

Evidence of Performance

Air permeability, Watertightness, Resistance to wind load



Expert Statement

No. 13-001845-PR31

GAS-A01-02-en-05

Client SCHÜCO International KG
Karolinenstraße 1-15
33605 Bielefeld
Germany

Product Windows and casement doors with type of openings:
Turn-only, tilt-only, tilt & turn and fixed light

Designation AWS 75 BS.HI+, AWS 75 BS.SI+ und AWS 75 WF.SI+

Performance-relevant product details Material: Aluminium profiles with thermal break
Hardware: SCHÜCO TipTronic SimplySmart

Special features The processing guidelines and size specifications in accordance with the SCHÜCO International KG catalogues must be observed

Basis
Test and classification standard/s
EN 14351-1: 2006-03
EN 1026, EN 12207
EN 1027, EN 12208
EN 12211, EN 12210

Test report/s:
10-000730-PB02-A01-02-de-01 dated 15.12.2010
10-001332-PB01-A01-03-de-01 dated 11.02.2011
13-000001-PR03 (PB-A01-02-de-02) dated 07.05.2013
13-000177-PR05 (PB-A01-02-de-02) dated 12.02.2014
13-000424-PR01 (PB-A01-0203-de-02) dated 19.06.2013
13-000424-PR02 (PB-A01-0203-de-03) dated 17.10.2014
13-000424-PR03 (PB-A01-0203-de-01) dated 21.05.2013
13-000660-PR01 (PB-A01-02-de-02) dated 03.06.2013
15-001399-PR03 (PB-A01-02-de-01) dated 25.09.2015
15-001399-PR07 (PB-A01-02-de-02) dated 02.11.2015
15-001399-PR08 (PB-A01-0203-de-01) dated 29.09.2015
15-001399-PR09 (PB-A01-0203-de-01) dated 29.09.2015
101 26604/1 R2 dated 27.01.2007
101 38971 dated 10.11.2009
102 30951/1 dated 26.07. 2006
Expert statement. 13-001845-PR231 (GAS-A01-02-de-04) dated 23.03.2021
Replaces Expert statement 13-001845-PR31 (GAS-A01-02-en-04) dated 01.04.2021

Instructions for use
The results obtained can be used by the manufacturer as the basis for the manufacturer ITT test report summary. Observe the specifications set out by the applicable product standard.

Test specimen	1	
Representation		
Profile group	III.A	III
Test	Classification	
EN 12210 Resistance to wind load	up to C4 / B4 *)	up to C4 / B4 *)
EN 12208 Watertightness	up to 9A **)	up to 9A **)
EN 12207 Air permeability	4	4

*) Class C3/B3 for elements with only one chain drive and without lock roller

**) Class 7A for elements with only one chain drive and without lock roller

ift Rosenheim

29.04.2021

Robert Kolacny, Dipl.-Ing. (FH)
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Building Component Testing

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Product Manager
Division Testing

Validity

The data and results refer solely to the tested and de-scribed specimen. Classification remains valid as long as the product and the above basis remain unchanged. The results can be extrapolated under the manufacturer's own liability subject to observation of the relevant specifications set out by the applicable product standard. This test/evaluation does not allow any statement to be made on any further characteristics regarding performance and quality of the construction presented, in particular the effects of weathering and ageing were not taken into account.

Notes on publication

The ift-Guidance Sheet „Advertising with ift test documents“ applies. The cover sheet can be used as an abstract.

Contents

The expert statement contains a total of 14 pages
1 Order
2 Basis
3 Evaluation
4 Results and statement

Expert Statement 13-001845-PR31 (GAS-A01-02-en-05 dated 29.04.2021)
Client SCHÜCO International KG, 33605 Bielefeld, (Germany)



1 Order

The company SCHÜCO International KG, 33609 Bielefeld, commissioned the **ift** Rosenheim to prepare an expert statement on the following:

