



HUECK system pass for windows according to EN 14351-1

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Basic principles

EN 14351 - 1: 2016
 Windows and exterior doors

Test reports

ift 16-002066-PR02
 ift 16-002065-PR09
 ift 16-002065-PR10
 ift 16-002065-PR11
 ift 16-002065-PR12
 ift 17-001213-PR01
 SKG-IKOB 17.01143-6
 SKG-IKOB 18.00754

EHL 20180222

SG 1713-001-17

PIV 23-1/15.217
 PIV 45-61/18

The Hueck system pass shows the general performance of the designated product family in accordance with the requirements of the product standard.

The classes relate to the item described in the individual certificates and to the application range defined in the Hueck system pass.

The performance properties in the listed test certificates have overriding validity. Changes and omissions excepted

The national building regulations as well as the contractual agreements apply to the application of performance characteristics.

Contents

The HUECK system pass comprises a total of 7 pages:

- 1 Overview
- 2 General information about the Hueck system pass
- 3 Brief description of the product family
- 4 Results according to EN 14351
- 5 Overview of performance characteristics
- 6 Overview of the performance features according to additional standards/regulations

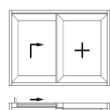
System supplier

HUECK System GmbH & Co. KG
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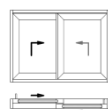
System

HUECK Volato M+

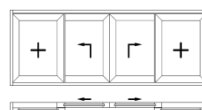
Product family



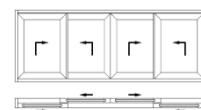
Scheme A



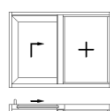
Scheme D



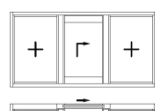
Scheme C



Scheme F



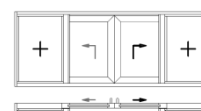
Scheme MA



Scheme MG



Scheme MK



Scheme MC

Scheme A1/A2:

Double-track system with 2 sections; 1 sliding sash, 1 fixed sash;
 Primary sash opening to the left/right
 Wide and narrow labyrinth

Scheme D1/D2:

Double-track system with 2 sections; 2 sliding sashes;
 Primary sash opening to the left/right
 Wide and narrow labyrinth

Scheme C1/C2:

Double-track system with 4 sections; 2 sliding sashes in the middle,
 Fixed area left and right; primary sash opening to the left/right

Scheme F1/F2:

Double-track system with 4 sections; 4 sliding sashes, primary sash
 in the middle, opening to the left/right

Scheme MA1/MA2:

Monorail with 2 sections; 1 sliding sash, 1 fixed area
 Primary sash opening to the left/right
 Wide and narrow labyrinth

Scheme MG1/MG2:

Monorail with 3 fields; sliding sash in the middle, fixed area left and
 right; primary sash opening to the left/right

Scheme MK:

Monorail with 3 fields; sliding sash left and right, fixed area in the
 middle; primary sash opening to the left/right






















Scheme MC1/MC2:

Monorail with 4 fields; 2 sliding sashes in the middle, fixed area left
 and right; primary sash opening to the left/right

Frame material

Aluminium-plastic composite profiles

Properties/classes (according to EN 14351-1)

						
Resistance to wind load	Resistance to snow and continuous loads	Fire behaviour	Water tightness	Dangerous substances	Shock resistance	Bearing capacity of safety devices
up to C5/B5	npd	npd	up to E 1050	see section 4	npd	npd
						
Height and width	Ability to release	Sound-proofing	Coefficient of heat transmission	Radiative properties	Air permeability	Operating forces
2)	2)	40 dB	1.8W/m ² K	npd	4	1
						
Mechanic solidity	Ventilation	Bullet-resistance	Blast-resistance	Long-term reliability test	Reaction to different climates	Burglar resistance
npd	npd	npd	npd	npd	npd	RC2(N)

Additional characteristics/evidence

T-bracket load capacity	Crash protection
npd	npd

1) object-related evidence - if required

2) Characteristic not mandated for windows

2 General information about the HUECK system pass

The listed performance characteristics were tested and classified by approved testing laboratories in accordance with the test and classification standards listed in the product standard EN 14351-1.

