New features

1. **New report design,** more precise calculation also for oblique and round via construction references.

2. **Calculation of doublings** with better Uf-value via accessory articles. An accessory article is created. Here you can enter an individual Uf value. The article calculates the area of the doublings. (It is not possible to enter several Uf-values if there are different doublings in one position).

3. **Automatic generation of a PDF file**. This can be saved in the project directory and can thus be viewed directly in the Klaes project. If desired, also as an XML file including window drawings for integration into your own website.

4. **New calculation of the glazingbars** via Psigb and Lgb depending on the distance to the pane.

5. **Calculate alternatives:** Because alternatives cannot be transferred to the quantity lists, you can copy the document for the U-value printout, switch the item as non-alternative and place 2 underscores in front of the item number (e.g. "__1"). The software recognises this item as an alternative and does not include it in the total amount, but still prints it out!

6. **Save Uf-values and combinations directly** via the print preview in the daten.ini.

7. **Spacer exchange:** printout with other spacer - selection box user-dependent. Before printing, a dialogue box opens for the selection of another spacer. If none is selected, the value entered in the Klaes glass master data is used for calculation.

8. **Detailed output per position** with calculation and legend by mouse click on the position in the preview.

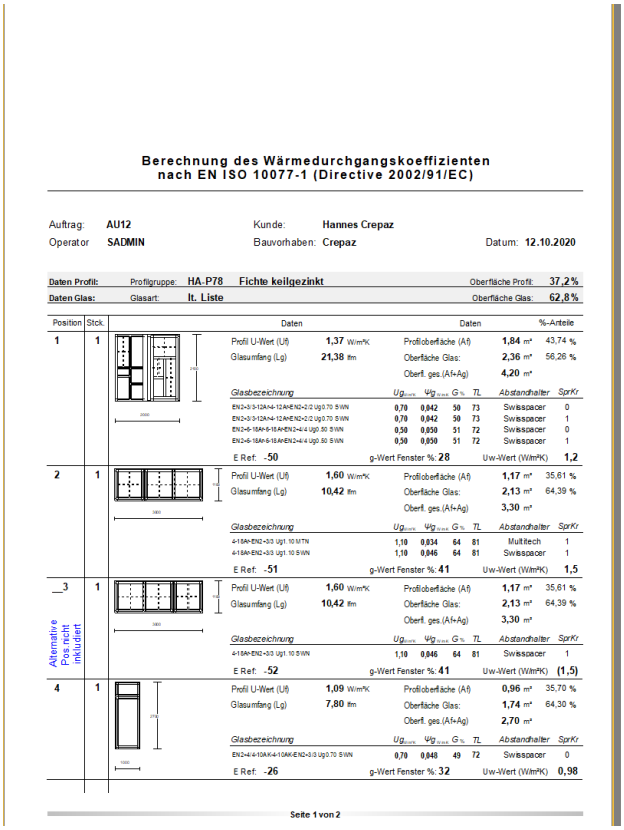
9. **Help/FAQ by clicking on the footer**. A page opens with all settings. The data.ini can be opened and edited directly here. There is a link to the Infissoft homepage where you can download the remote maintenance tool. In addition, information on all settings can be emailed with one click.

10. **Grouping of wood species** to softwood, hardwood. Several wood species codes can be combined in order not to have to enter all wood species in the profile combinations.

11. **For position numbers, all possible characters** that previously caused an error can now be used.

12. **For PVC, the Uw value can now be managed in Klaes** - this can be transferred to Infissoft Uwert 5.0. Uf is calculated automatically because Klaes does not output it.

