



RAL System Passport

PVC profiles for windows and doors as per RAL-GZ 716

No. 14-000393-PR01
(SP-A01-Z055-en-02)



profine GmbH International Profile Group
Mülheimer Straße 26
53840 Troisdorf
Germany

System	PVC window system: KBE 76 / Kömmerling 76 / TROCAL 76 (Rebate seal / AluClip aluminium cover sections / AluClip Pro loadbearing aluminium facing section / AddOn facing casement / facing casement with AluClip AddOn aluminium cover sections / threshold)			
System boundaries	In accordance with the system description (as per Section 3)			
Types	1.1 Single, double with fixed central mullion, fixed light	1.2 Double, of overlapping design/meeting stiles, without fixed central mullion		
		2.1 PSK-doors (parallel/slide/bottom-hung)		

Frame material PVC-U / as per RAL-GZ 716 Clause I, Part 1 / Part 4

Product standard EN 14351-1	Requirements RAL-GZ 716	Performance characteristics	Operating forces	Air permeability	Resistance to wind load	Watertightness	Different climates
		Class / Value	✓	✓	✓	✓	✓
	Performance characteristics	Mechanical durability	Loadbearing capacity of safety devices	Impact resistance	Mechanical strength	Thermal transmittance	
Class / Value	✓	✓	✓	✓	Standard procedure		
Additional characteristics	Performance characteristics	Sound insulation	Ventilation	Burglar resistance			
	Class / Value	Standard procedure	Not applicable	npd			

The requirements are fulfilled.

ift Rosenheim, 20.03.2015

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Prüfung und Kalibrierung – EN ISO/IEC 17025
Inspektion – EN ISO/IEC 17020
Zertifizierung Produkte – EN ISO/IEC 17065
Zertifizierung Managementsysteme – EN ISO/IEC 17021



Contents

The RAL system passport comprises 25 pages:

1. Summary of the performance characteristics of the mandatory test specimens
2. Summary of the performance characteristics of the optional test specimens
3. System description
4. Standard feature notes on the RAL system passport
5. Special instructions for use

Basis

EN 14351-1:2006+A1:2010
RAL-GZ 716
Surveillance contract
No. 187 6031221 dated 16 January 2014
RAL system passport 14-000393-PR01
(SP-A01-Z055-en-02) dated 21.03.2014

Instructions for use

This system passport is considered to be an adequate technical documentation in accordance with the Construction Products Regulation Article 36 (1c) to demonstrate compliance with the essential characteristics including the levels and classes set out in the harmonised product standard EN 14351-1 for windows and external pedestrian doorsets. It can be used by the manufacturer as the basis for preparing a Declaration of Performance (in accordance with Article 6 of the CPR).

The tested designs are detailed in the respective test reports / expert statements.

Notes on publication

The "Conditions and Guidance on the Use of ift Test Documents" apply.

Validity

The RAL system passport forms the basis for issuing the quality mark for "Kunststoff-Fensterprofilssysteme (PVC profile window systems) as per RAL-GZ 716. It demonstrates compliance with all requirements of RAL-GZ. 716.

The RAL system passport confirms regular third-party control/audits of the system supplier conducted by the ift Rosenheim.

The validity of this RAL system - passport is subject to the validity of the surveillance contract No. 187 6031221 dated 16 January 2014 .

RAL-GZ 716	PVC window profiles	Seals/gaskets/ weatherstripping	Foils for lamination	Adhesives for lamination	Lamination method
	Technical Annex Clause I	Technical Annex Clause II-a-1	Technical Annex Clause II-a-3	Technical Annex Clause II-a-4	Technical Annex Clause II-b-1
	✓	✓	✓	✓	✓

The requirements are fulfilled.




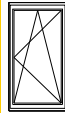


















The Management of GKFP e.V.
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1 Summary of the performance characteristics of the mandatory test specimens
















The representative test specimens listed in the following were selected and tested in accordance with RAL-GZ 716. The results can be extrapolated for the sizes tabled in the system description subject to compliance with the defined requirements, in particular the locking distances, casement weights and reinforcements. Extrapolation possibilities for other unit designs are listed in RAL-GZ 716, Annex 2-A1.

