

HUECK product pass for windows according to EN 14 351 - 1 2017-W-13

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Basic information

EN 14 351 - 1 (2016 - 12)
 Windows and pedestrian doors

Test reports

EHL 2014-12-08-01

ift 14-002284-PR01
 ift 14-002284-PR02
 ift 14-002284-PR04
 ift 14-002284-PR05
 ift 14-002284-PR14
 ift 14-002284-PR19
 ift 14-002284-PR20
 ift 14-002284-PR21
 ift 14-002284-PR22
 ift 14-002284-PR23
 ift 14-002284-PR24
 ift 14-002284-PR29
 ift 14-002284-PR39
 ift 14-002284-PR40
 ift 16-000446-PR01

PIV 45-29/15
 PIV 45-40/16
 PIV 45-76/15
 PIV 45-149/15
 PIV 45-150/15

VT 14-0414-01
 VT 15-0440-01

The HUECK product 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.

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

Content

The HUECK system pass comprises a total of 9 pages:

1. Summary of performance characteristics in according with EN 14 351 - 1
2. General conditions
3. Short description of the product family
4. Overview of the benefits of each product family

Customer HUECK GmbH & Co. KG
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System **HUECK Lambda WS 075 IS**

Product family 1. Turn, tilt and turn, tilt window and window doors
 2. Fixed glazing
 3. Double casement window

Frame material Aluminium plastic compound

Properties / classes (according to EN 14351 - 1, annex ZA.1)

Resistance to wind load	Resistance to snow and loads	Safety in case of fire	Water tightness	Dangerous substances	Impact resistance	Load bearing capacity of safety devices
C5 / B5	npd	npd	up to E1200	see chapter 4	2 (o→i) 4 (i→o)	passed

Height and width	Automatic opening device	Acoustic performance	Thermal performance	Radiation properties	Air permeability	Operating forces
2)	2)	up to $R_w = 48 (-1;-4)$ dB	1)	1)	4	1

Mechanical strength	Ventilation	Bullet resistance	Explosion resistance	Mechanical durability	Behaviour between different climates	Burglar resistance
4	npd	npd	npd	3	2)	up to RC 3

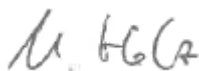
capacity T-connector	against falling out
---	passed

1) project certificate - if required

2) non mandated property for windows

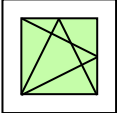
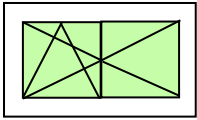
Lüdenscheid, 31. December 2017

i.A.



Magnus Holz

1. Summary of performance characteristics in according with EN 14351-1

No.	Performance characteristics according to EN 14351 - 1	Product family 1 and 2	Product family 3
			
		Turn, tilt and turn, tilt window and window door and fixed glazing	Double casement window
4.2	Resistance to wind load	C5 / B5	C2 / B3
4.3	Resistance to snow and permanent load	not applicable	
4.4	Safety in case of fire	npd	npd
4.5	Water tightness	up to E 1200	up to E 1050
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	2 (o → i) / 4 (i → o)	npd
4.8	Load-bearing capacity of safety devices	passed	npd
4.9	Height and width	not applicable	
4.10	Automatic opening device	not applicable	
4.11	Acoustic performance	up to $R_w = 48$ (-1;-4) dB	npd
4.12	Thermal performance	Uw values for standard size 1.23 m x 1.48 m or 1,48 m x 2.18 m or project related have to be declared $U_r = 0,89 - 2,5$ W/m ² K	
4.13	Radiation properties	The total solar energy transmittance g and light transmittance are τ object based evidence by the CE marking of the glazing	
4.14	Air permeability	4	4
4.16	Operating forces	1	1
4.17	Mechanical strength	4	4
4.18	Ventilation	npd	npd
4.19	Bullet resistance	npd	npd
4.20	Explosion resistance	npd	npd
4.21	Mechanical durability	3	npd
4.22	Behaviour between different climates	not applicable	npd
4.23	Burglar resistance	up to RC 3	up to RC 2 (N)

2. General information for HUECK product 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 product pass is based on test reports mentioned in section 4. 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 14351-1.

3. Product family

3.1 Short description of the system

This short description summarizes the main features of the system series Lambda WS 075 IS.

