

# TEST REPORT



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<b>Report number</b>	<b>20.01458.1</b>
<b>Date of test</b>	<b>9 October 2020</b>
<b>Date report</b>	<b>19 November 2020</b>
<b>Applicant</b>	<b>Reynaers Aluminium N.V. Oude Liersebaan 266 B-2570 Duffel Belgium</b>
<b>Project number</b>	<b>TC20_070</b>
<b>Size report</b>	This report consists of 19 pages (including appendices)
<b>Subject</b>	Report of a test, to determine the performance level for strength and weatherproofness according AS 4420 of an aluminium, outwards opening door with sizes W x H: 1497 x 3058,5 mm, constructed from the profile system: Masterline 8
<b>Inspector</b>	R. Jonkergouw
<b>Technical manager</b>	dr. ir. A. van Beek
<b>Conclusion</b>	The door of Reynaers provides performance according to AS 2047: 2014 with regard to: <ul style="list-style-type: none"><li>• Wind load at serviceability limit state SLS (AS 4420.2)</li><li>• Air infiltration test at 75 Pa (AS 4420.4)</li><li>• Water penetration resistance (AS 4420.5)</li><li>• Ultimate strength ULS (AS 4420.6)</li></ul>

<b>Span/ 100</b>	<b>800 Pa</b>
<b>High</b>	<b>&lt; 5 L/s m<sup>2</sup></b>
<b>N5</b>	<b>300 Pa</b>
<b>N3</b>	<b>1400 Pa</b>

## CONTENT

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<sup>1)</sup> SKG-IKOB accepts no responsibility for the data provided by the client

<sup>2)</sup> SKG-IKOB accepts no responsibility for the drawings provided by the client

## 1. PURPOSE OF THE TEST

SKG-IKOB was ordered by Reynaers - Duffel to perform various tests on a door, to classify the  
Air infiltration test  
Water penetration resistance  
Resistance to wind load

of the door according to the relevant Australian Standards.

The results of this test are intended for rating windows as referred to in AS 2047: 2014

SKG-IKOB is Notified Body (NB 0957 + 0960) for testing air permeability, water tightness and resistance to wind load of doors and windows, according to European standards.

These tests fall under the laboratory accreditation from the Dutch Accreditation Council (RvA).

Like the National Association of Testing Authorities (NATA) the Dutch Accreditation Council (RvA) is a full member of the International Laboratory Accreditation Cooperation (ILAC).

## 2. METHOD OF INVESTIGATION

The door was produced by and at the address of the applicant

SKG-IKOB has verified all details of the construction with reference to the supplied drawings and compliance with AS 2047.1.

The door was placed in the test rig and tested in according to the testing method of AS 4420 (1996) for:

- Wind load at serviceability limit state SLS (AS 4420.2)
- Air infiltration at 75 Pa (AS 4420.4)
- Water penetration resistance (AS 4420.5)
- Ultimate strength ULS (AS 4420.6)

The test took place at the client's location:

**Reynaers Aluminium**  
**Oude Liersebaan 266**  
**Duffel**  
**België**  
**Reynaers**  
**MEET 388-3**

The test was performed with the measuring equipment and test rig of:  
measuring equipment nr.

SKG-IKOB has verified and approved the calibration status of the equipment.

The last calibration date was:

**5 February 2020**

- > The ambient temperature during the test was approx. :
- > The air pressure was approx.
- > The air humidity was approx.

**18,8 °C**

**1019 hPa**

**64,5 %**

It was determined that before the tests the element functioned normally.

### 3. DESCRIPTION OF THE TESTED OBJECT

#### 3.1 Construction tested

The door was produced with profile system: **Masterline 8**  
 Drawings of the door were received and are appended to this report (Annex 2). 1)

#### 3.2 Specification according to the relevant information provided by the client 2)

Components:	Nr	Description	Article nr.
Aluminium frame			
Frame Profile		Masterline 8	<b>408.0869.XX</b>
Sill		Masterline 8	<b>108.1874.XX</b>
Leaf Profile		Masterline 8	<b>408.0014.XX</b>
Glazing bead		Masterline 8	<b>030.3615.XX</b>
Insulation glass		29 mm: 44.4-12-8	
Butt strips:		EPDM	<b>080.9078.04</b>
Gasket outside doors bottom		EPDM	<b>080.9240.04</b>
Glazing gaskets:			
Inner glazing gasket		EPDM	<b>180.9372.04</b>
Outer glazing gasket		EPDM	<b>180.9114.SY</b>
Multipointlock	1	Fuhr 833	<b>061.8135.ZC + 061.8108.--</b>
number of locking points	4		
Hinges	3	Sobinco hidden hinge	<b>065.6766.14</b>
Handle	1	Sobinco Langshield	<b>061.7130</b>
Handle	1	Sobinco Langshield	<b>061.7140</b>
Decompression outer frame	2	100 mm	
Decompression vent	2	Ø 5 mm	
Drainage vent	3	Ø 8 x 34 mm	
Drainage sill	3	Ø 5 x 25 mm	
		remark: Brushholder 069.8426.04 (2x) installed. Woolpiles 081.9229.07 (4x)	

See the drawings in Annex 2 for further details.

