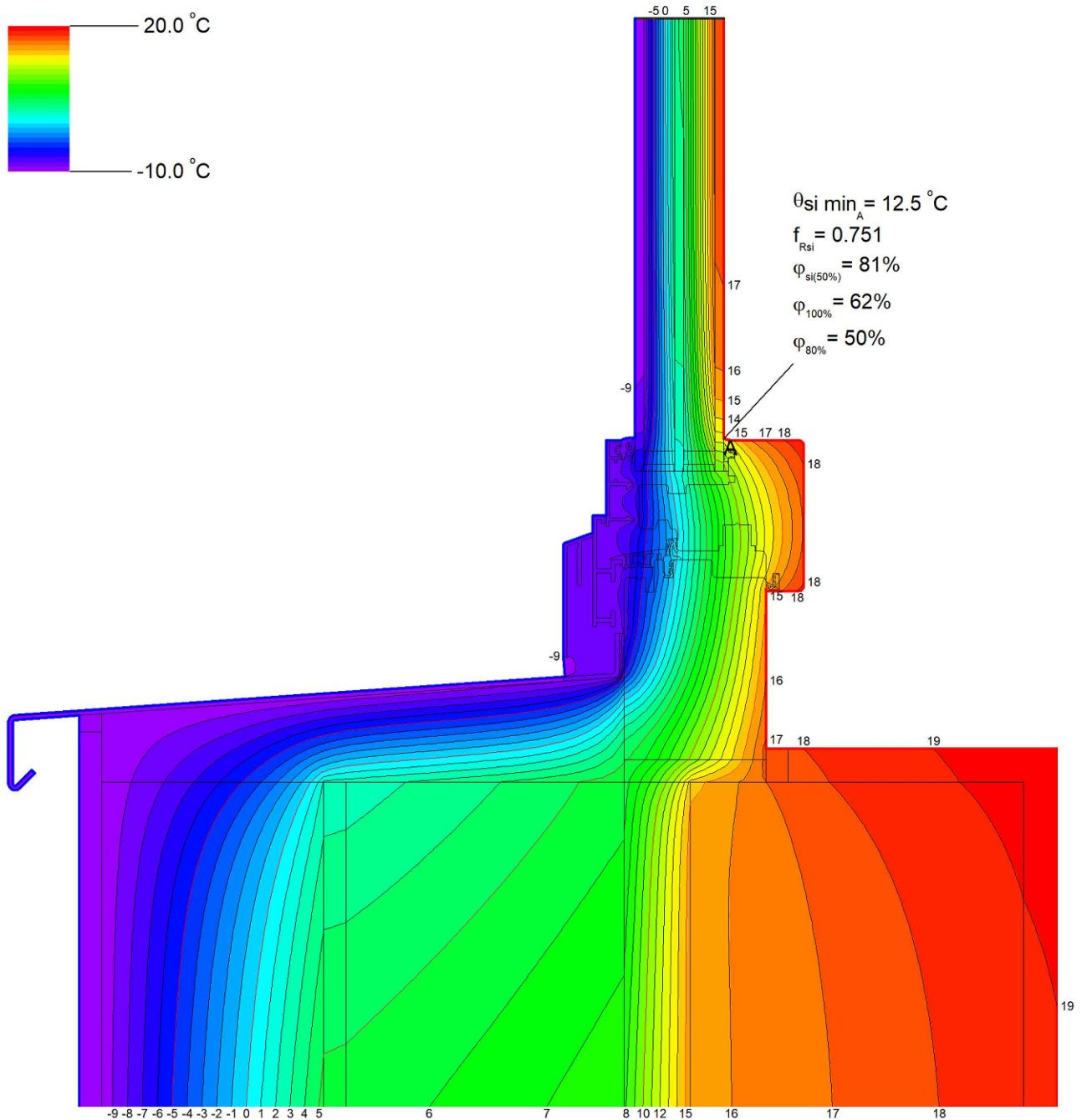
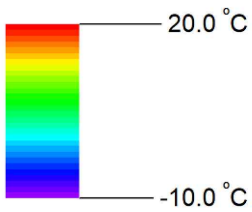
Randverb. Super Spacer TriSeal
 Innen $+20^\circ\text{C}$



