

1. GENERALE

- 1.1 Profili principali
- 1.2 Profili complementari
- 1.3 Profili quotati
- 1.4 Tipologia di porte e finestre

2. PRODUZIONE

- 2.1 Sezioni
- 2.2 Drenaggio e decompressione
- 2.3 Ferramenta
- 2.4 Tavole di vetratura
- 2.5 Uso degli accessori

3. PRESTAZIONI

- 3.1 Calcolo della pressione del vento
- 3.2 Linee guida per i rinforzi

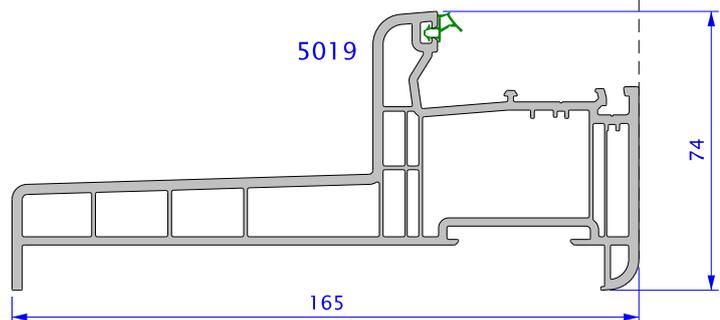
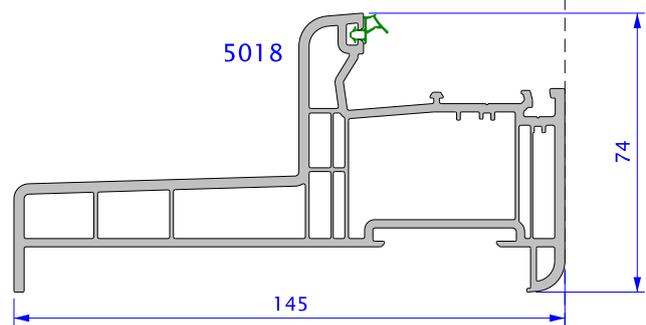
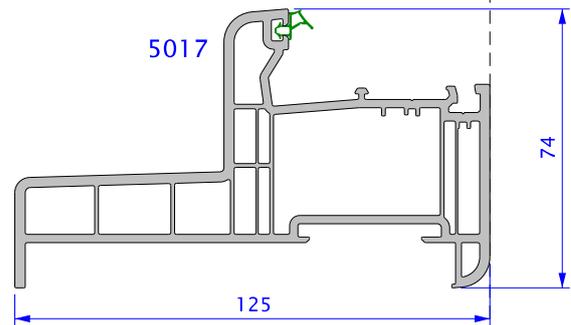
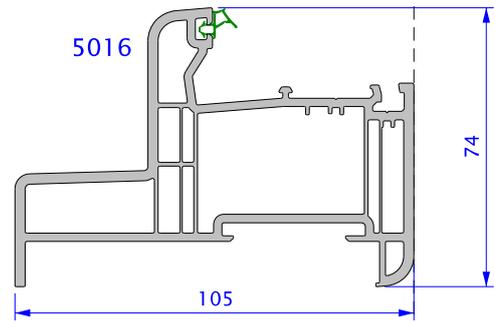
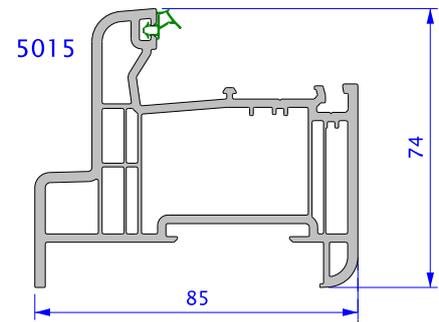
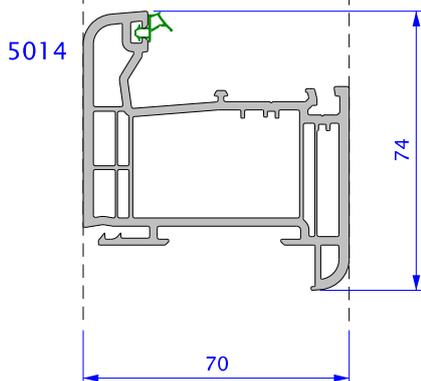
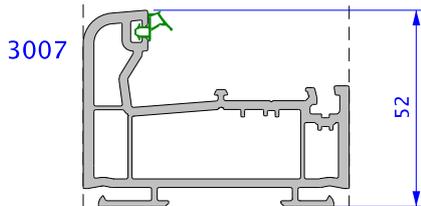
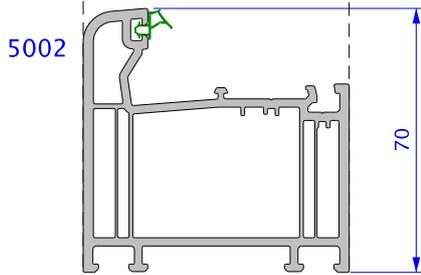
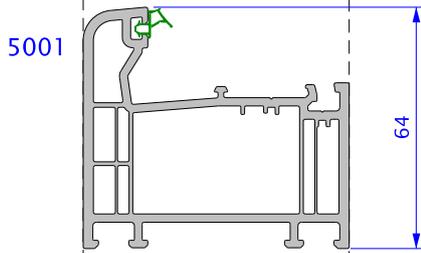
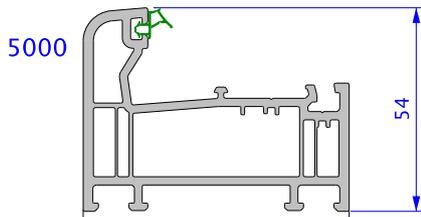
4. LINEE GUIDA GENERALI

- 4.1 Saldatura
- 4.2 Lavorazione dei profili colorati
- 4.3 Inserimento della guarnizione P3299
- 4.4 Lavorazione delle giunzioni meccaniche
- 4.5 Installazione del vetro

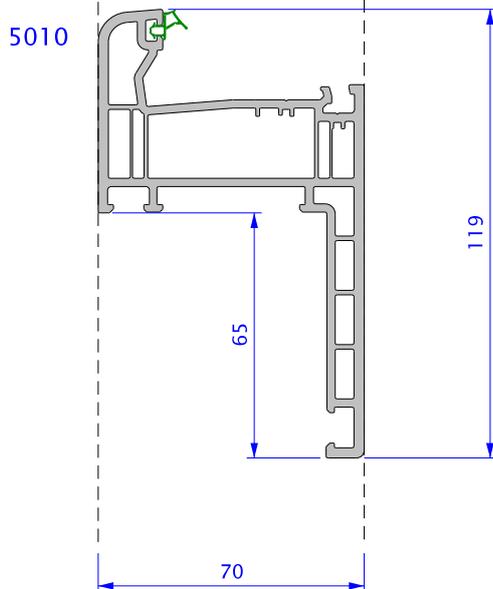
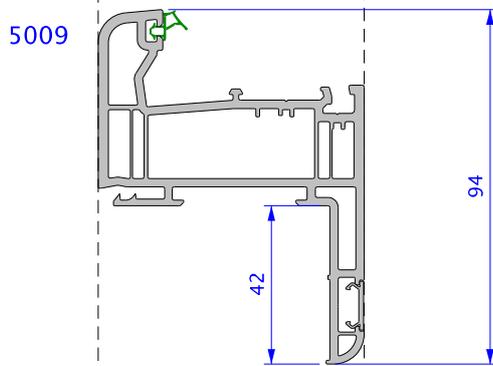
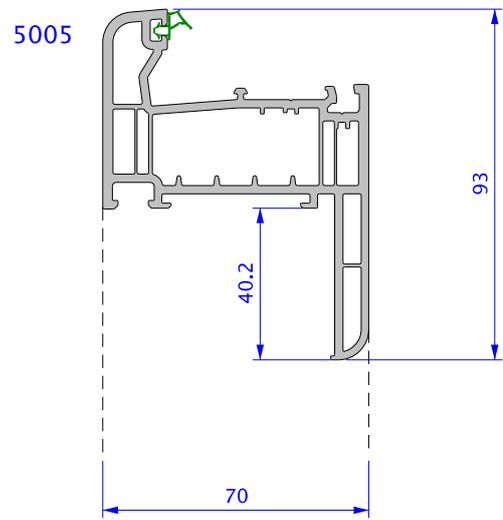
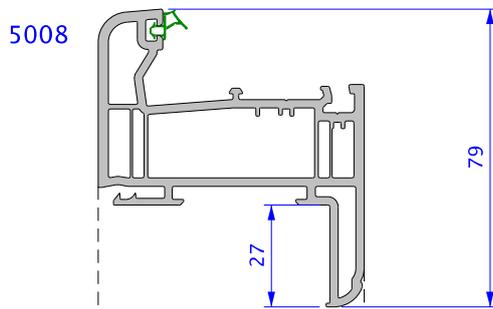
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- Profili principali 1.1**
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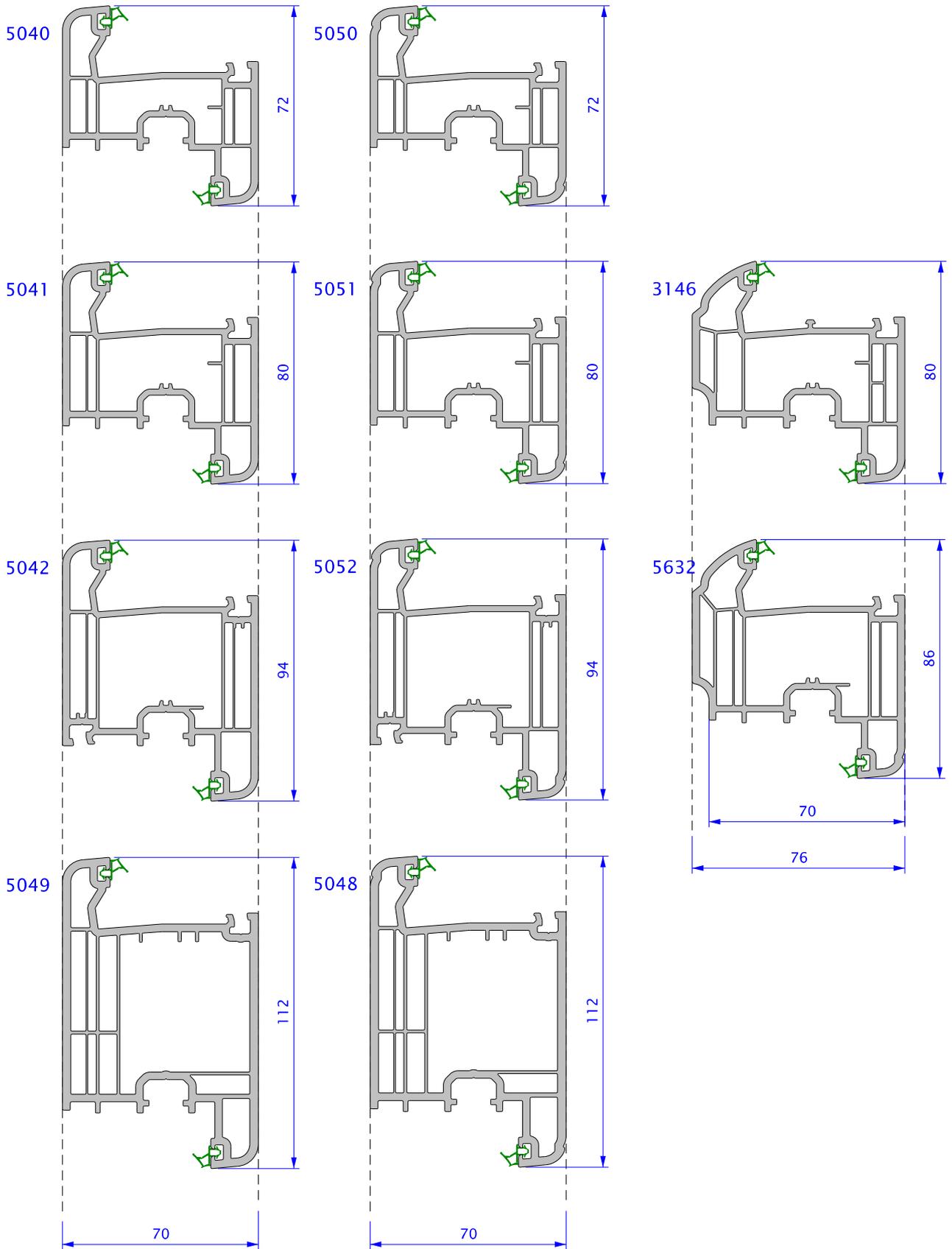
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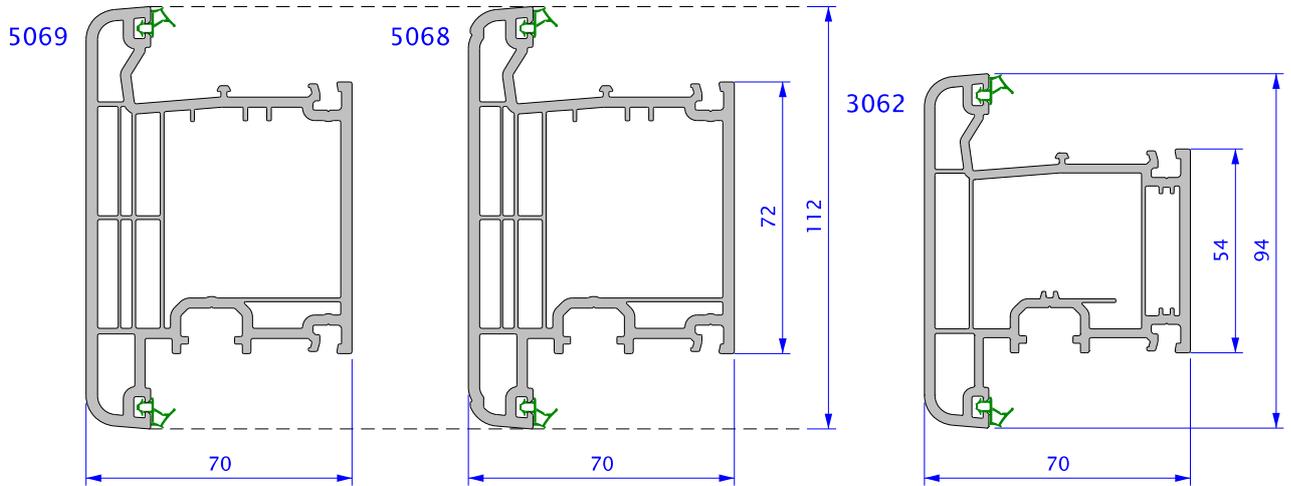
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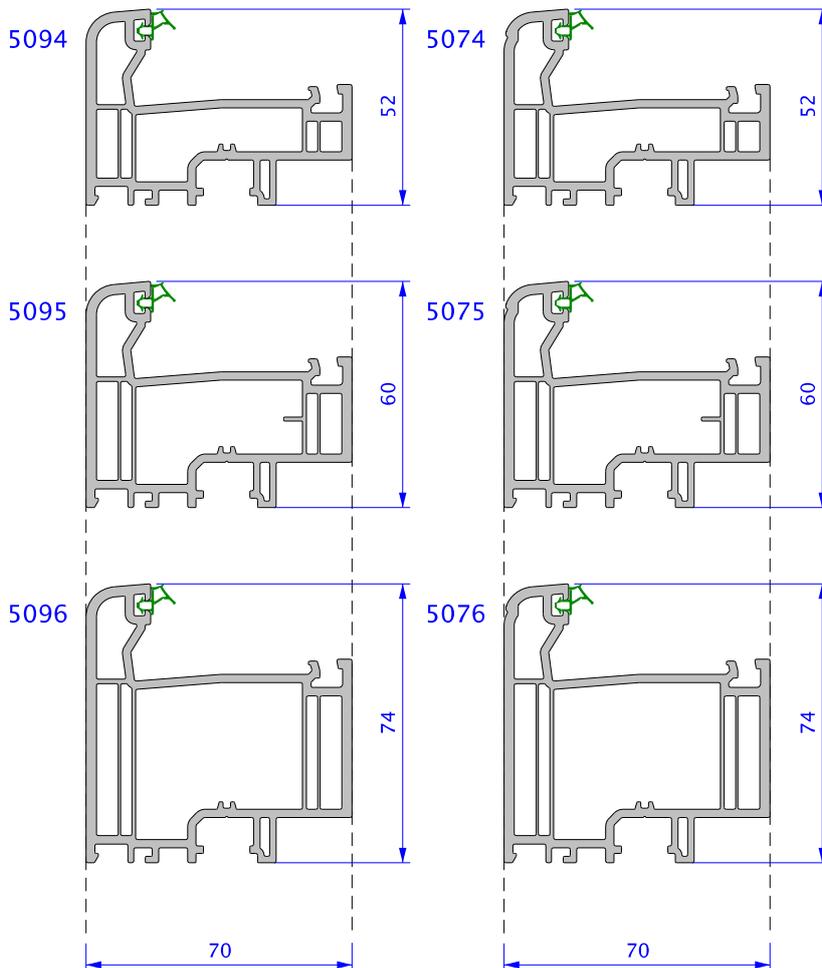
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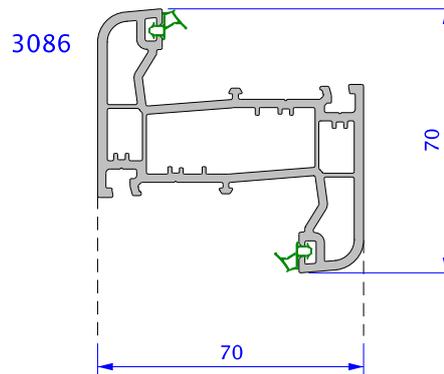
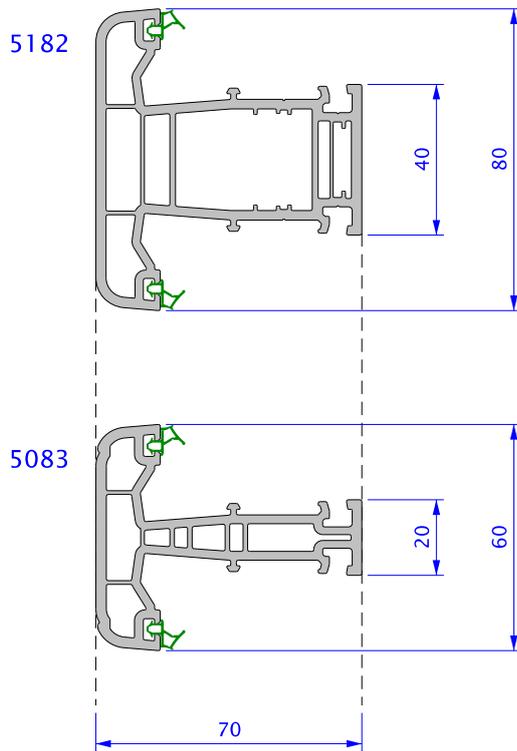
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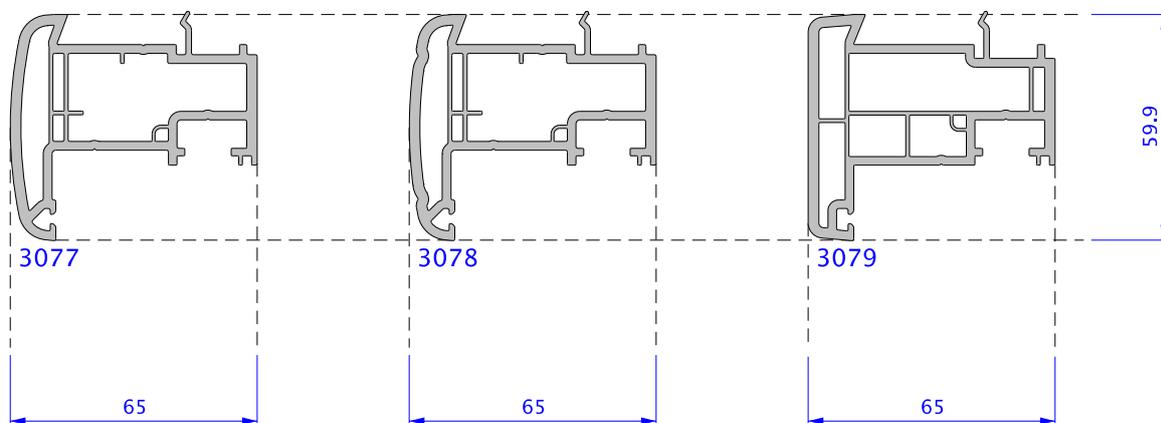
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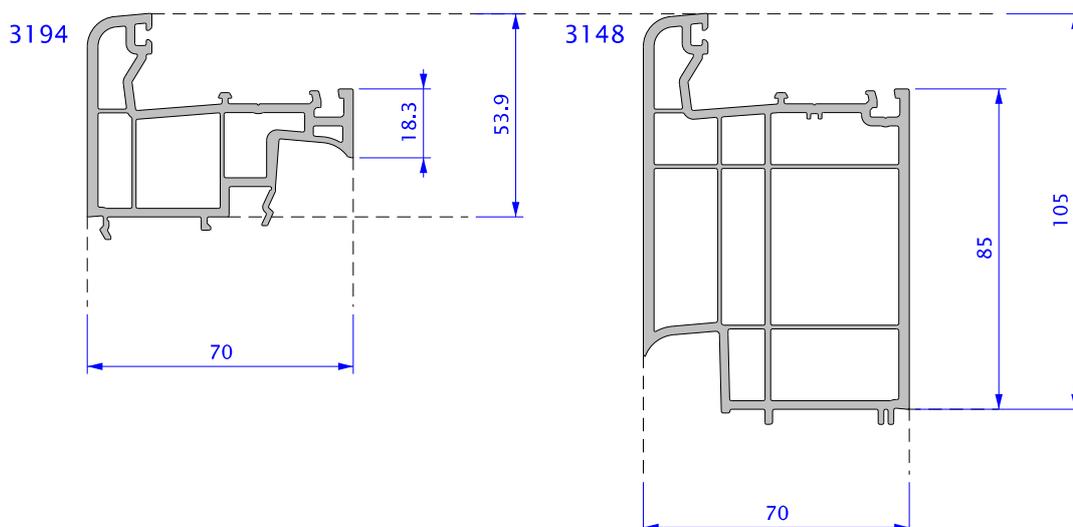
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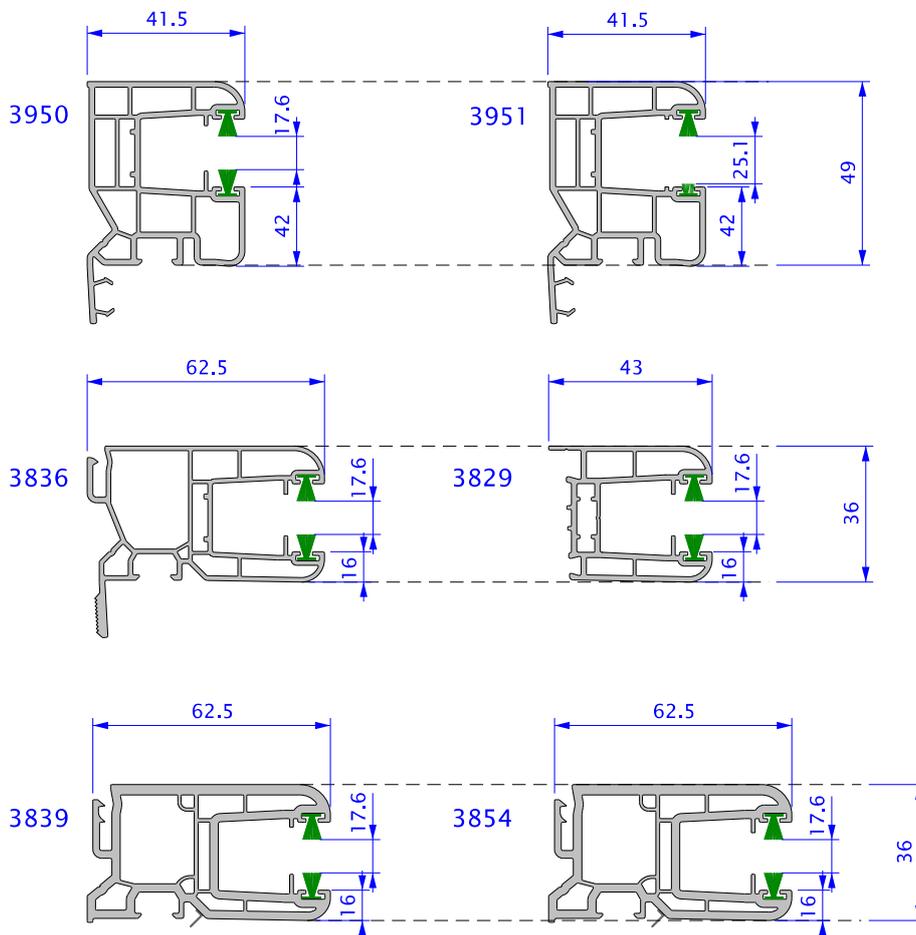
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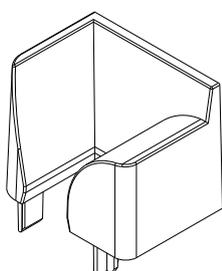
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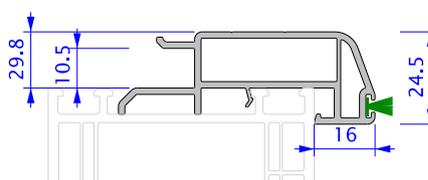
Guide avvolgibili



Accessori



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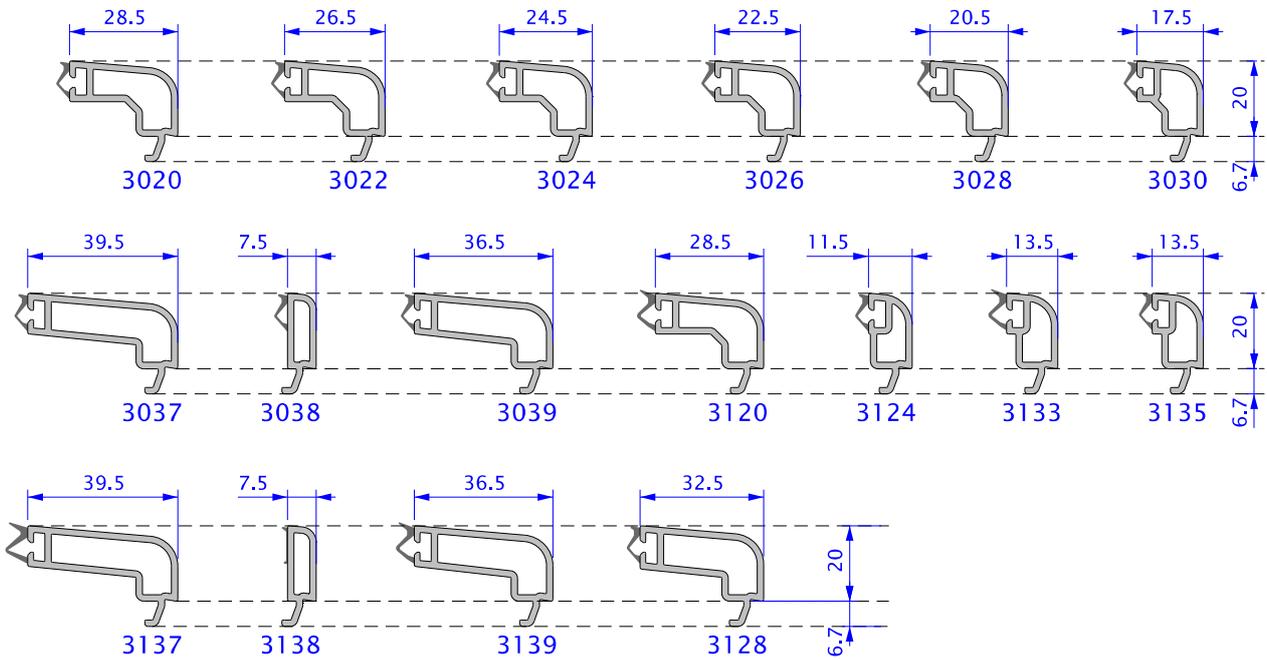


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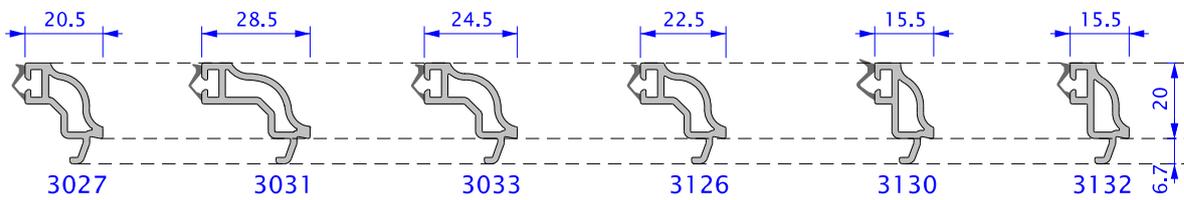
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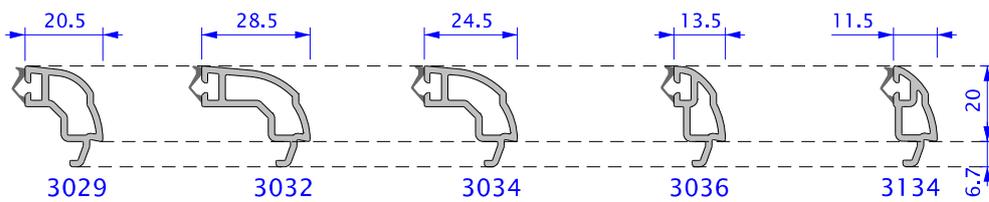
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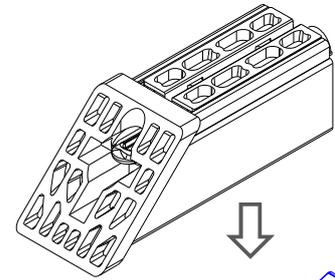
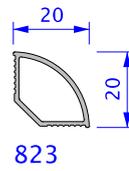
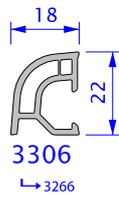
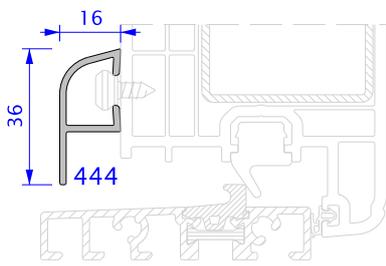
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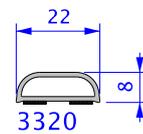
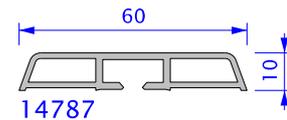
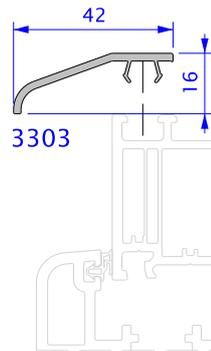
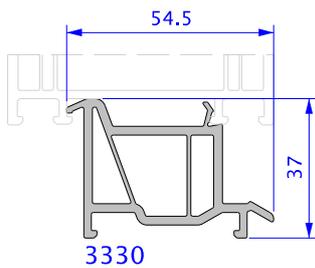
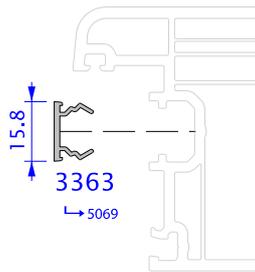
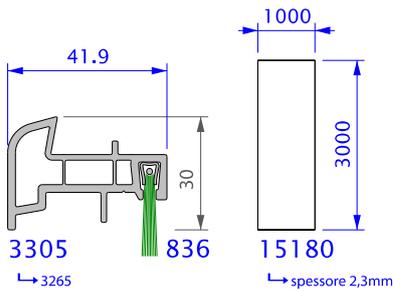
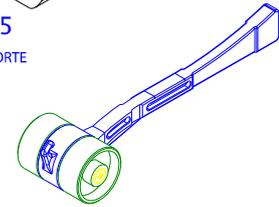
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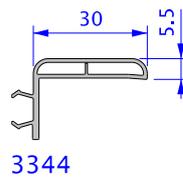
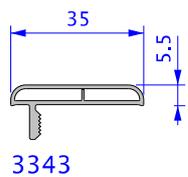
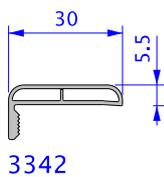
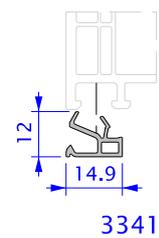
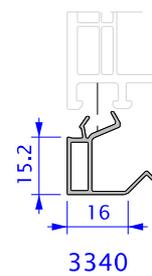
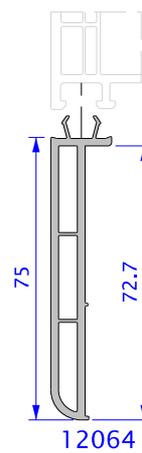
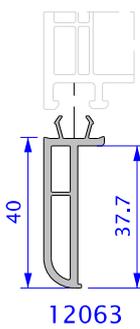
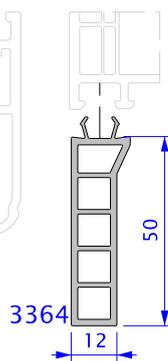
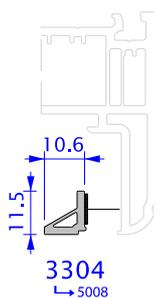
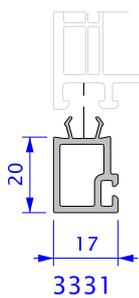
Rifinitura di finestre e porte



