



GlobAlum
Globaly Aluminum Passion

**CASEMENT
SERIES GC68**





نتایج آزمون

TEST CERTIFICATE

Laboratory: **ISTA** test

آزمایشگاه: ایستا تست

Certificate Number: 1017-1-1

شماره آزمایش: ۱۰۱۷-۱-۱

System Supplier: GLOBALUM

System **GC68**

Product Turn Window

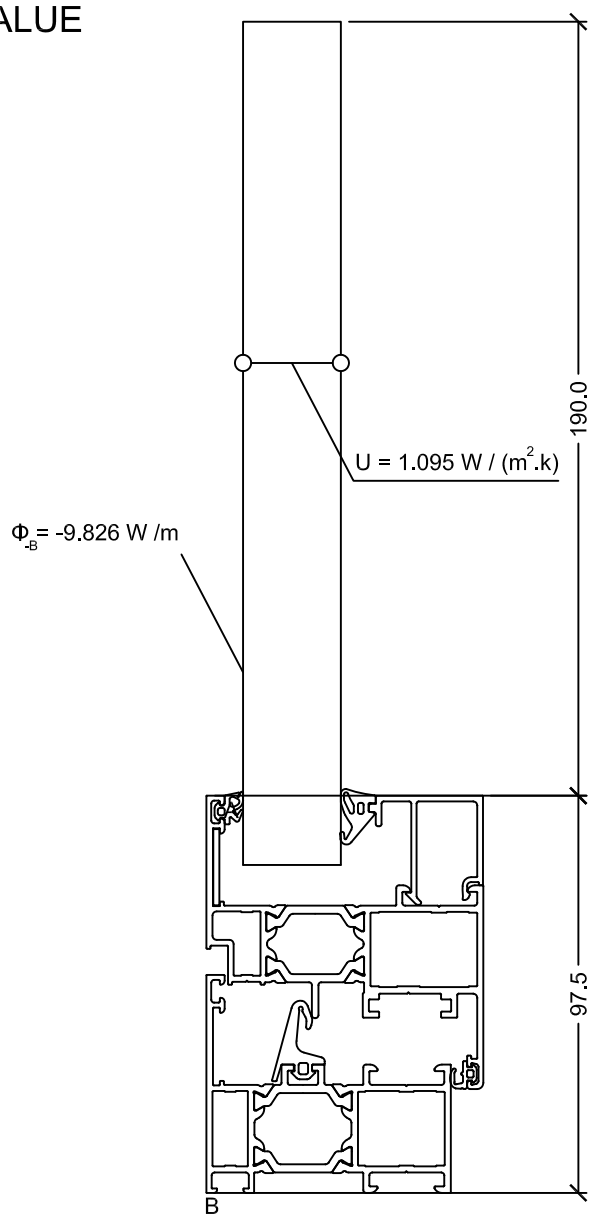
نوع پنجره تست شده: بازشو لولایی

Product Size 1100 x 1900 mm.

ابعاد پنجره: ۱۱۰۰ میلیمتر (عرض) - ۱۹۰۰ میلیمتر (ارتفاع)

	Water tightness EN 12208	CLASS 9A
	آب بندی - استاندارد ملی ISIRI 11864	
	Air Permeability EN 12207:1999-11	CLASS 3
	هوابندی - استاندارد ملی ISIRI 11093	
	Resistance to wind Load EN 12210:2016-03	CLASS C3/C3
	مقاومت در برابر بار باد - استاندارد ملی ISIRI 11420	

FRAME U- VALUE
GC 68



$$U_{fA,B} = \frac{\frac{\Phi}{\Delta T} - U_P \cdot b_P}{b_f} = \frac{\frac{9.826}{20.000} - 1.095 \times 0.190}{0.098} = 2.90 \text{ W / (m}^2 \cdot \text{k)}$$

Thermal Transmittance Calculation

EN ISO 10077-1:2008

The thermal transmittance of a single window, U_w , shall be calculated using Equation:

$$U_w = \frac{\sum U_g \cdot A_g + \sum U_f \cdot A_f + \sum \psi_g \cdot \Psi_g}{\sum A_g + \sum A_f}$$

Where

U_g = Thermal transmittance of the glazing;

U_f = Thermal transmittance of the frame;

Ψ_g = Linear thermal transmittance due to the combined thermal effects of glazing, spacer and frame;

Values of linear thermal transmittance for common types of glazing spacer bars (e.g. aluminum or steel)

Frame Type	Linear thermal transmittance for different types of glazing Ψ_g	
	Double or triple glazing uncoated glass air -or gas -field	Double ^a or triple ^b glazing low-emissivity glass air -or gas -field
Wood or PVC	0,06	0,08
Metal with thermal break	0,08	0,11
Metal without thermal break	0,02	0,05
a One pane coated for double glazed. b Two panes coated for triple glazed.		

Values of linear thermal transmittance for common types of glazing spacer bars With improved thermal performance

Frame Type	Linear thermal transmittance for different types of glazing With improved thermal performance Ψ_g	
	Double or triple glazing uncoated glass air -or gas -field	Double ^a or triple ^b glazing low-emissivity glass air -or gas -field
Wood or PVC	0,05	0,06
Metal with thermal break	0,06	0,08
Metal without thermal break	0,01	0,04
a One pane coated for double glazed. b Two panes coated for triple glazed.		

محاسبه ضریب انتقال حرارت
EN ISO 10077-1:2008

ضریب انتقال حرارت برای پنجره از فرمول زیر محاسبه می شود:

$$U_w = \frac{\sum U_g \cdot A_g + \sum U_f \cdot A_f + \sum \lambda_g \cdot \Psi_g}{\sum A_g + \sum A_f}$$

که در آن :

U_g = ضریب انتقال حرارت شیشه

U_f = ضریب انتقال حرارت فریم

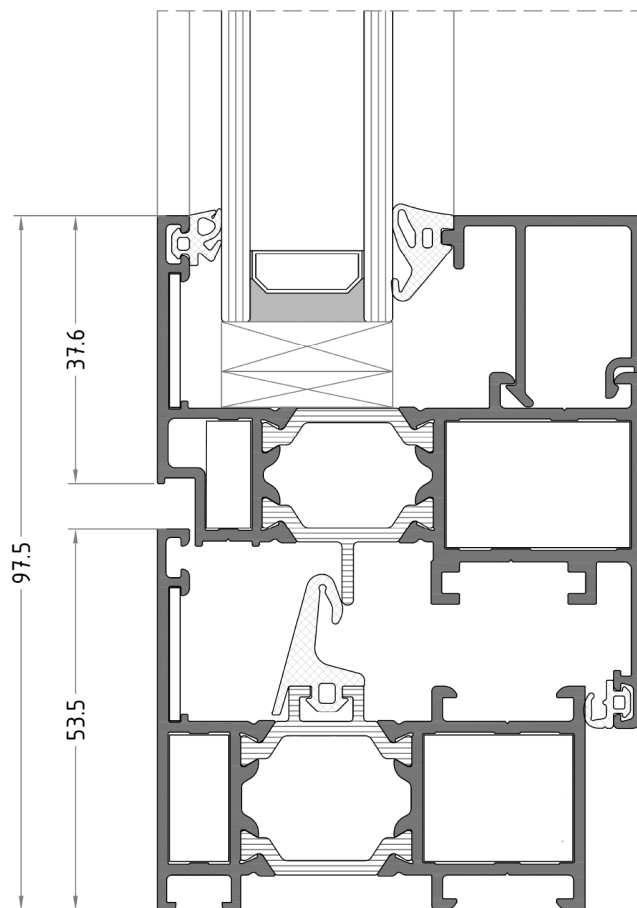
Ψ_g = ضریب انتقال حرارت خطی اسپیسر که به نوع اسپیسر و فریم پنجره بستگی دارد.

ضریب انتقال حرارت خطی اسپیسر های معمولی (مانند اسپیسر آلومینیومی یا استیل)

نوع فریم	ضریب انتقال حرارت خطی اسپیسر با توجه به نوع شیشه Ψ_g	
	شیشه دو یا سه جداره معمولی لایه میانی پر شده از هوا یا گاز	شیشه دو* یا سه جداره** با پوشش Low-e لایه میانی پر شده از هوا یا گاز
فریم چوبی یا یوپی وی سی	0,06	0,08
فریم ترمال بریک	0,08	0,11
فریم غیر ترمال بریک	0,02	0,05
* یک لایه شیشه پوشش دار		
** دو لایه شیشه پوشش دار		

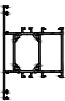
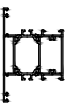
ضریب انتقال حرارت خطی اسپیسر با ارتقا عملکرد حرارتی (وارم ایچ)

نوع فریم	ضریب انتقال حرارت خطی اسپیسر با توجه به نوع شیشه برای اسپیسر با ارتقا عملکرد حرارتی (وارم ایچ) Ψ_g	
	شیشه دو یا سه جداره معمولی لایه میانی پر شده از هوا یا گاز	شیشه دو* یا سه جداره** با پوشش Low-e لایه میانی پر شده از هوا یا گاز
فریم چوبی یا یوپی وی سی	0,05	0,06
فریم ترمال بریک	0,06	0,08
فریم غیر ترمال بریک	0,01	0,04
* یک لایه شیشه پوشش دار		
** دو لایه شیشه پوشش دار		



GC68 Window - Thermal Transmittance													
محاسبه ضریب انتقال حرارت سیستم GC68 با شیشه های مختلف													
EN ISO 10077-1:2008													
Casement Window 1230 x 1480 mm. پنجره بازشو به ابعاد													
Casement Window combination	PSI	Glazing Ug/ ضریب انتقال حرارت شیشه											
ترکیب فریم و لنگه	Ψ_g	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50
2116802 Frame 2216802 Sash	0.06	1.96	2.03	2.11	2.18	2.25	2.33	2.40	2.47	2.55	2.62	2.69	2.76
	0.08	2.01	2.09	2.16	2.23	2.31	2.38	2.45	2.52	2.60	2.67	2.74	2.82
	0.11	2.09	2.16	2.24	2.31	2.38	2.46	2.53	2.60	2.68	2.75	2.82	2.90

PROFILES :

Number	Shape	DESCRIPTION	I cm ⁴	I cm ⁴
2116801		Frame profile 53/31/90	40.17	8.42
2116802		Frame profile 53/31	20.13	6.91
2116803		Frame profile 72/50	28.52	19.96
2216802		Sash profile 50/37-2	31.75	6.81
2316802		Sash profile 63/76-2	51.99	25.46
2316804		Sash profile 98/41-2	40.69	31.12
2416801		Mullion Transom 75/31	21.83	11.81
2416802		Mullion Transom 94/50	30.12	28.25
2416804		Mullion Transom 75/31-2	23.16	11.90
2416805		Mullion Transom 94/50-2	30.49	29.00
2416803		Insertion Mullion Transom 94/50	36.23	25.14
2416806		Insertion Mullion Transom 94/50	37.23	25.52
2616801		Meeting profile	—	—
2616802		Threshold profile	—	—
2616804		Outside opening convertor	—	—

PROFILES :

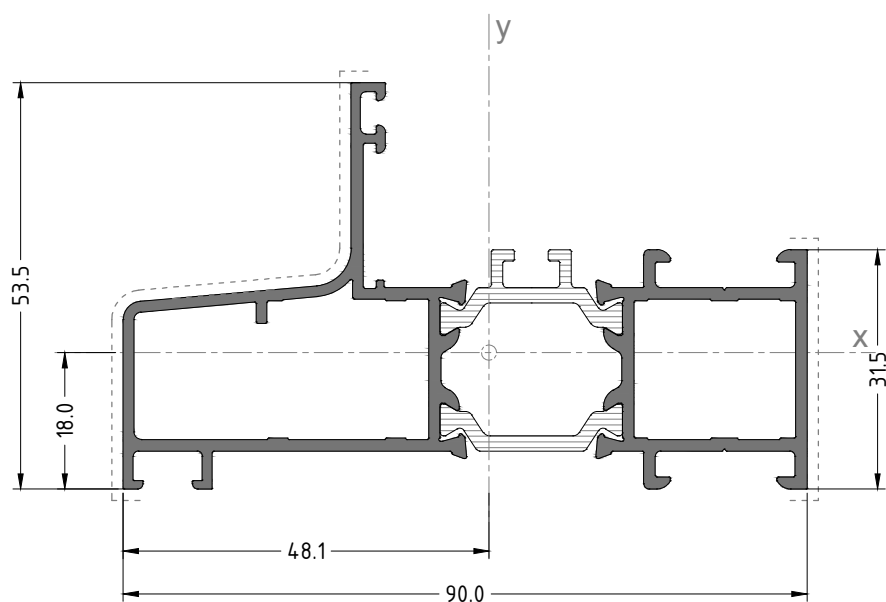
Number	Shape	DESCRIPTION
1000466		Glazing bead 4 mm. 14/18
1000409		Glazing bead 12 mm. 14/18
1000405		Glazing bead 20 mm. 14/18
1000414		Glazing bead 28 mm. 14/18
1000467		Glazing bead 36 mm. 14/18
1000411		Threshold Add on Profile
1000412		Threshold Add on Profile
1000247		Threshold profile
1000168		Rain screen profile
1000361		Curtain wall adaptor
1000413		Pivot sash adaptor

ACCESSORIES :

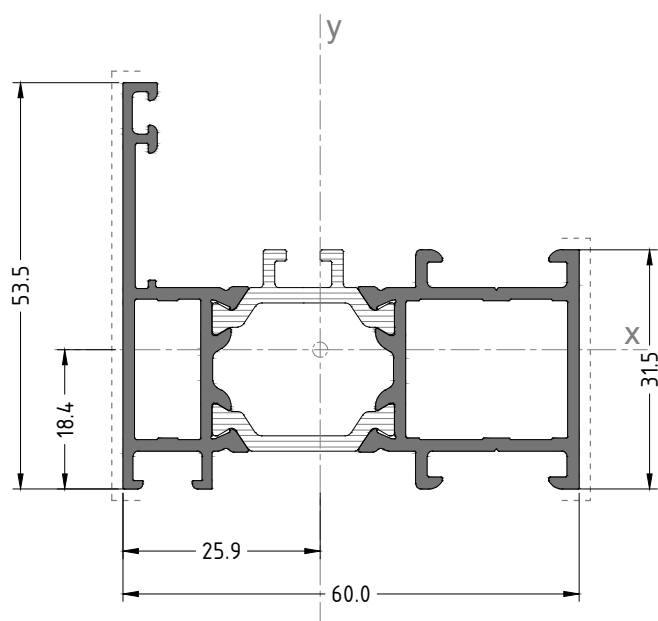
Number	Shape	DESCRIPTION
7001001		Outer glazing gasket
7001062		Inner glazing gasket 10-11 mm
7001002		Inner glazing gasket 8-9 mm
7001005		Inner glazing gasket 6-7 mm
7001034		Inner glazing gasket 4-5 mm
7001040		Stop gasket
7001048		Central gasket
7001050		Pivot Adaptor Glazing Gasket
7001051		Threshold gasket

CORNERS :

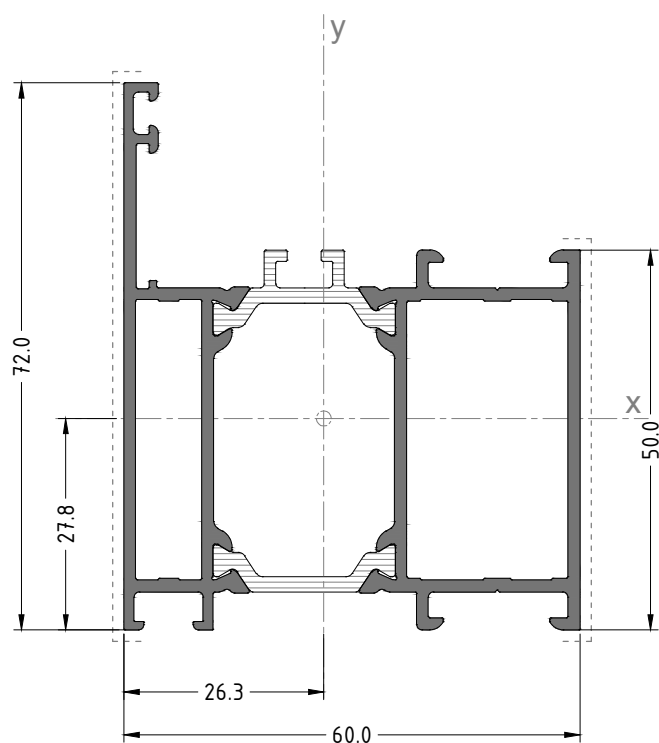
Number	Shape	Corner Nail / Crimp	Corner Alignment	T.Connector
2116801		5384208 5384208	7501020	—
2116802		5384208 5384083	7501020	—
2116803		5385208 5385083	7501020	—
2216802		5384258 5386062	7501020	—
2316802		5236257 5236062	7501020	—
2316804		5236062 5236257	7501020	—
2416801		—	—	5415017 5416017
2416802		—	—	5415036 5416036
2416804		—	—	5416017
2416805		—	—	5416036
2416803		—	—	5415036
2416806		—	—	—



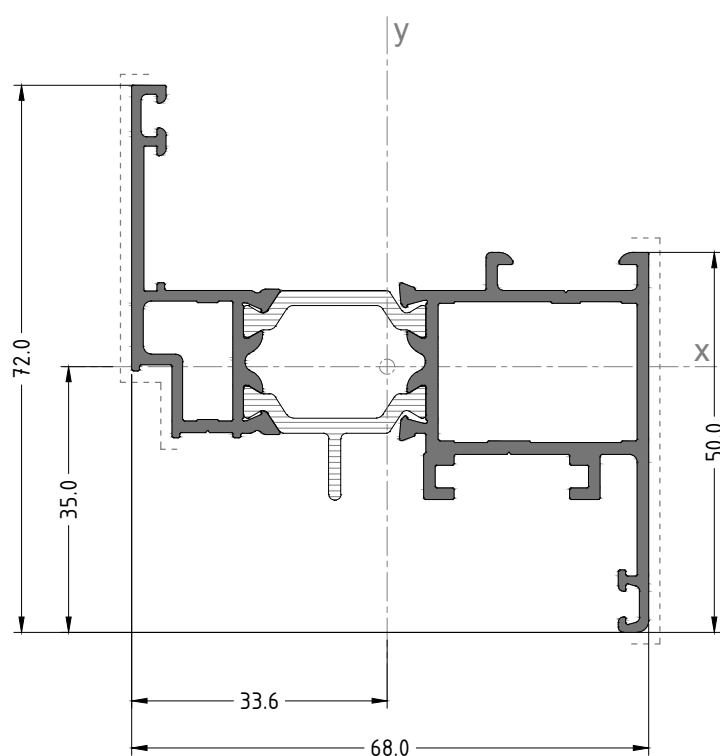
DESCRIPTION	Number	$I_x \text{ cm}^4$	$I_y \text{ cm}^4$	$e_x \text{ cm}$	$e_y \text{ cm}$	$W_x \text{ cm}^3$	$W_y \text{ cm}^3$
Frame Profile 53/31/90	2116801	40.17	8.42	4.81	1.80	11.30	2.01



