

HUECK system pass for windows according to EN 14351-1

HUECK System GmbH & Co. KG

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Basic information

EN 14351 – 1: 2016
 Windows and pedestrian doors

Test reports

See under point 5

The Hueck system pass describes the general properties of the given product family according to the specifications given in the product standard.

The classifications apply to the described specimen shown in the tables and are valid for the defined application range. The performance characteristics outlined in the listed test certificates have overriding validity. Changes and omissions excepted

For the applicability of classifications local building laws and contractual agreements apply.

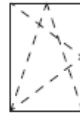
Content

The HUECK system pass comprises a total of 20 pages:

1. Overview
2. General information on the Hueck system pass
3. Short description of the product family
4. Results according to EN 14351
5. An overview of performance characteristics
6. An overview of performance characteristics based on other standards/regulations

System supplier: HUECK System GmbH & Co. KG
System: HUECK Lambda WS 075
Product family: Windows

Variants



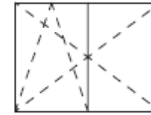
Variant 1

Turn, tilt and turn, bottom hung windows and window doors



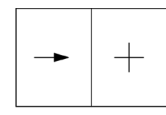
Variant 2

Fixed areas



Variant 3

French window



Variant 4

Parallel sliding window door

Frame material: Aluminium plastic composite profiles

Properties / classes (according to EN 14351)

Resistance to wind load	Resistance to snow and constant loads	Fire behaviour	Water tightness	Dangerous substances	Impact resistance	Load bearing capacity of safety devices
up to C5/B5	npd	Class E	up to E1350	see section 4	1	passed
Height and width	Release capability	Soundproofing	Thermal transmission coefficient	Radiation properties	Air permeability	Operating forces
2)	2)	up to $R_w = 47$ (0;-2) dB	1)	1)	4	1

Further properties/tests

Mechanical strength	Ventilation	Blast-resistance	Long-term reliability test	Behaviour between different climates	Burglar resistance
4	npd	npd	3	2)	up to RC 3

Load capacity of t-brackets	Fall-protection	NSHEV
See section 6	passed	see section 6

2. General information on the HUECK system pass

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


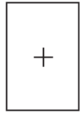
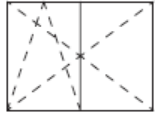
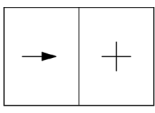
















The system pass is based on test reports mentioned in section 5. The detailed description of the various test specimens is found in the test reports.

The portability rules are taken from Annex E of the product standard EN 14351.


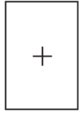
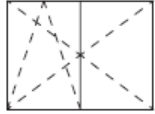
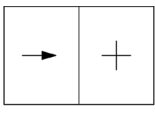





3. Product family

Short description of the systems	
This short description summarizes the main system features of the HUECK Lambda WS 075 system.	
Variants	Aluminium plastic composite
Profile depth	Fixed frame: 75 mm Sash frame: 85 mm
Frame connection	profiles mitred and moulded, nailed and glued by means of corner brackets Alternatively, butt-jointed with T-connectors, pinned and glued
Gaskets	
Centre seal gasket:	Sealing profile Z 921456 (rubber foam) with corner fittings Z 921459 (EPDM), supplied by HUECK
External rebate gasket	Sealing profile Z 922128 (Z 914266) made of black EPDM, supplied by HUECK, single piece surrounds recess, jointed at top and glued
Rebate drainage	Fixed frame / transom: 8 mm x 30 mm slot areas with cover cap Z 921100, Z 903541 or Z 906510
Pressure compensation	Drainage slot of 1 mm between the window frame and sash
Glazing	Insulating glass or panels with a thickness of 8 – 63 mm (sash frame) or 8 – 53 mm (fixed frame or transoms)
External glazing gasket	Sealing profile Z 923881, Z 923882, Z 923883 or Z 923884, black EPDM, supplied by HUECK, single piece surrounds recess, jointed at top centre
Internal glazing gasket	Sealing profile Z 914262 or Z923885, black EPDM, supplied by HUECK, single piece surrounds recess, jointed at top centre or gasket profiles depending on thickness of the glazing with equivalent material properties and comparable geometries
Vapour pressure equalisation	Sash: Bottom 2 slots 5 mm x 30 mm, hinge and closing side One slot each at the top 5 mm x 30 mm
Fitting	Exposed turn-tilt fitting Z 981321, supplied by HUECK Exposed turn-tilt fitting Z 981021, supplied by ROTO Concealed turn-tilt fitting Z 981301, supplied by HUECK Concealed turn-tilt fitting Z 981003, supplied by ROTO Inactive sash, exposed front plate Z 981328, supplied by HUECK Inactive sash, exposed front plate Z 981252, supplied by ROTO Fittings with other rotations and stay-arm hinge lengths can be used.


4. Results according to EN 14351-1

	Chapter of product standard EN 14351-1		Standard	Product family			
							
				Turn, bottom hung and turn-tilt window Variant 1	Fixed areas Variant 2	French window Variant 3	Parallel sliding window door Variant 4
	4.2	Resistance to wind load	EN 12210	up to C5/B5			up to C3/B3
	4.3	Resistance to snow and constant loads		not applicable			
	4.4	Fire properties		npd			
	4.5	Water tightness	EN 12208	up to E 1350	up to E 1200	up to E 900	
	4.6	Dangerous substances		The manufacturer has to declare substances which when used as prescribed cause danger to hygiene, health or the environment by emission or migration in accordance with the local requirements.			
	4.7	Impact resistance		1	npd		
	4.8	Load bearing capacity of safety devices		passed			
	4.9	Height and width of doors and window doors		not applicable			
	4.10	Release capability		not applicable			
	4.11	Soundproofing		up to $R_w = 47$ (0;-2) dB	npd		
	4.12	Thermal transmission coefficient		U values for standard size 1.23 m x 1.48 m or 1.48 m x 2.18 m, or object-related has to be declared $U_f = 0.86 - 2.4 \text{ W/m}^2\text{K}$			
	4.13	Radiation properties		The total solar energy transmittance g and light transmittance t are object-based evidence by the CE mark of the glazing.			
	4.14	Air permeability	EN 12207b	up to 4			
	4.15	Durability					
	4.16	Operating forces	EN 13115	up to 1			
	4.17	Mechanical strength	EN 13115	4	npd		
	4.18	Ventilation		npd			

4. Results according to EN 14351-1

	Chapter of product standard EN 14351-1		Standard	Product family			
							
				Turn, bottom hung and turn-tilt window Variant 1	Fixed areas Variant 2	French window Variant 3	Parallel sliding window door Variant 4
	4.19	Bullet-resistance		npd			
	4.20	Blast-resistance		npd			
	4.21	Long-term reliability test		3	npd		
	4.22	Behaviour between different climates		not applicable			
	4.23	Burglar resistance		up to RC 3			
	4.24	Specific requirements		See entries under point 5. An overview of performance characteristics			