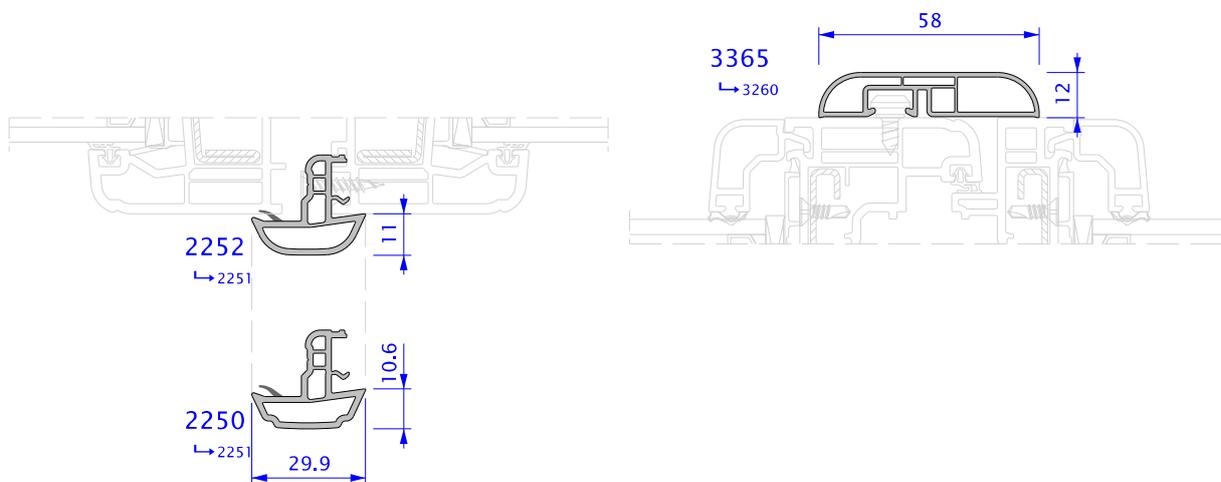
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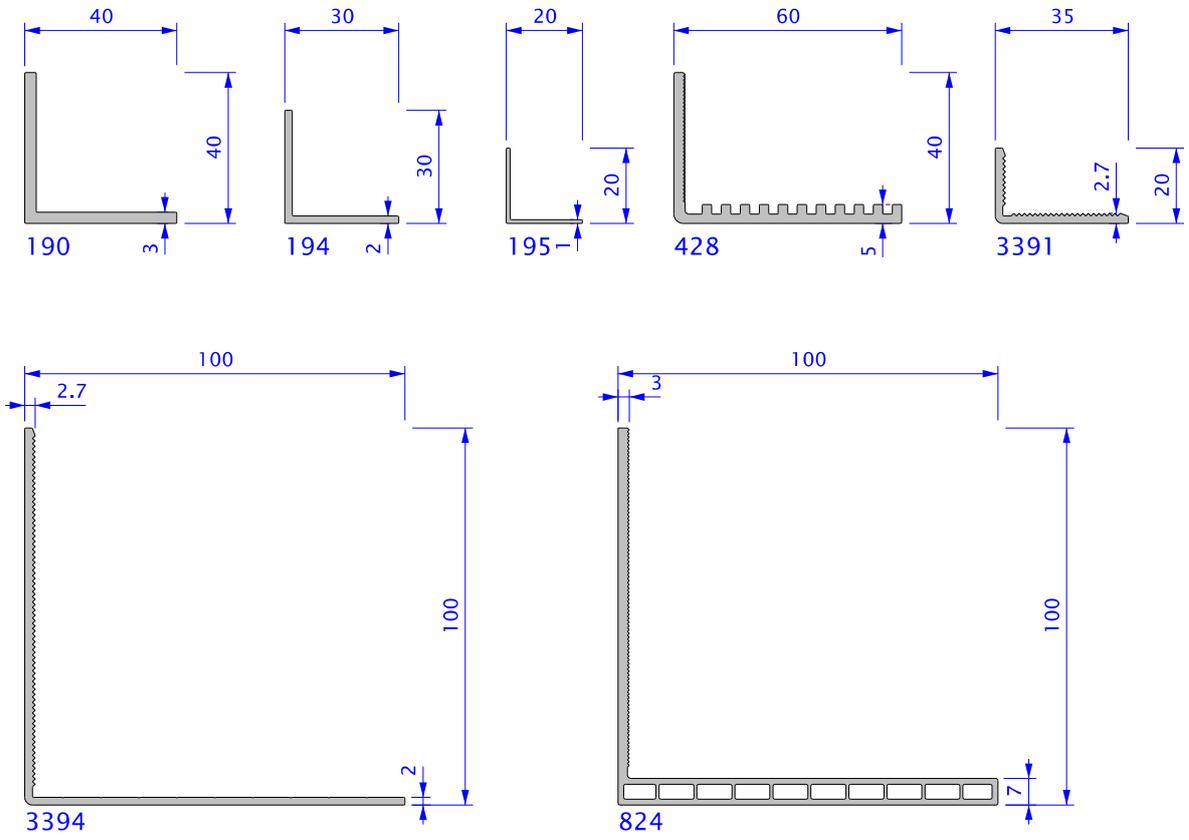
Rifinitura di interni



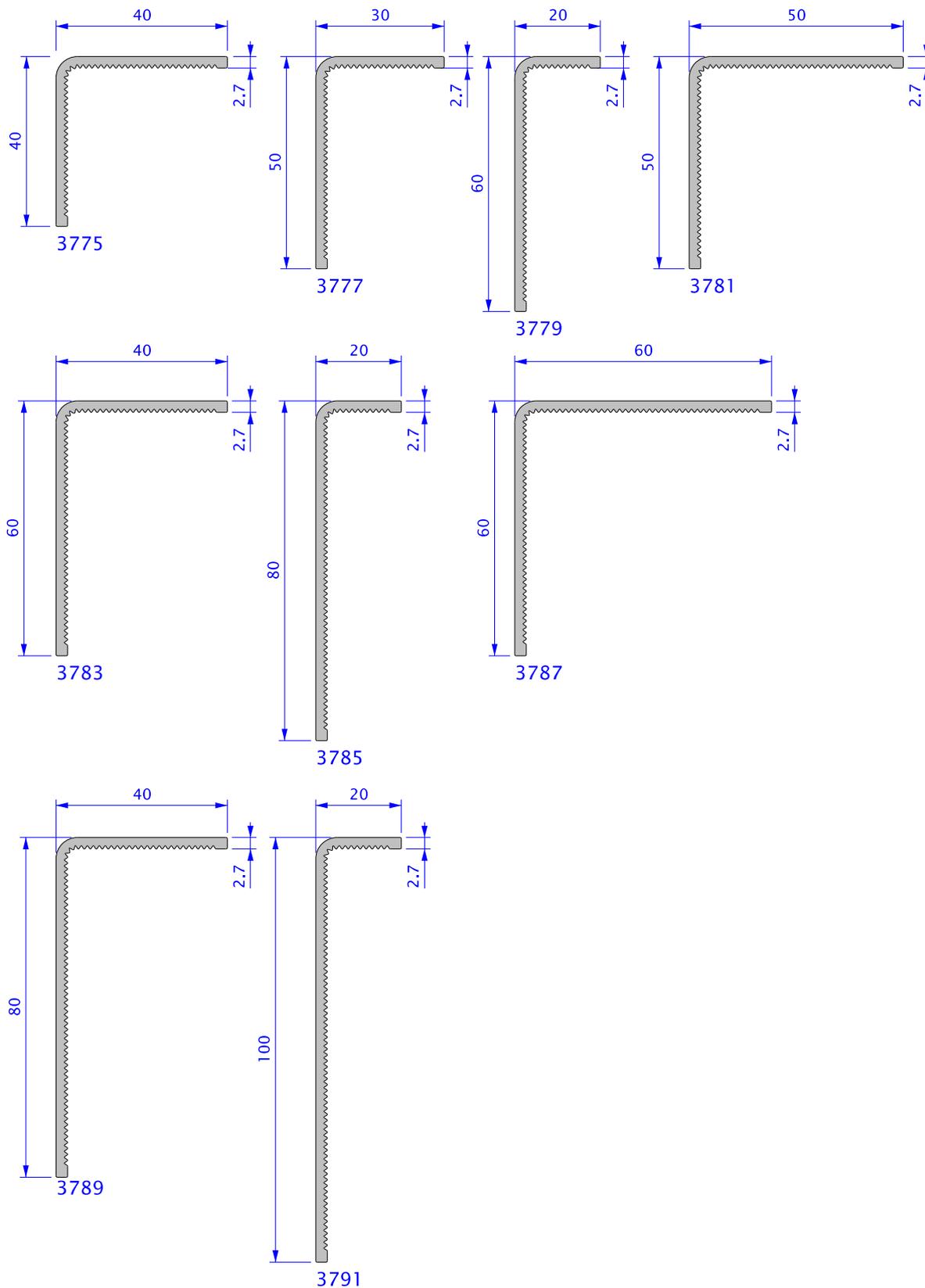
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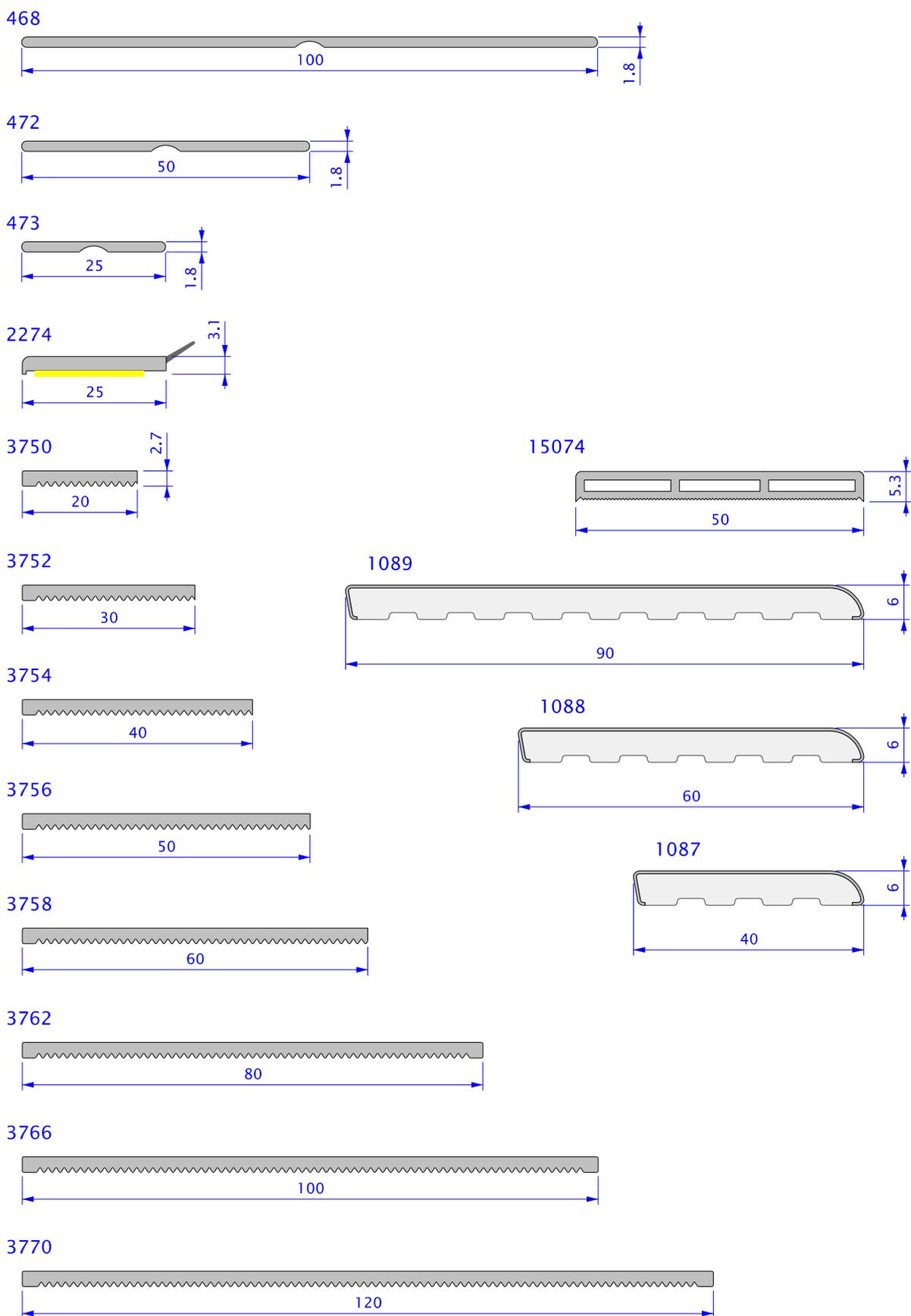
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Angolari

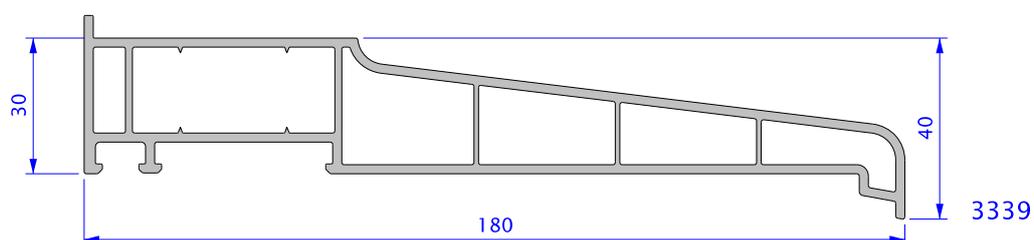
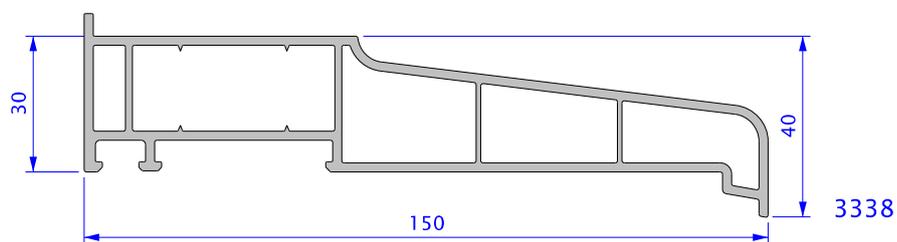
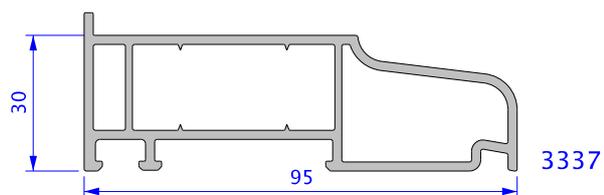
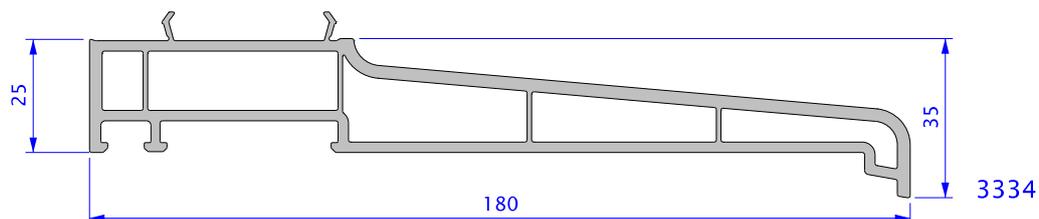
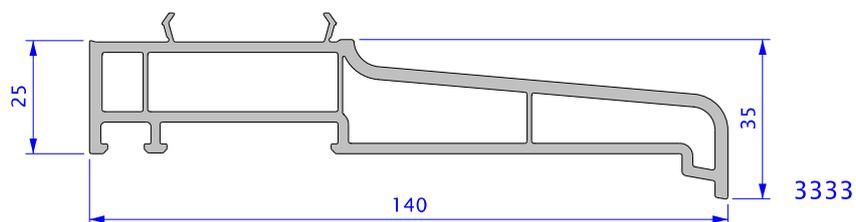
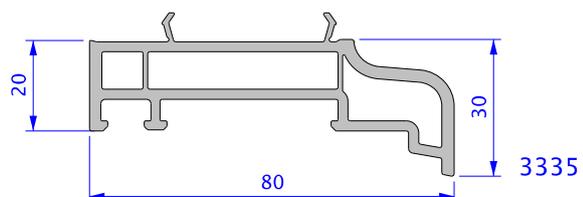
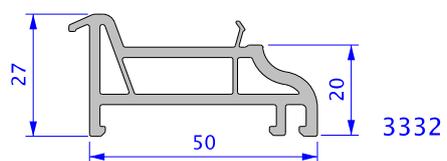


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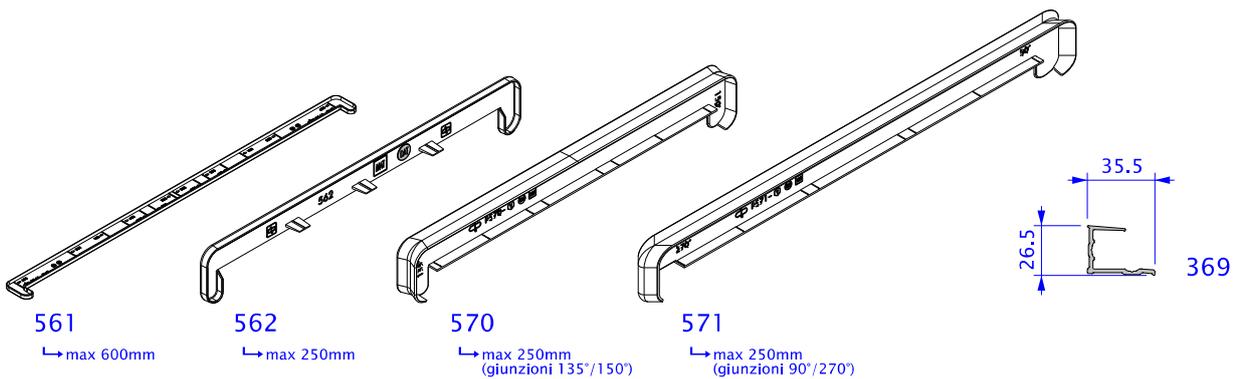
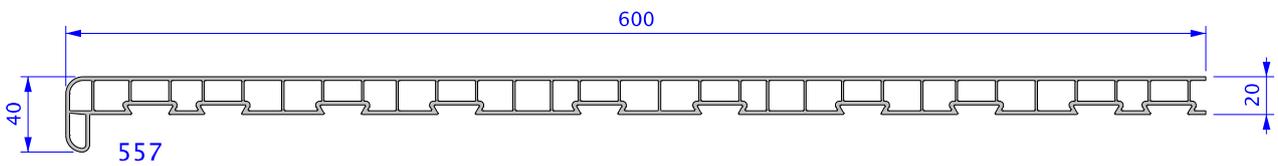
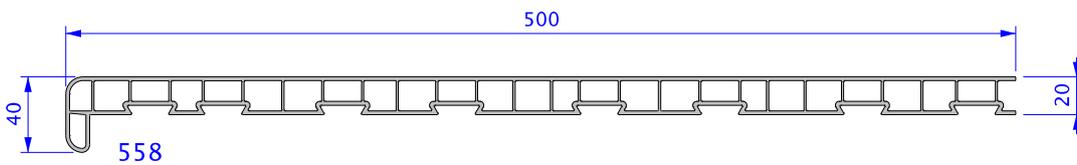
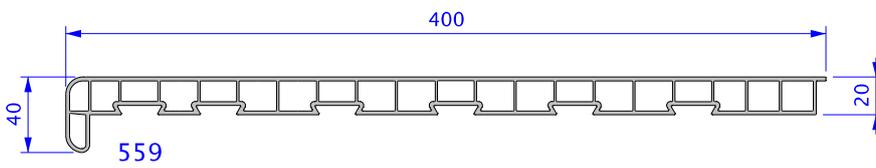
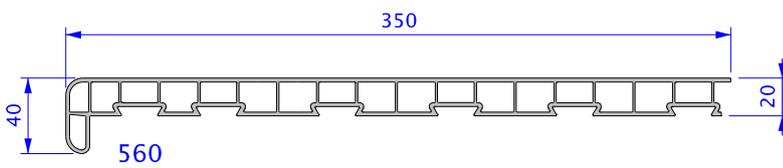
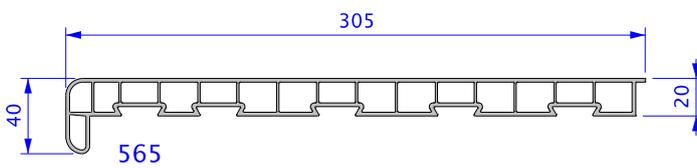
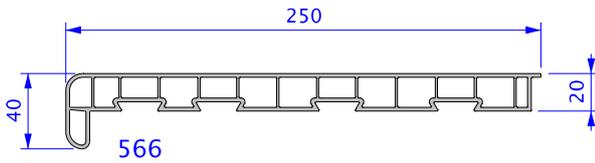
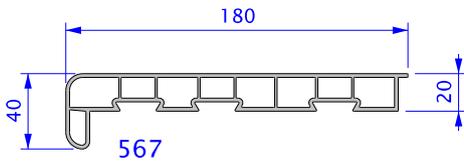


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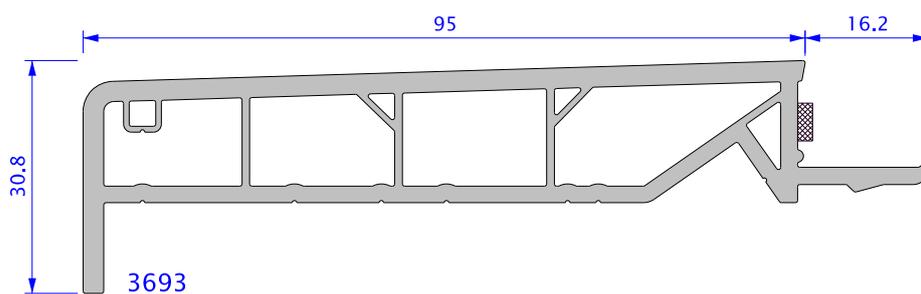
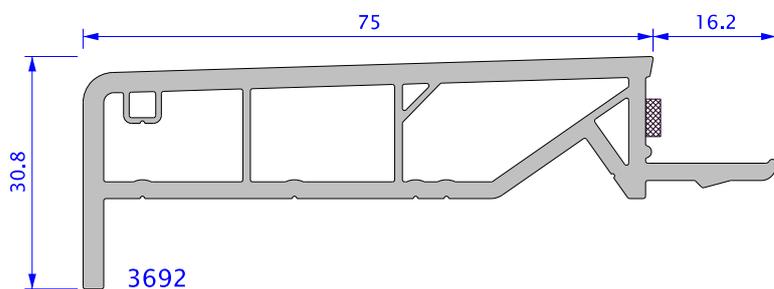
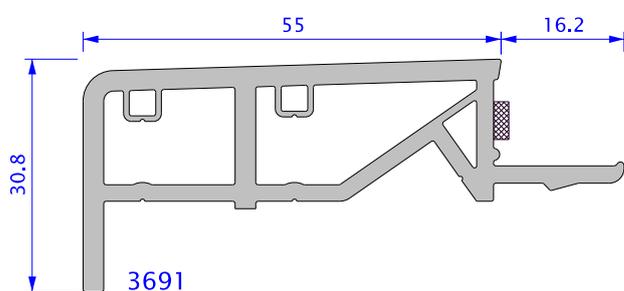
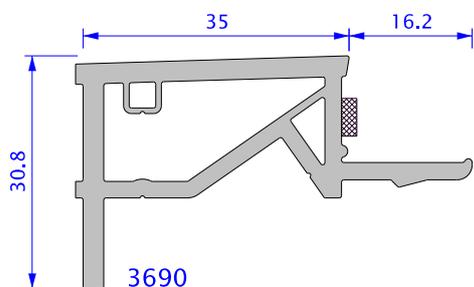
Davanzali



Davanzali interni

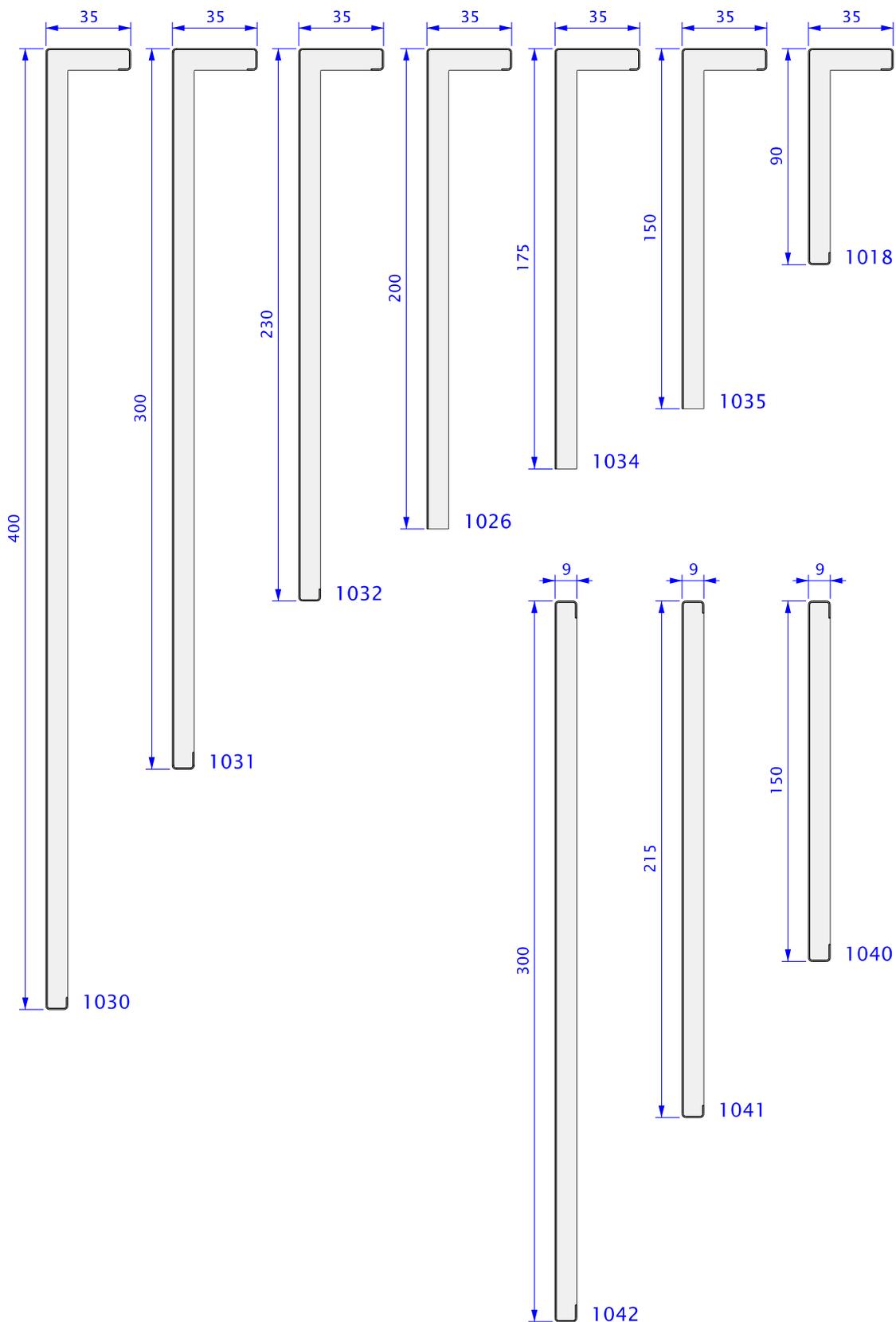


Profili di rifinitura

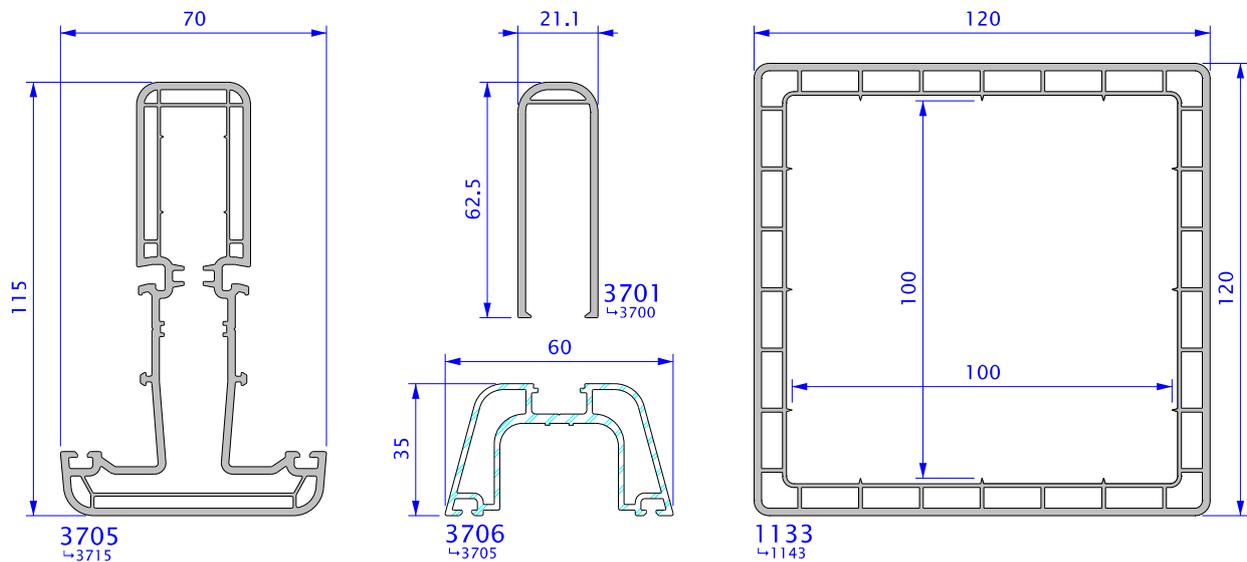
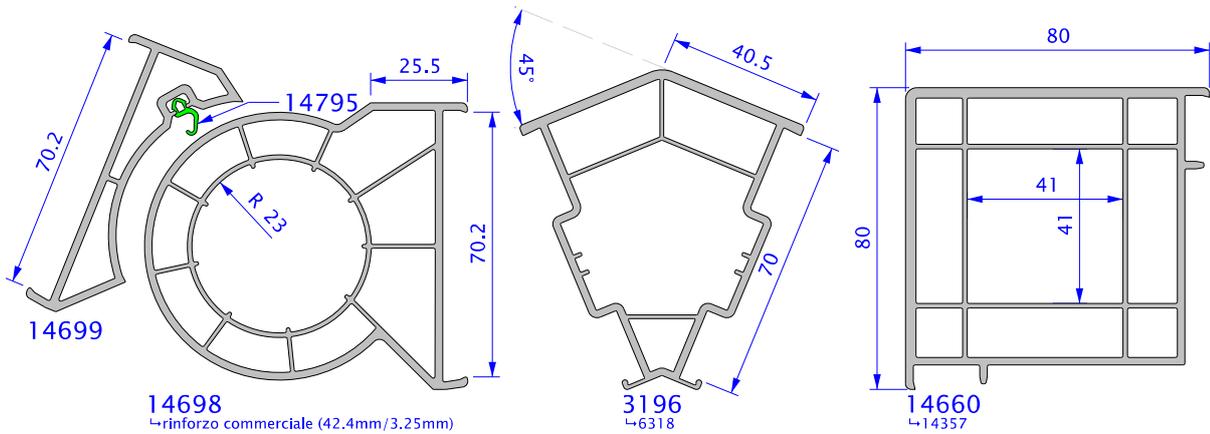
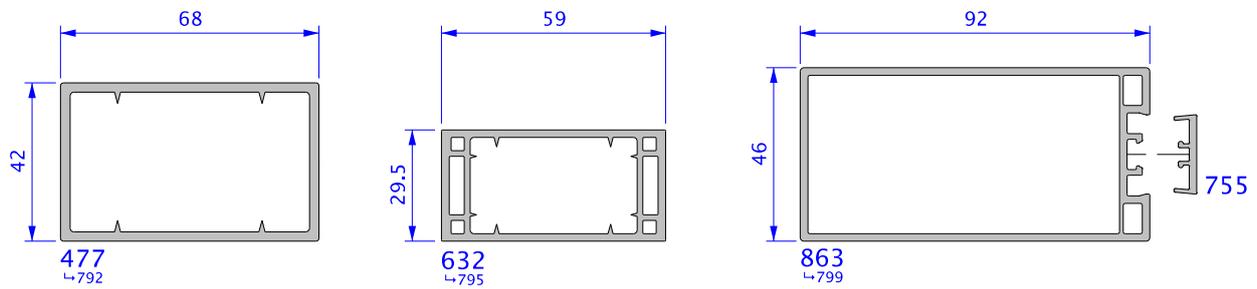
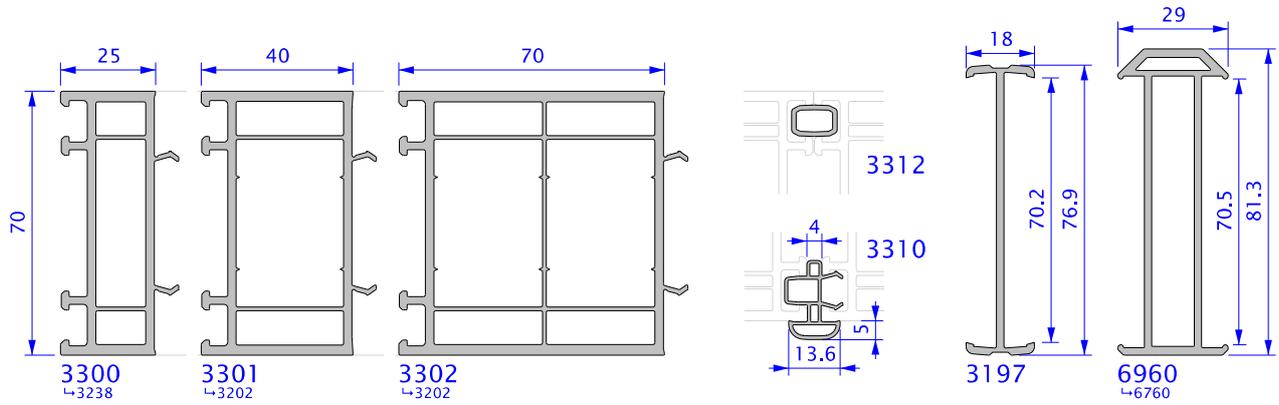


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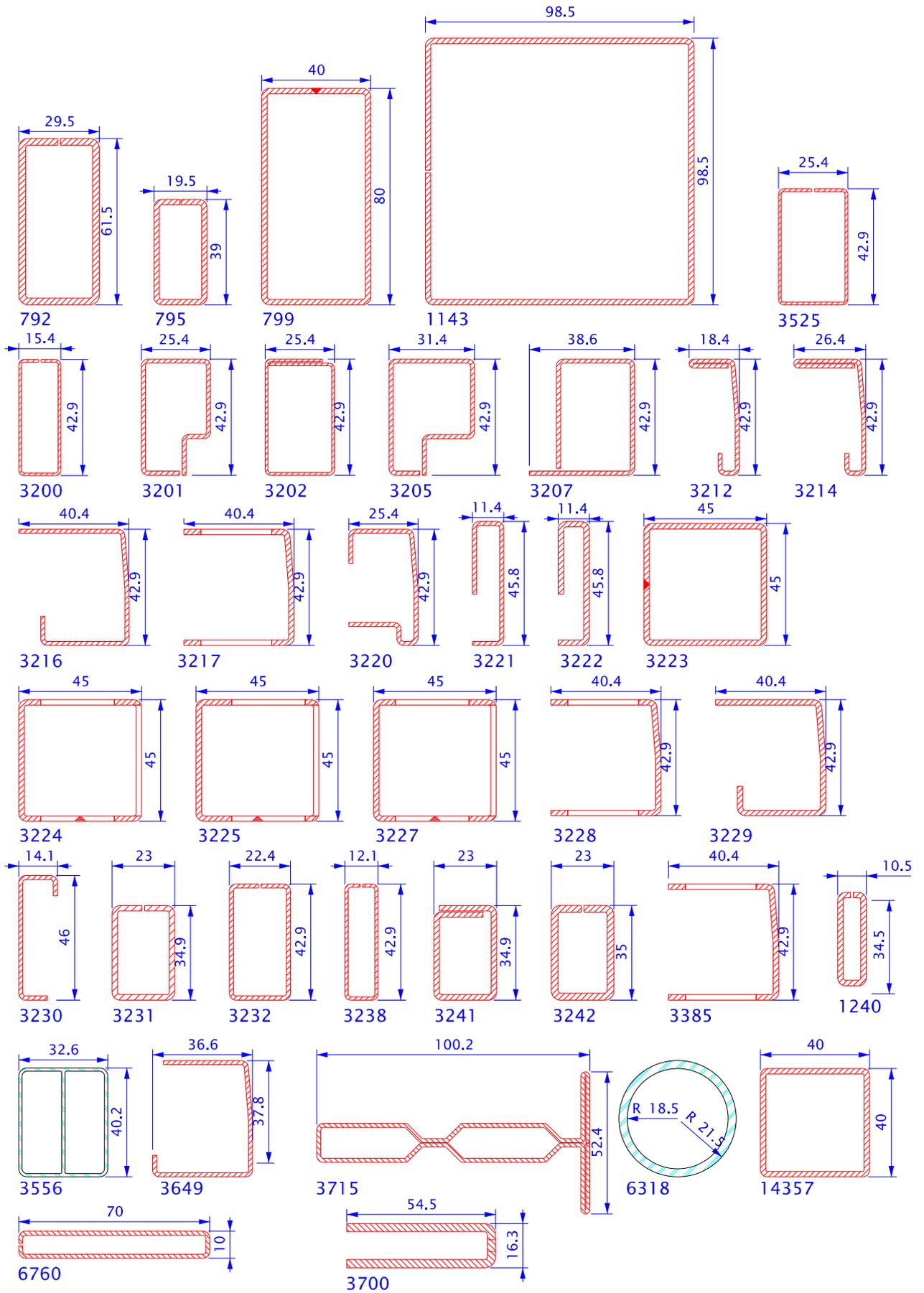
Profili di rifinitura