Frame material	Aluminium plastic compound profiles
Profile depth	Frame 75 mm Sash 85 mm
Frame connection	profiles mitred, moulded and glued by means of corner brackets alternatively butt jointed with T-connectors, nailed and glued
Gaskets	
Centre gasket	Sealing profile Z 921 456 (foam rubber) with preformed corner pieces Z 921 459 (EPDM), supplier HUECK
Inside rebate gasket	Sealing profile Z 922 128 (Z 914 266) EPDM black, supplier HUECK, revolving, jointed at top and glued
Drainage	Fixed frames and transom profiles: slots 8 mm x 30 mm with caps Z 921 100, Z 906 510 or Z 903 541
Pressure equalization	revolving slot of 1 mm between the window frame and sash

Glazing	insulating glass or panels with a thickness of element of 18 – 50 mm (sash) resp. 8 – 42 mm (fixed frame or transom)
Outer glazing gasket	
- sash	Vulcanised frame of sealing profile Z 921 472, EPDM black, supplier HUECK
- fixed frame	Sealing profile Z 921 001, EPDM black, supplier HUECK, revolving, jointed at top and glued
Inner glazing gasket	
- sash and fixed frame	Sealing profile, EPDM, supplier HUECK, revolving, jointed at top and glued, thickness depending on glass thickness
Vapour pressure equalisation sash:	
	4 drills Ø 6 mm at bottom profil
	2 drills Ø 6 mm at side profil
Fittings	visible tilt and turn Z 981 321, supplier HUECK visible tilt and turn Z 981 021, supplier ROTO concealed tilt and turn Z 981 301, supplier HUECK concealed tilt and turn Z 981 003, supplier ROTO
	fittings with other rotation and stay-arm hinge length are accepted

4. Overview of performance characteristics

Section of Product standard EN 14351-1		Variety / Type / Execution	Proof	Value / Class	Application area
4.2	Resistance to wind load	Tilt and turn window with sub light (Hardware HUECK concealed) Sash: 1452 mm x 1302 mm Fixed frame: 1598 mm x 2499 mm	ift 14-002284-PR21 11.03.2015	C5 / B5	Transfer to -100% of the frame width and frame height of the specimen
		Tilt and turn window with side frames (Hardware HUECK visible) Sash: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	ift 14-002284-PR22 08.12.2014	C5 / B5	The deflection of mullions and transoms can also be calculated
		Tilt and turn window with side frames (Hardware ROTO visible) Sash: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	ift 14-002284-PR24 08.12.2014	C5 / B5	
		Double casement window (hardware: HUECK concealed) sash: 984 mm x 1952 mm fixed frame: 2000 mm x 2000 mm	ift 14-002284-PR39 11.03.2015	C2 / B3	
		Double casement window (hardware: ROTO visible) sash: 984 mm x 1952 mm fixed frame: 2000 mm x 2000 mm	ift 14-002284-PR40 12.03.2015	C2 / B3	
		Fixed glazing fixed frame: 1598 mm x 2499 mm	ift 16-000446-PR01 03.03.2016	C5 / B5	
4.3	Resistance to snow and constant load			npd	Only applies to skylight windows
4.4	Safety in case of fire			npd	Only applies to skylight windows
4.5	Water tightness	Tilt and turn window with sub light (Hardware HUECK concealed) Sash: 1452 mm x 1302 mm Fixed frame: 1598 mm x 2499 mm	ift 14-002284-PR21 11.03.2015	E1200	Transfer of -100% to +50% of the total area of the specimen
		Tilt and turn window with side frames (Hardware HUECK visible) Sash: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	ift 14-002284-PR22 08.12.2014	9A	
		Tilt and turn window with side frames (Hardware ROTO visible) Sash: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	ift 14-002284-PR24 08.12.2014	9A	
		Double casement window (hardware: HUECK concealed) sash: 984 mm x 1952 mm fixed frame: 2000 mm x 2000 mm	ift 14-002284-PR39 11.03.2015	E 750	
		Double casement window (hardware: ROTO visible) sash: 984 mm x 1952 mm fixed frame: 2000 mm x 2000 mm	ift 14-002284-PR40 12.03.2015	E 1050	

