

Test Report



Number	23-001387-PR02 (PB-A01-06-en-01)
Owner (Client)	ASAS Alüminyum San.ve Tic.A.S. Rüzgarlı Bahçe Mah., Kumlu Sok. No.2 Asas Is Merkezi, 34810 Kavacık-Beykoz ISTANBUL Türkiye
Product	Single leaf window – Hollow chamber profiles - plastic
Designation	System: 76 mm standart
Details	Overall dimensions (W x H) 1230 mm x 1480 mm, Material Polyvinylchloride unplasticized (PVC-U); Projected width 121 mm; Structural depth 76 mm; Thickness of infill 44 mm; Edge cover of infill 23 mm; Reinforcement material Steel, galvanized; Casement: Designation 7622E; Reinforcement: Designation DS01045; Frame: Designation 7602E; Reinforcement: Designation DS01045; Glazing: dimensions (B x H) 988 mm x 1238 mm; Configuration in mm 4/16/4/16/4; Thermal transmittance U_g in $W/(m^2K)$ 0.5 (as specified by client); Spacer: Type „Nanobar“ (according to ift-test report 23-001387-PR01 (PB-K20-06-en-01))
Special features	
Order	Calculation of thermal transmittance
Contents	The test report contains a total of 5 pages and annex (1 page).
Note	The test report shall only be published in its unabbreviated form. The “Guidance Sheet for the Use of ift Test Documents” applies.

1 Execution

1.1 Sampling and product description

The following details have been presented to ift:

Sampler: ASAS Alüminyum San.ve Tic.A.S., 34810 Kavacik-Beykoz ISTANBUL (Türkiye)
Sampling date: 22.02.2023
Evidence: ift Rosenheim did not receive a sampling report.
Description: For product identification the specimen tested is described/represented in the Annex. Material specifications, item numbers and other company-specific descriptions are details provided by the client and will be checked for plausibility by ift.
Test specimen no.: 23-001387-PK01

1.2 Basic documents *) of the procedures

EN ISO 10077-1:2017 - 07

Thermal performance of windows, doors and shutters - Calculation of thermal transmittance – Part 1: General (ISO 10077-1:2017), corrected version 2020-02

*) and the relevant national versions, e.g. DIN EN

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1.3 Short description of the procedures

The thermal transmittance of a window was calculated by summing up the (mathematical) products of the individual overall area-related and/or linear dimensions and the associated thermal transmittances and/or linear thermal transmittances referenced to the overall area of the window.

2 Detailed results

Calculation of thermal transmittance of a building component according to EN ISO 10077-1:2017-07

Project-No.	23-001387-PR02
Basis	EN ISO 10077-1:2017-07 Thermal performance of windows, doors and shutters - Calculation of thermal transmittance - Part 1: General (ISO 10077-1:2017), corrected version 2020-02
Test equipment	Sim/020841 - ift Berechnungsprogramm
Test specimen	Single leaf window - plastic
Test specimen No.	23-001387-PK01
Date of test	13.04.2023
Test engineer in charge	Sandra Heinrichsberger
Test engineer	Sandra Heinrichsberger

Implementation of tests

Deviations	There have been no deviations from the test method as specified in the standard/basis.
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Measurement data/Results

Determination of thermal transmittance for windows U_w

Thermal transmittance of a window is based on:

$$U_w = \frac{\sum A_g U_g + \sum A_f U_f + \sum A_p U_p + \sum l_g \Psi_g + \sum l_p \Psi_p + \sum l_{gb} \Psi_{gb}}{A_g + A_f + A_p}$$

Definition	Unit	Definition	Unit
A_g Area of glazing	m ²	l_p Perimeter length of panel	m
U_g Thermal transmittance of glazing	W/(m ² K)	Ψ_p Linear thermal transmittance combination panel / frame	W/(mK)
A_f Area of frame profile	m ²	l_{gb} Length of glazing bar	m
U_f Thermal transmittance of frame profile	W/(m ² K)	Ψ_{gb} Linear thermal transmittance combination glazing / glazing bar	W/(mK)
A_p Area of panel	m ²	b_w Fixed width	m
U_p Thermal transmittance of panel	W/(m ² K)	h_w Fixed height	m
l_g Perimeter length of glazing	m	A_w Window area	m ²
Ψ_g Linear thermal transmittance combination glazing / frame	W/(mK)		

Dimensions	b_w	h_w	A_w	Frame ratio
	1.230	1.480	1.820	33%

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Calculation of thermal transmittance



Frame profiles	Frame		Source
	A_f	U_f	
Flügelrahmen-Blendrahmen oben	0.149	1.1	ift-test report 23-001387-PR01 (PB-K20-06-en-01)
Flügelrahmen-Blendrahmen seitlich	0.300	1.1	ift-test report 23-001387-PR01 (PB-K20-06-en-01)
Flügelrahmen-Blendrahmen unten	0.149	1.1	ift-test report 23-001387-PR01 (PB-K20-06-en-01)