Profili di prolungamento e accoppiamento



Profili di rinforzo



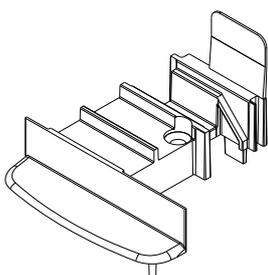
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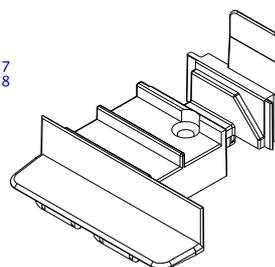
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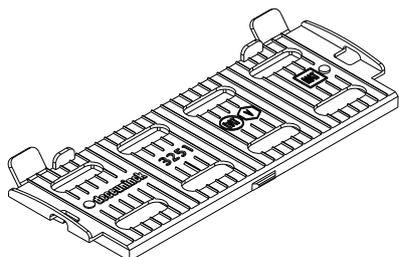
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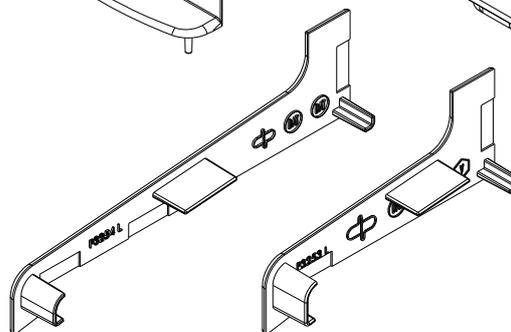
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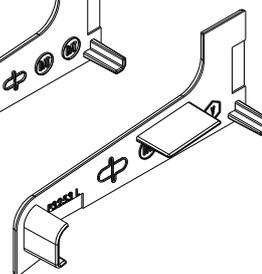
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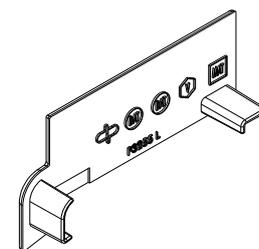
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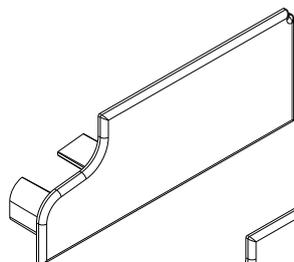
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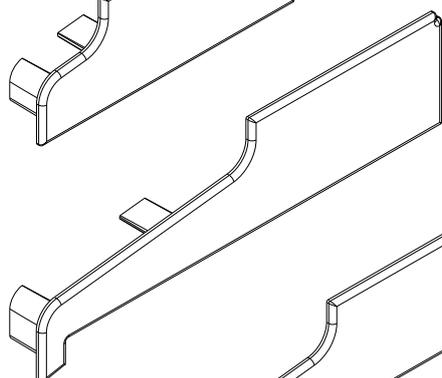
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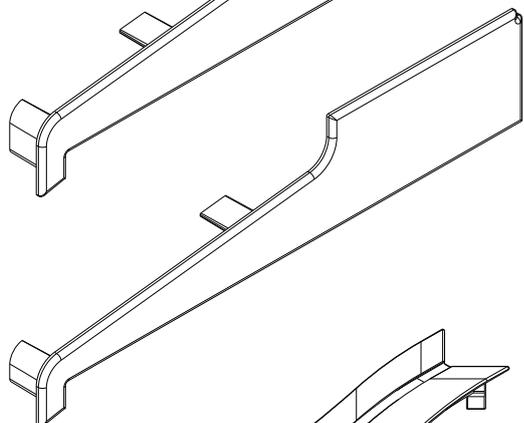
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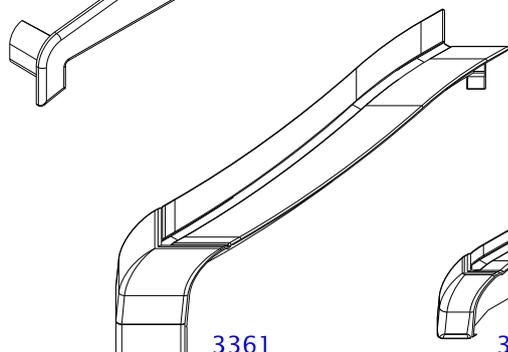
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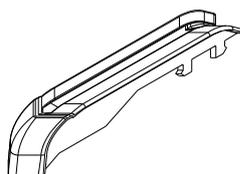
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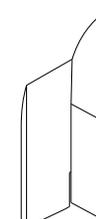
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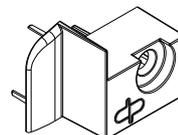
3266
 ↳ 3306



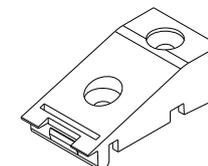
3263
 ↳ 5074, 5075, 5076
 ↳ 5094, 5095, 5096



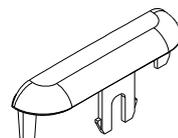
3264
 ↳ 5074, 5075, 5076
 ↳ 5094, 5095, 5096



3265
 ↳ 3305

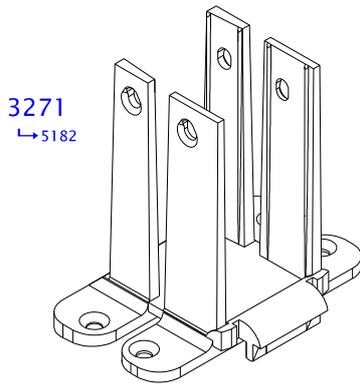


3355

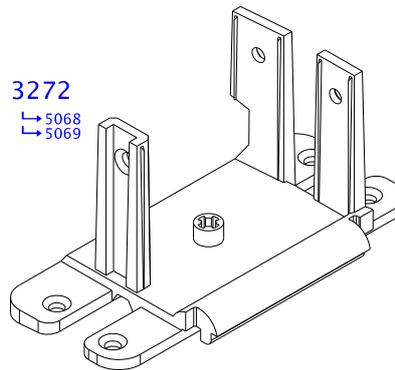


3260
 ↳ 3365

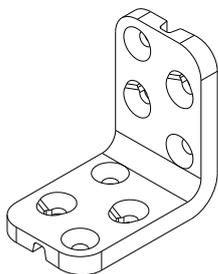
Giunzioni meccaniche



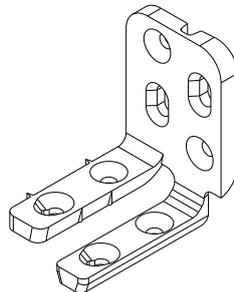
3271
 ↳ 5182



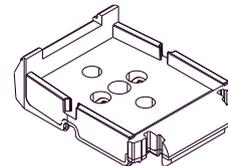
3272
 ↳ 5068
 ↳ 5069



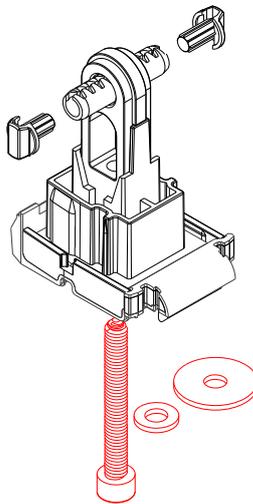
3370



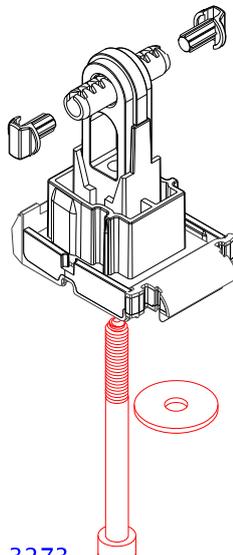
3371



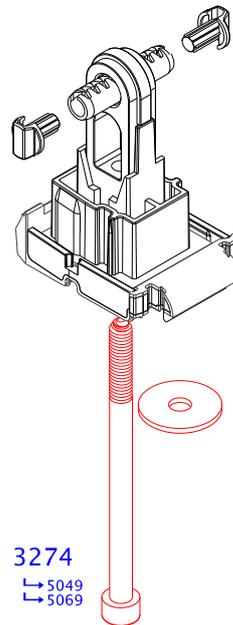
3268
 ↳ 3270, 3273, 3274



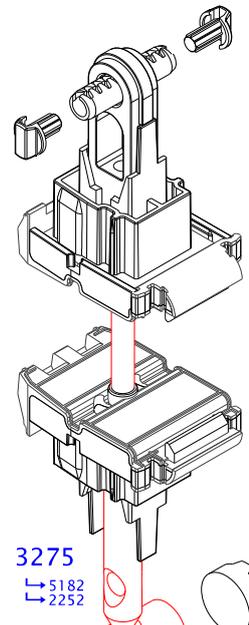
3270
 ↳ 5040, 5041, 5042
 ↳ 5094, 5095, 5096



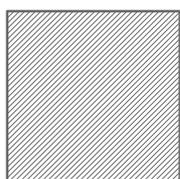
3273
 ↳ 5000, 5001
 ↳ 5005, 5006, 3007, 5008, 5009
 ↳ 5015, 5016, 5017, 5018, 5019
 ↳ 5182



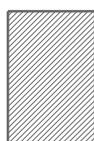
3274
 ↳ 5049
 ↳ 5069



3275
 ↳ 5182
 ↳ 2252

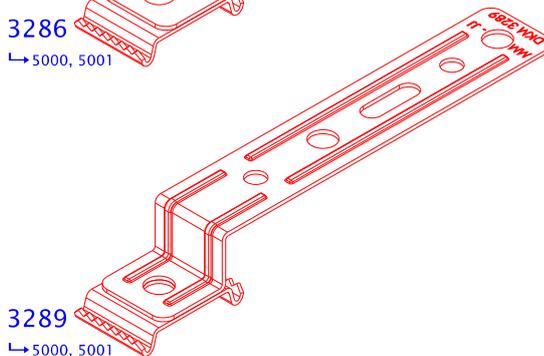
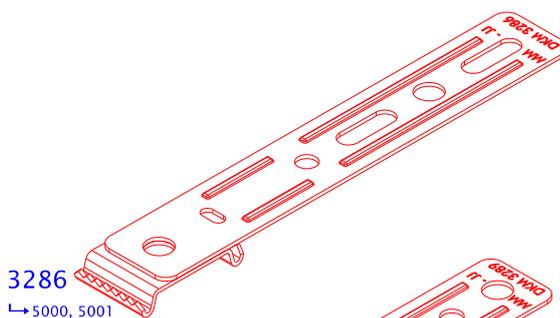
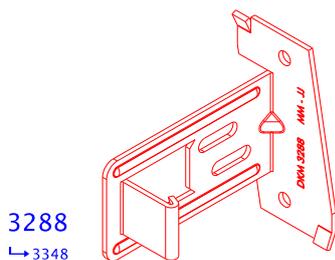
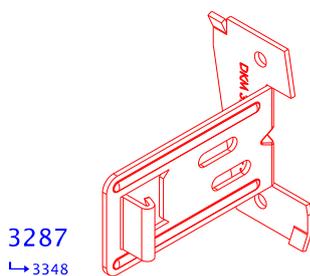
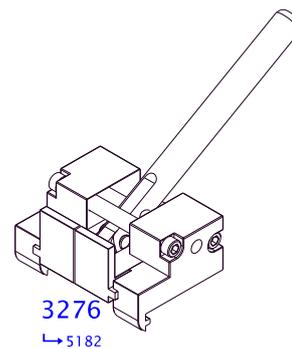
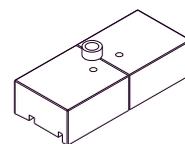
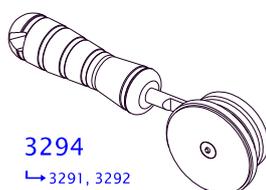
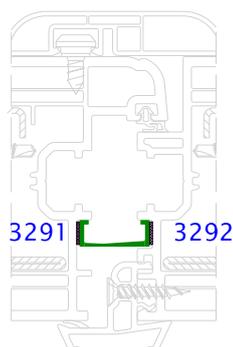
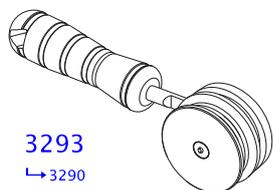
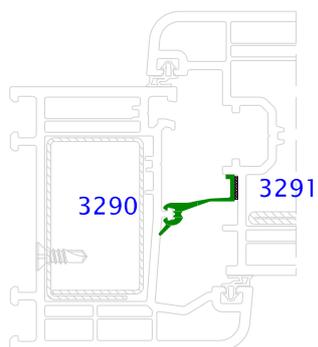
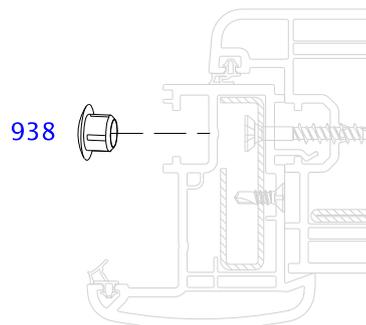
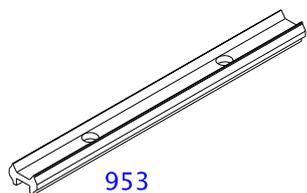


3280
 ↳ 5048, 5049
 ↳ 5068, 5069

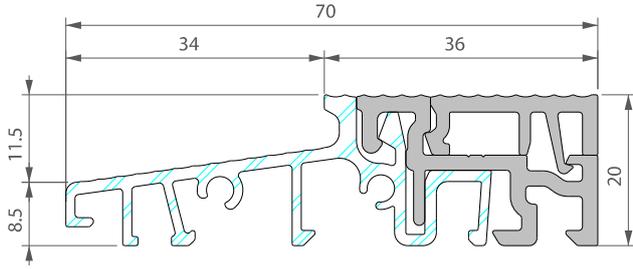


3283
 ↳ 5182

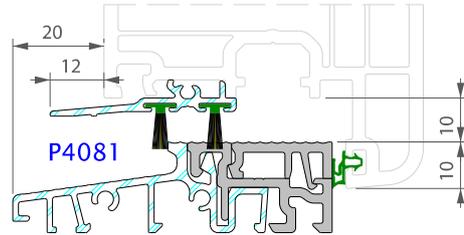
Varie



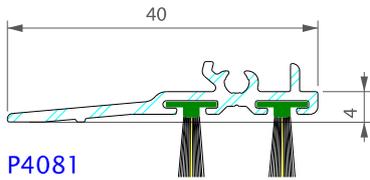
Soglie



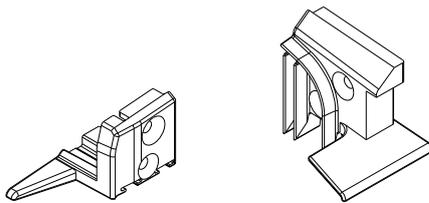
P4080



P4080



P4081

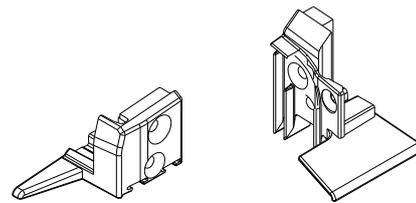


P4086

↳ 5041, 5510, 5511, 5049

P4089

↳ 3077

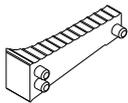


P4087

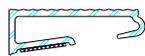
↳ 5042, 5069

P4088

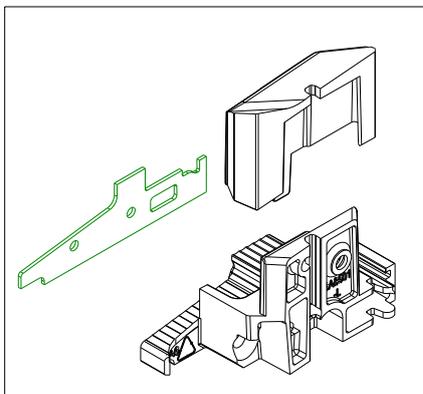
↳ 2250, 5530



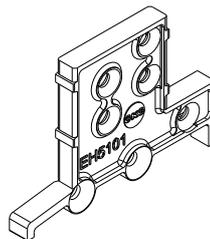
P4090



P4082

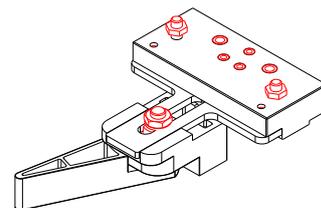


P4085



P4091

↳ alternativa per aperture esterne

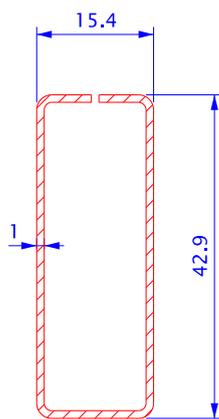
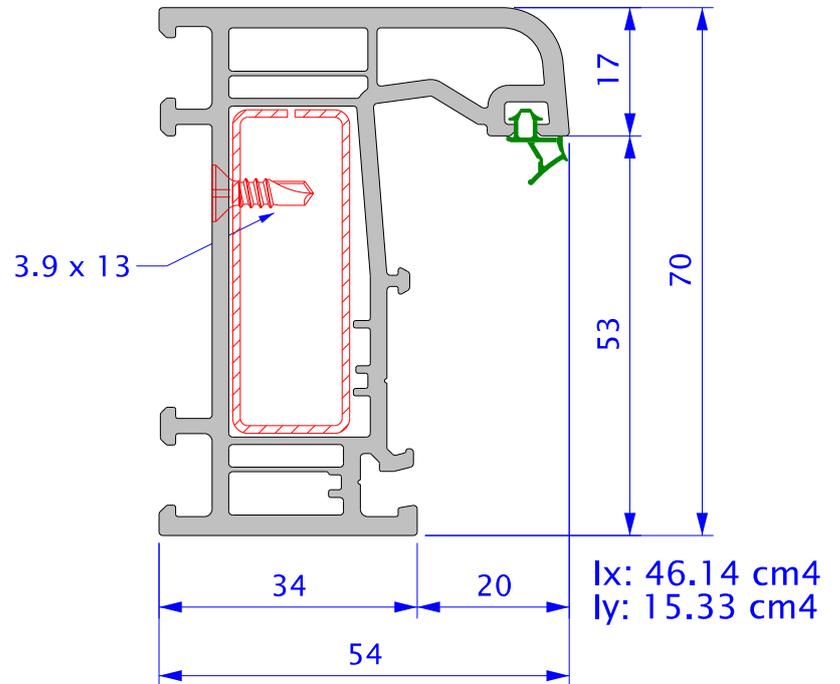


P4092

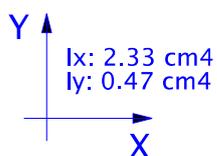
GENERALE

Profili principali 1.1
Profili complementari 1.2
Profili quotati 1.3
Tipologia di porte e finestre 1.4

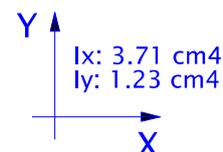
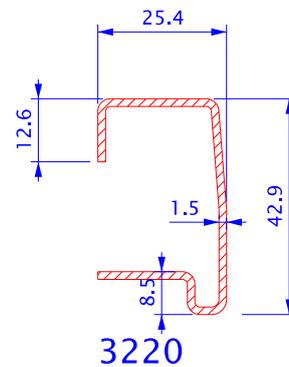
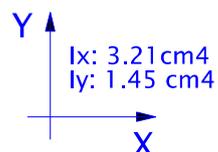
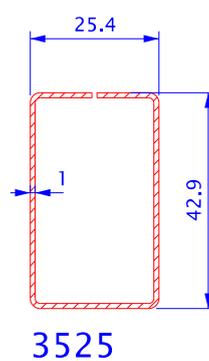
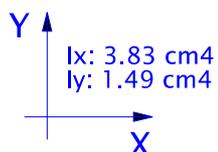
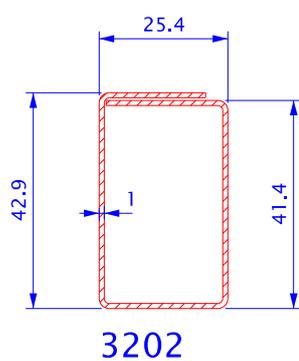
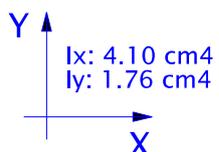
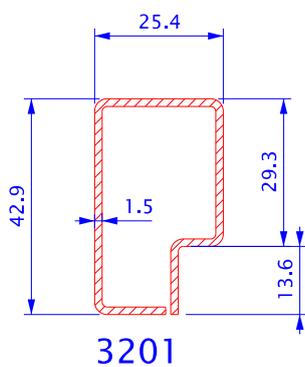
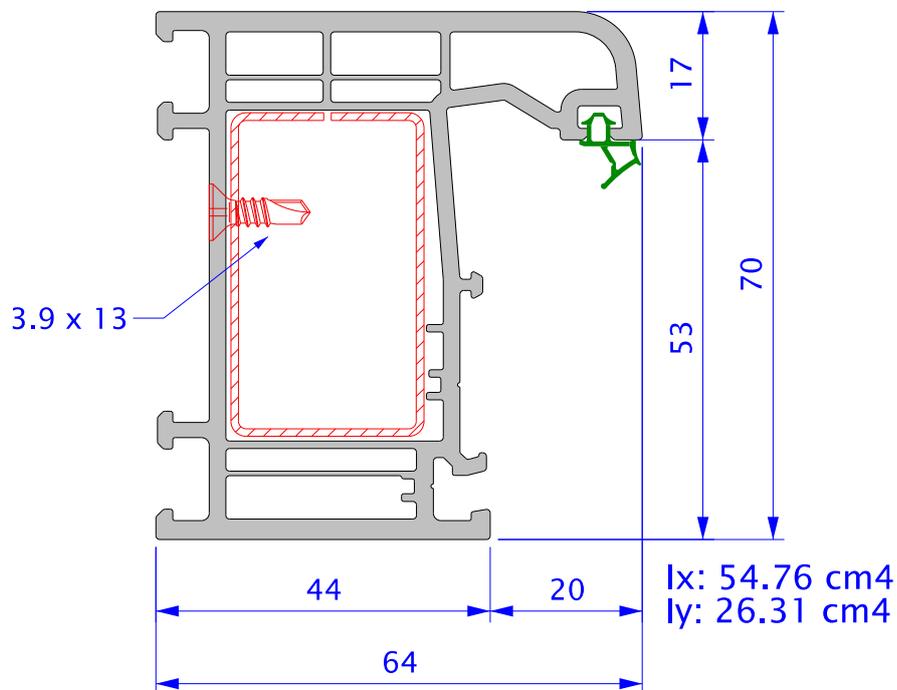
5000
 (scala 1:1)



3200



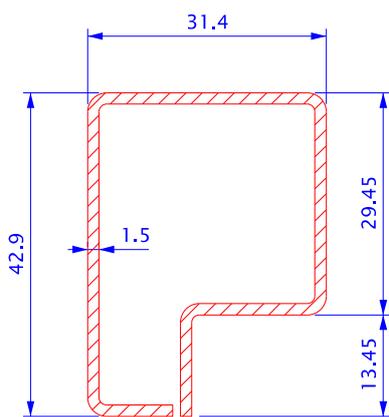
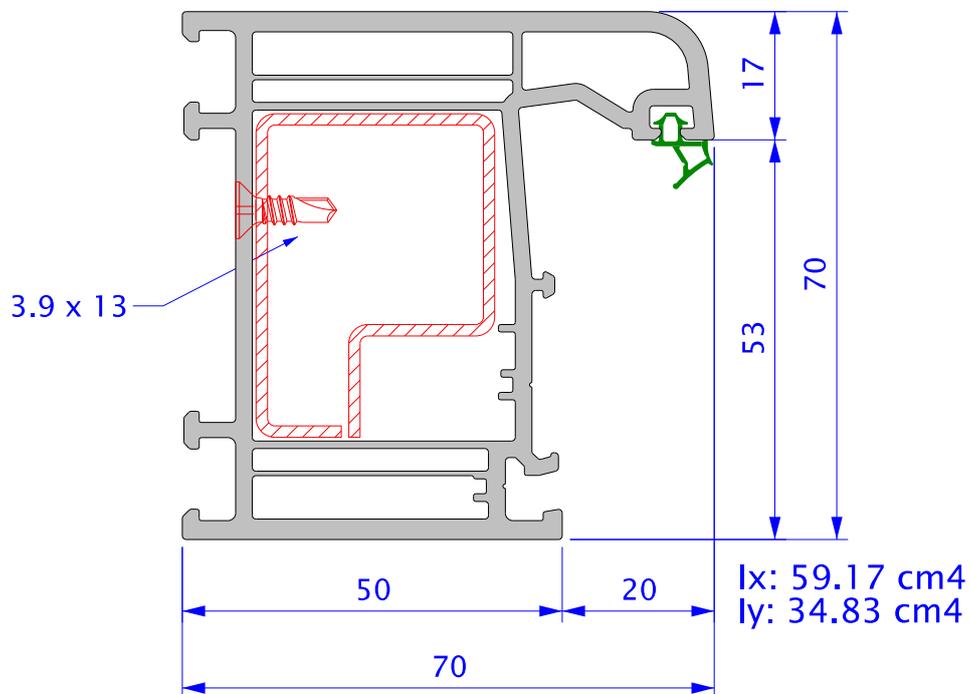
5001
 (scala 1:1)



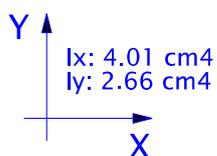
p.s. rinforzi non in scala

5002

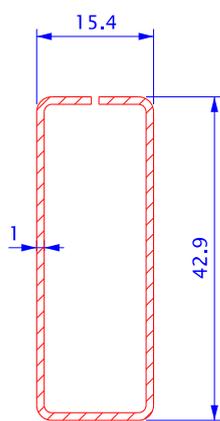
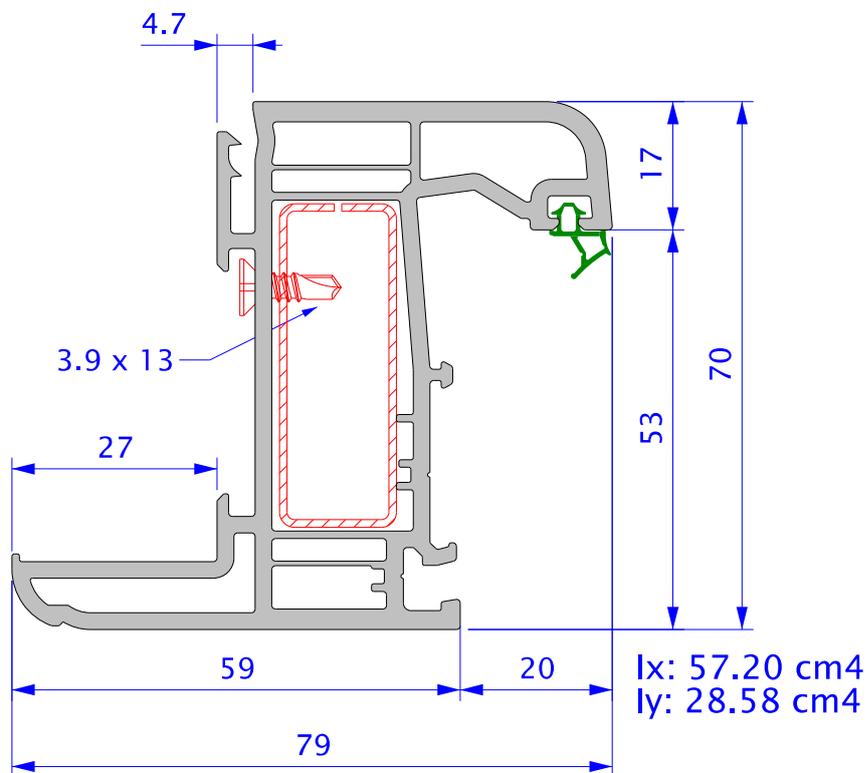
(scala 1:1)



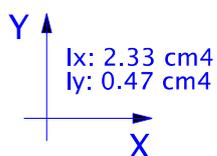
3205



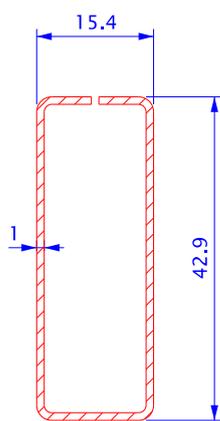
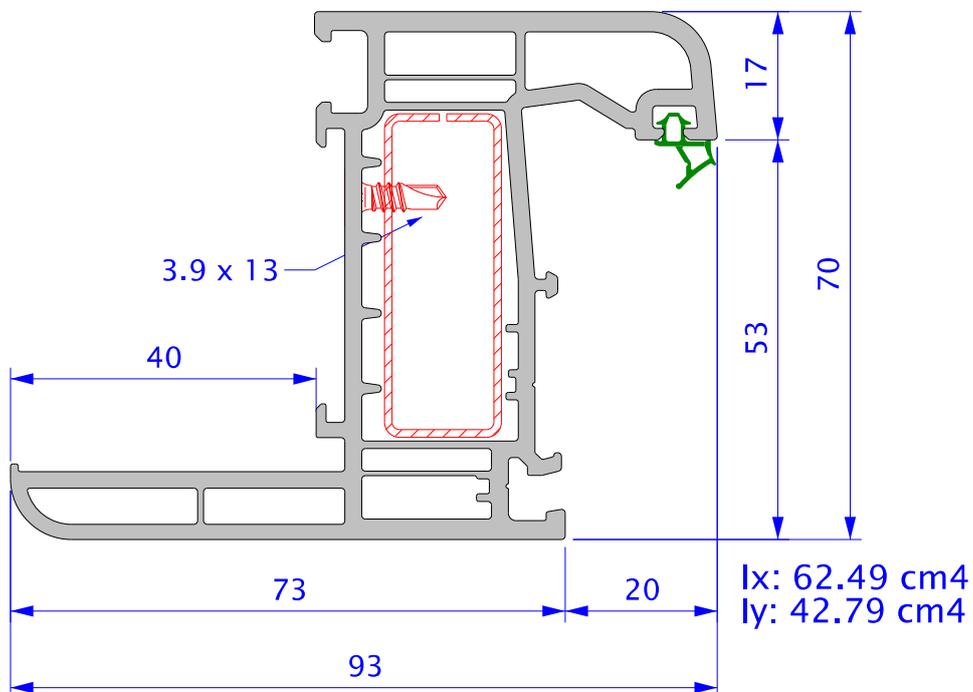
5008
 (scala 1:1)



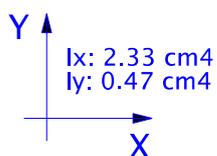
3200

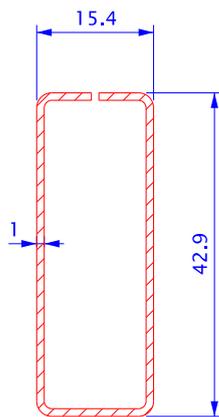
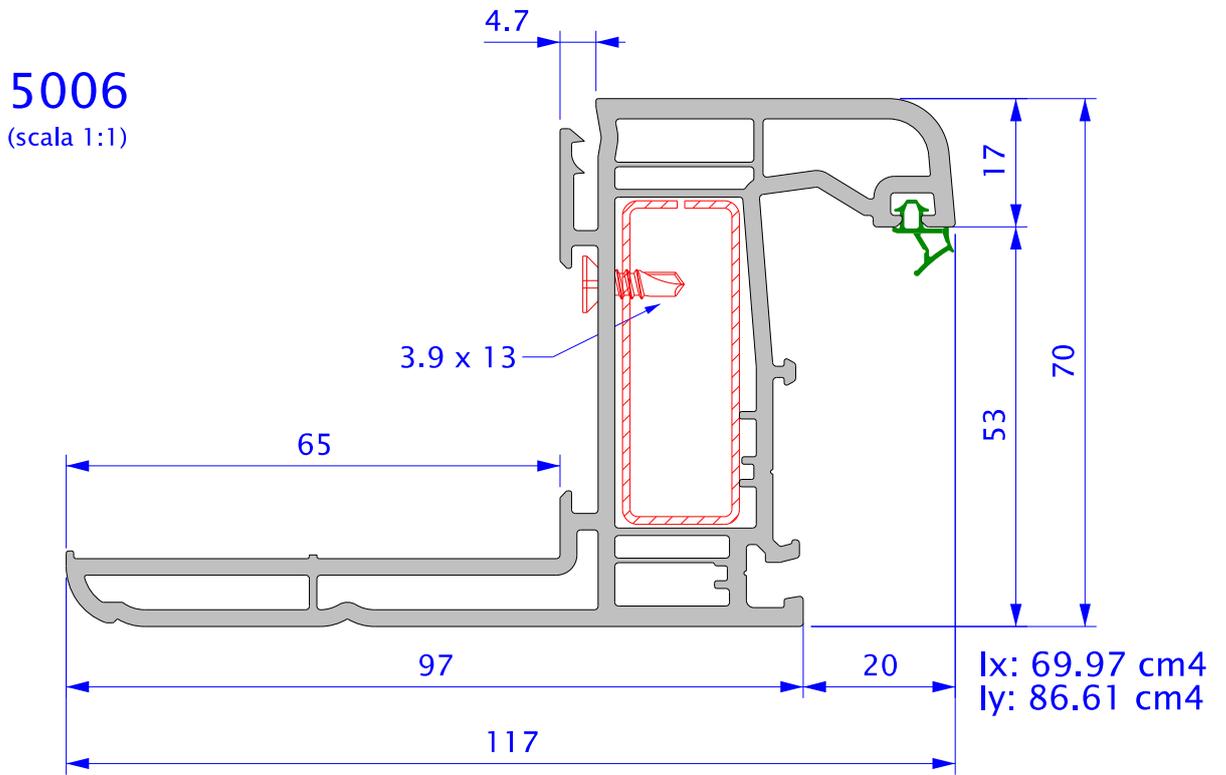