Extrapolation of the results contained in test reports 10-000730-PB02-A01-02-de-01 dated 15.12.2010, 10-001332-PB01-A01-03-de-01 dated 11.02.2011, 13-000001-PR03 (PB-A01-02-de-02) dated 07.05.2013, 13-000177-PR05 (PB-A01-02-de-02) dated 12.02.2014, 13-000424-PR01 (PB-A01-0203-de-02) dated 19.06.2013, 13-000424-PR02 (PB-A01-0203-de-03) dated 17.10.2014 13-000424-PR03 (PB-A01-0203-de-01) dated 21.05.2013, 13-000660-PR01 (PB-A01-02-de-02) dated 03.06.2013, 15-001399-PR03 (PB-A01-02-de-01) dated 25.09.2015, 15-001399-PR07 (PB-A01-02-de-02) dated 02.11.2015, 15-001399-PR08 (PB-A01-0203-de-01) dated 29.09.2015, 15-001399-PR09 (PB-A01-0203-de-01) dated 29.09.2015, 101 26604/1 R2 dated 27.02.2007, 101 38971 dated 10.11.2009 and 102 30951/1 dated 26.07.2006 under consideration of the deviations listed in table 1 - 8 given below.

2 Basis

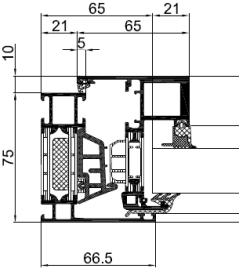
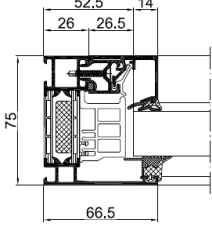
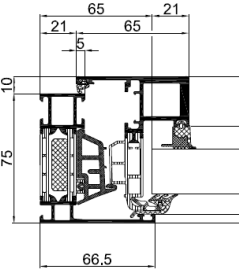
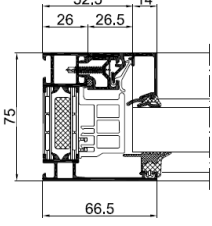
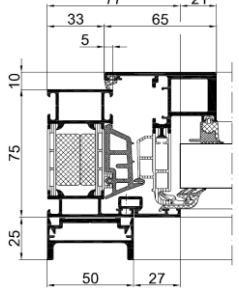
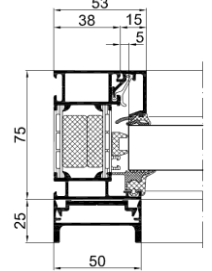
The evaluation is based on:

- Drawings submitted by the company SCHÜCO International KG
- 10-000730-PB02-A01-02-de-01 dated 15.12.2010
- 10-001332-PB01-A01-03-de-01 dated 11.02.2011
- 13-000001-PR03 (PB-A01-02-de-02) dated 07.05.2013
- 13-000177-PR05 (PB-A01-02-de-02) dated 12.02.2014
- 13-000424-PR01 (PB-A01-0203-de-02) dated 19.06.2013
- 13-000424-PR02 (PB-A01-0203-de-03) dated 17.10.2014
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- 13-000660-PR01 (PB-A01-02-de-02) dated 03.06.2013
- 15-001399-PR03 (PB-A01-02-de-01) dated 25.09.2015
- 15-001399-PR07 (PB-A01-02-de-02) dated 02.11.2015
- 15-001399-PR08 (PB-A01-0203-de-01) dated 29.09.2015
- 15-001399-PR09 (PB-A01-0203-de-01) dated 29.09.2015
- 101 26604/1 R2 dated 27.02.2007
- 101 38971 dated 10.11.2009
- 102 30951/1 dated 26.07.2006

3 Evaluation

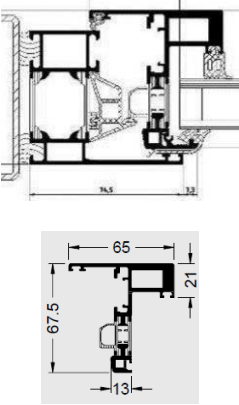
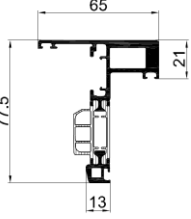
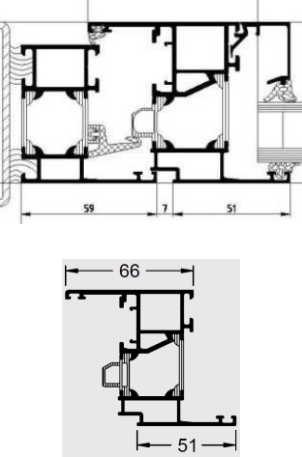

3.1 System sections as example sections to the transferred systems AWS 75 BS.HI+, AWS 75 BS.SI+ And AWS 75 WF.SI+.

Table 1

<p>System AWS 75 BS.HI+</p>		
<p>System AWS 75 BS.SI+</p>		
<p>System AWS 75 WF.SI+</p>		