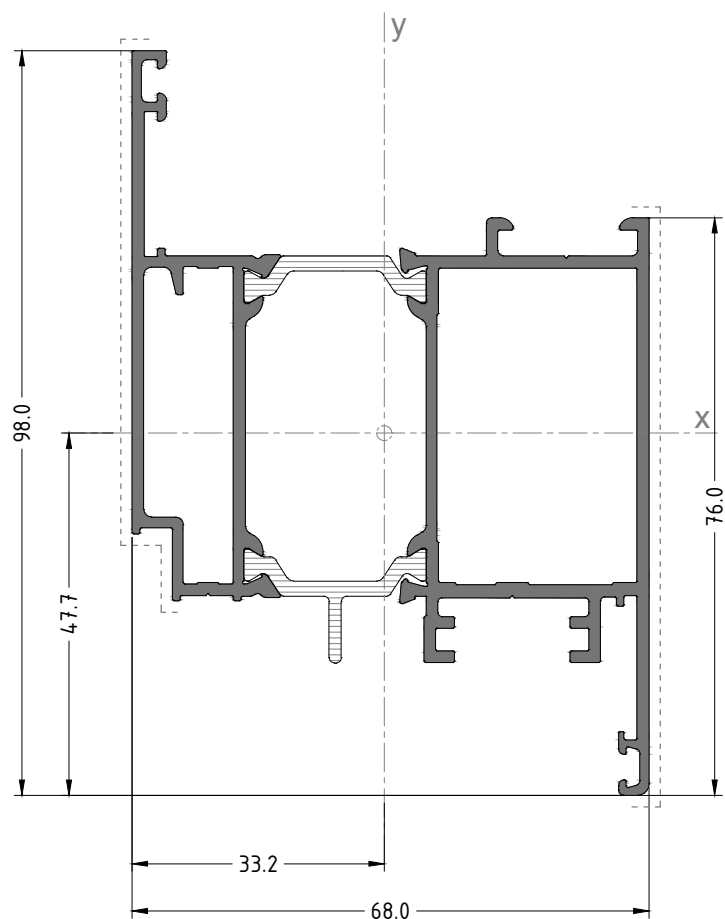
DESCRIPTION	Number	$I_x \text{ cm}^4$	$I_y \text{ cm}^4$	$e_x \text{ cm}$	$e_y \text{ cm}$	$W_x \text{ cm}^3$	$W_y \text{ cm}^3$
Frame Profile 53/31	2116802	20.13	6.91	2.59	1.84	5.72	2.03



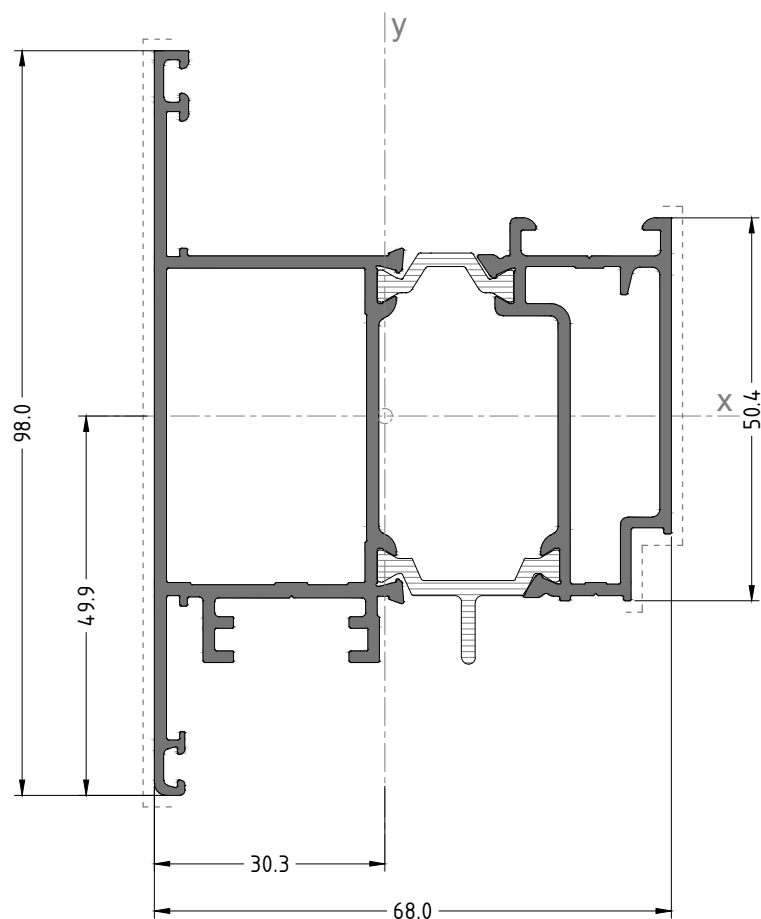
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Frame Profile 72/50	2116803	28.52	19.96	2.63	2.78	6.46	5.92



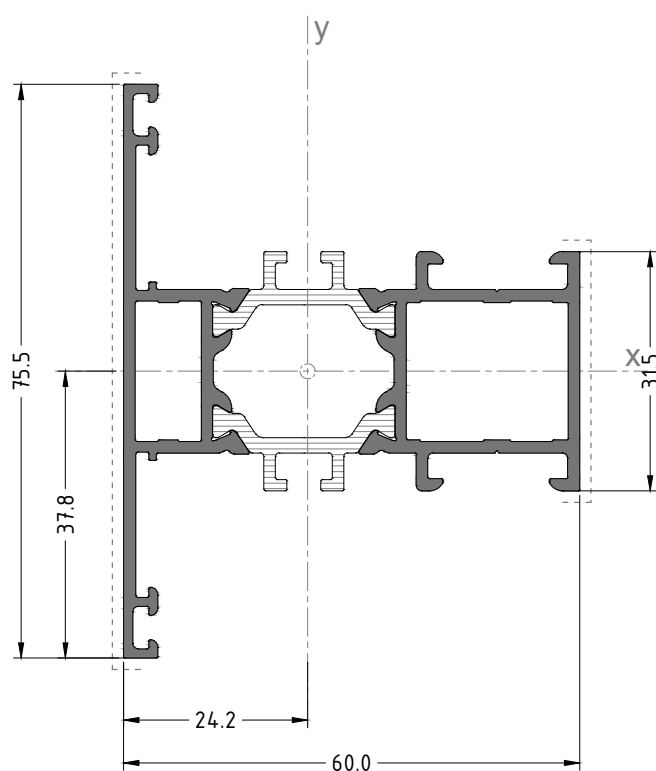
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Sash Profile 50/37-2	2216802	31.75	6.81	3.36	3.50	8.57	1.98



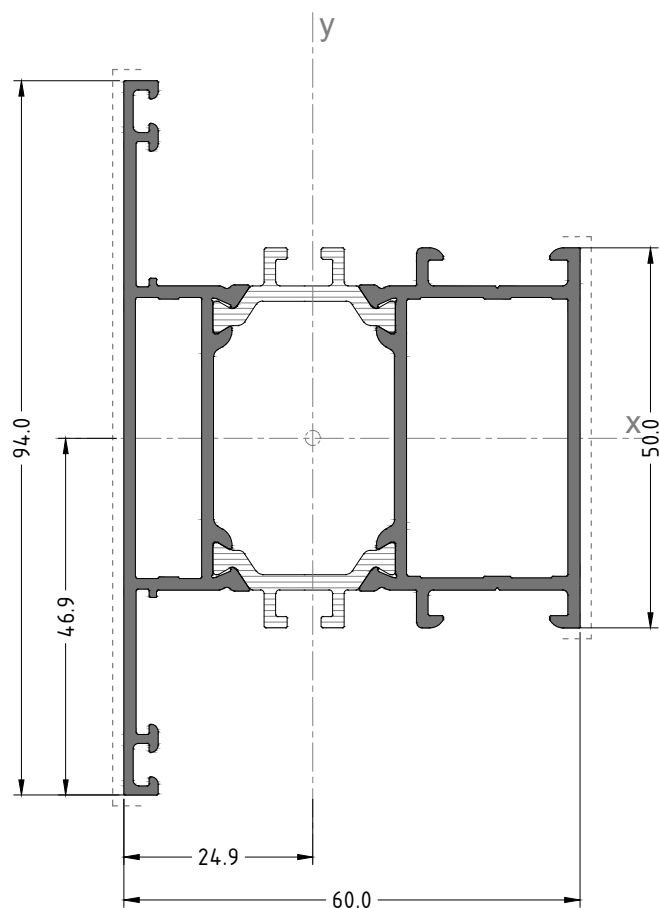
DESCRIPTION	Number	$I_x \text{ cm}^4$	$I_y \text{ cm}^4$	$e_x \text{ cm}$	$e_y \text{ cm}$	$W_x \text{ cm}^3$	$W_y \text{ cm}^3$
Sash Profile 63/76-2	2316802	51.99	25.46	3.32	4.77	10.33	7.31



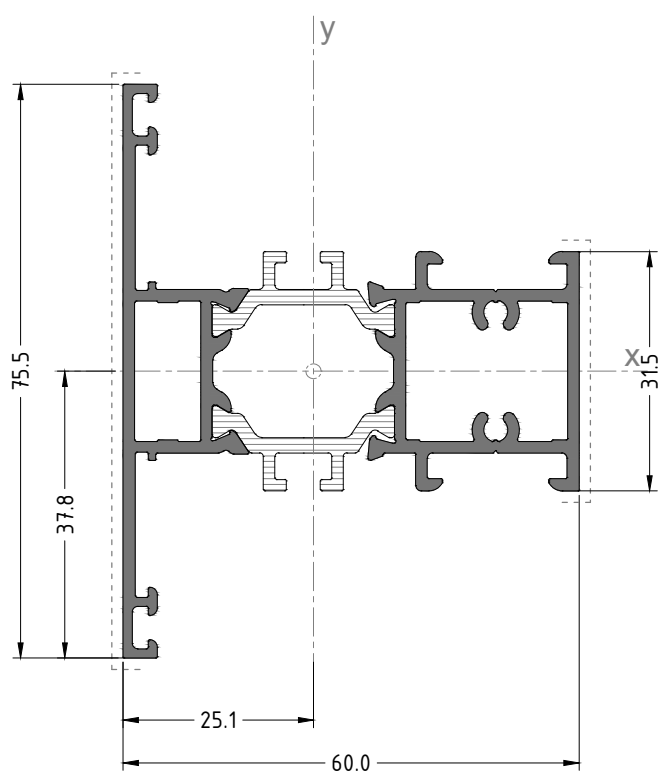
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Sash Profile 98/41-2	2316804	40.69	31.12	3.03	4.99	8.46	8.26



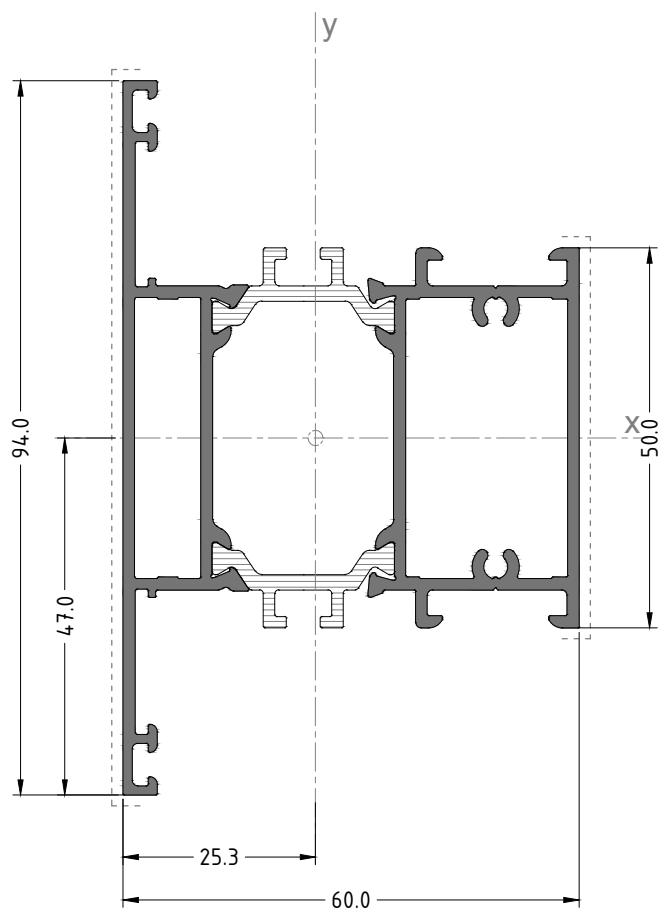
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Mullion.Transon 75/31	2416801	21.83	11.81	2.42	3.78	5.86	3.29



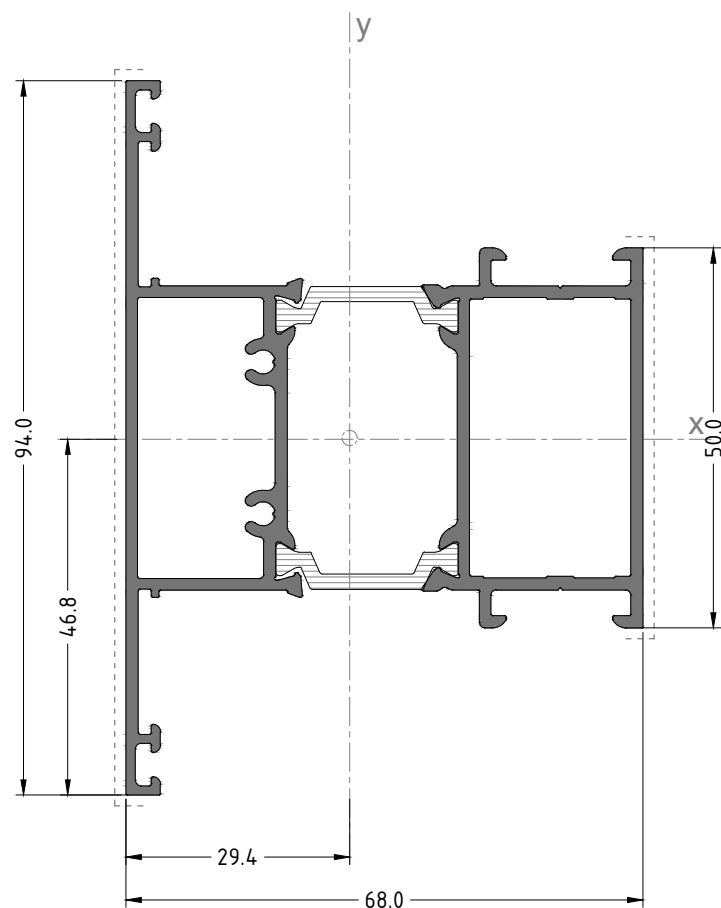
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Mullion.Transon 94/50	2416802	30.12	28.25	2.49	4.69	8.57	6.00



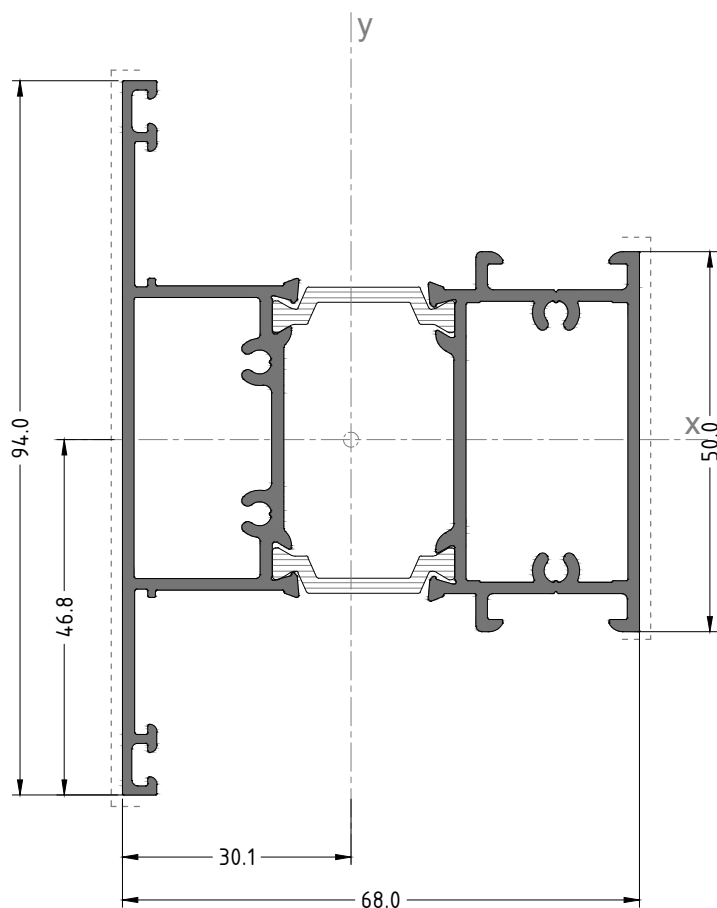
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Mullion.Transon 75/31-2	2416804	23.16	11.90	2.51	3.78	6.62	3.15



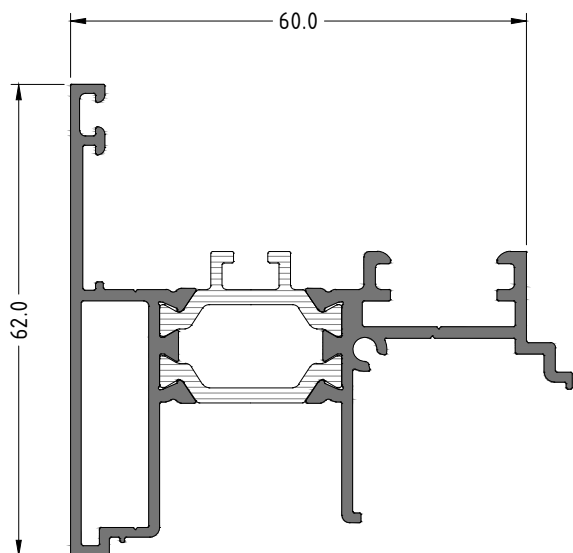
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Mullion.Transon 94/50-2	2416805	30.49	29.00	2.53	4.70	8.79	6.17



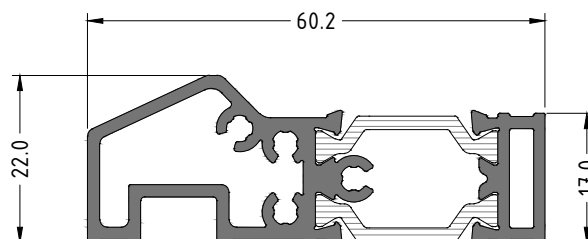
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Insertion Mullion. Transon 94/50	2416803	36.23	25.14	2.94	4.68	9.39	5.33



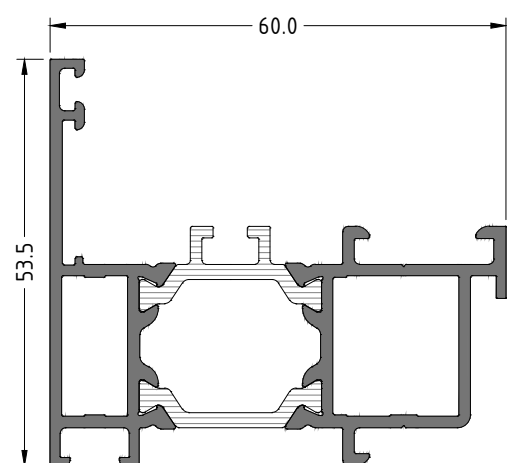
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Insertion Mullion.Transon 94/50	2416806	37.23	25.52	3.01	4.68	9.81	5.40



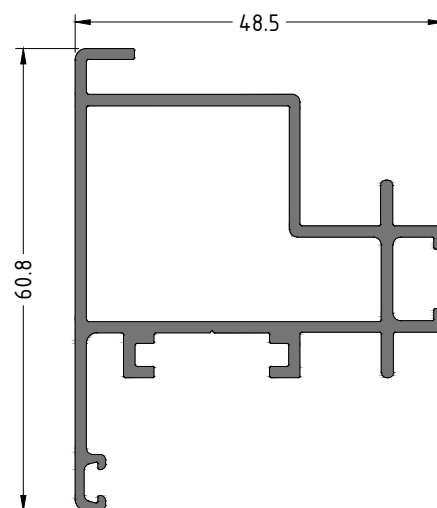
DESCRIPTION	Number
Meeting Profile	2616801



