



Schüco Alu Inside Nordic

PVC-U systems




Windows and doors

Schüco product performance certificate

In accordance with DIN EN 14351-1:2016-12

No. KS1007775_EN-00
Valid until 01/02/2023

System	Schüco Alu Inside Nordic
Special features	- / -
Product families	1. Side-hung, top-hung and Top Swing window, outward-opening
Frame material	PVC-U

Features	Class/value
 Resistance to wind load	C3
 Resistance to snow and permanent loads	Not relevant**
 Reaction to fire	Not relevant**
 Watertightness	E1200
 Dangerous substances	In accordance with EN14351-1 section 4.6
 Impact resistance	npd
 Load-bearing capacity of safety devices	npd
 Height and width	Not relevant**
 Ability to release	Not relevant**
 Sound reduction	npd
 Thermal transmittance	*
 Radiation properties	CE marking for glazing
 Air permeability	Class 4
 Operating forces	Class 1
 Mechanical strength	Class 4
 Ventilation	*
 Bullet resistance	npd
 Blast resistance	npd
 Mechanical durability test	npd
 Behaviour between different climates	3A / 3D
 Burglar resistance	npd

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Basic principles

EN 14351-1 (2006-03)

Windows and external doors

The Schüco performance certificate shows the performance characteristics of the systems named with their product families as per the specifications of the product standard.

The national building regulations and contractual arrangements apply to the use of the performance characteristics.

Publication instructions

The Schüco International KG license conditions and conditions of use shall apply.

* Project-specific certification – if necessary

** Not mandatory for windows (exterior doors/roof windows only)

*** Only applies to windows with integrated ventilation devices

**** Certification in accordance with country of destination

Weißenfels, 28/1/2019

p.p.



M. Herbst

Spokesman for the Executive Management Board

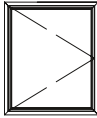





















p.p.



C. Fischer

Head of Technology

1. Performance matrix in accordance with product standard EN 14351-1

No.	Properties in accordance with EN 14351-1	Product family 1
		 <p>Outward-opening window constructions</p>
4.2	 Resistance to wind load	C3
4.3	 Resistance to snow and permanent load	Not relevant
4.4	 Reaction to fire	Not relevant
4.5	 Watertightness	E1200
4.6	 Dangerous substances	See EN 14351-1 section 4.6
4.7	 Impact resistance	npd
4.8	 Load-bearing capacity of safety devices	npd
4.9	 Height and width (external doors only)	Not relevant
4.10	 Ability to release (external doors only)	Not relevant
4.11	 Sound reduction	npd
4.12	 Thermal transmittance U_w (W/(m ² K))	U_w values must be calculated based on the standard dimensions 1.23 m x 1.48 m or 1.48 m x 2.18 m or for specific projects.
4.13	 Radiation properties	Must be provided for each project by means of CE markings for the glazing.
4.14	 Air permeability	Class 4
4.16	 Operating forces (with manually operated windows only)	Class 1
4.17	 Mechanical strength	Class 4
4.18	 Ventilation	Project-specific certification
4.19	 Bullet resistance	npd
4.20	 Blast resistance	npd
4.21	 Resistance to repeated opening and closing	npd
4.22	 Behaviour between different climates	3A / 3D
4.23	 Burglar resistance	npd

Note 1: npd: no performance determined

Note 2: The numerical data in brackets is for information purposes only.

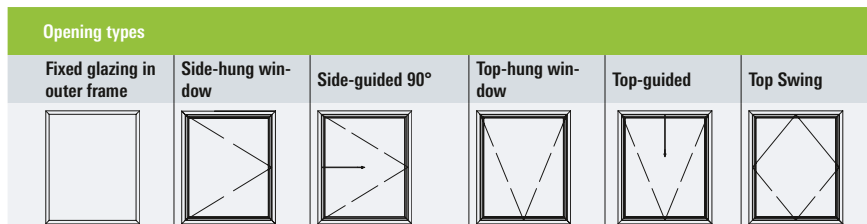
2. System features and performance characteristics of the product families