13. **Ew calculation depending on the position or compass direction of the window.**



Berechnung des Wärmedurchgangskoeffizienten nach EN ISO 10077-1 (Directive 2002/91/EC)

Auftrag: AU12 Kunde: Hannes Crepaz
Operator SADMIN Bauvorhaben: Crepaz Datum: 12.10.2020

Daten Profil: Profilgruppe: HA-P78 Fichte keilgezinkt Oberfläche Profil: 37,2%
Daten Glas: Glasart: lt. Liste Oberfläche Glas: 62,8%

Position	Stck.	Daten		Daten		%-Anteile
1	1	Profil U-Wert (Uf)	1,37 W/m²K	Profiloberfläche (Af)	1,84 m²	43,74 %
		Glasumfang (Lg)	21,38 lfm	Oberfläche Glas:	2,36 m²	56,26 %
				Oberfl. ges.(Af+Ag)	4,20 m²	

Glasbezeichnung	$Ug_{konv.}$	$\Psi g_{konv.}$	G %	TL	Abstandhalter	SprKr
EN2+3/3-12Ar4-12Ar/EN2+2/2 Ug0.70 SWN	0,70	0,042	50	73	Swisspacer	0
EN2+3/3-12Ar4-12Ar/EN2+2/2 Ug0.70 SWN	0,70	0,042	50	73	Swisspacer	1
EN2+6-18Ar6-18Ar/EN2+4/4 Ug0.50 SWN	0,50	0,050	51	72	Swisspacer	0
EN2+6-18Ar6-18Ar/EN2+4/4 Ug0.50 SWN	0,50	0,050	51	72	Swisspacer	1

E Ref: -50 g-Wert Fenster %: 28 Uw-Wert (W/m²K) 1,2

2	1	Profil U-Wert (Uf)	1,60 W/m²K	Profiloberfläche (Af)	1,17 m²	35,61 %
		Glasumfang (Lg)	10,42 lfm	Oberfläche Glas:	2,13 m²	64,39 %
				Oberfl. ges.(Af+Ag)	3,30 m²	

Glasbezeichnung	$Ug_{konv.}$	$\Psi g_{konv.}$	G %	TL	Abstandhalter	SprKr
4-16Ar-EN2+3/3 Ug1.10 MTN	1,10	0,034	64	81	Multitech	1
4-16Ar-EN2+3/3 Ug1.10 SWN	1,10	0,046	64	81	Swisspacer	1

E Ref: -51 g-Wert Fenster %: 41 Uw-Wert (W/m²K) 1,5

_3	1	Profil U-Wert (Uf)	1,60 W/m²K	Profiloberfläche (Af)	1,17 m²	35,61 %
		Glasumfang (Lg)	10,42 lfm	Oberfläche Glas:	2,13 m²	64,39 %
				Oberfl. ges.(Af+Ag)	3,30 m²	

Alternative Pos.recht inkludiert

Glasbezeichnung	$Ug_{konv.}$	$\Psi g_{konv.}$	G %	TL	Abstandhalter	SprKr
4-16Ar-EN2+3/3 Ug1.10 SWN	1,10	0,046	64	81	Swisspacer	1

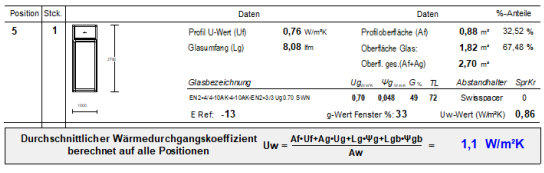
E Ref: -52 g-Wert Fenster %: 41 Uw-Wert (W/m²K) (1,5)

4	1	Profil U-Wert (Uf)	1,09 W/m²K	Profiloberfläche (Af)	0,96 m²	35,70 %
		Glasumfang (Lg)	7,80 lfm	Oberfläche Glas:	1,74 m²	64,30 %
				Oberfl. ges.(Af+Ag)	2,70 m²	

Glasbezeichnung	$Ug_{konv.}$	$\Psi g_{konv.}$	G %	TL	Abstandhalter	SprKr
EN2+4/4-10AK+4-10AK/EN2+3/3 Ug0.70 SWN	0,70	0,048	49	72	Swisspacer	0

E Ref: -26 g-Wert Fenster %: 32 Uw-Wert (W/m²K) 0,98

Seite 1 von 2



Position	Stck.	Daten		Daten		%-Anteile
5	1	Profil U-Wert (Uf)	0,76 W/m²K	Profiloberfläche (Af)	0,88 m²	32,52 %
		Glasumfang (Lg)	8,08 lfm	Oberfläche Glas:	1,82 m²	67,48 %
				Oberfl. ges.(Af+Ag)	2,70 m²	

