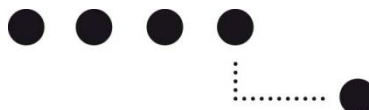


## Test certificate

Haute école spécialisée bernoise  
**Architecture, bois et génie civil**  
Berthoud, Bienne



<b>Test Subject</b>	Sash window with railing
<b>Product Description</b>	Guillotine TH+
<b>N° of certificate</b>	9234-PZ-03
<b>N° of report</b>	9234-PB-03
<b>N° of order</b>	9234.DPE
	Orchidées Constructions SA Vanessa Buffat Rue de la Gare 8 CH-2024 St-Aubin-Sauges
<b>Construction</b>	Vertical-travel metal window sash, with two fixed and two sliding panels parts vertically. Frame Width: 2970 mm, frame height: 2586 mm
<b>Standards</b>	EN 1026 (09/2000) Windows and doors - Air permeability - Test method. EN 1027 (09/2000) Windows and doors - Water permeability - Test method. EN 12211 (12/2000) Windows and doors-Resistance to wind load-Test method.
<b>Classification</b>	<b>Class 3</b> - EN 12207 (06/2000) Windows and doors - Air permeability- Classification. <b>Class 9A</b> - EN 12208 (06/2000) Windows and doors - Water permeability - Classification. <b>Class C2/B3/A4</b> EN 12210 (08/2003) Windows and doors-Resistance to wind load - Classification.
<b>Issued</b>	04.09.2012
<b>Validity</b>	This certificate becomes invalid in case of change of the type of construction, materials or component parts of the tested product, content and validity of the basic standard.
<b>Address test institute</b>	High School of Applied Sciences Architecture, Wood and Civil Engineering, Department of Research and Development, facades, fixtures and furniture, Solothurnstrasse 102, CH-2504 Bienne
<b>Persons in charge</b>	Stephan Hofer Urs Uehlinger

*S. Hofer*  
*Urs Uehlinger*

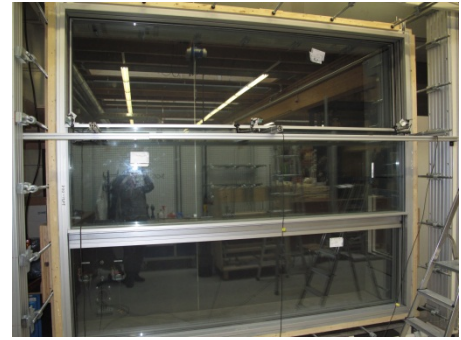


SCHWEIZERISCHER PRÜFSTELLENDIENST  
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SERVIZIO DI PROVA IN SVIZZERA  
SWISS TESTING SERVICE

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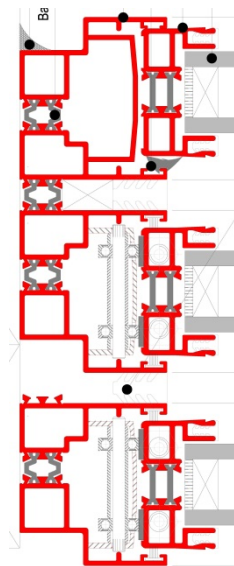
## SUMMARY OF RESULTS

Test Subject: metal window system "TH +" with railing with fixed parts and two vertically sliding elements of the business Orchids Construction SA. Setting: aluminum profile with thermal breaks. The frame is assembled to the tab with corner braces frame Width: 216 mm, thickness of the frame: 58 mm Water resistance: profile EPDM, neoprene gasket, brushes, sili-cone, with holes and slots for drainage. Bank: aluminum glass round profile with Thermal breaks without corner spacers, U profiles are glued all around the glass with adhesive Gyso 444. Chassis width: 50 mm, thickness of frame: 29/18 mm Joint : aluminum profile H2R and H2 (H2R) Chassis width: 75 mm, thickness of the frame: 21 mm (H2), Frame width: 244 mm (combined)



Length of the doors seals: 7.648 m

Test surface: 7.48 m<sup>2</sup>



Horizontal cut



Vertical cut

## Overview and results of the tests

Air permeability according to EN 1026		
Test pressure [Pa]	Air amount relative to the length of seals [m <sup>3</sup> / hm]	Amount of air in relation to the test area [m <sup>3</sup> / hm <sup>2</sup> ]
0	0	0
50	2.7	2.8
100	4.4	4.5
150	6.0	6.1
200	7.4	7.6
250	8.6	8.8
300	9.3	9.6
450	12.3	12.6
600	15.0	15.2

Water permeability according to EN 1027		
Classification method A	Time [min]	Water infiltration
9A	55	no

Wind resistance according EN12211		
Classification	Test Procedure	Test pressure [Pa]
C2	Measurement of the deflection	± 800
B3	Measurement of the deflection	± 1200
A4	Measurement of the deflection	± 1600
	repeated pressure	done
	Safety Test	done