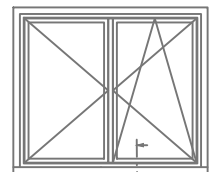
Isothermenverlauf, Anschluss unten, Altbaufassade

Isolierglas 4/14/4/14/4, $U_g = 0.7 \text{ W/m}^2 \text{ K}$,
 Temperatur Aussen -10°C ,

Randverb. Super Spacer TriSeal
 Innen $+20^\circ\text{C}$



$\theta_{si \min_A} = 12.5^\circ\text{C}$
 $f_{Rsi} = 0.751$
 $\phi_{si(50\%)} = 81\%$
 $\phi_{100\%} = 62\%$
 $\phi_{80\%} = 50\%$



windura classic 1:1
 18.03.2025 sav
 H126410 B C 5



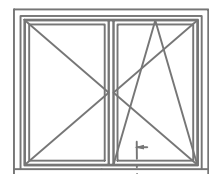
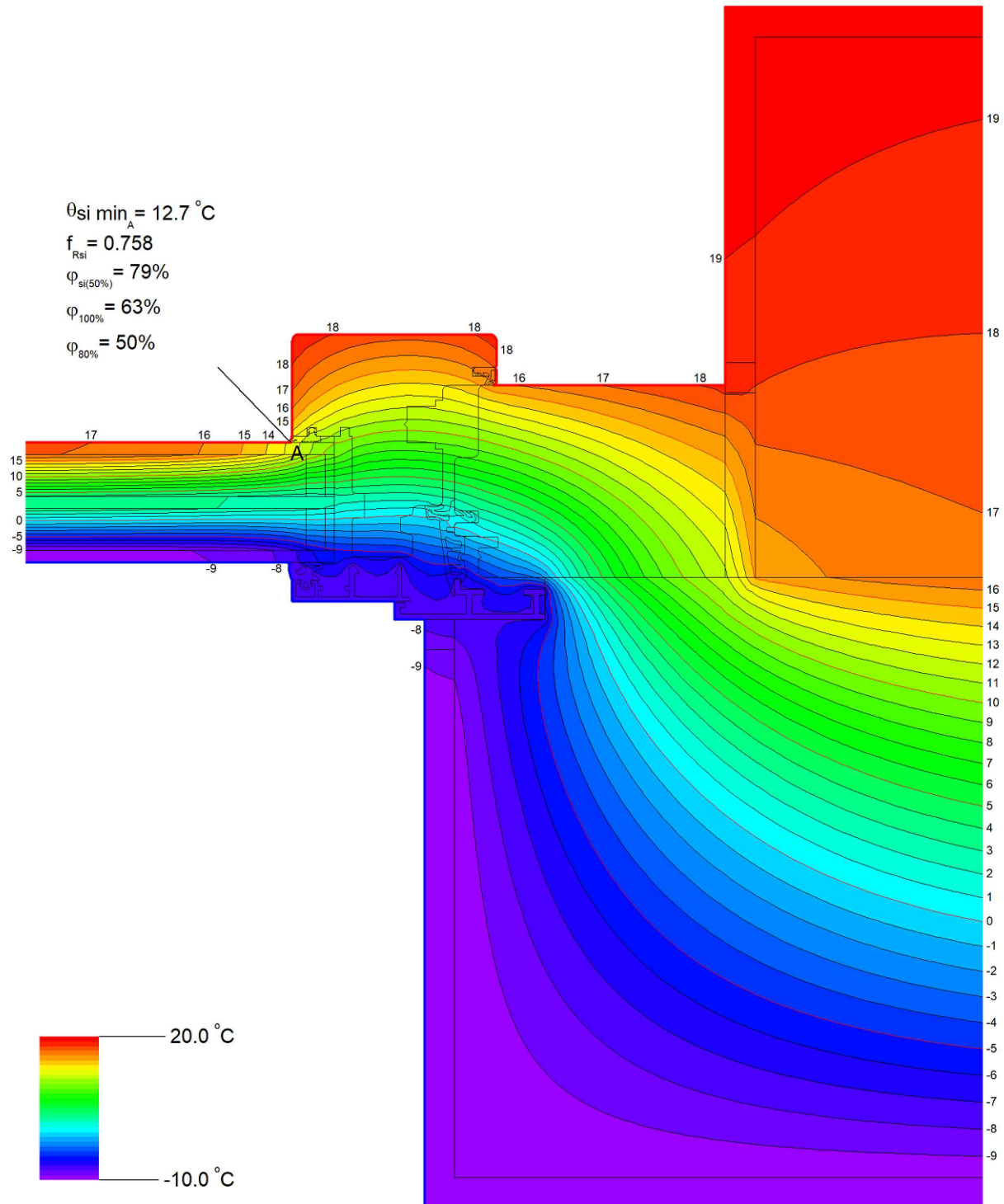
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 www.ernstschweizer.ch
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Isothermenverlauf, Anschluss seitlich, Kompaktfassade