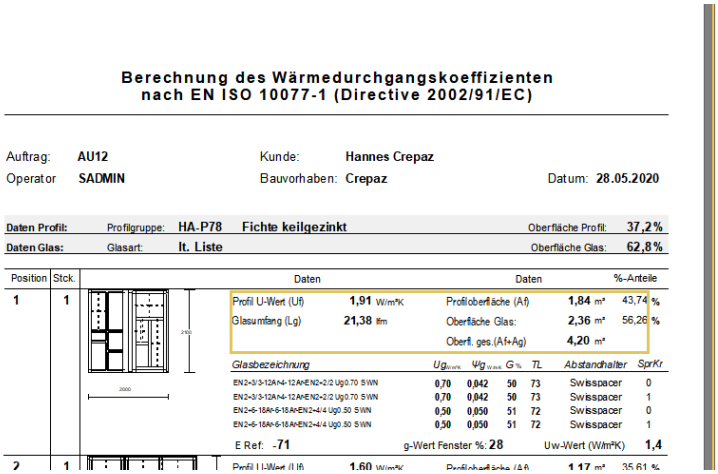
Glasbezeichnung	$Ug_{konv.}$	$\Psi g_{konv.}$	G %	TL	Abstandhalter	SprKr
EN2+4/4-10AK+4-10AK/EN2+3/3 Ug0.70 SWN	0,70	0,048	49	72	Swisspacer	0

E Ref: -13 g-Wert Fenster %: 33 Uw-Wert (W/m²K) 0,86

Durchschnittlicher Wärmedurchgangskoeffizient berechnet auf alle Positionen $Uw = \frac{Af \cdot Uf + Ag \cdot Ug + Lg \cdot \Psi g + Lgb \cdot \Psi gb}{Aw} = 1,1\ W/m^2K$

Seite 2 von 2

- Detailed output: When moving the mouse over the field, a yellow frame appears.



Berechnung des Wärmedurchgangskoeffizienten nach EN ISO 10077-1 (Directive 2002/91/EC)

Auftrag: AU12 Kunde: Hannes Crepaz
Operator SADMIN Bauvorhaben: Crepaz Datum: 28.05.2020

Daten Profil: Profilgruppe: HA-P78 Fichte keilgezinkt Oberfläche Profil: 37,2%
Daten Glas: Glasart: lt. Liste Oberfläche Glas: 62,8%

Position	Stck.	Daten		Daten		%-Anteile
1	1	Profil U-Wert (Uf)	1,91 W/m²K	Profiloberfläche (Af)	1,84 m²	43,74 %
		Glasumfang (Lg)	21,38 lfm	Oberfläche Glas:	2,36 m²	56,26 %
				Oberfl. ges.(Af+Ag)	4,20 m²	

Glasbezeichnung	$Ug_{konv.}$	$\Psi g_{konv.}$	G %	TL	Abstandhalter	SprKr
EN2+3/3-12Ar4-12Ar/EN2+2/2 Ug0.70 SWN	0,70	0,042	50	73	Swisspacer	0
EN2+3/3-12Ar4-12Ar/EN2+2/2 Ug0.70 SWN	0,70	0,042	50	73	Swisspacer	1
EN2+6-18Ar6-18Ar/EN2+4/4 Ug0.50 SWN	0,50	0,050	51	72	Swisspacer	0
EN2+6-18Ar6-18Ar/EN2+4/4 Ug0.50 SWN	0,50	0,050	51	72	Swisspacer	1

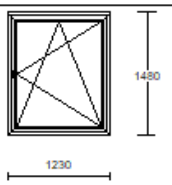
E Ref: -71 g-Wert Fenster %: 28 Uw-Wert (W/m²K) 1,4

2	1	Profil U-Wert (Uf)	1,60 W/m²K	Profiloberfläche (Af)	1,17 m²	35,61 %

Clicking on it a new page with the individual values and a description of the calculation method. ***This page will not be printed!***