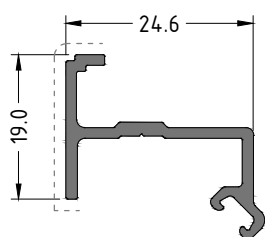
DESCRIPTION	Number
Threshold Profile	2616802



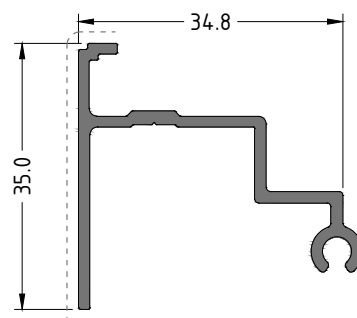
DESCRIPTION	Number
Outside Opening Convertor	2616804



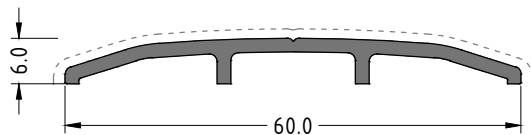
DESCRIPTION	Number
Pivot Sash Adaptor	1000413



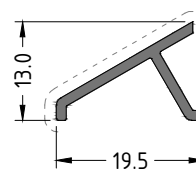
DESCRIPTION	Number
Threshold Add on Profile	1000411



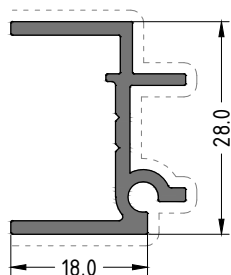
DESCRIPTION	Number
Threshold Add on Profile	1000412



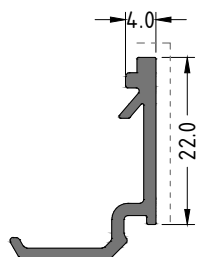
DESCRIPTION	Number
Threshold profile	1000247



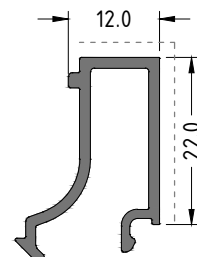
DESCRIPTION	Number
Rain screen profile	1000168



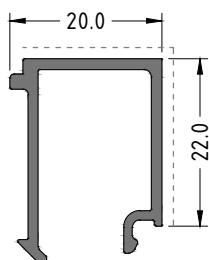
DESCRIPTION	Number
Curtain wall adaptor	1000361



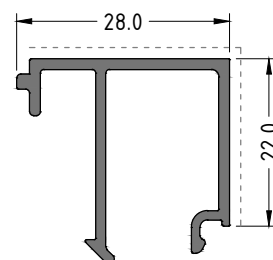
DESCRIPTION	Number
Glazing bead 4mm. 14/18	1000466



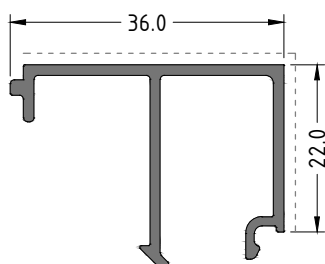
DESCRIPTION	Number
Glazing bead 12mm. 14/18	1000409



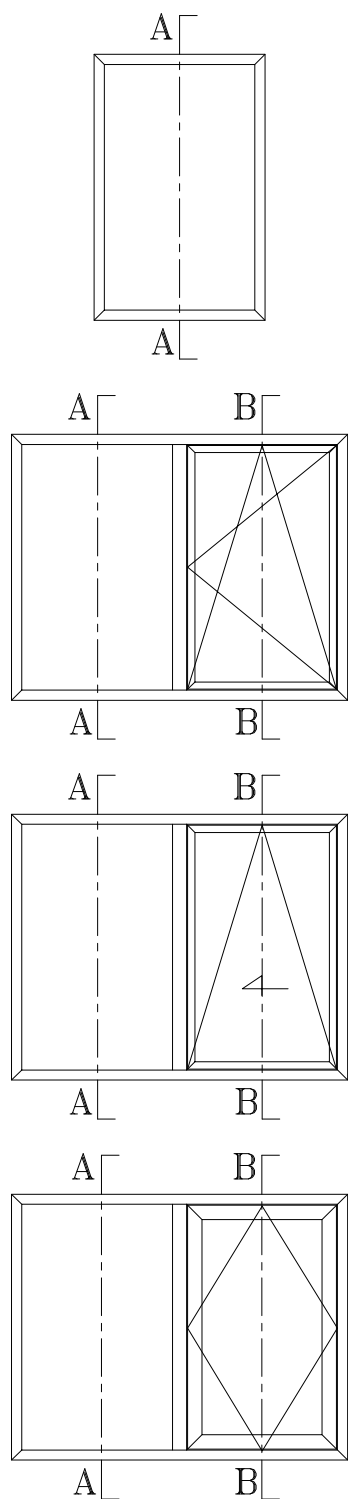
DESCRIPTION	Number
Glazing bead 20mm. 14/18	1000405



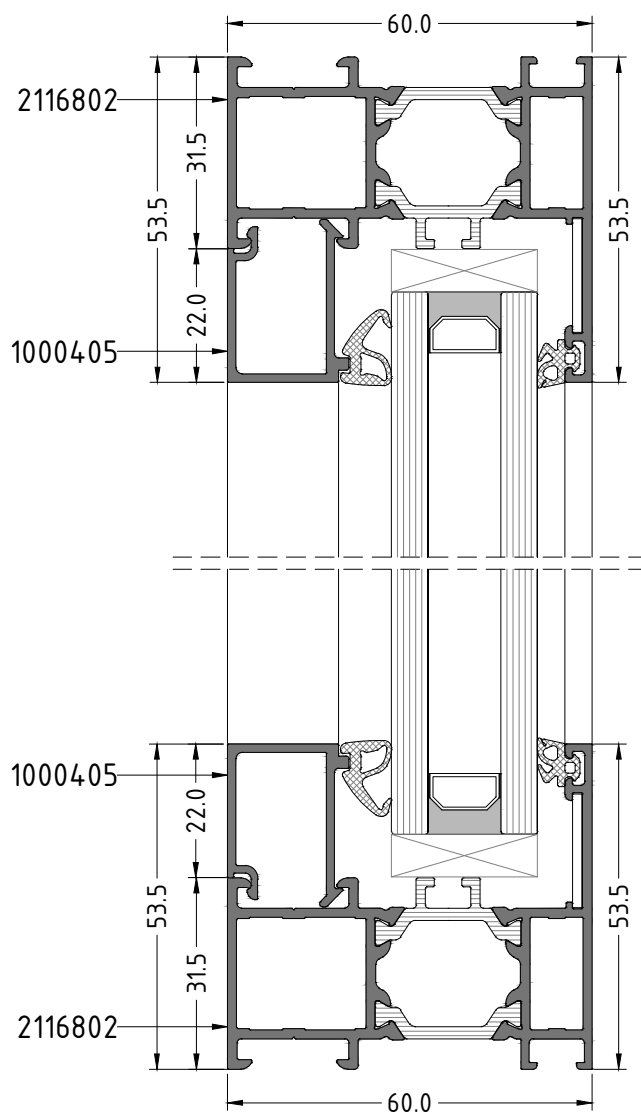
DESCRIPTION	Number
Glazing bead 28mm. 14/18	1000414

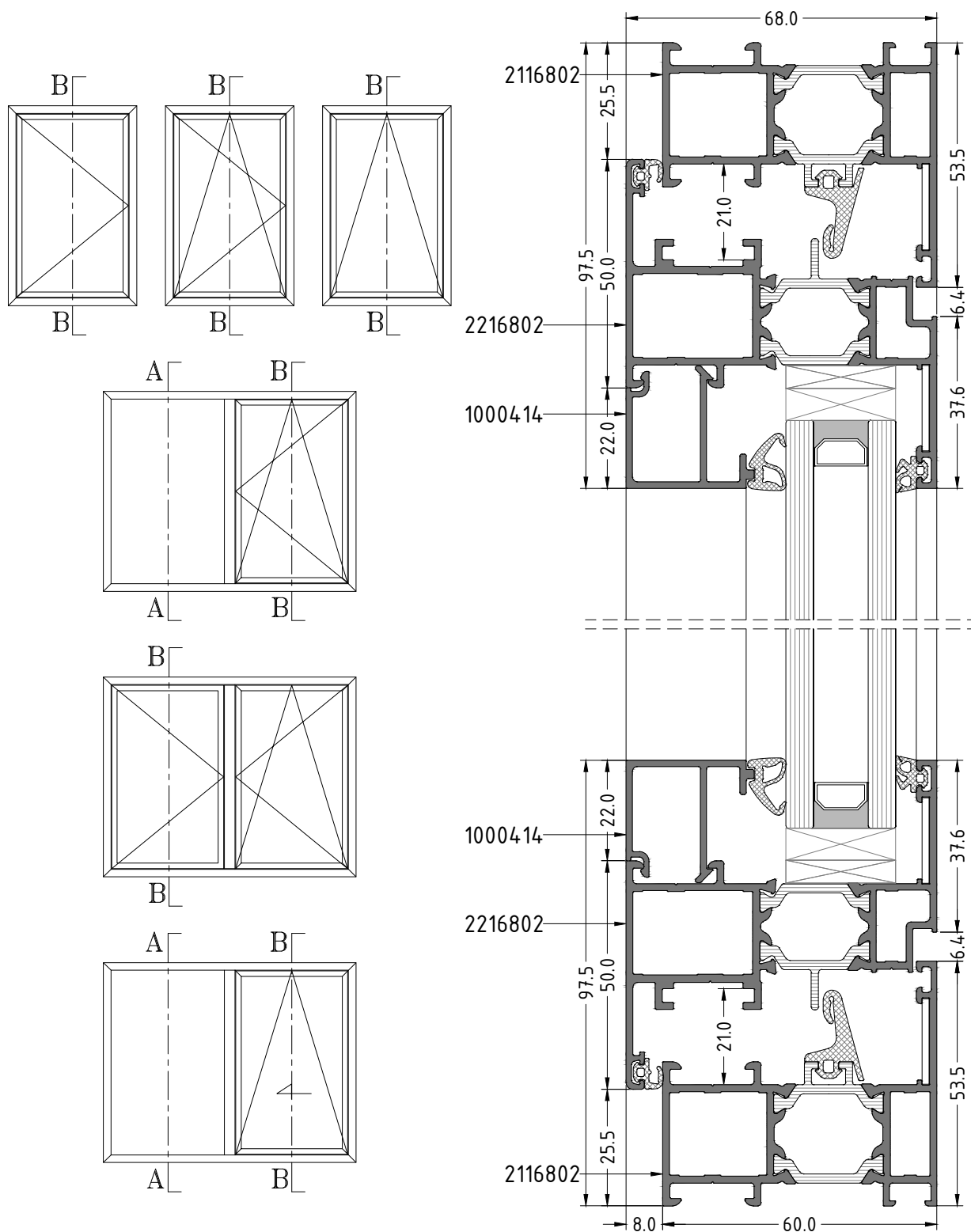


DESCRIPTION	Number
Glazing bead 36mm. 14/18	1000467

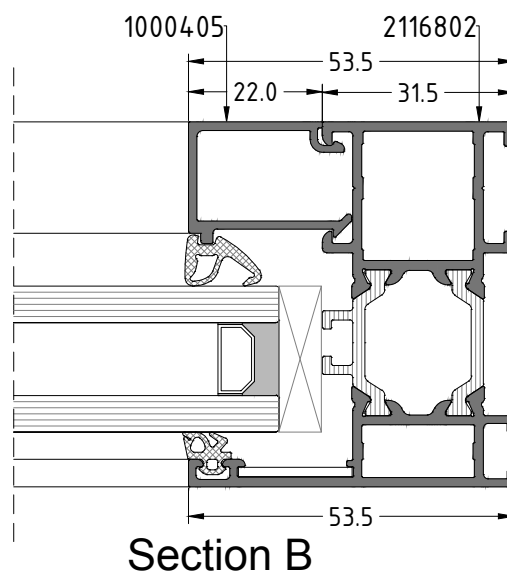
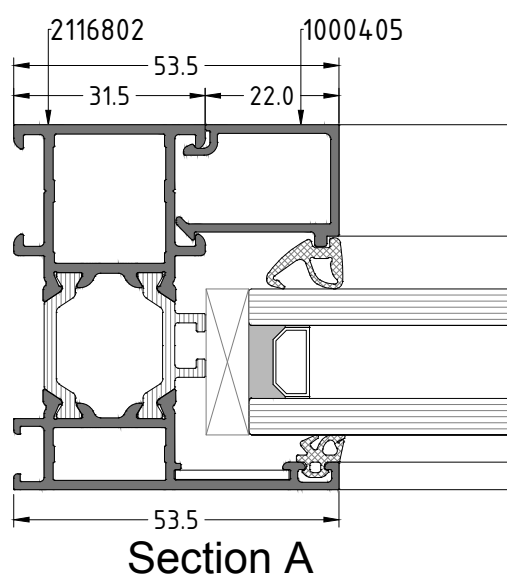
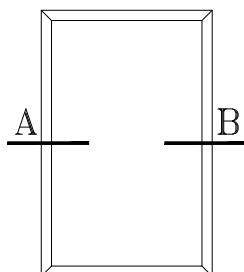


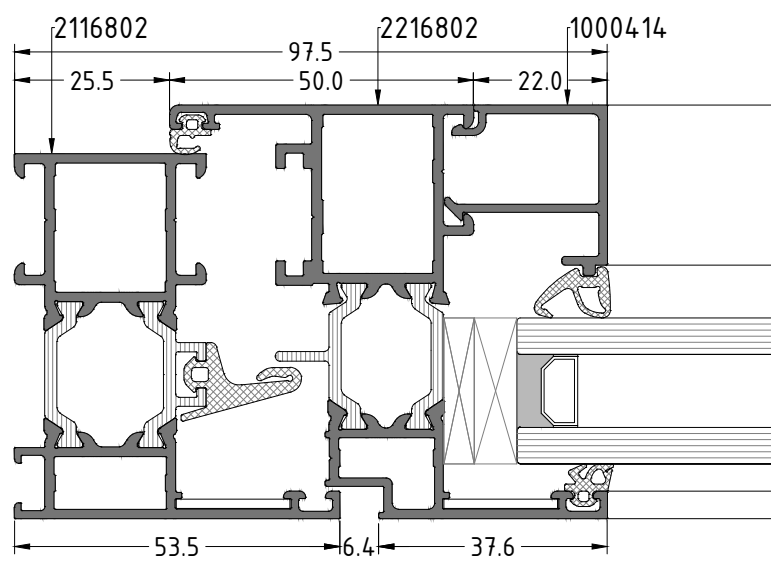
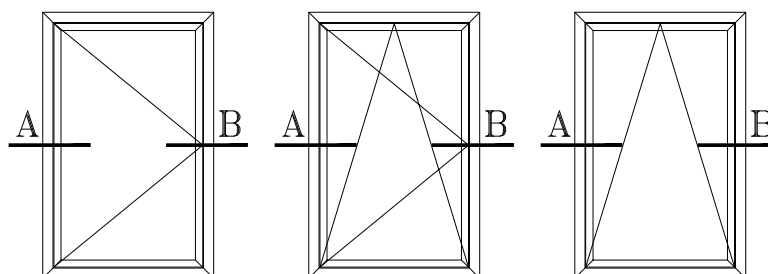
Section A-A



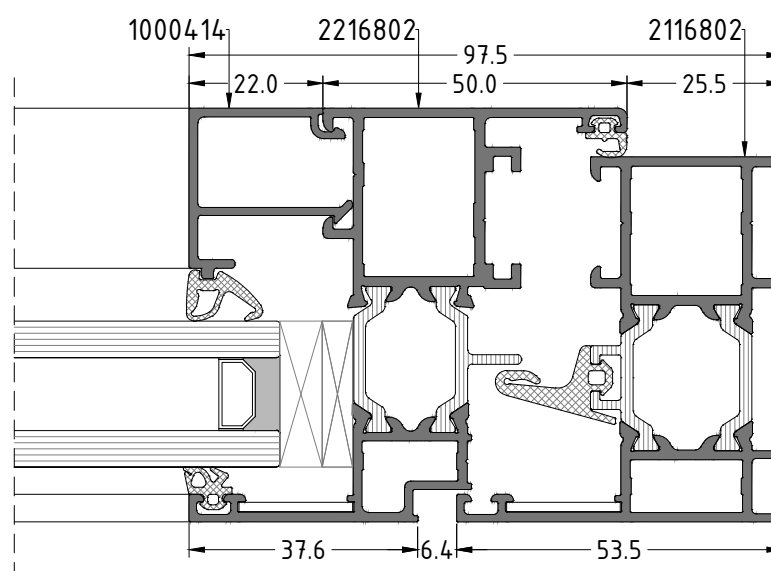


Section B-B

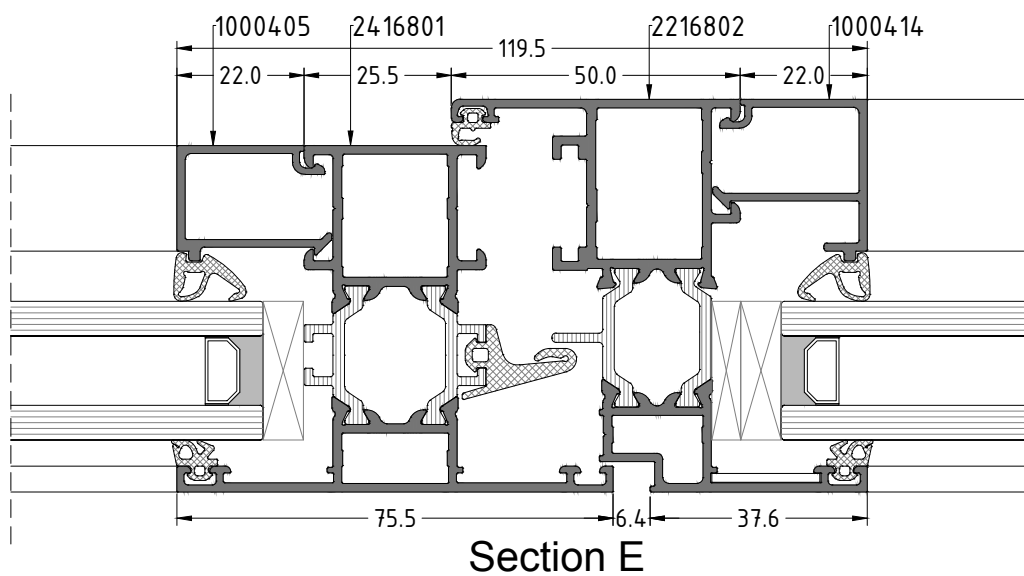
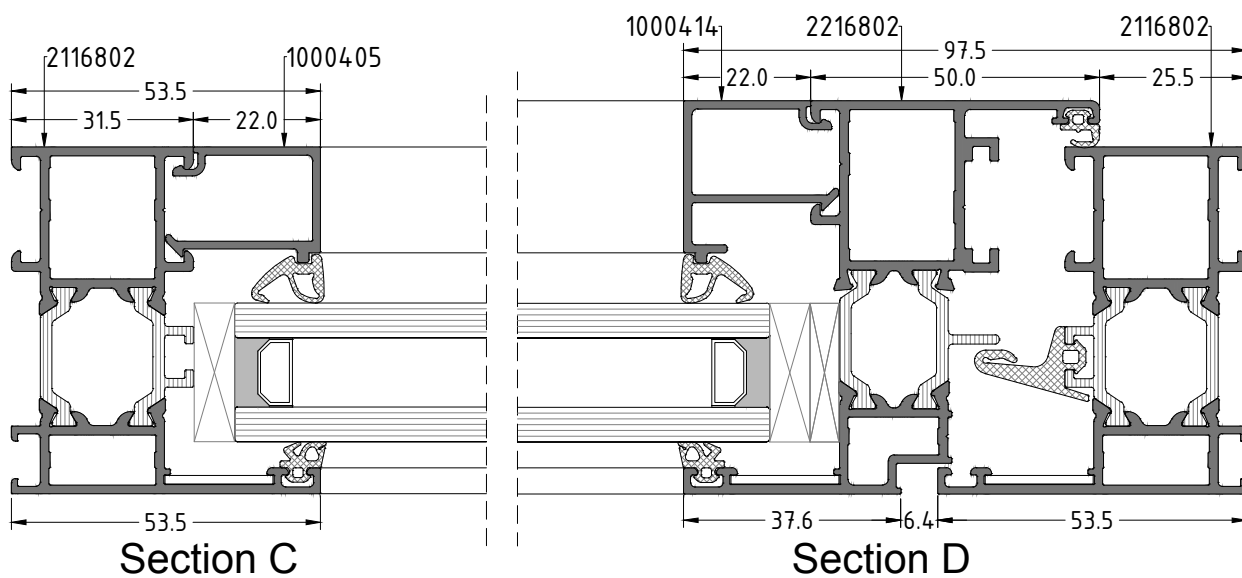
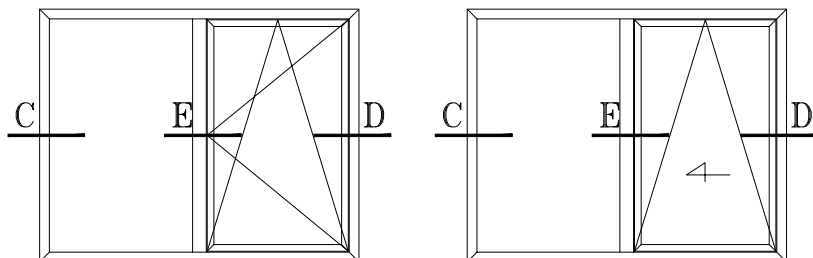