Isolierglas 4/14/4/14/4, $U_g = 0.7 \text{ W/m}^2 \text{ K}$,
 Temperatur Aussen -10°C ,

Randverb. Super Spacer TriSeal
 Innen $+20^\circ\text{C}$



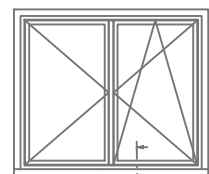
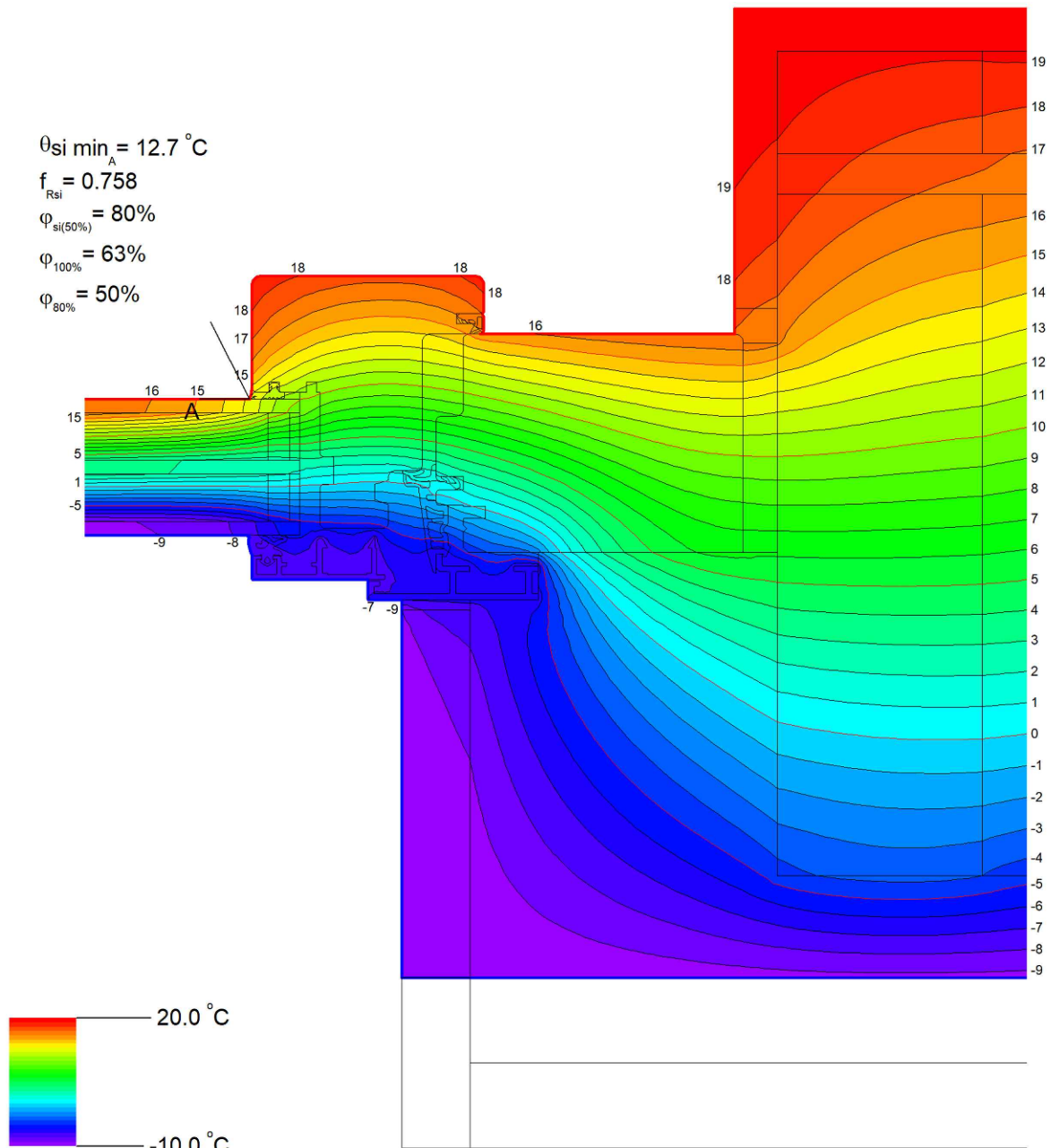
windura classic 1:1
 18.03.2025 sav
 H126410 B A 8