Section of Product standard EN 14351-1		Variety / Type / Execution	Proof	Value / Class	Application area																										
4.6	Dangerous substances	The manufacturer has to declare substances which when used as prescribed cause danger for hygiene, health or environmental by emission or migration in accordance with the local requirements.																													
4.7	Impact Resistance	Tilt and turn window - Hardware ROTO visible - Hardware HUECK concealed Fixed frame: 1048 mm x 1048 mm	ift 14-002284-PR14 23.03.2015	2 (o → i) 4 (i → o)	Transfer to bigger total area of the specimen																										
4.8	Load-bearing capacity of safety devices	Tilt and turn window with sub light (Hardware HUECK concealed) Sash: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm	ift 14-002284-PR19 08.12.2014	passed	Transfer to smaller or the same box widths or heights of the specimen																										
		Tilt and turn window with sub light (Hardware HUECK concealed) Sash: 1550 mm x 1400 mm Fixed frame: 1598 mm x 2499 mm	ift 14-002284-PR29 13.01.2015	passed																											
		Tilt and turn window with side frames (mit Dilatationsfuge, Hardware HUECK visible) Sash: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	ift 14-002284-PR20 08.12.2014	passed																											
		Tilt and turn window with side frames (mit Dilatationsfuge, Hardware ROTO visible) Sash: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	ift 12-002284-PR23 08.12.2014	passed																											
		Tilt and turn window (Hardware HUECK visible) Sash: 1550 mm x 1400 mm Fixed frame: 1598 mm x 1448 mm	ift 14-002284-PR01 09.03.2015	passed																											
		Tilt and turn window (Hardware HUECK concealed) Sash: 900 mm x 2300 mm Fixed frame: 948 mm x 2348 mm	ift 14-002284-PR02 09.03.2015	passed																											
		Tilt and turn window (Hardware HUECK visible) Sash: 1550 mm x 1400 mm Fixed frame: 1598 mm x 1448 mm	ift 14-002284-PR04 12.05.2015	passed																											
4.9	Width and height			npd	Only for external doors																										
4.10	Ability to release			npd	Only for exterior doors in escape and rescue routes																										
4.11	Acoustic performance	<table border="1"> <thead> <tr> <th>R_{w, glass} [dB]</th> <th>R_{w, window} [dB]</th> </tr> </thead> <tbody> <tr><td>41</td><td>41</td></tr> <tr><td>42</td><td>41</td></tr> <tr><td>43</td><td>42</td></tr> <tr><td>44</td><td>43</td></tr> <tr><td>45</td><td>45</td></tr> <tr><td>46</td><td>45</td></tr> <tr><td>47</td><td>45</td></tr> <tr><td>48</td><td>46</td></tr> <tr><td>49</td><td>46</td></tr> <tr><td>50</td><td>47</td></tr> <tr><td>51</td><td>47</td></tr> <tr><td>52</td><td>48 (-1;-4)</td></tr> </tbody> </table>	R _{w, glass} [dB]	R _{w, window} [dB]	41	41	42	41	43	42	44	43	45	45	46	45	47	45	48	46	49	46	50	47	51	47	52	48 (-1;-4)	ift 15-000143-PR01 05.05.2015	up to R _w = 48 (-1,-4) dB	Transmission window size to other formats in accordance with EN 14351-1, annex B, table B.3
R _{w, glass} [dB]	R _{w, window} [dB]																														
41	41																														
42	41																														
43	42																														
44	43																														
45	45																														
46	45																														
47	45																														
48	46																														
49	46																														
50	47																														
51	47																														
52	48 (-1;-4)																														

Section of Product standard EN 14351-1		Variety / Type / Execution	Proof	Value / Class	Application area
4.12	Thermal performance	$U_f = 0,89 \text{ W/m}^2\text{K}$ up to $2,5 \text{ W/m}^2\text{K}$	EHL 2014-12-17-01 15.01.2015	project certificate	U_w -value in accordance with EN ISO 10077-1, table F.1 can be applied to all element sizes Calculation according to EN ISO 10077-1 for the reference size 1.23 m x 1.48 m elements can be up to 2.3 m^2 and for the reference size 1.48 m x 2.18 m be transferred to elements of 2.3 m^2 . If $U_g < 1.9 \text{ W/m}^2\text{K}$, the calculation for the reference size can be applied to all element sizes 1.23 m x 1.48 m
4.13	Radiation properties	given by CE marking of glass unit		project certificate	Applicable to all sizes
4.14	Air permeability	Tilt and turn window with sub light (Hardware HUECK concealed) Sash: 1452 mm x 1302 mm Fixed frame: 1598 mm x 2499 mm	ift 14-002284-PR21 11.03.2015	4	Transfer to -100% to +50% of the total area of the specimen
		Tilt and turn window with side frames (Hardware HUECK visible) Sash: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	ift 14-002284-PR22 08.12.2014	4	
		Tilt and turn window with side frames (Hardware ROTO visible) Sash: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	ift 14-002284-PR24 08.12.2014	4	
		Double casement window (hardware: HUECK concealed) sash: 984 mm x 1952 mm fixed frame: 2000 mm x 2000 mm	ift 14-002284-PR39 11.03.2015	4	
		Double casement window (hardware: ROTO visible) sash: 984 mm x 1952 mm fixed frame: 2000 mm x 2000 mm	ift 14-002284-PR40 12.03.2015	4	
		Fixed glazing fixed frame: 1598 mm x 2499 mm	ift 16-000446-PR01 03.03.2016	4	

