

Evidence of Performance

Calculation of thermal transmittance

Test Report

No. 16-003857-PR01
(PB-K20-06-en-01)



Basis *)

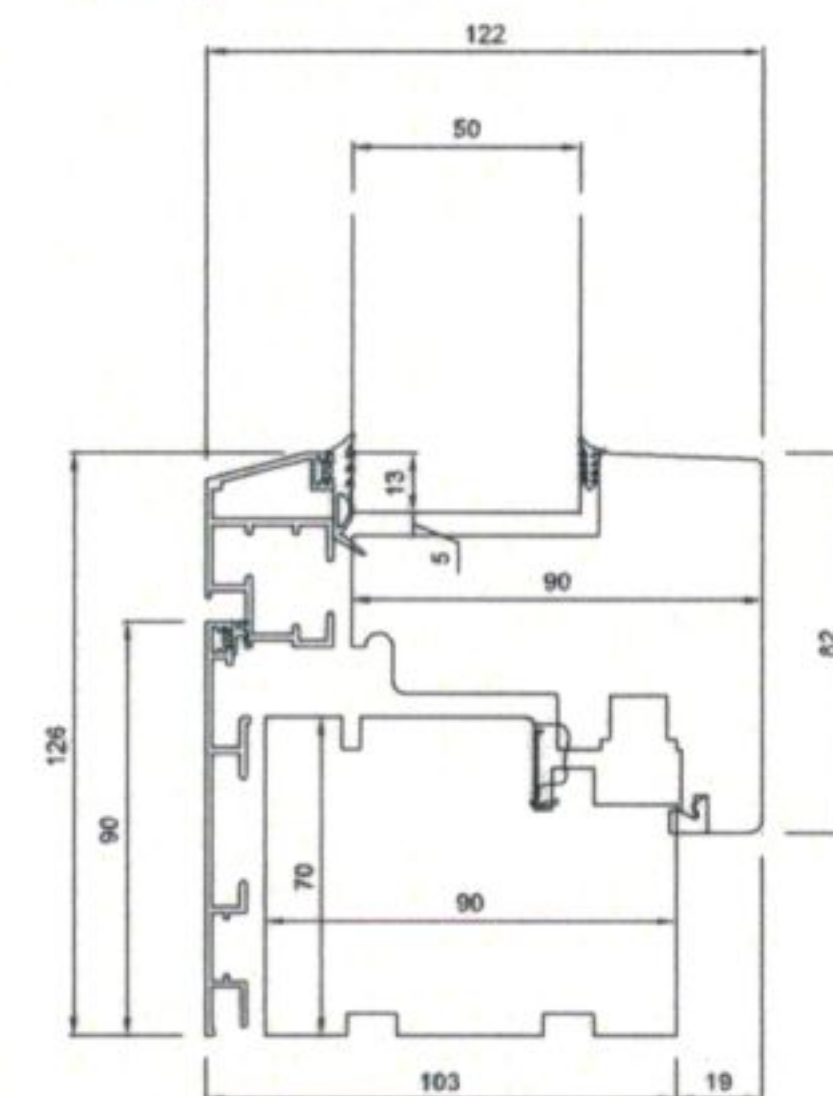
EN ISO 10077-2:2012-02

SG 06-verpflichtend
NB-CPD/SG06/11/083 2011-09

*) Correspond/s to the national standard/s
(e.g. DIN EN)

Representation

Test specimen PK01



Further drawings see annex

Product

Wood-aluminium profiles
Profile combination: Casement-frame

Designation Windows system ALD 100 / ALD 120

Performance-relevant product details

Material **spruce / aluminium alloys**; Surface treatment **painted / powder coated or painted**; View width B in mm **126**; Casement; Item number **PTD-K90 / PTD-K68**; width x thickness in mm **82 x 100 to 122**; Frame; Item number **PTD-S90 / PTD-S68**; width x thickness in mm **90 x 81 to 103**; Glazing; Total thickness in mm **50 / 24**; Configuration in mm **6/16/6/16/6 / 4/16/4**; Thermal transmittance U_g in $W/(m^2K)$ **0.5 / 1.1 (as specified by client)**; Spacer; System designation **TGI Spacer (Two-Box model acc. to BF-Datasheet Nr. W9 / 2013)**; Replacement panel; Edge cover in mm **13**; Thickness in mm **50/24**

Special features **-/-**

Results

Calculation of thermal transmittance and linear thermal transmittance, according to EN ISO 10077-2:2012-02



$$U_f = 0,96 \text{ to } 1,2 \text{ W/(m}^2\text{K)}$$

$$\Psi_g = 0,041 \text{ to } 0,042 \text{ W/(mK)}$$

Instructions for use

The results obtained can be used as evidence in accordance with the above basis.

Validity

The data and results given relate solely to the tested and described specimen. This test does not allow any statement to be made on further characteristics of the present structure regarding performance and quality.

Notes on publication

The ift-Guidance Sheet "Conditions and Guidance for the Use of ift Test Documents" applies. The document may only be published in full.

Contents

The report contains a total of 7 page/s and annexe (3 pages).

ift Rosenheim
26.01.2017

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Test Report No. 16-003857-PR01 (PB-K20-06-en-01) dated 26.01.2017

