

Test Report



Number	17-002982-PR01 (PB-K20-06-en-01)
Owner (Client)	Al Mimari Industrial Co. L.L.C PVC Windows & Doors PO Box 52646 Mussafah Abu Dhabi Industrial City United Arab Emirates
Product	Plastic profiles, profile combination: casement - frame
Designation	System: 3-K System
Details	Material Polyvinyl Chloride unplasticized (PVC-U); Projected width 118 mm; Structural depth 60 mm; Casement: Designation FR 60; Cross section (W x T) 80 mm x 60 mm; Thickness of infill 24 mm; Edge cover of infill 13 mm; Reinforcement material Metals - Steel - galvanized; Frame: Designation BR 66; Cross section (W x T) 66 mm x 60 mm; Reinforcement material Metals - Steel - galvanized
Special features	
Order	Testing of thermal transmittance
Contents	The test report contains a total of 5 pages and annexe (3 pages).
Note	The test report shall only be published in its unabbreviated form. The "Guidance Sheet for the Use of ift Test Documents" applies.

Ve-PB0-4390-en/ 01.12.2017

No. 17-002982-PR01 (PB-K20-06-en-01) dated 29.05.2018

Owner (client) Al Mimari Industrial Co. L.L.C PVC Windows & Doors, Abu Dhabi Industrial City (United Arabic Emirates)

Testing of thermal transmittance



1 Execution

1.1 Sampling and product description

The following details have been presented to ift:

Sampler: Al Mimari Industrial Co. L.L.C
PVC Windows & Doors Abu Dhabi Industrial City (United Arabic Emirates)
Evidence: ift Rosenheim did not receive a sampling report.
Date of delivery: 02.11.2017
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.: 17-002982-PK01 / WE: 44677-001, WE: 44677-002, WE: 44677-003, WE: 44677-004

1.2 Basic documents *) of the procedures

EN 12412-2:2003 - 07

Thermal performance of windows, doors and shutters - Determination of thermal transmittance by hot box method - Part 2 Frames

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

1.3 Short description of the procedures

Thermal transmittance according to EN 12412-2:2003-07

The test was performed according to the guarded hot box method. The test specimen was located in a wall with infill insulation that was surrounded by two half shells, the interior and the exterior space. Air and surface temperature as well as the registered heating capacity were measured. The thermal transmittance was evaluated in steady state.

The result was verified by comparative calculations as per EN ISO 10077-2.

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2 Detailed results

Thermal transmittance

Project-No.	17-002982-PR01	Task No.	17-002982
Basis of testing	EN 12412-2:2003-07 Thermal performance of windows, doors and shutters - Determination of thermal transmittance by hot box method - Part 2 Frames		
Test equipment used	Pst/022762 - Hot Box U-Wert PstZ/022764 - Wand 1 (Hot Box)		
Test specimen	plastic profiles		
Number of test specimen	44677-001, 44677-002, 44677-003, 44677-004		
Date of testing	28 March 2018		
Testing personnel in charge	Konrad Huber		