Table 1: Performance characteristics determined for the mandatory test specimens

Test specimens		Test specimen 1	Test specimen 2	Test specimen 4	Test specimen 7	Test specimen 8.1	Test specimen 8.2
Representation							
Description and verifications/test reports		see Section 4.3					
Tests as per RAL-GZ 716		Resulting classifications					
1.1.1 Operating forces for classification		1	1				
1.1.2 Air permeability for classification		4	4				
1.1.3 Resistance to wind load for classification		C3 / B5	C1 / B2				
1.1.4 Repeat test - air permeability (negative/positive pressure)		✓	✓				
1.1.5 Watertightness for classification		9A	9A				
Deflection test - constant climate			3(a)(d)				
Deflection test – climate cycles			✓				
Air permeability			✓				
Watertightness			✓				
1.1.6 Safety test		✓	✓				
Tightness of corner joints			✓				
1.1.7 Resistance to racking		4	4				
1.1.8 Torsion		4	4				
1.1.9 Loadbearing capacity of safety devices		✓	✓				✓
1.1.10 Impact resistance				2			
1.2.1 Operating forces					1	1	1
1.2.2 Mechanical durability					2	2	2
1.2.3 Operating forces					✓	✓	✓
1.2.4 Reveal test and rebate hindrance test					✓	✓	✓
Test of mechanical joints							
Thermal transmittance U_f^1 in $W/(m^2K)$ (Frame/casement combination with 36mm insulation panel)		1.2	1.2	1.2	1.2	1.2	1.2

¹⁾ **Note:** The listed performance characteristics represent the product characteristics of the tested specimens. The possibility of combining performance characteristics shall be verified in each individual case. Better values may be possible depending on the design.

Table 2: Performance characteristics determined for the mandatory test specimens

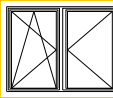
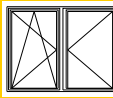
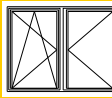
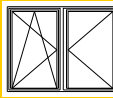
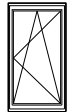















Test specimens		Test specimen 9.1	Test specimen 9.2	Test specimen 9.3
Representation		Mullion	Mullion	Mullion
Description and verifications/test reports		see Section 4.3		
Tests as per RAL-GZ 716		Resulting classifications		
1.1.1 Operating forces for classification				
1.1.2 Air permeability for classification				
1.1.3 Resistance to wind load for classification				
1.1.4 Repeat test - air permeability (negative/positive pressure)				
1.1.5 Watertightness for classification				
Deflection test - constant climate				
Deflection test – climate cycles				
Air permeability				
Watertightness				
1.1.6 Safety test				
Tightness of corner joints				
1.1.7 Resistance to racking				
1.1.8 Torsion				
1.1.9 Loadbearing capacity of safety devices				
1.1.10 Impact resistance				
1.2.1 Operating forces				
1.2.2 Mechanical durability				
1.2.3 Operating forces				
1.2.4 Reveal test and rebate hindrance test				
Test of mechanical joints		✓	✓	✓
Thermal transmittance U_f ¹⁾ in W/(m ² K) (Frame/casement combination with 36mm insulation panel)		1.2	1.2	1.2

¹⁾ **Note:** The listed performance characteristics represent the product characteristics of the tested specimens. The possibility of combining performance characteristics shall be verified in each individual case. Better values may be possible depending on the design.

2 Summary of the performance characteristics of the optional test specimens

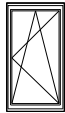
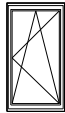


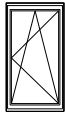















The representative test specimens listed in the following were selected and tested in accordance with RAL-GZ 716. The results can be extrapolated for the sizes tabled in the system description subject to compliance with the defined requirements, in particular the locking distances, casement weights and reinforcements. Extrapolation possibilities for other unit designs are listed in RAL-GZ 716, Annex 2-A1.

Table 3: Performance characteristics determined for the optional test specimens

Test specimens		Test speci- men 3.1	Test speci- men 3.2	Test speci- men 3.3	Test speci- men 3.4	Test speci- men 5.1
Representation						
Description and verifications/test reports		see Section 4.3				
Tests as per RAL-GZ 716		Resulting classifications				
1.1.1 Operating forces for classification		1	1	1	1	1
1.1.2 Air permeability for classification		4	4	4	4	4
1.1.3 Resistance to wind load for classification		C3 / B5	C3 / B3	C1 / B2	B2	C5 / B5
1.1.4 Repeat test - air permeability (negative/positive pressure)		✓	✓	✓	✓	✓
1.1.5 Watertightness for classification		9A	9A	9A	9A	9A
Deflection test - constant climate						
Deflection test – climate cycles						
Air permeability						
Watertightness						
1.1.6 Safety test		✓	✓	✓	✓	✓
1.1.7 Resistance to racking		4	4	4	4	4
1.1.8 Torsion		4	4	4	4	4
1.1.9 Loadbearing capacity of safety devices		✓	✓	✓	✓	✓
1.1.10 Impact resistance						
1.2.1 Operating forces						
1.2.2 Mechanical durability						
1.2.3 Operating forces						
1.2.4 Reveal test and rebate hindrance test						
Thermal transmittance U_f ¹⁾ in W/(m ² K) (Frame/casement combination with 36mm insulation panel)		1.2	1.2	1.2	1.2	1.2