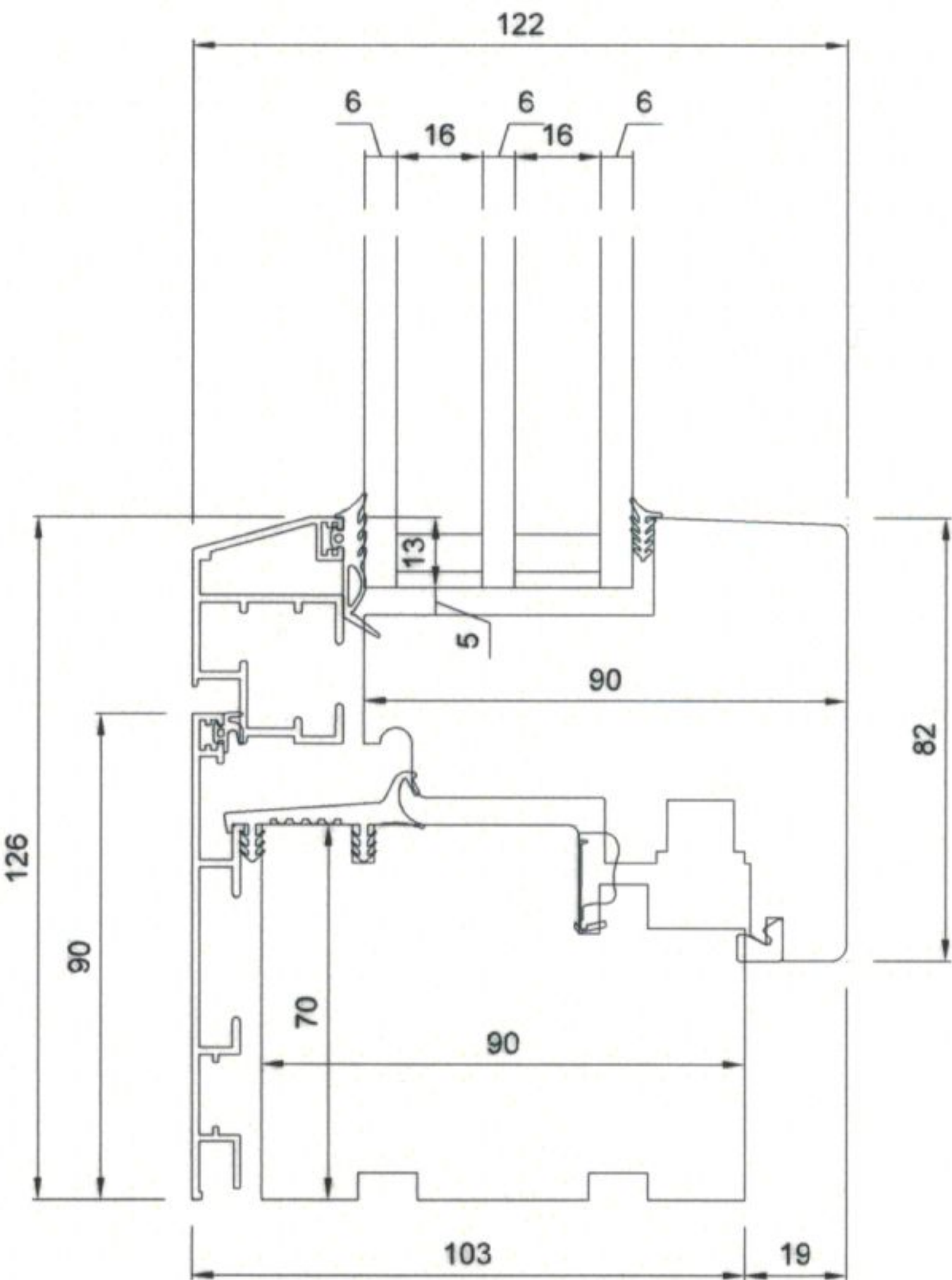


Fig 3: Cross section test specimen PK02 / PK03

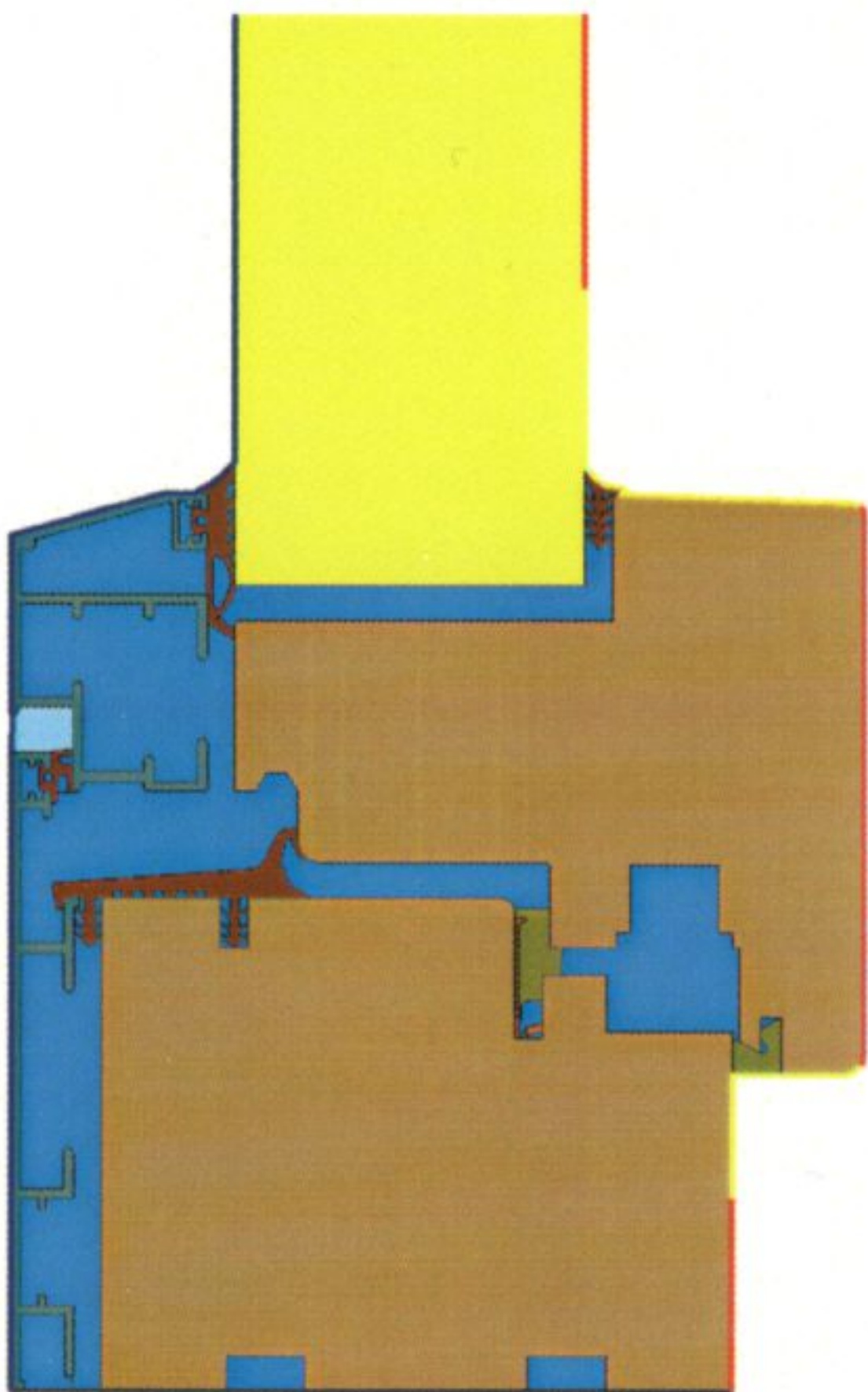


Fig 4: Simulation model test specimen PK02 - U_f -calculation