The test certificates on which the system pass is based are cited in section 4. Please refer to the test reports for the detailed description of the samples on which the individual tests are based.

The transferal rules are taken from Annex E of the product standard EN 14351-1.

3 Product family



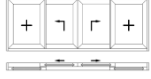



















Brief description of the systems























This brief description summarizes the main system features of the HUECK Volato M+ system with wide and narrow labyrinth.

Variants	Aluminium-plastic composite
Profile depth	Fixed frame 148 mm Sash frame 65 – 125 mm
Frame connection	Butt jointed, sealed with EPDM shaped piece and sealing material, screwed Monorail element, butt jointed and nailed The sash frame is cut to mitre, nailed and pegged and glued with corner cleats.
Hinge formation	
Rebate gasket	Z 918265 sealing profile (lateral and at the bottom), black silicone Z 918495 sealing profile (top), EPDM; supplied by HUECK
Rebate gasket meeting stiles	Z 917244 sealing profile, black EPDM, vertical installation, supplied by HUECK
Drainage	Frame Ø 10 mm drill holes at the bottom; 6 × 20 mm slots Fixed area Ø 10 mm drill holes at the bottom; 5 mm × 30 mm slots, Sash Ø 10 mm drill holes at the bottom; 5 mm × 30 mm slots
Glazing	Multi-pane insulating glass or panels with an element thickness of 22 - 48 mm (sash frame); 22 – 46 mm (monorail)
Internal glazing gasket	Z 917979, 914262, Z 914263, Z 914264, Z 911074, Z 911054, Z 911075, Z 911076, Z 911077 sealing profile, black EPDM, supplied by HUECK, all-round, butt jointed at the top centre

External glazing gasket	Z 914257, Z 911113, Z Z914259 sealing profile, black EPDM, supplied by HUECK, all-round, butt jointed at the top centre and glued
Vapour pressure equalisation	Sash: Ø 8 mm drill holes at the bottom and sides of the sash
Fitting	Gear rod with multi-point locking and wind security devices




4 Results according to EN 14351-1








	Section of the product standard EN 14351-1		Standard	Product family					
									
			Scheme A1 / A2		Scheme D1/ D2		Scheme C1/ C2	Scheme F1/ F2	
			BL	SL	BL	SL			
	4.2	Resistance to wind load	EN 12210	C5/B5	C4/B4	C3/B3	C3	C2/ B2	
	4.3	Resistance to snow and continuous loads		Not applicable					
	4.4	Fire properties		npd					
	4.5	Water tightness	EN 12208	E 750	9A	E 750	E750	5A	
	4.6	Dangerous substances		Depending on the requirements of the country of destination, the manufacturer must declare the substances that, when used as intended, pose a risk to hygiene, health or the environment through emissions or displacement					
	4.7	Shock resistance		npd					
	4.8	Bearing capacity of safety devices		npd					
	4.9	Height and width of doors and French doors		Not applicable					
	4.10	Ability to release		Not applicable					
	4.11	Sound-proofing		up to $R_w = 40$ (-2) dB					
	4.12	Coefficient of heat transmission		U_r values depend on the equipment and surface $U_r \geq 1.8$ W/m ² K					
	4.13	Radiative properties		The total energy transmittance value (g) and light transmission degree (τ) are to be declared object-related based on CE marking of glass units.					
	4.14	Air permeability	EN 12207	4					
	4.15	Durability		npd					
	4.16	Operating forces	EN 13115	npd	1	npd	npd		
	4.17	Mechanic solidity	EN 13115	npd					
	4.18	Ventilation		npd					
	4.19	Bullet-resistance		npd					
	4.20	Blast-resistance		npd					
	4.21	Long-term reliability test		npd					
	4.22	Reaction to different climates		Not applicable					
	4.23	Burglar resistance		RC2 (N)					
	4.24	Special requirements							