5. An overview of performance characteristics

	Chapter of product standard EN 14351-1	Variant / Type / Design	Value / Class	Proof	Application range	
	4.2	Resistance to wind load	Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm	C5 / B5	ift 14-002284-PR19 08.12.2014	Transfer to -100% of the frame width and frame height of the specimen.
			Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm	C5 / B5	ift 14-002284-PR29 13.01.2015	The deflection of mullions and transoms can also be calculated.
			Tilt and turn window with side light (with dilatation joint, HUECK exposed fitting) Sash frame: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	C5 / B5	ift 14-002284-PR20 08.12.2014	In compliance with the application diagrams of fittings and separate calculation of the deflection of mullions and transoms, a sash width up to 1500 mm and a sash height up to 2600 mm can be classified to C5 / B5.
			Tilt and turn window with side light (with dilatation joint, ROTO exposed fitting) Sash frame: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	C5 / B5	ift 12-002284-PR23 08.12.2014	The dimensions of the expert opinions are to be observed
			French window with separate floating mullion profile (concealed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm	C5 / B5	ift 14-002284-PR25 13.01.2015	
			French window with separate floating mullion profile (exposed ROTO fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm	C3 / B3	ift 14-002284-PR26 13.01.2015	
			French window with secondary sash profile (exposed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm	C4 / B4	ift 14-002284-PR27 13.01.2015	
			French window with secondary sash profile (exposed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm	C5 / B5	ift 14-002284-PR28 13.01.2015	
			Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm	C5 / B5	ift 14-002284-PR44 22.07.2015	
			Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm	C5 / B5	ift 14-002284-PR44 22.07.2015	
			Single-sash tilt and turn window door with accessible threshold (concealed ROTO fitting) Sash frame: 1252 mm x 2070 mm Fixed frame: 1300 mm x 2100 mm	C4 / B4	ift 14-002284-PR45 22.07.2015	
			French window door with separate floating mullion profile and accessible threshold (concealed HUECK fitting) Sash frame: 1530 mm x 2243 mm Fixed frame: 3133 mm x 2174 mm	C3 / B3	ift 19-001562-PR02 23.07.2019	
			Single-sash tilt and turn window door with accessible threshold (exposed HUECK fitting) Sash frame: 1252 mm x 2070 mm Fixed frame: 1300 mm x 2100 mm	C4 / B4	ift 17-003999-PR01 20.12.2017	




5. An overview of performance characteristics

	Chapter of product standard EN 14351-1	Variant / Type / Design	Value / Class	Proof	Application range
	4.2 Resistance to wind load (continued)	Bottom-hung fanlight with fixed glazing below (exposed HUECK fitting) Sash frame: 3000 mm x 1000 mm Fixed frame: 3068 mm x 1980 mm	C4 / B4	ift 15-003518-PR01 14.12.2015	
		Ventilation flap (concealed HUECK fitting) Sash frame: 182 mm x 2932 mm Fixed frame: 800 mm x 3000 mm	C5 / B5	ift 17-003358-PR02 29.01.2018	
		Single-sash tilt and turn window door (concealed HUECK fitting) 2 x window rebate ventilators Sash frame: 1230 mm x 1480 mm Fixed frame: 1298 mm x 1548 mm	C5 / B5	ift 18-000882-PR01 24.07.2018	
		Single-sash tilt and turn window door (concealed HUECK fitting) 4 x window rebate ventilators Sash frame: 1230 mm x 1480 mm Fixed frame: 1298 mm x 1548 mm	C5 / B5	ift 18-000882-PR03 24.07.2018	
		Single-sash tilt and turn window door (concealed HUECK fitting) 1 x window rebate ventilators Sash frame: 1230 mm x 1480 mm Fixed frame: 1298 mm x 1548 mm	C5 / B5	ift 18-000882-PR04 02.08.2018	
		Single-sash tilt and turn window door (concealed HUECK fitting) 3 x window rebate ventilators Sash frame: 1230 mm x 1480 mm Fixed frame: 1298 mm x 1548 mm	C5 / B5	ift 18-000882-PR05 02.08.2018	
		Single-sash parallel sliding window door Scheme A (HUECK fitting) Sash frame: 1937 mm x 2612 mm Fixed frame: 4000 mm x 2700 mm	C3 / B3	ift 17-001638-PR01 20.07.2017	
		Double-sash parallel sliding window door with lateral fixed area, Scheme C (HUECK fitting) Sash frame: 1978 mm x 2402 mm Fixed frame: 4525 mm x 2490 mm	C2 / B2	ift 17-001638-PR02 20.07.2017	
		Bottom hung window, opening in 1 stay-arm, OL 90 fanlight opener Sash frame: 1000 mm x 900 mm Fixed frame: 1088 mm x 988 mm	C4	PIV 40-30/18	
		Bottom hung window, opening in 2 stay-arms, OL 90 fanlight opener Sash frame: 2000 mm x 900 mm Fixed frame: 2088 mm x 988 mm	C4	PIV 40-32/18	
Bottom hung window, opening in 3 stay-arms, OL 90 fanlight opener Sash frame: 2800 mm x 1000 mm Fixed frame: 2888 mm x 1088 mm	C4	PIV 40-31/18			
Bottom hung window, opening in 1 stay-arm, FL 190 fanlight opener Sash frame: 1000 mm x 900 mm Fixed frame: 1088 mm x 988 mm	C3	PIV 40-9/19 10.05.2019			


5. An overview of performance characteristics

	Chapter of product standard EN 14351-1	Variant / Type / Design	Value / Class	Proof	Application range
	4.2 Resistance to wind load (continued)	Bottom hung window, opening in 3 stay-arms, FL 190 fanlight opener Sash frame: 2800 mm x 1000 mm Fixed frame: 2888 mm x 1088 mm	C3	PIV 40-34/18 27.11.2018	
		Bottom hung window, opening in concealed opening and locking drive Sash frame: 1868 mm x 1368 mm Fixed frame: 1800 mm x 1300 mm	C5	PIV 40-35/18 26.11.2018	
		Fixed area Glazing gasket test Fixed frame: 2350 mm x 2350 mm	C5	ift 19-002192-PR02 30.11.2019	
		Single-sash turn and tilt window with fixed side glazing and vertical expansion joint Fixed frame: 3316 x 2348 Sash frame: 900 x 2300 Fixed glazing: 2350 x 2348 Fitting: exposed ROTO fitting	C5 / B5	ift 14-002284-PR23 08.12.2014	
		Single-sash turn and tilt window with fixed glazing at the bottom Sash frame: 1550 x 1400 Fixed frame: 1598 x 2499 Fitting: Hueck Gen 4.0, exposed	C4 / B4	ift 16-001862-PR01 04.04.2017	
		Bottom hung window, opening in, with fanlight fitting FL190 Outside dimensions: with one stay-arm: 1088 x 988 with two stay-arms: 2088 x 988 with three stay-arms: 2888 x 1088	C3	PIV 40-15/20 29.06.2020	
		Bottom hung window, opening in, with fanlight fitting OL90 Outside dimensions: with one stay-arm: 1088 x 988 with two stay-arms: 2088 x 988 with three stay-arms: 2888 x 1088 Additional: optionally with central locks Hueck Gen 4.0 or ROTO	C4 / B4	PIV 40-16/20 29.06.2020	
		Tilt and turn window Sash frame: active sash = 1500 x 2500, inactive sash = 1500x2500 Fixed frame: 1683 x 2898 Fitting: Hueck Gen 4.0, concealed	C3 / B3	ift 20-004302-PR01 25.11.2020	
		Double-sash French window Sash frame: 1500 x 2500 Fixed frame: 3054 x 2548 Fitting: Hueck Gen 4.0, concealed	C2 / B2	ift 20-004302-PR02 26.11.2020	
		Two fixed areas with element coupling Fixed frame: 1) 1754 x 1054 2) 1754 x 1054, Overall external dimension: 1754 x 2108	C4 / B4	ift 21-001666-PR01 30.03.2021	
French window with separate floating mullion profile Fixed frame: 2874 x 2268 Sash frame: 1400 x 2200 Fitting: Hueck Gen 4.0, concealed	C3 / B3	ift 21-001737-PR01 28.06.2021			
Window element with three fixed glazing units and two horizontal expansion joints Fixed frame: 1) 1598 x 500 2) 1598 x 512 3) 1598 x 500 Overall external dimension: 1598 x 1524	C4 / B4	ift 20-004302-PR03			


