

CW 50 THW

PRODUCT PASS

Date: **17/01/2024**

Language: **English**



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1 GENERAL EXPLANATION

The performances indicated in this product pass can be used for a Declaration of Performance (DoP) in accordance with EU Regulation no. 305/2011. The characteristics are in accordance with the harmonized product standard EN 14351-1:2006+A2:2016 (Windows and doors - Product standard, performance characteristics - Part 1: Windows and external pedestrian doorsets).

At least one performance of an essential characteristic shall be mentioned on the DoP. Non-essential characteristics are not legally required in any European country and thus not mandatory to declare. Where no performance is declared "NPD" (No Performance Declared) can be used.

The performances indicated can be achieved for the configuration and dimensions as tested and when the product is fabricated in accordance with the instructions of Reynaers (system catalogue). It is obviously allowed to declare lower performances; e.g. when resistance to wind load of 1600 Pa was tested, also 1200 Pa can be declared for the same configuration and dimensions.

Higher performances for smaller dimensions, lower performances for larger dimensions, or similar performances for larger dimensions but with the appropriate selection of profiles and/or reinforcements are possible. Validate your performances and deflections, adhering to the maximum admissible dimensions indicated in the system catalogue.

2 NOTIFIED BODIES

ID	Name	Address	Country
0074	CENTRE D'EXPERTISE DU BÂTIMENT ET DES TRAVAUX PUBLICS	Domaine De Saint-Paul – 102, Route de Limours 78471 Saint-Remy-Les-Chevreuse Cedex	France
0432	MATERIALPRÜFUNGSAMT NORDRHEIN-WESTFALEN	Auf den Thränen 2 59597 Erwitte	Germany
0679	CENTRE SCIENTIFIQUE ET TECHNIQUE DU BÂTIMENT	84, Avenue Jean Jaurès Champs-sur-Marne F-77447 Marne-la-Vallée Cedex 2	France
0744	SOCOTEC	Les Quadrants – 3,Avenue du Centre – Guyancourt 78182 St-Quentin en Yvelines	France
0749	BELGIAN CONSTRUCTION CERTIFICATION ASSOCIATION	Aarlenstraat 53 1040 Brussel	Belgium
0757	IFT ROSENHEIM	Theodor-Gietl-Strasse 7-9 83026 Rosenheim	Germany
0845	DANISH INSTITUTE OF FIRE AND SECURITY TECHNOLOGY	Jernholmen, 12 2650 Hvidovre	Denmark
0960	SKG-IKOB	Poppenbouwing 56 4191 NZ Geldermalsen	Netherlands
1136	BELGIAN BUILDING RESEARCH INSITUTE	Lombardstraat 42 1000 Brussel	Belgium
1234	EFFECTIS NEDERLAND	Brandpuntlaan Zuid 16, Postbus 554 2665 ZN Bleiswijk	Netherlands
1288	WINTech ENGINEERING LIMITED	Halesfield 2 Telford,Shropshire TF7 4QH	United Kingdom
1309	PRÜFINSTITUT SCHLÖSSER UND BESCHLÄGE, VELBERT	Wallstrasse 41 42551 Velbert	Germany
1488	INSTYTUT TECHNIKI BUDOWLANEJ	ul. Filtrowa 1 00-611 Warszawa	Poland
1671	PEUTZ	Lindenlaan 41, Molenhoek PO Box 66 6585 ZH MOOK	Netherlands
1749	TNO DEFENCE, SECURITY AND SAFETY	Lange Kleiweg 137, Postbus 45 2280 AA Rijswijk	Netherlands
1769	UNIVERSITY OF GENT	Sint-Pietersnieuwstraat 41 9000 Gent	Belgium
2211	INSTITUTO DE INVESTIGAÇÃO E DESENVOLVIMENTO TECNOLÓGICO PARA A CONSTRUÇÃO, ENERGIA, AMBIENTE E SUSTENTABILIDADE	Rua Pedro Hispano Pólo II da Universidade de Coimbra 3030-289 Coimbra	Portugal

3 EXPLANATIONS AND SYMBOLS

H: Element Height
B: Element Width
Fh: Vent Height
Fb: Vent Width
npd: No Performance Declared
CWFT: Classification Without Further Testing