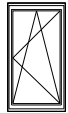
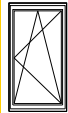

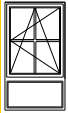
















¹⁾ **Note:** The listed performance characteristics represent the product characteristics of the tested specimens. The possibility of combining performance characteristics shall be verified in each individual case. Better values may be possible depending on the design.

Table 3: Performance characteristics determined for the optional test specimens

Test specimens		Test specimen 5.2	Test specimen 5.3	Test specimen 5a.1	Test specimen 5a.2	Test specimen 6.1
Representation						
Description and verifications/test reports		see Section 4.3				
Tests as per RAL-GZ 716		Resulting classifications				
1.1.1 Operating forces for classification		1	1	1	1	1
1.1.2 Air permeability for classification		4	4	4	4	4
1.1.3 Resistance to wind load for classification		C5 / B5	C5 / B5	C1 / B2	C1 / B2	C5 / B5
1.1.4 Repeat test - air permeability (negative/positive pressure)		✓	✓	✓	✓	✓
1.1.5 Watertightness for classification		9A	9A	9A	9A	9A
Deflection test - constant climate						
Deflection test – climate cycles						
Air permeability						
Watertightness						
1.1.6 Safety test		✓	✓	✓	✓	✓
1.1.7 Resistance to racking		4	4	4	4	4
1.1.8 Torsion		4	4	4	4	4
1.1.9 Loadbearing capacity of safety devices		✓				
1.1.10 Impact resistance						
1.2.1 Operating forces						
1.2.2 Mechanical durability						
1.2.3 Operating forces						
1.2.4 Reveal test and rebate hindrance test						
Thermal transmittance U_f ¹⁾ in W/(m ² K) (Frame/casement combination with 36mm insulation panel)		1.2	1.2	1.2	1.2	1.2




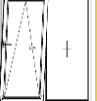















¹⁾ **Note:** The listed performance characteristics represent the product characteristics of the tested specimens. The possibility of combining performance characteristics shall be verified in each individual case. Better values may be possible depending on the design.

Table 3: Performance characteristics determined for the optional test specimens

Test specimens		Test specimen 6.2	Test specimen 6.3	Test specimen 10	15	16
Representation						
Description and verifications/test reports		see Section 4.3				
Tests as per RAL-GZ 716		Resulting classifications				
1.1.1 Operating forces for classification		1	1	1	1	1
1.1.2 Air permeability for classification		4	4	4	4	4
1.1.3 Resistance to wind load for classification		C5 / B5	C5 / B5	C2 / B2	C4 / B5	C4 / B5
1.1.4 Repeat test - air permeability (negative/positive pressure)		✓	✓	✓	✓	✓
1.1.5 Watertightness for classification		9A	9A	9A	9A	9A
Deflection test - constant climate						
Deflection test – climate cycles						
Air permeability						
Watertightness						
1.1.6 Safety test		✓	✓	✓	✓	✓
1.1.7 Resistance to racking		4	4	4	4	4
1.1.8 Torsion		4	4	4	4	4
1.1.9 Loadbearing capacity of safety devices				✓	✓	✓
1.1.10 Impact resistance						
1.2.1 Operating forces						
1.2.2 Mechanical durability						
1.2.3 Operating forces						
1.2.4 Reveal test and rebate hindrance test						
Thermal transmittance U_f ¹⁾ in $W/(m^2K)$ (Frame/casement combination with 36mm insulation panel)		1.2	npd	1.2	1.2	1.2

¹⁾ **Note:** The listed performance characteristics represent the product characteristics of the tested specimens. The possibility of combining performance characteristics shall be verified in each individual case. Better values may be possible depending on the design.