	Section of the product standard EN 14351-1		Standard	Product family			
							
				Scheme MA1 / MA2 BL SL	Scheme MG1/ MG2	Scheme MK	Scheme MC1/ MC2
	4.2	Resistance to wind load	EN 12210		C3		C2/ B2
	4.3	Resistance to snow and continuous loads		Not applicable			
	4.4	Fire properties		npd			
	4.5	Water tightness	EN 12208	E750	E750	E750	E1050
	4.6	Dangerous substances		Depending on the requirements of the country of destination, the manufacturer must declare the substances that, when used as intended, pose a risk to hygiene, health or the environment through emissions or displacement			
	4.7	Shock resistance		npd			
	4.8	Bearing capacity of safety devices		npd			
	4.9	Height and width of doors and French doors		Not applicable			
	4.10	Ability to release		Not applicable			
	4.11	Sound-proofing		up to $R_w = 40 (-2)$ dB			
	4.12	Coefficient of heat transmission		U_r values depend on the equipment and surface $U_r \geq 1.8$ W/m ² K			
	4.13	Radiative properties		The total energy transmittance value (g) and light transmission degree (τ) are to be declared object-related based on CE marking of glass units.			
	4.14	Air permeability	EN 12207	4			
	4.15	Durability		npd			
	4.16	Operating forces	EN 13115	npd			
	4.17	Mechanic solidity	EN 13115	npd			
	4.18	Ventilation		npd			
	4.19	Bullet-resistance		npd			
	4.20	Blast-resistance		npd			
	4.21	Long-term reliability test		npd			
	4.22	Reaction to different climates		Not applicable			
	4.23	Burglar resistance		RC2 (N)			
	4.24	Special requirements					


1) object-related evidence - if required

5 Overview of performance characteristics

	Section of the product standard EN 14351-1	Variant / Type / Design	Value / Class	Evidence	Application range
	4.2	Resistance to wind load	<p>Lifting-sliding door (Scheme A BL, x2 wind security devices) Sash element frame: 2175 mm × 2380 mm Fixed frame dimensions: 4350 mm × 2452.5 mm</p> <p>C4/ B4</p> <p>ift 16-002066-PR02 19.12.2016</p> <p>Lifting-sliding door (Scheme A BL, x6 wind security devices) Sash element frame: 2175 mm × 2380 mm Fixed frame dimensions: 4350 mm × 2452.5 mm</p> <p>C5/ B5</p> <p>ift 16-002066-PR02 19.12.2016</p> <p>Lifting-sliding door (scheme A SL) Sash element frame: 2163 mm × 2350 mm Fixed frame dimensions: 4350 mm × 2453 mm</p> <p>C4 / B4</p> <p>ift 16-002065-PR09 31.03.2017</p> <p>Lifting-sliding door (scheme MG) Sash element frame: 2170 mm × 2350 mm Fixed area: 1165 mm × 2452.5 mm Fixed frame dimensions: 4350 mm × 2452.5 mm</p> <p>C5 / B5</p> <p>ift 16-002065-PR10 31.03.2017</p> <p>Lifting-sliding door (scheme F) Master leaf unit: 1220 mm × 2350 mm Secondary leaf unit 999 mm × 2350 mm Fixed frame dimensions: 4350 mm × 2452.5 mm</p> <p>C2 / B2</p> <p>ift 16-002065-PR11 31.03.2017</p> <p>Lifting-sliding door (Scheme D) Master leaf frame: 2200 mm × 2350 mm Sash element frame: 2075 mm × 2350 mm Fixed frame dimensions: 4350 mm × 2452.5 mm</p> <p>C3 / B3</p> <p>ift 16-002065-PR12 07.03.2018</p> <p>Lifting-sliding door (scheme C) Sash element frame: 1078 mm × 2350 mm Fixed frame dimensions: 4350 mm × 2452.5 mm</p> <p>C3</p> <p>SKG-IKOB 18.00754 23.10.2018</p>	<p>ift 16-002066-PR02 19.12.2016</p> <p>ift 16-002066-PR02 19.12.2016</p> <p>ift 16-002065-PR09 31.03.2017</p> <p>ift 16-002065-PR10 31.03.2017</p> <p>ift 16-002065-PR11 31.03.2017</p> <p>ift 16-002065-PR12 07.03.2018</p> <p>SKG-IKOB 18.00754 23.10.2018</p>	<p>Transfer to -100% of the frame width and frame height of the test sample.</p> <p>The deflection of the sash profiles can also be calculated.</p> <p>Under compliance with the application diagram for the fittings and separate proof of the deflection of the sash profiles, a sash width of up to 2000 mm and sash height of up to 2500 mm can be classified as up to C1</p> <p>The dimensions of the expert opinions must be observed.</p>
	4.3	Resistance to snow and continuous loads	npd		Applies only to skylight windows
	4.4	Fire properties	npd		Applies only to skylight windows
	4.5	Water tightness	<p>Lifting-sliding door (scheme A BL) Sash element frame: 2175 mm × 2380 mm Fixed frame dimensions: 4350 mm × 2452.5 mm</p> <p>E750</p> <p>ift 16-002066-PR02 19.12.2016</p> <p>Lifting-sliding door (scheme A SL) Sash element frame: 2163 mm × 2350 mm Fixed frame dimensions: 4350 mm × 2453 mm</p> <p>9A</p> <p>ift 16-002065-PR09 31.03.2017</p> <p>Lifting-sliding door (scheme MA) Sash element frame: 1714 mm × 2936 mm Fixed area: 1714 mm × 2936 mm Fixed frame dimensions: 3430 mm × 3038 mm</p> <p>E750</p> <p>SKG-IKOB 17.01143-6 30.03.2018</p>	<p>ift 16-002066-PR02 19.12.2016</p> <p>ift 16-002065-PR09 31.03.2017</p> <p>SKG-IKOB 17.01143-6 30.03.2018</p>	<p>Transfer to -100% to +50% of the total area of the test sample.</p> <p>The dimensions of the expert opinions must be observed.</p>