5. An overview of performance characteristics

	Chapter of product standard EN 14351-1		Variant / Type / Design	Value / Class	Proof	Application range
	4.3	Resistance to snow and constant loads		npd		Only applies to skylight windows
	4.4	Fire properties	Fire behaviour of insulating strips	Class E	ift 12-000006-PR02 15.10.2014	Only applies to skylight windows
			Fire behaviour of the plastic dividers and accessories	Class E	ift 17-002194-PR02 17.01.2018	
			Fire behaviour of gaskets	Class E	ift 17-002194-PR01 20.07.2020	
	4.5	Water tightness	Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm	9A	ift 14-002284-PR19 08.12.2014	Transfer to -100% to +50% of the total area of the specimen. The dimensions of the expert opinions are to be observed
			Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm	E1050	ift 14-002284-PR29 13.01.2015	
			Tilt and turn window with side light (with dilatation joint, HUECK exposed fitting) Sash frame: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	E1350	ift 14-002284-PR20 08.12.2014	
			Tilt and turn window with side light (with dilatation joint, ROTO exposed fitting) Sash frame: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	E1350	ift 12-002284-PR23 08.12.2014	
			French window with separate floating mullion profile (concealed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm	E900	ift 14-002284-PR25 13.01.2015	
			French window with separate floating mullion profile (exposed ROTO fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm	E1200	ift 14-002284-PR26 13.01.2015	
			French window with secondary sash profile (exposed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm	E750	ift 14-002284-PR27 13.01.2015	
			French window with secondary sash profile (exposed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm	E750	ift 14-002284-PR28 13.01.2015	
			Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm	E900	ift 14-002284-PR44 22.07.2015	



5. An overview of performance characteristics

	Chapter of product standard EN 14351-1	Variant / Type / Design	Value / Class	Proof	Application range
	4.5 Water tightness (continued)	Single-sash tilt and turn window door with accessible threshold (concealed ROTO fitting) Sash frame: 1252 mm x 2070 mm Fixed frame: 1300 mm x 2100 mm	9A	ift 14-002284-PR45 22.07.2015	
		French window door with separate floating mullion profile and accessible threshold (concealed HUECK fitting) Sash frame: 1530 mm x 2243 mm Fixed frame: 3133 mm x 2174 mm	9A	ift 19-001562-PR02 23.07.2019	
		Single-sash tilt and turn window door with accessible threshold (exposed HUECK fitting) Sash frame: 1252 mm x 2070 mm Fixed frame: 1300 mm x 2100 mm	9A	ift 17-003999-PR01 20.12.2017	
		Bottom-hung fanlight with fixed glazing below (exposed HUECK fitting) Sash frame: 3000 mm x 1000 mm Fixed frame: 3068 mm x 1980 mm	E750	ift 15-003518-PR01 14.12.2015	
		French window with separate floating mullion profile (exposed ROTO fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm	E1200	ift 14-002284-PR26 13.01.2015	
		French window with secondary sash profile (exposed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm	E750	ift 14-002284-PR27 13.01.2015	
		French window with secondary sash profile (exposed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm	E750	ift 14-002284-PR28 13.01.2015	
		Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm	E900	ift 14-002284-PR44 22.07.2015	
		Single-sash tilt and turn window door with accessible threshold (concealed ROTO fitting) Sash frame: 1252 mm x 2070 mm Fixed frame: 1300 mm x 2100 mm	9A	ift 14-002284-PR45 22.07.2015	
		French window door with separate floating mullion profile and accessible threshold (concealed HUECK fitting) Sash frame: 1530 mm x 2243 mm Fixed frame: 3133 mm x 2174 mm	9A	ift 19-001562-PR02 23.07.2019	
		Single-sash tilt and turn window door with accessible threshold (exposed HUECK fitting) Sash frame: 1252 mm x 2070 mm Fixed frame: 1300 mm x 2100 mm	9A	ift 17-003999-PR01 20.12.2017	
		Bottom-hung fanlight with fixed glazing below (exposed HUECK fitting) Sash frame: 3000 mm x 1000 mm Fixed frame: 3068 mm x 1980 mm	E750	ift 15-003518-PR01 14.12.2015	




5. An overview of performance characteristics

	Chapter of product standard EN 14351-1	Variant / Type / Design	Value / Class	Proof	Application range
	4.5 Water tightness (continued)	Single-sash tilt and turn window door (concealed HUECK fitting) 2 x window rebate ventilators Sash frame: 1230 mm x 1480 mm Fixed frame: 1298 mm x 1548 mm	E750	ift 18-000882-PR01 24.07.2018	
		Ventilation flap (concealed HUECK fitting) Sash frame: 182 mm x 2932 mm Fixed frame: 800 mm x 3000 mm	E900	ift 17-003358-PR02 29.01.2018	
		Single-sash tilt and turn window door (concealed HUECK fitting) 4 x window rebate ventilators Sash frame: 1230 mm x 1480 mm Fixed frame: 1298 mm x 1548 mm	8A	ift 18-000882-PR03 24.07.2018	
		Single-sash tilt and turn window door (concealed HUECK fitting) 1 x window rebate ventilators Sash frame: 1230 mm x 1480 mm Fixed frame: 1298 mm x 1548 mm	E750	ift 18-000882-PR04 02.08.2018	
		Single-sash tilt and turn window door (concealed HUECK fitting) 3 x window rebate ventilators Sash frame: 1230 mm x 1480 mm Fixed frame: 1298 mm x 1548 mm	8A	ift 18-000882-PR05 02.08.2018	
		Single-sash parallel sliding window door Scheme A (HUECK fitting) Sash frame: 1937 mm x 2612 mm Fixed frame: 4000 mm x 2700 mm	E900	ift 17-001638-PR01 20.07.2017	
		Double-leaf parallel sliding window door with lateral fixed area, Scheme C (HUECK fitting) Sash frame: 1978 mm x 2402 mm Fixed frame: 4525 mm x 2490 mm	E750 8A	ift 17-001638-PR02 20.07.2017	
		Bottom hung window, opening in 1 stay-arm, OL 90 fanlight opener Sash frame: 1000 mm x 900 mm Fixed frame: 1088 mm x 988 mm	9A	PIV 40-30/18	
		Bottom hung window, opening in 2 stay-arms, OL 90 fanlight opener Sash frame: 2000 mm x 900 mm Fixed frame: 2088 mm x 988 mm	9A	PIV 40-32/18	
		Bottom hung window, opening in 3 stay-arms, OL 90 fanlight opener Sash frame: 2800 mm x 1000 mm Fixed frame: 2888 mm x 1088 mm	9A	PIV 40-31/18	
		Bottom hung window, opening in 1 stay-arm, FL 190 fanlight opener Sash frame: 1000 mm x 900 mm Fixed frame: 1088 mm x 988 mm	9A	PIV 40-33/18 29.11.2018	
		Bottom hung window, opening in 3 stay-arms, FL 190 fanlight opener Sash frame: 2800 mm x 1000 mm Fixed frame: 2888 mm x 1088 mm	9A	PIV 40-34/18 27.11.2018	
		Bottom hung window, opening in concealed opening and locking drive Sash frame: 1868 mm x 1368 mm Fixed frame: 1800 mm x 1300 mm	E900	PIV 40-35/18 26.11.2018	
		Fixed area Glazing gasket test Fixed frame: 2350 mm x 2350 mm	E 1350	ift 19-002192-PR02 30.11.2019	