Glazing	$l_{g/p}$	$\Psi_{g/p}$	$A_{g/p}$	$U_{g/p}$	Source
Nanobar	4.452	0.032			ift-test report 23-001387-PR01 (PB-K20-06-en-01)
3-fach Isolierglas 4/16/4/16/4			1.223	0.5	ift-test report 23-001387-PR01 (PB-K20-06-en-01)

Test result

Calculated thermal transmittance:

$$U_w = 0.78 \text{ W/m}^2\text{K}$$

3 Summary

3.1 Result

Calculation of thermal transmittance of a building component according to
EN ISO 10077-1:2017-07, corrected version 2020-02

$$U_W = 0.78 \text{ W/(m}^2\text{K)}$$

3.2 Instructions for use

The result can be transferred under the manufacturer's own responsibility, taking into account the corresponding provisions of the product standard.

This test/evaluation does not allow any statement to be made on further characteristics of the present structure regarding performance and quality, in particular the effects of weathering and ageing.

The test was performed according to standard and the details for identification of the test specimen are complete; on the basis of this Test Report an "ift-Nachweis" (Evidence) can be issued.

ift Rosenheim

14.04.2023

A handwritten signature in blue ink, reading 'Konrad Huber'.

Konrad Huber, Dipl.-Ing. (FH)
Head of Testing Department
Building Physics

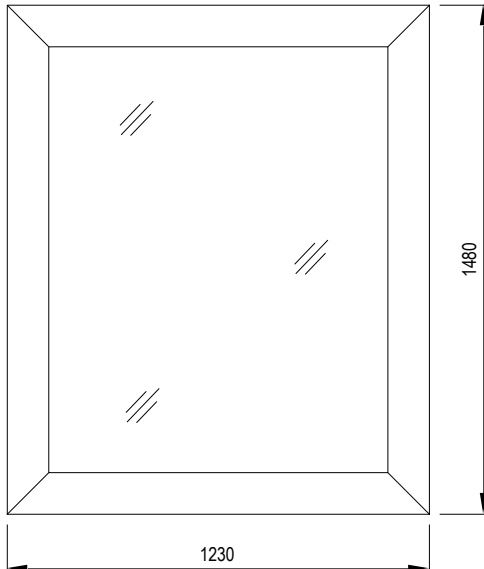
A handwritten signature in blue ink, reading 'Heinrichsberger'.

Sandra Heinrichsberger, M. Sc.
Operating Testing Officer
Building Physics

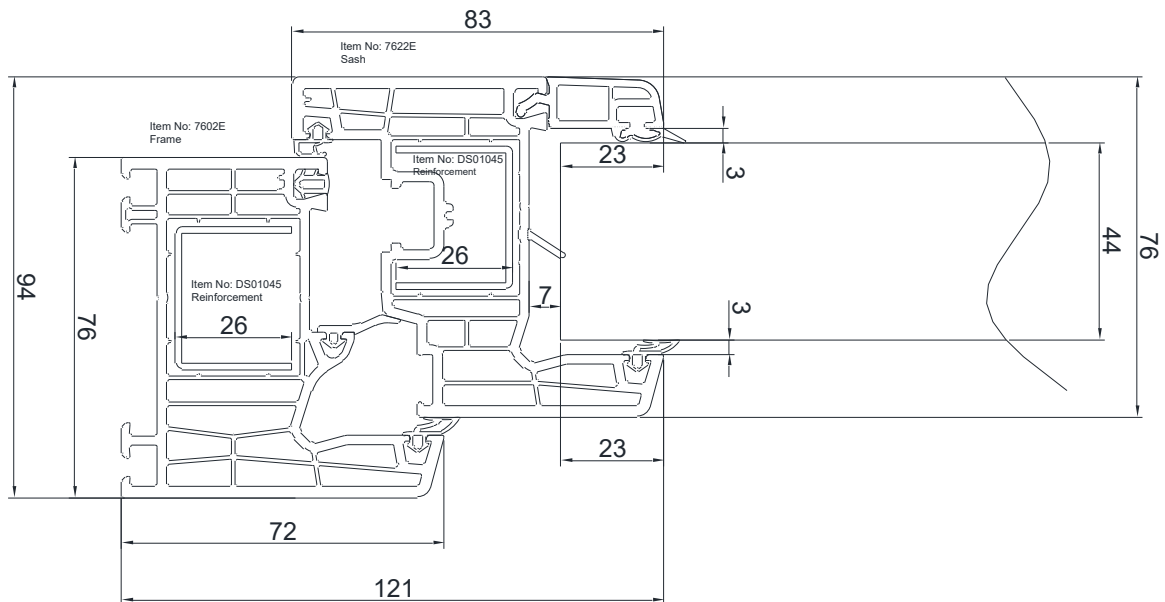
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Picture 1 View of the window (schematic)



Picture 2 Cross section of the frame profile (all sides)