	Section of the product standard EN 14351-1	Variant / Type / Design	Value / Class	Evidence	Application range
	4.5 Water tightness (Continuation)	 <p>Lifting-sliding door (scheme MG) Sash element frame: 2170 mm × 2350 mm Fixed area: 1165 mm × 2452.5 mm Fixed frame dimensions: 4350 mm × 2452.5 mm</p> <p>Lifting-sliding door (scheme F) Master leaf unit: 1220 mm × 2350 mm Secondary leaf unit: 999 mm × 2350 mm Fixed frame dimensions: 4350 mm × 2452.5 mm</p> <p>Lifting-sliding door (Scheme D) Master leaf frame: 2200 mm × 2350 mm Sash element frame: 2075 mm × 2350 mm Fixed frame dimensions: 4350 mm × 2452.5 mm</p> <p>Lifting-sliding door (scheme C) Sash element frame: 1078 mm × 2350 mm Fixed frame dimensions: 4350 mm × 2452.5 mm</p>	E1050 5A E750 E750	ift 16-002065-PR10 31.03.2017 ift 16-002065-PR11 31.03.2017 ift 16-002065-PR12 07.03.2018 SKG-IKOB 18.00754 23.10.2018	
	4.6 Dangerous substances	Depending on the requirements of the country of destination, the manufacturer must declare the substances that, when used as intended, pose a risk to hygiene, health or the environment through emissions or displacement.			
	4.7 Shock resistance		npd		
	4.8 Bearing capacity of safety devices		npd		
	4.9 Height and width of doors and French doors		npd		Applies only to external doors
	4.10 Ability to release		npd		Applies only to outer doors in escape and rescue routes
	4.11 Sound-proofing	<p>Sliding door (Scheme A) Sash element frame: 1494 mm × 2197.5 mm Fixed frame dimensions: 3000 mm × 2300 mm 45 dB glass</p> <p>Sliding door (Scheme A) Sash element frame: 1494 mm × 2197.5 mm Fixed frame dimensions: 3000 mm × 2300 mm 37 dB glass</p>	Rw = 40 (-2) dB Rw = 36 (-2) dB	SG 1713-001-17 14.12.2017 SG 1713-002-17 14.12.2017	
	4.12 Coefficient of heat transmission	Sliding door	U _f 1.8 – 6.9 W/m²K	EHL 20180222	Values depend on the equipment and surface. The property is to be declared based on the object.