Calculationdata

Positions Nr.	1	Window width mm	1230	Window height mm	1480
Glas areal m²	1,282	Glas omkreds m	4,692	Profile group	PP
Total areal	1,8204	Wood type code	1	Weight	68
Profil areal m²	0,5384	Crossbars	0	Surcharge for bars	
Sunligth	196,4	Degreehour	90,36	Direction	FEN_MITTEN
Uf profile	1,23	Ew kWh/m²	0,0	Uf value from INI	99,00
g-value Window	0,3732	Uw Window W/m²K	0,81	Uw (Klaes) W/m²K	0,81



A_{Elem}	m²	*total area of the element (frame)*
A_{SashEL}	m²	*Total sash area of the element (frame)*
$A_{GlassEL}$	m²	*Total glass surface of the element (frame)*
Af_{Elem}	m²	*Total profile area of the element (frame)*
A_{Sash}	m²	*Sash area*
AQ_{SashEL}	%	*Sash area proportion related to the element = ASash/ASashEL*100*
Afu_{Kombi}	m²	*Profile area of the lower node from the INI combination (profile widthINI*Sash width)*
Ufu_{Kombi}	W/m²K	*Uf Value of the lower node from the combination in the INI file*
Af_{Kombi}	m²	*Weighted profile area of the field = AfElem*AQSashEL/100*
Uf_{Kombi}	W/m²K	*Uf value from the combination in the INI file*
$AfUf_{Kombi}$	W/K	*Weighted total Af *Uf value of the field (AfKombi-AfuKombi)*UfKombi+Afu*UfuKombi*
Uf_{Elem}	W/m²K	*Weighted Uf value of the element = (Σ AfUfKombi)/AfElem*
Ag	m²	*Single light-glass surface*
Lg	m	*Perimeter - Glass-Light*
Ψg	W/mK	*Psi value of the spacer from the Klaes glass master data*
Ug	W/m²K	*Ug value of the glass from the Klaes database*
Lgb	m	*Glass bars length*
Ψgb	W/mK	*Psi value of the glass bar from the INI depending on the distance to the glass*
g	%	*G-value Energy transmittance glass*
gw	%	*G-value energy transmittance window (Σ(glass light area*G)/area window)*
I		*Sunligth incidence factor from INI file depending on the direction of the window*
D	°h	*Degree hours from INI file depending on the direction of the window*
Ew	kWh/m²	*Energy window reference I * gw - D * Uw (solar incidence * G-value window - degree hours * Uw window)*

Frame

Elem	System	Description	B/H	A_{Elem}	A_{SashEL}	$A_{GlassEL}$	Af_{Elem}	Uf_{Elem}	$AfUf_{Elem}$
1	76101-PP10	76 mm - Profil nr. 76101	1230x1480	1,82	1,620	1,282	0,538	1,28	0,689

Sash

	Feld	System	Description	B/H	A_{Sash}	AQ_{Sash}	Af_{Kombi}	Uf_{Kombi}	$AfUf_{Kombi}$	Afu_{Kombi}	Ufu_{Kombi}	$AfuUfu_{Kombi}$
INI	1	76200-DK	Profil nr.76200 - Indadgående	1154x1404	1,620	100,0	0,538	1,28	0,69	0,000	0,00	0,00
									0,689			**0,000**

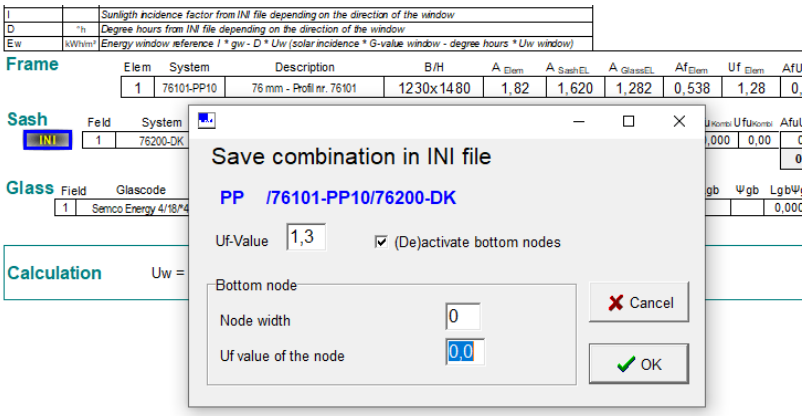
Glass

Field	Glascode	Ag	Ug	AgUg	Spacer	Lg	Ψg	LgΨg	Glassbars	Lgb	Ψgb	LgbΨg	G
1	Semco Energy 4/18/*4	1,282	0,50	0,641	Chromatech ultra F	4,692	0,037	0,174				0,000	53
		1,282		**0,641**				**0,174**					