1) SKG-IKOB accepts no responsibility for the drawings provided by the client  
 2) SKG-IKOB accepts no responsibility for the data provided by the client

**4. OBSERVATIONS AND RESULTS****4.1 Test on resistance to windload at SLS: AS 4420.2****SLS: 800 Pa**

No structural members in a completely assembled and glazed window shall deflect by an amount greater than the following, when tested at SLS:

Windows & sliding doors: Span/ 250

Doors: Span/ 100

The tested construction did not contain horizontal or vertical transoms

Testing on bending is not relevant

The normative specified test pressures are applied

**Rating: The door can be classified for resistance to windload in:**

**Span/ 100**

**4.2 Air infiltration test: AS 4420.4**

The results of the air permeability measurements under positive key pressure are shown in table below. The tables below also shows the loss of air in L/s per m<sup>2</sup> and in m<sup>3</sup>/h per m<sup>2</sup>; the surface of the tested element was 4,58 m<sup>2</sup>.

For the calculation of the normalized air leakage to the standard conditions (considering the actual temperature and atmospheric pressure), there is a correction to be used at the measured values by the following factor:

**1,010**

Pressure in Pa	m <sup>3</sup> /h	L/s m <sup>2</sup>	m <sup>3</sup> /h m <sup>2</sup>
75	7,93	0,48	1,73
150	7,21	0,44	1,57

Table 1

The results of the air permeability measurements under negative key pressure are shown in table below.

Pressure in Pa	m <sup>3</sup> /h	L/s m <sup>2</sup>	m <sup>3</sup> /h m <sup>2</sup>
-75	24,08	1,46	5,26
-150	38,26	2,32	8,35

Table 2

Result:

- Air permeability based on overall area at 75 Pa  $Q_{75} = 0,48 \text{ L/sm}^2$ , and
- Air permeability based on overall area at -75 Pa  $Q_{-75} = 1,46 \text{ L/sm}^2$

**Rating: Air infiltration level "High": < 5,0 L/s.m<sup>2</sup>**

**4.3 Water penetration resistance: AS 4420.5**

The results of the water tightness test are shown in table below.

The amount of water in liters / h used for spraying the construction was: **824 L/h**

Pressure in Pa	t (min).	Water leakage
0	5	no
300	15	no

Table 3

The door was watertight up to a pressure of: **300 Pa**  
 Without uncontrolled penetration of water. No failure during this test.

**Rating:** The door can be classified for water penetration resistance in: **N5**

**4.4 Ultimate strength test: AS 4420.6**

The door was loaded to a positive and a negative key pressure P3 of: **1400 Pa**

It was established that the door did not show any signs of distortion.

**Rating:** The door can be classified for ultimate strength in: **N3**

5. CLASSIFICATION

Resistance to wind load at SLS (AS 4420.2)	<b>Span/ 100</b>	<b>800 Pa</b>
Air infiltration at 75 Pa (AS 4420.4)	<b>Low</b>	<b>&lt; 5 L/s.m<sup>2</sup></b>
Water penetration resistance (AS 4420.5)	<b>N5</b>	<b>300 Pa</b>
Ultimate strength ULS (AS 4420.6)	<b>N3</b>	<b>1400 Pa</b>

The test results only relate to the tested object, as offered by the client.

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Drawn up at Geldermalsen (Netherlands), 19 November 2020