3.2 Extrapolation of performance characteristics to the systems AWS 75 BS.HI+, AWS 75 BS.SI+ And AWS 75 WF.SI+ as tilt & turn window

Table 2 Comparison of tested type with extrapolated type based on expert statement

Comparison of tested type / characteristics / details	Tested type	Extrapolated type
	 <p>AWS 65 BS PG III.A Size (mm) : 1,300 x 14,50 Test report 15-001399-PR08</p>	 <p>AWS 75 BS.HI PG III.A*) Max. size (mm): 1,300 x 1,900 or 1,000 x 2,000</p>
	 <p>AWS 60 PG IV Size (mm) : 1,300 x 2,100 Test report 15-001399-PR03</p>	 <p>AWS 75 BS.SI+ / AWS 75 WF.SI+ PG III Max. size (mm): 1,300 x 2,000 or 1,000 x 2,200 (casement bonded on glass) *)</p>
Deviation	Face width, installation width and outside contour of frame and casement profile	

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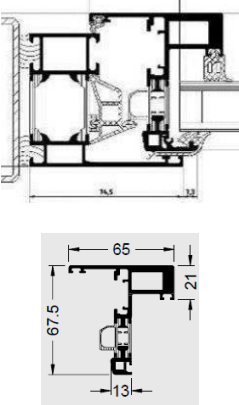
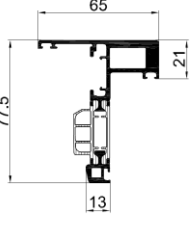
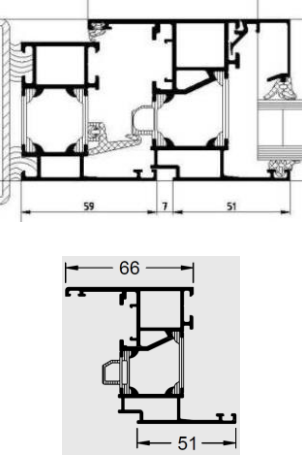



Evaluation	<p>The important design features are identical; in particular these are the rebate, hardware, seals and drainage.</p> <p>The main difference lies in the design of frame and casement contours.</p> <p>The modifications described do not cause any deterioration of the tested characteristics.</p> <p>System drawings have been submitted to the ift Rosenheim</p>
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*) The profiles shown are representative of the entire profile group, over view see annex 1

3.3 Extrapolation of performance characteristics to the systems AWS 75 BS.HI+, AWS 75 BS.SI+ and AWS 75 WF.SI+ as bottom hung window

Table 3 Comparison of tested type with extrapolated type based on expert statement

Comparison of tested type / characteristics / details	Tested type	Extrapolated type
	 <p>AWS 65 BS PG III.A Size (mm) : 1,200 x 1,000 Test report 15-001399-PR07</p>	 <p>AWS 75 BS.HI PG III.A*) Max. size (mm): 1,900 x 1,450 or 2,000 x 1,400</p>
	 <p>AWS 60 PG IV Size (mm) : 2,100 x 1,700 Test report 15-001399-PR09</p>	 <p>AWS 75 BS.SI+ / AWS 75 WF.SI+ PG III Max. size (mm): 2,000 x 1,500 or 2,200 x 1,400 (casement bonded on glass) *)</p>
Deviation	Face width, installation width and outside contour of frame and casement profile	

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Evaluation	<p>The important design features are identical; in particular these are the rebate, hardware, seals and drainage.</p> <p>The main difference lies in the design of frame and casement contours.</p> <p>The modifications described do not cause any deterioration of the tested characteristics.</p> <p>System drawings have been submitted to the ift Rosenheim</p>
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*) The profiles shown are representative of the entire profile group, over view see annex 1

3.4 Extrapolation of performance characteristics to the systems AWS 75 BS.HI+, AWS 75 BS.SI+ and AWS 75 WF.SI+ as bottom-hung window with drawbridge

Table 4 Comparison of tested type with extrapolated type based on expert statement

Comparison of tested type / characteristics / details	Tested type	Extrapolated type
Deviation	Face width, installation width and outside contour of frame and casement profile	
Evaluation	<p>The important design features are identical; in particular these are the rebate, hardware, seals and drainage.</p> <p>The main difference lies in the design of frame and casement contours.</p> <p>The modifications described do not cause any deterioration of the tested characteristics.</p> <p>System drawings have been submitted to the ift Rosenheim</p>	