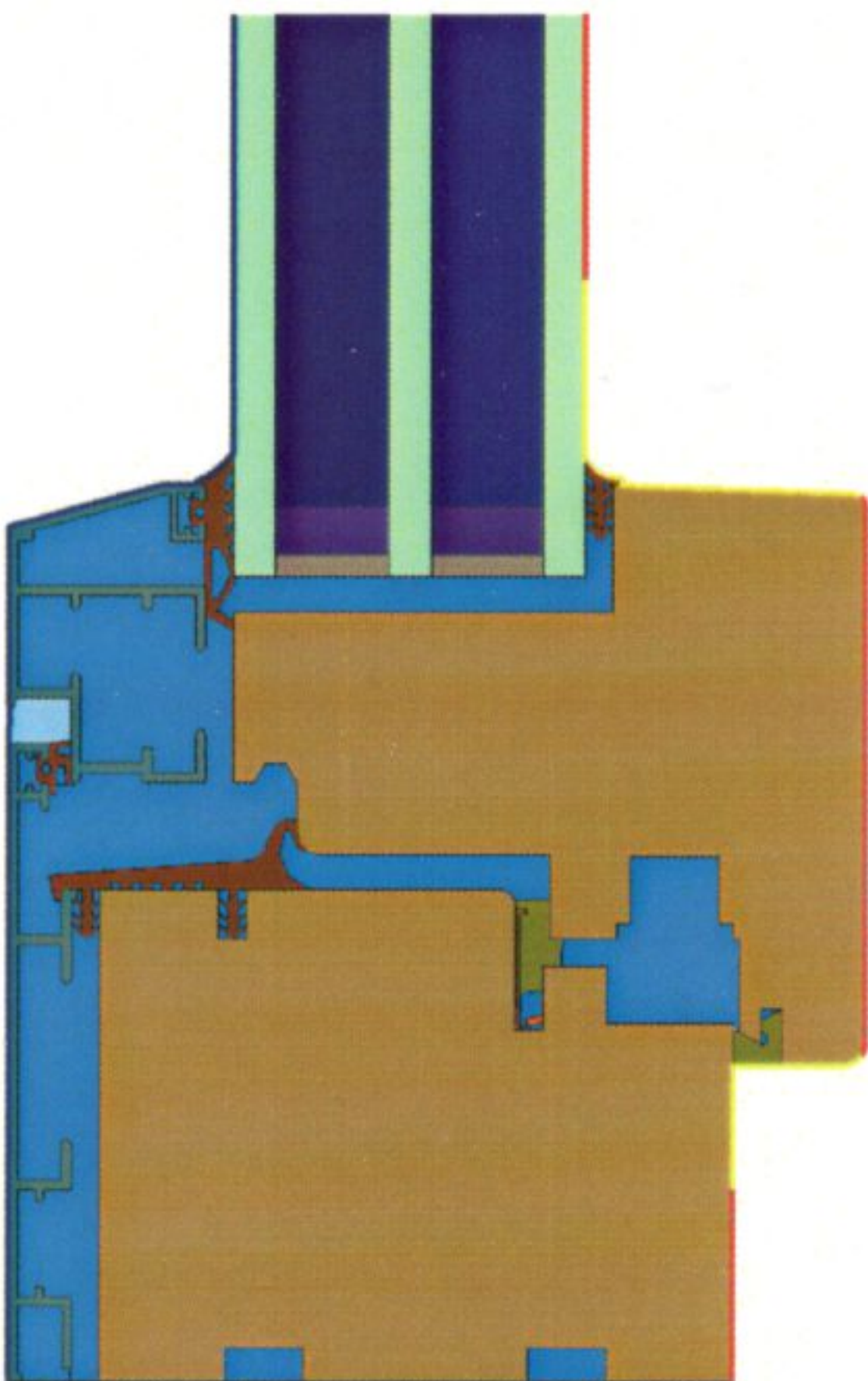


Fig 5: Simulation model test specimen PK03 - Ψ -calculation

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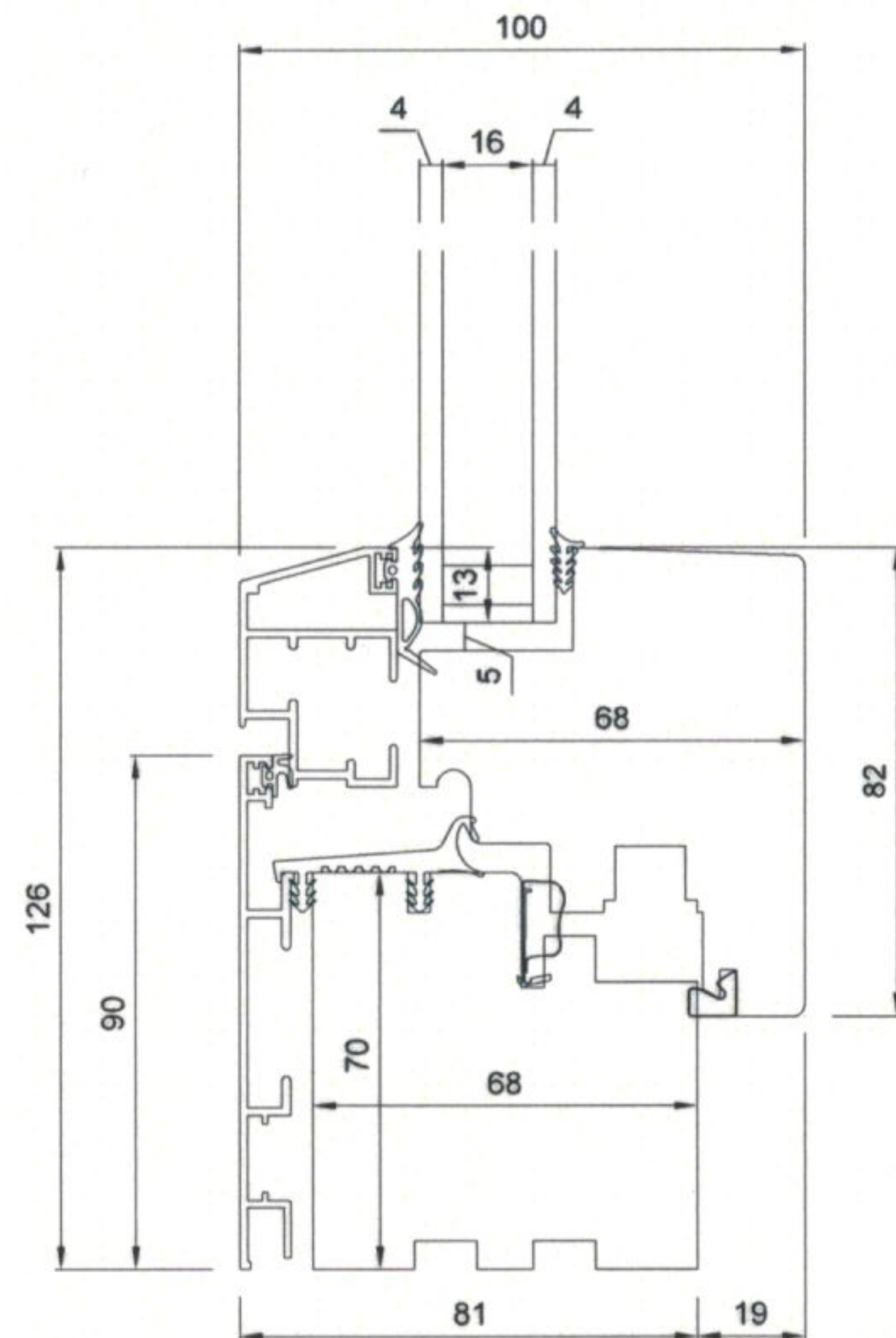