2.1 Product family 1











2.1.1 Description of system features for product family 1

Series	Schüco Alu Inside Nordic
Variants	Outward-opening: Side-hung windows, side-guided 90°, top-hung window, top-guided, Top Swing, fixed lights
Frame material	PVC-U
Profile depth	82 mm
Frame assembly	Outer frame / vent frame mitre-cut and welded
Rebate construction	Rebate space 12 mm
Rebate gasket, inside	TPE, Art. No. 25072900, mitre-cut and welded Supplier: Schüco Polymer Technologies KG
Rebate gasket, centre	TPE, Art. No. 25073300, mitre-cut and welded Supplier: Schüco Polymer Technologies KG
Rebate gasket, outside	EPDM, Art. No. 25072100, mitre-cut and joined Supplier: Schüco Polymer Technologies KG
Rebate drainage	Single-vent, top-guided window 2 slots, 5 mm x 35 mm, to the outside Double-vent, top-guided window 4 slots, 5 mm x 35 mm, to the outside
Pressure equalisation	Not necessary
Fittings	Tested with: Single-vent, top-guided window and double-vent, top-guided window Topstyred-Beslag, A/S J.Petersens Beslagfabrik Max. gap between locking points 900 mm Single-vent Top Swing window ASSA AB
Glazing	Multi-pane insulating glass, glass thicknesses from 18 mm to 52 mm
Glazing gasket, outside	Sealing profile 25048400, EPDM, mitre-cut and joined Supplier: Schüco Polymer Technologies KG
Glazing gasket, inside	Sealing profile 22490400, PVC-P or EPDM, mitre-cut and joined Supplier: Schüco Polymer Technologies KG
Pressure equalisation	Single-vent, top-guided window, double-vent, top-guided window 5 mm x 35 mm slots at the bottom and top

2.1.2 Overview of performance characteristics for product family 1



Extract from product standard EN 14351-1		Type, design	Proof (See 3. for details)	Value/class	Area of application
4.2	 Resistance to wind load	Single-vent, top-guided window Vent size: 1173 mm x 1423 mm	Test report 576107-EV Danish Technological Institute Aarhus	C3	Transfer to -100% of the frame width and frame height of the test specimen
		Double-vent, top-guided window Vent size: 1184.5 mm x 1423 mm	Test report 576107-DV Danish Technological Institute Aarhus		
4.3	 Resistance to snow and permanent load			Not relevant	
4.4	 Reaction to fire			Not relevant	
4.5	 Watertightness	Single-vent, top-guided window Vent size: 1173 mm x 1423 mm	Test report 576107-EV Danish Technological Institute Aarhus	E1200	Transfer to -100% to +50% of the total area of the test specimen, in accordance with the maximum distances between locking points with the same or a similar format (ratio of height to width)
		Double-vent, top-guided window Vent size: 1184.5 mm x 1423 mm	Test report 576107-DV Danish Technological Institute Aarhus		
4.6	 Dangerous substances			npd	
4.7	 Impact resistance			npd	
4.8	 Load-bearing capacity of safety devices			npd	
4.9	 Height and width (external doors only)			Not relevant	
4.10	 Ability to release (external doors only)			Not relevant	
4.11	 Sound reduction			npd	
4.12	 Thermal transmittance U_w ($W/(m^2K)$)	Cross sections with moving parts (Vent/outer frame combination) <ul style="list-style-type: none"> Vent profile: 19504160 Basic depth: 82 mm Outer frame profile: 19500160 Basic depth: 120 mm Face width: 94.5 mm Infill thickness 36 mm 	Test report 576107-a Danish Technological Institute Aarhus	$U_i = 0.87 W/(m^2K)$	The U_w values must be calculated based on the standard dimensions 1.23 m x 1.48 m or 1.48 m x 2.18 m or for specific projects in accordance with the processes described in Point 2.12 of this document. Transfer regulations for standard dimensions: for dimensions 1.23 m x 1.48 m, U_w value for the window $\leq 2.3 m^2$ can be used; or for all windows if $U_g \leq 1.9 W/m^2K$
		Cross sections with moving parts (Vent/outer frame combination) <ul style="list-style-type: none"> Vent profile: 19504160 Basic depth: 82 mm Outer frame profile: 19500160 Basic depth: 120 mm Face width: 94.5 mm Infill thickness 24 mm 	Test report 15-000619-PR01 ift - Rosenheim		






