5. An overview of performance characteristics

	Chapter of product standard EN 14351-1	Variant / Type / Design	Value / Class	Proof	Application range
	4.5 Water tightness (continued)	<p>Single-sash turn and tilt window with fixed side glazing and vertical expansion joint Fixed frame: 3316 x 2348 Sash frame: 900 x 2300 Fixed glazing: 2350 x 2348 Fitting: exposed ROTO fitting</p> <p>Single-sash turn and tilt window with fixed glazing at the bottom Sash frame: 1550 x 1400 Fixed frame: 1598 x 2499 Fitting: Hueck Gen 4.0, exposed</p> <p>Bottom hung window, opening in, with fanlight fitting FL190 Outside dimensions: with one stay-arm: 1088 x 988 with two stay-arms: 2088 x 988 with three stay-arms: 2888 x 1088</p> <p>Bottom hung window, opening in, with fanlight fitting OL90 Outside dimensions: with one stay-arm: 1088 x 988 with two stay-arms: 2088 x 988 with three stay-arms: 2888 x 1088 Additional: optionally with central locks Hueck Gen 4.0 or ROTO</p> <p>Tilt and turn window Sash frame: active sash = 1500 x 2500, inactive sash = 1500 x 2500 Fixed frame: 1683 x 2898 Fitting: Hueck Gen 4.0, concealed</p> <p>Double-sash French window Sash frame: 1500 x 2500 Fixed frame: 3054 x 2548 Fitting: Hueck Gen 4.0, concealed</p> <p>Two fixed areas with element coupling Fixed frame: 1) 1754 x 1054 2) 1754 x 1054, Overall external dimension: 1754 x 2108</p> <p>French window with separate floating mullion profile (concealed Hueck fitting) Sash frame: 1400 x 2200 Fixed frame: 2874 x 2268</p> <p>Window element with three fixed glazing units and two horizontal expansion joints Fixed frame: 1) 1598 x 500 2) 1598 x 512 3) 1598 x 500 Overall external dimension: 1598 x 1524</p>	<p>E1350</p> <p>E 1200</p> <p>9A</p> <p>9A</p> <p>E900</p> <p>9A</p> <p>9A</p> <p>8A</p> <p>9A</p>	<p>ift 14-002284-PR23 08.12.2014</p> <p>ift 16-001862-PR01 04.04.2017</p> <p>PIV 40-15/20 29.06.2020</p> <p>PIV 40-16/20 29.06.2020</p> <p>ift 20-004302-PR01 25.11.2020</p> <p>ift 20-004302-PR02 26.11.2020</p> <p>ift 21-001666-PR01 30.03.2021</p> <p>ift 21-001737-PR01 28.06.2021</p> <p>ift 20-004302-PR03</p>	
	4.6 Dangerous substances	The manufacturer has to declare substances which when used as prescribed cause danger to hygiene, health or the environment by emission or migration in accordance with the local requirements.			
	4.7 Impact resistance	<p>Tilt and turn window - Exposed ROTO fitting - Concealed HUECK fitting Sash frame: 1550 mm x 1400 mm Fixed frame: 1048 mm x 1048 mm</p>	1	ift 14-002284-PR12 23.03.2015	Transfer to larger total area than the total area of the specimen.



5. An overview of performance characteristics

	Chapter of product standard EN 14351-1		Variant / Type / Design	Value / Class	Proof	Application range
	4.8	Load bearing capacity of safety devices	<p>Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm</p> <p>Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm</p> <p>Tilt and turn window with side light (with dilatation joint, HUECK exposed fitting) Sash frame: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm</p> <p>Tilt and turn window with side light (with dilatation joint, ROTO exposed fitting) Sash frame: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm</p> <p>Tilt and turn window (exposed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 1448 mm</p> <p>Tilt and turn window (concealed HUECK fitting) Sash frame: 900 mm x 2300 mm Fixed frame: 948 mm x 2348 mm</p> <p>French window with separate floating mullion profile (concealed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm</p> <p>French window with separate floating mullion profile (exposed ROTO fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm</p> <p>French window with secondary sash profile (exposed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm</p> <p>French window with secondary sash profile (exposed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm</p>	<p>npd passed</p> <p>passed</p> <p>passed</p> <p>passed</p> <p>passed</p> <p>passed</p> <p>passed</p> <p>passed</p> <p>passed</p> <p>passed</p>	<p>ift 14-002284-PR19 08.12.2014</p> <p>ift 14-002284-PR29 13.01.2015</p> <p>ift 14-002284-PR20 08.12.2014</p> <p>ift 12-002284-PR23 08.12.2014</p> <p>ift 14-002284-PR01 09.03.2015</p> <p>ift 14-002284-PR02 09.03.2015</p> <p>ift 14-002284-PR25 13.01.2015</p> <p>ift 14-002284-PR26 13.01.2015</p> <p>ift 14-002284-PR27 13.01.2015</p> <p>ift 14-002284-PR28 13.01.2015</p>	Transfer to smaller or equal frame widths or frame heights of the specimen.
	4.9	Height and width		npd		Only applies to external doors
	4.10	Release capability		npd		Only applies to external doors in escape and rescue routes


5. An overview of performance characteristics

	Chapter of product standard EN 14351-1	Variant / Type / Design	Value / Class	Proof	Application range																																																																										
	4.11	Soundproofing	up to Rw = 47(0,-2) dB	ift 15-000143-PR01 05.05.2015	Valid for other window sizes according to EN 14351-1, Annex B, Table B.3																																																																										
		Tilt and turn window Sash frame: 1182 mm x 1432 mm Fixed frame: 1230 mm x 1480 mm R _w glass [dB] R _w window [dB] ¹⁾ R _w window [dB] ²⁾ <table border="1"> <tr><td>41</td><td>40</td><td>41</td></tr> <tr><td>42</td><td>40</td><td>41</td></tr> <tr><td>43</td><td>41</td><td>42</td></tr> <tr><td>44</td><td>42</td><td>43</td></tr> <tr><td>45</td><td>44</td><td>45</td></tr> <tr><td>46</td><td>44</td><td>45</td></tr> <tr><td>47</td><td>44</td><td>45</td></tr> <tr><td>48</td><td>45</td><td>46</td></tr> <tr><td>49</td><td>45</td><td>46</td></tr> <tr><td>50</td><td>45</td><td>46</td></tr> <tr><td>51</td><td>45</td><td>46</td></tr> <tr><td>52</td><td>46 (-1;-3)</td><td>47 (0,-2)</td></tr> </table> <p>¹⁾ without external gasket ²⁾ with external gasket</p> Tilt and turn ventilation flap Sash frame: 182 mm x 1932/2932 mm Fixed frame: 250 mm x 2000/3000 mm R _w glass [dB] R _w window [dB] ¹⁾ R _w window [dB] ²⁾ <table border="1"> <tr><td>-</td><td>31</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>34</td></tr> <tr><td>-</td><td>-</td><td>37</td></tr> <tr><td>-</td><td>-</td><td>38</td></tr> <tr><td>-</td><td>-</td><td>30</td></tr> </table> different equipment variants				41	40	41	42	40	41	43	41	42	44	42	43	45	44	45	46	44	45	47	44	45	48	45	46	49	45	46	50	45	46	51	45	46	52	46 (-1;-3)	47 (0,-2)	-	31	-	-	-	34	-	-	37	-	-	38	-	-	30																							
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	4.11	Soundproofing (continued)		SG 1738-001-18 06.03.2018																																																																											
		Ventilation flap WS075 VS Unit 1 Fixed frame: 250 x 3000 Sash frame: 182 x 2932 Unit 2 Fixed frame: 250 x 2000 Sash frame: 182 x 1932 <table border="1"> <thead> <tr> <th>Unit</th> <th>Rw window [dB]1</th> <th>Rw window [dB]2</th> <th>Rw window [dB]3</th> <th>Rw window [dB]4</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>31</td> <td>34</td> <td>37</td> <td>38</td> </tr> <tr> <td>2</td> <td>30</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> different equipment variants --- Tilt and turn window with rebate clearance Sash frame: 1182 x 1432 Fixed frame: 1230 x 1480 Tilt and turn window with rebate clearance Sash frame: 1182 x 1432 Fixed frame: 1230 x 1481 <table border="1"> <thead> <tr> <th>Rw glass [dB]</th> <th>Number of rebate vents</th> <th>Rw window [dB]</th> </tr> </thead> <tbody> <tr><td>37</td><td>0</td><td>38</td></tr> <tr><td>37</td><td>1</td><td>36</td></tr> <tr><td>37</td><td>2</td><td>35</td></tr> <tr><td>37</td><td>3</td><td>34</td></tr> <tr><td>37</td><td>4</td><td>34</td></tr> <tr><td>42</td><td>0</td><td>40</td></tr> <tr><td>42</td><td>1</td><td>40</td></tr> <tr><td>42</td><td>2</td><td>38</td></tr> <tr><td>42</td><td>3</td><td>37</td></tr> <tr><td>42</td><td>4</td><td>37</td></tr> <tr><td>48</td><td>0</td><td>44</td></tr> <tr><td>48</td><td>1</td><td>43</td></tr> <tr><td>48</td><td>2</td><td>40</td></tr> <tr><td>48</td><td>3</td><td>38</td></tr> <tr><td>48</td><td>4</td><td>38</td></tr> <tr><td>51</td><td>0</td><td>46</td></tr> <tr><td>51</td><td>1</td><td>43</td></tr> <tr><td>51</td><td>2</td><td>41</td></tr> <tr><td>51</td><td>3</td><td>38</td></tr> <tr><td>51</td><td>4</td><td>37</td></tr> </tbody> </table>	Unit	Rw window [dB]1	Rw window [dB]2	Rw window [dB]3	Rw window [dB]4	1	31	34	37	38	2	30				Rw glass [dB]	Number of rebate vents	Rw window [dB]	37	0	38	37	1	36	37	2	35	37	3	34	37	4	34	42	0	40	42	1	40	42	2	38	42	3	37	42	4	37	48	0	44	48	1	43	48	2	40	48	3	38	48	4	38	51	0	46	51	1	43	51	2	41	51	3	38	51	4
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5. An overview of performance characteristics