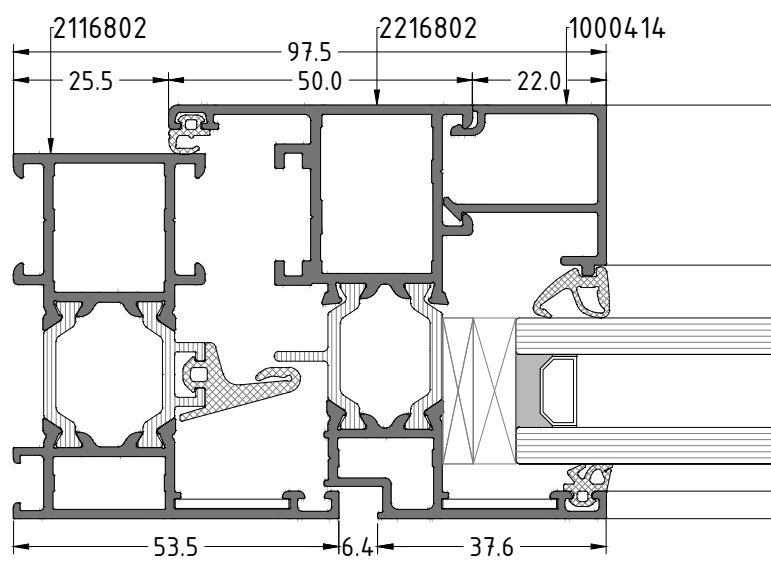
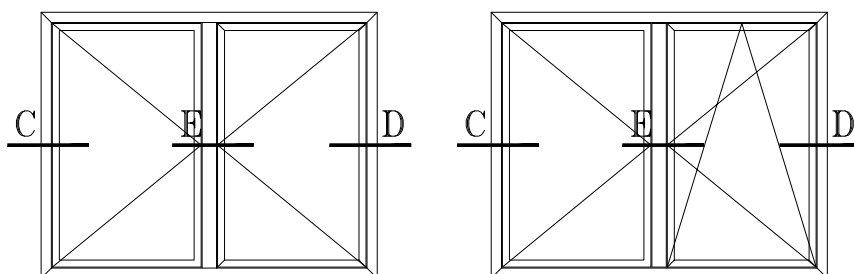


Section A

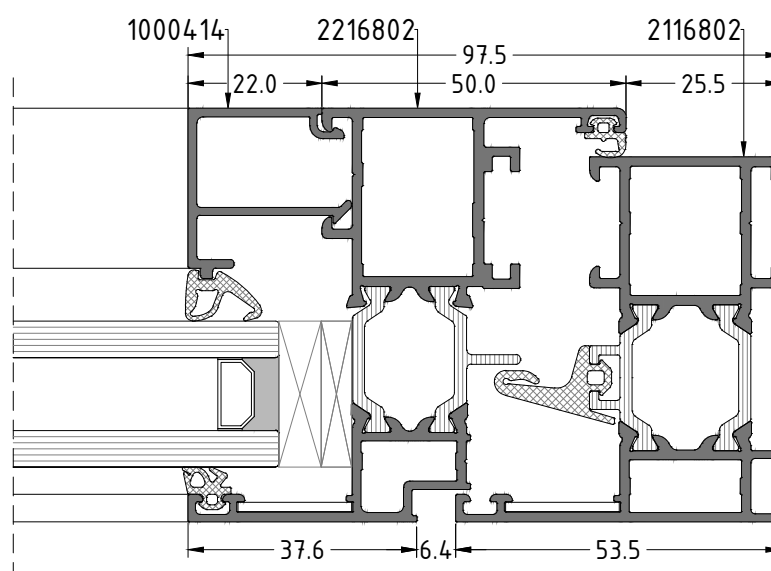


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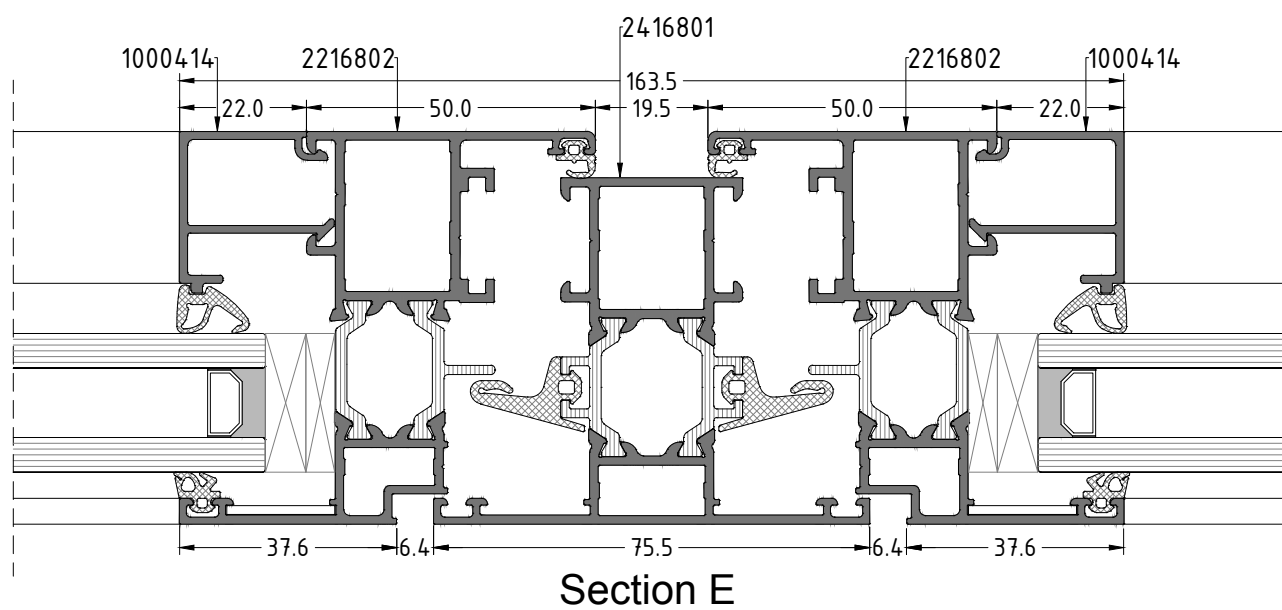
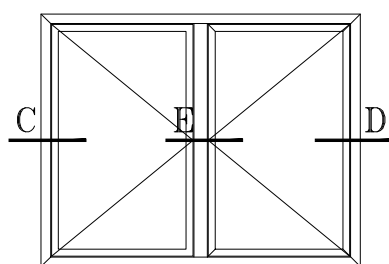


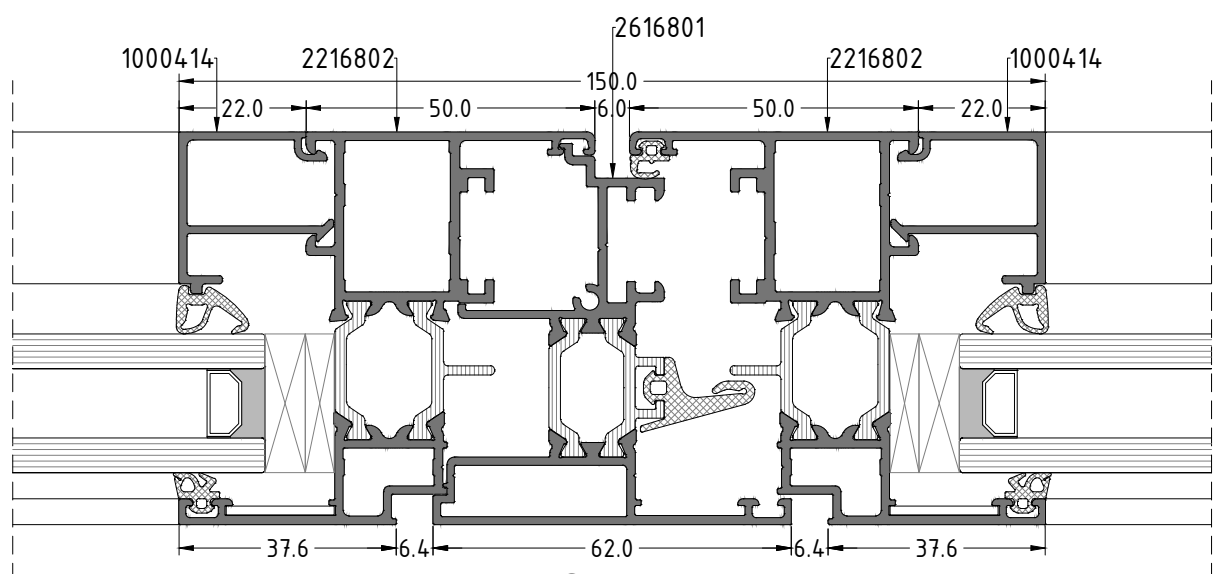
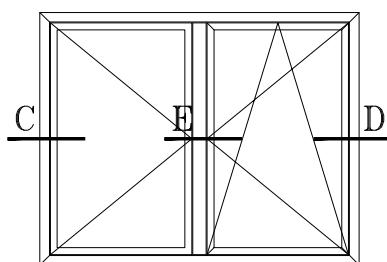


Section A

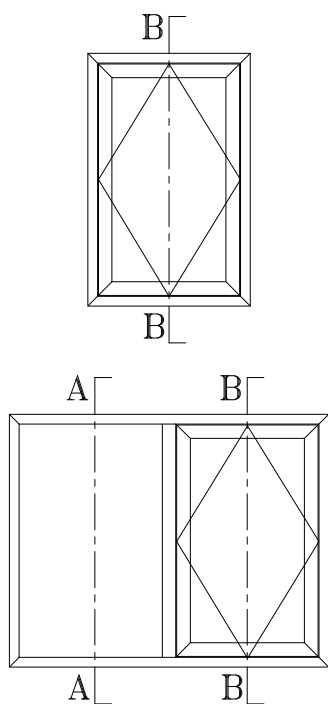


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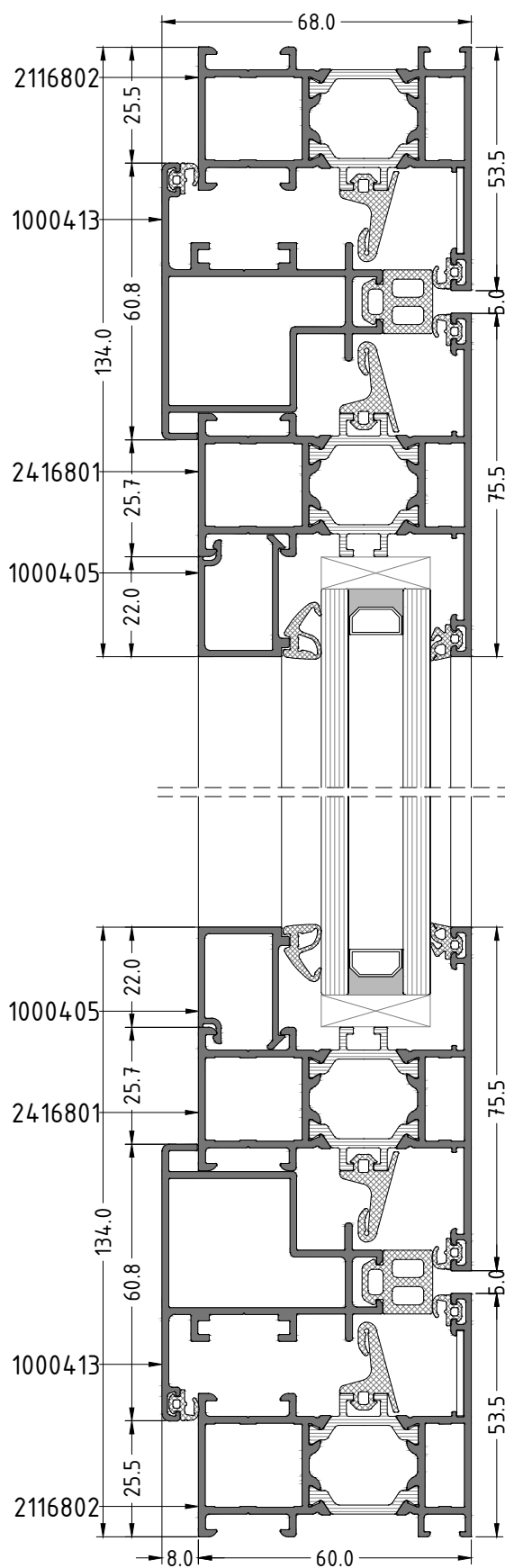


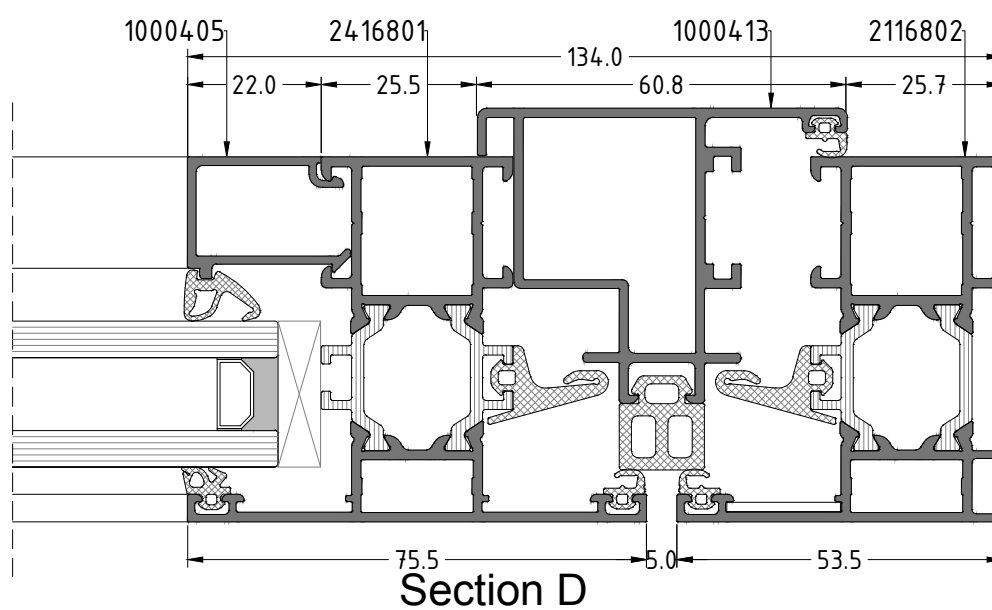
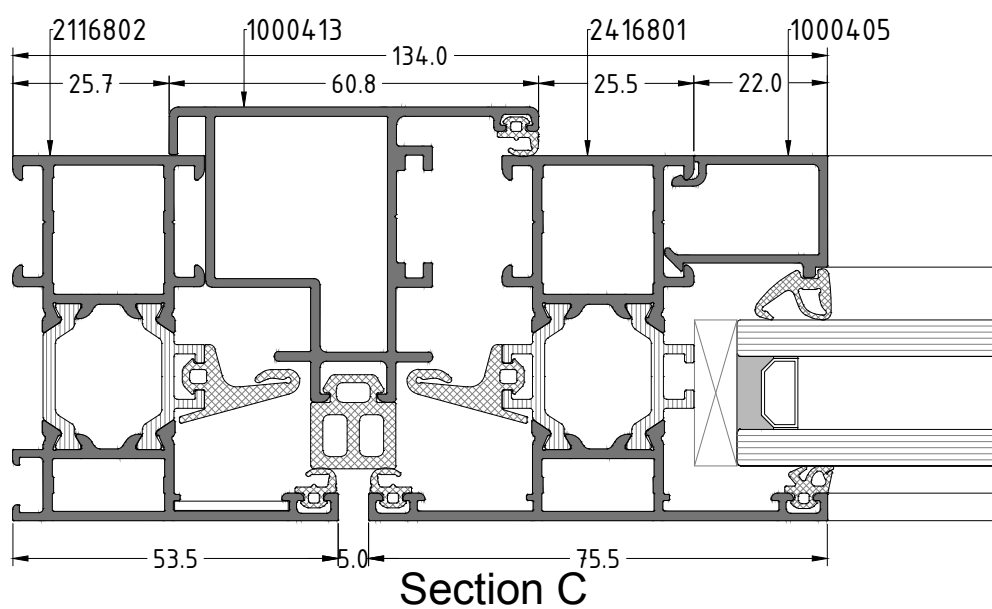
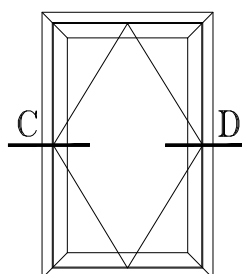