Table 3: Performance characteristics determined for the optional test specimens

Test specimens		17	18	19	20
Representation					
Description and verifications/test reports		see Section 4.3			
Tests as per RAL-GZ 716		Resulting classifications			
1.1.1 Operating forces for classification		1	-/-	1	
1.1.2 Air permeability for classification		4	4	4	
1.1.3 Resistance to wind load for classification		C3 / B3	C5 / B5	C5 / B5	
1.1.4 Repeat test - air permeability (negative/positive pressure)		✓	✓	✓	
1.1.5 Watertightness for classification		9A	9A	9A	
Deflection test - constant climate					
Deflection test – climate cycles					
Air permeability					
Watertightness					
1.1.6 Safety test		✓	✓	✓	
1.1.7 Resistance to racking		4	4	4	
1.1.8 Torsion		4	4	4	
1.1.9 Loadbearing capacity of safety devices		✓	✓	✓	
1.1.10 Impact resistance					
1.2.1 Operating forces					1
1.2.2 Mechanical durability					2
1.2.3 Operating forces					✓
1.2.4 Reveal test and rebate hindrance test					
Thermal transmittance U_f^1 in $W/(m^2K)$ (Frame/casement combination with 36mm insulation panel)		1.2	1.2	1.2	1.2

¹⁾ **Note:** The listed performance characteristics represent the product characteristics of the tested specimens. The possibility of combining performance characteristics shall be verified in each individual case. Better values may be possible depending on the design.

No. 14-000393-PR01 (SP-A01-Z055-en-02) dated 20.03.2015

Client: profine GmbH International Profile Group, 53840 Troisdorf (Germany)

2.1 Additional test specimens and performance characteristics

2.1.1 Additional quality-assured characteristics

Table 4: Verifications/test reports - thermal insulation

Profile combination	Test report No.:	Date	U _F -value
Frame and casement with reinforcement 5-chamber / 5-chamber 36mm insulation panel	13-002462-PR01 Characteristic line as per WA-02/3	25.10.2013	1.2 W/(m ² K)
Frame and casement with reinforcement 4-chamber / 5-chamber 36mm insulation panel	14-000225-PR01 Characteristic line as per WA-02/3	14.03.2014	1.3 W/(m ² K)
Frame and casement with reinforcement with AluClip aluminium facing 5-chamber / 5-chamber 36mm insulation panel	13-002462-PR06 Characteristic line as per WA-02/3	22.11.2013	1.2 W/(m ² K)
Frame and casement with reinforcement with AluClip aluminium facing 4-chamber / 5-chamber 36mm insulation panel	14-000225-PR04 Characteristic line as per WA-02/3	06.03.2014	1.3 W/(m ² K)
Frame with reinforcement, with AluClip aluminium facing casement without reinforcement, with loadbearing AluClip Pro aluminium facing 5-chamber / 5-chamber 36mm insulation panel	14-000225-PR04 Characteristic line as per WA-02 (draft WA-02/4 dated March 2014)	11.03.2014	1.2 W/(m ² K)
Frame and casement with reinforcement, with AluClip aluminium facing, with threshold, profile group 1 36mm insulation panel	13-003483-PR03 Characteristic line as per WA-02 (draft WA-02/4 dated March 2014)	12.03.2014	1.7 W/(m ² K)
Frame and casement with reinforcement, with AluClip aluminium facing, with threshold, profile group 2 36mm insulation panel	13-003483-PR03 Characteristic line as per WA-02 (draft WA-02/4 dated March 2014)	12.03.2014	1.9 W/(m ² K)
Frame with reinforcement, with AluClip aluminium facing casement without reinforcement, with loadbearing AluClip Pro aluminium facing 5-chamber / 5-chamber 36mm insulation panel	13-003858-PR01 Measurement in accordance with EN 12412-2	09.12.2013	1.1 W/(m ² K)
Frame and casement with reinforcement 48mm insulation panel	13-001890-PR10 Measurement in accordance with EN 12412-2	14.08.2013	1.1 W/(m ² K)

No. 14-000393-PR01 (SP-A01-Z055-en-02) dated 20.03.2015

Client: profine GmbH International Profile Group, 53840 Troisdorf (Germany)



Table 5: TRAV (safety barrier glazing)

Test report No.:	Date	Brief description	Summary
12-002529-PR27 PB-K20-09-de-01	13.08.2013	Characteristic loadbearing capacity as per TRAV, frame 76101 with reinforcement V303	
12-002529-PR28 PB-K20-09-de-01	13.08.2013	Characteristic loadbearing capacity as per TRAV, mullion 76301 with reinforcement V320	
12-002529-PR29 PB-K20-09-de-01	13.08.2013	Characteristic loadbearing capacity as per TRAV, casement 76200 with reinforcement V315	
12-002529-PR30 GAS-K20-09-de-01	11.11.2013	Expert statement on extrapolation for different casements	
12-002529-PR51 GAS-K20-09-de-01	11.11.2013	Expert statement on extrapolation for different mullions	
12-002529-PR52 GAS-K20-09-de-01	11.11.2013	Expert statement on extrapolation for different frames	
12-002529-PR31 AbP-K20-09-de-01	12.12.2013	National technical test certificate (Allgemeines bauaufsichtliches Prüfzeugnis - abP)	