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	4.11 Soundproofing (continued)	Double-sash side-hung window 1st sash frame 1092 x 2502 2nd sash frame 1092 x 2502 Fixed frame: 2520 x 2730 <table border="1"> <thead> <tr> <th>Rw glass [dB]</th> <th>Rw window [dB]1</th> <th>Rw window [dB]2</th> <th>Rw window [dB]3</th> </tr> </thead> <tbody> <tr><td>39</td><td>34</td><td>36</td><td>39</td></tr> <tr><td>40</td><td>34</td><td>37</td><td>39</td></tr> <tr><td>41</td><td>35</td><td>37</td><td>39</td></tr> <tr><td>42</td><td>35</td><td>38</td><td>40</td></tr> <tr><td>43</td><td>36</td><td>38</td><td>41</td></tr> <tr><td>44</td><td>36</td><td>39</td><td>41</td></tr> <tr><td>45</td><td>36</td><td>39</td><td>42</td></tr> <tr><td>46</td><td>37</td><td>40</td><td>42</td></tr> <tr><td>47</td><td>37</td><td>40</td><td>42</td></tr> <tr><td>48</td><td>37</td><td>40</td><td>43</td></tr> <tr><td>49</td><td>37</td><td>41</td><td>43</td></tr> <tr><td>50</td><td>38</td><td>41</td><td>44</td></tr> <tr><td>51</td><td>38</td><td>42</td><td>44</td></tr> <tr><td>52</td><td>38</td><td>42</td><td>45</td></tr> </tbody> </table> different equipment variants	Rw glass [dB]	Rw window [dB]1	Rw window [dB]2	Rw window [dB]3	39	34	36	39	40	34	37	39	41	35	37	39	42	35	38	40	43	36	38	41	44	36	39	41	45	36	39	42	46	37	40	42	47	37	40	42	48	37	40	43	49	37	41	43	50	38	41	44	51	38	42	44	52	38	42	45		SG 1938-001-21 24.08.2021	
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	4.12 Thermal transmission coefficient	$U_f = 0.86 \text{ W/m}^2\text{K}$ to $2.4 \text{ W/m}^2\text{K}$ WS075 profile without connecting sleeve, lip seal WS075 profile with connecting sleeve, lip seal WS075 profile combination: Sash-fixed frames; without connecting sleeves; Plus variant	$U_f = 1.9 \text{ W/(m}^2\text{K)}$ $U_f = 1.7 \text{ W/(m}^2\text{K)}$ $U_f = 1.5 \text{ W/(m}^2\text{K)}$	EHL 2014-12-17-01 15.01.2015 ift 14-002862-PR01 03.11.2014 ift 14-002862-PR02 03.11.2014 ift 14-003634-PR04 13.03.2015	The property requires a project certificate. UW value according to EN ISO 10077-1, Table F.1 can be applied to all unit sizes. Calculations based on EN ISO 10077-1 for the reference size 1.23 m x 1.48 m can be applied to units up to 2.3 m ² and for the reference size 1.48 m x 2.18 m to elements larger than 2.3 m ² . If $U_g < 1.9 \text{ W/m}^2\text{K}$, the calculation for the reference size 1.23 m x 1.48 m can be applied to all unit sizes.																																																												


5. An overview of performance characteristics

	Chapter of product standard EN 14351-1	Variant / Type / Design	Value / Class	Proof	Application range																																																												
	4.12 Thermal transmission coefficient (continued)	Accessible single-leaf window door 1st sash frame: 1200 x 2100 Fixed frame: 1248 x 2130 <table border="1"> <thead> <tr> <th>Rw glass [dB]</th> <th>Rw window [dB]1</th> <th>Rw window [dB]2</th> </tr> </thead> <tbody> <tr><td>37</td><td>37</td><td>38</td></tr> <tr><td>38</td><td>38</td><td>39</td></tr> <tr><td>39</td><td>39</td><td>40</td></tr> <tr><td>40</td><td>39</td><td>40</td></tr> <tr><td>41</td><td>40</td><td>41</td></tr> <tr><td>42</td><td>41</td><td>42</td></tr> <tr><td>43</td><td>41</td><td>42</td></tr> <tr><td>44</td><td>42</td><td>43</td></tr> <tr><td>45</td><td>43</td><td>44</td></tr> <tr><td>46</td><td>43</td><td>44</td></tr> <tr><td>47</td><td>43</td><td>44</td></tr> <tr><td>48</td><td>43</td><td>44</td></tr> <tr><td>49</td><td>44</td><td>45</td></tr> <tr><td>50</td><td>44</td><td>45</td></tr> <tr><td>51</td><td>44</td><td>45</td></tr> <tr><td>52</td><td>45</td><td>46</td></tr> </tbody> </table> 1) without external gasket 2) with external gasket	Rw glass [dB]	Rw window [dB]1	Rw window [dB]2	37	37	38	38	38	39	39	39	40	40	39	40	41	40	41	42	41	42	43	41	42	44	42	43	45	43	44	46	43	44	47	43	44	48	43	44	49	44	45	50	44	45	51	44	45	52	45	46		SG 1880-001-20 24.06.2020										
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		Accessible double-leaf French window door Active sash: 1200 x 2100 Inactive sash: 1200 x 2100 Fixed frame: 2455 x 2130 <table border="1"> <thead> <tr> <th>Rw glass [dB]</th> <th>Rw window [dB]1</th> <th>Rw window [dB]2</th> </tr> </thead> <tbody> <tr><td>37</td><td>37</td><td>38</td></tr> <tr><td>38</td><td>38</td><td>39</td></tr> <tr><td>39</td><td>39</td><td>40</td></tr> <tr><td>40</td><td>39</td><td>40</td></tr> <tr><td>41</td><td>40</td><td>41</td></tr> <tr><td>42</td><td>41</td><td>42</td></tr> <tr><td>43</td><td>41</td><td>42</td></tr> <tr><td>44</td><td>42</td><td>43</td></tr> <tr><td>45</td><td>43</td><td>44</td></tr> <tr><td>46</td><td>43</td><td>44</td></tr> <tr><td>47</td><td>43</td><td>44</td></tr> <tr><td>48</td><td>43</td><td>44</td></tr> <tr><td>49</td><td>44</td><td>45</td></tr> <tr><td>50</td><td>44</td><td>45</td></tr> <tr><td>51</td><td>44</td><td>45</td></tr> <tr><td>52</td><td>45</td><td>46</td></tr> </tbody> </table> 1) without external gasket 2) with external gasket	Rw glass [dB]	Rw window [dB]1	Rw window [dB]2	37	37	38	38	38	39	39	39	40	40	39	40	41	40	41	42	41	42	43	41	42	44	42	43	45	43	44	46	43	44	47	43	44	48	43	44	49	44	45	50	44	45	51	44	45	52	45	46		SG 1880-002-20 26.06.2020										
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5. An overview of performance characteristics