Informationen regarding test arrangement / test method

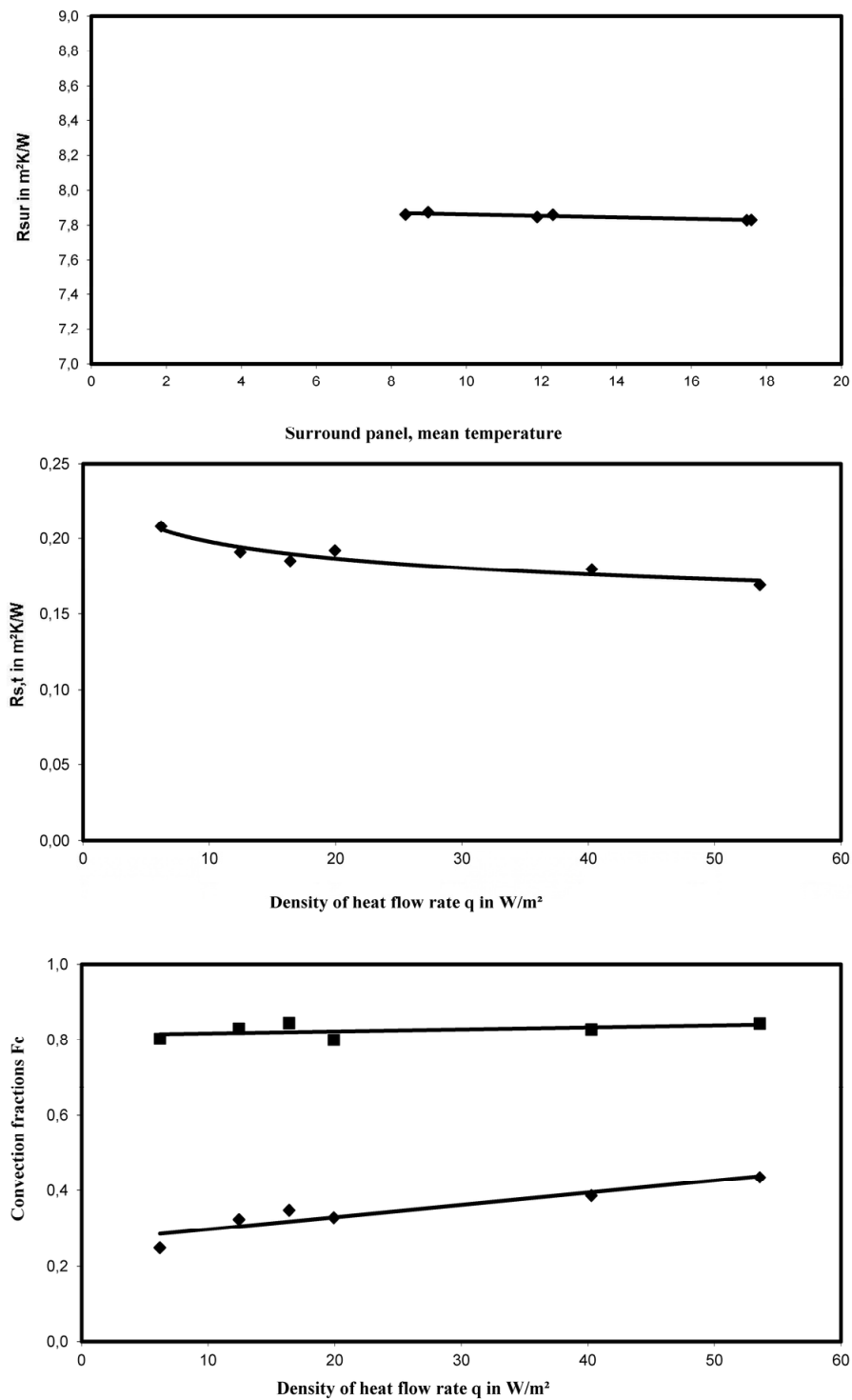
Test method	There have been no deviations from the test methods according to standard/basis.
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Implementation of tests / Test results

Designation	Symbol	Value	Unit
Results U_f			
Air temperature warm side	θ_{ci}	22,8	°C
Air temperature cold side	θ_{ce}	1,9	°C
Environmental temperature - warm	θ_{in}	23,2	°C
Environmental temperature - cold	θ_{ne}	1,9	°C
Air velocity internal (air flow down)	v_i	approx. 0,1	m / s
Air velocity external (air flow down)	v_e	1,7	m / s
Input power to hot box	Φ_{in}	43,1	W
Heat flow density of specimen	q_{sp}	33,9	W / m ²
Total surface resistance	R_{st}	0,195	(m ² K) / W
Measured value U_f			
Thermal transmittance	U_f	1,6	W / (m ² K)
Uncertainty of measurement (absolute)	ΔU_f	0,10	W / (m ² K)

Testing of thermal transmittance

Diagrams showing results of calibration measurement



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Testing of thermal transmittance



3 Summary

3.1 Result

Thermal transmittance according to EN 12412-2:2003-07

Thermal transmittance $U_f = 1.6 \text{ W/(m}^2\text{K)}$

3.2 Instructions for use

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 age- ing.

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
29.05.2018

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

Stefan Junker, Dipl.-Ing. (FH)
Operating Testing Officer
Building Physics

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Die Beschreibung des geprüften Probekörpers dient der normkonformen Identifizierung des Produkttyps, für den die festgestellten Werte gelten. Alternativ zur vorgegebenen tabellarischen Datenerfassung kann die Beschreibung auch in Form von technischen Zeichnungen, Verarbeitungsrichtlinien, Stücklisten etc. erfolgen. Zusätzliche Produktdetails bitte ergänzen.

Die Angaben sind Voraussetzung für die Erstellung eines ift-Nachweises. Nur bei Angabe aller in diesem Dokument angeforderten Daten ist ggf. eine nachträgliche Gutachtliche Stellungnahme möglich. Alle Angaben des Auftraggebers werden vom ift auf Plausibilität geprüft; ggf. festgestellte Abweichungen und/oder ergänzende Feststellungen werden dokumentiert.

The description of the specimen to be tested serves to identify, in conformity with the standards, the product type, for which the values determined will apply. Alternatively to the specified tabulated data collection, the description may also be made by technical drawings, processing instructions, parts lists, etc. Please supplement additional product details.