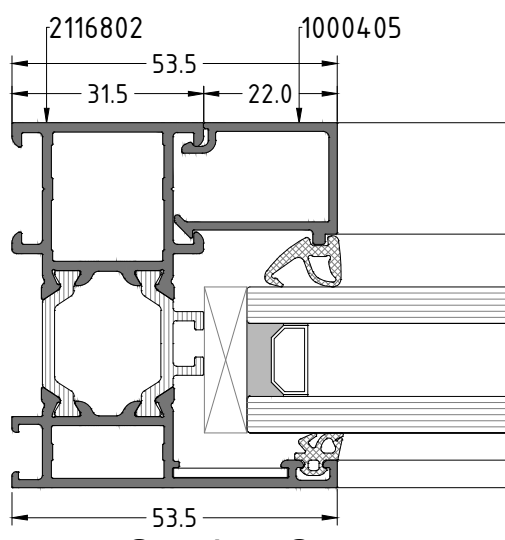
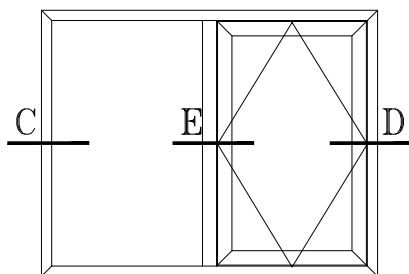
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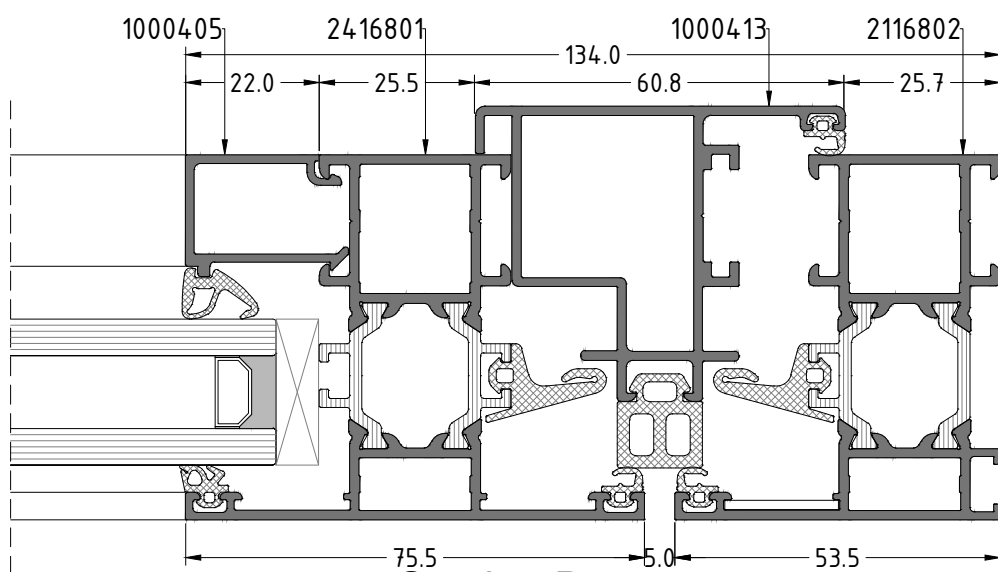
Section B-B



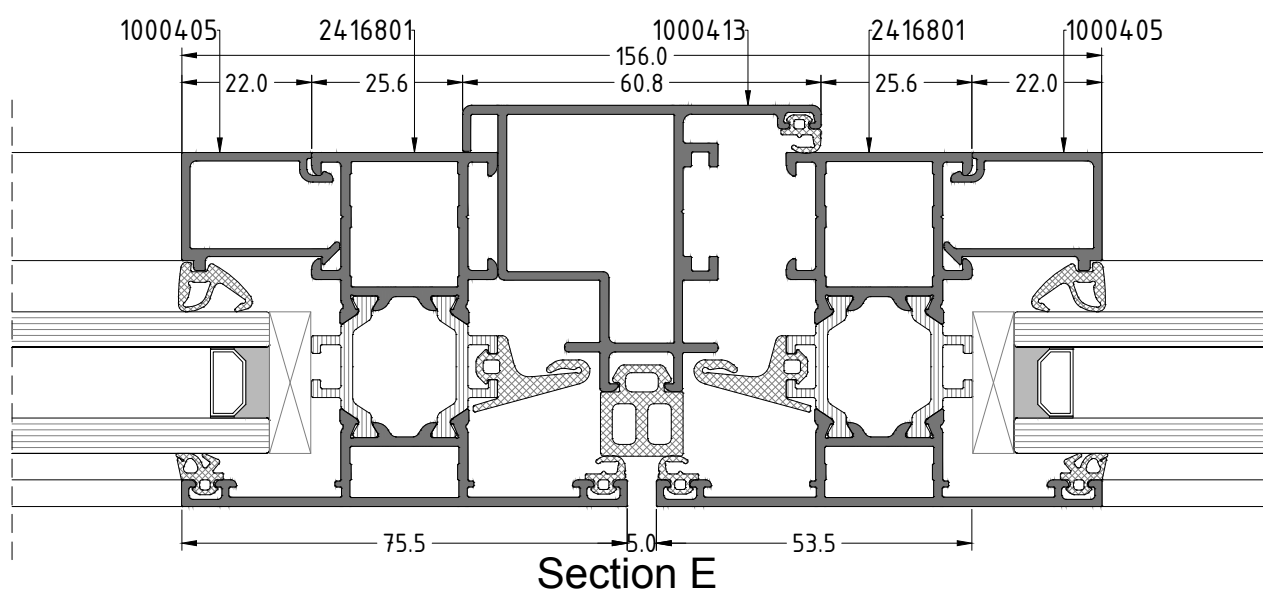
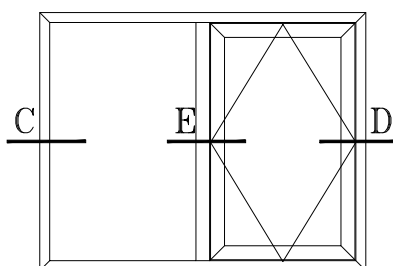


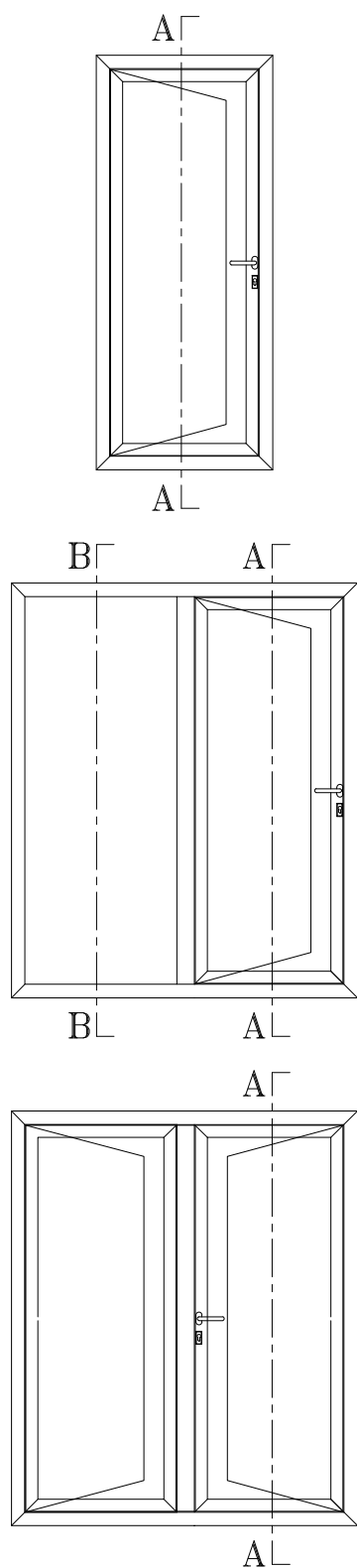


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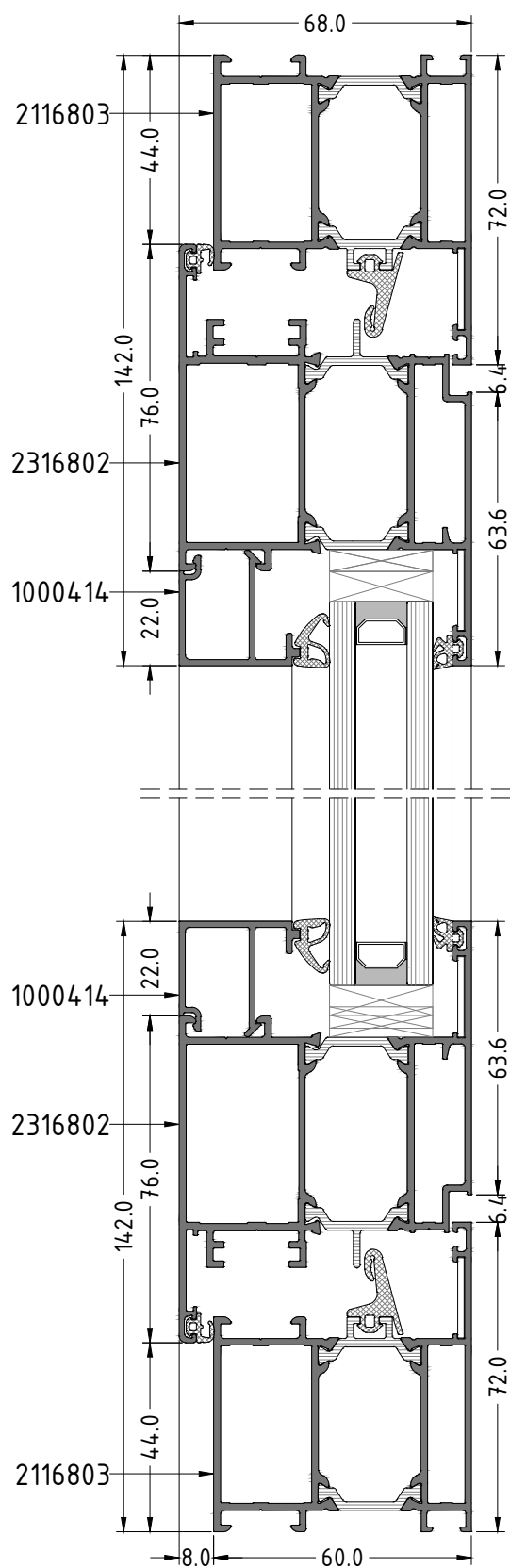


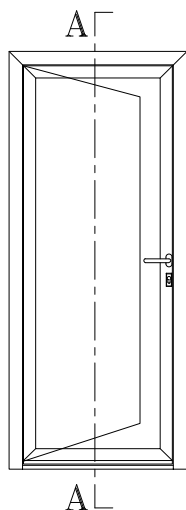
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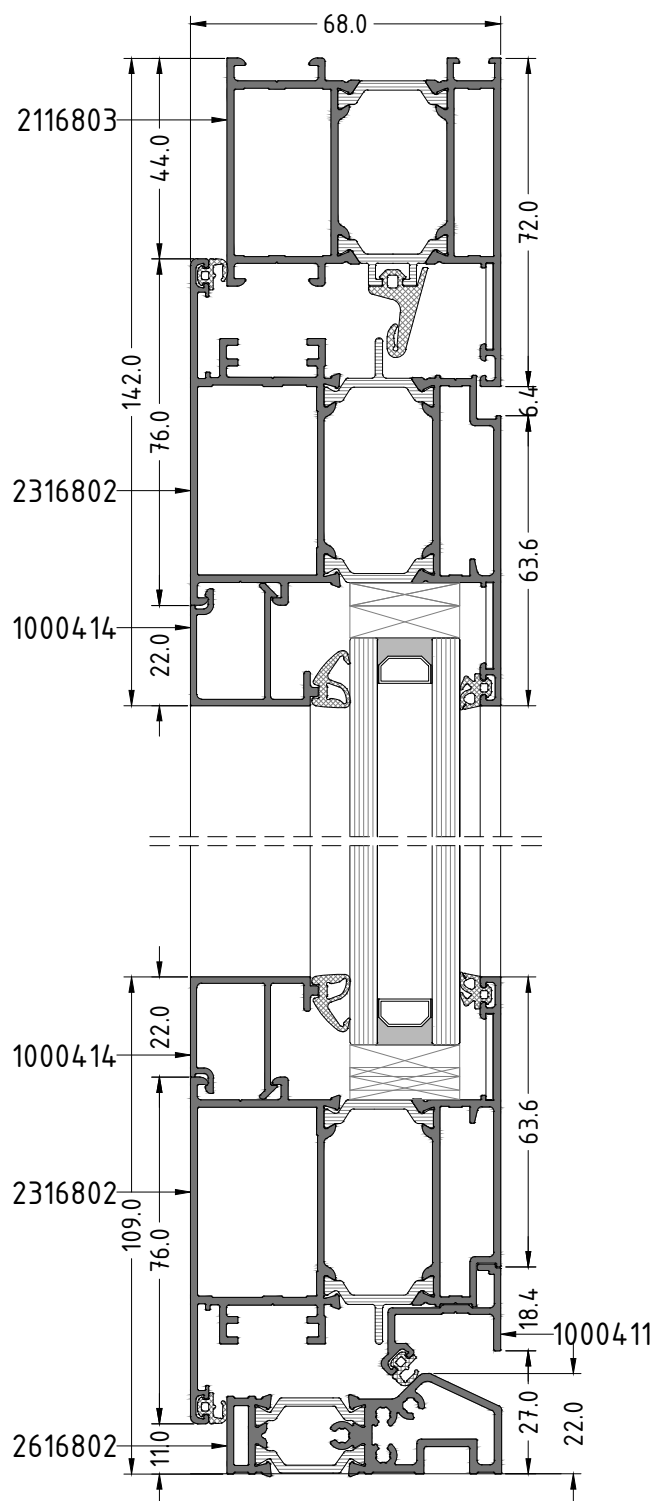


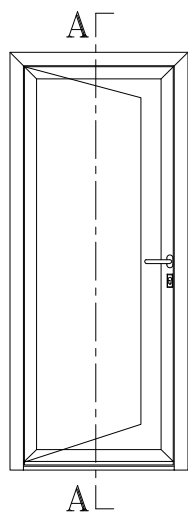
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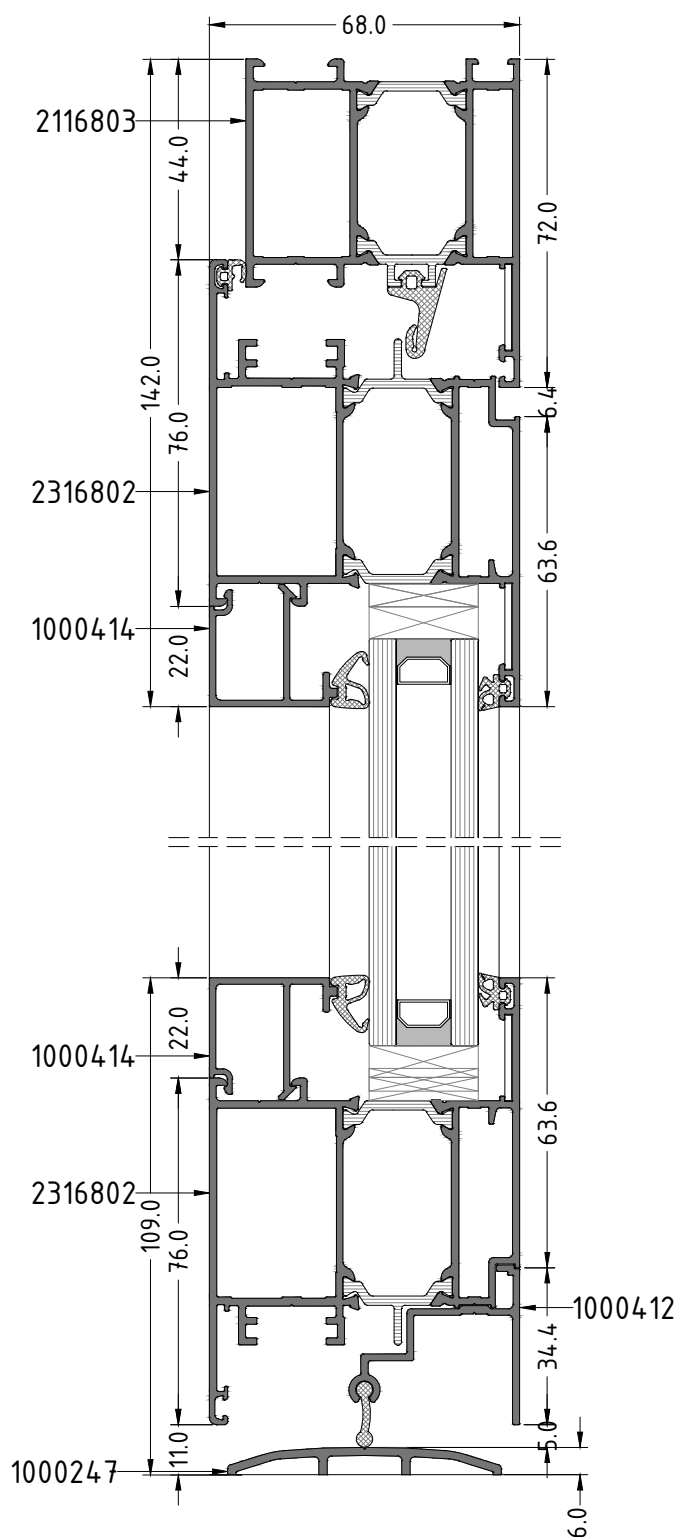