3 System description

The RAL system passport as per RAL-GZ 716 is based on the system description of the company profine GmbH International Profile Group, 53840 Troisdorf dated January 2014. The system description fulfils the requirements of RAL-GZ 716 with respect to the specified minimum content. The components of the system description listed below were checked for conformity with the tests conducted for verification of applicability.

3.1 PVC window profiles (main profiles as per RAL-GZ 716, technical Annex Clause I, Part 1 to 5) in accordance with approved summary list

Table 6: Approved main and auxiliary profiles

Type	Item No.	Frame material	Approved reinforcements
Frame profiles	76101	PVC-U white PVC-U creamy-white	V300 V303 V306 V307 V308 V309 V310 V327 V328 V329
	76101	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	V300 V303 V306 V307 V308 V309 V310 V327 V328 V329
	76102	PVC-U white PVC-U creamy-white	V313 V314 V325
	76102	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	V313 V314 V325

Type	Item No.	Frame material	Approved reinforcements
Frame profiles	76103	PVC-U white PVC-U creamy-white	V300 V303 V306 V307 V308 V309 V310 V327 V328 V329
	76103	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	V300 V303 V306 V307 V308 V309 V310 V327 V328 V329
Casement profiles	76200	PVC-U white PVC-U creamy-white	V315
	76200	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	V315
	76201	PVC-U white PVC-U creamy-white	V300 V303 V306 V307 V308 V327 V328
	76202	PVC-U white PVC-U creamy-white	V300 V303 V306 V307 V308 V327 V328

Type	Item No.	Frame material	Approved reinforcements
Casement profiles	76203	PVC-U white PVC-U creamy-white	V300 V303 V306 V307 V308 V327 V328
	76201	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	V303 V306 V307 V308
	76202	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	V303 V306 V307 V308
	76203	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	V303 V306 V307 V308
	76204	PVC-U white PVC-U creamy-white	V314 V326
	76204	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	V314 V326
	76206	PVC-U white PVC-U creamy-white	S604025
	76206	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	S604025

Type	Item No.	Frame material	Approved reinforcements
T-profiles/ Transom profiles	76300	PVC-U white PVC-U creamy-white	V312
	76300	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	V312
	76301	PVC-U white PVC-U creamy-white	V320 V321
	76301	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	V320 V321
	76302	PVC-U white PVC-U creamy-white	V318 V319
	76302	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	V318 V319
	76303	PVC-U white PVC-U creamy-white	V322 V323 V324
	76303	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	V322 V323 V324

Type	Item No.	Frame material	Approved reinforcements
Casements - overlapping design	76401	PVC-U white PVC-U creamy-white	V316
	76401	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	V316
	76402	PVC-U white PVC-U creamy-white	V310
	76402	Decor foil with base profile: PVC-U white PVC-U creamy-white PVC-U black-brown PVC-U ochre	V310

3.2 Seals/gaskets/weatherstripping as per RAL-GZ 716, technical Annex Clause II in accordance with approved summary list

Table 7: Approved seals/gaskets/weatherstripping

Function	Item number	Material	Approved colour	Corner design
Frame seal/ weatherstrip- ping External	G046	EPDM	Light grey black	Continuous around corners, bonded together at top
	G049.T	PVC P		Mitred and welded to frame profile, T-profiles - butt-joined and bonded
	G049.M	TPE		
	G049.P	PCE		
	G069	EPDM		
Casement overlap seal	G046	EPDM	Light grey black	Continuous around corners, bonded together at top
	G050.T	PVC P		Mitred and welded to frame profile, T-profiles - butt-joined and bonded
	G050.M	TPE		
	G050.P	PCE		