5005
 (scala 1:1)

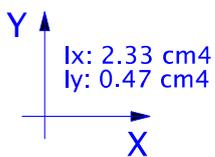


3200



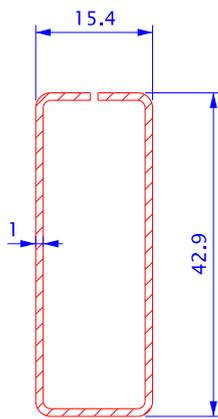
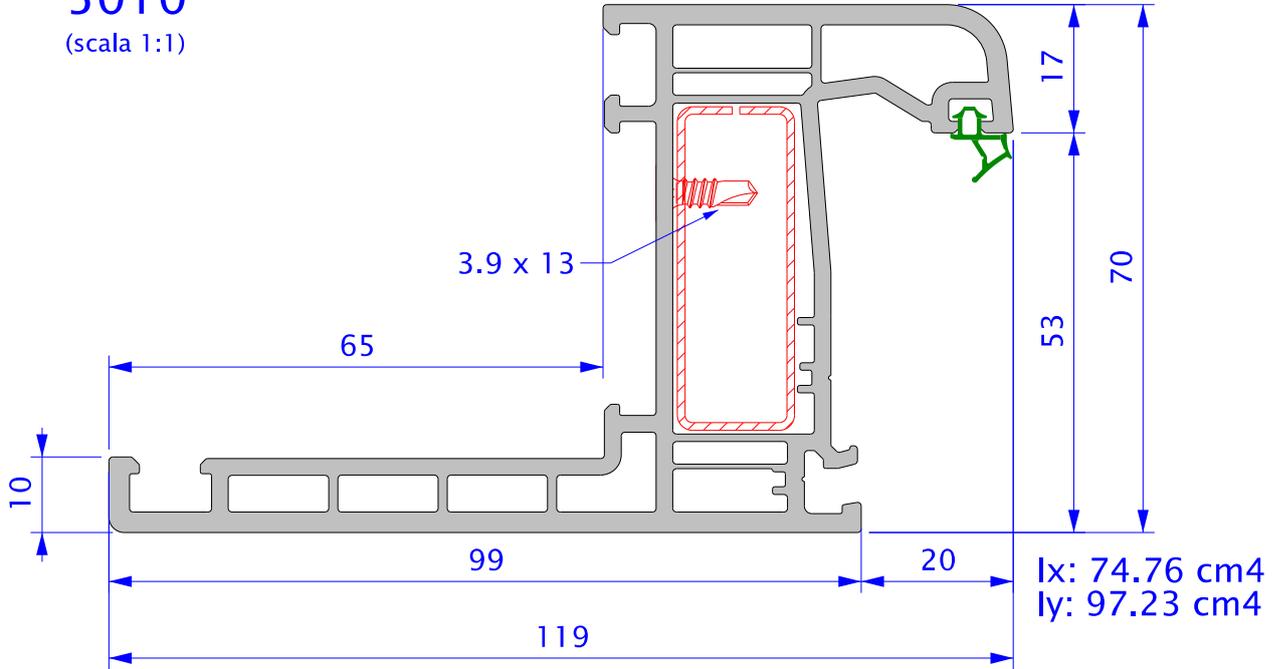


3200

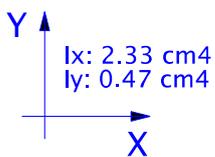


5010

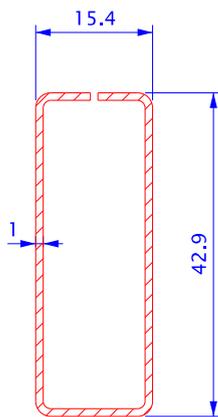
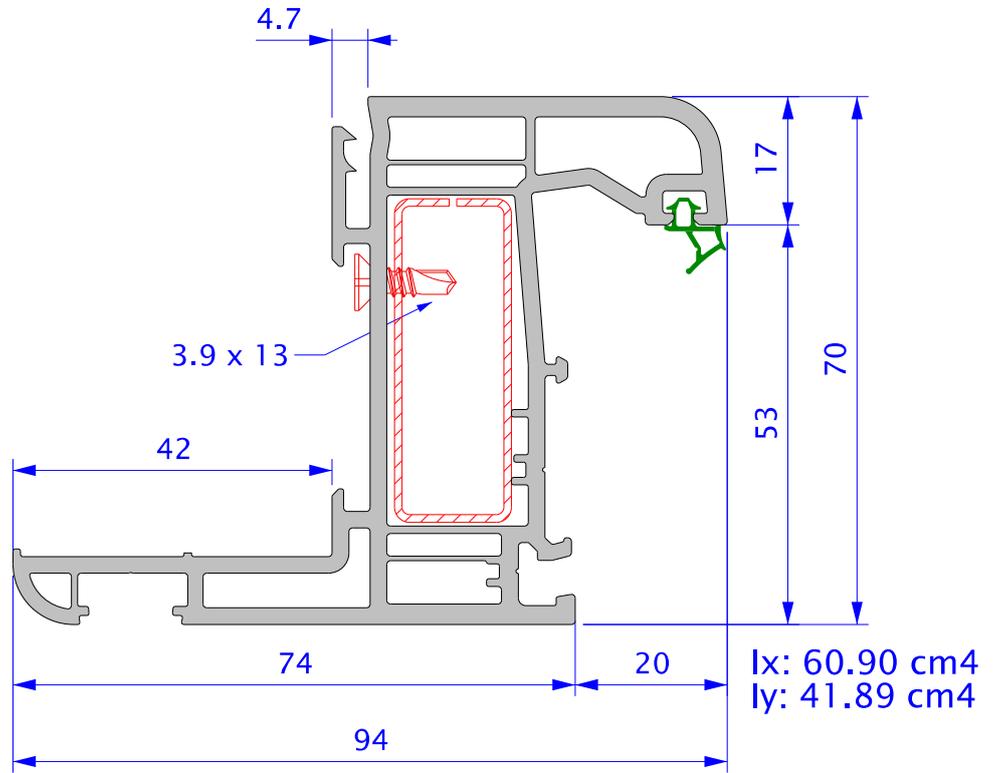
(scala 1:1)



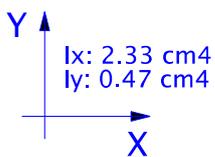
3200



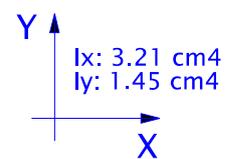
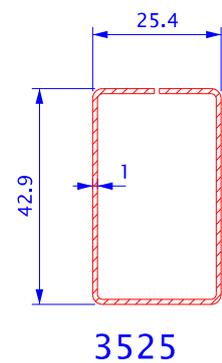
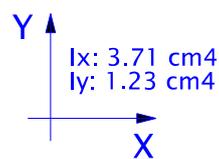
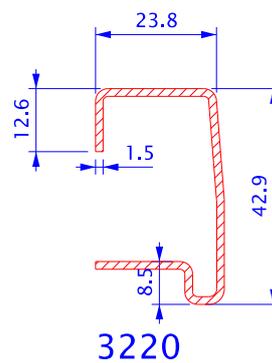
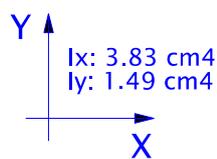
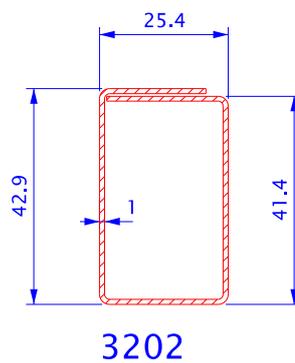
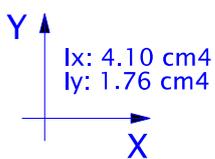
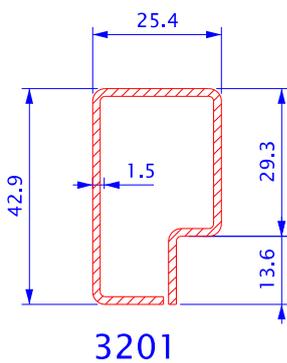
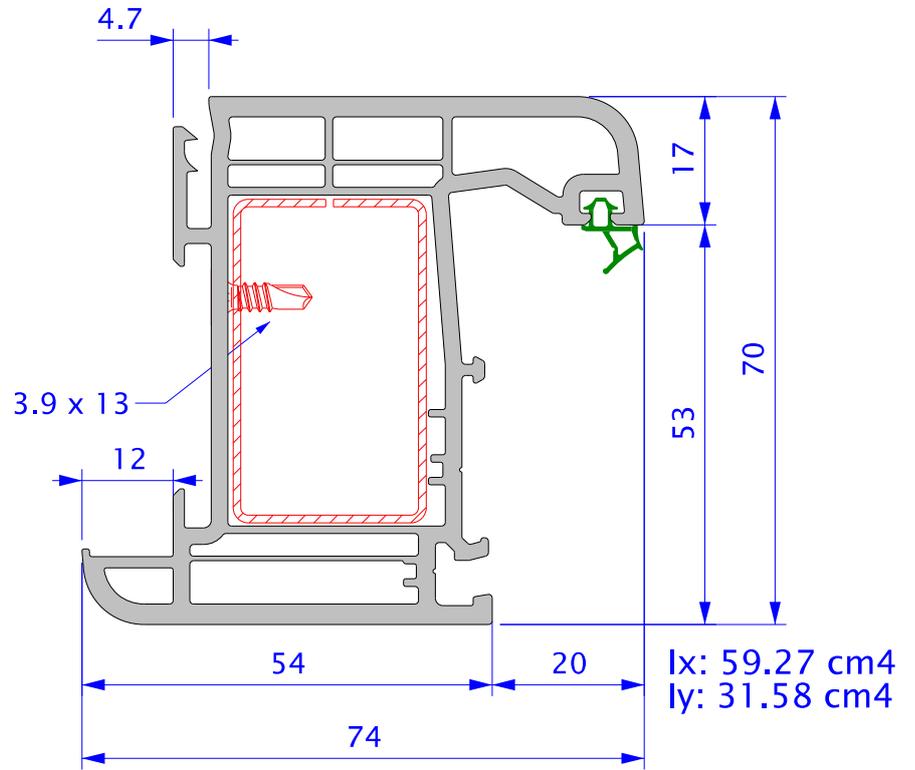
5009
 (scala 1:1)



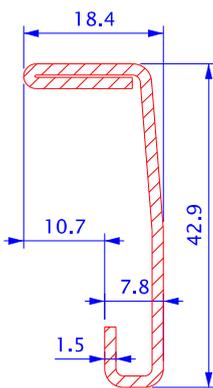
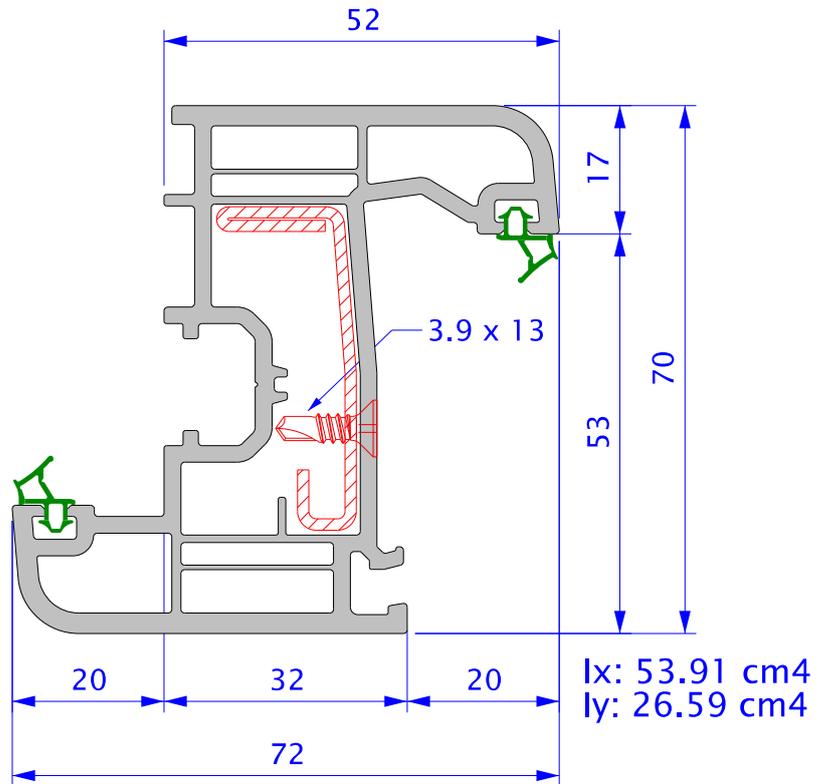
3200



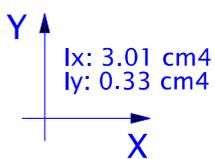
5014
 (scala 1:1)



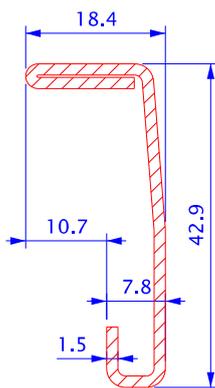
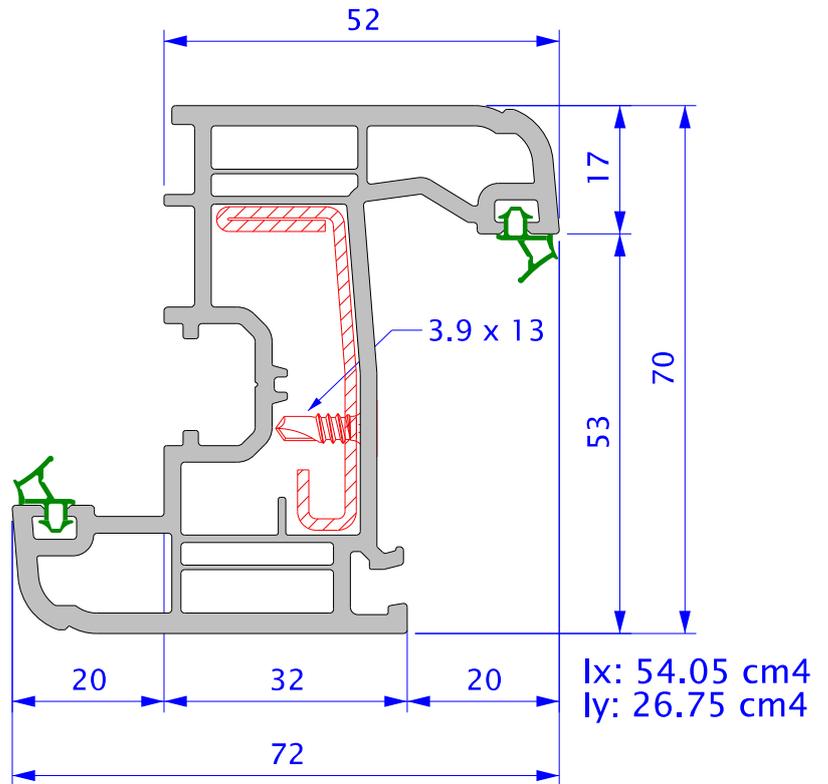
5040
 (scala 1:1)



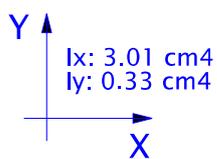
3212



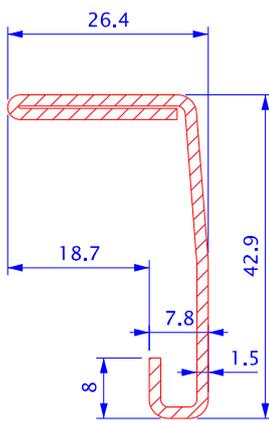
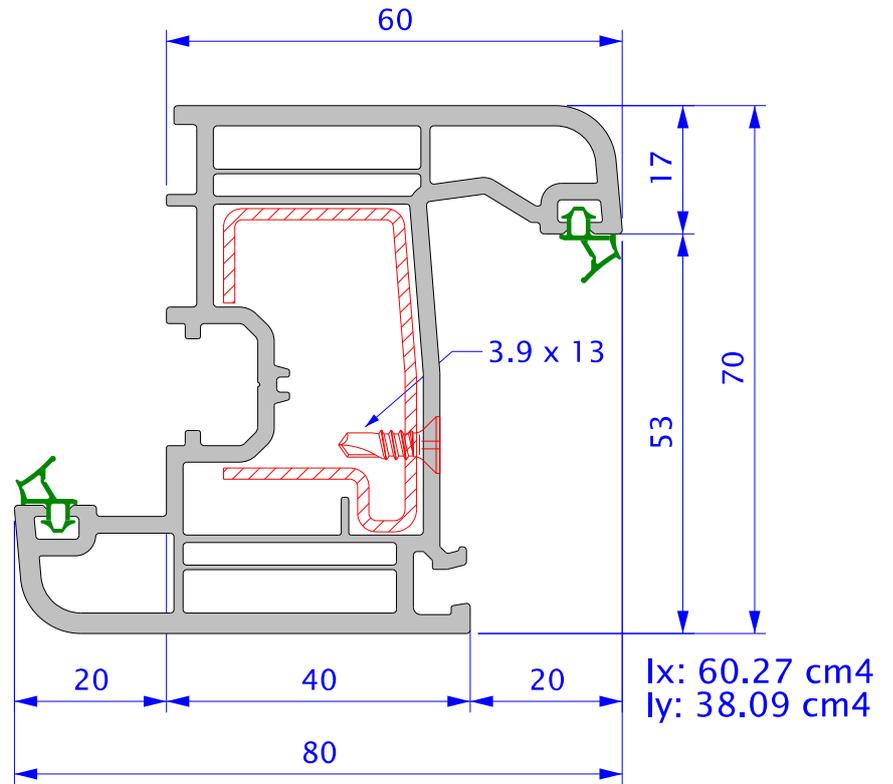
5050
 (scala 1:1)



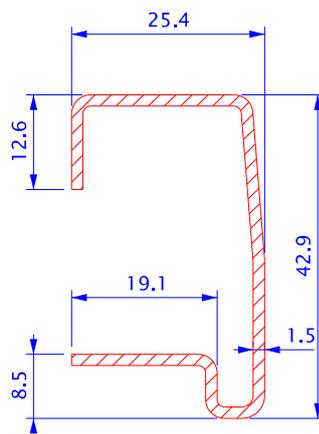
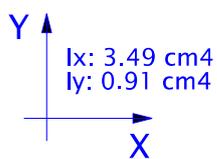
3212



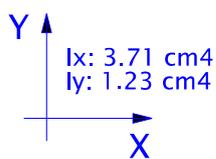
5041
 (scala 1:1)



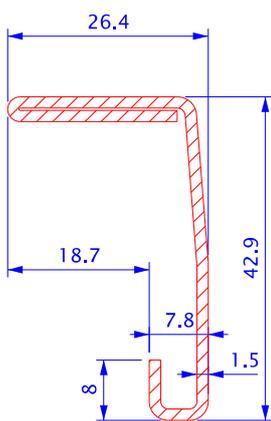
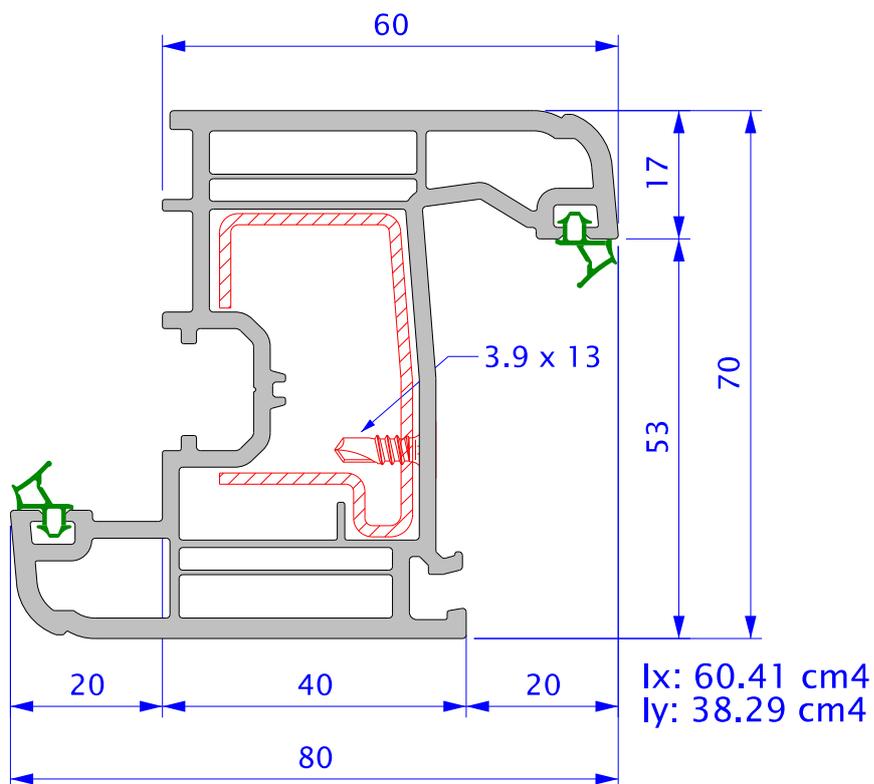
3214



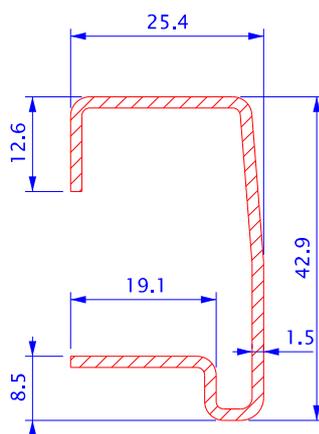
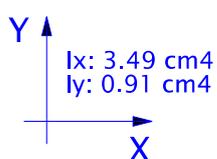
3220



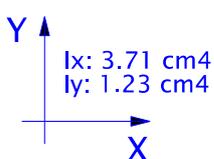
5051
 (scala 1:1)

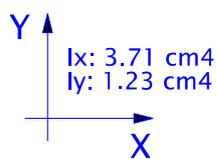
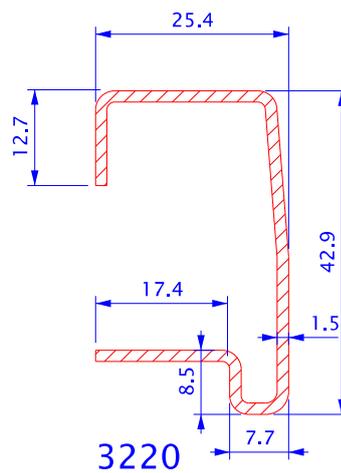
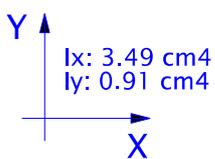
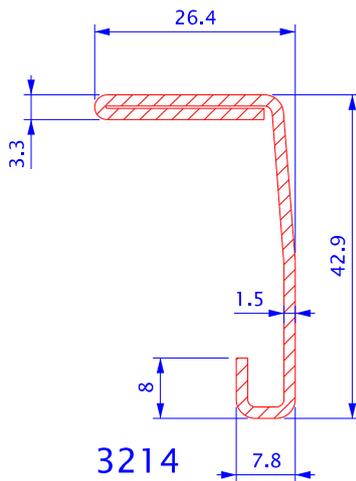
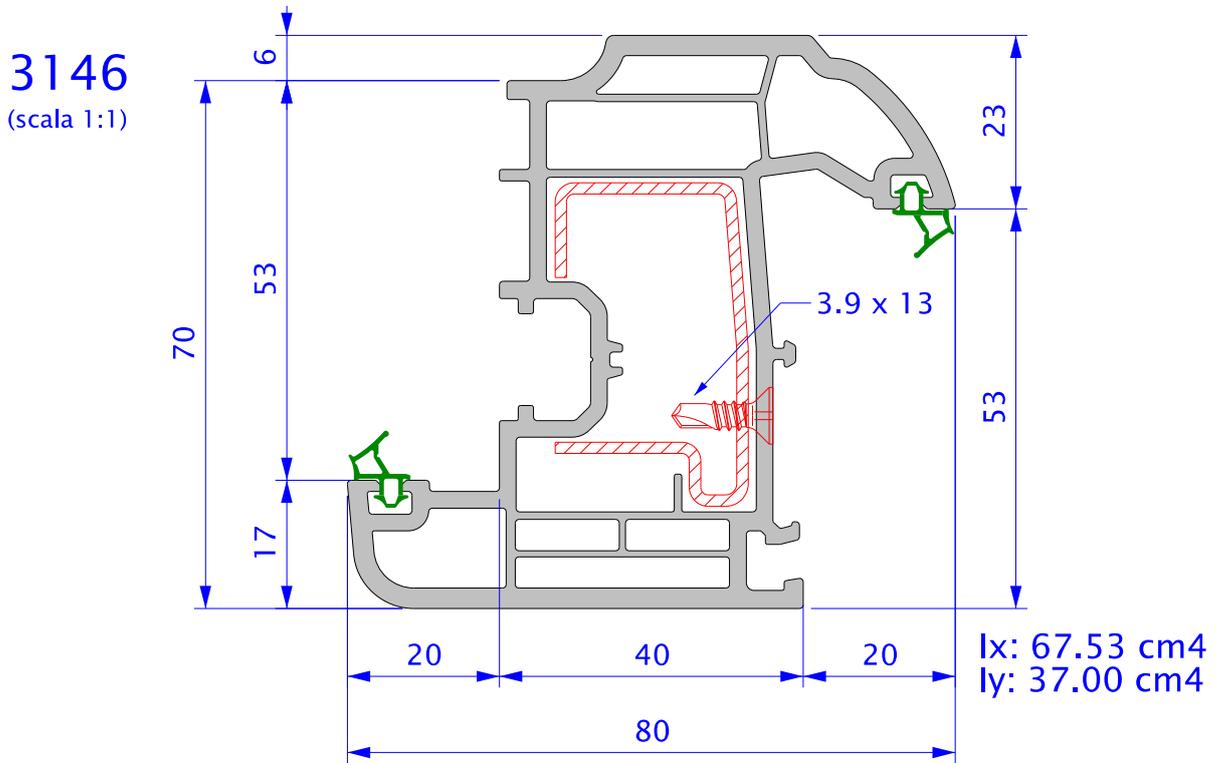


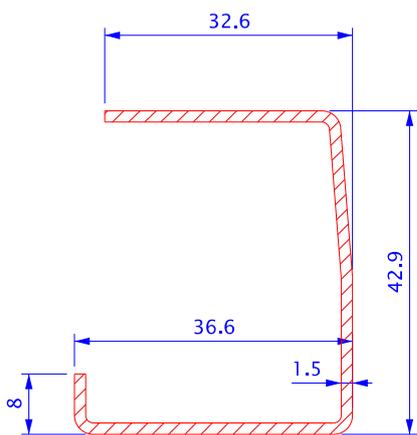
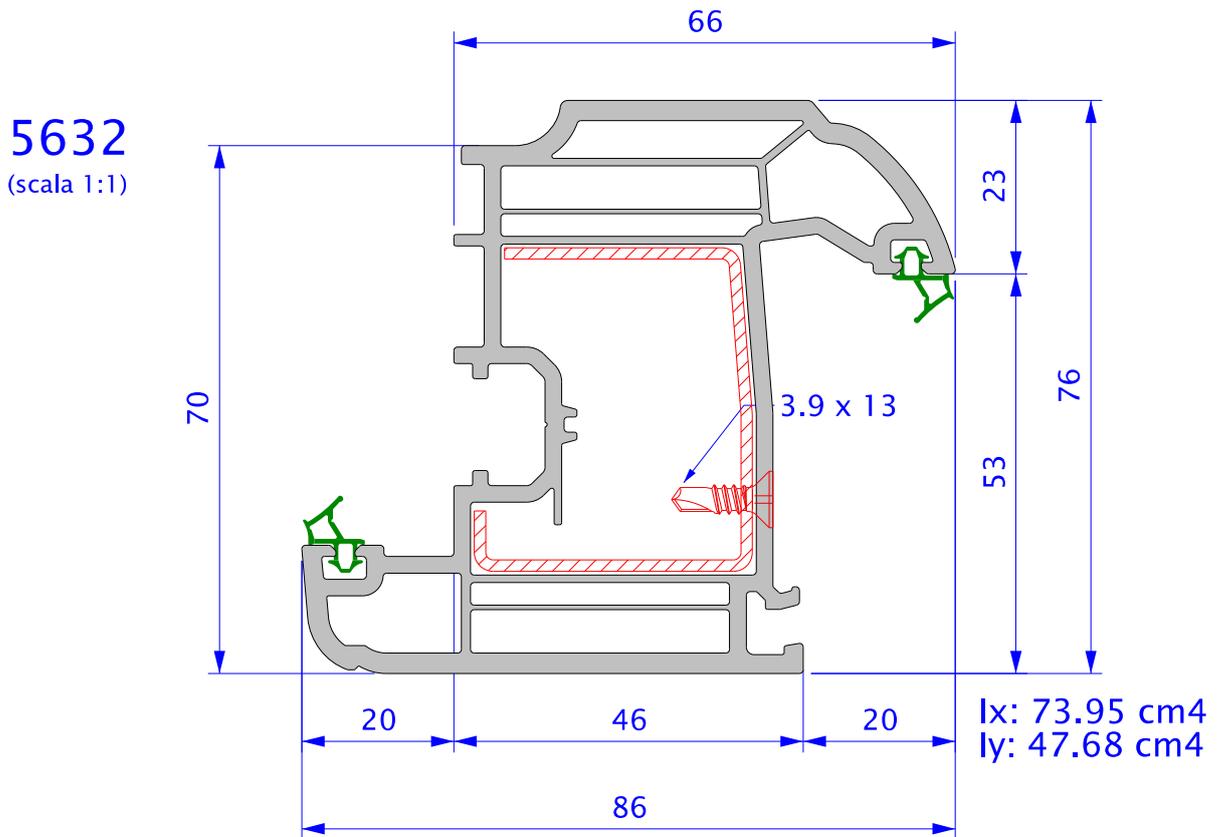
3214



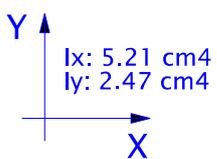
3220



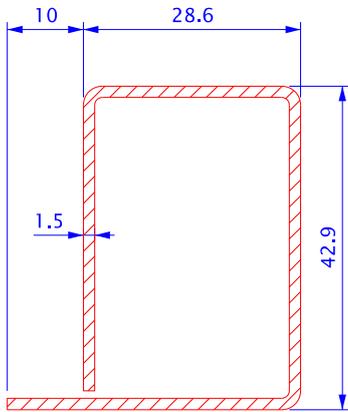
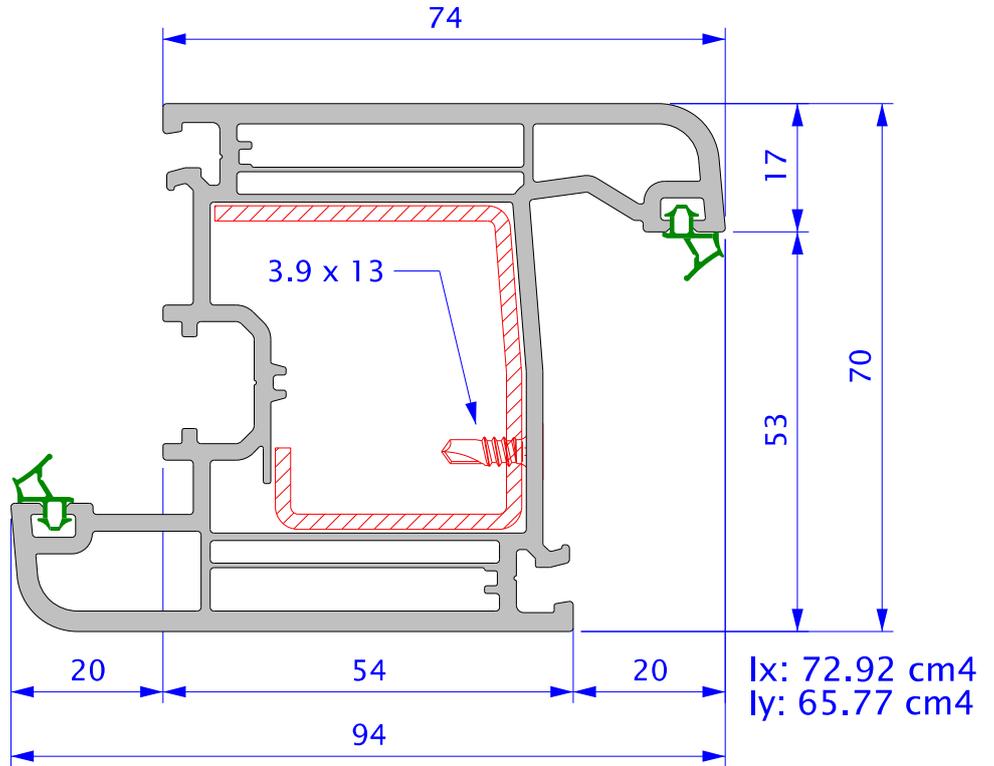




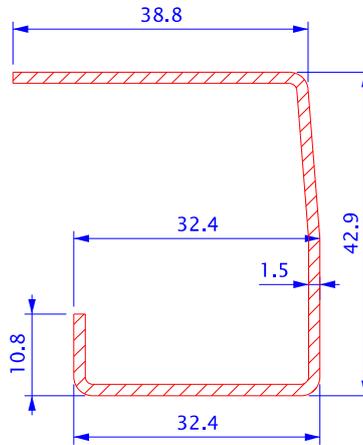
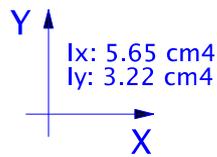
3649



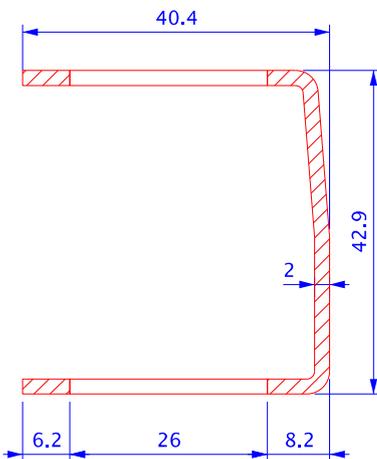
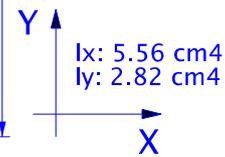
5042
 (scala 1:1)



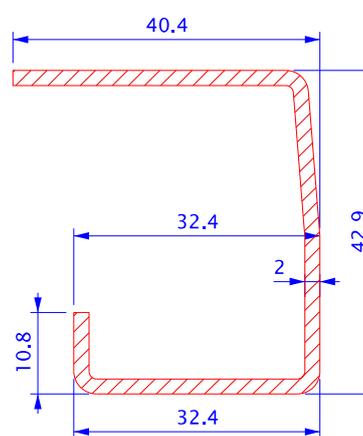
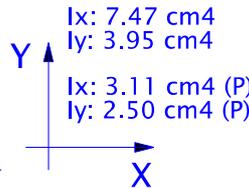
3207