*) The profiles shown are representative of the entire profile group, over view see annex 1

3.5 Extrapolation of performance characteristics to the systems AWS 75 BS.HI+, AWS 75 BS.SI+ and AWS 75 WF.SI+ as side-hung window

Table 5 Comparison of tested type with extrapolated type based on expert statement

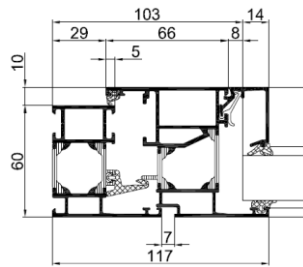
Comparison of tested type / characteristics / details	Tested type	Extrapolated type
Deviation	Face width, installation width and outside contour of frame and casement profile	
Evaluation	<p>The important design features are identical; in particular these are the rebate, hardware, seals and drainage.</p> <p>The main difference lies in the design of frame and casement contours.</p> <p>The modifications described do not cause any deterioration of the tested characteristics.</p> <p>System drawings have been submitted to the ift Rosenheim</p>	

*) The profiles shown are representative of the entire profile group, over view see annex 1

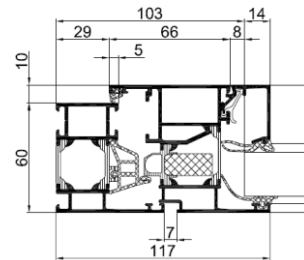
3.6 Extrapolation of performance characteristics from standard sealing system to HI sealing system

Table 6 Comparison standard design – HI design

Comparison of tested type / characteristics / details	Tested type	Extrapolated type
Deviation	Design of seals and insulation zones	
Evaluation	<p>Based on the comparison test, it is possible to transfer the performance characteristics from the window version with HI sealing system to the version with standard sealing system.</p> <p>The modifications described do not cause any deterioration of the tested characteristics</p>	



AWS 60 Standard
Size (mm) : 1,700 x 2,100
Test report 101 26604 -1 Rev2

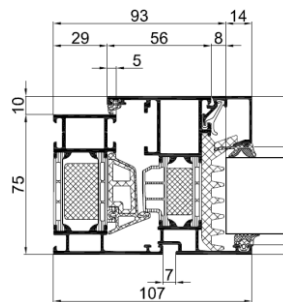


AWS 60.HI
Size (mm) : 1,700 x 2,100
Test report 102 30951/1

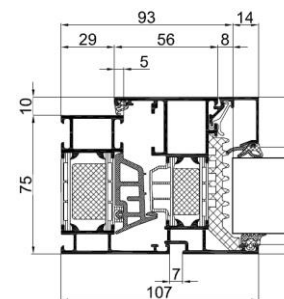
3.7 Extrapolation of performance characteristics from SI- sealing system to SI+ sealing system

Table 7 Comparison design SI – design SI+

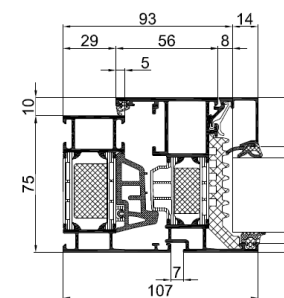
Comparison of tested type / characteristics / details	Tested type	Extrapolated type
Deviation	Design of seals and insulation zones	
Evaluation	<p>Based on the comparison test, it is possible to transfer the performance characteristics from the window version with HI sealing system to the version with standard sealing system.</p> <p>The modifications described do not cause any deterioration of the tested characteristics</p>	



