

# ift-System Passport Windows as per EN 14351-1

12-001465-PR03 (SP-ZA01-99-en-04)

Valid until December 2020



SCHÜCO International KG  
Karolinenstraße 1-15  
33609 Bielefeld  
Germany

System	<b>AWS 65, AWS 65 BS</b>
Special features	- / -
Product family	1. Side-hung, bottom-hung, tilt and turn windows and casement doors, fixed lights 2. Double windows and casement doors of overlapping design
Frame material	Thermal break aluminium composite system

<b>Characteristics</b>	Resistance to wind load	Resistance to snow and permanent load	Reaction to fire	Watertightness	Dangerous substances	Impact resistance	Load bearing capacity of safety devices
<b>Class / Value</b>	up to C5 / B5	**)	npd	up to 9A	Country specific ****)	up to 2	not applicable
<b>Characteristics</b>	Height and width	Ability to release	Acoustic performance	Thermal transmittance	Radiation properties	Air permeability	Operating forces
<b>Class / Value</b>	not applicable **)	not applicable **)	*)	Standard procedure	See CE marking glazing	4	up to 2
<b>Characteristics</b>	Mechanical strength	Ventilation	Bullet resistance	Explosion resistance	Resistance to repeated opening and closing	Behaviour between different climates	Burglar resistance
<b>Class / Value</b>	4	not applicable ***)	npd	npd	3	npd	up to WK 3

\*) Evidence of performance for purpose-designed system – as necessary  
 \*\*) not mandated for windows (external pedestrian doorsets resp. roof windows only)  
 \*\*\*) applies only to windows with integrated ventilation device  
 \*\*\*\*) evidence acc. to intended country of destination

ift Rosenheim  
13.02.2018

  
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## Basis

EN 14351-1:2006+A2:2016  
Windows and doors

ift Certification scheme for windows and external pedestrian doorsets (QM320)

Certification and surveillance contract No 181 7612120 SG

## Instructions for use

The ift-system passport demonstrates the general performance of the designated product family - determined on the basis of testing, calculation or assessment.

The values / classes indicated refer both to the specific objects described in the individual evidence and the field of application defined by the ift-system passport.

Application of the performance characteristics is subject to the national technical regulations and the respective contractual arrangements.

This system passport forms the basis for obtaining the ift Certificate of Conformity, which provides evidence of the conformity of the finished products and the company's quality control through regular third party audits of the manufacturer by the ift Rosenheim.

## Notes on publication


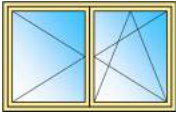





















The ift-Guidance Sheet "Conditions and Guidance for the Use of ift Test Documents" applies.

## Contents

The system passport contains a total of 27 pages:

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## 1 Summary of performance characteristics as per EN 14351-1

No.	Characteristics as per EN 14351-1	Product family 1	Product family 2
			
		e.g. Tilt and turn windows	Double windows and casement doors of overlapping design
4.2	 Resistance to wind load <sup>(1)</sup>	<b>C5 / B5</b>	<b>C3 / B3 und C5 / B5</b>
4.3	 Resistance to snow and permanent load (roof windows only)	not applicable	not applicable
4.4	 Reaction to fire	not applicable	not applicable
4.5	 Watertightness	<b>9A</b>	<b>9A</b>
4.6	 Dangerous substances	Manufacturer is obliged to prepare and supply specific information on the content in conformity with the legal requirements in the intended country of destination..	
4.7	 Impact resistance	<b>2</b>	see item 4.7 in section 3.2
4.8	 Load-bearing capacity of safety devices	not applicable	not applicable
4.9	 Height and width (external pedestrian doorsets only)	not applicable	not applicable
4.10	 Ability to release (external pedestrian doorsets only)	not applicable	not applicable
4.11	 Acoustic performance <sup>(2)</sup>	$R_w$ values to be determined for standard sizes 1.23 m x 1.48 m and/or 1.48 m x 2.18 m or for purpose-designed product.	
4.12	 Thermal transmittance	$U_w$ values to be determined for standard sizes 1.23 m x 1.48 m and/or 1.48 m x 2.18 m or for purpose-designed product.	
4.13	 Radiation properties	Evidence of total energy transmittance and light transmittance to be provided via the CE-marking of the glazing.	
4.14	 Air permeability	<b>4</b>	<b>4</b>
4.16	 Operating forces	<b>1</b>	<b>1 and 2</b>
4.17	 Mechanical strength	<b>4</b>	<b>4</b>
4.18	 Ventilation	not applicable	not applicable
4.19	 Bullet resistance	npd	npd
4.20	 Explosion resistance	npd	npd
4.21	 Resistance to repeated opening and closing	<b>3</b>	<b>3</b>
4.22	 Behaviour between different climates	npd	npd
4.23	 Burglar resistance <sup>(3)</sup>	<b>up to WK 3</b>	<b>up to WK 3</b>

**Note:** The listed performance characteristics represent the product characteristics of the specimens tested. The possibility of combining performance characteristics shall be verified in each individual case.

Superscripts see section 6

## 2 General details of the ift-System Passport

### 2.1 Performance characteristics as per product standard

All listed performance characteristics were tested and evaluated to the test and classification standards contained in the product standard EN 14351-1. They are based on the evidence of performance presented by the client. For more detailed information refer to the respective individual evidence of performance/test reports referring to the performance characteristics listed in section 1 or sections 3 to 5, respectively.