Extract from product standard EN 14351-1		Type, design	Proof (See 3. for details)	Value/class	Area of application
	Energy calculation	Cross sections with moving parts (Vent/outer frame combination) <ul style="list-style-type: none"> ▪ Vent profile: 19504160 ▪ Basic depth: 82 mm ▪ Outer frame profile: 19500160 ▪ Basic depth: 120 mm ▪ Face width: 94.5 mm ▪ Infill thickness 48 mm 	Test report 576107-E Danish Technological Institute Aarhus	$E_{ref} = 21.7 \text{ kWh/m}^2$	
4.13	 Radiation properties	All test specimens	See CE marking for glazing	Project-specific certification	
4.14	 Air permeability	Single-vent, top-guided window Vent size: 1173 mm x 1423 mm	Test report 576107-EV Danish Technological Institute Aarhus	4	Transfer to -100% to +50% of the total area of the test specimen, in accordance with the maximum distances between locking points with the same or a similar format (ratio of height to width)
		Double-vent, top-guided window Vent size: 1184.5 mm x 1423 mm	Test report 576107-DV Danish Technological Institute Aarhus		
4.16	 Operating forces (with manually operated windows only)	Double-vent window with T-profile Vent size: 854.5 mm x 1743 mm	Test report 311002294-1 HFB Engineering GmbH	1	Transfer to -100% of the total area of the test specimen with the same or a similar format (ratio of height to width) when using the same type of fittings and the same number of or fewer locking points
4.17	 Mechanical strength	Single-vent, top-guided window Vent size: 1423 mm x 1423 mm	Test report 576107-TV Danish Technological Institute Aarhus	4	Transfer to -100% of the total area of the test specimen with the same or a similar format (ratio of height to width) when using the same type of fittings and same design
4.18	 Ventilation		Project-specific certification	If required	
4.19	 Bullet resistance			npd	
4.20	 Blast resistance			npd	
4.21	 Resistance to repeated opening and closing			npd	
4.22	 Behaviour between different climates	Double-vent window with T-profile Vent size: 854.5 mm x 1743 mm	Test report 311002294-1 HFB Engineering GmbH	3A / 3D	All sizes
4.23	 Burglar resistance			npd	

3. Details on listed test documentation

The original test reports serve as verification. You can obtain them via the internet at: www.schueco.de

Test report No. Test institute	Date	Valid to	Type of test	Underlying standards
576107-EV Danish Technological Institute Aarhus	05.01.2015	Until updated	Resistance to wind load, watertightness, air permeability	EN 14351-1:2006-03+A1:2010 EN 1026 (2000) EN 1027 (2000) EN 12211 (2000)
576107-DV Danish Technological Institute Aarhus	05.01.2015	Until updated	Resistance to wind load, watertightness, air permeability	EN 14351-1:2006-03+A1:2010 EN 1026 (2000) EN 1027 (2000) EN 12211 (2000)
576107-a Danish Technological Institute Aarhus	05.01.2015	Until updated	Thermal transmittance of frame	EN ISO 12567-1:2010+ EN ISO 12567-1:2011/AC
15-000619-PR01 ift Rosenheim	20.07.2015	Until updated	Thermal transmittance of frame	EN ISO 10077-2:2012-02 SG 06 obligatory NB-CPD/SG06/11/083 2011-09
576107-E Danish Technological Institute Aarhus	05.01.2015	Until updated	Energy calculation	EN 14351-1:2006+A1:2010; EN ISO 10077-1:2006 EN ISO 10077-2:2012 EN 673:2011
576107-TV Danish Technological Institute Aarhus	05.01.2015	Until updated	Mechanical strength	EN 14351-1+A1 (2010) EN 14609 (2003) NB-CPD/SG06-10/041 rev1:
311002294-1 HFB Engineering GmbH	21.06.2012	Until updated	Operating forces, behaviour between different climates	DIN EN 12046-1 (Ausz. 04/2004)

Appendix 1 Test, calculation and classification standards in accordance with EN 14351-1

No.		Properties in accordance with EN 14351-1	Test or calculation standard	Classification standard
4.2		Resistance to wind load	EN 12211	EN 12210
4.3		Resistance to snow and permanent load	National regulations	
4.4		Reaction to fire	EN 13501-1	EN 13501-1
4.5		Watertightness	EN 1027	EN 12208
4.6		Dangerous substances	National regulations	
4.7		Impact resistance	EN 13049	
4.8		Load-bearing capacity of safety devices	prEN 14609 EN 948	
4.9		Height and width (external doors only)	Measured values	
4.10		Ability to release (external doors only)	EN 179, EN 1125, EN 1935, prEN 13633, prEN 13637	
4.11		Sound reduction	EN ISO 140-3, EN ISO 717-1	Measured values
4.12		Thermal transmittance U_w (W/(m ² K))	EN ISO 10077-1, prEN ISO 10077-2, EN ISO 12567-1, prEN ISO 12567-2	Measured values
4.13		Radiation properties	EN 410, EN 13363-1, EN 13363-2	Measured values
4.14		Air permeability	EN 1026	EN 12207
4.16		Operating forces (with manually operated windows only)	EN 12046-1	EN 13115
4.17		Mechanical strength	EN 14608, EN 14609, 12046-1	EN 13115
4.18		Ventilation	EN 13141-1:2004	Measured values
4.19		Bullet resistance	EN 1523	EN 1522
4.20		Blast resistance	EN 13124	EN 13123
4.21		Resistance to repeated opening and closing	EN 1191	EN 12400
4.22		Behaviour between different climates	ENV 13420 EN 1121	EN 12219 Pending for windows
4.23		Burglar resistance	ENV 1628, ENV 1629, ENV 1630	ENV 1627