	Section of the product standard EN 14351-1		Variant / Type / Design	Value / Class	Evidence	Application range
	4.13	Radiative properties	Taken from the glazing CE signs			The property is to be proven based on the object.
	4.14	Air permeability	Lifting-sliding door (scheme A BL) Sash element frame: 2175 mm × 2380 mm Fixed frame dimensions: 4350 mm × 2452.5 mm	4	ift 16-002066-PR02 19.12.2016	Transfer to -100% to +50% of the total area of the test sample.
Lifting-sliding door (scheme A SL) Sash element frame: 2163 mm × 2350 mm Fixed frame dimensions: 4350 mm × 2453 mm			4	ift 16-002065-PR09 31.03.2017	The dimensions based on expert opinions must be observed.	
Lifting-sliding door (scheme MA) Sash element frame: 1714 mm × 2936 mm Fixed area: 1714 mm × 2936 mm Fixed frame dimensions: 3430 mm × 3038 mm			4	SKG-IKOB 17.01143-6 30.03.2018		
Lifting-sliding door (scheme MG) Sash element frame: 2170 mm × 2350 mm Fixed area: 1165 mm × 2452.5 mm Fixed frame dimensions: 4350 mm × 2452.5 mm			4	ift 16-002065-PR10 31.03.2017		
Lifting-sliding door (scheme F) Master leaf unit: 1220 mm × 2350 mm Secondary leaf unit: 999 mm × 2350 mm Fixed frame dimensions: 4350 mm × 2452.5 mm			4	ift 16-002065-PR11 31.03.2017		
Lifting-sliding door (Scheme D) Master leaf frame: 2200 mm × 2350 mm Sash element frame: 2075 mm × 2350 mm Fixed frame dimensions: 4350 mm × 2452.5 mm			4	ift 16-002065-PR12 07.03.2018		
			Lifting-sliding door (scheme C) Sash element frame: 1078 mm × 2350 mm Fixed frame dimensions: 4350 mm × 2452.5 mm	4	SKG-IKOB 18.00754 23.10.2018	
	4.15	Durability				
	4.16	Operating forces	Lifting-sliding door (Scheme D) Master leaf frame: 2200 mm × 2350 mm Sash element frame: 2075 mm × 2350 mm Fixed frame dimensions: 4350 mm × 2452.5 mm	1	ift 16-002065-PR12 07.03.2018	
	4.17	Mechanic solidity		npd		
	4.18	Ventilation		npd		applies only to windows with integrated ventilation device
	4.19	Bullet-resistance		npd		
	4.20	Blast-resistance		npd		
	4.21	Long-term reliability test		npd		
	4.22	Reaction to different climates		npd		

	Section of the product standard EN 14351-1		Variant / Type / Design	Value / Class	Evidence	Application range
	4.23	Burglar resistance	Sliding door (Scheme A/ ASL/ D/ DSL/ MA/ MASL/ MK/ C1/ F1/ MC1) Sash element frame: 1148 mm × 2045 mm Sliding door (Scheme A/ D/ C/ MA/ MG/ MC/ MK) Sash element frame: 3200 mm × 3000 mm	RC2 (N) RC2 (N)	PIV 45-61/18 05.09.2018 GaS PIV 23-1/15.217 17.10.2017	For sash heights of max. 3000 mm and sash widths of max. 3200 mm with wide labyrinth, it must be ensured that the dimensions of the locking devices from the sash edges to the middle of the locking device are maintained with a tolerance of +10% and -20%. For heights above 2500 mm an additional locking device must be used.

6. Overview of the performance features according to additional standards/regulations

	Section of the product standard EN 14351-1		Variant / Type / Design	Value / Class	Evidence	Application range
	6.1	T-bracket load capacity		npd		
	6.2	Crash protection (TRAV)		npd		