### 2.2 Basis of the ift-system passport

- Certification scheme for windows and external pedestrian doorsets as per EN 14351-1 (QM 320 / V07-04)
- Existing certification contract concluded between **ift** and client,
- Continuous audit/surveillance of client,
- Introduced and maintained factory production control (FPC) system as set out by the standards:
  - Management of development, supply and documentation
  - Qualification of employees
  - Qualification of licensees/manufacturers (only system suppliers/licensors)

**ift Rosenheim shall be notified immediately of any system changes.**

### 3 Product family 1

#### 3.1 Summary of significant system features

This brief description lists the significant system characteristics of product family 1.

#### Series AWS 65 BS

Note: design series RL, RD, MC and ST are covered by expert statement 155 30951, dated 29.09.2007, ift Rosenheim.

#### Variants

##### Frame material

Profile depth

##### Frame joints

##### Rebate design

Rebate seal external

Rebate seal centre

Rebate seal internal

Rebate drainage

Note:

Pressure equalisation

#### Hardware

Product

#### Side-hung, tilt and turn

aluminium profiles with thermal break

frame member 65 mm, casement member 67.5 mm, face-fitted

mitred and nailed using corner connector and bonded

see glazing gasket external

corner-vulcanised frame gasket 246052, EPDM black, supplier SCHÜCO International KG

sealing profile 224310, EPDM black, supplier SCHÜCO International KG, continuous, at top centre butt-jointed and bonded

3 slots 34 mm x 10 mm outwards without end caps

Use only end caps without additional features (e.g. membranes, labyrinths).

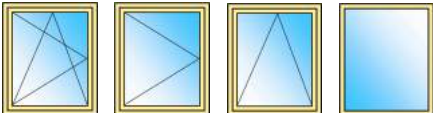








3 milled cut-outs 3.5 mm x 45 mm in sealing fin at top of frame member

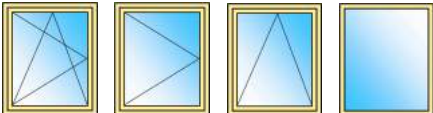


tilt and turn hardware Avantec / supplier SCHÜCO International KG

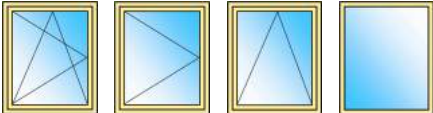



<b>Glazing</b>	insulating glass unit, thickness from 16 mm to 34 mm
Glazing gasket external	corner vulcanised frame gasket 244874, EPDM black, supplier SCHÜCO International KG
Glazing gasket internal	glazing gasket 224267, EPDM black, supplier SCHÜCO International KG, corners jointed and bonded
Note:	Depending on glass thickness and subject to identical material properties and geometries, glazing gaskets of different thicknesses may be used.
Vapour pressure equalisation	on sides: ea. 1 slot of 5 mm x 20 mm, at bottom: 3 slots of 5 mm x 20 mm

### 3.2 Overview of performance characteristics of product family 1

Type of opening:		Side-hung, bottom-hung, tilt and turn, fixed, double with mullion				
		Clause of product standard 14351-1	Variants/ Type / Design	Evidence	Value / Class	Scope
4.2	Resistance to wind load <sup>(1)</sup> 	AWS 65 BS Tilt and turn window: Casement dimensions: 1,450 mm x 1,900 mm Frame dimensions: 1,528 mm x 1,978 mm	Test Report 101 30951/15 dated 25.06.06 ift Rosenheim	<b>C5 / B5</b>	Extrapolation for -100% of frame width and height of test specimen	
4.3	Resistance to snow and permanent load 	-	-	not applicable	Only roof windows	
4.4	Reaction to fire 	-	-	not applicable	Only roof windows	
4.5	Watertightness 	AWS 65 BS Tilt and turn window: Casement dimensions: 1,450 mm x 1,900 mm Frame dimensions: 1,528 mm x 1,978 mm	Test Report 101 30951/15 dated 25.06.06 ift Rosenheim	<b>9A</b>	Extrapolation for -100% to +50% of test specimen overall area	
4.6	Dangerous substances 	Manufacturer is obliged to prepare and supply specific information on the content in conformity with the legal requirements in the intended country of destination.				
4.7	Impact resistance 	see Clause 4.7 in table Item 4.2				
4.8	Load-bearing capacity of safety devices 	-	-	not applicable	Extrapolation for -100% of frame width and height of test specimen	
4.9	Height and width 	-	-	not applicable	Only for external pedestrian doorsets	

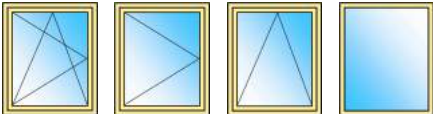


Clause of product standard 14351-1		Variants/ Type / Design	Evidence	Value / Class	Scope
<b>Type of opening:</b> Side-hung, bottom-hung, tilt and turn, fixed, double with mullion 					
4.10	Ability to release 	-	-	not applicable	Only for external pedestrian doorsets in emergency exit and escape routes in conjunction with EC certificate of conformity
4.11	Acoustic performance <sup>(2)</sup> 	<b>Systems:</b> <ul style="list-style-type: none"> <li>• AWS 65, face-fitted</li> <li>• AWS 65, flush</li> <li>• AWS 65 BS, face-fitted</li> </ul>	Test Report 161 31811/Z14 dated 28.06.06 <b>ift Rosenheim</b>  Test Report 161 31811/Z17 dated 28.06.06 <b>ift Rosenheim</b>  Test Report 161 31811/Z19 dated 28.06.06 <b>ift Rosenheim</b>  Test Report 161 31811/Z20 dated 28.06.06 <b>ift Rosenheim</b>  Test Report 161 31811/Z22 dated 28.06.06 <b>ift Rosenheim</b>  Test Report 161 31811/Z23 dated 28.06.06 <b>ift Rosenheim</b>	$R_w (C; C_{tr}) = 34 (-2; -5) \text{ dB}$  <b>to</b>  $R_w (C; C_{tr}) = 47 (-2; -4) \text{ dB}$	Extrapolation for larger window formats as per Clause B.4 of Annex B, EN 14351-1