3.3 Requirements for reinforcements - Assignment to the profiles of Section 2.1.

Table 8: Approved reinforcements






Function	Frame material	Reinforcement - from frame size (mm)	Max. depth of reinforcement (mm)	Screw distance	
				between (mm)	from corners (mm)
Frame profiles	White	from 60 kg casement weight on hinge side or from 2,000 mm, otherwise according to structural requirements	55 mm	max. 300 mm	65 mm
	Colour	Always specified	15 mm	max. 250 mm	25 mm
Casement profiles	White	From casement size 900 mm x 1,300 mm or 1,000 mm x 1,300 mm	55 mm	max. 350 mm	65 mm
	Colour	Always required	15 mm	max. 250 mm	25 mm
T-profiles	White	Always required	55 mm	max. 300 mm	25 mm
	Colour	Always required	15 mm	max. 250 mm	25 mm
Meeting stiles	White	see casement diagrams	24 mm	max. 300 mm	65 mm
	Colour	Always required	24 mm	max. 250 mm	65 mm

3.4 Glazing with preformed gaskets or with sealants

According to system description (January 2014).

3.5 Hardware

Table 9: Approved hardware/ fittings

Type of opening	Type / manufacturer	Maximum locking and hinge distances (mm)	Certificate/ verification/reports
Type 1.1 and type 1.2 (combined side-hung and tilt/turn)	aktivPilot / Aug. Winkhaus GmbH & Co. KG	780	 228 7019950-1-9
	TITAN AF / SIEGENIA-AUBI KG Beschlag- und Lüftungstechnik	800	 228 6246810-1-8
	Roto NT / ROTO Frank AG	720	 228 7012530-1-11
	Multi-Matic / Mayer & Co. Beschläge GmbH	800	 228 6036771-1-7
Type 2.1 (PSK) (parallel/slide/ bottom hung)	ATRIUM SP Komfort / HAUTAU GmbH	660	 228PSK 7013579-1-4

The fixing of the loadbearing hardware components (corner pivots/bearings and stay components) was verified during the tests.

The window manufacturer is obliged to demonstrate the strength of the loadbearing hardware parts (corner pivots/bearings and stay components) for the relevant system under consideration of its manufacturing conditions and the fasteners used. The strength values as a function of the casement weight must be in accordance with the specifications of the TBDK Guideline.

Conformity with the rules on the interchangeability of hardware set out in QM 328 and QM 347, Annex 1 must be ensured.

3.6 Connections/joints of the PVC window profiles

Table 10: Approved fasteners

Type of joint/connection	Profile designation	Fastener designation	Sealing method	Fixing method
Frame / casement welded corner	The minimum breakage forces F_{bc}^C for welded joints are specified in the sectional dimensional drawings retained by the Quality Assurance Association.			
Mullions - mechanical	76300	J050	Sealing pads between fastener and frame and sealing pads between fastener und mullion (sealing pad solidly bonded to fastener)	2 screws 5.0 x 35 mm 4 screws 3.9 x 19 mm
	76301	J051	Sealing pads between fastener and frame and sealing pads between fastener and mullion (sealing pads solidly bonded to fastener). Rebate area of frame to be additionally sealed using permanently resilient sealant (see Figure in ARL)	2 screws 5.0 x 35 mm 1 screw 5.0 x 90mm (76101) 1 screw 5.0 x 120 mm (76102) 1 screw 5.0 x 120 mm (76103)
		J052		2 screws 5.0 x 35 mm 2 screws 3.9 x 24 mm 2 screws 3.9 x 40 mm

Type of joint/connection	Profile designation	Fastener designation	Sealing method	Fixing method
Mullions - mechanical	76302	J051	Sealing pads between fastener and frame and sealing pads between fastener and mullion (sealing pads solidly bonded to fasteners). Rebate area of frame to be additionally sealed using permanently resilient sealant (see Figure in ARL)	2 screws 5.0 x 35 mm 1 screw 5.0 x 90 mm (76101) 1 screw 5.0 x 110 mm (76102) 1 screw 5.0 x 120 mm (76103)
		J052		2 screws 5.0 x 35 mm 2 screws 3.9 x 24 mm 2 screws 3.9 x 40 mm
	76303	J053		2 screws 5.0 x 35 mm 1 screw 5.0 x 90 mm (76101) 1 screw 5.0 x 110 mm (76102) 1 screw 5.0 x 120 mm (76103)
		J054		2 screws 5.0 x 35 mm 2 screws 3.9 x 24 mm 2 screws 3.9 x 40 mm
Mullions - welded	76301	-/-	Area of frame overlap to be sealed using permanently resilient sealant (see Figure in ARL)	butt welded
	76302			
	76303			