The details are the precondition for issuing the "ift-Nachweis". Only upon provision of all requested data subsequently requested Expert Statements may be issued. All details provided by the client will be checked for plausibility by ift, any deviations observed and/or additional findings will be documented.

Alle Maßangaben in mm All dimensions in mm	Nicht Zutreffendes bitte löschen. Please delete non-appropriate.	Wareneingang-Nr.: 44677 ID of goods received : ift Mitarbeiter: Stefan Junker ift staff member :
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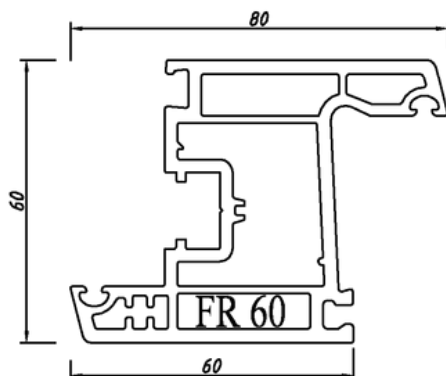
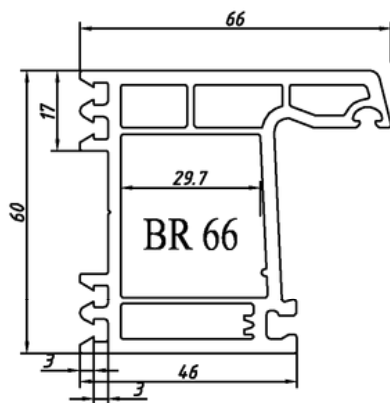
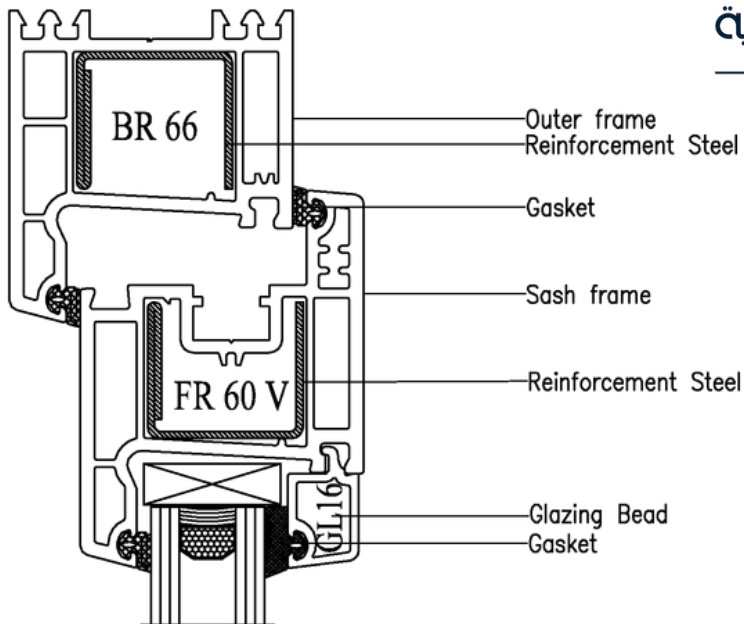
Eigenschaft Characteristic	AngabendesAuftraggebers(unverändert) Information provided by client (unchanged)	Festgestellte Abweichungen bei ift-Kontrolle Deviations observed at ift-check
Produkt / Bauart/ Komponente Product / design / component	Kunststoffprofil mit Plastic profile with Profilkombination Flügelrahmen–Blendrahmen profile combination casement member - frame member	
Hersteller Manufacturer		Al Mimari Industrial Co. L.L.C PVC Windows & Doors
Bezeichnung / Typ/ Art.-Nr. Designation / type/ item no.		3-K System
Ansichtsbreite Projected width		118 mm
Material		PVC hart hard uPVC
Dichtungssystem Sealing system		Anschlagdichtungssystem ad system
Flügelrahmen Casement member		
Aussteifung Reinforcement		
Abmessungen (B x H x D) Dimensions (W x H x D)		29 mm x 33 mm x 1.5 mm
Material		Metals - Steel - galvanized

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Blendrahmen Frame member		
Aussteifung Reinforcement		
Abmessungen (B x H x D) Dimensions (W x H x D)		29 mm x 33 mm x 1.5 mm
Material Material		Metals - Steel - galvanized
Ersatzpaneel Replacement panel		
Einstand der Verglasung Edge cover of glazing		13
Dickeder Verglasung Thickness of glazing		24
Besonderheiten Special features		

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Picture 1 Profile cross section. The test was done without insulating glazing.