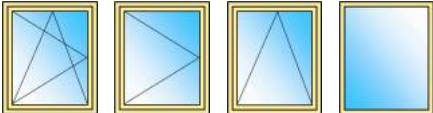








Clause of product standard 14351-1		Variants/ Type / Design	Evidence	Value / Class	Scope
<b>Type of opening:</b> Side-hung, bottom-hung, tilt and turn, fixed, double with mullion 					
4.11	Acoustic performance <sup>(2)</sup> 	<b>Systems:</b> <ul style="list-style-type: none"> <li>• AWS 65, face-fitted</li> <li>• AWS 65, flush</li> <li>• AWS 65 BS, face-fitted</li> </ul>	Test Report 161 31811/Z45 dated 28.06.06 <b>ift Rosenheim</b>  Test Report 161 31811/Z35 dated 28.06.06 <b>ift Rosenheim</b>  Test Report 161 31811/Z36 dated 28.06.06 <b>ift Rosenheim</b>  Test Report 161 31811/Z37 dated 28.06.06 <b>ift Rosenheim</b>  Test Report 161 31811/Z38 dated 28.06.06 <b>ift Rosenheim</b>  Test Report 161 31811/Z39 dated 28.06.06 <b>ift Rosenheim</b>  Test Report 161 31811/Z40 dated 28.06.06 <b>ift Rosenheim</b>  Test Report 161 31811/Z41 dated 28.06.06 <b>ift Rosenheim</b>  Test Report 161 31811/Z42 dated 28.06.06 <b>ift Rosenheim</b>  Test Report 161 31811/Z69 dated 27.10.06 <b>ift Rosenheim</b>	$R_w (C; C_{tr}) = 34 (-2; -5) \text{ dB}$  <b>to</b>  $R_w (C; C_{tr}) = 47 (-2; -4) \text{ dB}$	Extrapolation for larger window formats as per Clause B.4 of Annex B, EN 14351-1

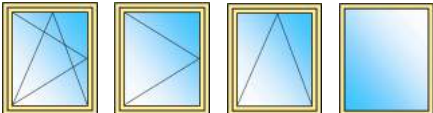


Superscripts/Indices see Section 6

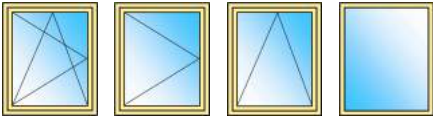

Superscripts see Section 6



Clause of product standard 14351-1		Variants/ Type / Design	Evidence	Value / Class	Scope
<b>Type of opening:</b> Side-hung, bottom-hung, tilt and turn, fixed, double with mullion 					
4.11	Acoustic performance <sup>(2)</sup> 	<b>Systems:</b> <ul style="list-style-type: none"> <li>• AWS 65, face-fitted</li> <li>• AWS 65, flush</li> <li>• AWS 65 BS, face-fitted</li> </ul>	Test Report 161 31811/Z71 dated 27.10.06 <b>ift Rosenheim</b>  Test report summary and expert statement 175 33378 dated 07.05.07 <b>ift Rosenheim</b>	$R_w (C;C_{tr}) = 34 (-2;-5) \text{ dB}$  <b>to</b>  $R_w (C;C_{tr}) = 47 (-2;-4) \text{ dB}$	Extrapolation for larger window formats as per Clause B.4 of Annex B, EN 14351-1
4.12	Thermal transmittance 	<b>Systems:</b> <ul style="list-style-type: none"> <li>• AWS 65</li> <li>• AWS 65 BS</li> </ul> $U_T = 1.9 \text{ W/(m}^2\text{K)} \text{ to } U_T = 2.5 \text{ W/(m}^2\text{K)}$	Test Report $U_T$ -value 432 31672/3 dated 31.08.06 <b>ift Rosenheim</b>  Test Report $U_T$ -value 432 31672/6 dated 31.08.06 <b>ift Rosenheim</b>	evidence for purpose-designed unit	For determination of tabulated $U_w$ -values use table F1 as per EN ISO 10077-1:2000. This $U_w$ -value can be extrapolated for all sizes.  Calculation of $U_w$ is based on EN ISO 10077-1:2000.  For calculation, the following extrapolation rule applies:  Reference size: 1.23 m x 1.48 m (extrapolation for overall area $\leq 2.3 \text{ m}^2$ ) or 1.48 m x 2.18 m (extrapolation for overall area $> 2.3 \text{ m}^2$ )  Note: Where $U_g < 1.9 \text{ W/m}^2\text{K}$ , extrapolation from 1.23 m x 1.48 m is possible for all sizes