3.7 Thresholds

Table 11: Approved thresholds

Designation of thresholds	Connection to frame / mullion	Connection to frame	Sealing method
A076 A077	Frame / mullion unrebated Set of fasteners M151 for 76101 M152 for 76102 M153 for 76103 M156 for 76301 M156 for 76302 M157 for 76303	Core material: M170 for 76101 M171 for 76102 M170 for 76103	Sealing piece between threshold and frame / mullion (included in set)
A076 A077	Frame / mullion milled M150 for 76101 M173 for 76102 M174 for 76103	Core material: M170 for 76101 M171 for 76102 M170 for 76103	J061 for 76101 J062 for 76102 J053 for 76103 J066 for 76301 J066 for 76302 J067 for 76303 Over length of sealing pad to be sealed using permanently resilient sealant
A075	Frame / mullion milled M150 for 76101 M173 for 76102 M174 for 76103	Core material: M170 for 76101 M171 for 76102 M170 for 76103	Gap between frame / mullion and threshold to be completely sealed using permanently resilient sealant. Sealing piece G067 on left and right sides of threshold overlap

4 General notes on the RAL system passport

4.1 Specified performance characteristics in accordance with the product standard

All listed performance characteristics were tested and evaluated to the test and classifications standards contained in the product standard EN 14351-1. They are based on the evidence of performance/reports presented by the client. For more detailed information refer to the respective individual evidence of performance/test reports on the performance characteristics listed in Section 4.4.

4.2 Use of results (optional Annex)

The results obtained in the context of the quality assurance conducted in accordance with RAL-GZ 716 fulfil the minimum requirements of RAL-GZ 695.

4.3 Basis of the RAL system passport

- Existing surveillance contract No. 187 6031221 dated 16 January 2014 concluded between the **ift** Rosenheim and the client,
- Verifications, reports listed in Section 4.4,
- System description contained in Section 4.5,
- Continuous audit/surveillance of the client (system supplier),

Any changes to the system shall be communicated without delay to the "Gütegemeinschaft Kunststoff-Fensterprofilssysteme e.V." (PVC Window Profiles Quality Assurance Association) and the **ift** Rosenheim.

4.4 List of verifications/reports

Table 12: List of verifications/reports - mandatory test specimens

Test specimens	Test report No.:	Date	Brief description	Summary
Test specimen 1	12-002529-PR08 PB-A01-0203-de-01	07.07.2013	Single tilt/turn window with fixed sublight	
	12-002529-PR08 PB-A01-0203-de-01	10.03.2014		
Test specimen 2	12-002529-PR15 PB-A01-020310-de-02	08.11.2013	Double side-hung and tilt/turn casement door of overlapping design (opening meeting stiles)	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 4	12-002529-PR16 PB-A01-03-de-01	19.08.2013	Single tilt/turn window	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 7	12-002529-PR19 PB-A01-03-de-01	27.08.2013	Single tilt/turn casement door	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 8.1	12-002529-PR17 PB-A01-03-de-01	12.09.2013	Single tilt/turn window	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 8.2	12-002529-PR18 PB-A01-03-de-01	20.11.2013	Single tilt/turn window with glass-separating glazing bar	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 9.1	12-002529-PR26 PB-A01-02-de-01	23.09.2013	PVC window with 2 bottom-hung casements and mullions / transoms, mechanically connected by T-cleats J052	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		

Test specimens	Test report No.:	Date	Brief description	Summary
Test specimen 9.2	12-002529-PR22 PB-A01-02-de-01	23.09.2013	PVC window with 2 bottom-hung casements and mullions / transoms, mechanically connected by T-cleats J051	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 9.3	12-002529-PR58 PB-A01-02-de-01	04.03.2014	PVC window with 2 bottom-hung casements and mullions / transoms, mechanically connected by butt-welded T-cleats	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		

Table 13: List of verifications/test reports - optional test specimens

Test specimens	Test report No.:	Date	Brief description	Summary
Test specimen 3.1	12-002529-PR44 PB-A01-0203-de-01	23.09.2013	Double side-hung and tilt/turn window of overlapping design (opening meeting stiles)	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 3.2	12-002529-PR11 PB-A01-0203-de-01	15.07.2013	Double side-hung and tilt/turn window of overlapping design (opening meeting stiles)	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 3.3	12-002529-PR24 PB-A01-0203-de-01	15.07.2013	Double side-hung and tilt/turn window of overlapping design (opening meeting stiles)	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 3.4	12-002529-PR43 PB-A01-0203-de-01	10.03.2014	Double side-hung and tilt/turn window of overlapping design (opening meeting stiles) with loadbearing AluClip Pro aluminium facing	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 5.1	12-002529-PR14 PB-A01-02-de-01	05.09.2013	Single tilt/turn casement door with threshold	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 5.2	12-002529-PR45 PB-A01-02-de-01	04.09.2013	Single tilt/turn casement door with threshold	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		