4 PERFORMANCE

4.1 Classifications for CW 50 + 034.0155 + 034.0157

Characteristic			Performance		Notified body - Report	Tested size [mm]
Essential characteristics						
EN 14351-1	4.2	Resistance to wind load	C4 (1600 Pa)		[0960] – 10.1077 Rev A	1267x2417
	4.5	Watertightness	E900 (900 Pa)		[0960] – 10.1077 Rev A	1267x2417
	4.6	Dangerous substances	In the materials delivered by Reynaers, no dangerous substances as indicated in hEN 14351-1 are used.			
	4.8	Load-bearing capacity of safety devices	npd			
	4.11	Acoustic performance	Glass 34 (-1;-4) 37 (-2;-6) 40 (-2;-5) 45 (-2;-6)	Window 35 (-1;0) 36 (-1;0) 39 (-1;0) 40 (-1;0)	[0960] – 12.165-A	1380x1130
	4.12	Thermal transmittance	Uw to be calculated in function of the project. Pre-calculated U-values for dimensions 1230x1480mm and 1480x2180 can be found in the Uf-value tables. Uf-values are calculated under certification of BCCA: certificate BPCB-420-72-10077/2.			
	4.13	Radiation properties	These properties must be evaluated by the CE-label of the glass			
	4.14	Air permeability	4		[0960] – 10.1077 Rev A	1267x2417
Non-essential characteristics						
EN 14351-1	4.4.1	Reaction to fire	Anodized: A1 Painted: A2 Gaskets: E		EC decision 96/603/EC certificate EFR-21-001664A [0432] – 230006500-6	
	4.7	Impact resistance	npd			
	4.16	Operating forces	npd			
	4.17	Mechanical strength	npd			
	4.18	Ventilation	npd			
	4.19	Bullet resistance (BP version)	npd			
	4.20	Explosion resistance	npd			
	4.21	Resistance to repeated opening and closing	npd			
	4.22	Behaviour between different climates	npd			
	4.23	Burglar resistance (AP version)	npd			

4.2 Classifications for CW 50 + 034.1121 + 034.2120

Characteristic			Performance	Notified body - Report	Tested size [mm]
Essential characteristics					
EN 14351-1	4.2	Resistance to wind load	C4 (1600 Pa)	[1488] – NL-0767/A/LL-220/K/08/II	1165x1665
	4.5	Watertightness	E1500 (1500 Pa)	[1488] – NL-0767/A/LL-220/K/08/II	1165x1665
	4.6	Dangerous substances	In the materials delivered by Reynaers, no dangerous substances as indicated in hEN 14351-1 are used.		
	4.8	Load-bearing capacity of safety devices	Pass (350 N/60 sec)	[1488] – NL-0767/A/LL-220/K/08/II	1165x1665
	4.11	Acoustic performance	npd (See 5)		
	4.12	Thermal transmittance	Uw to be calculated in function of the project. Pre-calculated U-values for dimensions 1230x1480mm and 1480x2180 can be found in the Uf-value tables. Uf-values are calculated under certification of BCCA: certificate BPCB-420-72-10077/2.		
	4.13	Radiation properties	These properties must be evaluated by the CE-label of the glass		
	4.14	Air permeability	4	[1488] – NL-0767/A/LL-220/K/08/II	1165x1665
Non-essential characteristics					
EN 14351-1	4.4.1	Reaction to fire	Anodized: A1 Painted: A2 Gaskets: E	EC decision 96/603/EC certificate EFR-21-001664A [0432] – 230006500-6	
	4.7	Impact resistance	npd		
	4.16	Operating forces	1	[1488] – NL-0767/A/LL-220/K/08/II	1165x1665
	4.17	Mechanical strength	3	[1488] – NL-0767/A/LL-220/K/08/II	1165x1665
	4.18	Ventilation	npd		
	4.19	Bullet resistance (BP version)	npd		
	4.20	Explosion resistance	npd		
	4.21	Resistance to repeated opening and closing	npd		
	4.22	Behaviour between different climates	npd		
	4.23	Burglar resistance (AP version)	npd		

4.3 Classifications for CW 50-SC + 034.1121 + 034.1122

ETA approval 06/0208 of system CW50-SC must be followed.