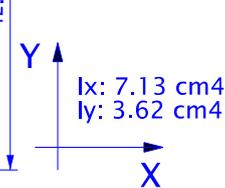
3216



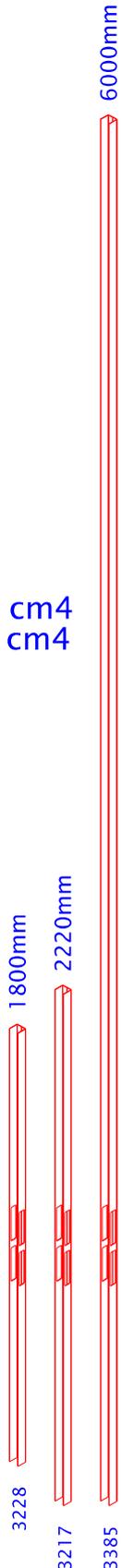
3217
 3228
 3385



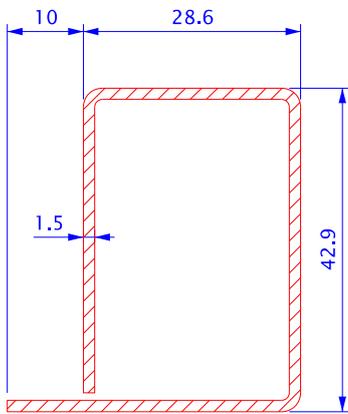
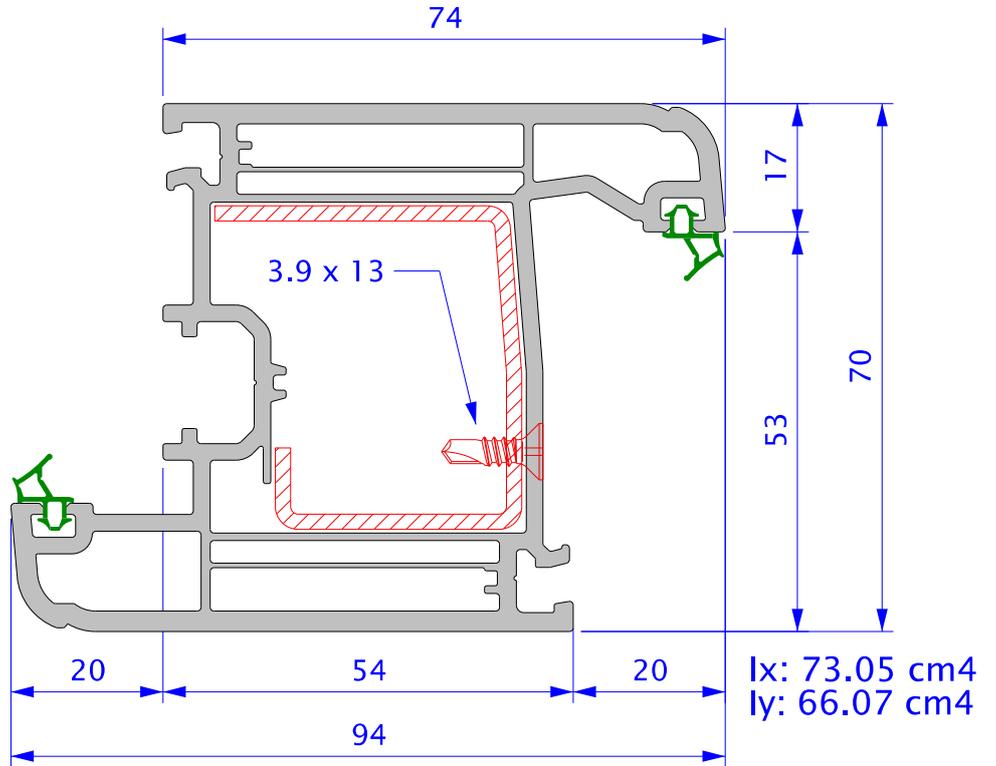
3229



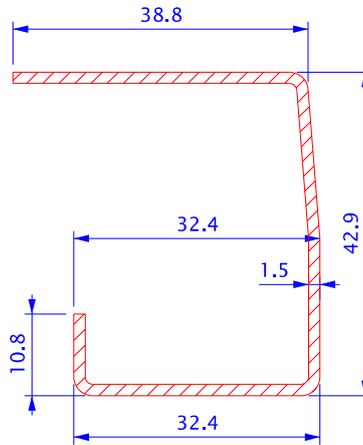
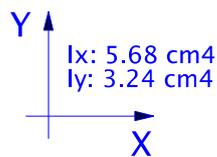
D = 25/28mm



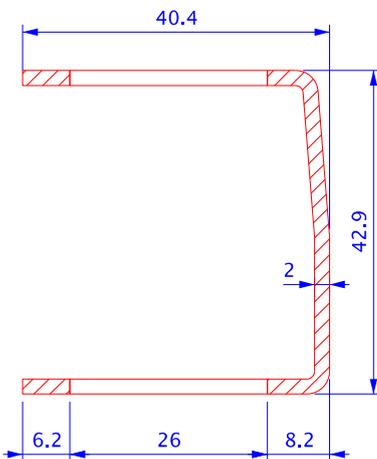
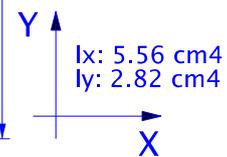
5052
 (scala 1:1)



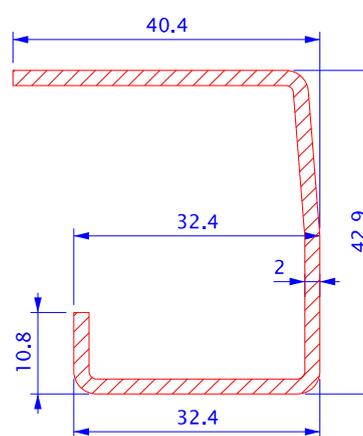
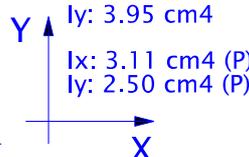
3207



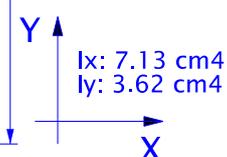
3216



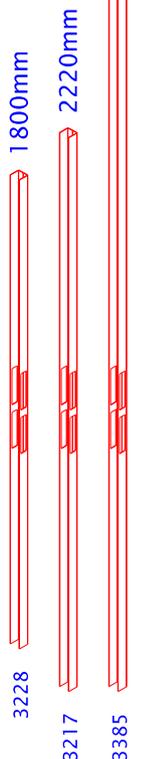
**3217
 3228
 3385**



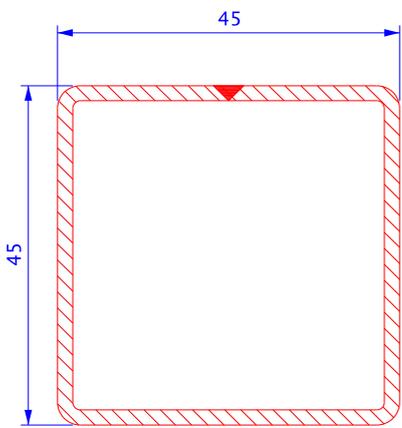
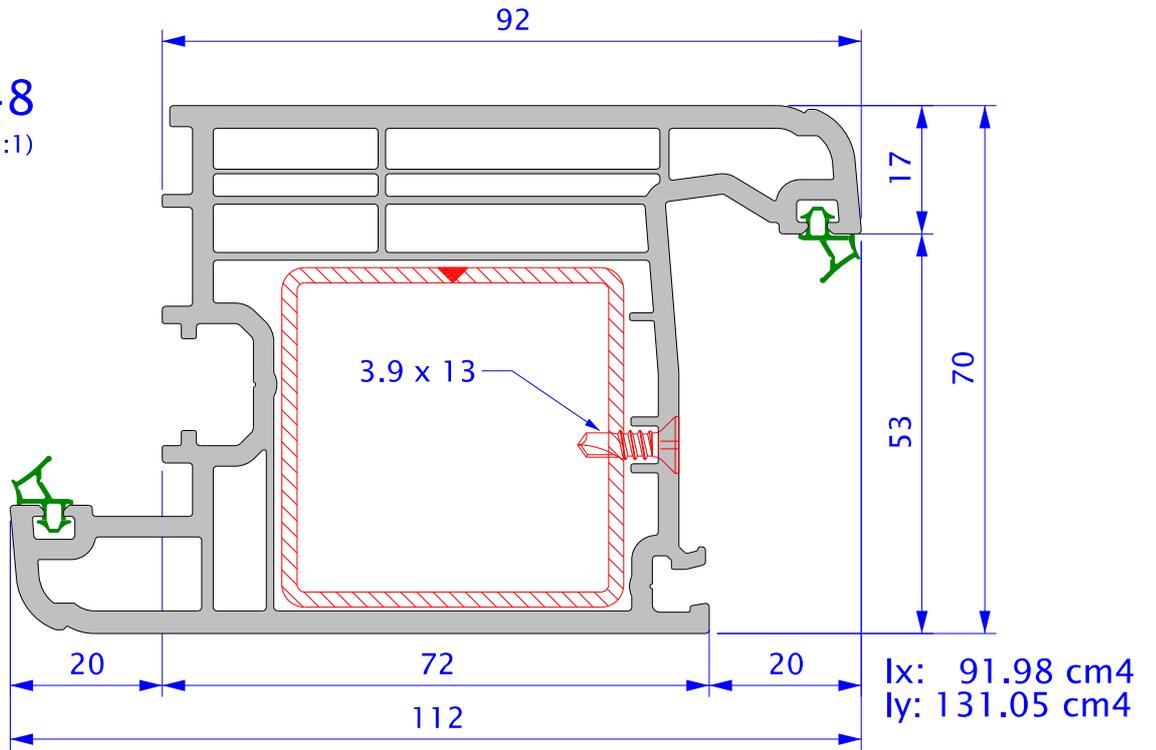
3229



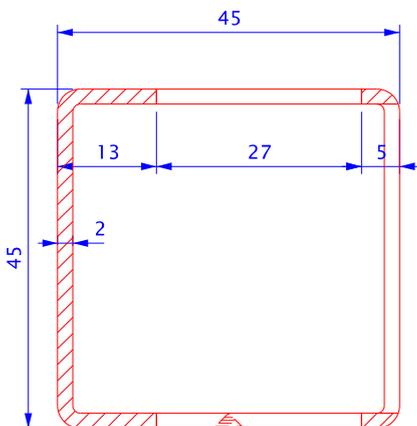
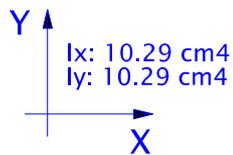
D = 25/28mm



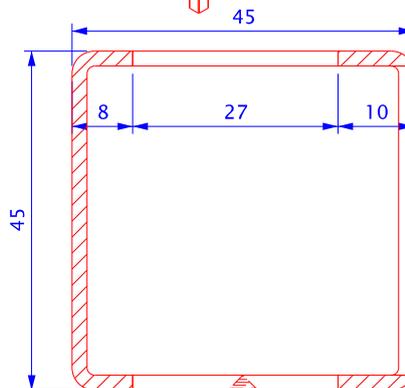
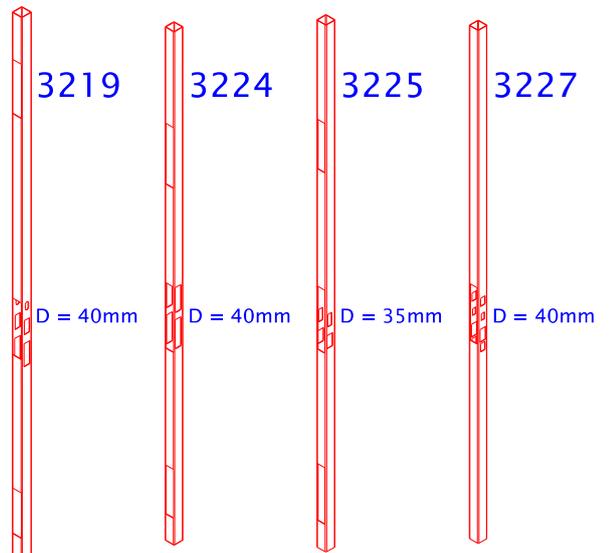
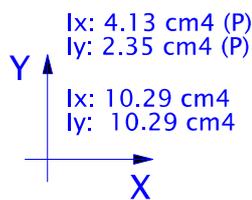
5048
 (scala 1:1)



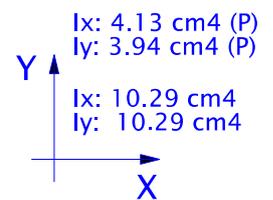
3223



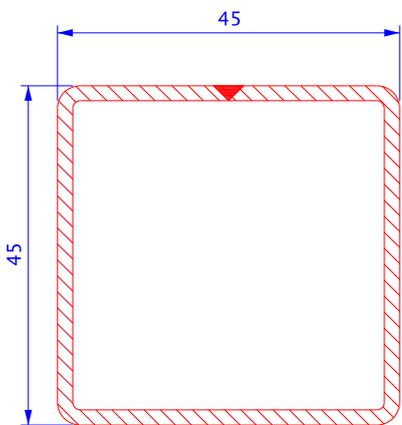
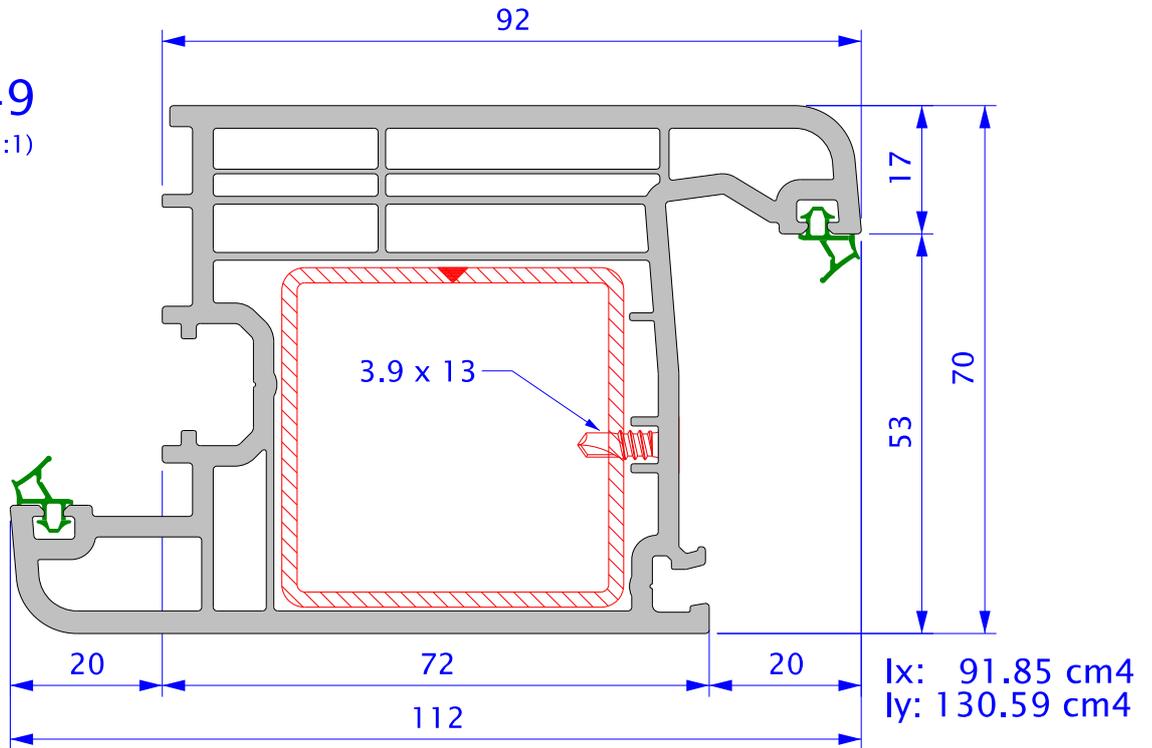
3225



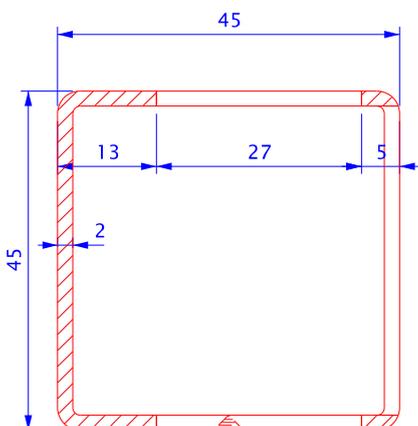
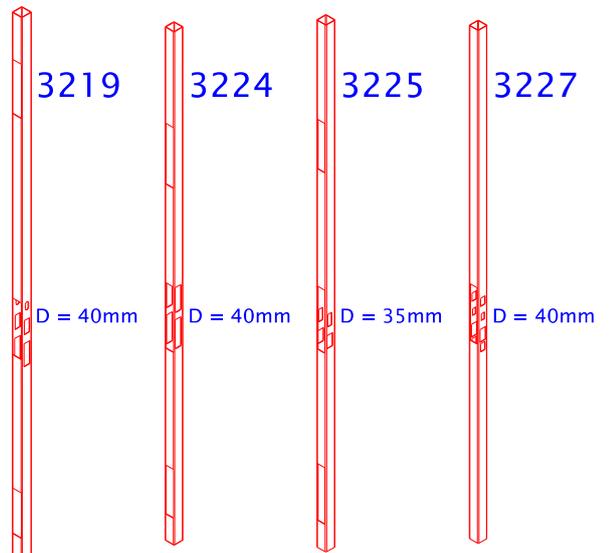
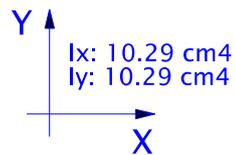
3219/3224/3227



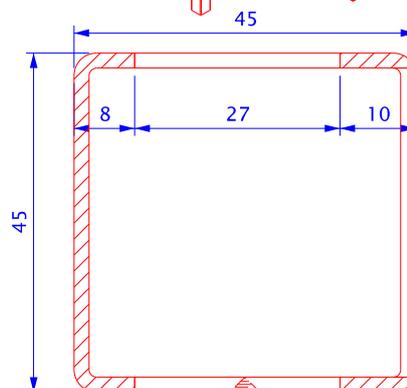
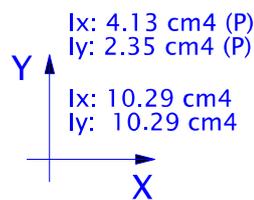
5049
 (scala 1:1)



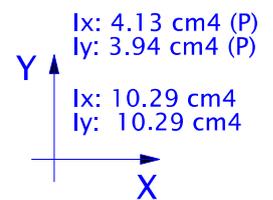
3223

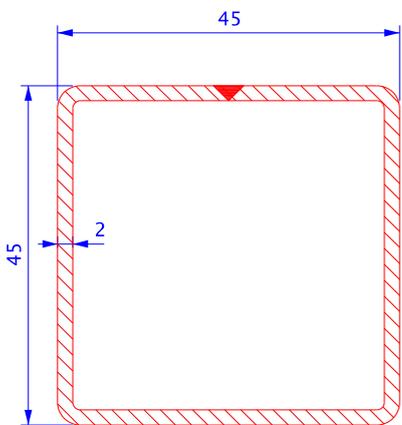
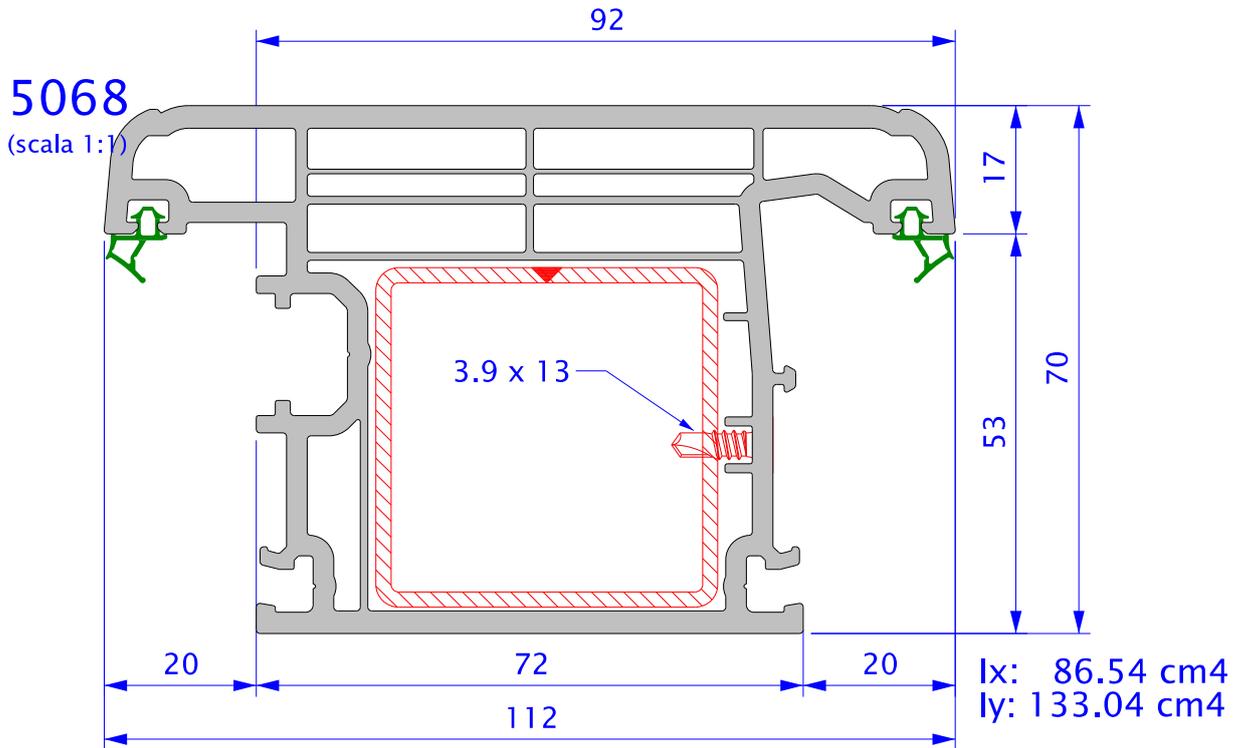


3225

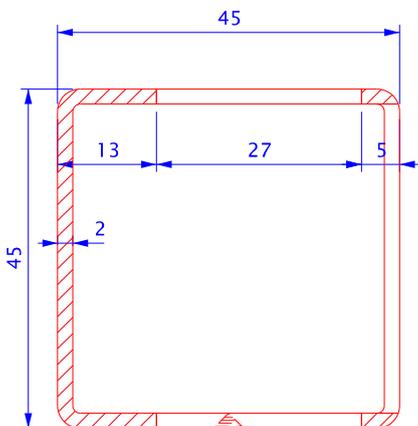
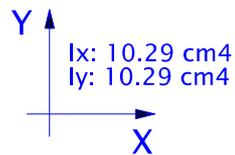


3219/3224/3227

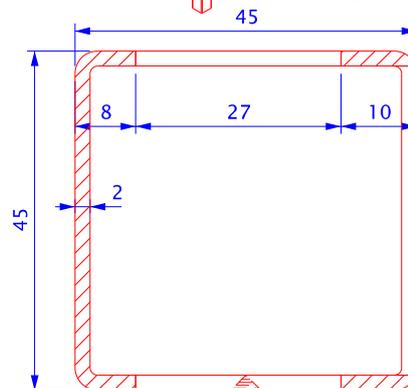
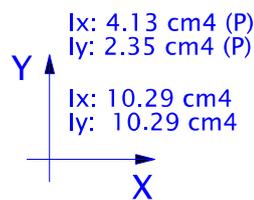




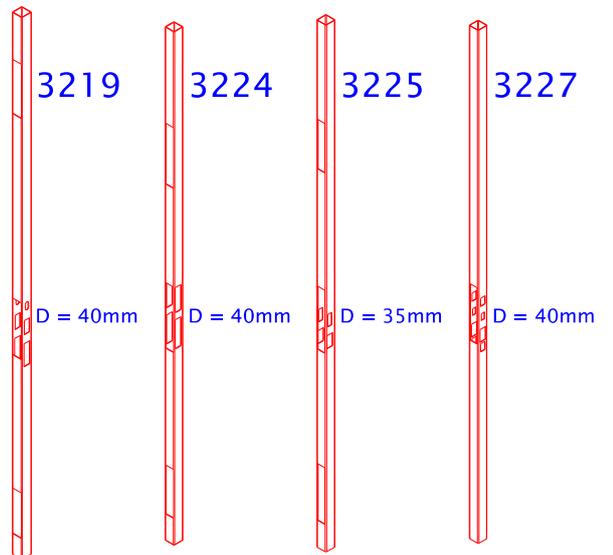
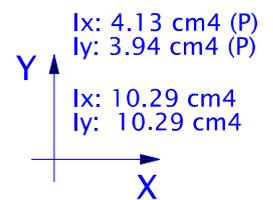
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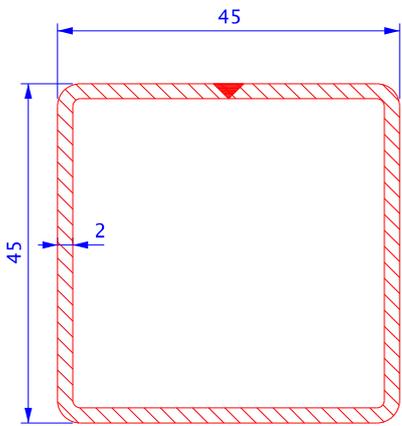
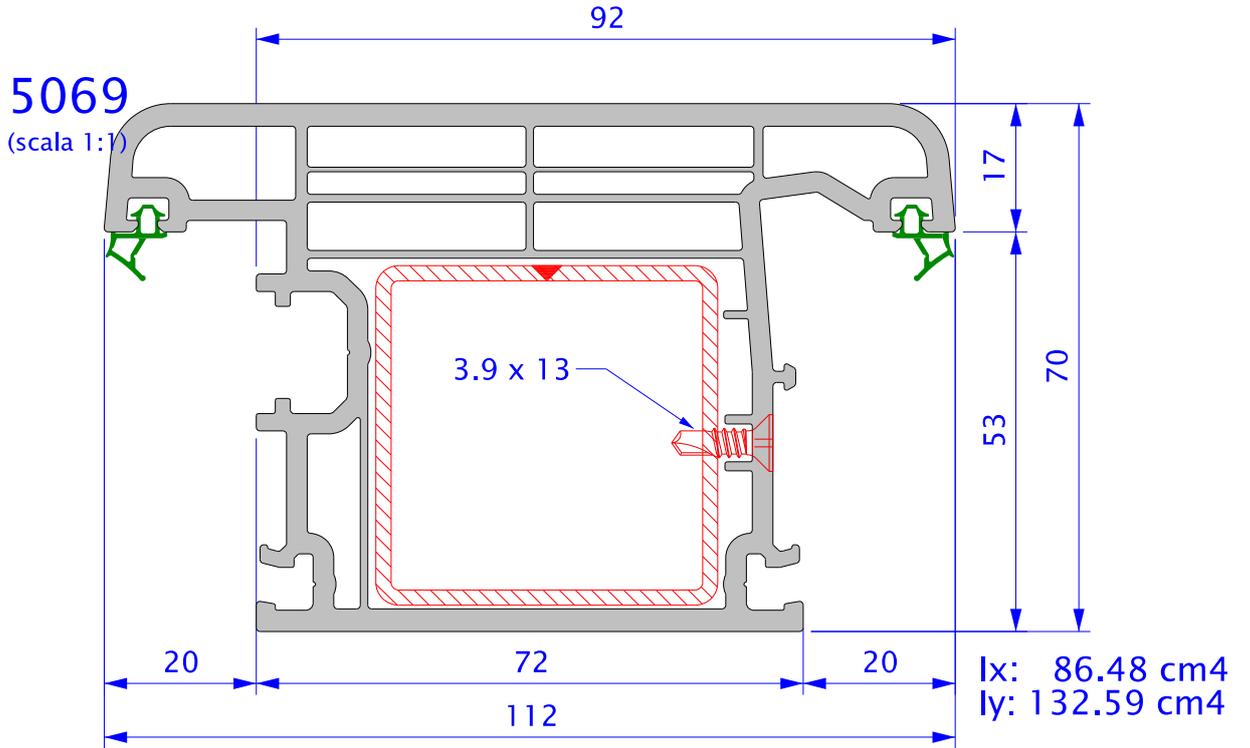


3225

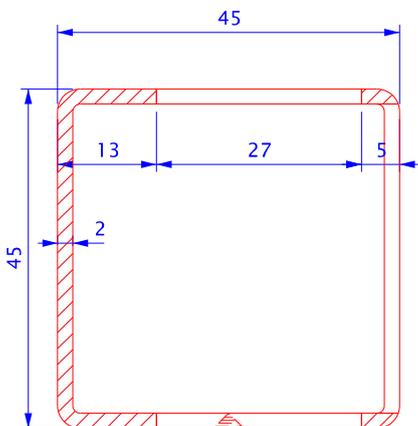
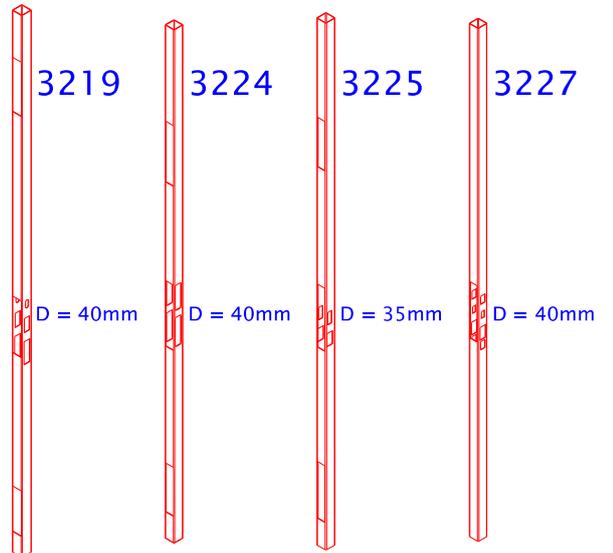
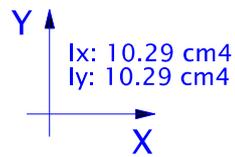


3219/3224/3227

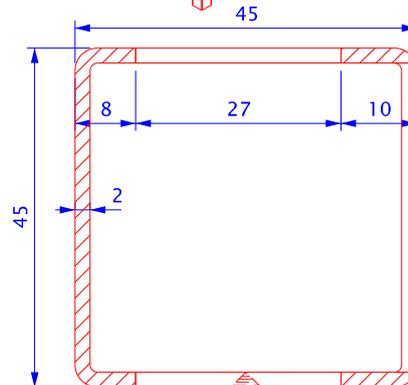
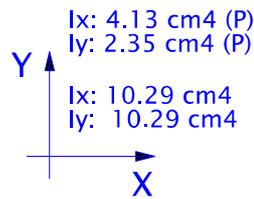




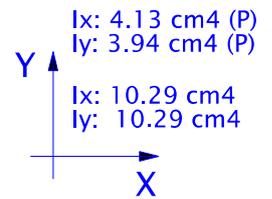
3223



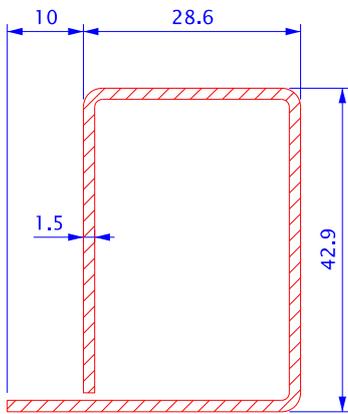
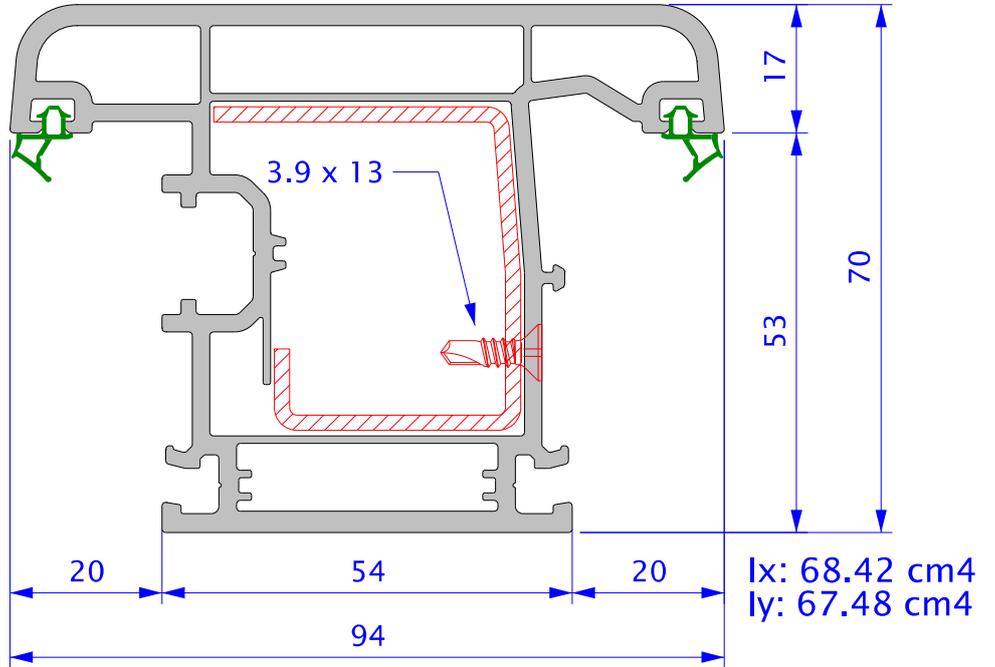
3225



3219/3224/3227

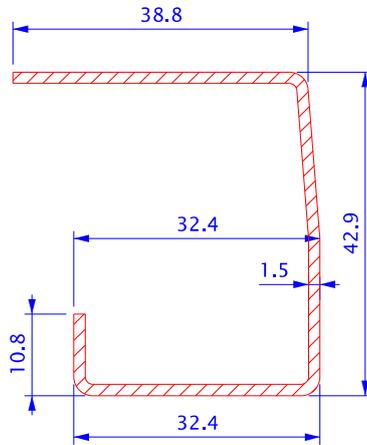


3062
 (scala 1:1)