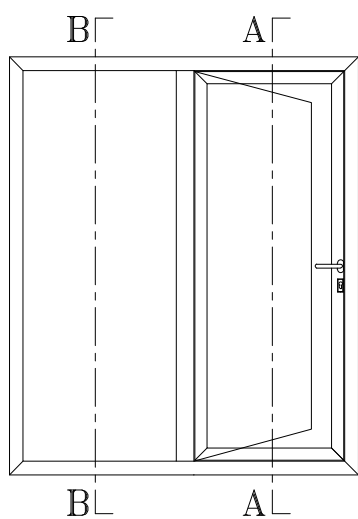
Section A-A



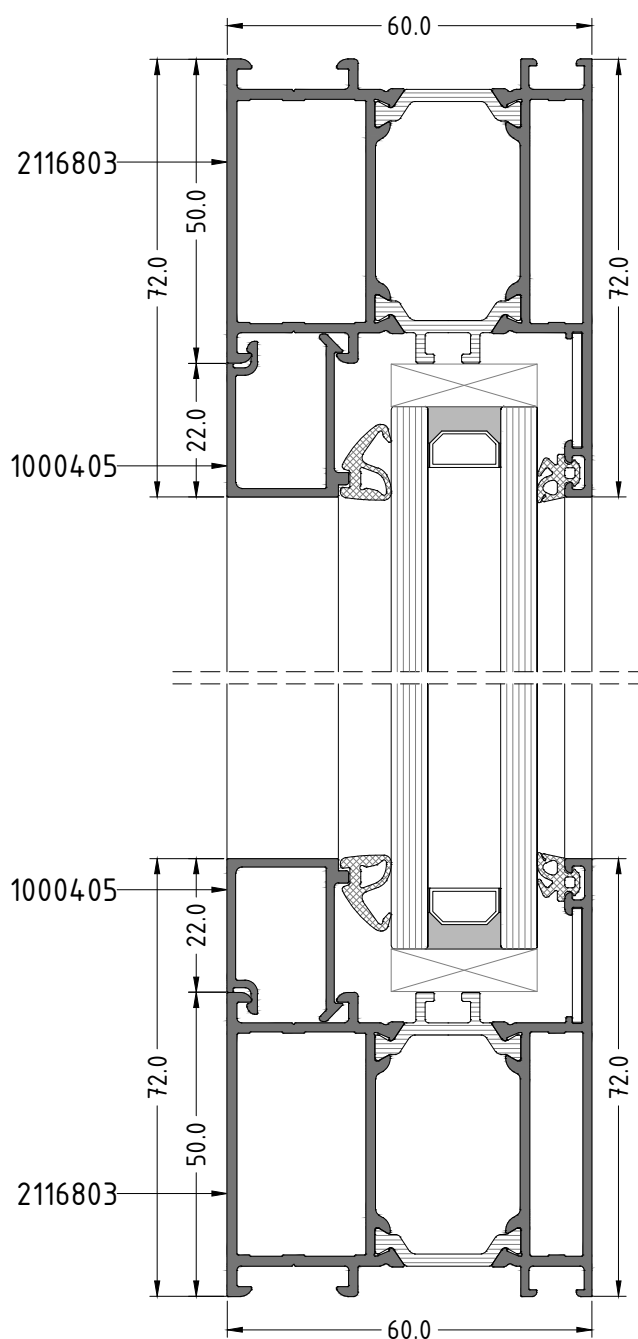


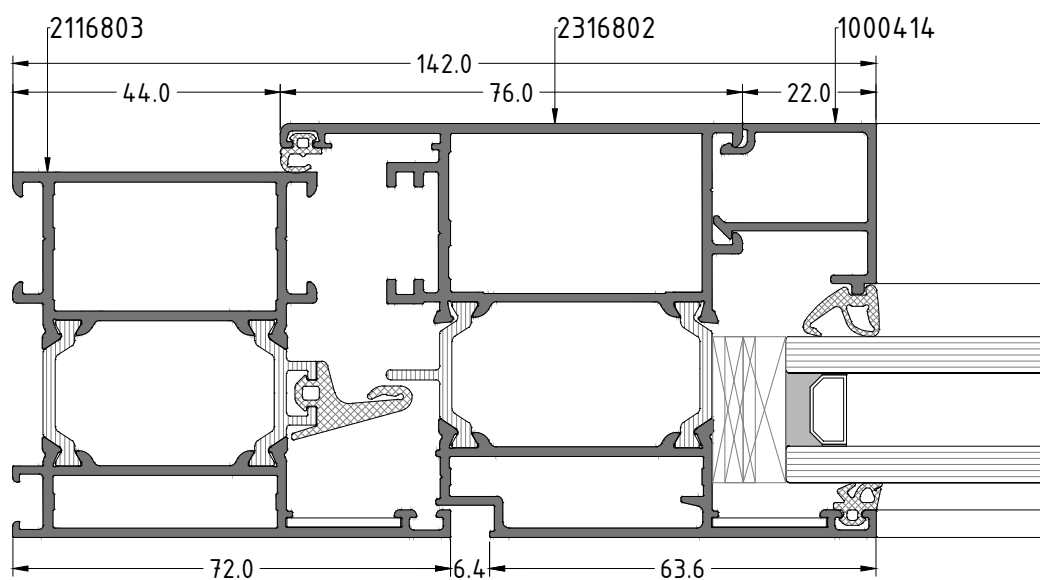
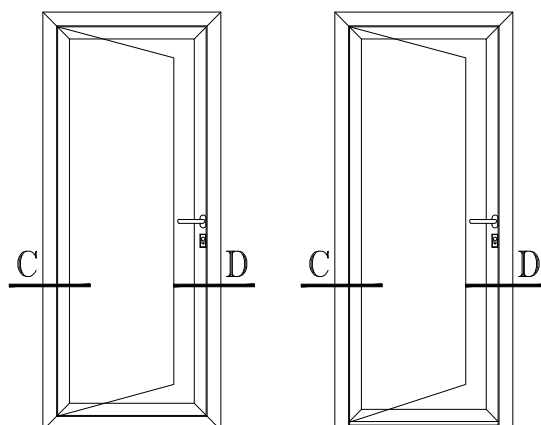
Section A-A



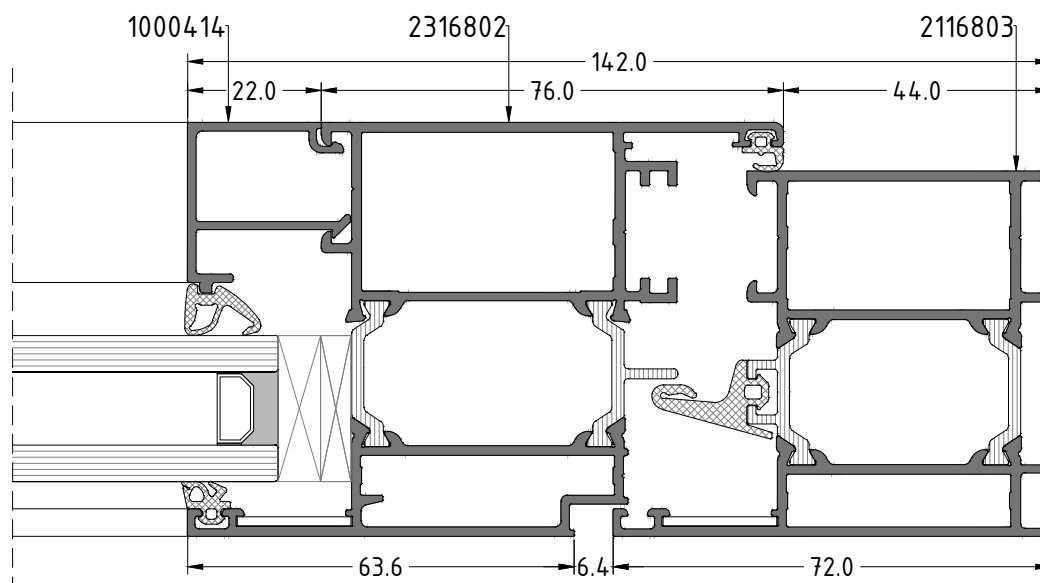


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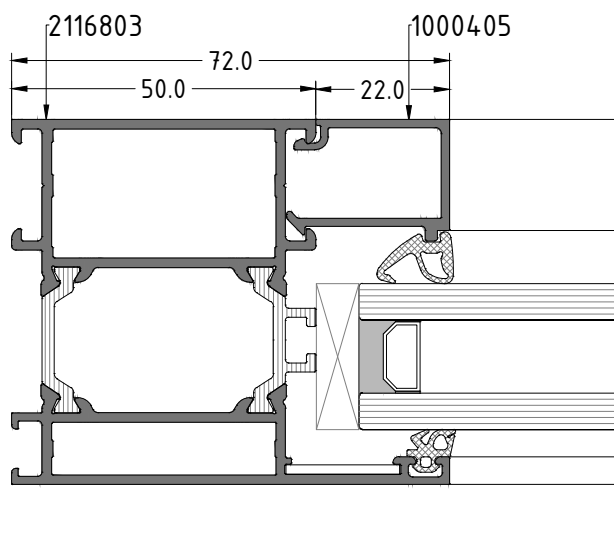
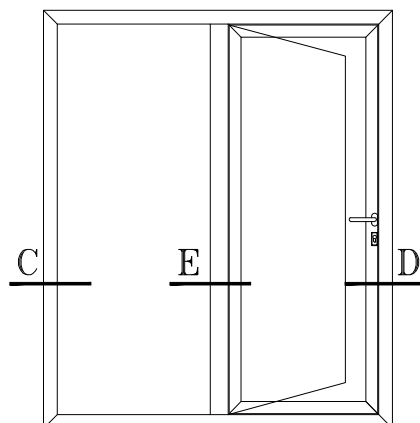




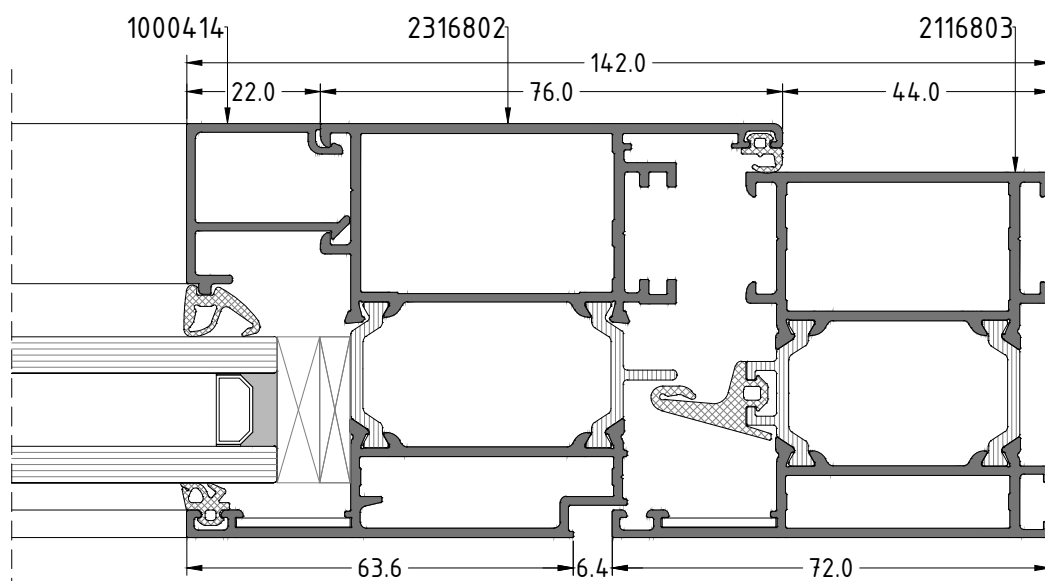
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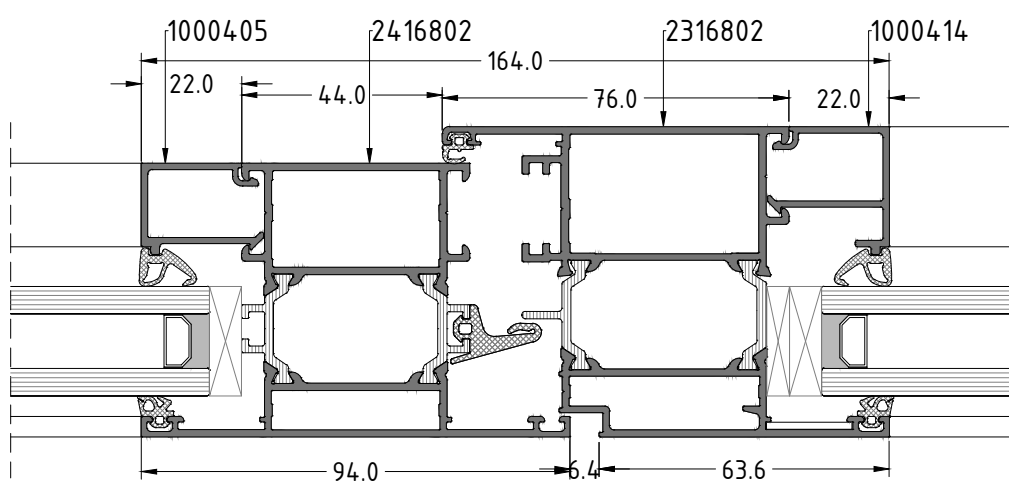
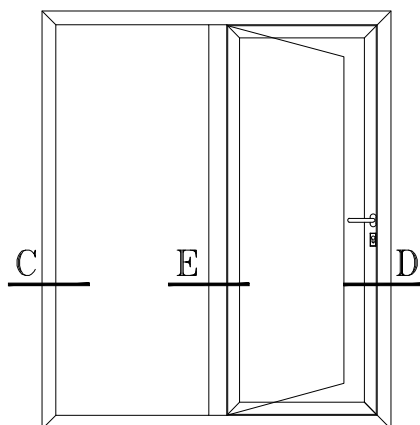
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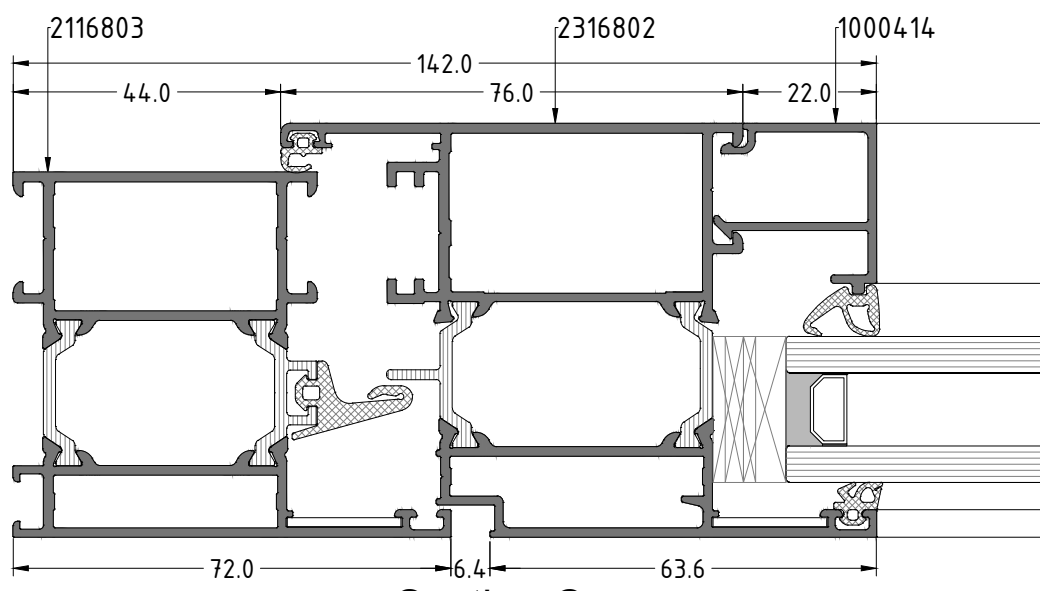
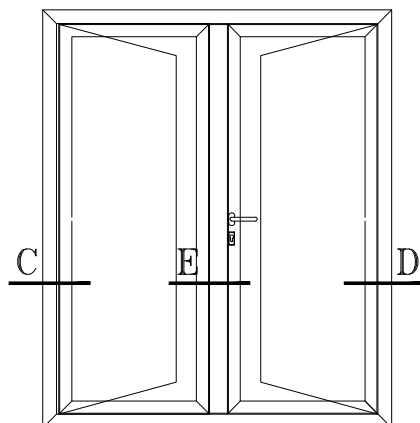
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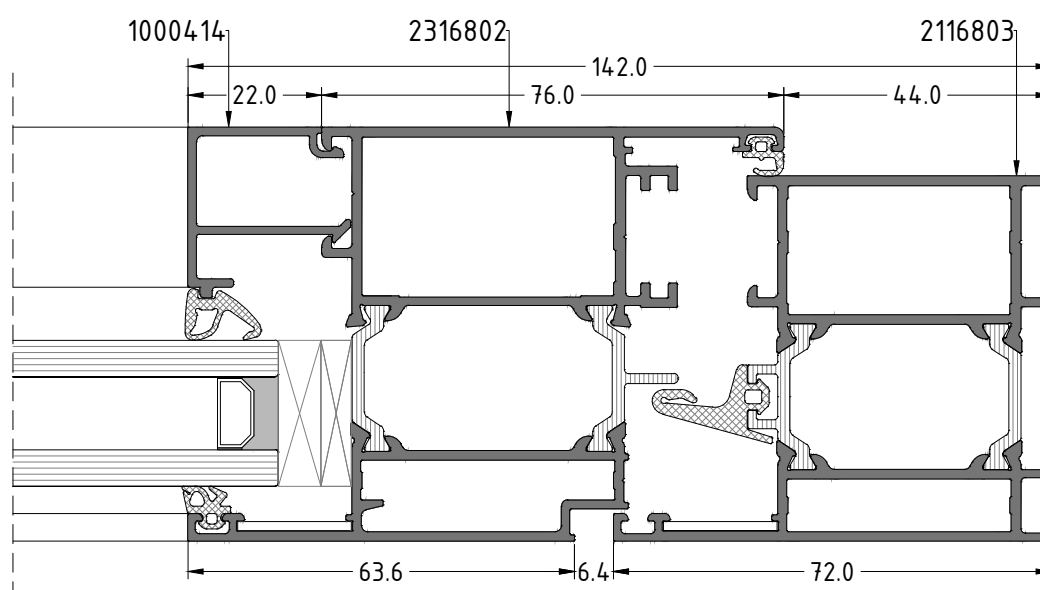
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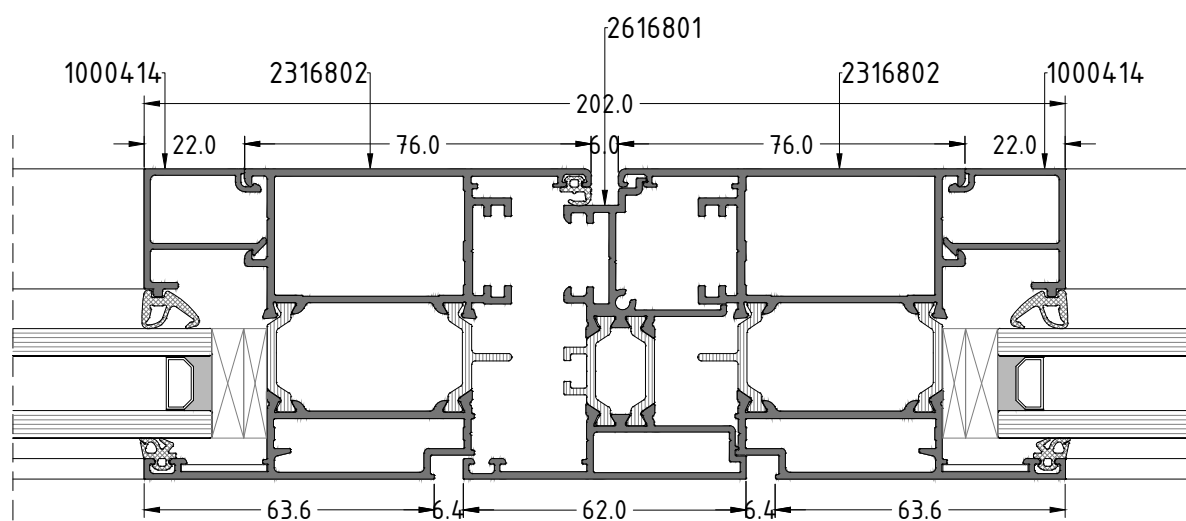
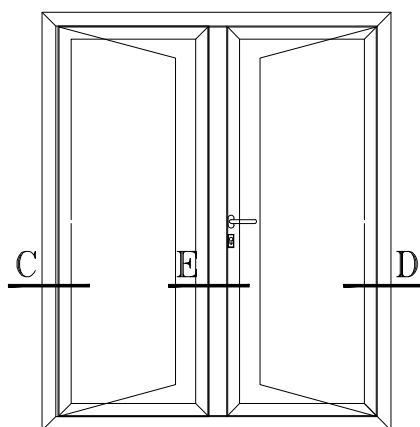
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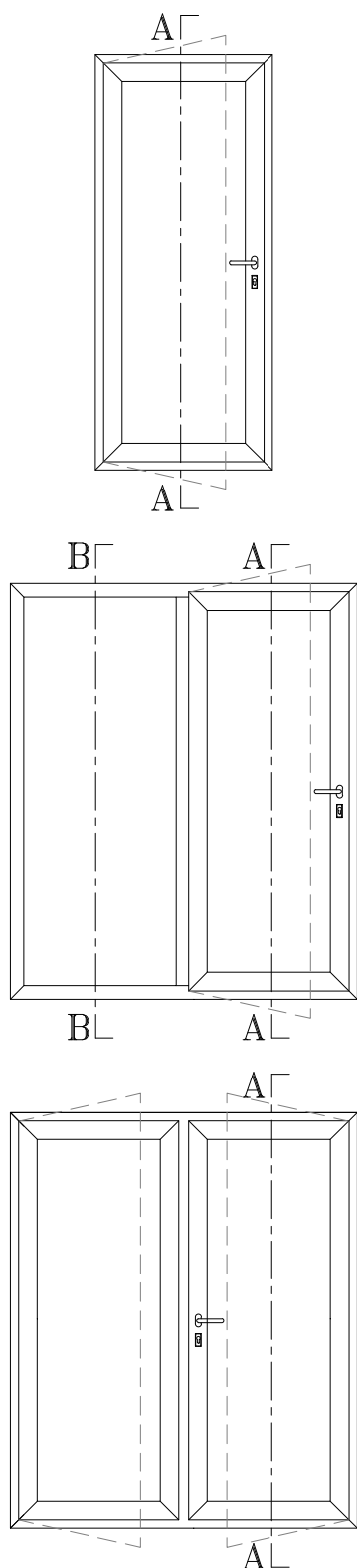
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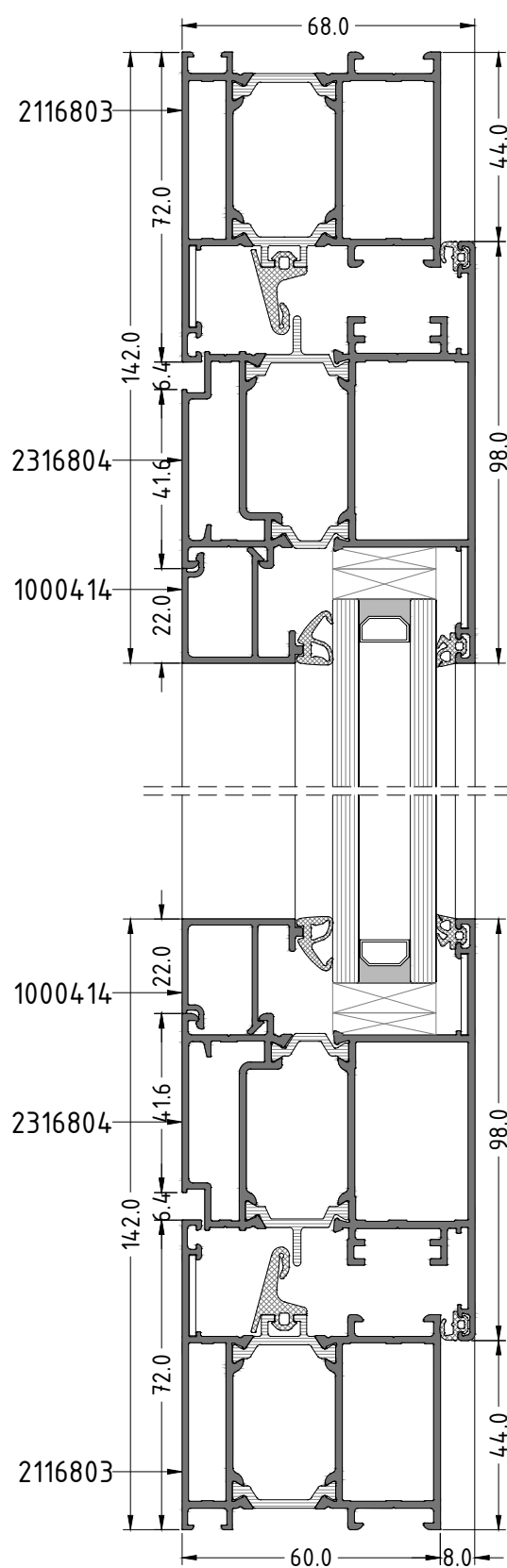
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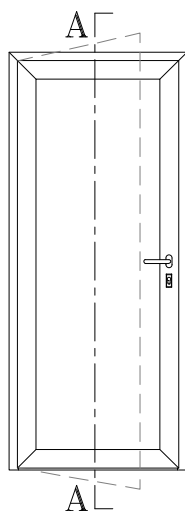