Characteristic			Performance	Notified body - Report	Tested size [mm]
Essential characteristics					
EN 14351-1	4.2	Resistance to wind load	C4 (1600 Pa)	[0960] – 11.1135	1749x1749
	4.5	Watertightness	E1500 (1500 Pa) E1200 (1200 Pa)	[1488]- NL-0767/A/LL- 220/K/08/I [0960] – 11.1135	1749x1749
	4.6	Dangerous substances	In the materials delivered by Reynaers, no dangerous substances as indicated in hEN 14351-1 are used.		
	4.8	Load-bearing capacity of safety devices	Pass (350 N/60 sec)	[1488] – NL-0767/A/LL- 220/K/08/I	1667x1667
	4.11	Acoustic performance	npd (See 5)		
	4.12	Thermal transmittance	Uw to be calculated in function of the project. Pre-calculated U-values for dimensions 1230x1480mm and 1480x2180 can be found in the Uf-value tables. Uf-values are calculated under certification of BCCA: certificate BPCB-420-72-10077/2.		
	4.13	Radiation properties	These properties must be evaluated by the CE-label of the glass		
	4.14	Air permeability	4	[0960] – 11.1135	1749x1749
Non-essential characteristics					
EN 14351-1	4.4.1	Reaction to fire	Anodized: A1 Painted: A2 Gaskets: E	EC decision 96/603/EC certificate EFR-21-001664A [0432] – 230006500-6	
	4.7	Impact resistance	npd		
	4.16	Operating forces	1	[1488]- NL-0767/A/LL- 220/K/08/I	1667x1667
	4.17	Mechanical strength	3	[1488]- NL-0767/A/LL- 220/K/08/I	1667x1667
	4.18	Ventilation	npd		
	4.19	Bullet resistance (BP version)	npd		
	4.20	Explosion resistance	npd		
	4.21	Resistance to repeated opening and closing	npd		
	4.22	Behaviour between different climates	npd		
	4.23	Burglar resistance (AP version)	npd		

4.4 Classifications for CW 50-SC + 034.0118 + 034.0119

ETA approval 06/0208 of system CW50-SC must be followed.

Characteristic			Performance		Notified body - Report	Tested size [mm]
Essential characteristics						
EN 14351-1	4.2	Resistance to wind load	C5 (2000 Pa)		[1488]- NL-4209/C/LL-096/K/07/II	1683x1683
	4.5	Watertightness	E1200 (1200 Pa)		[1488]- NL-4209/C/LL-096/K/07/II	1683x1683
	4.6	Dangerous substances	In the materials delivered by Reynaers, no dangerous substances as indicated in hEN 14351-1 are used.			
	4.8	Load-bearing capacity of safety devices	Pass (350 N/60 sec)		[1488]- NL-4209/C/LL-096/K/07/II	1683x1683
	4.11	Acoustic performance	Glass 32 (-1;-5) 40 (-2;-7) 45 (-3;-8)	Window 36 (-2;-5) 42 (-2;-5) 44 (-2;-5)	[1488] – LA/1220I/05 [1488] – LA/1220m/05 [1488] – LA/1220n/05	1173x1423
	4.12	Thermal transmittance	Uw to be calculated in function of the project. Pre-calculated U-values for dimensions 1230x1480mm and 1480x2180 can be found in the Uf-value tables. Uf-values are calculated under certification of BCCA: certificate BPCB-420-72-10077/2.			
	4.13	Radiation properties	These properties must be evaluated by the CE-label of the glass			
	4.14	Air permeability	4		[1488]- NL-4209/C/LL-096/K/07/II	1683x1683
Non-essential characteristics						
EN 14351-1	4.4.1	Reaction to fire	Anodized: A1 Painted: A2 Gaskets: E		EC decision 96/603/EC certificate EFR-21-001664A [0432] – 230006500-6	
	4.7	Impact resistance	npd			
	4.16	Operating forces	1		[1488]- NL-4209/C/LL-096/K/07/II	1683x1683
	4.17	Mechanical strength	3		[1488]- NL-4209/C/LL-096/K/07/II	1683x1683
	4.18	Ventilation	npd			
	4.19	Bullet resistance (BP version)	npd			
	4.20	Explosion resistance	npd			
	4.21	Resistance to repeated opening and closing	npd			
	4.22	Behaviour between different climates	npd			
	4.23	Burglar resistance (AP version)	npd			

4.5 Classifications for CW 50-SC + 034.0155 + 034.0156

ETA approval 06/0208 of system CW50-SC must be followed.