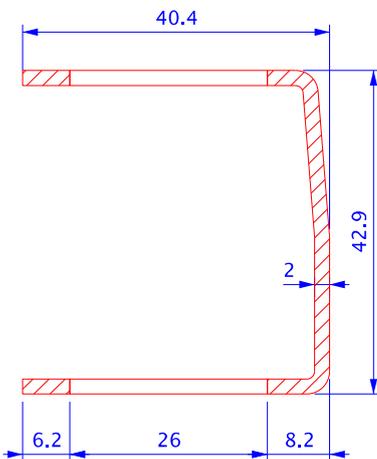
3207

$I_x: 5.65 \text{ cm}^4$
 $I_y: 3.22 \text{ cm}^4$



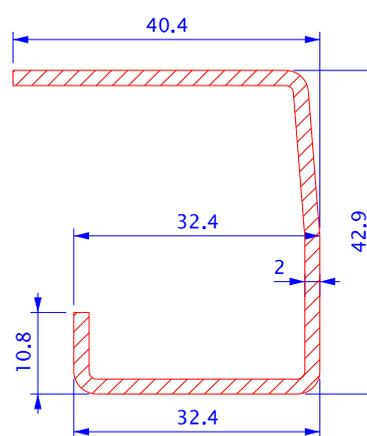
3216

$I_x: 5.56 \text{ cm}^4$
 $I_y: 2.82 \text{ cm}^4$



3217
 3228
 3385

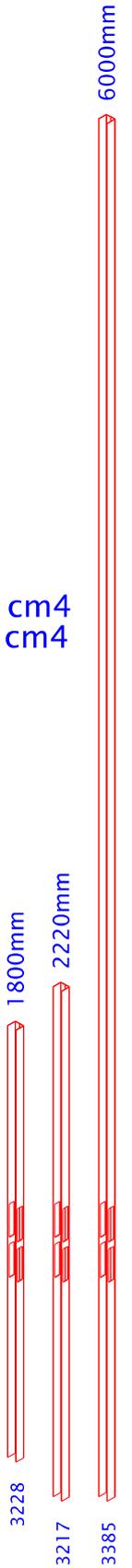
$I_x: 7.47 \text{ cm}^4$
 $I_y: 3.95 \text{ cm}^4$
 $I_x: 3.11 \text{ cm}^4 \text{ (P)}$
 $I_y: 2.50 \text{ cm}^4 \text{ (P)}$



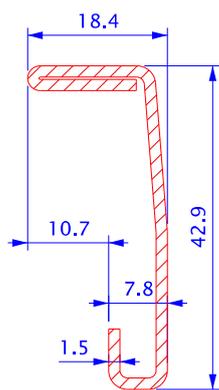
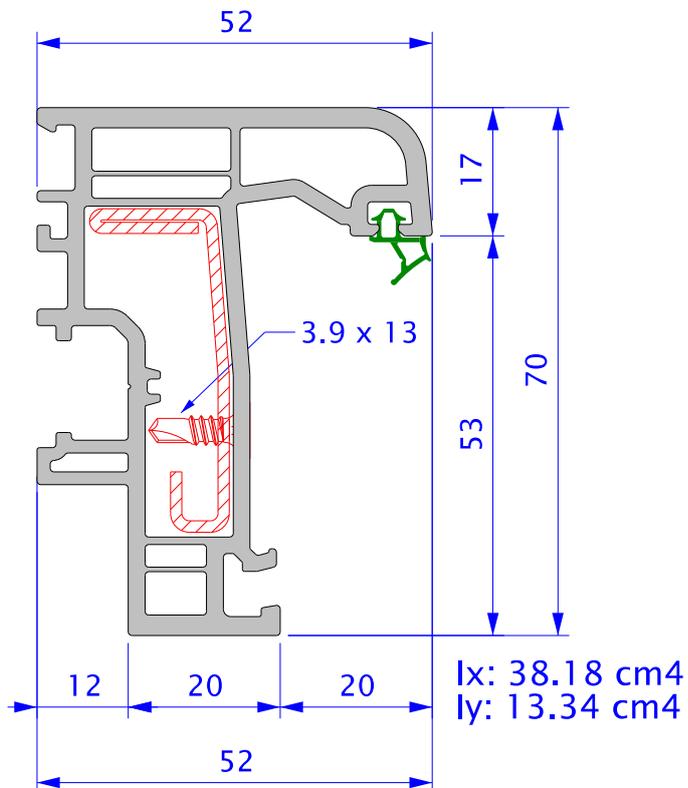
3229

$I_x: 7.13 \text{ cm}^4$
 $I_y: 3.62 \text{ cm}^4$

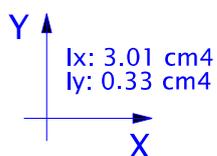
D = 25/28mm



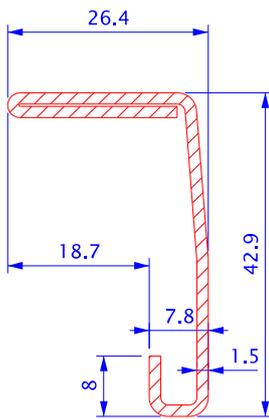
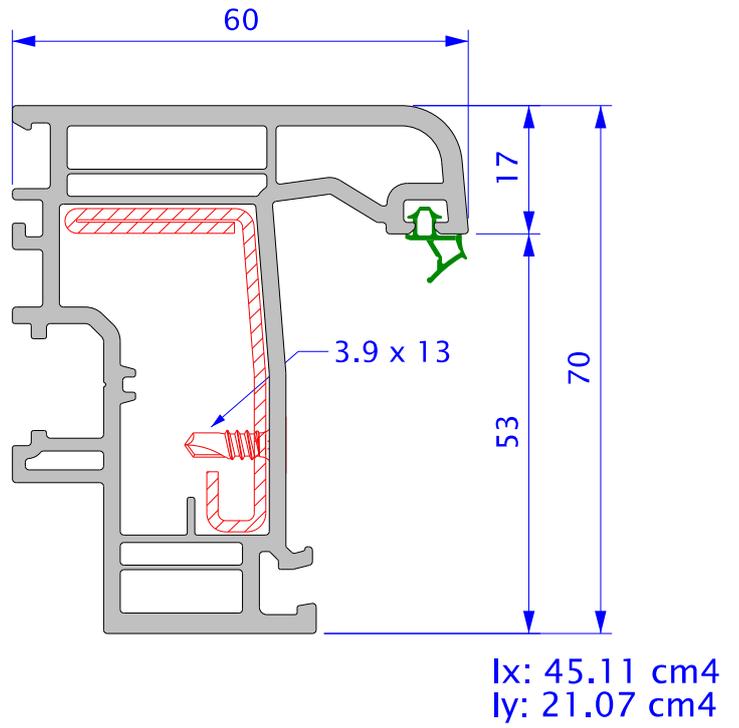
5094
 (scala 1:1)



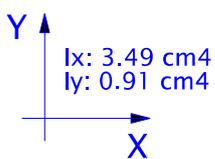
3212



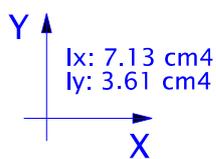
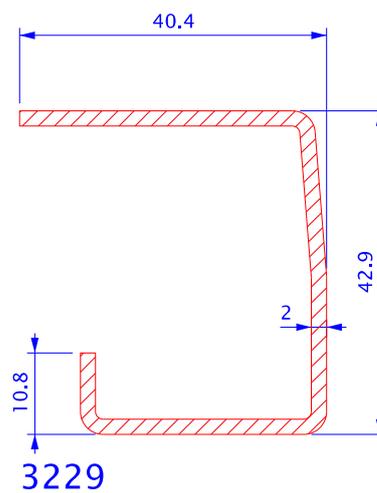
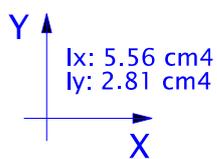
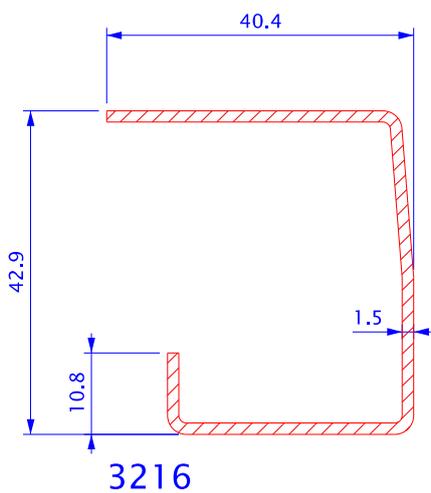
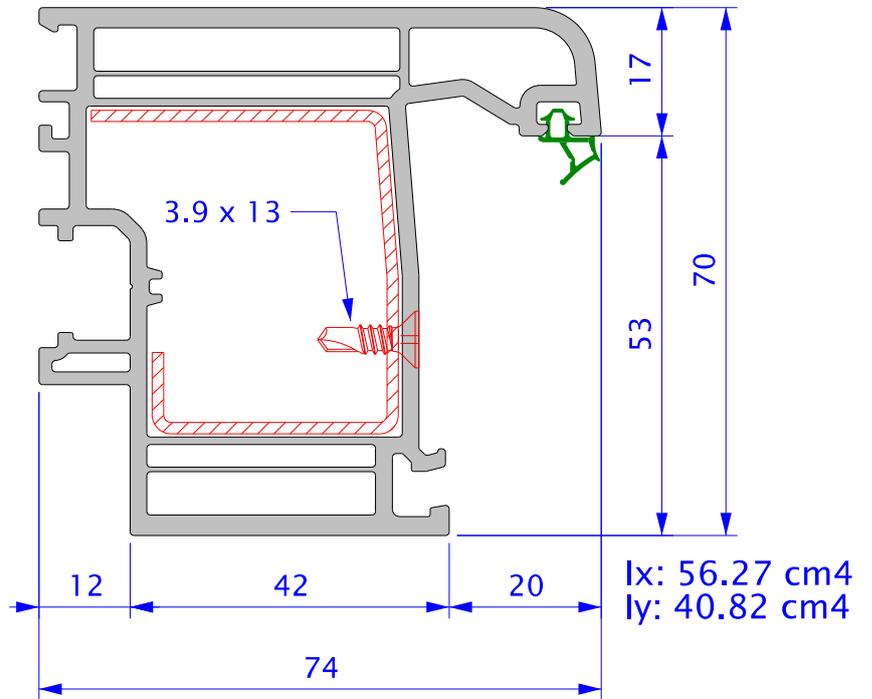
5095
 (scala 1:1)



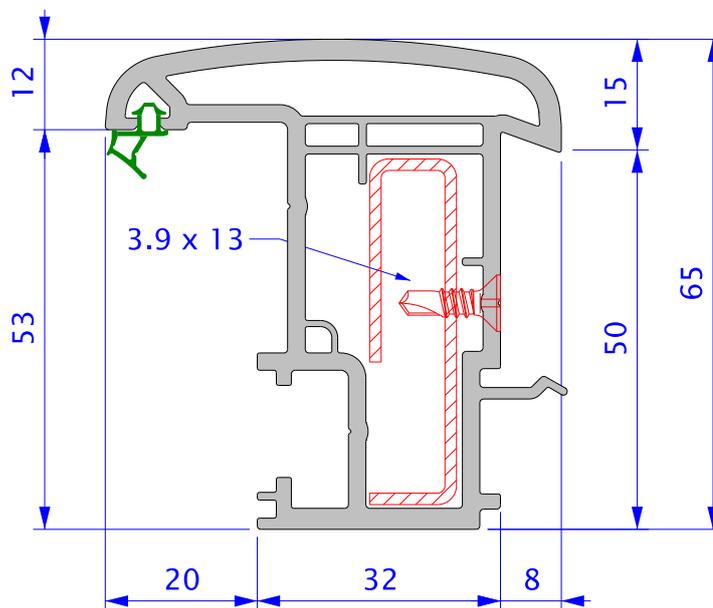
3214



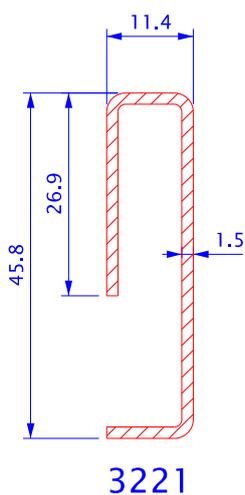
5096
 (scala 1:1)



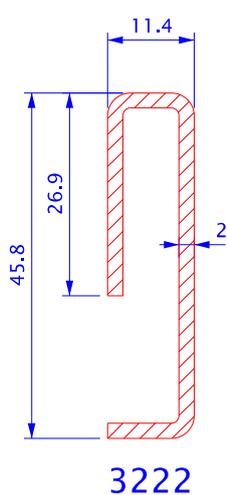
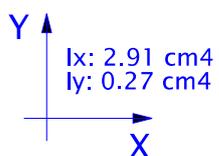
3077
 (scala 1:1)



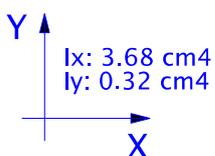
$I_x: 34.52 \text{ cm}^4$
 $I_y: 15.55 \text{ cm}^4$



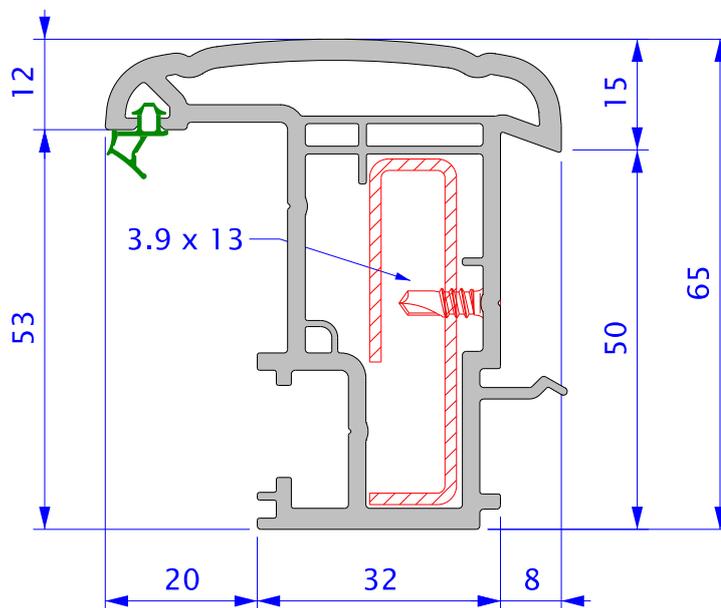
3221



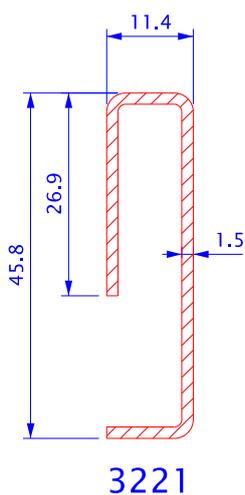
3222



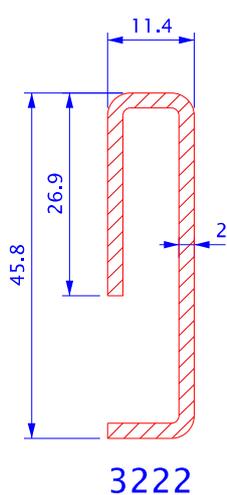
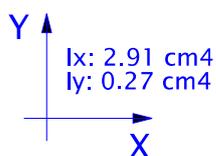
3078
 (scala 1:1)



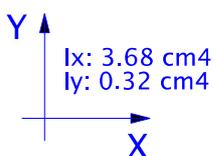
$I_x: 34.55 \text{ cm}^4$
 $I_y: 15.60 \text{ cm}^4$



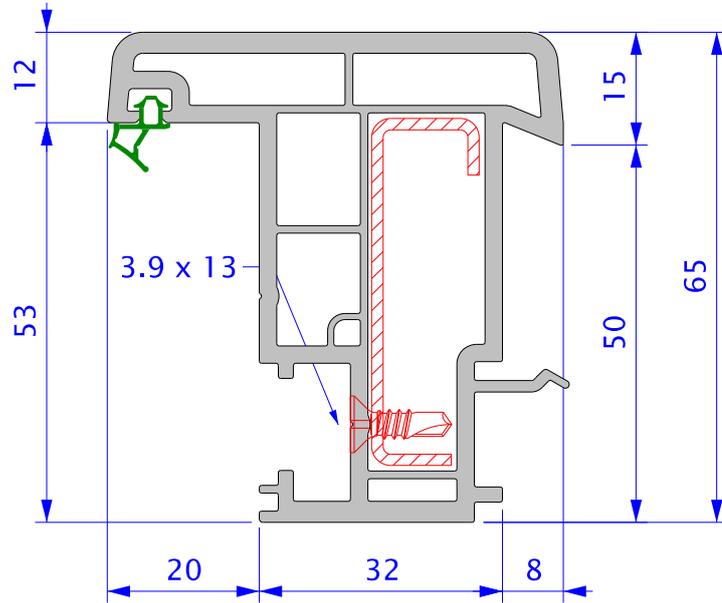
3221



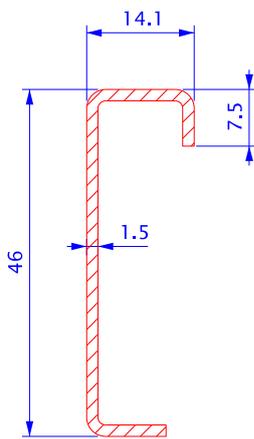
3222



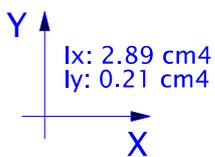
3079
 (scala 1:1)



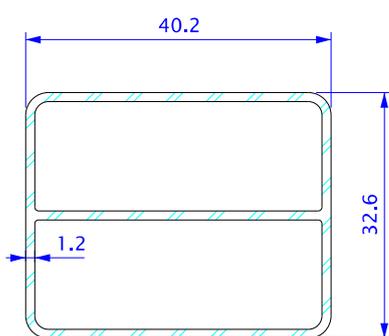
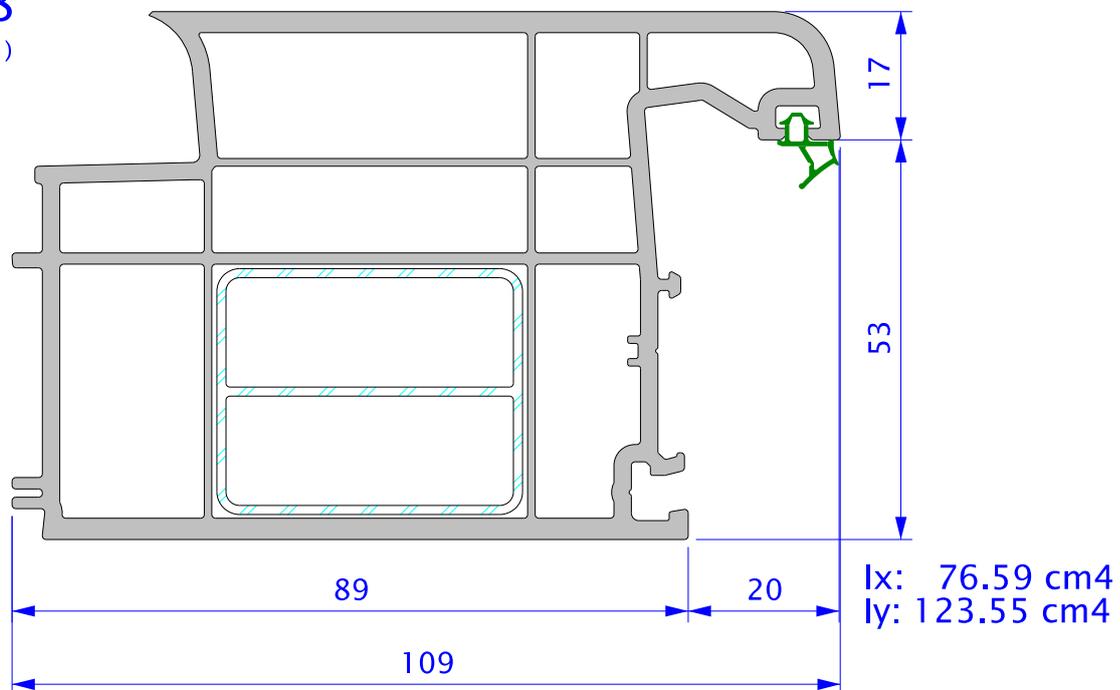
$I_x: 38.45 \text{ cm}^4$
 $I_y: 18.88 \text{ cm}^4$



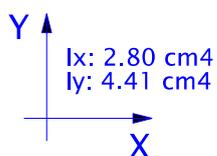
3230



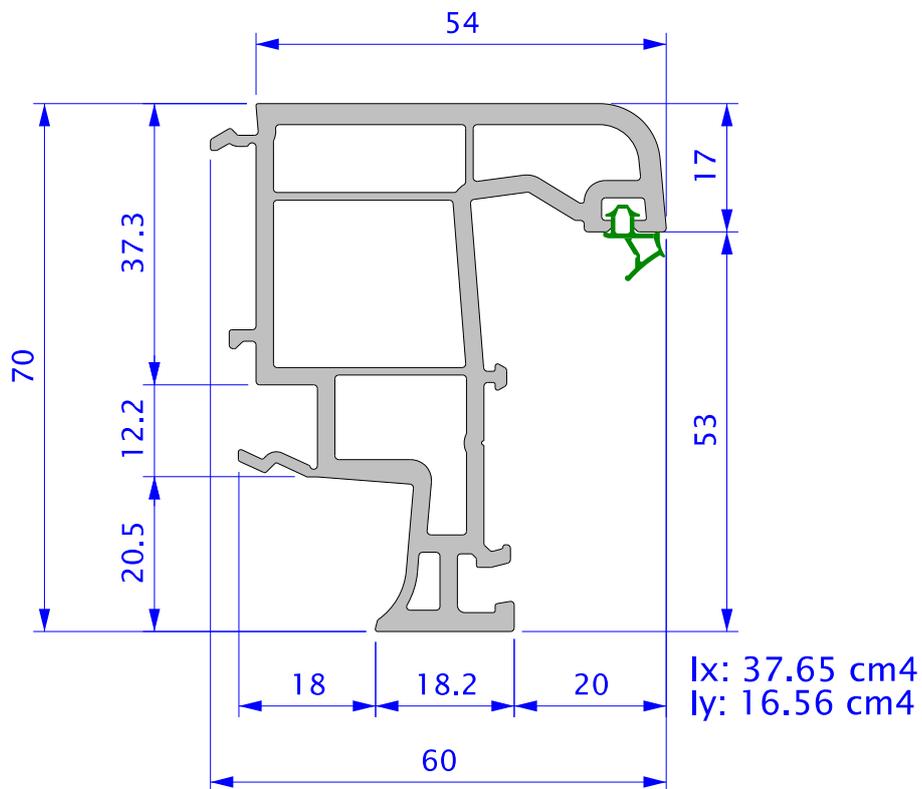
3148
 (scala 1:1)



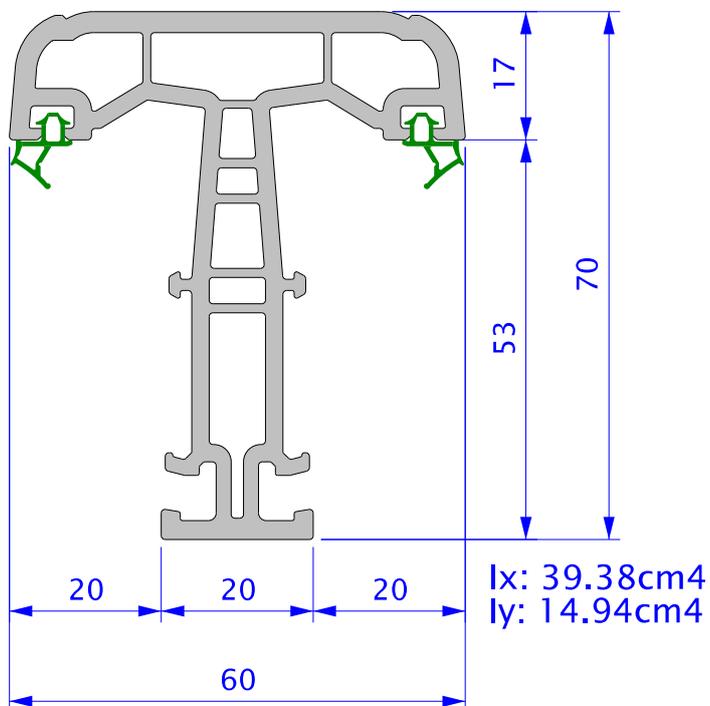
3556



3194
(scala 1:1)

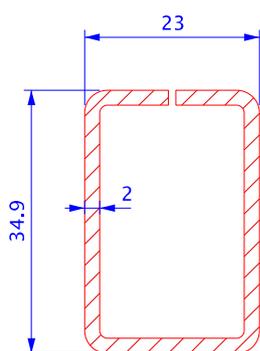
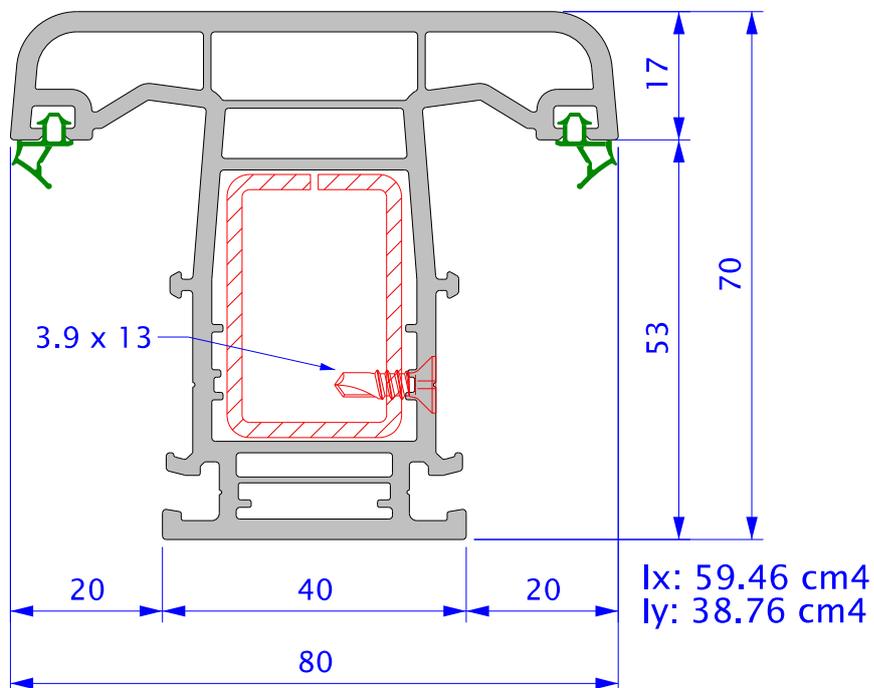


5083
(scala 1:1)

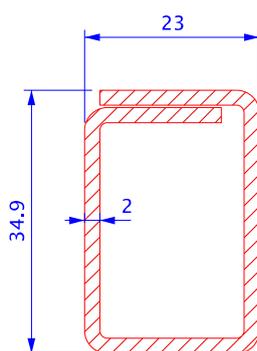
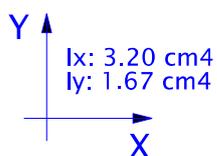


5182

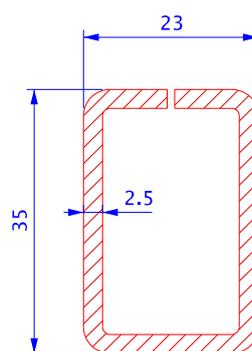
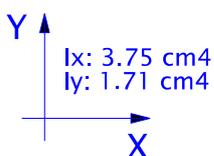
(scala 1:1)



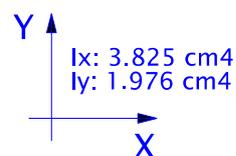
3231



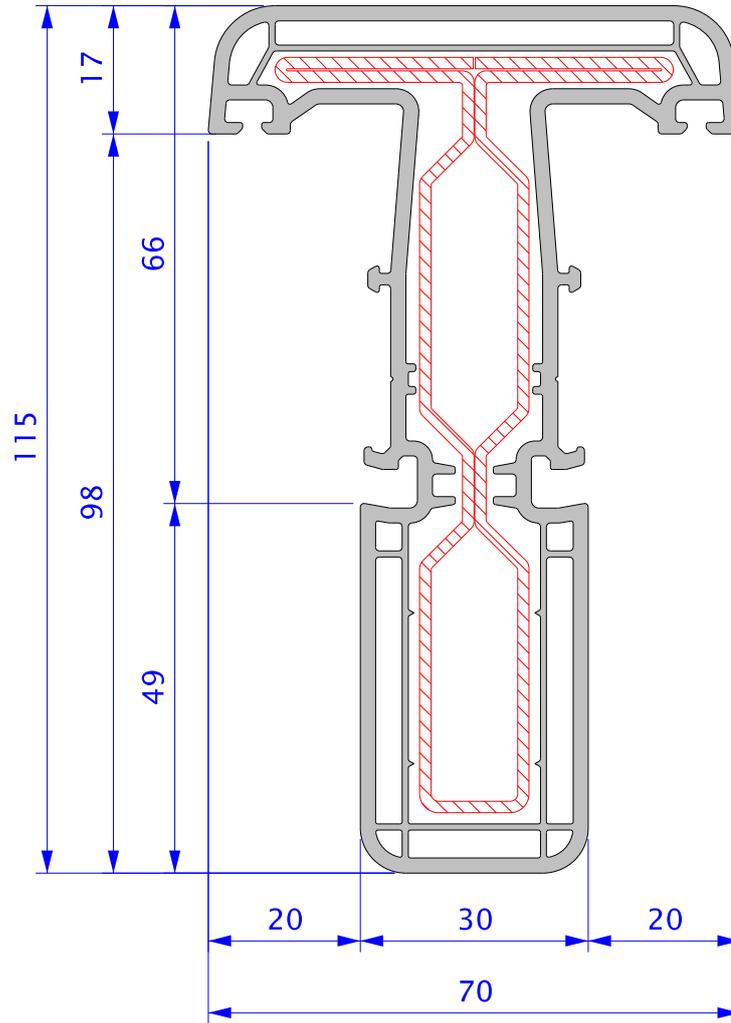
3241



3242



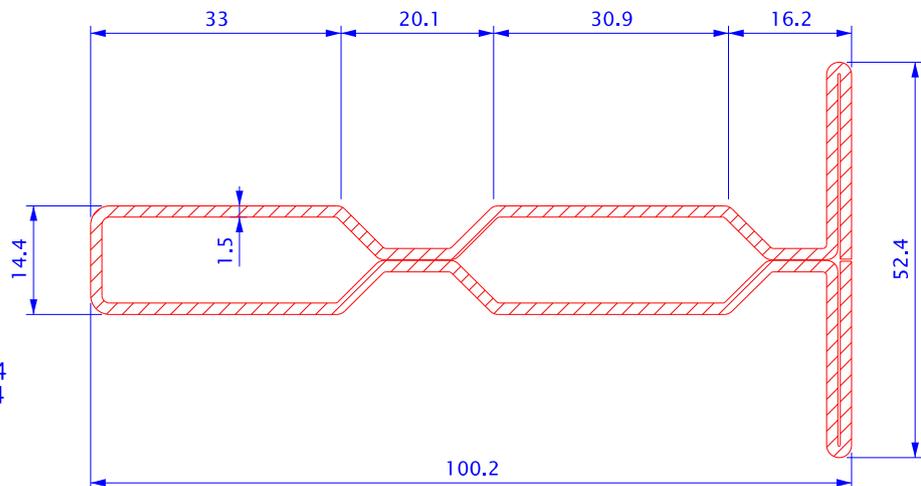
3705
 (scala 1:1)



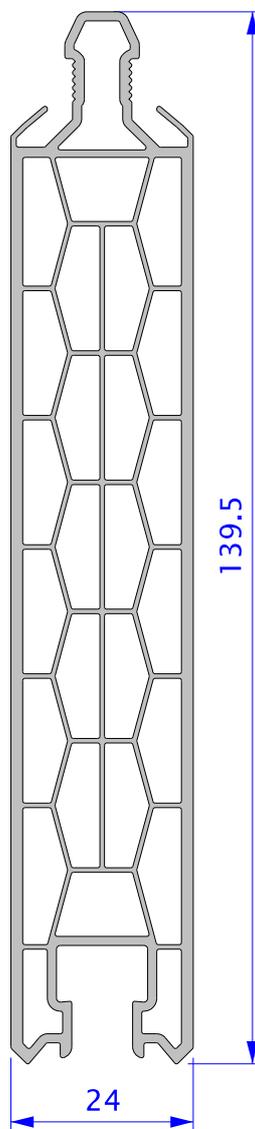
$I_x: 151.31 \text{ cm}^4$
 $I_y: 26.97 \text{ cm}^4$

3715

$I_x: 55.09 \text{ cm}^4$
 $I_y: 4.42 \text{ cm}^4$

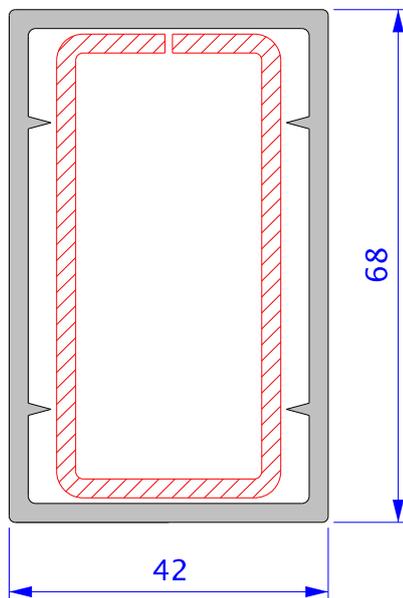


90
(scala 1:1)

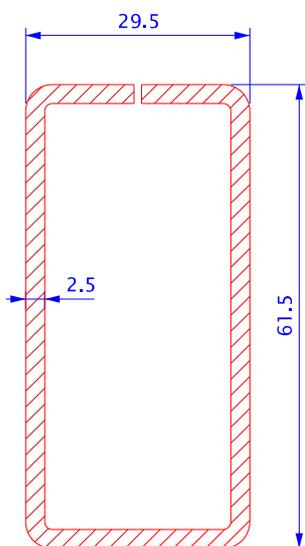


I_x: 5.85 cm⁴
I_y: 124.35 cm⁴

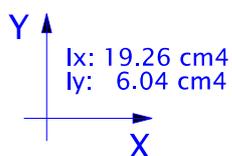
477
(scala 1:1)



$I_x: 33.32\text{cm}^4$
 $I_y: 15.69\text{cm}^4$

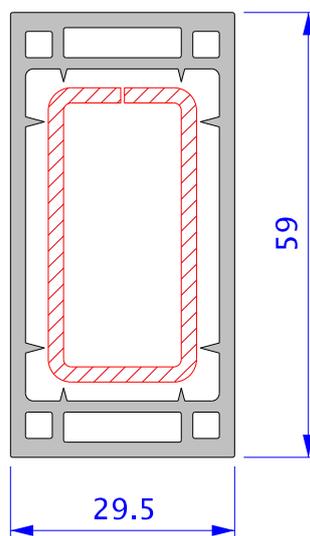


792

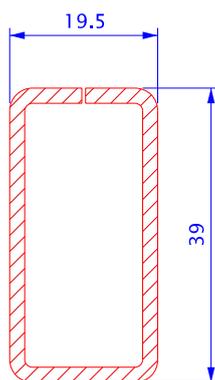


632

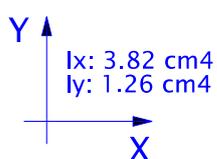
(scala 1:1)