Fig 6: Cross section test specimen PK04 / PK05

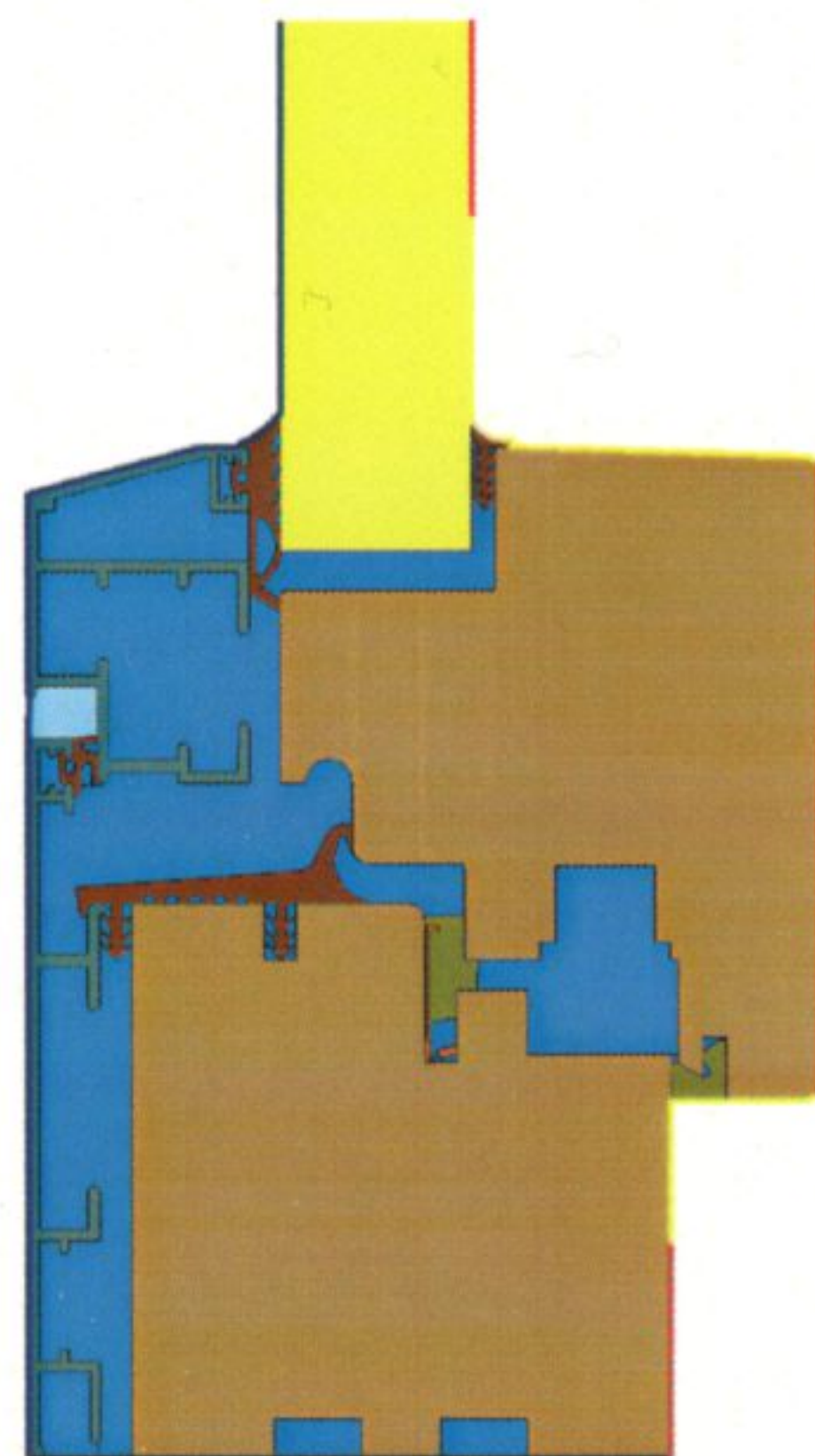


Fig 7: Simulation model test