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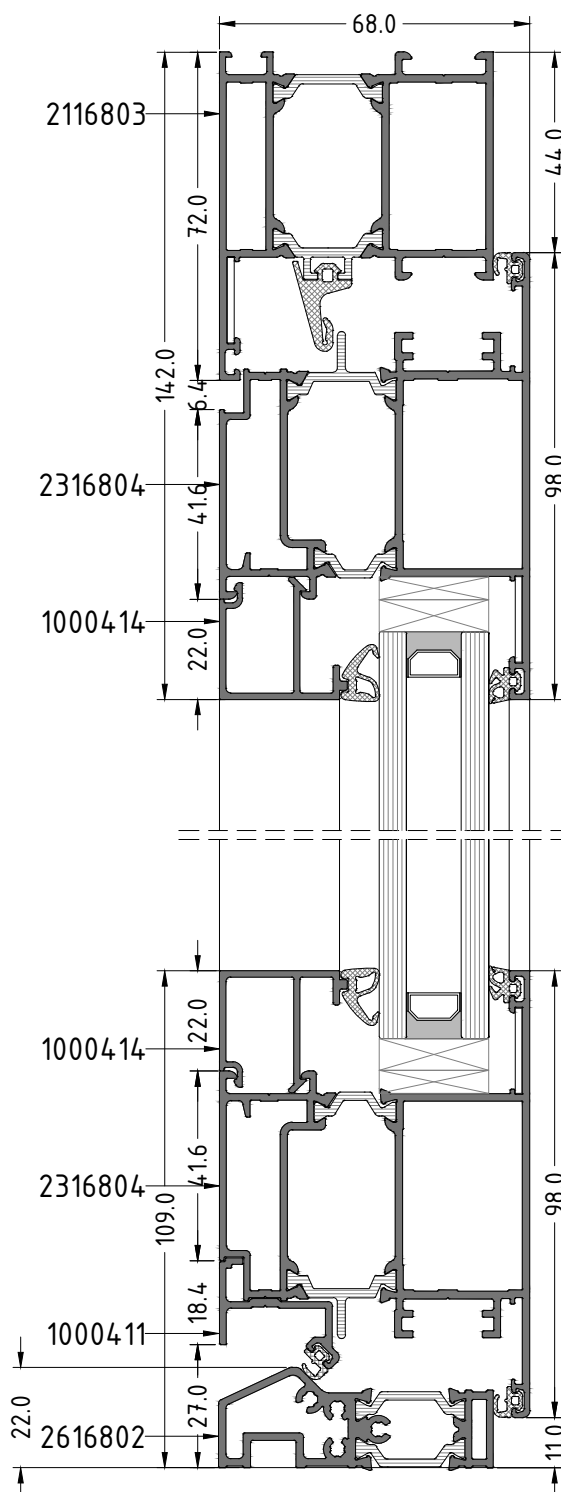


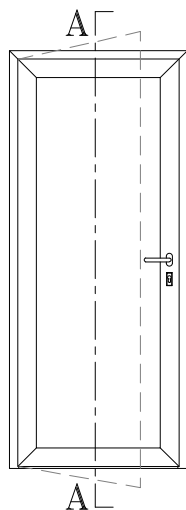
Section A-A



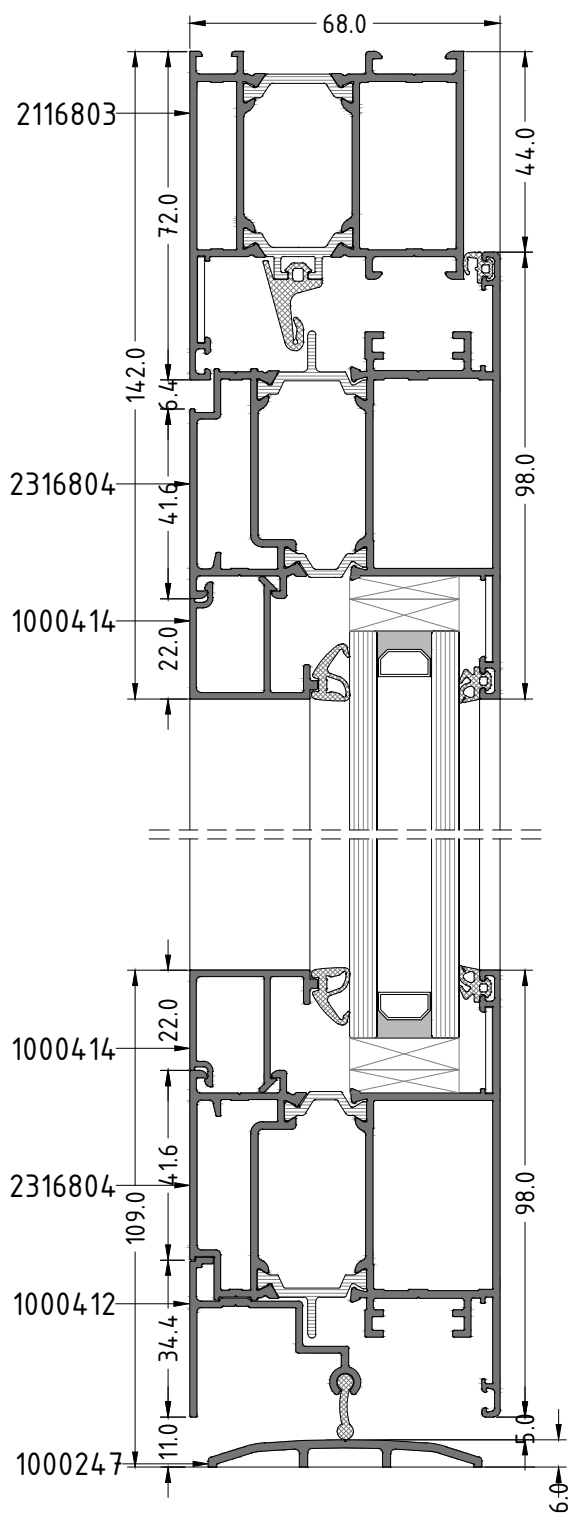


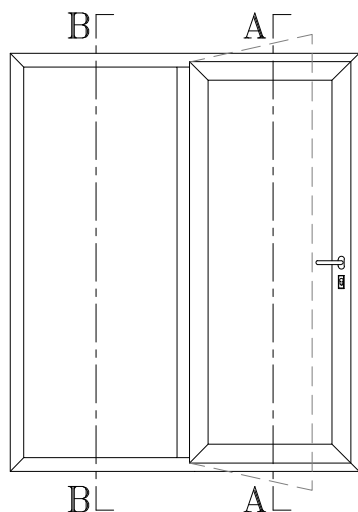
Section A-A



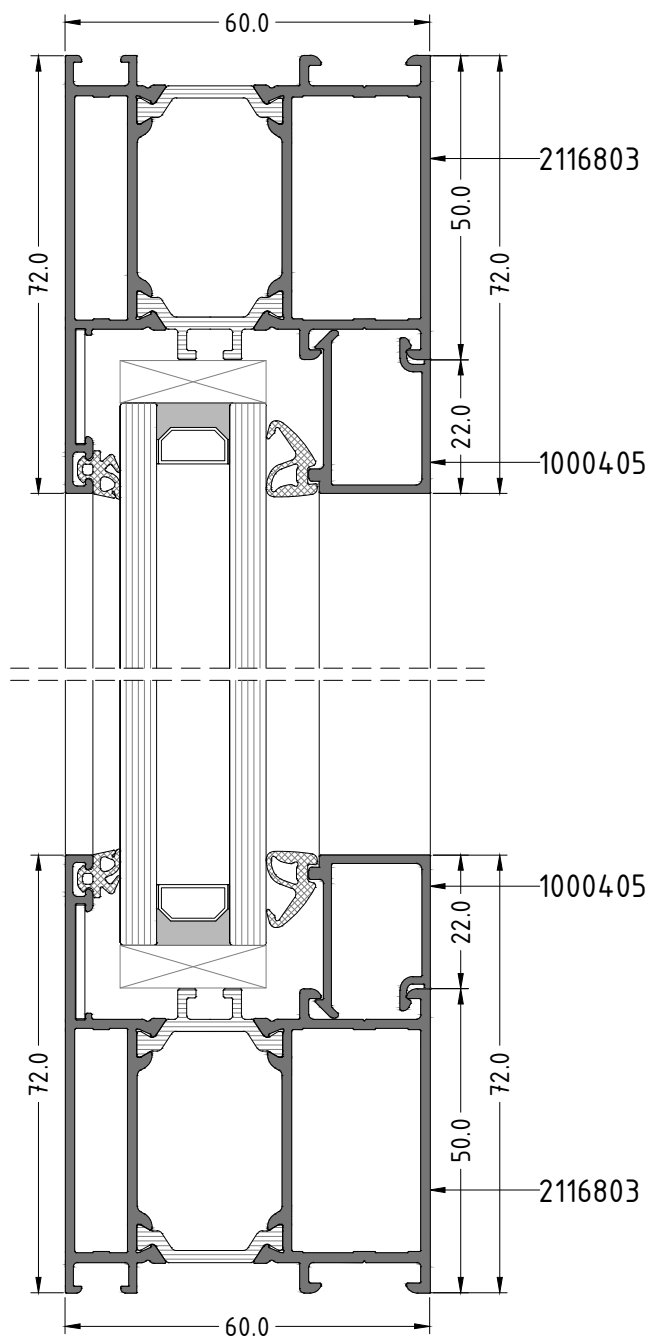


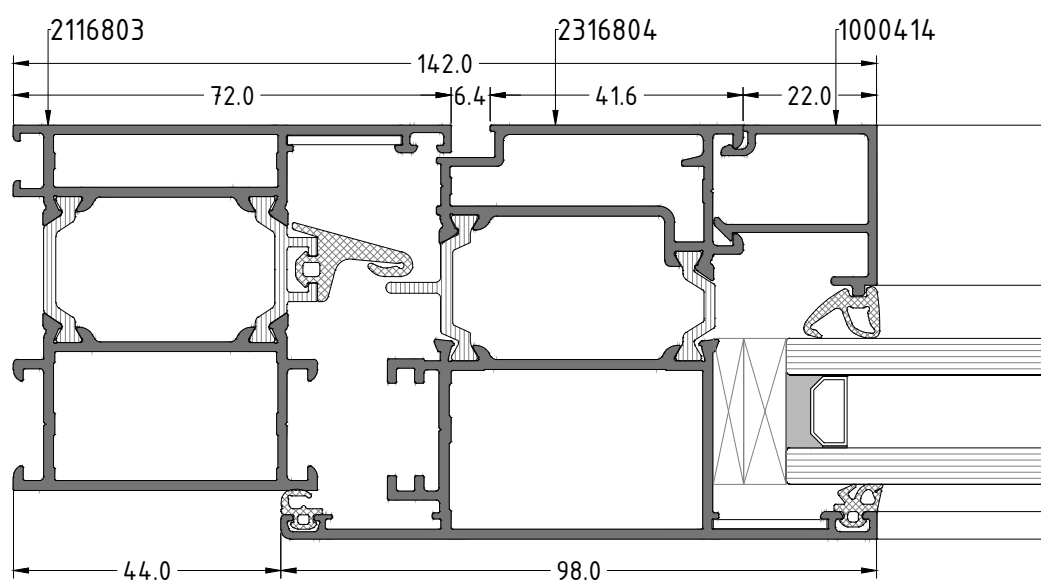
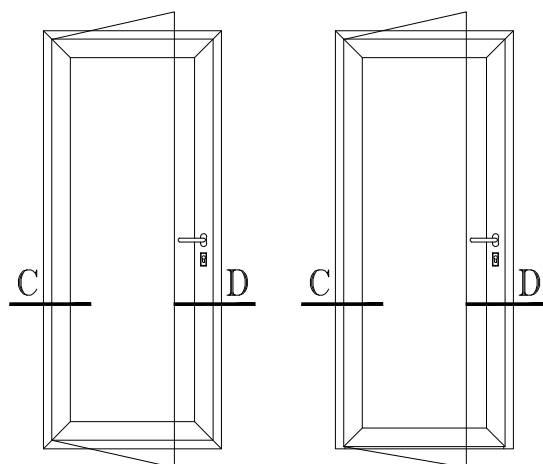
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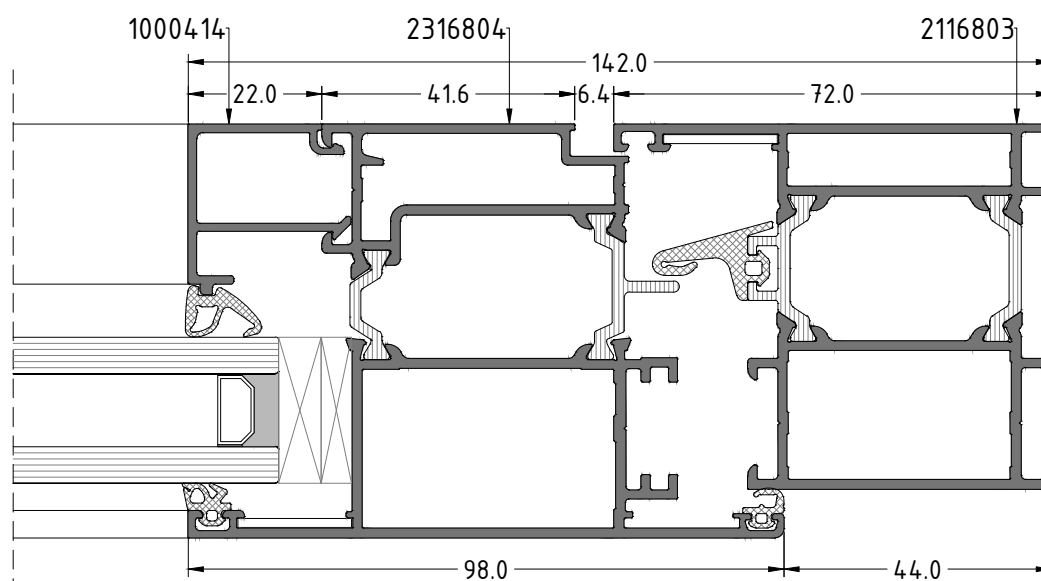


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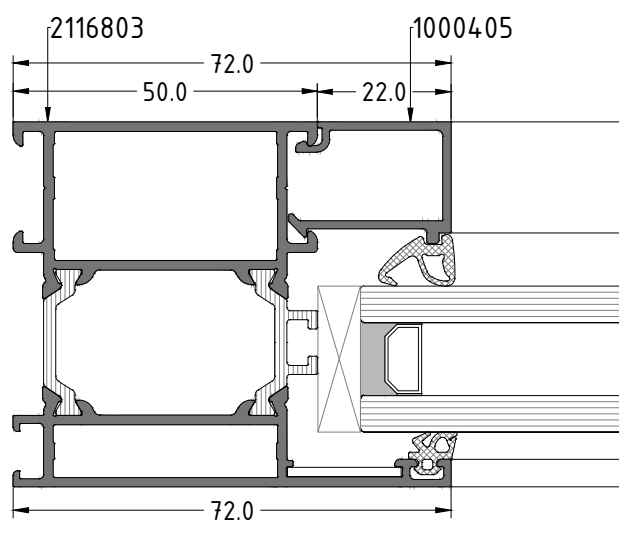
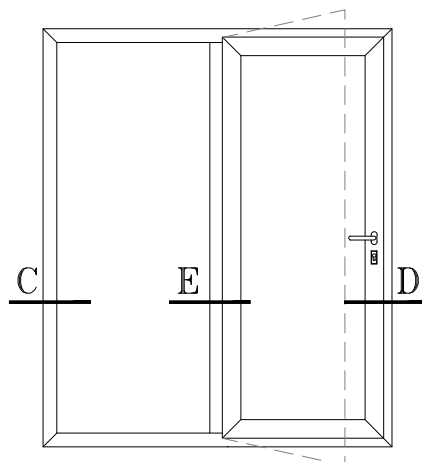