No. 14-000393-PR01 (SP-A01-Z055-en-02) dated 20.03.2015

Client: profine GmbH International Profile Group, 53840 Troisdorf (Germany)



Test specimens	Test report No.:	Date	Brief description	Summary
Test specimen 5.3	12-002529-PR46 PB-A01-02-de-01	04.09.2013	Single tilt/turn casement door with threshold	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 5a.1	12-002529-PR13 PB-A01-02-de-01	25.10.2013	Double side-hung and tilt/turn casement door of overlapping design (opening meeting stiles) with threshold	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 5a.2	12-002529-PR49 PB-A01-02-de-01	25.10.2013	Double side-hung and tilt/turn casement door of overlapping design (opening meeting stiles) with threshold	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 6.1	12-002529-PR10 PB-A01-0203-de-01	04.07.2013	Single tilt/turn casement door	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 6.2	12-002529-PR48 PB-A01-02-de-02	01.10.2013	Single tilt/turn casement door	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 6.3	12-002529-PR41 PB-A01-0203-de-02	17.03.2014	Single tilt/turn casement door with AddOn facing casement	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
Test specimen 10	12-002529-PR12 PB-A01-0203-de-01	31.07.2013	Single parallel/projecting/sliding casement door	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		
15	12-002529-PR21 PB-A01-0203-de-01	23.09.2013	Single tilt/turn window with fixed sub-light and AluClip aluminium facing	
	12-002529-PR66 GAS-A01-020310-de-01	10.03.2014		

Test specimens	Test report No.:	Date	Brief description	Summary
16	12-002529-PR07 PB-A01-0203-de-01	15.07.2013	Single tilt/turn window	
	12-002529-PR66 GAS-A01-020310- de-01	10.03.2014		
17	12-002529-PR09 PB-A01-0203-de-01	12.09.2013	Single tilt/turn window with glass- separating glazing bar	
	12-002529-PR66 GAS-A01-020310- de-01	10.03.2014		
18	12-002529-PR47 PB-A01-02-de-01	04.09.2013	Single tilt/turn window	
	12-002529-PR66 GAS-A01-020310- de-01	10.03.2014		
19	12-002529-PR42 PB-A01-0203-de-03	20.01.2014	Single tilt/turn window with loadbear- ing AluClip Pro aluminium facing	
	12-002529-PR66 GAS-A01-020310- de-01	10.03.2014		
20	12-002529-PR20 PB-A01-03-de-01	08.11.13	Single parallel/projecting/sliding casement door	
	12-002529-PR66 GAS-A01-020310- de-01	10.03.2014		

4.5 System description

Table 14: List of verifications/reports

Document	Date	Description	Summary
System description	January 2014	KBE 76 / Kömmerling 76 / TROCAL 76	

5 Special instructions for use

The special instructions for use listed in the following are rules for applying the different performance characteristics specified by the standard. They are based on the normative provisions and the experience of the **ift** Rosenheim.

As set out in the product standard and the Construction Products Regulation the manufacturer is responsible for ensuring conformity with the declared characteristics.

The overview given in this RAL system passport is based on the verifications/reports provided. No legal claim can be derived from this.

This RAL system passport forms the basis for obtaining the quality mark for "Kunststoff-Fensterprofilsysteme" (PVC profile window systems) as per RAL-GZ 716, which documents the conformity of the window systems and of the factory quality/production control by regular third-party audits of the system supplier conducted by the **ift**.

The identified characteristics (classifications) are applicable to windows and screens for installation in vertical wall apertures covered by the scope of EN 14351-1. Application is subject to the relevant national rules and regulations.

As set out in the Regulation (EC) No. 842/2006 of the European Parliament and of the Council of 17 May 2006 on certain fluorinated greenhouse gases, insulating glass units filled with Argon / SF₆ are not allowed to be placed on the market as of 4 July 2007 or 04 July 2008, respectively.

The rules for the interchangeability of window hardware are defined in the **ift** Certification Schemes for hardware (QM 328, QM 345, QM 346, QM 347, QM 343).

Termination of the surveillance contract 187 6031221 dated 16 January 2014 terminates the validity of this RAL system passport No. 14-000393-PR01 (SP-A01-Z055-en-02) dated .