Type of opening:		Side-hung, bottom-hung, tilt and turn, fixed, double with mullion				
		Clause of product standard 14351-1	Variants/ Type / Design	Evidence	Value / Class	Scope
4.13	Radiation properties 	All		See CE marking of the glazing	evidence for purpose-designed products	-
4.14	Air permeability 	AWS 65 BS Tilt and turn window: Casement dimensions: 1,450 mm x 1,900 mm Frame dimensions: 1,528 mm x 1,978 mm		Test Report 101 30951/15 dated 25.06.06 ift Rosenheim	4	Extrapolation for -100% to +50% of the test specimen overall area
4.16	Operating forces 	AWS 65 BS Tilt and turn window: Casement dimensions: 1,450 mm x 1,900 mm Frame dimensions: 1,528 mm x 1,978 mm		Test Report 101 30951/15 dated 25.06.06 ift Rosenheim	1	Extrapolation for -100 of the test specimen overall area
4.17	Mechanical strength 	AWS 65 BS Tilt and turn window: Casement dimensions: 1,450 mm x 1,900 mm Frame dimensions: 1,528 mm x 1,978 mm		Test Report 101 30951/15 dated 25.06.06 ift Rosenheim	4	Extrapolation for -100 of the test specimen overall area
4.18	Ventilation 	-		-	not applicable	Applies only to windows with integrated ventilation device
4.19	Bullet resistance 	-		-	npd	-
4.20	Explosion resistance 	-		-	npd	-
4.21	Resistance to repeated opening and closing 	AWS 65 BS Tilt and turn window: Casement dimensions: 1,450 mm x 1,900 mm Frame dimensions: 1,528 mm x 1,978 mm		Test Report 101 30951/15 dated 25.06.06 ift Rosenheim	3	Extrapolation for -100% test specimen overall area subject to observance of maximum tested casement weight

Clause of product standard 14351-1		Variants/ Type / Design	Evidence	Value / Class	Scope
<p><b>Type of opening:</b> Side-hung, bottom-hung, tilt and turn, fixed, double with mullion</p> 					
4.22	Behaviour between different climates 	-	-	npd	-
4.23	Burglar resistance <sup>(3)</sup> 	AWS 65, AWS 65 RL, AWS 65 SL, AWS 65 BS  Attack side: closing side/closing face as per DIN 107 Glazing: Class P4 A as per DIN EN 356 : 2000-02  Types of burglar resistant double windows as per annexes of expert statement, for hardware system of burglar resistant fittings refer to Annex 1 of referenced expert statement	Expert Statement 211 23753/2 dated 03.07.06 <b>ift</b> Rosenheim	<b>WK 2</b>	Extrapolation for +10% and -20% in height and width

Clause of product standard 14351-1		Variants/ Type / Design	Evidence	Value / Class	Scope
<p><b>Type of opening:</b> Side-hung, bottom-hung, tilt and turn, fixed, double with mullion</p> 					
4.23	<p>Burglar resistance <sup>(3)</sup></p> 	<p>AWS 65, AWS 65 RL, AWS 65 SL, AWS 65 BS</p> <p>Attack side: Closing side/closing face as per DIN 107</p> <p>Glazing: Class P5 A as per DIN EN 356 : 2000-02</p> <p>Hardware: security locking points SCHÜCO No. 227036 and 228500 (BS series) and security lock SCHÜCO No. 214863</p> <p>further details see Annex of Expert Statement</p> <p>Type of burglar resistant double windows as per annexes of expert statement</p>	<p>Expert Statement 211 24308/1 dated 12.09.06 ift Rosenheim</p>	<p><b>WK 3</b></p>	<p>Extrapolation for +10% and -20% in height and width</p>

### 3.3 Supplementary performance characteristics

#### 3.3.2 Reveal test and rebate hindrance test as per RAL-RG 607/3

Characteristics	Variants/ Type / Design	Evidence	Value /Class
Reveal test and rebate hindrance test as per RAL-RG 607/3: 1995-02 Quality regulations and test specifications for side-hung and tilt and turn hardware	AWS 65 BS Tilt and turn window: Casement dimensions: 1,450 mm x 1,900 mm Frame dimensions: 1,528 mm x 1978 mm	Test Report 101 30951/A R1 dated 30.08.07 ift Rosenheim	<b>Requirement fulfilled</b>

#### 3.3.3 Mechanical strength of thermal break metal profiles

Characteristics	Variants/ Type / Design	Evidence	Value /Class
Mechanical strength of thermal break metal profiles as per EN 14024	AWS 65 BS Tilt and turn window: Casement dimensions: 1,450 mm x 1,900 mm Frame dimensions: 1,528 mm x 1,978 mm	System test certificate 101 30951/A R1 dated 30.08.07 ift Rosenheim	<b>Requirement fulfilled</b>

## 4 Product family 2

### 4.1 Brief description of significant system features

This brief description lists the significant system characteristics of product family 2.

#### Series AWS 65

Note: design series RL, RD, MC and ST are covered by expert statement 155 30951, dated 29.09.2007, ift Rosenheim.

#### Variants

#### Windows and casement doors of overlapping design

##### Frame material

aluminium profiles with thermal break

Profile depth

frame member 65 mm, casement member 75 mm

##### Frame joints

mitred and nailed using corner connectors and bonded and/or mechanical T-cleat

Note:

frame member: threshold suitable for disabled persons, with sealed screw-connection, stainless steel corner reinforcement also with sealed screw-connection,

##### Rebate design

Rebate seal centre

corner-vulcanised frame gasket 246052, EPDM black, supplier SCHÜCO International KG, corners underneath frame gasket gunned with resilient sealant over 5 cm length

Rebate seal internal

sealing profile 224310, EPDM black, supplier SCHÜCO International KG, continuous, at top centre butt-jointed and bonded

Note:

When using hardware system "flush with the adjacent area", there is no internal rebate sealing plane.