specimen PK04 - U_f -calculation

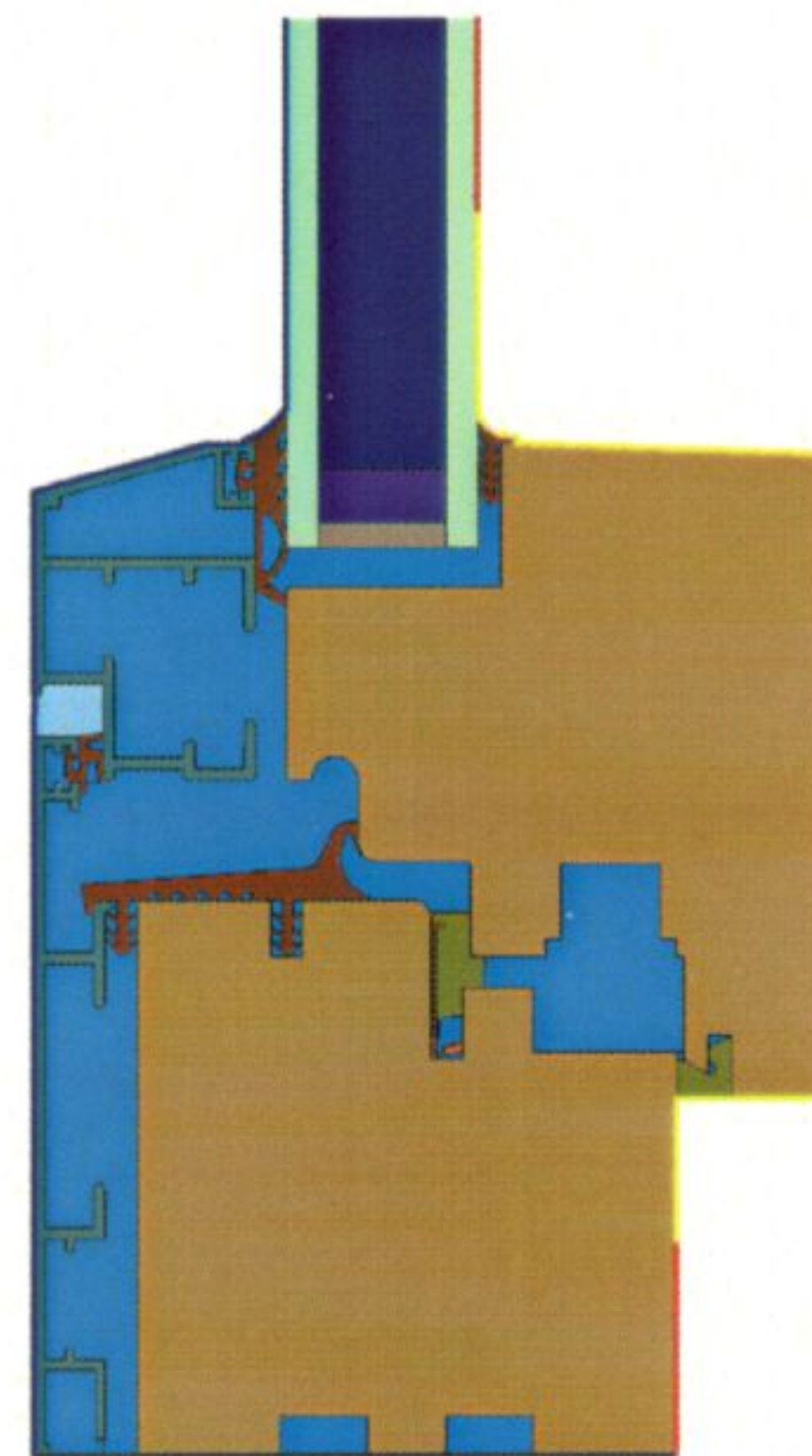
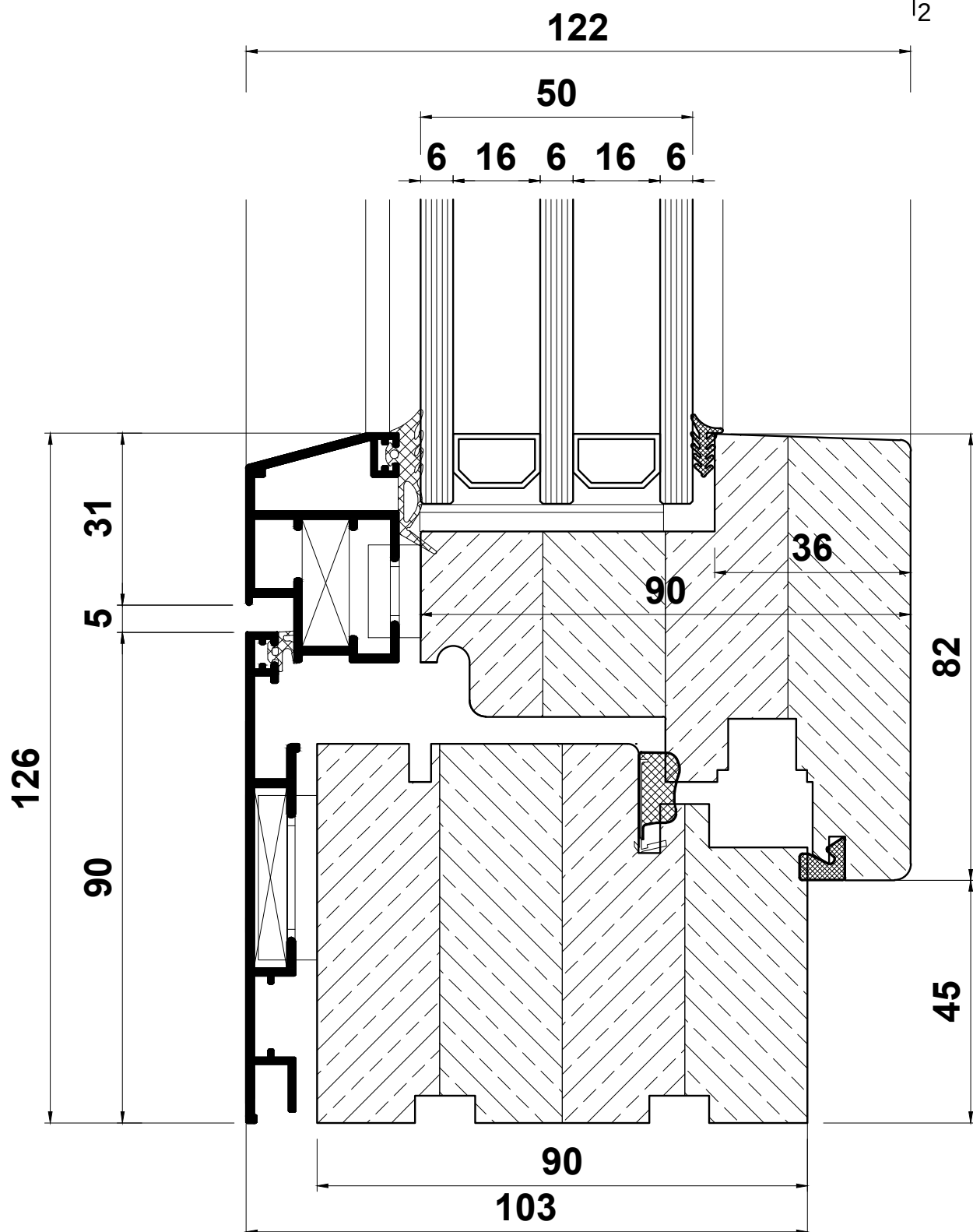