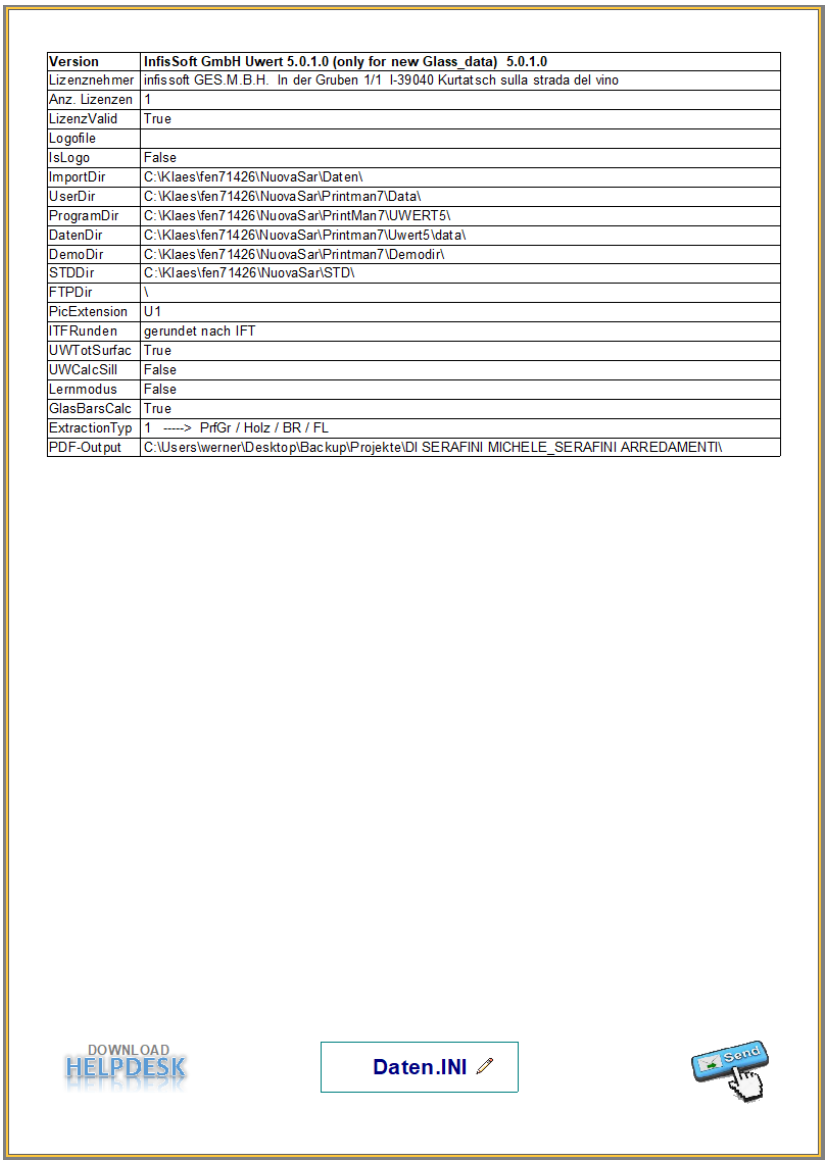
Calculation

$$Uw = \frac{AfUf + AfuUfu + AgUg + LgΨg + LgbΨgb}{Aw} = \frac{0,689 + 0,000 + 0,641 + 0,174 + 0,000}{1,820} = 0,81\ W/m^2K$$

If the user name is in the Default.ini for Admin= xx (attention: upper/lower case), then buttons are displayed for this user. By clicking on these, the combination and the corresponding U-value can be saved directly in the INI file (e.g. for thresholds).



Clicking on the page footer in the Uvalue report displays the support page.



Here you can download the remote maintenance tool, send an email with all settings to Infissoft or open the data.ini directly to make settings.