Rebate drainage

4 slots of 10 mm x 34 mm outwards with end caps via threshold

Note:

verified only with end caps without additional features (e.g. membranes, labyrinths).

Pressure equalisation

continuous slot between frame member and casement member





##### Hardware

Product







tilt and turn hardware, concealed hardware system flush / supplier SCHÜCO International KG

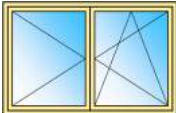





<b>Glazing</b>	insulating glass unit, thickness from 4 mm to 55 mm
Glazing gasket external	sealing profile 244539, EPDM black, supplier SCHÜCO International KG, continuous, at top centre butt-jointed and bonded or sealing profile 224063, EPDM, black, supplier SCHÜCO International KG, continuous, at top butt-jointed and bonded or sealing profile 224063, EPDM, black, supplier SCHÜCO International KG, continuous, at top centre jointed, at corners sealed with resilient sealant SCHÜCO Flex 2
Glazing gasket internal	sealing profile, EPDM black, supplier SCHÜCO International KG, continuous, at top centre jointed and bonded
Note:	Depending on glass thickness and subject to identical material properties and geometries, glazing gaskets of different thicknesses may be used.
Vapour pressure equalisation	ea. casement, 2 slots on sides and 3 slots at bottom ea. of 20 mm x 5 mm or ea. casement, on sides at top ea. 1 slot of 5 mm x 20 mm, at bottom 3 slots of 20 mm x 5 mm




## 4.2 Overview of performance characteristics of product family 2








Type of opening:		Double of overlapping design			
					
Clause of product standard 14351-1	Variants/ Type / Design	Evidence	Value / Class	Scope	
4.2	Resistance to wind load <sup>(1)</sup> 	Combined side hung & tilt and turn window of overlapping design and fixed toplight :  Active leaf dimensions: 1,000 mm x 1,600 mm Inactive leaf dimensions: 1,400 mm x 1,600 mm Frame dimensions: 2,465 mm x 2,500 mm	Test Report 101 30951/4 dated 18.10.06 <b>ift</b> Rosenheim	<b>C5 / B5</b>	Extrapolation for –100 % of frame width and height of test specimen
	Combined side-hung & tilt and turn double-leaf casement door of overlapping design and with threshold suitable for disabled persons :  Active leaf dimensions: 1,100 mm x 2,100 mm Inactive leaf dimensions: 900 mm x 2,100 mm Frame dimensions: 2,065 mm x 2,134 mm	Test Report 101 30951/12 dated 18.10.06 <b>ift</b> Rosenheim	<b>C3 / B3</b>		
	Combined side hung & tilt and turn window of overlapping design, flush:  Active leaf dimensions: 1,000 mm x 1,500 mm Inactive leaf dimensions: 1,300 mm x 1,500 mm Frame dimensions: 2,383 mm x 1,578 mm	Test Report 102 30951/4 dated 25.09.06 <b>ift</b> Rosenheim			
4.3	Resistance to snow and permanent load 	-	-	not applicable	Only roof windows
4.4	Reaction to fire 	-	-	not applicable	Only roof windows



Type of opening:		Double of overlapping design			
					
Clause of product standard 14351-1	Variants/ Type / Design	Evidence	Value / Class	Scope	
4.5	Watertightness 	Combined side-hung & tilt and turn window of overlapping design and with fixed toplight :  Active leaf dimensions: 1,000 mm x 1,600 mm Inactive leaf dimensions: 1,400 mm x 1,600 mm Frame dimensions: 2,465 mm x 2,500 mm	Test Report 101 30951/4 dated 18.10.06 <b>ift Rosenheim</b>	<b>9A</b>  Extrapolation for –100% to +50% of test specimen overall area	
		Combined side-hung & tilt and turn double-leaf casement door of overlapping design and with threshold suitable for disabled persons :  Active leaf dimensions: 1,100 mm x 2,100 mm Inactive leaf dimensions: 900 mm x 2,100 mm Frame dimensions: 2,065 mm x 2,134 mm	Test Report 101 30951/12 dated 18.10.06 <b>ift Rosenheim</b>		
		Combined side-hung & tilt and turn window of overlapping design, flush:  Active leaf dimensions: 1,000 mm x 1,500 mm Inactive leaf dimensions: 1,300 mm x 1,500 mm Frame dimensions: 2,383 mm x 1,578 mm	Test Report 102 30951/4 dated 25.09.06 <b>ift Rosenheim</b>		
4.6	Dangerous substances 	Manufacturer is obliged to prepare and supply specific information on the content in conformity with the legal requirements in the intended country of destination.			
4.7	Impact resistance 	see Clause 4.7 in table Item 3.2			
4.8	Load-bearing capacity of safety devices 	-	-	not applicable  Only windows with additional safety device	
4.9	Height and width 	-	-	not applicable  Only external pedestrian doorsets	