dr. ir. A. van Beek  
Technical Manager

6.1 APPENDIX 1 Photos of the tested construction



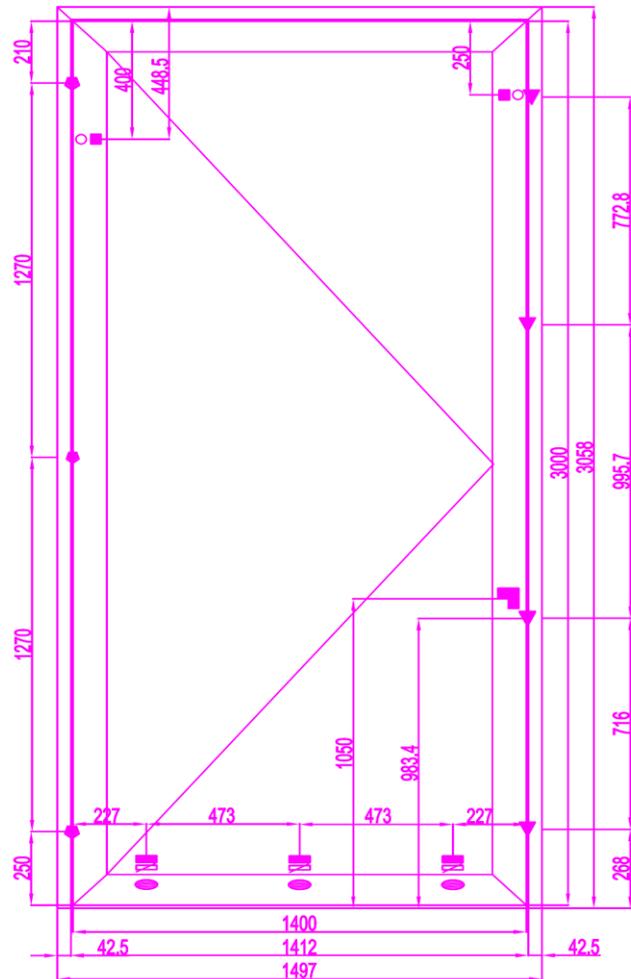


6.2 APPENDIX 2

Drawings of the tested construction

# Masterline 8

AWW TEST OUTWARD OPENING DOOR - HIDDEN HINGES SOBINCO  
Front view



▼	locking points
●	Drainage bottom profile Ø5x25mm
■	Decompression in vent Ø5mm
○	Decompression in butt strip 10cm
■	Weep hole cover 069.6831.XX (Ø8x34mm)
■	Handle
●	Hinges
Glass type: 29mm 86/12/8(SEMCO SAFE VSG 9 P4A)	
Mark/Type accessories:	
Handle: Sobinco 061.7130 XX, 061.7140.XX	
Central Closure: —	
Hinges: Hidden Hinge Sobinco	

1) SKG-IKOB accepts no responsibility for the drawings provided by the client

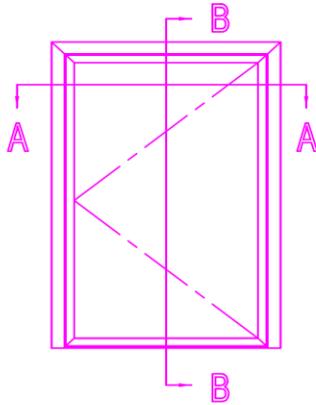
Material order form Technology Centre

Project name - Nr	- N/A
TC-nr	TC20_070
Department	Development
Market	
Project Responsible	Tim Vernelen

Art nr (XXXXXXX)	Colour (XX)	Colour (XXXX)	Quantity	art eng	Proto	Loc RI STOCK	Exceptional remarks
4080869	59		5010	2 OUTER FRAME OUTWARD OPENING 68.5MM		#N/A	
4080014	59		5010	2 VENT OUTWARD OPENING 104.5MM		#N/A	
0303615	59		5010	2 GLAZING BEAD 35.2MM		#N/A	
1080081	59		5010	1 PROFILE GASKET		#N/A	
1081874	59		5010	1 FLOOR PROFILE OUTWARD OPENING		#N/A	
0525313	--			4 ST-SCREW DIN 7982 INOX 4.2x32		805 008 C01	
0525316	--			10 ST-SCREW DIN 7982 INOX 4.2x19		805 008 B04	
0525327	--			5 SCREW DIN 7982 INOX 4.2x25		805 008 A02	
1698718	00	#N/A		4 GLASS SUPPORT 150MM		#N/A	
0809320	04			1.5 GASKET		801 006 501	
0809240	04			1.5 BUTT STRIP		800 010 402	
0809078	04			15.5 ACOUSTIC GASKET		802 005 202	
0696831	01			3 WEEP HOLE COVER		804 002 202	
0698360	04			1 END PIECE FLOOR PROFILE		807 001 304	
0698426	04			2 BRUSHHOLDER		807 007 503	
0809091	04			4 CORNER PIECE		806 006 401	
1809372	04			8.2 GLAZING GASKET 4-5-6MM		802 007 601	
1809114	04			8.2 GASKET 4MM		802 005 401	
1687071	00			2 CORNER CLEAT		804 008 602	
1688072	00			2 CORNER CLEAT 31.3 x 6.8 MM		803 003 601	
1687073	00			4 CORNER CLEAT		803 002 602	
1688074	00			4 CORNER CLEAT 42.3 x 6.8 MM		803 002 603	
1608723	--			4 REBATE SUPPORT		804 008 503	
0819229	07	#N/A		4 WOOLPILE WIDE		#N/A	
0617713	04			3 PACKER RECEIVER		805 003 304	
0617054	--			1 CYLINDER 100MM A=35 B=65		806 010 601	
0617098	--			1 SPINDLE 8MM L=139MM		806 009 604	
0617130	17		5010	1 DOOR HANDLE INSIDE		#N/A	
0617140	17		5010	1 DOORHANDLE OUTSIDE		#N/A	
0505084	--			3 SCREW DIN 965 INOX M5x90		805 006 107	
0618135	--	#N/A		1 3-POINT LOCK		#N/A	
0618108	--	#N/A		1 LOCK EXTENSION TYPE 4		#N/A	
0618154	--			1 DOUBLE RECEIVER DIN R		805 004 406	
0618188	--			3 SINGLE LOCK PLATE		805 002 506	
0618176	04			2 COVERS WITH MAGNETS		806 010 101	
0656766	14	#N/A		3 HIDDEN HINGE SOBINCO	TVE	#N/A	83900-2
0656772	--	#N/A		3 FIXATION HIDDEN HINGE SOBINCO	TVE	#N/A	83900-23
0656773	--	#N/A		3 FIXATION HIDDEN HINGE SOBINCO	TVE	#N/A	83900-24