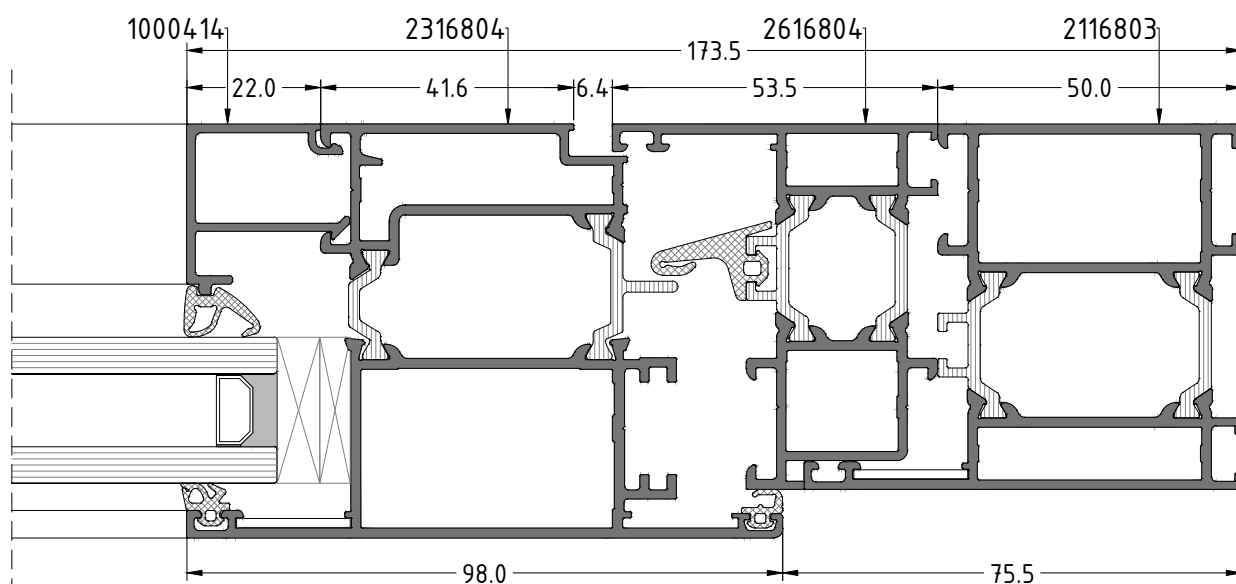
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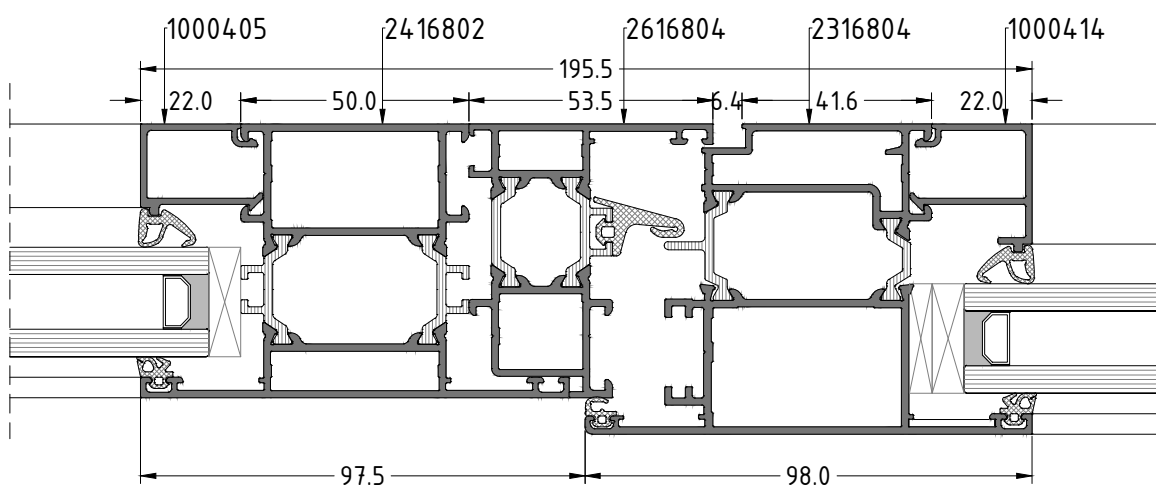
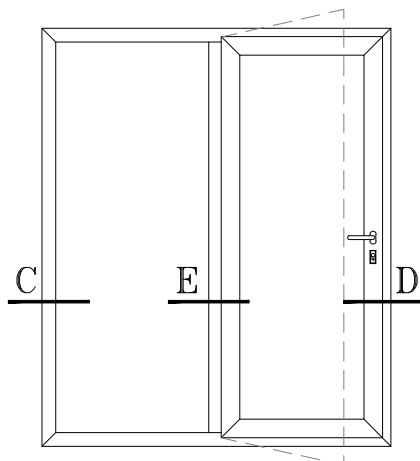
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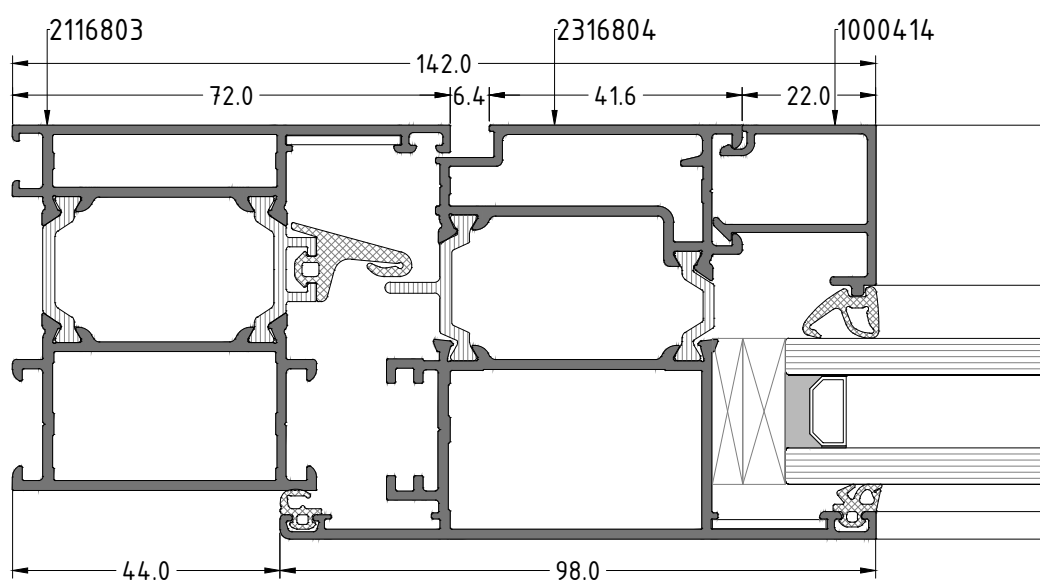
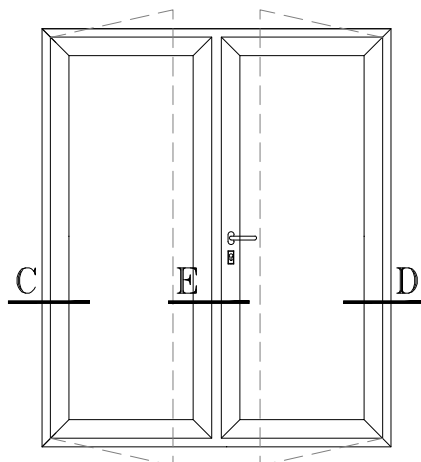
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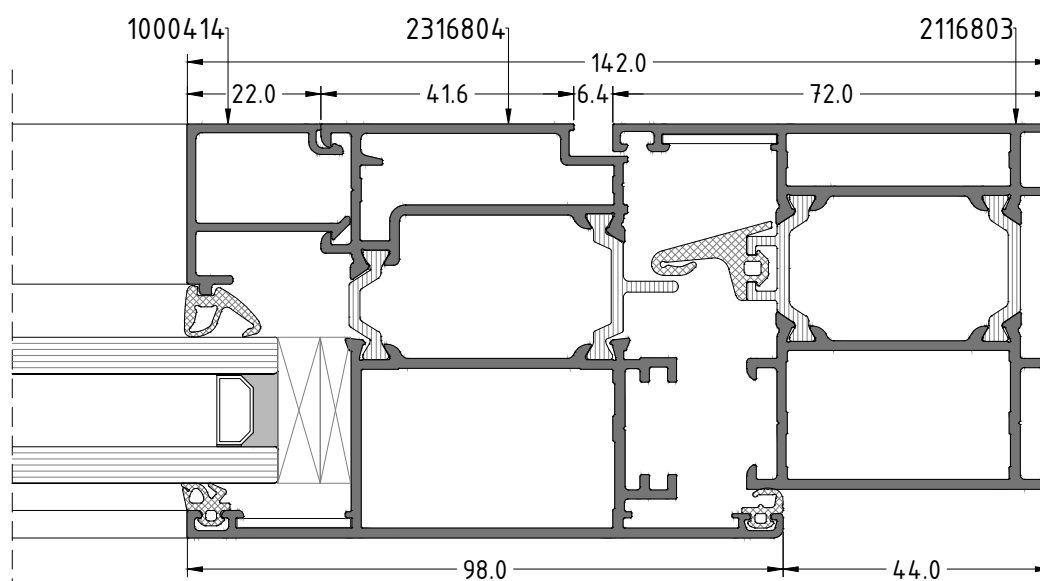
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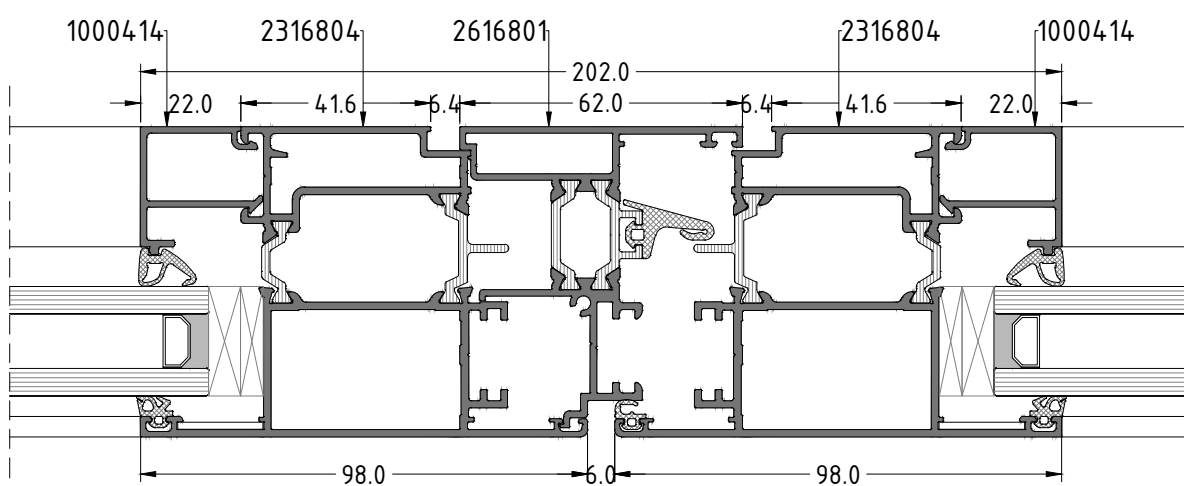
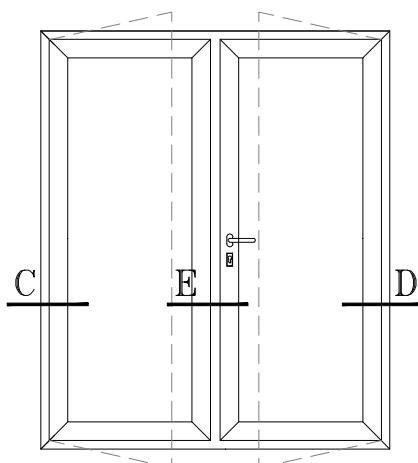
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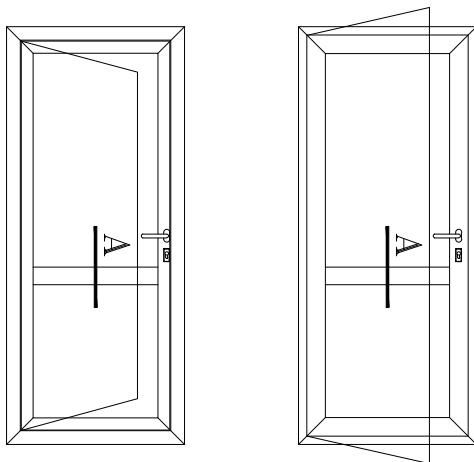
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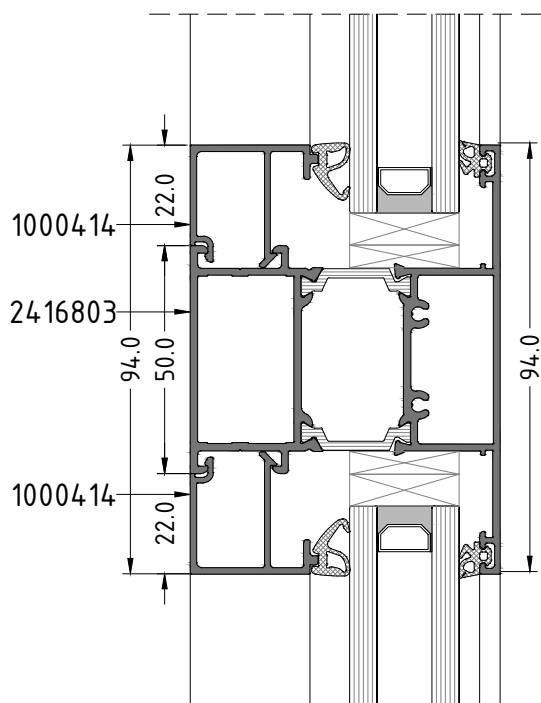
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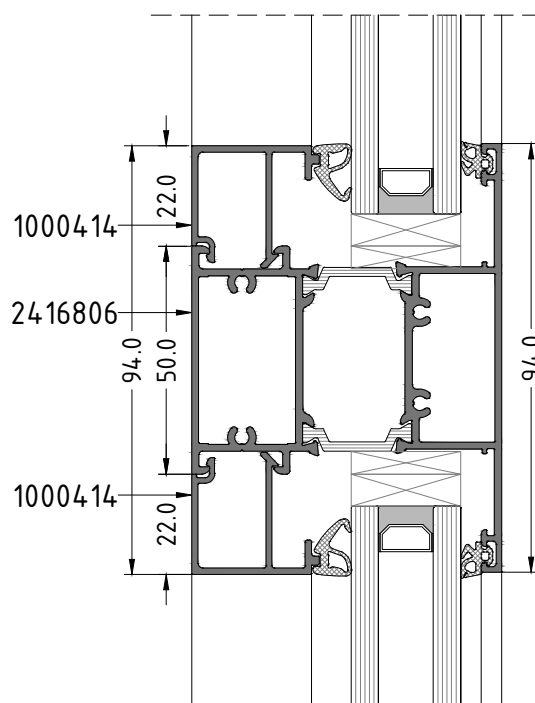
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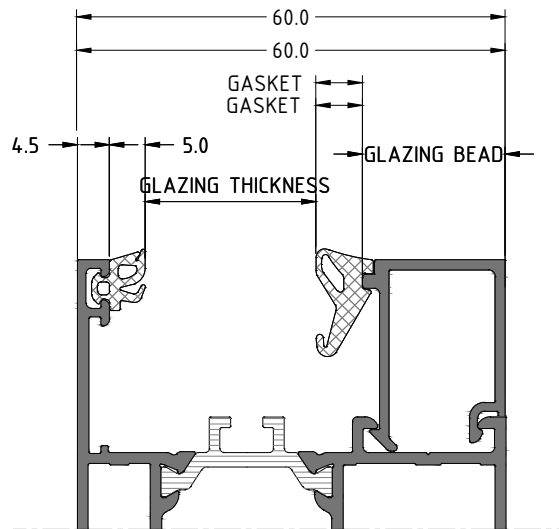
Section A



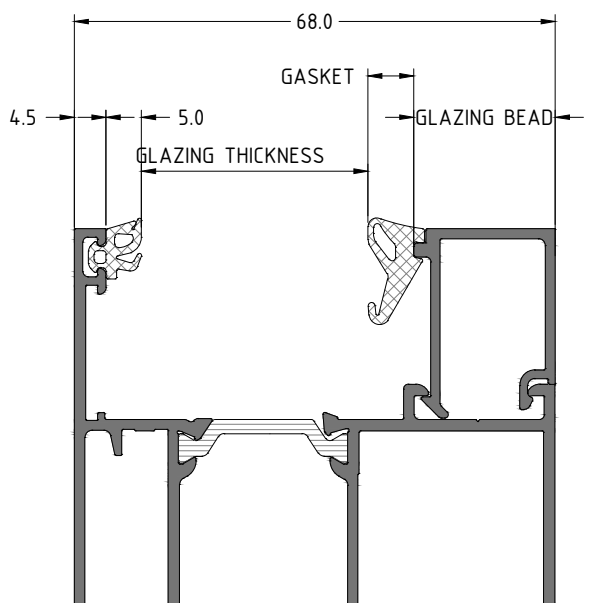
Option 1



Option 2



GLAZING THICKNESS	OUTER GLAZING GASKET	INNER GLAZING GASKET	INNER GLAZING GASKET TICK.	GLAZING BEAD PROFILE	GLAZING BEAD DEPTH
4mm.	7001001	7001062	10.5 mm.	1000467	36mm.
6mm.	7001001	7001002	8.5 mm.	1000467	36mm.
8mm.	7001001	7001005	6.5 mm.	1000467	36mm.
10mm.	7001001	7001034	4.5 mm.	1000467	36mm.
12mm.	7001001	7001062	10.5 mm.	1000414	28mm.
14mm.	7001001	7001002	8.5 mm.	1000414	28mm.
16mm.	7001001	7001005	6.5 mm.	1000414	28mm.
18mm.	7001001	7001034	4.5 mm.	1000414	28mm.
20mm.	7001001	7001062	10.5 mm.	1000405	20mm.
22mm.	7001001	7001002	8.5 mm.	1000405	20mm.
24mm.	7001001	7001005	6.5 mm.	1000405	20mm.
26mm.	7001001	7001034	4.5 mm.	1000405	20mm.
28mm.	7001001	7001062	10.5 mm.	1000409	12mm.
30mm.	7001001	7001002	8.5 mm.	1000409	12mm.
32mm.	7001001	7001005	6.5 mm.	1000409	12mm.
34mm.	7001001	7001034	4.5 mm.	1000409	12mm.
36mm.	7001001	7001062	10.5 mm.	1000466	4mm.
38mm.	7001001	7001002	8.5 mm.	1000466	4mm.
40mm.	7001001	7001005	6.5 mm.	1000466	4mm.
42mm.	7001001	7001034	4.5 mm.	1000466	4mm.



GLAZING THICKNESS	OUTER GLAZING GASKET	INNER GLAZING GASKET	INNER GLAZING GASKET TICK.	GLAZING BEAD PROFILE	GLAZING BEAD DEPTH
12mm.	7001001	7001062	10.5 mm.	1000467	36mm.
14mm.	7001001	7001002	8.5 mm.	1000467	36mm.
16mm.	7001001	7001005	6.5 mm.	1000467	36mm.
18mm.	7001001	7001034	4.5 mm.	1000467	36mm.
20mm.	7001001	7001062	10.5 mm.	1000414	28mm.
22mm.	7001001	7001002	8.5 mm.	1000414	28mm.
24mm.	7001001	7001005	6.5 mm.	1000414	28mm.
26mm.	7001001	7001034	4.5 mm.	1000414	28mm.
28mm.	7001001	7001062	10.5 mm.	1000405	20mm.
30mm.	7001001	7001002	8.5 mm.	1000405	20mm.
32mm.	7001001	7001005	6.5 mm.	1000405	20mm.
34mm.	7001001	7001034	4.5 mm.	1000405	20mm.
36mm.	7001001	7001062	10.5 mm.	1000409	12mm.
38mm.	7001001	7001002	8.5 mm.	1000409	12mm.
40mm.	7001001	7001005	6.5 mm.	1000409	12mm.
42mm.	7001001	7001034	4.5 mm.	1000409	12mm.