Clause of product standard 14351-1		Variants/ Type / Design	Evidence	Value / Class	Scope
<b>Type of opening:</b> Double of overlapping design 					
4.10	Ability to release 	-	-	not applicable	Only external pedestrian doorsets in emergency exit and escape routes in conjunction with EC certificate of conformity
4.11	Acoustic performance 	-	Evidence shall be provided based on tables B.1 and B.2 of Annex B, EN 14351-1:2006. Note: cross comparison with 4.14, air permeability $\geq$ class 3 required	subject-related evidence	Extrapolation for larger windows formats as per Clause B.4 of Annex B, EN 14351-1
4.12	Thermal transmittance 	see Clause 4.12 in table Item 3.2			
4.13	Radiation properties 	All	See CE marking of the glazing	subject-related evidence	-
4.14	Air permeability 	Combined side-hung & tilt and turn window of overlapping design and with fixed toplight :  Active leaf dimensions: 1,000 mm x 1,600 mm Inactive leaf dimensions: 1,400 mm x 1,600 mm Frame dimensions: 2,465 mm x 2,500 mm	Test Report 101 30951/4 dated 18.10.06 <b>ift</b> Rosenheim	4	Extrapolation for -100% to +50% of test specimen overall area
	Combined side-hung & tilt and turn double-leaf casement door of overlapping design and with threshold suitable for disabled persons :  Active leaf dimensions: 1,100 mm x 2,100 mm Inactive leaf dimensions: 900 mm x 2,100 mm Frame dimensions: 2,065 mm x 2,134 mm	Test Report 101 30951/12 dated 18.10.06 <b>ift</b> Rosenheim			

Type of opening:		Double of overlapping design			
Clause of product standard 14351-1		Variants/ Type / Design	Evidence	Value / Class	Scope
4.14	Air permeability 	Combined side hung & tilt and turn window of overlapping design, flush: Active leaf dimensions: 1,000 mm x 1,500 mm Inactive leaf dimensions: 1,300 mm x 1,500 mm Frame dimensions: 2,383 mm x 1,578 mm	Test Report 102 30951/4 dated 25.09.06 ift Rosenheim	4	Extrapolation for -100% to +50% of test specimen overall area
4.16	Operating forces 	Combined side-hung & tilt and turn window of overlapping design and with fixed toplight : Active leaf dimensions: 1,000 mm x 1,600 mm Inactive leaf dimensions: 1,400 mm x 1,600 mm Frame dimensions: 2,465 mm x 2,500 mm	Test Report 101 30951/4 dated 18.10.06 ift Rosenheim	2	Extrapolation for -100% of test specimen overall area
		Combined side-hung & tilt and turn double-leaf casement door of overlapping design and with threshold suitable for disabled persons : Active leaf dimensions: 1,100 mm x 2,100 mm Inactive leaf dimensions: 900 mm x 2,100 mm Frame dimensions: 2,065 mm x 2,134 mm	Test Report 101 30951/12 dated 18.10.06 ift Rosenheim	1	
		Combined side-hung & tilt and turn window of overlapping design, flush: Active leaf dimensions: 1,000 mm x 1,500 mm Inactive leaf dimensions: 1,300 mm x 1,500 mm Frame dimensions: 2,383 mm x 1,578 mm	Test Report 102 30951/4 dated 25.09.06 ift Rosenheim	2	
4.17	Mechanical strength 	Combined side-hung & tilt and turn window of overlapping design and with fixed toplight : Active leaf dimensions: 1,000 mm x 1,600 mm Inactive leaf dimensions: 1,400 mm x 1,600 mm Frame dimensions: 2,465 mm x 2,500 mm	Test Report 101 30951/4 dated 18.10.06 ift Rosenheim	4	Extrapolation for -100% of test specimen overall area
		Combined side-hung & tilt and turn double-leaf casement door of overlapping design and with threshold suitable for disabled persons : Active leaf dimensions: 1,100 mm x 2,100 mm Inactive leaf dimensions: 900 mm x 2,100 mm Frame dimensions: 2,065 mm x 2,134 mm	Test report 101 30951/12 dated 18.10.06 ift Rosenheim		

Type of opening:		Double of overlapping design				
		Clause of product standard 14351-1	Variants/ Type / Design	Evidence	Value / Class	Scope
4.18	Ventilation 	-	-	-	not applicable	Applies only to windows with integrated ventilation device
4.19	Bullet resistance 	-	-	-	npd	-
4.20	Explosion resistance 	-	-	-	npd	-
4.21	Resistance to repeated opening and closing 	Combined side-hung & tilt and turn window of overlapping design and with fixed toplight :  Active leaf dimensions: 1,000 mm x 1,600 mm Inactive leaf dimensions: 1,400 mm x 1,600 mm Frame dimensions: 2,465 mm x 2,500 mm	Test Report 101 30951/4 dated 18.10.06 <b>ift</b> Rosenheim	3	Extrapolation for -100% of test specimen overall area under observance of the maximum tested casement weight	
		Combined side-hung & tilt and turn double-leaf casement door of overlapping design and with floor threshold suitable for disabled persons :  Active leaf dimensions: 1,100 mm x 2,100 mm Inactive leaf dimensions: 900 mm x 2,100 mm Frame dimensions: 2,065 mm x 2,134 mm	Test Report 101 30951/12 dated 18.10.06 <b>ift</b> Rosenheim			
4.22	Behaviour between different climates 	-	-	-	npd	-
4.23	Burglar resistance <sup>(3)</sup> 	see Clause 4.23 in table Item 3.2				

### 4.3 Supplementary performance characteristics

#### 4.3.2 Reveal test and rebate hindrance test as per RAL-RG 607/3

Characteristics	Variants/ Type / Design	Evidence	Value / Class
Reveal test and rebate hindrance test as per RAL-RG 607/3: 1995-02 Quality regulations and test specifications for side-hung and tilt and turn hardware	Combined side-hung & tilt and turn window of overlapping design and with fixed top-light :  Active leaf dimensions: 1,000 mm x 1,600 mm Inactive leaf dimensions: 1,400 mm x 1,600 mm Frame dimensions: 2,465 mm x 2,500 mm	Test Report 101 30951/A R1 dated 18.10.06 <b>ift</b> Rosenheim	<b>Requirement fulfilled</b>
	Combined side hung & tilt and turn double casement door of overlapping design and with floor threshold suitable for disabled persons Active leaf dimensions: 1,100 mm x 2,100 mm Inactive leaf dimensions: 900 mm x 2,100 mm Frame dimensions: 2,065 mm x 2,134 mm		