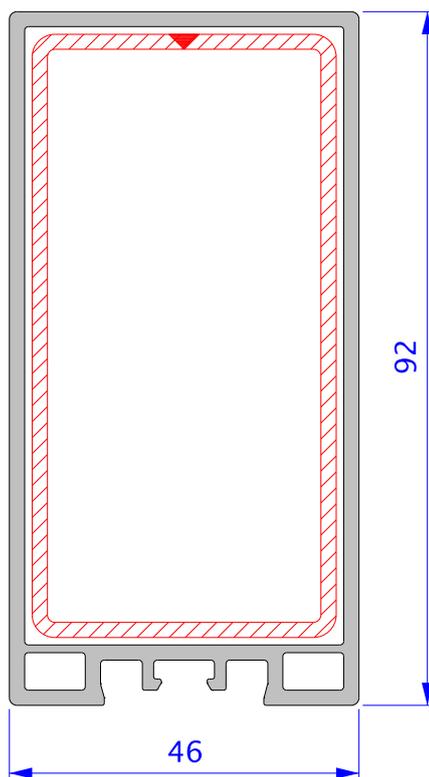
Ix: 21.53 cm⁴
Iy: 5.83 cm⁴



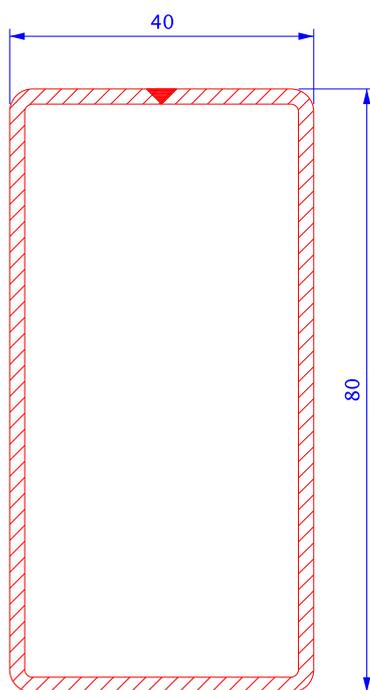
795



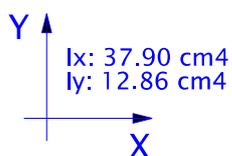
863
(scala 1:1)



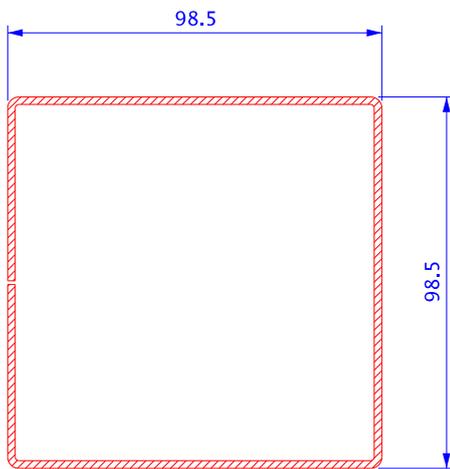
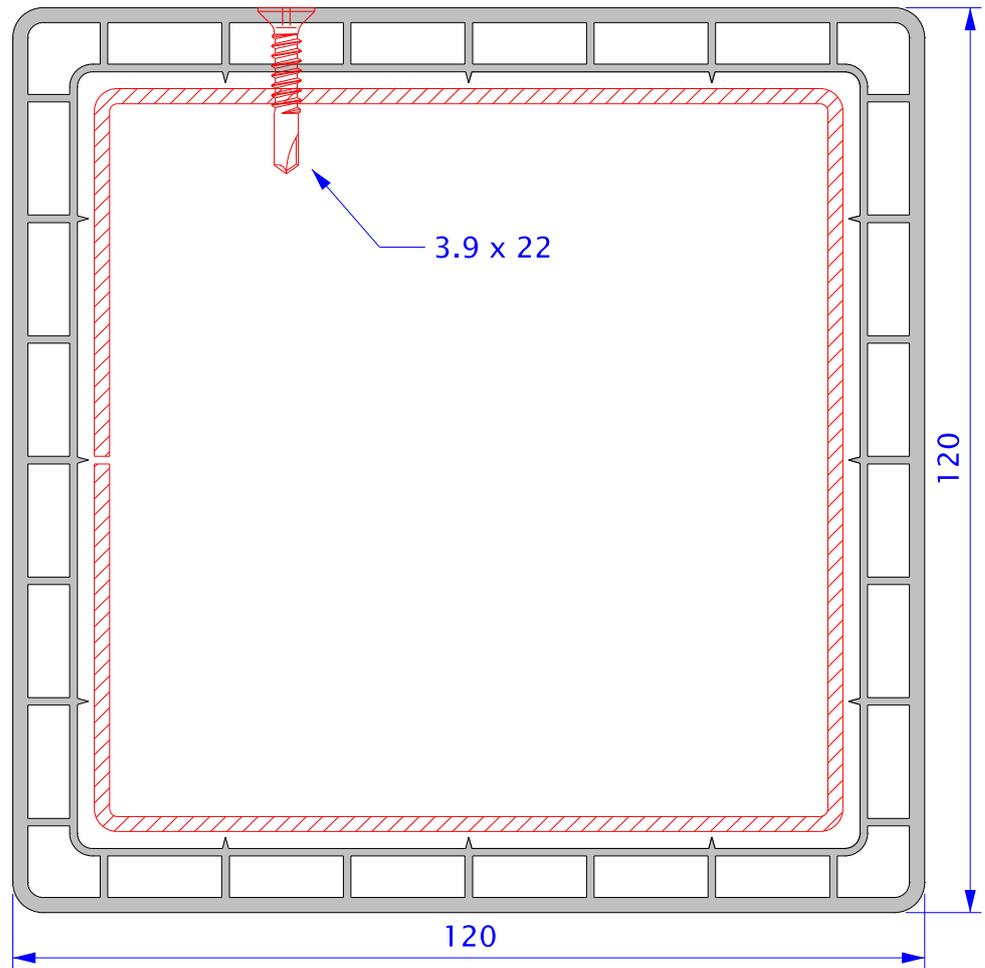
$I_x: 66.39 \text{ cm}^4$
 $I_y: 21.14 \text{ cm}^4$



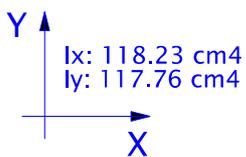
799



1133
(scala 1:1)

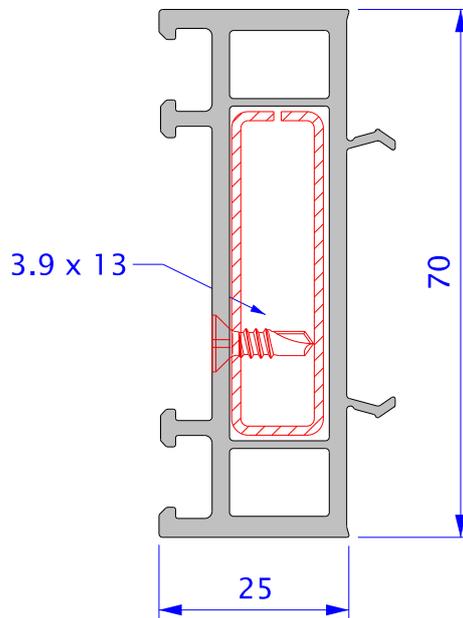


1143
(scala 1:2)

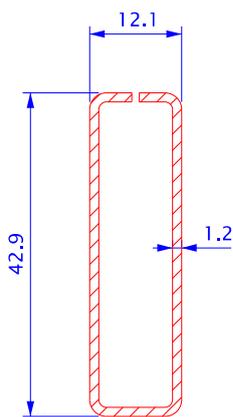


$I_x: 321.887 \text{ cm}^4$
 $I_y: 321.887 \text{ cm}^4$

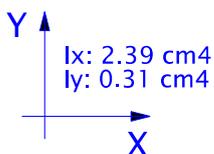
3300
 (scala 1:1)



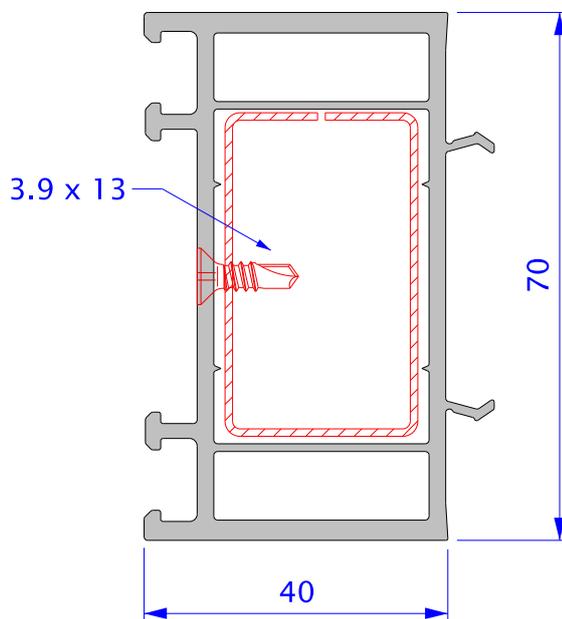
$I_x: 29.62 \text{ cm}^4$
 $I_y: 3.52 \text{ cm}^4$



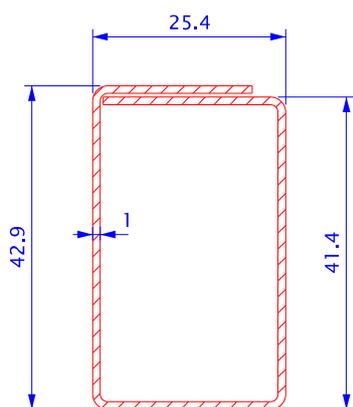
3238



3301
 (scala 1:1)

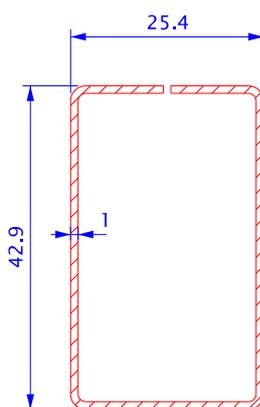


$I_x: 38.58 \text{ cm}^4$
 $I_y: 12.25 \text{ cm}^4$



3202

Y ↑
 $I_x: 3.83 \text{ cm}^4$
 $I_y: 1.49 \text{ cm}^4$
 X →

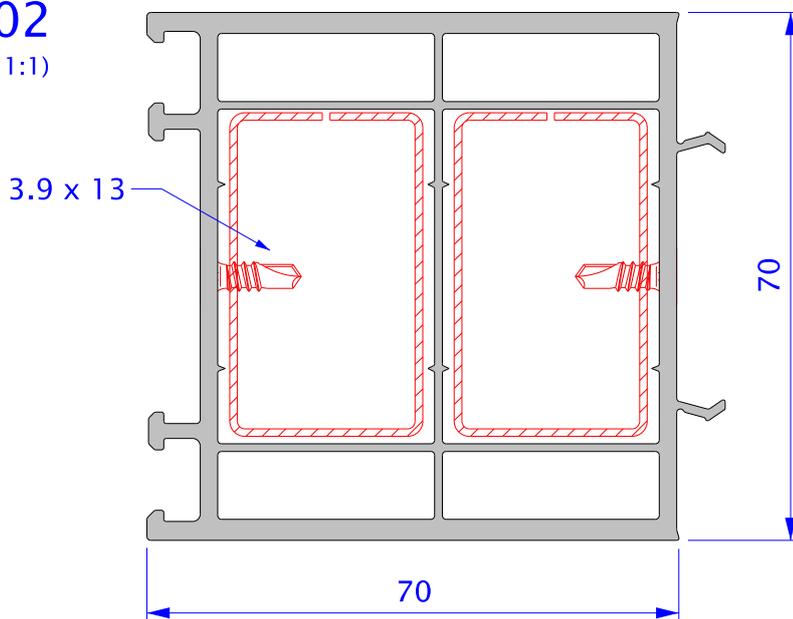


3525

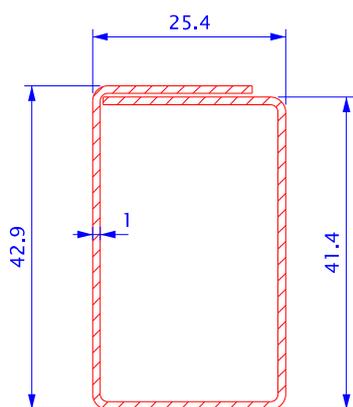
Y ↑
 $I_x: 3.21 \text{ cm}^4$
 $I_y: 1.45 \text{ cm}^4$
 X →

3302

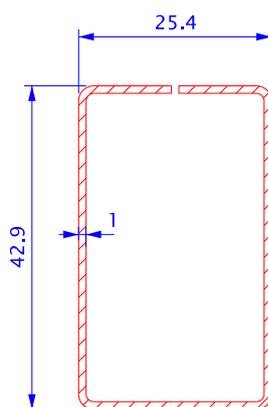
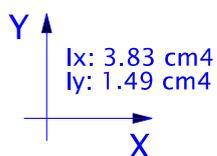
(scala 1:1)



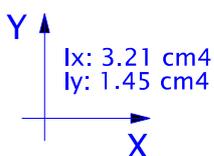
Ix: 64.94 cm⁴
 Iy: 53.41 cm⁴



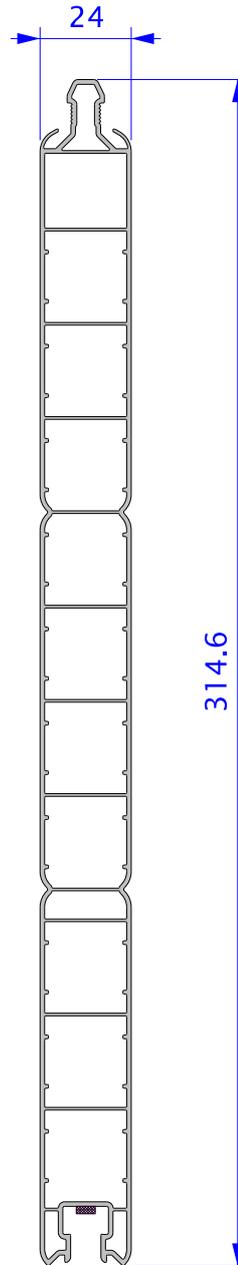
3202



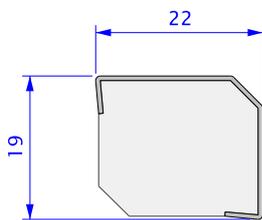
3525



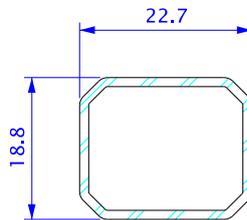
3580
(scala 1:2)



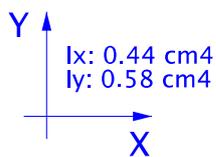
$I_x: 10.81 \text{ cm}^4$
 $I_y: 987.14 \text{ cm}^4$



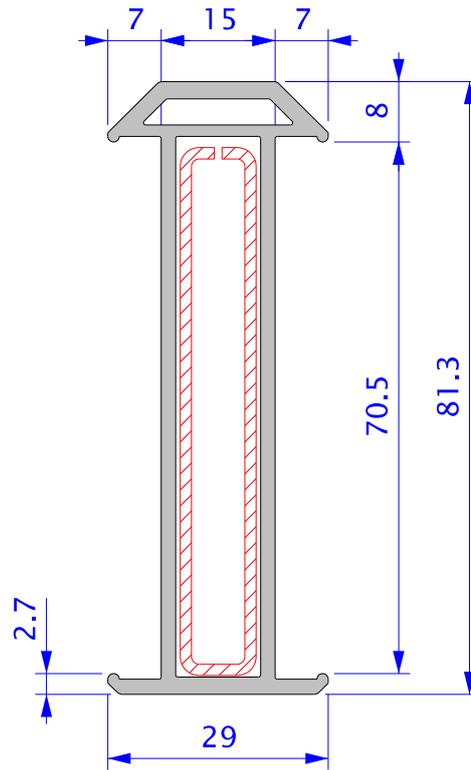
1179
(scala 1:1)



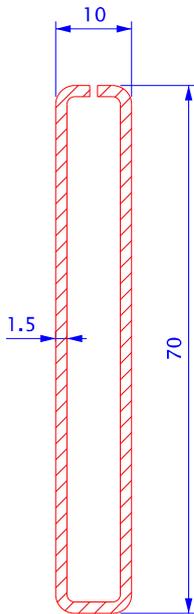
3586
(scala 1:1)



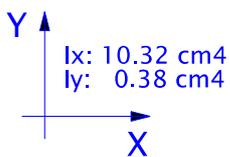
6960
(scala 1:1)

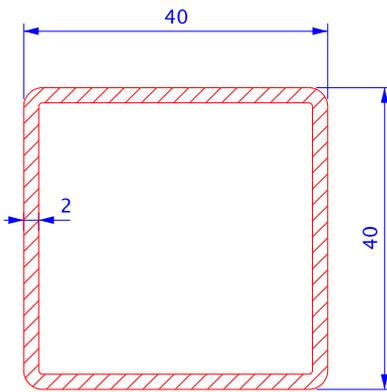
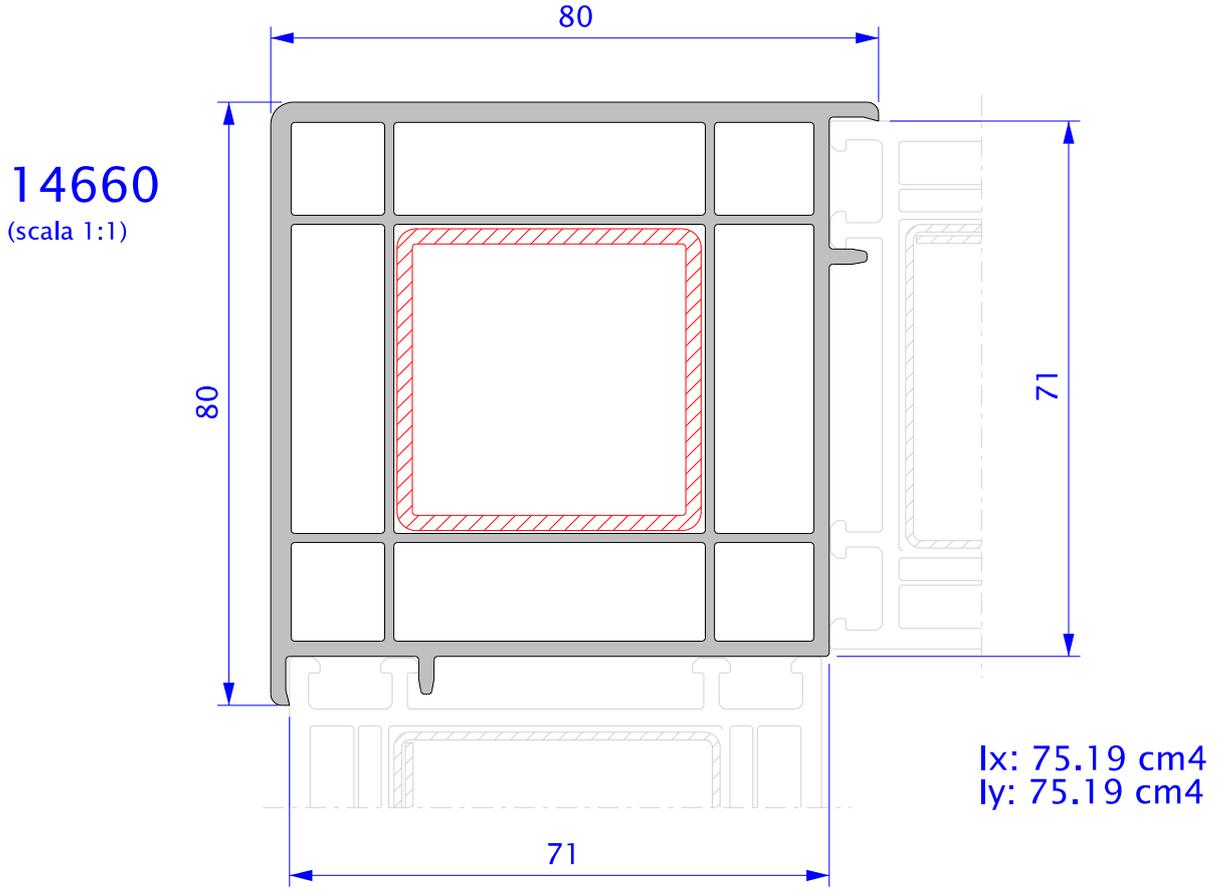


I_x: 35.08 cm⁴
I_y: 2.26 cm⁴

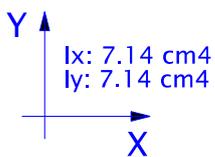


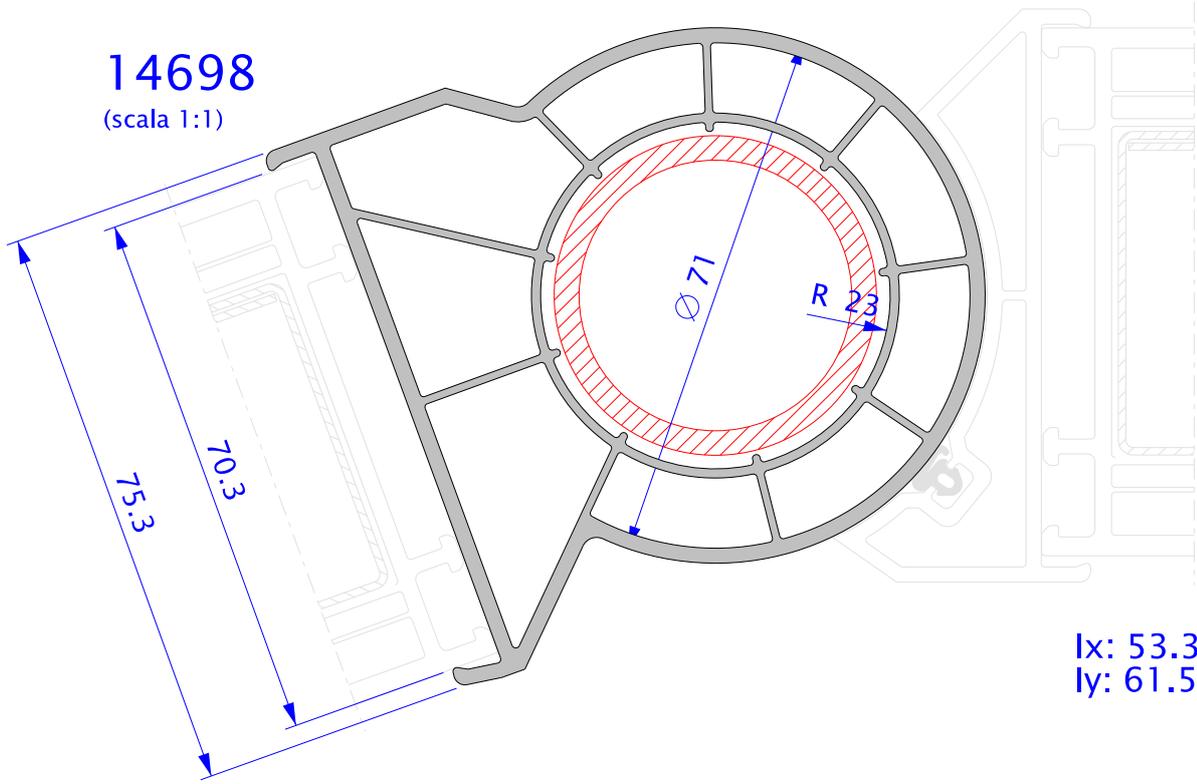
6760



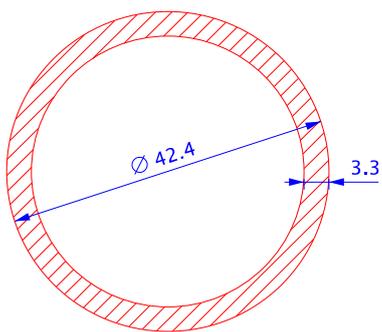


14357

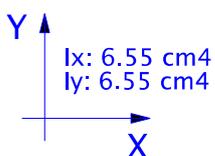




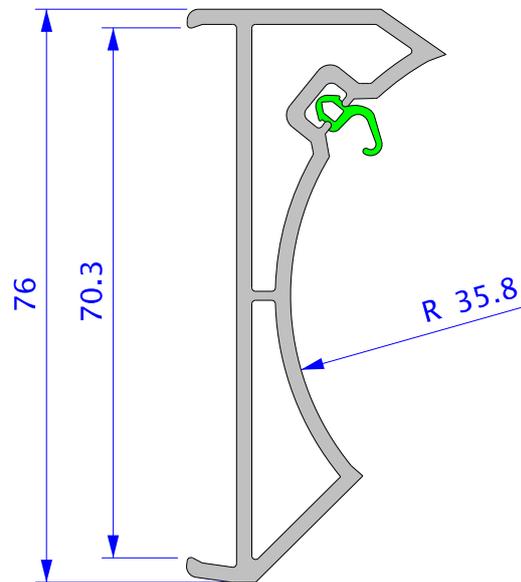
Ix: 53.31 cm⁴
Iy: 61.58 cm⁴



profilo commerciale



14699
(scala 1:1)



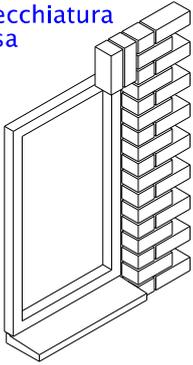
Ix: 26.19 cm⁴
Iy: 20.21 cm⁴

GENERALE

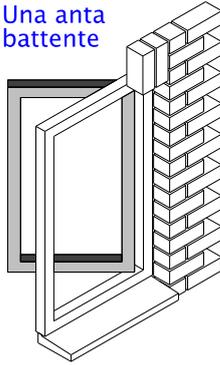
Profili principali 1.1
Profili complementari 1.2
Profili quotati 1.3
Tipologie di porte e finestre 1.4

Finestre

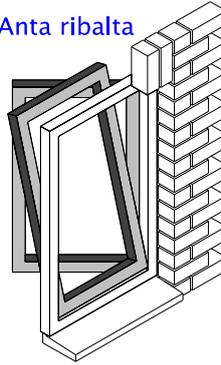
Specchiatura
fissa



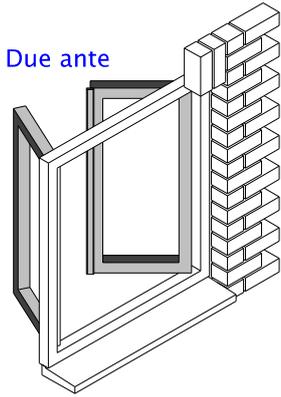
Una anta
battente



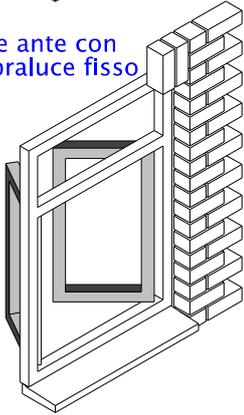
Anta ribalta



Due ante



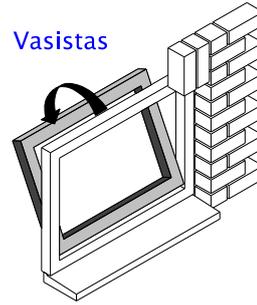
Due ante con
sopraluce fisso



Bilico orizzontale

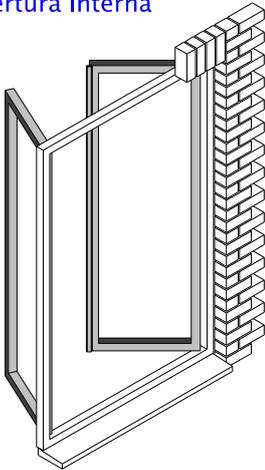


Vasistas

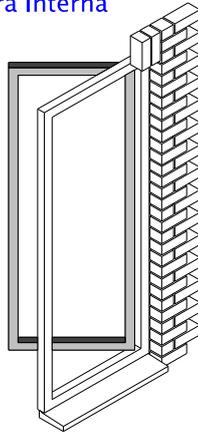


Porte

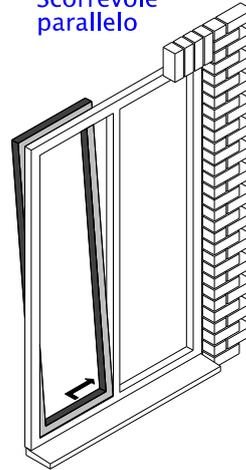
Porta balcone a due ante
apertura interna



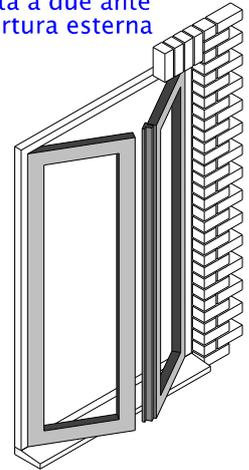
Porta balcone ad una anta
apertura interna



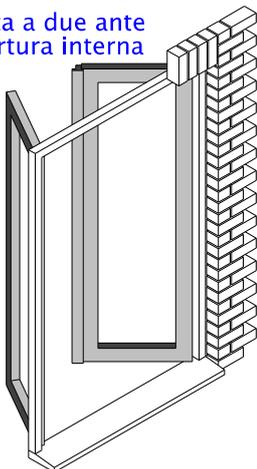
Scorrevole
parallelo



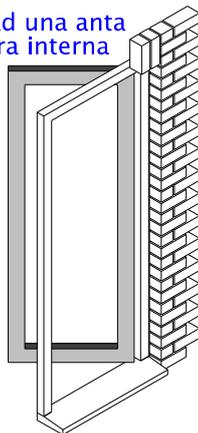
Porta a due ante
apertura esterna



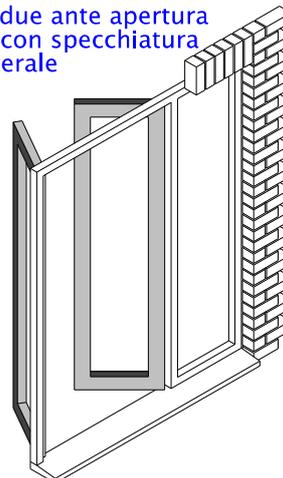
Porta a due ante
apertura interna



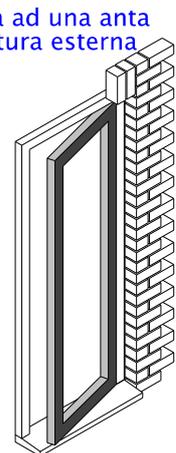
Porta ad una anta
apertura interna



Porta a due ante apertura
interna con specchiatura
fissa laterale

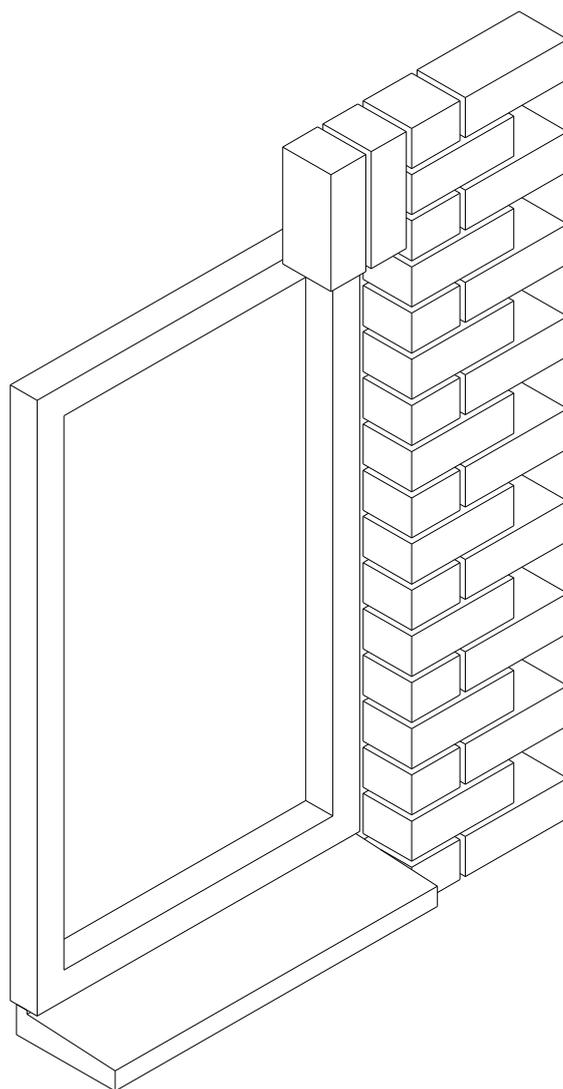


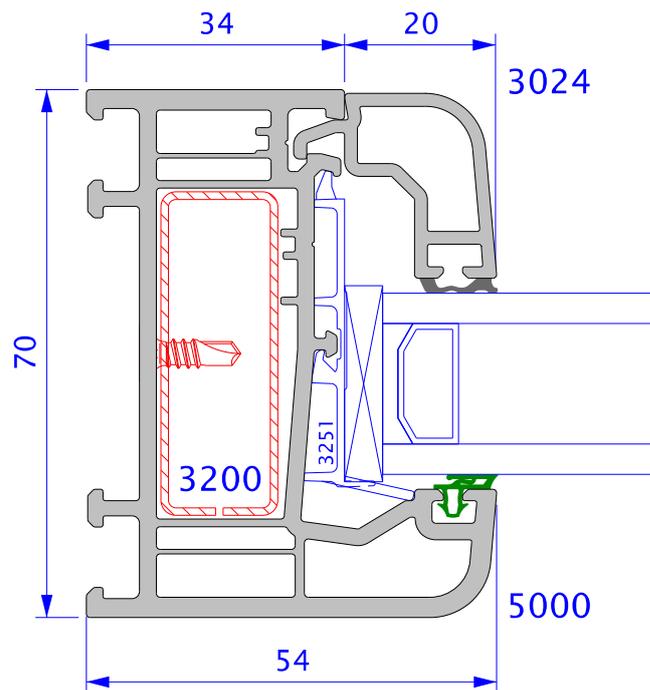
Porta ad una anta
apertura esterna



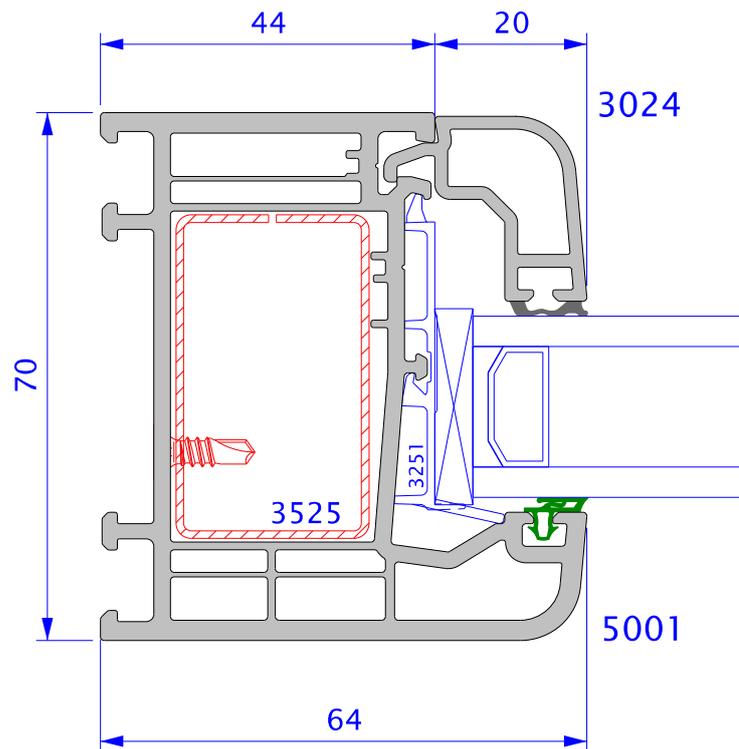
PRODUZIONE

	Sezioni 2.1
Drenaggio e decompressione	2.2
Ferramenta	2.3
Tavole di vetratura	2.4
Uso degli accessori	2.5