# MASTERLINE 8 AWW TEST

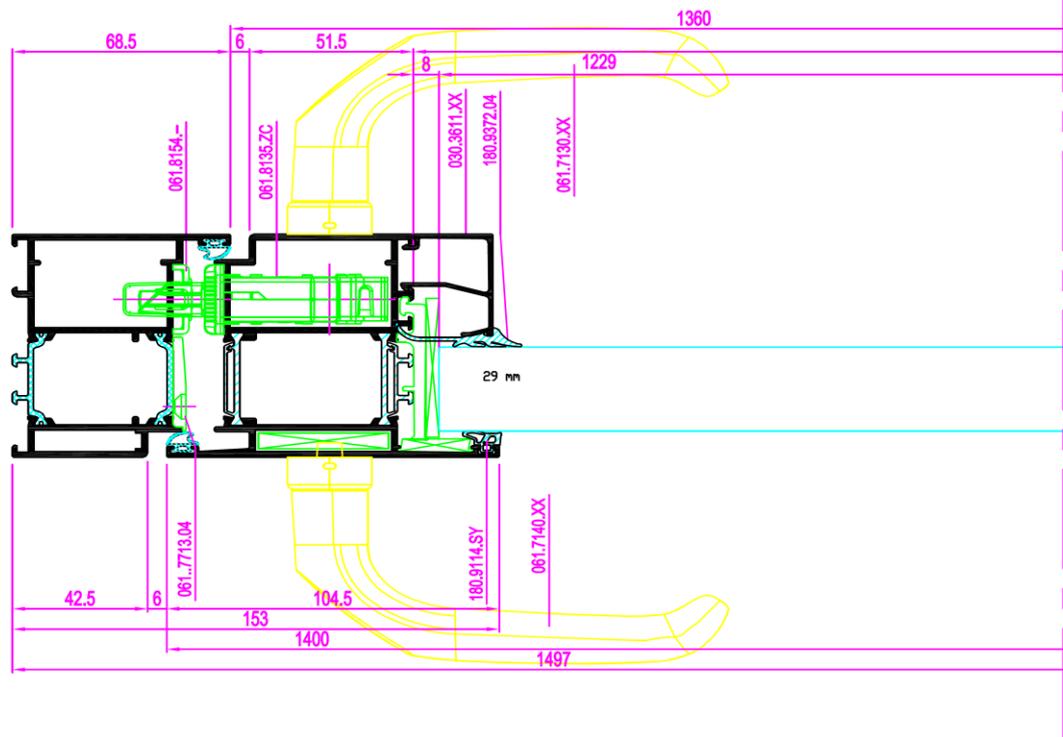
Horizontal section



Symbol	Profile	Color	#	Lm	Code
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			1	1497	
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			2	1400	
030.3615.XX	[Profile]	[Color]	2	2795	12.C...
			2	1245	
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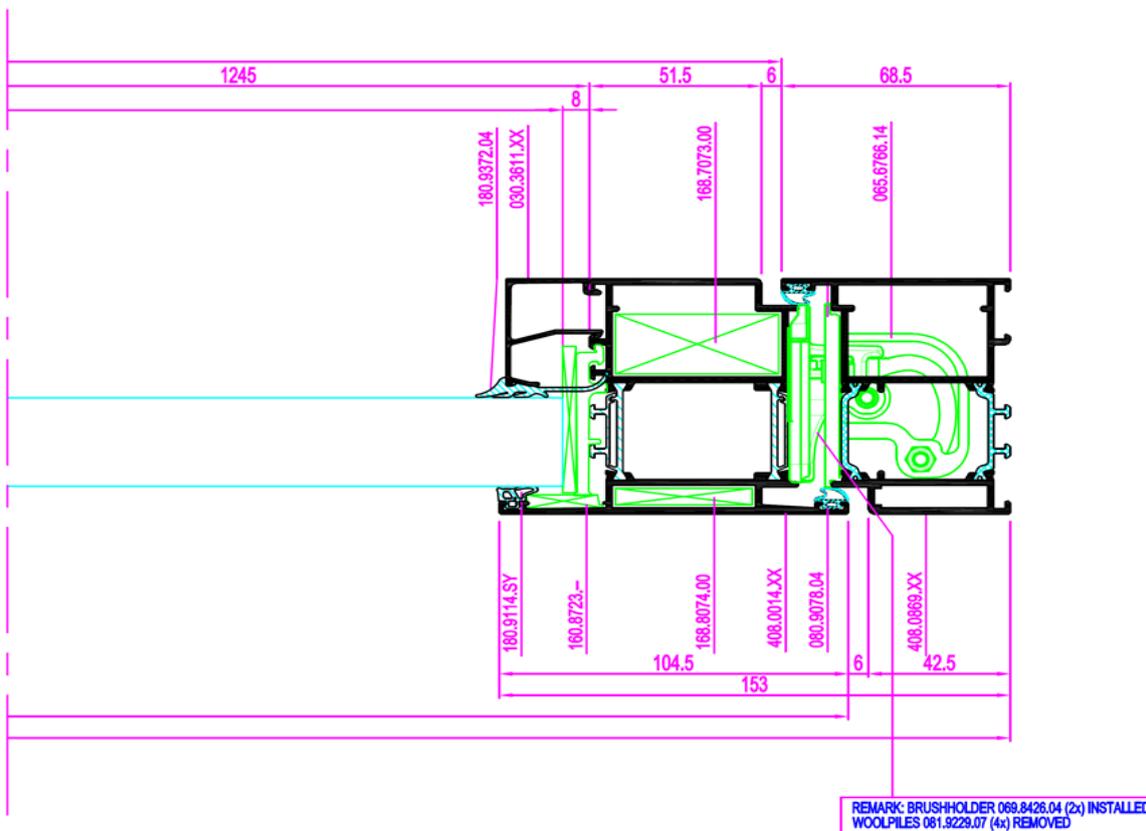
A - A