#### 4.3.3 Mechanical strength of thermal break metal profiles

Characteristics	Variants/ Type / Design	Evidence	Value / Class
Mechanical strength of thermal break metal profiles as per EN 14024	Combined side-hung & tilt and turn window of overlapping design and with fixed top-light :  Active leaf dimensions: 1,000 mm x 1,600 mm Inactive leaf dimensions: 1,400 mm x 1,600 mm Frame dimensions: 2,465 mm x 2,500 mm	System test certificate 101 30951/A R1 dated 30.08.07 <b>ift</b> Rosenheim	<b>Requirement fulfilled</b>
	Combined side-hung & tilt and turn double-leaf casement door of overlapping design and with floor threshold suitable for disabled persons :  Active leaf dimensions: 1,100 mm x 2,100 mm Inactive leaf dimensions: 900 mm x 2,100 mm Frame dimensions: 2,065 mm x 2,134 mm		

## 5 Performance characteristics as per product standard

### 5.1 General

Subject to the intended use as well as the national requirements for windows and external pedestrian doorsets, initial type testing will be required to the characteristics listed in the product standard, which, as defined by the requirements and specifications of the product standard may be carried out for the respective performance characteristic on the basis of testing, calculation, tabulated values or evaluation.

The following comprises the relevant evidence for all performance characteristics of the product standard Clause 4 for the respective product family. Superscripts are explained in Section 5.

### 5.2 Resistance to wind load (see EN 14351-1, Clause 4.2)

The windows are tested in accordance with EN 12211. Code letter C refers to maximum permitted frontal deflection of less than  $l/300$ , code letter B refers to maximum permitted frontal deflection of less than  $l/200$  as per Table 2 in EN 12210. The number after the code letters refers to the nominal wind load of the class achieved as per Table 1 of EN 12210. The deflection of fixed frame components (e.g. mullions and transoms) shall be demonstrated by calculation or by test (reference method).

The results shall be expressed in accordance with EN 12210. The air permeability tests and classification referred to in EN 12210 shall be in accordance with 4.14 as per EN 14351-1.

### 5.3 Resistance to snow and permanent load (see EN 14351-1, Clause 4.3)

The manufacturer shall provide sufficient information on the infill to enable determination of the load-bearing capacity of the infill, e.g. details of thickness and type of glass.

### 5.4 External fire performance (see EN 14351-1, Clause 4.4)

Roof windows shall be tested and classified in accordance with EN 13501-5.

### 5.5 Watertightness (see EN 14351-1, Clause 4.5)

The watertightness test was carried out in accordance with EN 1027. The results shall be expressed in accordance with EN 12208.

### 5.6 Dangerous substances (see EN 14351-1, Clause 4.6)

In so far as the state of the art permits, the manufacturer shall establish those materials in the product which are liable to emission or migration during normal intended use and for which emission or migration into the environment is potentially dangerous to hygiene, health or the environment. The manufacturer shall establish and make the appropriate declaration of content according to the legal requirements in the intended country of destination.

### 5.7 Impact resistance (see EN 14351-1, Clause 4.7)

Windows and external pedestrian doorsets fitted with glass or other fragmental material shall be tested and the results shall be expressed in accordance with EN 13049. Where relevant, the test shall be carried out from both sides.

### **5.8 Load-bearing capacity of safety devices** (see EN 14351-1, Clause 4.8)

Windows and external pedestrian doorsets fitted with glass or other fragmental material shall be tested and the results shall be expressed in accordance with EN 13049. Where relevant, the test shall be carried out from both sides.

### **5.9 Height and width of doorsets and casement doors** (see EN 14351-1, Clause 4.9)

The clear opening height and width of external pedestrian doorsets and casement doors (see EN 12519, 3.1) shall be expressed in mm.

### **5.10 Ability to release** (see EN 14351-1, Clause 4.10)

Emergency exit devices and panic devices installed on external pedestrian doorsets in escape routes shall comply with EN 179, EN 1125, prEN 13633 or prEN 13637.

### **5.11 Acoustic performance** (see EN 14351-1, Clause 4.11)

The sound reduction index shall be determined in accordance with EN ISO 140-3 (reference method) or for specific window types in accordance with Annex B. The test results shall be evaluated in accordance with EN ISO 717-1.

### **5.12 Thermal transmittance** (see EN 14351-1, Clause 4.12)

The thermal transmittance for windows and external pedestrian doorsets shall be determined by using:

- EN ISO 10077-1, Table F.1

or by calculation using:

- EN ISO 10077-1 or
- EN ISO 10077-1 and EN ISO 10077-2

or by hot box method using:

- EN ISO 12567-1 or
- EN ISO 12567-2 as appropriate.

EN ISO 12567-1 shall be used as reference method for windows and external pedestrian doorsets, EN ISO 12567-2 as reference method for roof windows.

### **5.13 Radiation properties** (see EN 14351-1, Clause 4.13)

The determination of the total solar energy transmittance (g-value) and light transmittance of translucent glazing shall be carried out in accordance with EN 410, or if relevant, with EN 13363-1 or EN 13363-2 (reference method).

### **5.14 Air permeability** (see EN 14351-1, Clause 4.14)

Two air permeability tests shall be carried out in accordance with EN 1026, one with positive test pressures and one with negative test pressures.