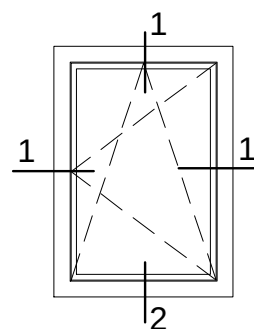
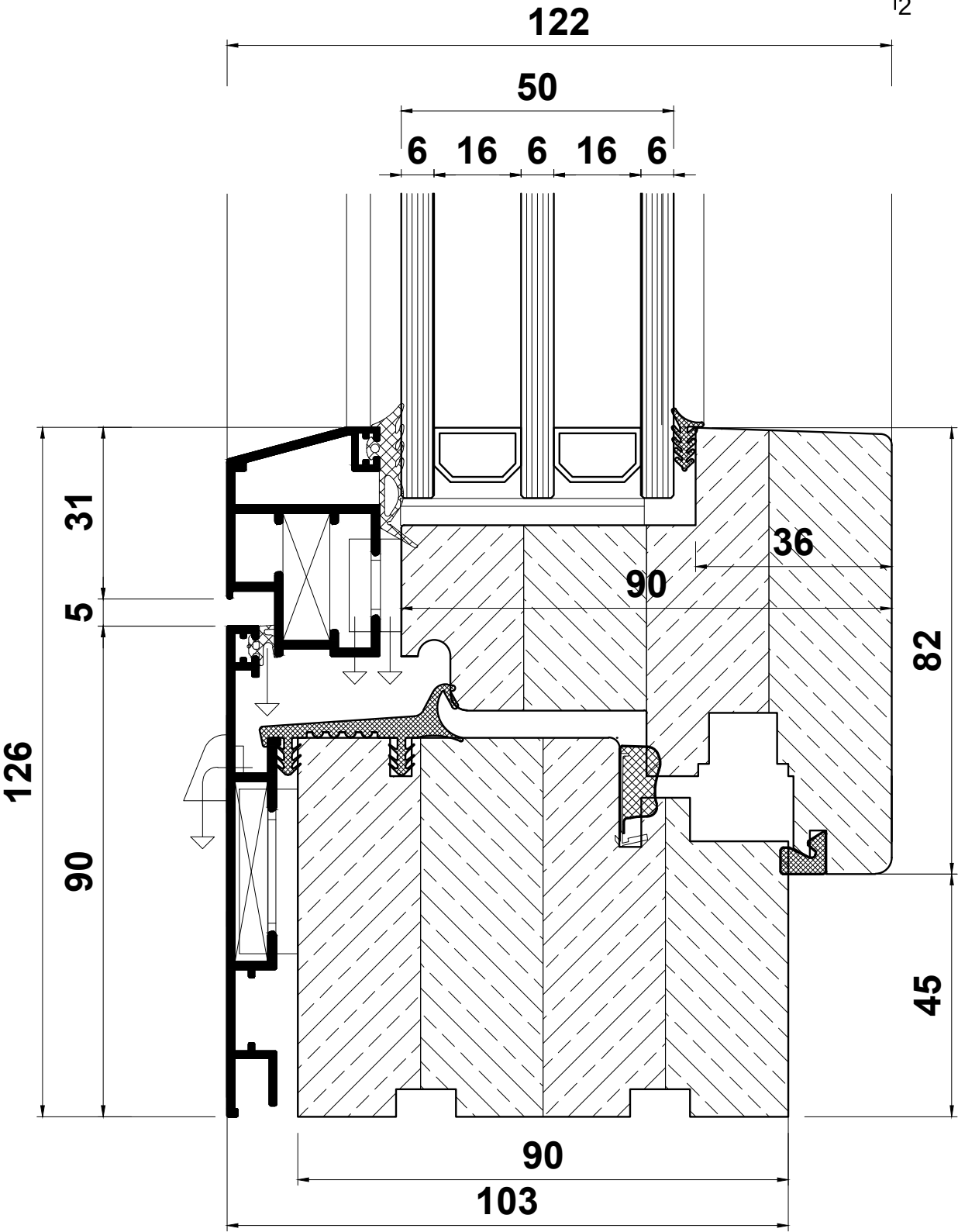
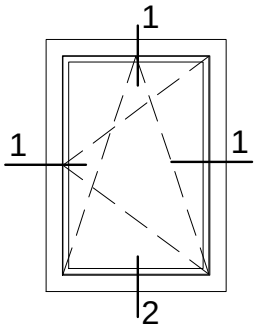