Section of Product standard EN 14351-1		Variety / Type / Execution	Proof	Value / Class	Application area
4.16	Operating forces	Tilt and turn window with sub light (Hardware HUECK concealed) Sash: 1452 mm x 1302 mm Fixed frame: 1598 mm x 2499 mm	ift 14-002284-PR21 11.03.2015	1	Transfer to -100% of the total area of the specimen
		Tilt and turn window with side frames (Hardware HUECK visible) Sash: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	ift 14-002284-PR22 08.12.2014	1	
		Tilt and turn window with side frames (Hardware ROTO visible) Sash: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	ift 14-002284-PR24 08.12.2014	1	
		Tilt and turn window (Hardware HUECK visible) Sash: 1550 mm x 1400 mm Fixed frame: 1598 mm x 1448 mm	ift 14-002284-PR04 12.05.2015	1	
		Tilt and turn window (Hardware HUECK concealed) Sash: 900 mm x 2300 mm Fixed frame: 948 mm x 2348 mm	ift 14-002284-PR05 11.05.2015	1	
4.17	Mechanical strength	Tilt and turn window with sub light (Hardware HUECK concealed) Sash: 1452 mm x 1302 mm Fixed frame: 1598 mm x 2499 mm	ift 14-002284-PR21 11.03.2015	4	Transfer to -100% of the total area of the specimen
		Tilt and turn window with side frames (Hardware HUECK visible) Sash: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	ift 14-002284-PR22 08.12.2014	4	
		Tilt and turn window with side frames (Hardware ROTO visible) Sash: 900 mm x 2300 mm Fixed frame: 3316 mm x 2348 mm	ift 14-002284-PR24 08.12.2014	4	
4.18	Ventilation			npd	Only applies to windows with integrated vent
4.19	Bullet resistance			npd	
4.20	Explosion resistance			npd	
4.21	Mechanical durability	Tilt and turn window (Hardware HUECK visible) Sash: 1550 mm x 1400 mm Fixed frame: 1598 mm x 1448 mm	ift 14-002284-PR01 09.03.2015	3	
		Tilt and turn window (Hardware HUECK concealed) Sash: 900 mm x 2300 mm Fixed frame: 948 mm x 2348 mm	ift 14-002284-PR02 09.03.2015	3	
		Tilt and turn window (Hardware HUECK visible) Sash: 1550 mm x 1400 mm Fixed frame: 1598 mm x 1448 mm	ift 14-002284-PR04 12.05.2015	3	
		Tilt and turn window (Hardware HUECK concealed) Sash: 900 mm x 2300 mm Fixed frame: 948 mm x 2348 mm	ift 14-002284-PR05 11.05.2015	3	

Section of Product standard EN 14351-1		Variety / Type / Execution	Proof	Value / Class	Application area
4.22	Behaviour between different climates			npd	
4.23	Burglar resistance	single or double leaf window, with or without fixed casement, Hardware HUECK or Roto, Sash area 0,65 m ² to 4,0 m ²	PIV 45-29/15	RC1 (N)	Transferrable to: +/- 25% of area Distance locking points from corner: +5% / -20% Distance between locking points: +5% / -30%
		single or double leaf window, with or without fixed casement, Hardware HUECK or Roto, Sash area 0,65 m ² to 4,0 m ²	PIV 45-76/15	RC 2	
		Single sash window with fixed frame Turn-, tilt and turn-hardware, Roto Sash 1200 mm x 1420 mm fixed frame 700 mm x 1420 mm	PIV 45-40/16	RC 3	
		Single sash window with fixed side frame hardware HUECK concealed Sash 1200 mm x 1420 mm fixed frame 700 mm x 1420 mm	PIV 45-149/15	RC 3	
		Single sash window with fixed side frame hardware HUECK, visible and concealed Sash 1265 mm x 1965 mm fixed frame 900 mm x 2088 mm	PIV 45-150/15	RC 2 (N)	

5. Overview of performance characteristics according to further standards / guidelines

Reference	Variety / Type / Execution	proof	Value / Class	Application area
Safety against falling out acc. TRAV	Fixed frames	VT 14-0414-01 21. 01.2015		
	Tilt and turn window	VT 15-0440-01 23.06.2015		
Reveal and rebate hindrance test	Tilt and turn window (Hardware HUECK visible) Sash: 1550 mm x 1400 mm Fixed frame: 1598 mm x 1448 mm	ift 14-002284-PR04 12.05.2015	passed	
	Tilt and turn window (Hardware HUECK concealed) Sash: 900 mm x 2300 mm Fixed frame: 948 mm x 2348 mm	ift 14-002284-PR05 11.05.2015	passed	