The test result, defined as the numerical average of the two air permeability values (m<sup>3</sup>/h) at each pressure step shall be expressed in accordance with EN 12207, 4.6,.

### **5.15 Durability** (see EN 14351-1, Clause 4.15)

The manufacturer shall provide information about maintenance and the replaceable parts.

### **5.16 Operating forces** (see EN 14351-1, Clause 4.16)

Manually operated windows shall be tested in accordance with EN 12046-1. The results shall be expressed in accordance with EN 13115. Manually operated external pedestrian doorsets shall be tested in accordance with EN 12046-2. The results shall be expressed in accordance with EN 12217.

### **5.17 Mechanical strength** (see EN 14351-1, Clause 4.17)

Windows shall be tested in accordance with EN 14608 and EN 14609. Prior to and after those tests manually operated windows shall be tested in accordance with EN 12046-1. The results shall be expressed in accordance with EN 13115. External pedestrian doorsets shall be tested in accordance with EN 947, EN 948, EN 949 and EN 950. The results shall be expressed in accordance with EN 1192.

### **5.18 Ventilation** (see EN 14351-1, Clause 4.18)

Air transfer devices integrated in a window or an external pedestrian doorset shall be tested and evaluated in accordance with EN 13141-1, 4.1.

### **5.19 Bullet resistance** (see EN 14351-1, Clause 4.19)

After testing in accordance with EN 1523 the bullet resistance characteristics of windows and external pedestrian doorsets shall be expressed in accordance with EN 1522.

### **5.20 Explosion resistance** (see EN 14351-1, Clause 4.20)

#### **5.20.1 Shock tube**

After testing in accordance with EN 13124-1 the explosion resistance characteristics of windows and external pedestrian doorsets shall be expressed in accordance with EN 13123-1.

#### **5.20.2 Range test**

After testing in accordance with EN 13124-2 the explosion resistance characteristics of windows and external pedestrian doorsets shall be expressed in accordance with EN 13123-2.

### **5.21 Resistance to repeated opening and closing** (see EN 14351-1, Clause 4.21)

A repeated opening and closing test shall be carried out in accordance with EN 1191. The results shall be expressed in accordance with EN 12400.

### **5.22 Behaviour between different climates** (see EN 14351-1, Clause 4.22)

A climate test on windows with frames manufactured from a combination of materials shall be carried out in accordance with ENV 13420.

A climate test on external pedestrian doorsets shall be carried out in accordance with EN 1121. The results shall be expressed in accordance with EN 12219.

### **5.23 Burglar resistance** (see EN 14351-1, Clause 4.23)

After testing in accordance with ENV 1628, ENV 1629 and ENV 1630 the results shall be expressed in accordance with ENV 1627.

### **5.24 Special requirements** (see EN 14351-1, Clause 4.24)



## **5.24.1 Power operated windows (see EN 14351-1, Clause 4.24.1)**

### **5.24.1.1 Safety in use**

Drive units and other hardware/electrical components installed on electrically driven windows shall be designed, tested and controlled in accordance with EN 60335-2-103.

Pneumatically and hydraulically driven hardware for windows shall additionally be designed, tested and controlled in accordance with EN 12453:2000, 5.2.3 and 5.2.4.

### **5.24.1.2 Other requirements**

Electrical drives shall be designed, tested and controlled in accordance with EN 61000-6-3 and EN 61000-6-1.

## 6 Special instructions for use

The special instructions for use listed in the following are rules for the implementation of the different performance characteristics specified by the standard. They are based on the normative provisions and the experience of the **ift** Rosenheim.

As set out by the product standard the manufacturer is responsible for ensuring conformity to the declared characteristics. The durability of the window system was not tested. This shall be ensured through the use of suitable materials and surfaces/finishes according to the state of art over the agreed lifetime of the product in order to retain the performance characteristics.

The overview/summaries given in this system passport are based on the evidence provided. No legal claim can be derived from this.

This system passport serves as the basis for issuing the **ift** Certificate of Conformity, which documents conformity of the end products and of factory production control by regular third party control of the manufacturer by the **ift** Rosenheim.

The identified characteristics (classifications) are applicable to windows, casement doors and composed elements for installation in vertical structural openings and to roof windows for installation in inclined roofs, covered by the scope of application of EN 14351-1. Application is subject to the relevant national rules and regulations.

As set out by the Regulation (EC) No. 842/2006 of the European Parliament and of the Council of 17 May 2006 on certain fluorinated greenhouse gases, insulating glass units filled with Argon / SF<sub>6</sub> are not allowed to be placed on the market as of 4 July 2007 or 04 July 2008, respectively.

The rules for the interchangeability of tilt and turn hardware are defined in the **ift** Certification Scheme for hardware (QM328).



### Super- scripts

- (1) The structural properties of thermal break profiles shall be taken into account. Mullion and transom profile sections shall be dimensioned adequately on the basis of structural engineering.
- (2) Acoustic performance: application to tested profile sections, number of locking points as tested or for larger dimensions proportional to the increase in dimensions.
- (3) Minimum requirements for glazing:  
for resistance class 2 as per EN 356 Class P4A  
for resistance class 3 as per EN 356 Class P6B  
Glazing method (glass and/or infill panel retention) as per referenced evidence/test reports  
For type, position, number and fixing of burglar resistant locking points, see referenced evidence/test reports  
Installation of burglar resistant windows as per installation manual from SCHÜCO International KG approved by ift  
For further design variants see referenced evidence/test reports

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