h = 2829
b = 1229



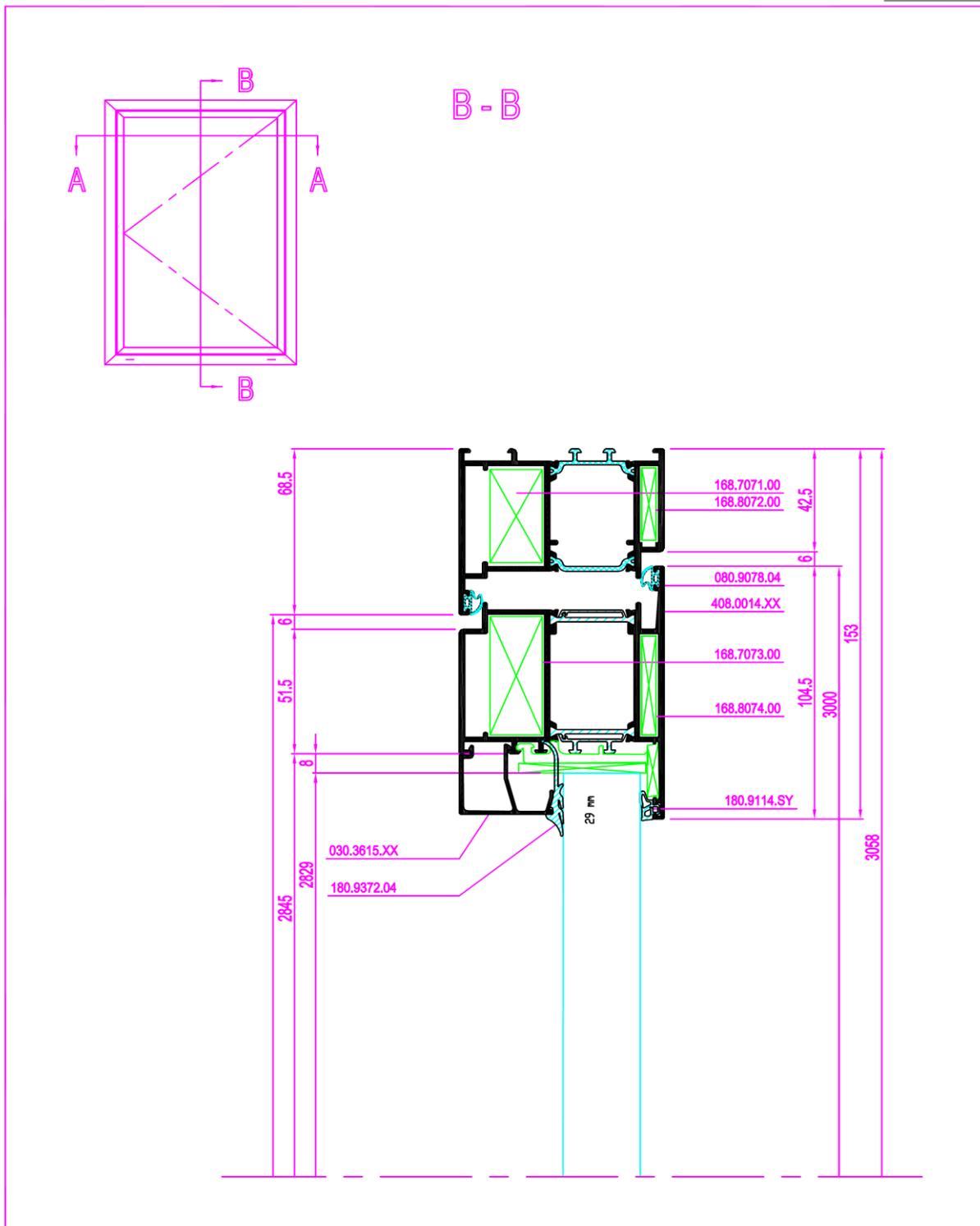
# MASTERLINE 8 AWW TEST

Horizontal section



# MASTERLINE 8 AWW TEST

Vertical section

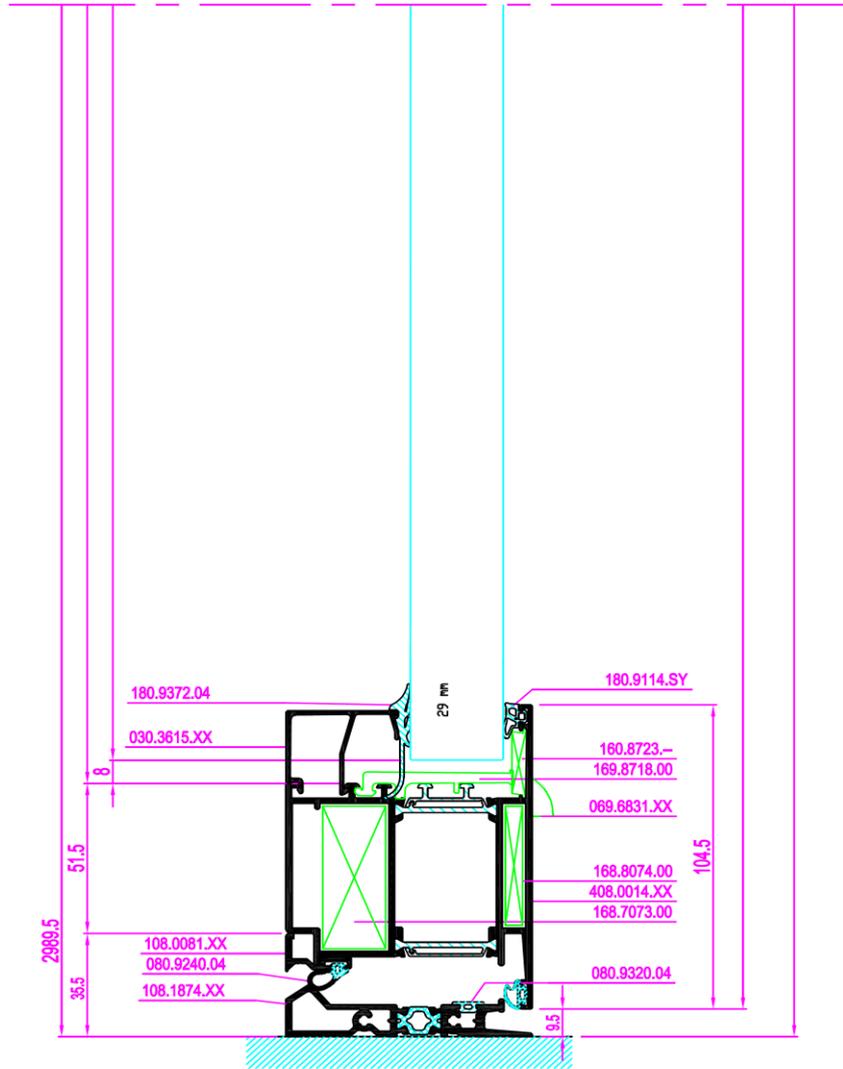


RI\_Test

TC20\_070  
06/2020

# MASTERLINE 8 AWW TEST

Vertical section