Fig 8: Simulation model test specimen PK05 - Ψ -calculation

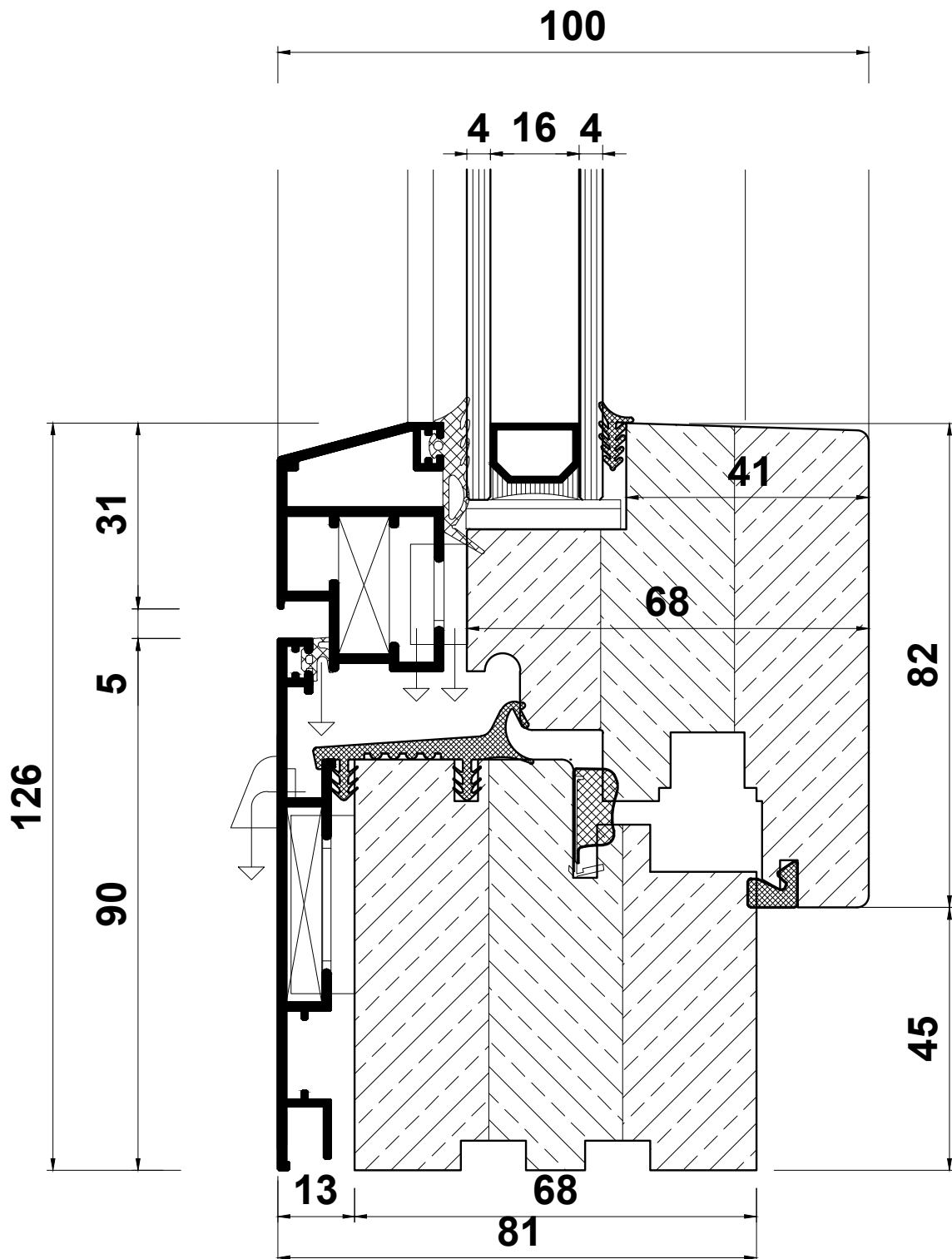
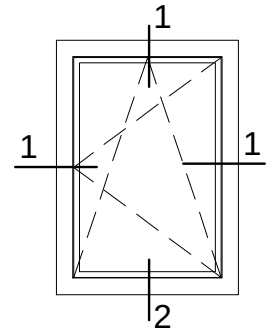
ALD 120



ALD 120

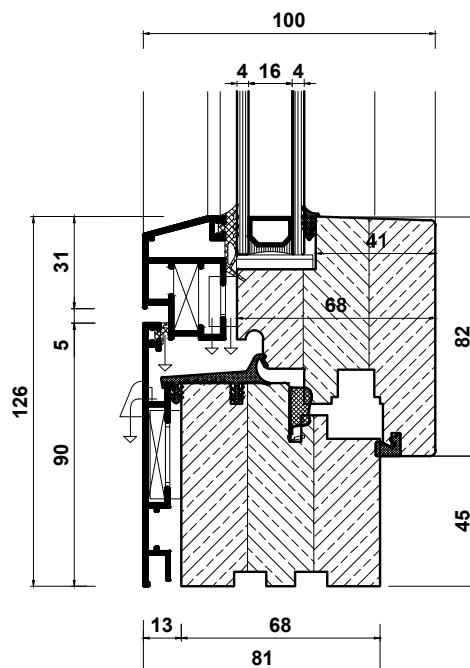
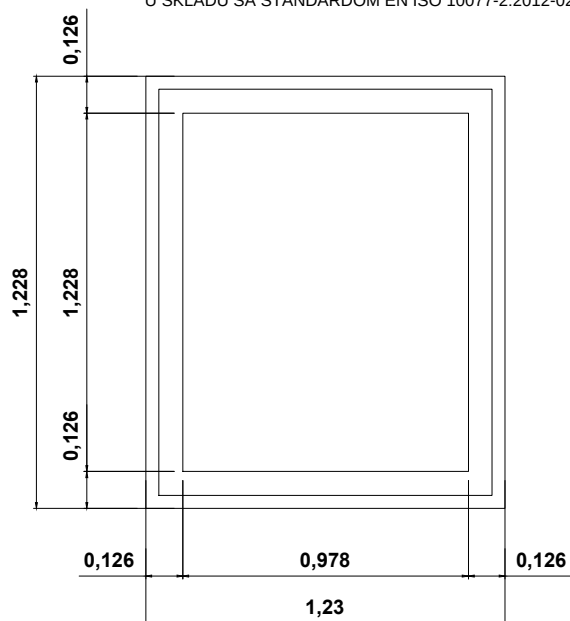