Isothermenverlauf, Anschluss seitlich, Holzbaufassade

Isolierglas 4/14/4/14/4, $U_g = 0.7 \text{ W/m}^2 \text{ K}$,
 Temperatur Aussen -10°C ,

Randverb. Super Spacer TriSeal
 Innen $+20^\circ\text{C}$

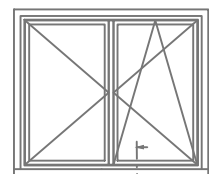
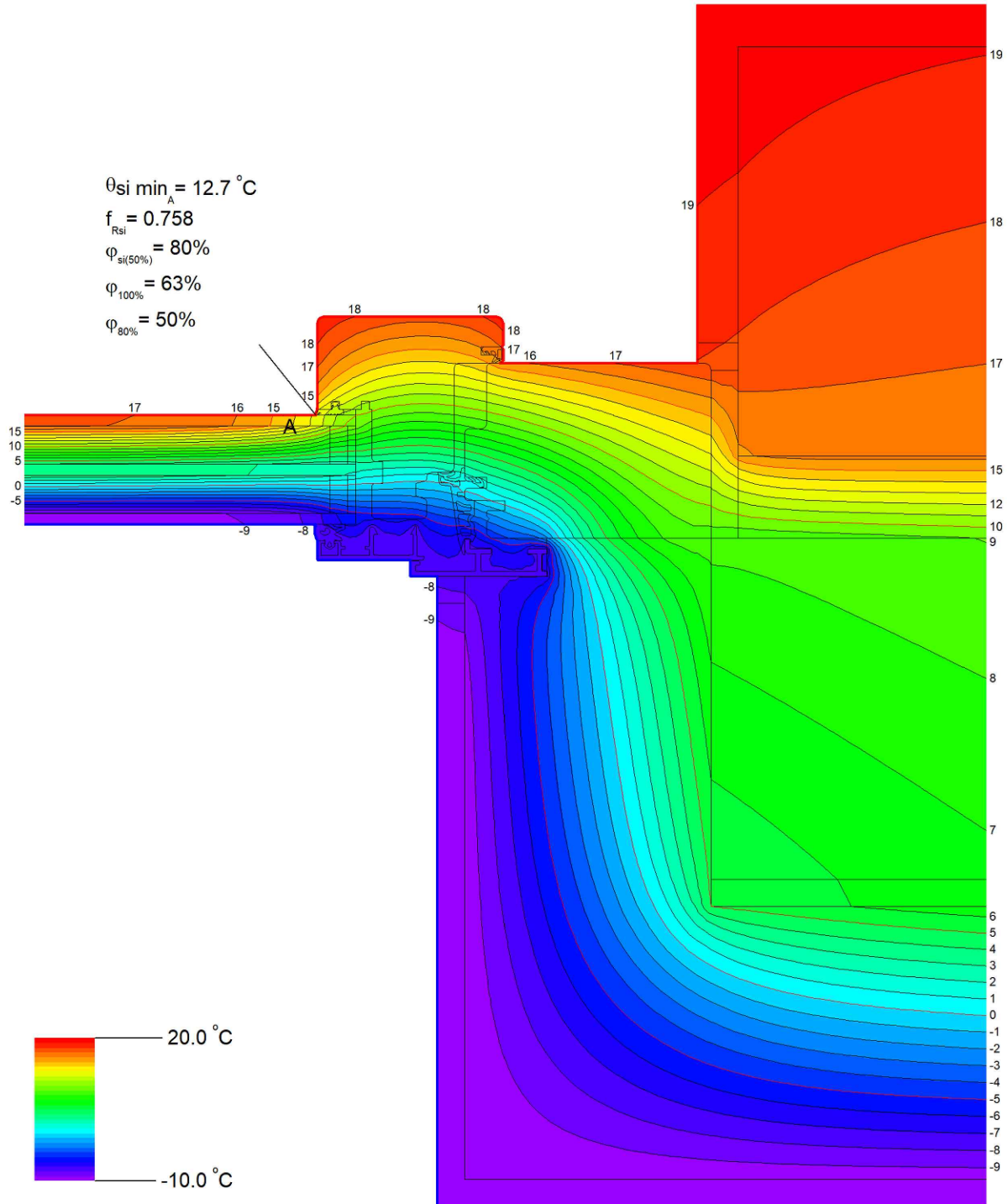
$\theta_{si \text{ min}} = 12.7^\circ\text{C}$
 $f_{Rsi} = 0.758$
 $\varphi_{si(50\%)} = 80\%$
 $\varphi_{100\%} = 63\%$
 $\varphi_{80\%} = 50\%$



Isothermenverlauf, Anschluss seitlich, Altbaufassade

Isolierglas 4/14/4/14/4, $U_g = 0.7 \text{ W/m}^2 \text{ K}$,
 Temperatur Aussen -10°C ,