RI\_Test

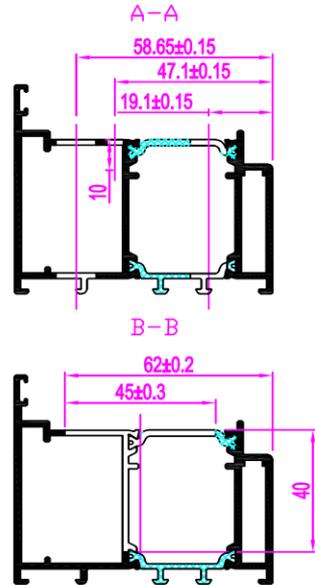
TC20\_070  
06/2020

# Masterline 8

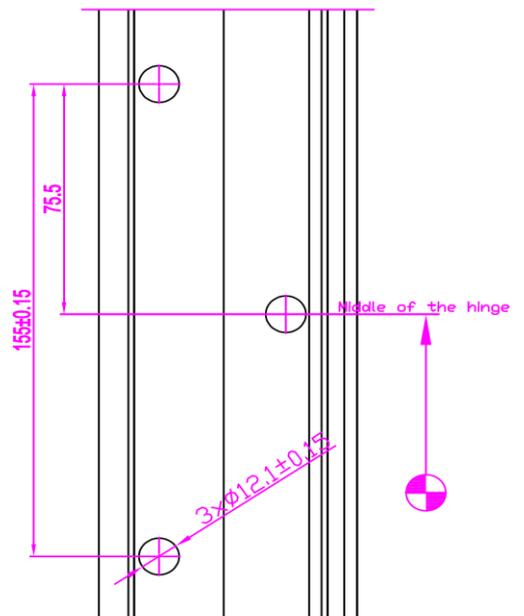
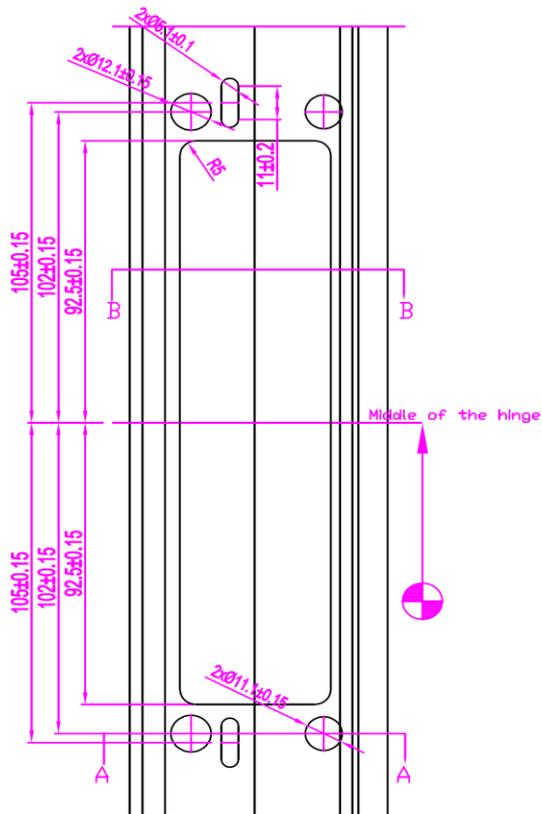
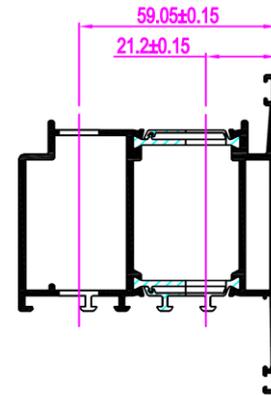
AWW TEST OUTWARD OPENING DOOR - HIDDEN HINGES SOBINCO  
Milling