	Chapter of product standard EN 14351-1		Variant / Type / Design	Value / Class	Proof	Application range
	4.13	Radiation properties	Transfer from CE mark of glazing			The property requires a project certificate. Applicable to all sizes.
	4.14	Air permeability	Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm	4	ift 14-002284-PR19 08.12.2014	Transfer to -100% to +50% of the total area of the specimen.
Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm			4	ift 14-002284-PR29 13.01.2015	The dimensions of the expert opinions are to be observed	
Tilt and turn window with side light (with dilatation joint, HUECK exposed fitting) Sash frame: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm			4	ift 14-002284-PR20 08.12.2014		
Tilt and turn window with side light (with dilatation joint, ROTO exposed fitting) Sash frame: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm			4	ift 12-002284-PR23 08.12.2014		
French window with separate floating mullion profile (concealed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm			4	ift 14-002284-PR25 13.01.2015		
French window with separate floating mullion profile (exposed ROTO fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm			4	ift 14-002284-PR26 13.01.2015		
French window with secondary sash profile (exposed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm			4	ift 14-002284-PR27 13.01.2015		
French window with secondary sash profile (exposed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm			4	ift 14-002284-PR28 13.01.2015		
Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm			4	ift 14-002284-PR44 22.07.2015		
Single-sash tilt and turn window door with accessible threshold (concealed ROTO fitting) Sash frame: 1252 mm x 2070 mm Fixed frame: 1300 mm x 2100 mm			4	ift 14-002284-PR45 22.07.2015		
French window door with separate floating mullion profile and accessible threshold (concealed HUECK fitting) Sash frame: 1530 mm x 2243 mm Fixed frame: 3133 mm x 2174 mm			4	ift 19-001562-PR02 23.07.2019		
Single-sash tilt and turn window door with accessible threshold (exposed HUECK fitting) Sash frame: 1252 mm x 2070 mm Fixed frame: 1300 mm x 2100 mm			4	ift 17-003999-PR01 20.12.2017		
Bottom-hung fanlight with fixed glazing below (exposed HUECK fitting) Sash frame: 3000 mm x 1000 mm Fixed frame: 3068 mm x 1980 mm			4	ift 15-003518-PR01 14.12.2015		



5. An overview of performance characteristics

	Chapter of product standard EN 14351-1	Variant / Type / Design	Value / Class	Proof	Application range
	4.14 Air permeability (continued)	Ventilation flap (concealed HUECK fitting) Sash frame: 182 mm x 2932 mm Fixed frame: 800 mm x 3000 mm	4	ift 17-003358-PRO2 29.01.2018	
		Single-sash tilt and turn window door (concealed HUECK fitting) 2 x window rebate ventilators Sash frame: 1230 mm x 1480 mm Fixed frame: 1298 mm x 1548 mm	3	ift 18-000882-PRO1 24.07.2018	
		Single-sash tilt and turn window door (concealed HUECK fitting) 4 x window rebate ventilators Sash frame: 1230 mm x 1480 mm Fixed frame: 1298 mm x 1548 mm	2	ift 18-000882-PRO3 24.07.2018	
		Single-sash tilt and turn window door (concealed HUECK fitting) 1 x window rebate ventilators Sash frame: 1230 mm x 1480 mm Fixed frame: 1298 mm x 1548 mm	3	ift 18-000882-PRO4 02.08.2018	
		Single-sash tilt and turn window door (concealed HUECK fitting) 3 x window rebate ventilators Sash frame: 1230 mm x 1480 mm Fixed frame: 1298 mm x 1548 mm	2	ift 18-000882-PRO5 02.08.2018	
		Single-sash parallel sliding window door Scheme A (HUECK fitting) Sash frame: 1937 mm x 2612 mm Fixed frame: 4000 mm x 2700 mm	4	ift 17-001638-PRO1 20.07.2017	
		Double-sash parallel sliding window door with lateral fixed area, Scheme C (HUECK fitting) Sash frame: 1978 mm x 2402 mm Fixed frame: 4525 mm x 2490 mm	4	ift 17-001638-PRO2 20.07.2017	
		Bottom hung window, opening in 1 stay-arm, OL 90 fanlight opener Sash frame: 1000 mm x 900 mm Fixed frame: 1088 mm x 988 mm	4	PIV 40-30/18 27.11.2018	
		Bottom hung window, opening in 2 stay-arms, OL 90 fanlight opener Sash frame: 2000 mm x 900 mm Fixed frame: 2088 mm x 988 mm	3	PIV 40-32/18 29.11.2018	
		Bottom hung window, opening in 3 stay-arms, OL 90 fanlight opener Sash frame: 2800 mm x 1000 mm Fixed frame: 2888 mm x 1088 mm	3	PIV 40-31/18 28.11.2018	
		Bottom hung window, opening in 1 stay-arm, FL 190 fanlight opener Sash frame: 1000 mm x 900 mm Fixed frame: 1088 mm x 988 mm	4	PIV 40-33/18 29.11.2018	
		Bottom hung window, opening in 3 stay-arms, FL 190 fanlight opener Sash frame: 2800 mm x 1000 mm Fixed frame: 2888 mm x 1088 mm	4	PIV 40-34/18 27.11.2018	
		Bottom hung window, opening in concealed opening and locking drive Sash frame: 1868 mm x 1368 mm Fixed frame: 1800 mm x 1300 mm	4	PIV 40-35/18 26.11.2018	
		Fixed area Glazing gasket test Fixed frame: 2350 mm x 2350 mm	4	ift 19-002192-PRO2 30.11.2019	



5. An overview of performance characteristics

	Chapter of product standard EN 14351-1	Variant / Type / Design	Value / Class	Proof	Application range
	4.14 Air permeability (continued)	Bottom hung window, opening in 2 stay-arms, OL 90 fanlight opener Sash frame: 2000 mm x 900 mm Fixed frame: 2088 mm x 988 mm	3	PIV 40-32/18 29.11.2018	
		Bottom hung window, opening in 3 stay-arms, OL 90 fanlight opener Sash frame: 2800 mm x 1000 mm Fixed frame: 2888 mm x 1088 mm	3	PIV 40-31/18 28.11.2018	
		Bottom hung window, opening in 1 stay-arm, FL 190 fanlight opener Sash frame: 1000 mm x 900 mm Fixed frame: 1088 mm x 988 mm	4	PIV 40-33/18 29.11.2018	
		Bottom hung window, opening in 3 stay-arms, FL 190 fanlight opener Sash frame: 2800 mm x 1000 mm Fixed frame: 2888 mm x 1088 mm	4	PIV 40-34/18 27.11.2018	
		Bottom hung window, opening in concealed opening and locking drive Sash frame: 1868 mm x 1368 mm Fixed frame: 1800 mm x 1300 mm	4	PIV 40-35/18 26.11.2018	
		Fixed area Glazing gasket test Fixed frame: 2350 mm x 2350 mm	4	ift 19-002192-PR02 30.11.2019	
		Single-sash turn and tilt window with fixed side glazing and vertical expansion joint Fixed frame: 3316 x 2348 Sash frame: 900 x 2300 Fixed glazing: 2350 x 2348 Fitting: exposed ROTO fitting	4	ift 14-002284-PR23 08.12.2014	
		Single-sash turn and tilt window with fixed glazing at the bottom Sash frame: 1550 x 1400 Fixed frame: 1598 x 2499 Fitting: Hueck Gen 4.0, exposed	4	ift 16-001862-PR01 04.04.2017	
		Bottom hung window, opening in, with fanlight fitting FL190 Outside dimensions: with one stay-arm: 1088 x 988 with two stay-arms: 2088 x 988 with three stay-arms: 2888 x 1088	class 4	PIV 40-15/20 29.06.2020	
		Bottom hung window, opening in, with fanlight fitting OL90 Outside dimensions: with one stay-arm: 1088 x 988 with two stay-arms: 2088 x 988 with three stay-arms: 2888 x 1088 Additional: optionally with central locks Hueck Gen 4.0 or ROTO	class 4	PIV 40-16/20 29.06.2020	
		Tilt and turn window Sash frame: active sash = 1500 x 2500, inactive sash = 1500 x 2500 Fixed frame: 1683 x 2898 Fitting: Hueck Gen 4.0, concealed	4	ift 20-004302-PR01 25.11.2020	
		Double-sash French window Sash frame: 1500 x 2500 Fixed frame: 3054 x 2548 Fitting: Hueck Gen 4.0, concealed	4	ift 20-004302-PR02 26.11.2020	
		Window element with three fixed glazing units and two horizontal expansion joints Fixed frame: 1) 1598 x 500 2) 1598 x 512 3) 1598 x 500 Overall external dimension: 1598 x 1524	4	ift 20-004302-PR03 26.11.2020	
		Two fixed areas with element coupling Fixed frame: 1) 1754 x 1054 2) 1754 x 1054 Overall external dimension: 1754 x 2108	4	ift 21-001666-PR01 30.03.2021	
French window with separate floating mullion profile Sash frame: 1400 x 2200 Fixed frame: 2874 x 2268 Fitting: Hueck Gen 4.0, concealed	4	ift 21-001737-PR01 28.06.2021			