AWS 75.SI
Size (mm) : (1000+1400) x 1600
Test report 10-000730-P B02



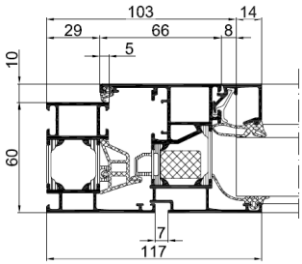
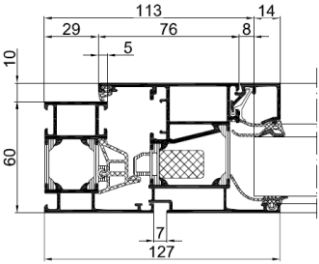
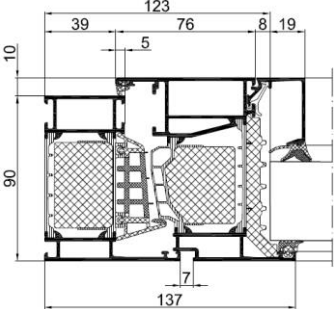
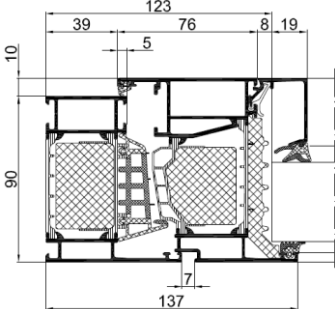
AWS 75.SI+
Size (mm) : (1000+1400) x 1600
Test report 13-000001-PR03



AWS 75.SI+
Size (mm) : (1000+1400) x 1600
Test report 13-000177-PR05

3.8 Extrapolation of performance characteristics under use of glazing gaskets of EPDM to sealing variant co-extruded without cavity as well as co-extruded with cavity

Table 8 Comparison design EPDM– co-extruded with and without cavity

Comparison of tested type / characteristics / details	Tested type	
	 <p style="text-align: center;">AWS 60 Size (mm) : 1,300 x 2,100 Hardware TipTronic</p>	 <p style="text-align: center;">AWS 60 HI Size (mm) : 1,300 x 2,100 Hardware TipTronic</p>
	Test report 101 38971	Test report 13-000424-PR03
	 <p style="text-align: center;">AWS 90.SI+ Size (mm) : 1,700 x 2,100 Hardware AvanTec</p>	 <p style="text-align: center;">AWS 90.SI+ Green Size (mm) : 1,700 x 2,100 Hardware AvanTec</p>
Test report 10-001332-PB01	Test report 13-000660-PR01	
Deviation	Form and material of seals (mixture of EPDM and foam rubber)	
Evaluation	<p>A test on the system AWS 60 TipTronic with glazing gasket of EPDM (test report 101 38971 dated 10.11.2009) was carried out. The results obtained in a comparative test with the system AWS 60.HI TipTronic with glazing gasket of co-extruded EPDM / foam rubber with cavity, (test report 13-000424-PR03 (PB-A01-0203-de-01) dated 21.05.2013) regarding air permeability and watertightness are identical with those of the abovementioned test report.</p> <p>A test on the system AWS 90.SI+ with glazing gasket of EPDM / foam rubber without cavity (test report 10-001332-PB01-A01-03-de-01 dated 11.02.2011) was carried out. The results obtained in a comparative test with the system AWS 90.SI+ Green with glazing gasket of co-extruded EPDM / foam rubber with cavity (test report 13-000660-PR01 (PB-A01-02-de-02) dated 03.06.2013), regarding air permeability and watertightness</p>	

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Client SCHÜCO International KG, 33605 Bielefeld, (Germany)



	<p>are identical or better with those of the abovementioned test report.</p> <p>It can therefore be assumed that the use of the types of glazing gaskets mentioned do not cause any deterioration in the test results regarding air permeability and watertightness.</p>
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4 Results and statement

Based on the expert inspection and the test results given in test reports 10-000730-PB02-A01-02-de-01 dated 15.12.2010, 10-001332-PB01-A01-03-de-01 dated 11.02.2011, 13-000001-PR03 (PB-A01-02-de-02) dated 07.05.2013, 13-000177-PR05 (PB-A01-02-de-02) dated 12.02.2014, 13-000424-PR01 (PB-A01-0203-de-02) dated 19.06.2013, 13-000424-PR02 (PB-A01-0203-de-03) dated 17.10.2014, 13-000424-PR03 (PB-A01-0203-de-01) dated 21.05.2013, 13-000660-PR01 (PB-A01-02-de-02) dated 03.06.2013, 15-001399-PR03 (PB-A01-02-de-01) dated 25.09.2015, 15-001399-PR07 (PB-A01-02-de-02) dated 02.11.2015, 15-001399-PR08 (PB-A01-0203-de-01) dated 29.09.2015, 15-001399-PR09 (PB-A01-0203-de-01) dated 29.09.2015, 101 26604/1 R2 dated 27.02.2007, 101 38971 dated 10.11.2009 and 102 30951/1 dated 26.07.2006, the results presented on page 1 of this statement can be extrapolated to the modifications described in table 1 to 8.