ALD 100



Sistem ALD 100

DIMENZIJE PROZORA ZA PRORAČUN U_w
U SKLADU SA STANDARDOM EN ISO 10077-2:2012-02



REZULTATI ISPITIVANJA LABORATORIJE ift ROSENHEIM
U SKLADU SA STANDARDOM EN ISO 10077-2:2012-02

$U_f = 1,2 \text{ W/m}^2\text{K}$

$\Psi_g = 0,042 \text{ W/mK}$

$A_w = 1,23 \times 1,48 = 1,82 \text{ m}^2$

$A_f = (1,23 \times 1,48) - (0,978 \times 1,228) = 0,6200 \text{ m}^2$

$A_g = A_w - A_f = 1,2 \text{ m}^2$

$L_\psi = 0,978 \times 2 + 1,228 \times 2 = 4,412 \text{ m}$

FORMULA ZA IZRAČUNAVANJE KOEFICIJENTA PROLAZA TOPLOTE
KOEFICIJENTA PROLAZA TOPLOTE KROZ PROZOR (U_w)

$$U_w = \frac{A_f \times U_f + A_g \times U_g + L_\psi \times \Psi_g}{A_w}$$

A_w	POVRŠINA PROZORA	(m ²)
A_f	POVRŠINA RAMA	(m ²)
A_g	POVRŠINA STAKLA	(m ²)
L_ψ	OBIM KONTAKTA RAM-STAKLO	(m)
U_w	KOEFICIJENT TOPLOTNOG PROLAZA PROZORA	W/(m ² K)
U_f	KOEFICIJENT TOPLOTNOG PROLAZA RAMA	W/(m ² K)
U_g	KOEFICIJENT TOPLOTNOG PROLAZA STAKLA	W/(m ² K)
Ψ_g	LINEARNI KOEFICIJENT TOPLOTNOG PROLAZA	W/(mK)

U_w

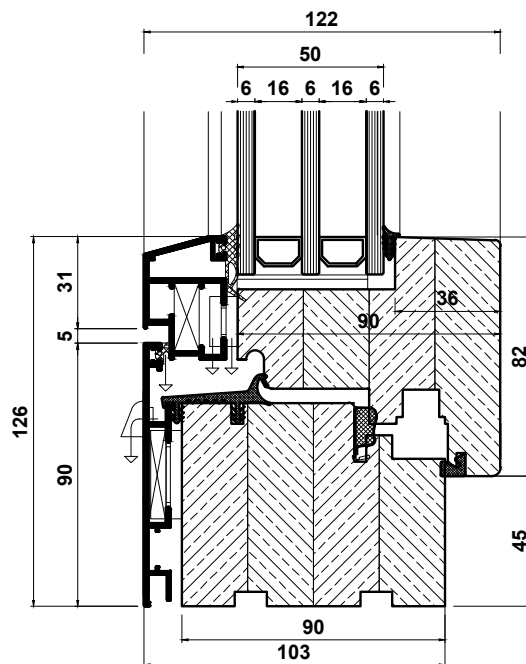
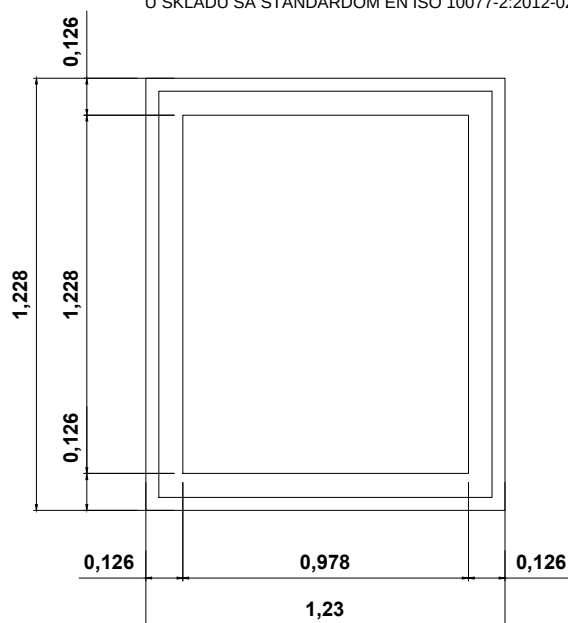
U ZAVISNOSTI OD VRSTE STAKLO PAKETA

		$W/(m^2K)$	
		U_g	U_w
Dvoslojno ostakljenje		1,1	1,24
		1,0	1,17
Troslojno ostakljenje		0,7	0,97

	Naručilac	Objekat	
	Naziv crteža	Sistem	
	PRORAČUN KOEFICIJENTA PROLAZA TOPLOTE		ALD 100

Sistem ALD 120

DIMENZIJE PROZORA ZA PRORAČUN U_w
U SKLADU SA STANDARDOM EN ISO 10077-2:2012-02



REZULTATI ISPITIVANJA LABORATORIJE ift ROSENHEIM
U SKLADU SA STANDARDOM EN ISO 10077-2:2012-02

$U_f = 0,96 \text{ W/m}^2\text{K}$

$\Psi_g = 0,041 \text{ W/mK}$

$A_w = 1,23 \times 1,48 = 1,82 \text{ m}^2$

$A_f = (1,23 \times 1,48) - (0,978 \times 1,228) = 0,6200 \text{ m}^2$

$A_g = A_w - A_f = 1,2 \text{ m}^2$

$L_\psi = 0,978 \times 2 + 1,228 \times 2 = 4,412 \text{ m}$

FORMULA ZA IZRAČUNAVANJE KOEFICIJENTA PROLAZA TOPLOTE
KOEFICIJENTA PROLAZA TOPLOTE KROZ PROZOR (U_w)

$$U_w = \frac{A_f \times U_f + A_g \times U_g + L_\psi \times \Psi_g}{A_w}$$

A_w	POVRŠINA PROZORA	(m ²)
A_f	POVRŠINA RAMA	(m ²)
A_g	POVRŠINA STAKLA	(m ²)
L_ψ	OBIM KONTAKTA RAM-STAKLO	(m)
U_w	KOEFICIJENT TOPLOTNOG PROLAZA PROZORA	W/(m ² K)
U_f	KOEFICIJENT TOPLOTNOG PROLAZA RAMA	W/(m ² K)
U_g	KOEFICIJENT TOPLOTNOG PROLAZA STAKLA	W/(m ² K)
Ψ_g	LINEARNI KOEFICIJENT TOPLOTNOG PROLAZA	W/(mK)

U_w

U ZAVISNOSTI OD VRSTE STAKLO PAKETA

W/(m ² K)		
Troslojno ostakljenje	U_g	U_w
	0.5	0.75
	0.6	0.82
	0.7	0.89

	Naručilac	Objekat
	Naziv crteža	Sistem
	PRORAČUN KOEFICIJENTA PROLAZA TOPLOTE	ALD 120