5. An overview of performance characteristics

	Chapter of product standard EN 14351-1		Variant / Type / Design	Value / Class	Proof	Application range
	4.15	Durability				
	4.16	Operating forces	<p>Tilt and turn window (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm</p> <p>Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm</p> <p>Tilt and turn window with side light (with dilatation joint, HUECK exposed fitting) Sash frame: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm</p> <p>Tilt and turn window (exposed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 1448 mm</p> <p>Tilt and turn window (concealed HUECK fitting) Sash frame: 900 mm x 2300 mm Fixed frame: 948 mm x 2348 mm</p> <p>Tilt and turn window with side light (with dilatation joint, ROTO exposed fitting) Sash frame: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm</p> <p>French window with separate floating mullion profile (concealed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm</p> <p>French window with secondary sash profile (exposed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm</p> <p>French window with secondary sash profile (exposed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm</p> <p>Bottom-hung fanlight with fixed glazing below (exposed HUECK fitting) Sash frame: 3000 mm x 1000 mm Fixed frame: 3068 mm x 1980 mm</p> <p>Ventilation flap (concealed HUECK fitting) Sash frame: 182 mm x 2932 mm Fixed frame: 250 mm x 3000 mm</p> <p>Single-sash parallel sliding window door Scheme A (HUECK fitting) Sash frame: 1937 mm x 2612 mm Fixed frame: 4000 mm x 2700 mm</p>	1	ift 14-002284-PR19 08.12.2014	
				1	ift 14-002284-PR29 13.01.2015	
				1	ift 14-002284-PR20 08.12.2014	
				1	ift 14-002284-PR01 09.03.2015	
				1	ift 14-002284-PR02 09.03.2015	
				1	ift 12-002284-PR23 08.12.2014	
				1	ift 14-002284-PR25 13.01.2015	
				1	ift 14-002284-PR27 13.01.2015	
				1	ift 14-002284-PR28 13.01.2015	
				1	ift 15-003518-PR01 14.12.2015	
				1	ift 17-003358-PR01 13.03.2018	
				1	ift 17-001638-PR01 20.07.2017	


5. An overview of performance characteristics

	Chapter of product standard EN 14351-1	Variant / Type / Design	Value / Class	Proof	Application range
	4.16 Operating forces (continued)	Single-sash turn and tilt window with fixed side glazing and vertical expansion joint Fixed frame: 3316 x 2348 Sash frame: 900 x 2300 Fixed glazing: 2350 x 2348 Fitting: exposed ROTO fitting	1	ift 14-002284-PR23 08.12.2014	
		Single-leaf tilt before turn window door with turn limiter Sash frame: 954 x 2124 Fixed frame: 1170 x 2340 Fitting: Hueck Gen 4.0, exposed	2	PIV 39-10/21 25.10.2021	
		Single-leaf tilt before turn window door with turn limiter Sash frame: 954 x 2124 Fixed frame: 1170 x 2340 Fitting: Hueck Gen 4.0, concealed	2	PIV 39-14/21 25.11.2021	
	4.17 Mechanical strength	Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm	4	ift 14-002284-PR19 08.12.2014	Transfer to -100% of the total area of the specimen.
		Tilt and turn window with bottom light (concealed HUECK fitting) Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm	4	ift 14-002284-PR29 13.01.2015	
		Tilt and turn window with side light (with dilatation joint, HUECK exposed fitting) Sash frame: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	4	ift 14-002284-PR20 08.12.2014	
		French window with separate floating mullion profile (concealed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm	4	ift 14-002284-PR25 13.01.2015	
		French window with secondary sash profile (exposed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm	4	ift 14-002284-PR27 13.01.2015	
		French window with secondary sash profile (exposed HUECK fitting) Sash frame: 1531 mm x 1400 mm Fixed frame: 3117 mm x 1448 mm	4	ift 14-002284-PR28 13.01.2015	
		Bottom-hung fanlight with fixed glazing below (exposed HUECK fitting) Sash frame: 3000 mm x 1000 mm Fixed frame: 3068 mm x 1980 mm	4	ift 15-003518-PR01 14.12.2015	
		Single-sash turn and tilt window with fixed side glazing and vertical expansion joint Fixed frame: 3316 x 2348 Sash frame: 900 x 2300 Fixed glazing: 2350 x 2348 Fitting: exposed ROTO fitting	4	ift 14-002284-PR23 08.12.2014	


5. An overview of performance characteristics

	Chapter of product standard EN 14351-1		Variant / Type / Design	Value / Class	Proof	Application range
	4.18	Ventilation		npd		
	4.19	Bullet-resistance		npd		
	4.20	Blast-resistance		npd		
	4.21	Long-term reliability test	<p>Tilt and turn window Sash frame: 1550 mm x 1400 mm Fixed frame: 1598 mm x 1448 mm (exposed HUECK fitting)</p> <p>Tilt and turn window door Sash frame: 900 mm x 2300 mm Fixed frame: 948 mm x 2348 mm (concealed HUECK fitting)</p> <p>Single-leaf tilt before turn window door with turn limiter Fixed frame: 1170 x 2340 Outer sash dimensions: 1102 x 2271 Fitting: Hueck Gen 4.0, exposed</p> <p>Single-leaf tilt before turn window door with turn limiter Fixed frame: 1170 x 2340 Outer sash dimensions: 1102 x 2271 Fitting: Hueck Gen 4.0, concealed</p>	<p>3</p> <p>3</p> <p>class 2 class 2</p>	<p>ift 14-002284-PR01 09.03.2015</p> <p>ift 14-002284-PR02 09.03.2015</p> <p>PIV PB 39-10-21 25.10.2021</p> <p>PIV PB 39-14-21 25.11.2021</p>	
	4.22	Behaviour between different climates		npd		