Characteristic			Performance	Notified body - Report	Tested size [mm]
Essential characteristics					
EN 14351-1	4.2	Resistance to wind load	C4 (1600 Pa)	[0960] – 10.1153	1268x2418
	4.5	Watertightness	9A (600 Pa)	[0960] – 10.1153	1268x2418
	4.6	Dangerous substances	In the materials delivered by Reynaers, no dangerous substances as indicated in hEN 14351-1 are used.		
	4.8	Load-bearing capacity of safety devices	npd		
	4.11	Acoustic performance	npd (See 5)		
	4.12	Thermal transmittance	Uw to be calculated in function of the project. Pre-calculated U-values for dimensions 1230x1480mm and 1480x2180 can be found in the Uf-value tables. Uf-values are calculated under certification of BCCA: certificate BPCB-420-72-10077/2.		
	4.13	Radiation properties	These properties must be evaluated by the CE-label of the glass		
	4.14	Air permeability	4	[0960] – 10.1153	1268x2418
Non-essential characteristics					
EN 14351-1	4.4.1	Reaction to fire	Anodized: A1 Painted: A2 Gaskets: E	EC decision 96/603/EC certificate EFR-21-001664A [0432] – 230006500-6	
	4.7	Impact resistance	3	[0960] – 10.1158	1268x2418
	4.16	Operating forces	npd		
	4.17	Mechanical strength	npd		
	4.18	Ventilation	npd		
	4.19	Bullet resistance (BP version)	npd		
	4.20	Explosion resistance	npd		
	4.21	Resistance to repeated opening and closing	npd		
	4.22	Behaviour between different climates	npd		
	4.23	Burglar resistance (AP version)	npd		

4.6 Classifications for CW 50-HI + 007.0331 + 034.0158

Characteristic			Performance	Notified body - Report	Tested size [mm]
Essential characteristics					
EN 14351-1	4.2	Resistance to wind load	E2400 (2400 Pa)	[0960] – 11.1113	1332x2122
	4.5	Watertightness	E1200 (1200 Pa)	[0960] – 11.1113	1332x2122
	4.6	Dangerous substances	In the materials delivered by Reynaers, no dangerous substances as indicated in hEN 14351-1 are used.		
	4.8	Load-bearing capacity of safety devices	npd		
	4.11	Acoustic performance	npd (See 5)		
	4.12	Thermal transmittance	Uw to be calculated in function of the project. Pre-calculated U-values for dimensions 1230x1480mm and 1480x2180 can be found in the Uf-value tables. Uf-values are calculated under certification of BCCA: certificate BPCB-420-72-10077/2.		
	4.13	Radiation properties	These properties must be evaluated by the CE-label of the glass		
	4.14	Air permeability	4	[0960] – 11.1113	1332x2122
Non-essential characteristics					
EN 14351-1	4.4.1	Reaction to fire	Anodized: A1 Painted: A2 Gaskets: E	EC decision 96/603/EC certificate EFR-21-001664A [0432] – 230006500-6	
	4.7	Impact resistance	npd		
	4.16	Operating forces	npd		
	4.17	Mechanical strength	npd		
	4.18	Ventilation	npd		
	4.19	Bullet resistance (BP version)	npd		
	4.20	Explosion resistance	npd		
	4.21	Resistance to repeated opening and closing	npd		
	4.22	Behaviour between different climates	npd		
	4.23	Burglar resistance (AP version)	npd		

4.7 Classifications for CW 50-HI + 007.0341 + 007.0160

ETAG 002 must be followed.

Characteristic			Performance	Notified body - Report	Tested size [mm]
Essential characteristics					
EN 14351-1	4.2	Resistance to wind load	C4 (1600 Pa)	[0960] – 12.116	1285x2075
	4.5	Watertightness	E1200 (1200 Pa)	[0960] – 12.116	1285x2075
	4.6	Dangerous substances	In the materials delivered by Reynaers, no dangerous substances as indicated in hEN 14351-1 are used.		
	4.8	Load-bearing capacity of safety devices	npd		
	4.11	Acoustic performance	npd (See 5)		
	4.12	Thermal transmittance	Uw to be calculated in function of the project. Pre-calculated U-values for dimensions 1230x1480mm and 1480x2180 can be found in the Uf-value tables. Uf-values are calculated under certification of BCCA: certificate BPCB-420-72-10077/2.		
	4.13	Radiation properties	These properties must be evaluated by the CE-label of the glass		
	4.14	Air permeability	4	[0960] – 12.116	1285x2075
Non-essential characteristics					
EN 14351-1	4.4.1	Reaction to fire	Anodized: A1 Painted: A2 Gaskets: E	EC decision 96/603/EC certificate EFR-21-001664A [0432] – 230006500-6	
	4.7	Impact resistance	npd		
	4.16	Operating forces	npd		
	4.17	Mechanical strength	npd		
	4.18	Ventilation	npd		
	4.19	Bullet resistance (BP version)	npd		
	4.20	Explosion resistance	npd		
	4.21	Resistance to repeated opening and closing	npd		
	4.22	Behaviour between different climates	npd		
	4.23	Burglar resistance (AP version)	npd		

4.8 Classifications for CW 50-SG + 034.0162 + 034.0163

ETA approval 06/0237 of system CW50-SG must be followed.