Randverb. Super Spacer TriSeal
 Innen $+20^\circ\text{C}$

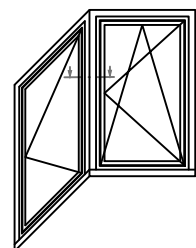
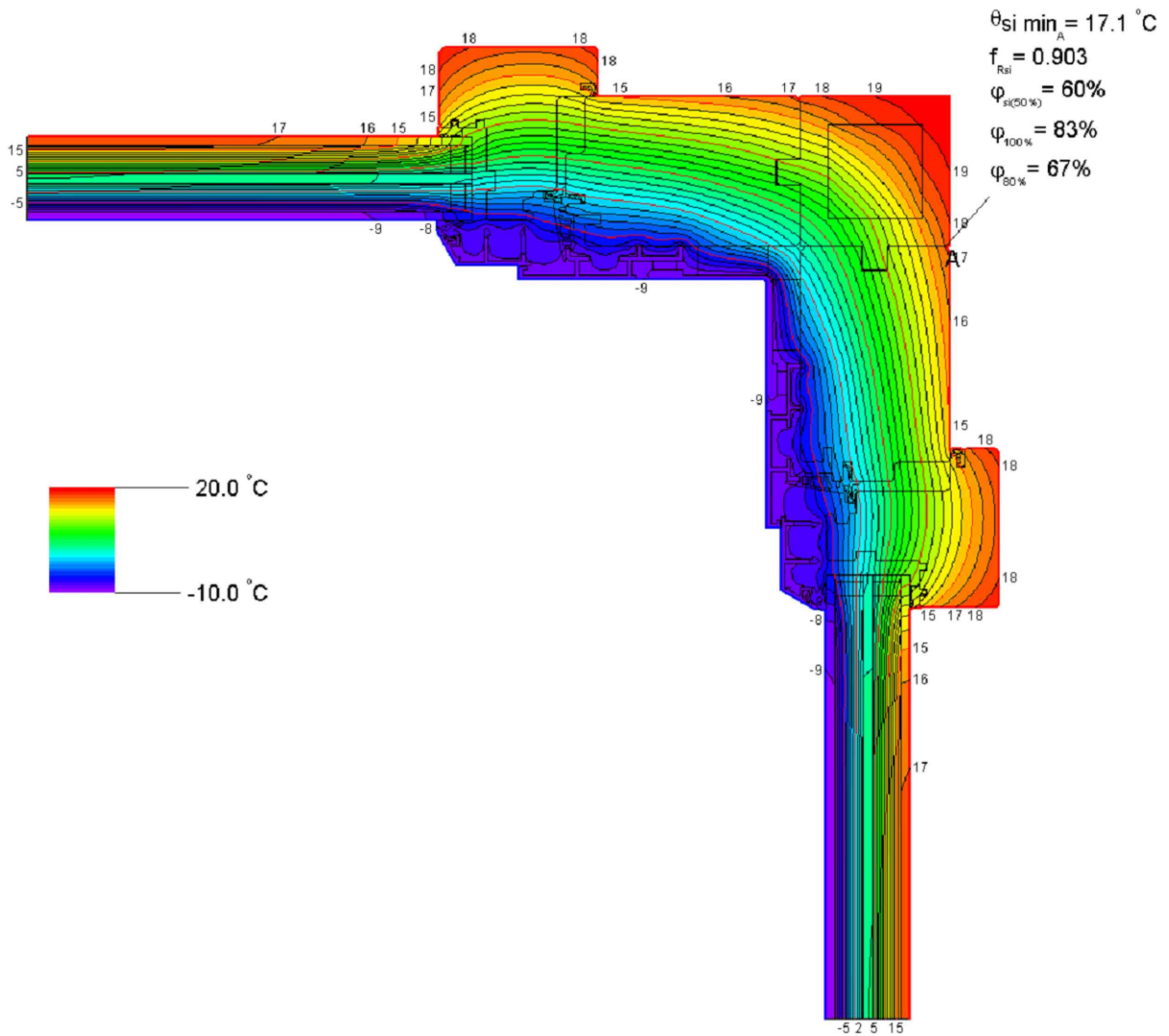


windura classic 1:1
 18.03.2025 sav
 H126410 B C 8

Isothermenverlauf, Innenecke 64mm

Isolierglas 4/12/4/12/4, $U_g = 0.7 \text{ W/m}^2 \text{ K}$,
 Temperatur Aussen -10°C ,

Randverb. Super Spacer TriSeal
 Innen $+20^\circ\text{C}$



Isothermenverlauf, Aussenecke 64mm

Isolierglas 4/12/4/12/4, $U_g = 0.7 \text{ W/m}^2 \text{ K}$,
 Temperatur Aussen -10°C ,

Randverb. Super Spacer TriSeal
 Innen $+20^\circ\text{C}$