408.0869.XX

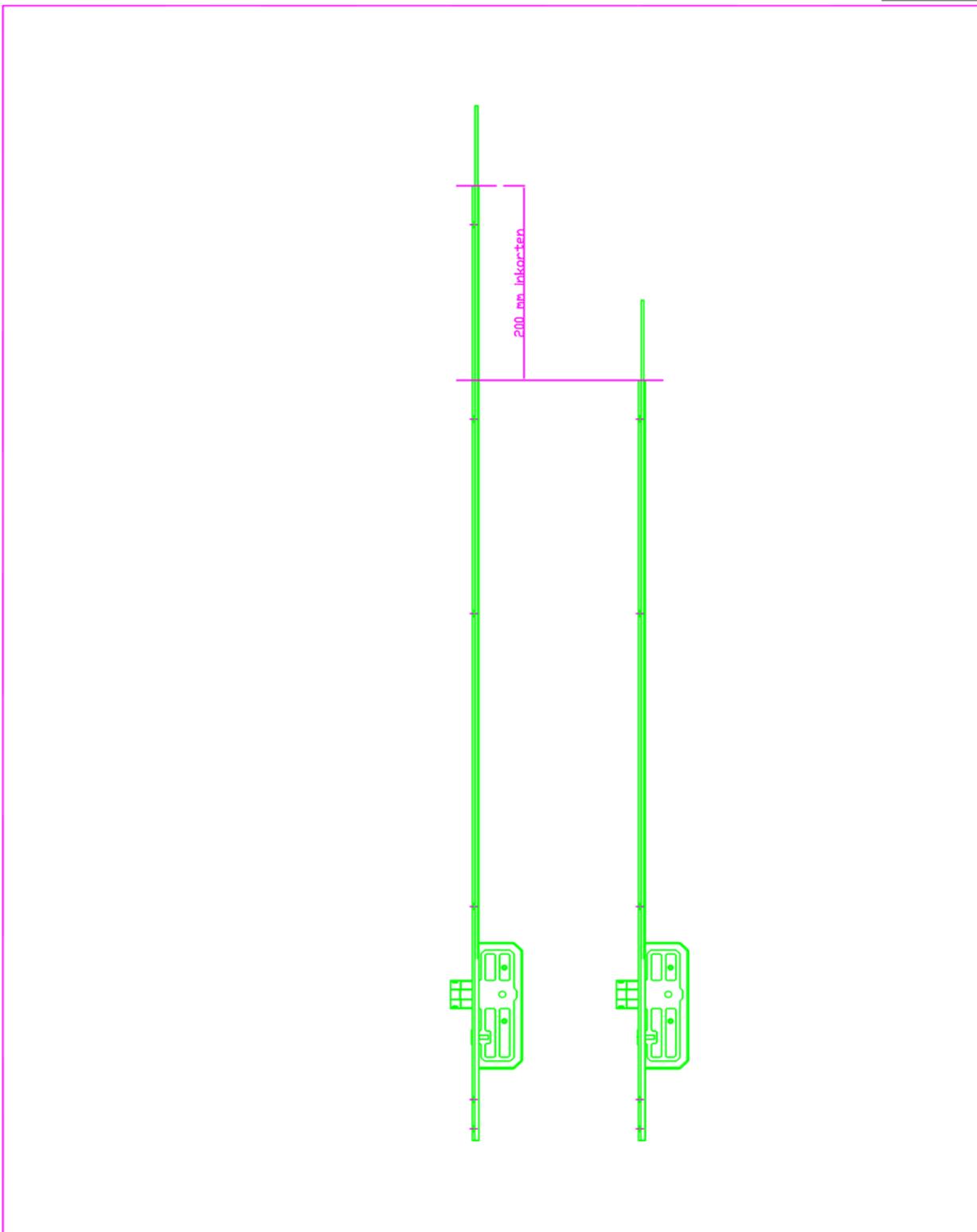


408.0014.XX



# MASTERLINE 8 AWW TEST

Afkorting verlenging

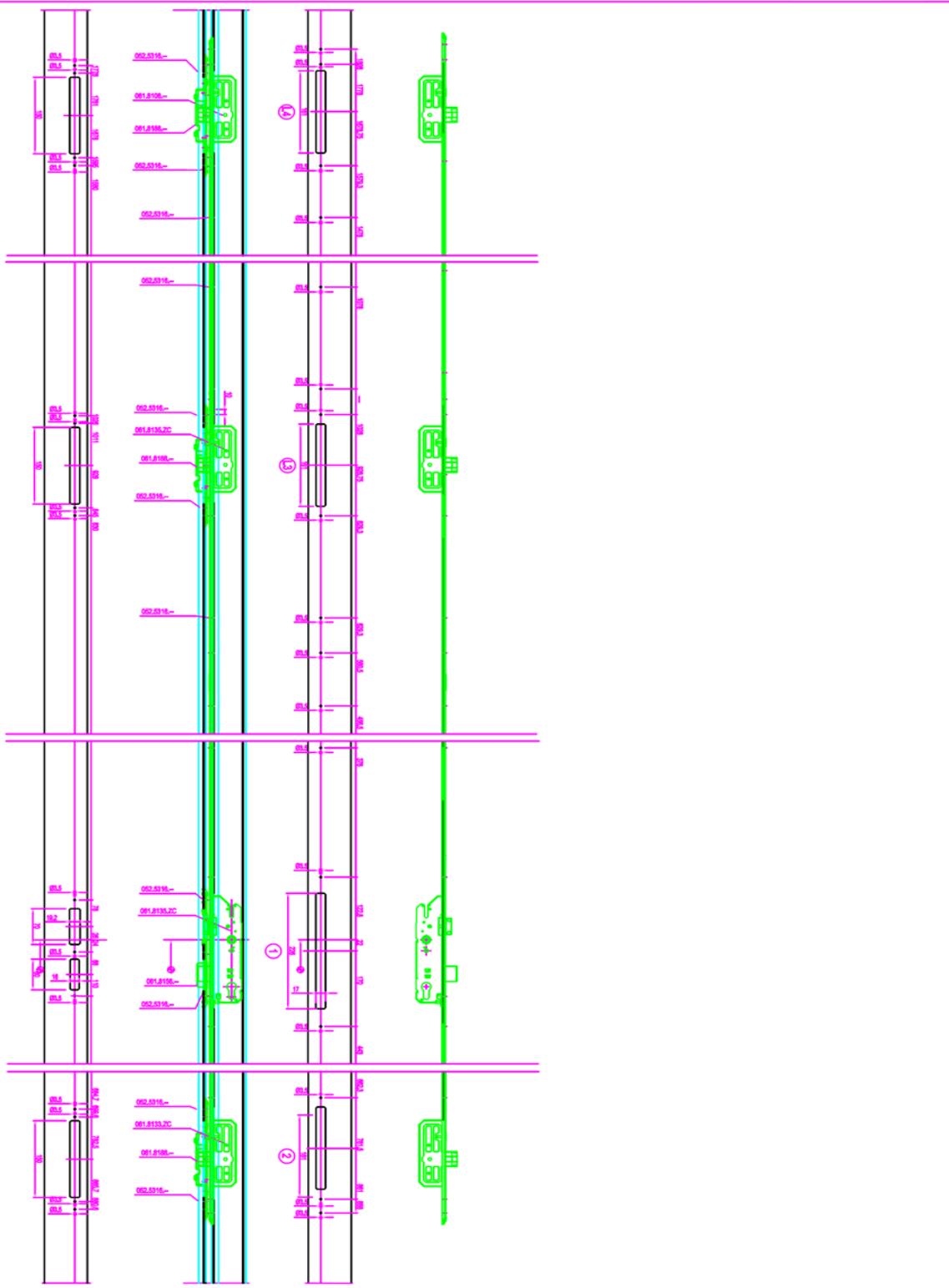


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# MASTERLINE 8 AWW TEST

Freezing slot



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