Characteristic			Performance	Notified body - Report	Tested size [mm]
Essential characteristics					
EN 14351-1	4.2	Resistance to wind load	C4 (1600 Pa)	[1769] – 363/2586	1718x1718
	4.5	Watertightness	E1200 (1200 Pa)	[1769] – 363/2586	1718x1718
	4.6	Dangerous substances	In the materials delivered by Reynaers, no dangerous substances as indicated in hEN 14351-1 are used.		
	4.8	Load-bearing capacity of safety devices	npd		
	4.11	Acoustic performance	npd (See 5)		
	4.12	Thermal transmittance	Uw to be calculated in function of the project. Pre-calculated U-values for dimensions 1230x1480mm and 1480x2180 can be found in the Uf-value tables. Uf-values are calculated under certification of BCCA: certificate BPCB-420-72-10077/2.		
	4.13	Radiation properties	These properties must be evaluated by the CE-label of the glass		
	4.14	Air permeability	4	[1769] – 363/2586	1718x1718
Non-essential characteristics					
EN 14351-1	4.4.1	Reaction to fire	Anodized: A1 Painted: A2 Gaskets: E	EC decision 96/603/EC certificate EFR-21-001664A [0432] – 230006500-6	
	4.7	Impact resistance	npd		
	4.16	Operating forces	0	[1769] – 363/2586	1718x1718
	4.17	Mechanical strength	4	[1769] – 363/2586	1718x1718
	4.18	Ventilation	npd		
	4.19	Bullet resistance (BP version)	npd		
	4.20	Explosion resistance	npd		
	4.21	Resistance to repeated opening and closing	2 (10 000)	[1769] – 363/2586	1718x1718
	4.22	Behaviour between different climates	npd		
	4.23	Burglar resistance (AP version)	npd		

5 INFORMATION ACOUSTIC PERFORMANCE

5.1 Window R_w (C;Ctr) declaration based on tabulated values

According to annex B of EN 14351-1, when no test results are available, the determination of the acoustic performances can be done as follows:

a) IGU $R_w \rightarrow$ Window R_w


IGU R_w (dB)	Window R_w (dB)	Required seals
27	30	1
28	31	1
29	32	1
30	33	1
32	34	1
34	35	1
36	36	2
38	37	2
40	38	2

b) IGU $R_w+C_{tr} \rightarrow$ Window R_w+C_{tr}

IGU R_w+C_{tr} (dB)	Window R_w+C_{tr} (dB)	Required seals
24	26	1
25	27	1
26	28	1
27	29	1
28	30	1
30	31	1
32	32	2
34	33	2
36	34	2

c) $C = -1$ dB

d) $C_{tr} = (\text{Window } R_w+C_{tr}) - (\text{Window } R_w)$

 CE marking Window: R_w (C;Ctr) based on steps a), c) and d)

Example:

IGU $R_w = 34$ (-1;-4)

\rightarrow Window $R_w = 35$ dB

\rightarrow IGU $R_w+C_{tr} = 30$ dB \rightarrow Window $R_w+C_{tr} = 31$ dB

$\rightarrow C = -1$ dB

$\rightarrow C_{tr} = 31$ dB $- 35$ dB = -4 dB

► CE marking Window: 35 dB (-1;-4), valid for window size 1,23 x 1,48 m

5.2 Extrapolation rules for different window sizes

For windows with other dimensions, the extrapolation rules for test results and tabulated values are indicated in following table:

Window size range		Sound insulation value for window
Test results for test specimen of any size (see 5)	Tabulated values (see 6.1)	
-100% to +50% of test specimen overall area	overall area $\leq 2,7 \text{ m}^2$	Rw and Rw+Ctr are correct
+50% to +100% of test specimen overall area	$2,7 \text{ m}^2 < \text{overall area} \leq 3,6 \text{ m}^2$	Correct Rw and Rw+Ctr with -1 dB
+100% to +150% of test specimen overall area	$3,6 \text{ m}^2 < \text{overall area} \leq 4,6 \text{ m}^2$	Correct Rw and Rw+Ctr with -2 dB
> +150% of test specimen overall area	$4,6 \text{ m}^2 < \text{overall area}$	Correct Rw and Rw+Ctr with -3 dB

UPDATES

17/01/2024

	VARIANTS	Characteristic
Text revision	GENERAL EXPLANATION	
Tested size [mm]	4.1 – 4.8	