5. An overview of performance characteristics

	Chapter of product standard EN 14351-1		Variant / Type / Design	Value / Class	Proof	Application range
	4.23	Burglar resistance	Tilt and turn window with fixed area (HUECK fitting, concealed or exposed) Sash frame: 1300 mm x 1200 mm Sash frame: 1600 mm x 2100 mm Fixed area: 750 mm x 2150 mm	RC2 (N)	PIV 45-145/14 20.04.2015	transferable to: +/- 25% of the area Locking device distance from corner: +5% / -20%
			French window (exposed HUECK fitting) Sash frame: 758 mm x 1200 mm	RC 2 (N)	PIV 45-18/15 21.04.2015	Locking device distance: +5% / -30%.
			French window (exposed ROTO fitting) Sash frame: 747 mm x 1200 mm	RC 2 (N)	PIV 45-7/15 12.05.2015	
			Tilt and turn window (concealed ROTO fitting) Sash frame: 1300 mm x 1200 mm	RC3	PIV 45-7/15 12.05.2015	
			Single- and double-sash window with / without fixed glazing Sash area: 0.6 - 4.0 m ² Fitting: HUECK GEN 4.0 and ROTO Al Designo / Al 540	RC 1 N	PIV 45-29/15 28.10.2015	
			Single-sash fixed area Clip-on glazing bead Fixed frame: 1074 mm x 1074 mm	RC2 (N)	PIV 45-79/15 04.08.2015	
			Single-sash tilt and turn window door Accessible threshold Sash frame: 1252 mm x 2070 mm Fixed frame: 1300 mm x 2100 mm	RC2 (N)	PIV 45-79/15 04.08.2015	
			GAS glazing blocks	RC2 (N)	PIV 45-64/17 29.11.2017	
			Fixed area, glazed from the outside Fixed frame: 1120 mm x 1120 mm	RC2 (N)	PIV 45-91/17 13.07.2017	
			French window with separate floating mullion profile (exposed HUECK fitting) Sash frame: 758 mm x 1200 mm	RC2 (N)	PIV 45-18/15 21.04.2015	
			Single- and double-sash window Single- and double-sash parallel sliding windows with / without fixed glazing Sash area: 0.6 - 5.4 m ² HUECK GEN 4.0 / PS and ROTO Al Designo / Al 540 fittings	RC2 (N)	PIV 45-76/15.119 28.10.2015	
			Single- and double-sash window with / without fixed glazing Sash area: 0.6 - 4.0 m ² ROTO Al Designo / Al 540 fittings	RC 3	PIV 45-77/15.118 28.10.2015	
			French window with separate floating mullion profile (concealed ROTO fitting) Sash frame: 747 mm x 1200 mm Sash frame: 1200 mm x 1300 mm	RC2 (N) RC 3	PIV 45-7/15 12.05.2015	
			Single-sash window with side light	RC 3	PIV 45-102/15 30.11.2015	
			French window with separate floating mullion profile (concealed HUECK fitting) Sash frame: 1240 mm x 2070 mm Sash frame: 710 mm x 2070 mm	RC 3	PIV 45-130/17 18.10.2017	
Single-sash tilt and turn window door (concealed ROTO fitting) Sash frame: 1260 mm x 2060 mm	RC 3	PIV 45-139/15 07.12.2015				
Single-sash tilt and turn window door (exposed HUECK fitting) Sash frame: 1600 mm x 2150 mm	RC2 (N)	PIV 45-122/15 03.01.2017				

5. An overview of performance characteristics

	Chapter of product standard EN 14351-1	Variant / Type / Design	Value / Class	Proof	Application range
	4.23 Burglar resistance (continued)	French window with separate floating mullion profile (exposed ROTO fitting) Sash frame: 750 mm x 1170 mm Sash frame: 710 mm x 1170 mm	RC 3	PIV 45-138/15 09.01.2017	Permissible for windows: +/- 25% in area if Annex D of DIN EN 1627 is fulfilled. Locking device distance from corner: + 5%/- 20% / Distance between locking devices: +5% / -30%. It is only permissible to reduce the number of locking points if the distances between the locking points remain the same as for the tested size.
		Bottom-hung fanlight with fixed glazing below Sash frame: 3000 mm x 1000 mm Fixed area: 3070 mm x 980 mm	RC2 (N)	PIV 45-121/15 15.03.2018	
		Single-leaf accessible window door Sash frame: 1230 x 2070 Fixed frame: 1384 x 2130 Fitting: Hueck Gen 4.0, concealed	RC3	PIV 45-130/19 06.02.2020	
		Single- and double-sash windows with/without fixed glazing Sash areas: 0.6 m2 - 4.0 m2 Fitting: Hueck Gen 4.0 and Roto Al Designo / AL 540	RC 1 (N)	PIV 45-29/15,120 12.02.2020	
		Double-leaf accessible window door Sash frame: 1.758 x 2100 / 2.758 x 2100 Fixed frame: 1548 x 2130 Fitting: Hueck Gen 4.0, exposed	RC2	PIV 45-7/20 16.03.2020	
		Bottom-hung fanlight Sash frame: 1000 x 2500 Fixed frame: 1048 x 2548 Fitting: Hueck Gen 4.0 + OL 90	RC3	PfB 18/03-A117 31.07.2020	
		Single- and double-sash windows / window doors and single-sash fanlight windows with or without side light or fixed areas Sash areas: 0.6 m2 - 4.0 m2 Fitting: Hueck Gen 4.0 / Hueck Gen 4.0 fanlight / Roto Al Designo / AL 540	RC 3	PIV 45-77/15,121 27.07.2021	
		Single- and double-sash windows / window doors Single- and double-sash parallel sliding windows with or without coupled fixed areas Single fixed areas and single-sash fanlight windows Single-sash ventilation flaps Sash areas: 0.65 m2 - 5.4m2 Fitting: Hueck Gen 4.0 / Hueck Gen 4.0 PS / Roto Al Designo / Roto AL 540	RC 2	PIV 45-76/15,121 16.11.2021	
4.24	Specific requirements	Ventilation flap (concealed HUECK fitting) Sash frame: 182 mm x 2932 mm Fixed frame: 250 mm x 3000 mm	1	ift 17-003358-PR01 13.03.2018	Climatic influences based on EN 13115:2001-07
		Fixing bracket as twist-on anchor bracket for fixed frame WS 075 / WS 090	> 2.7 kN	PIV 20-38/19 28.11.2019	
		Link-Drill Pull-out load capacity	≥ 6.78 kN	VT 18-0784-01/a	
		Screw pull-out values of sheet metal screws	See report	H-024-21-01 06.04.2021	
		Roto turn limiter 100 mm opening	See report	2021-07-29_ Hueck_2021043_rev02 29.07.2021	

6. An overview of performance characteristics based on other standards/regulations

	Chapter of product standard EN 14351-1	Variant / Type / Design	Value / Class	Proof	Application range	
	6.1	Load capacity of t-brackets	<p>Load bearing capacity of t-brackets Different designs</p> <p>Load bearing capacity of t-brackets Different designs</p> <p>Load bearing capacity of t-brackets Different designs</p> <p>Load bearing capacity of t-brackets Concealed fitting Different designs</p> <p>Load bearing capacity of corner brackets Different designs</p>	<p>See report</p> <p>See report</p> <p>See report</p> <p>See report</p> <p>See report</p>	<p>VT 15-0432-01b 17.05.2015</p> <p>VT 15-0432-02 04.10.2016</p> <p>VT 15-0432-03 14.09.2017</p> <p>VT 16-0627-01a 14.09.2017</p> <p>VT 17-0718-01 27.09.2017</p>	
	6.2	Fall-protection (TRAV)	<p>Tilt and turn window Fixed areas Glass sizes: 577 mm x 627 mm to 1842 mm x 3420 mm</p> <p>Fixing bracket as twist-on anchor bracket for fixed frame WS 075 / WS 090</p> <p>Safety against fall glazed from the outside</p> <p>--</p> <p>Window system WS075 Minimum dimensions (frame dimensions): 700 x 750 Maximum system dimensions (frame dimensions): 2000 x 3200</p> <p>Window system WS075 Minimum dimensions (frame dimensions): 700 x 750 Maximum system dimensions (frame dimensions): 2000 x 3200</p>	<p>> 2.7 KN</p> <p>passed</p> <p>Category A</p>	<p>VT 14-0414-01 21.01.2015</p> <p>PIV 20-38/19 28.11.2019</p> <p>VT 15-0571-01 12.07.2016</p> <p>VT 20-1013-01 30.04.2020</p> <p>VT 20-0130P 05.05.2020</p>	
	6.4	NSHEV	<p>Functional safety test</p> <p>Heat resistance test</p> <p>Heat resistance test</p> <p>Aumüller Ferralux NSHEV Hueck Lambda WS</p> <p>Wind load proof of stability</p>	<p>Re 1000</p> <p>B300</p> <p>B300</p> <p>See report</p> <p>WL500*) WL2000**)</p> <p>*) without locks **) with locks</p>	<p>ift 16-003696-PR01 04.12.2017</p> <p>ift 16-003696-PR03 04.12.2017</p> <p>ift 16-003696-PR07 04.12.2017</p> <p>ift 16-002717-PR10 14.12.2017</p> <p>ift 16-003696-PR02 04.12.2017</p>	
	6.5	Opening types	WS 075 tilt and turn, turn and tilt windows with Hueck Gen 4.0 fittings	See report	ift 18-003075-PR02 04.04.2019	