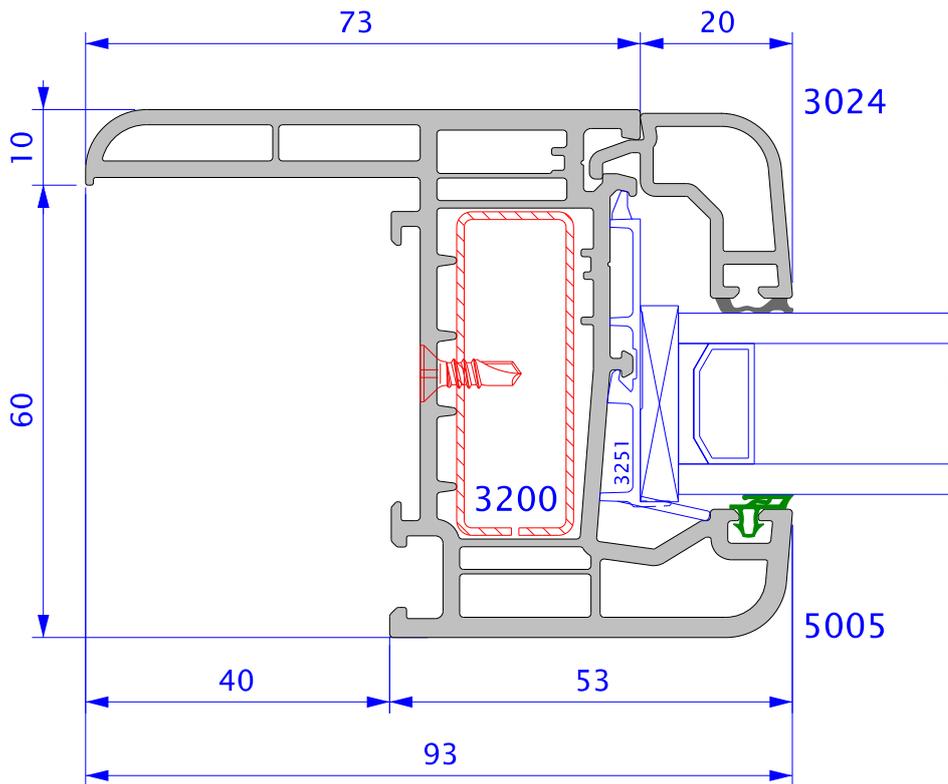




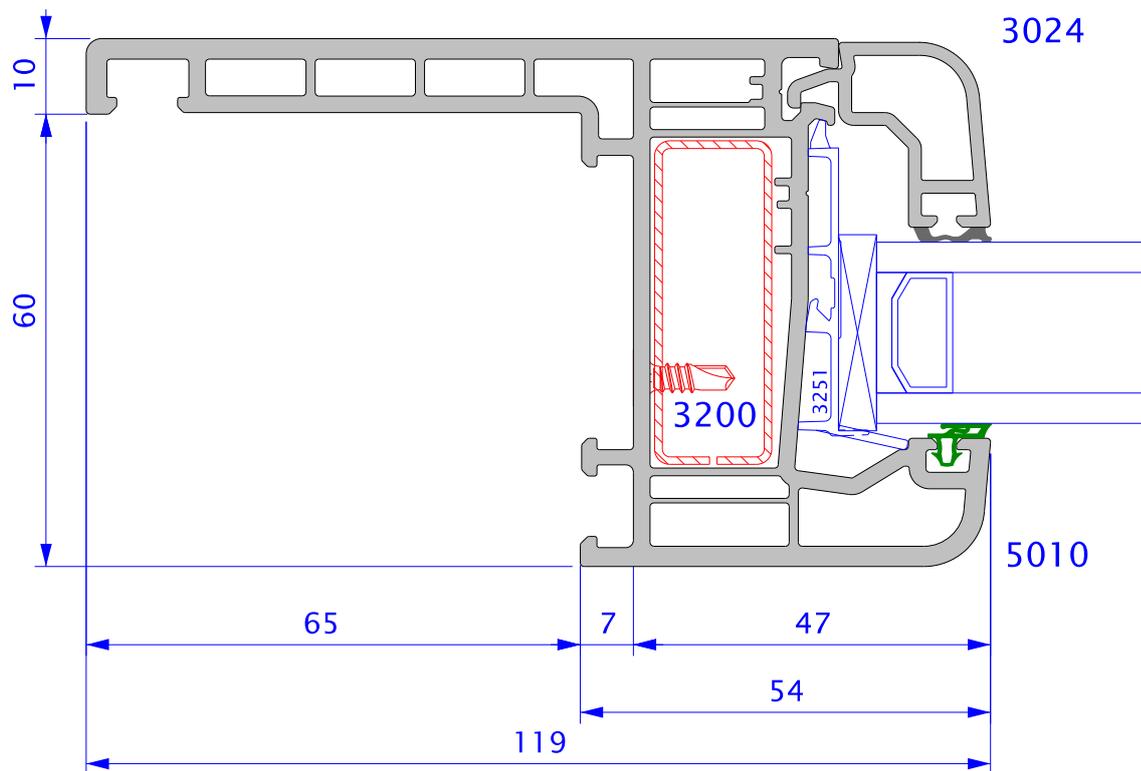
(scala 1:1)



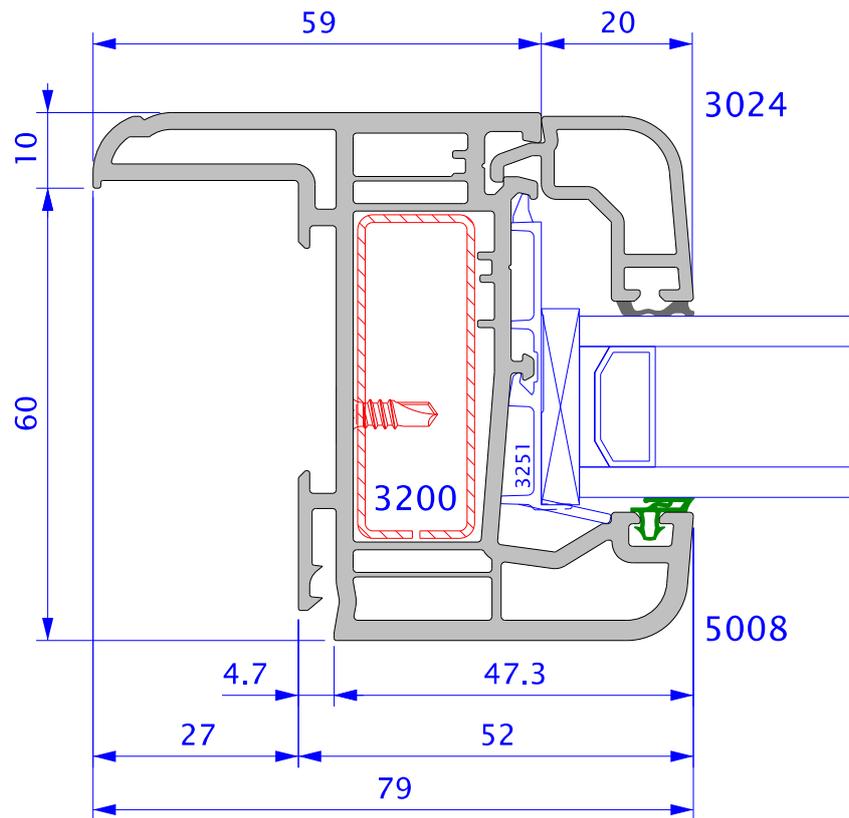
(scala 1:1)



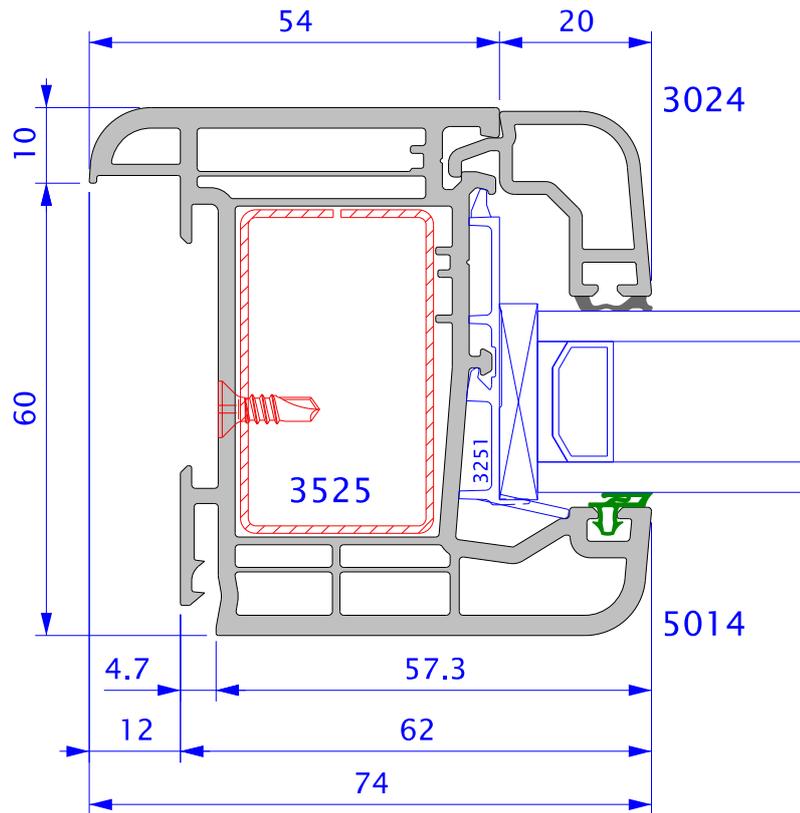
(scala 1:1)



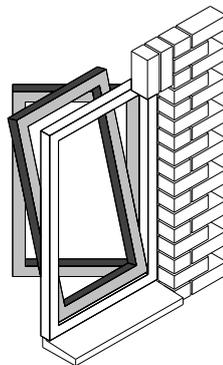
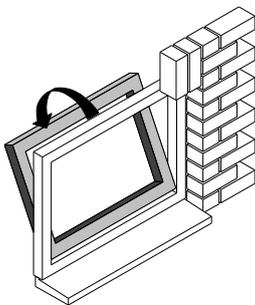
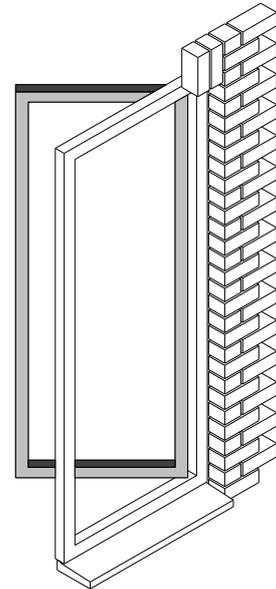
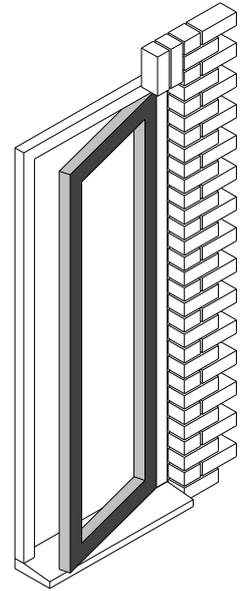
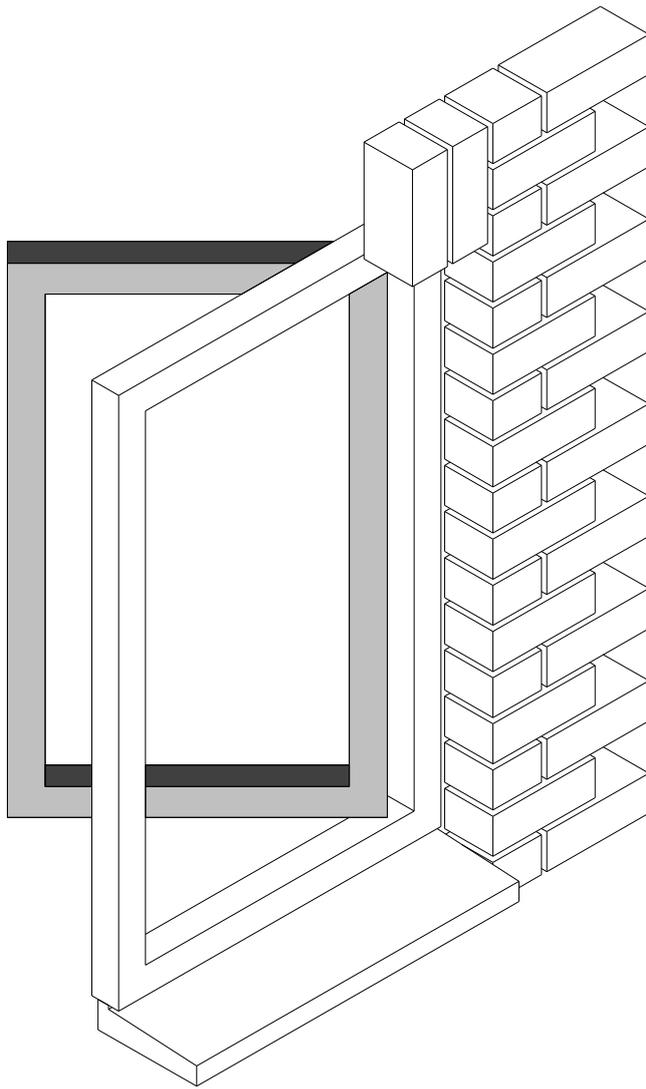
(scala 1:1)

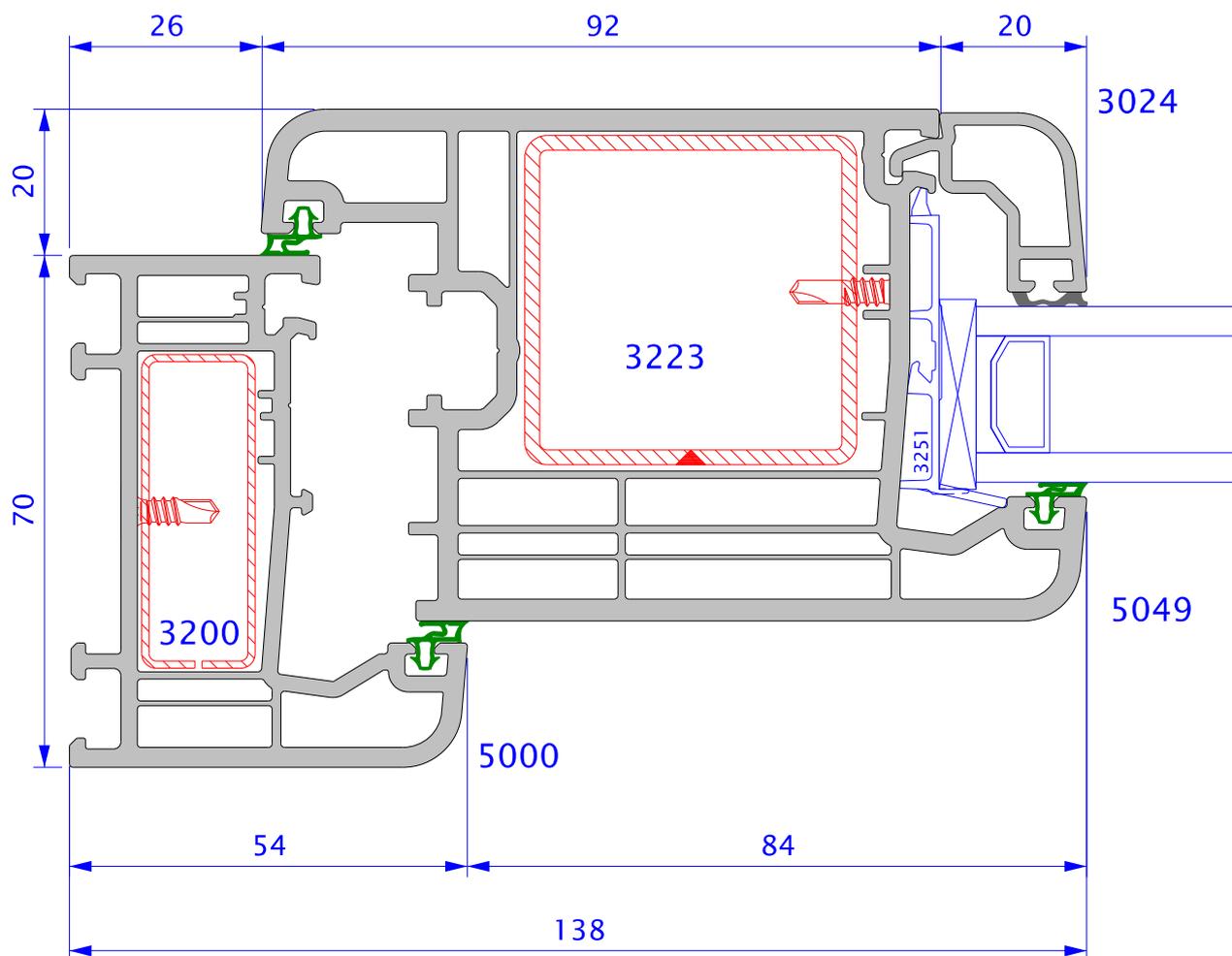


(scala 1:1)

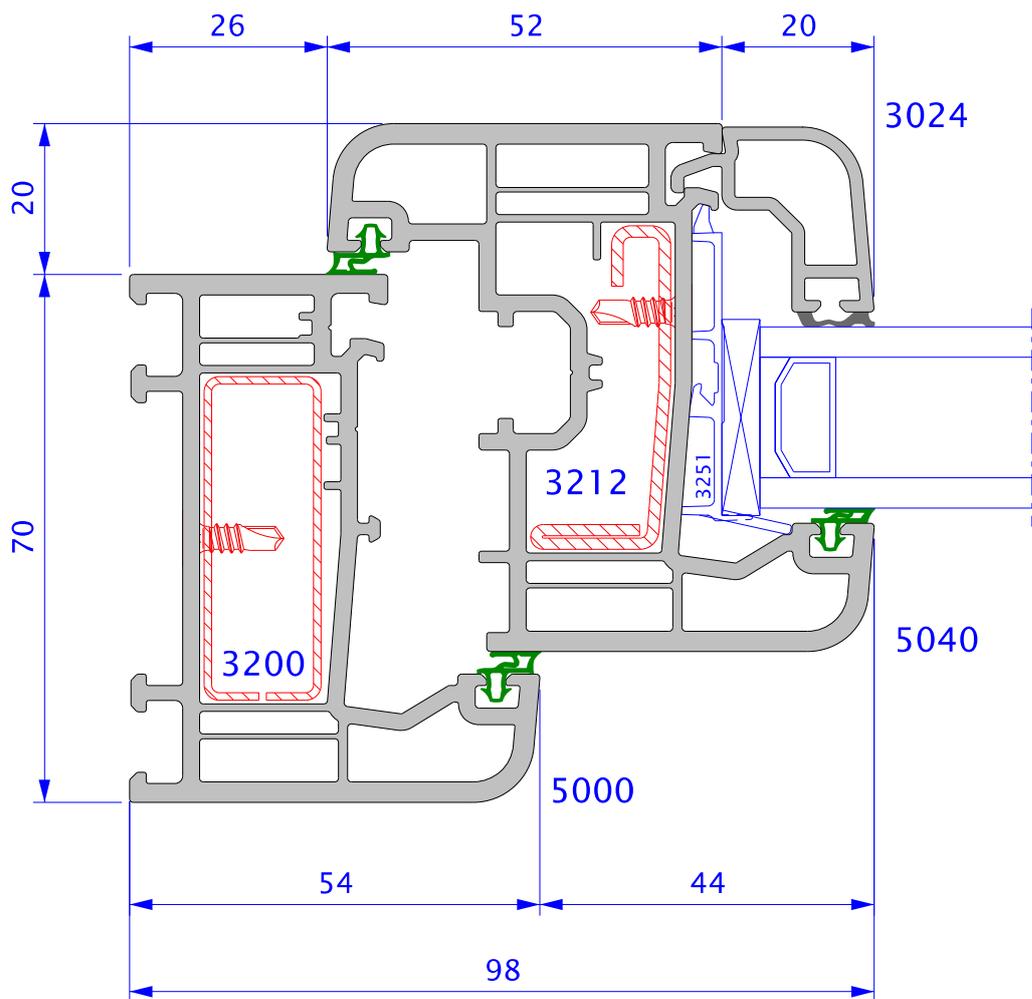


(scala 1:1)

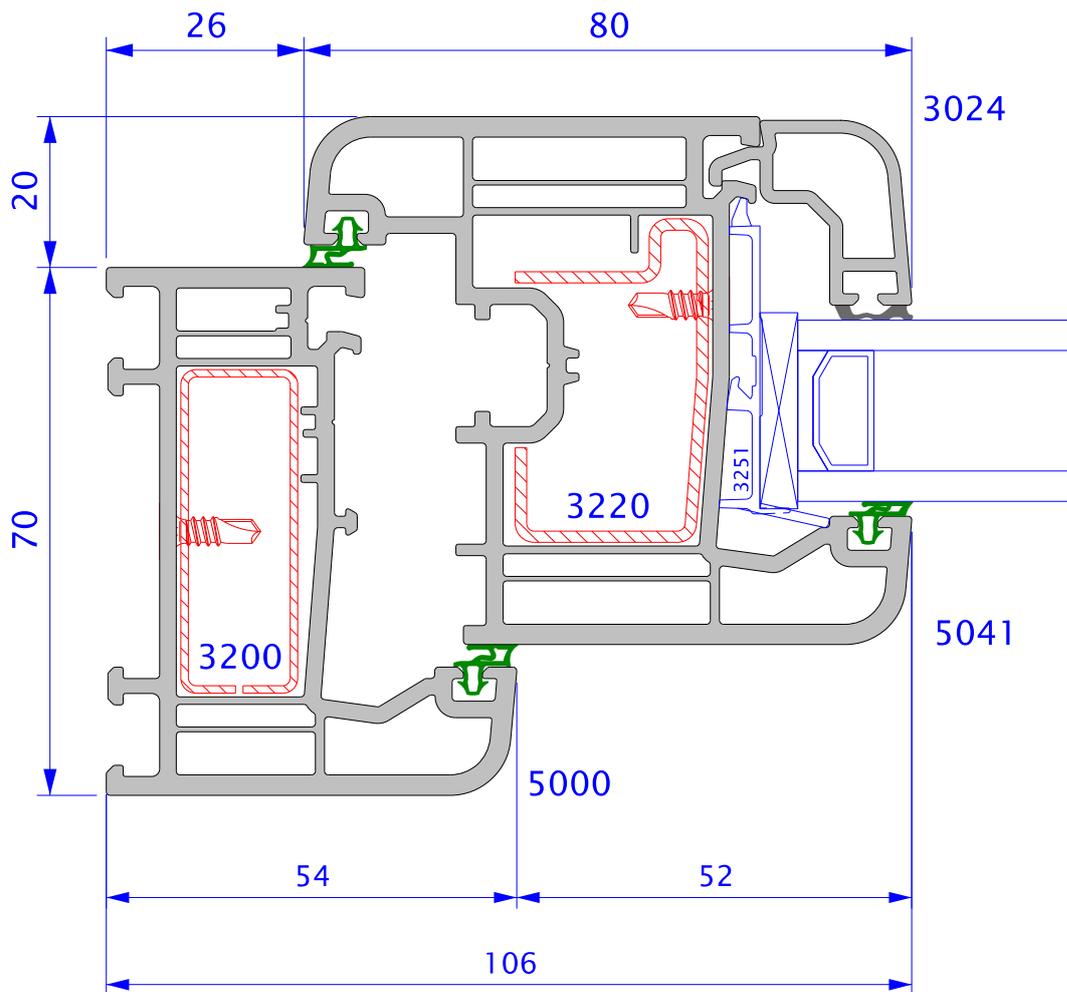




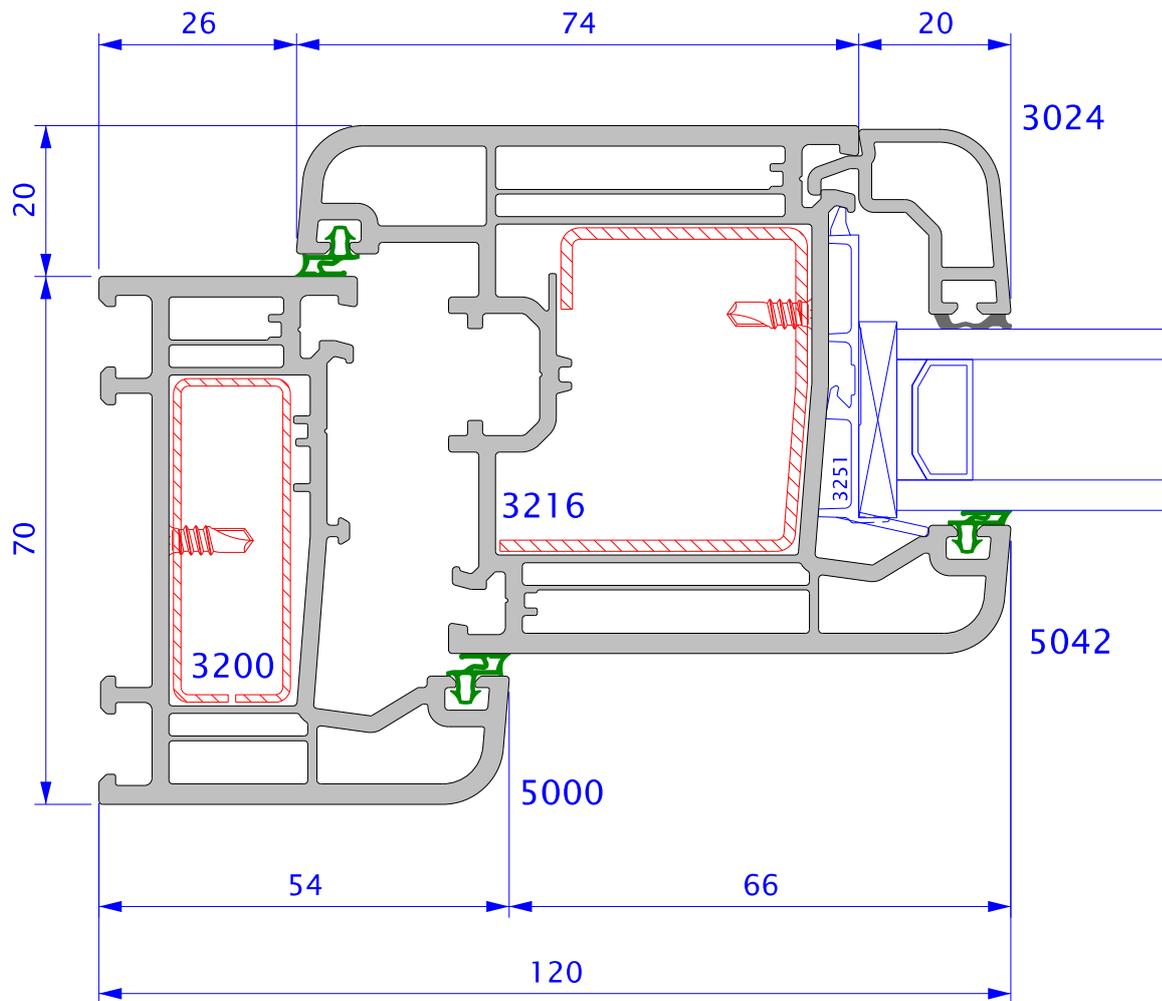
(scala 1:1)



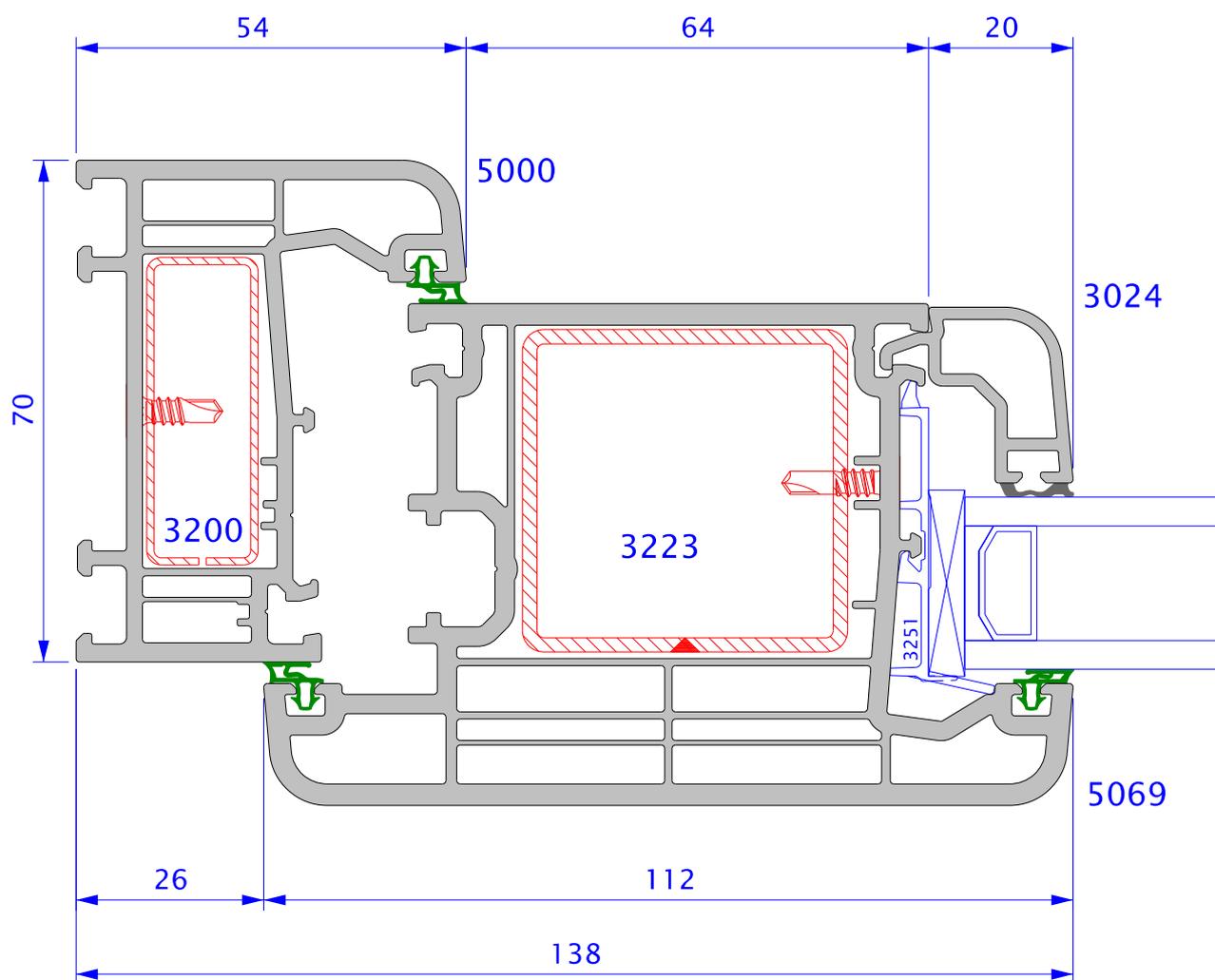
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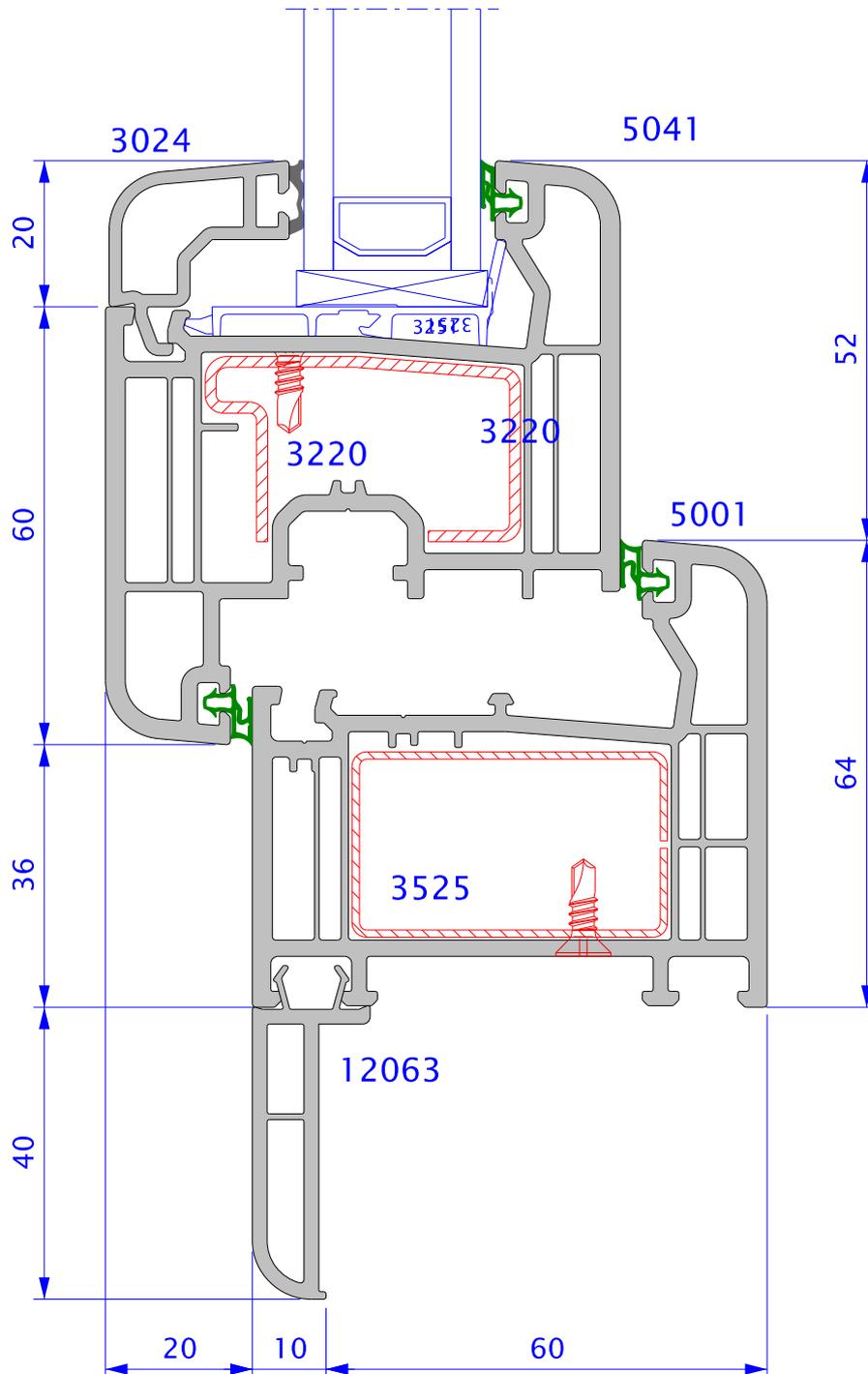
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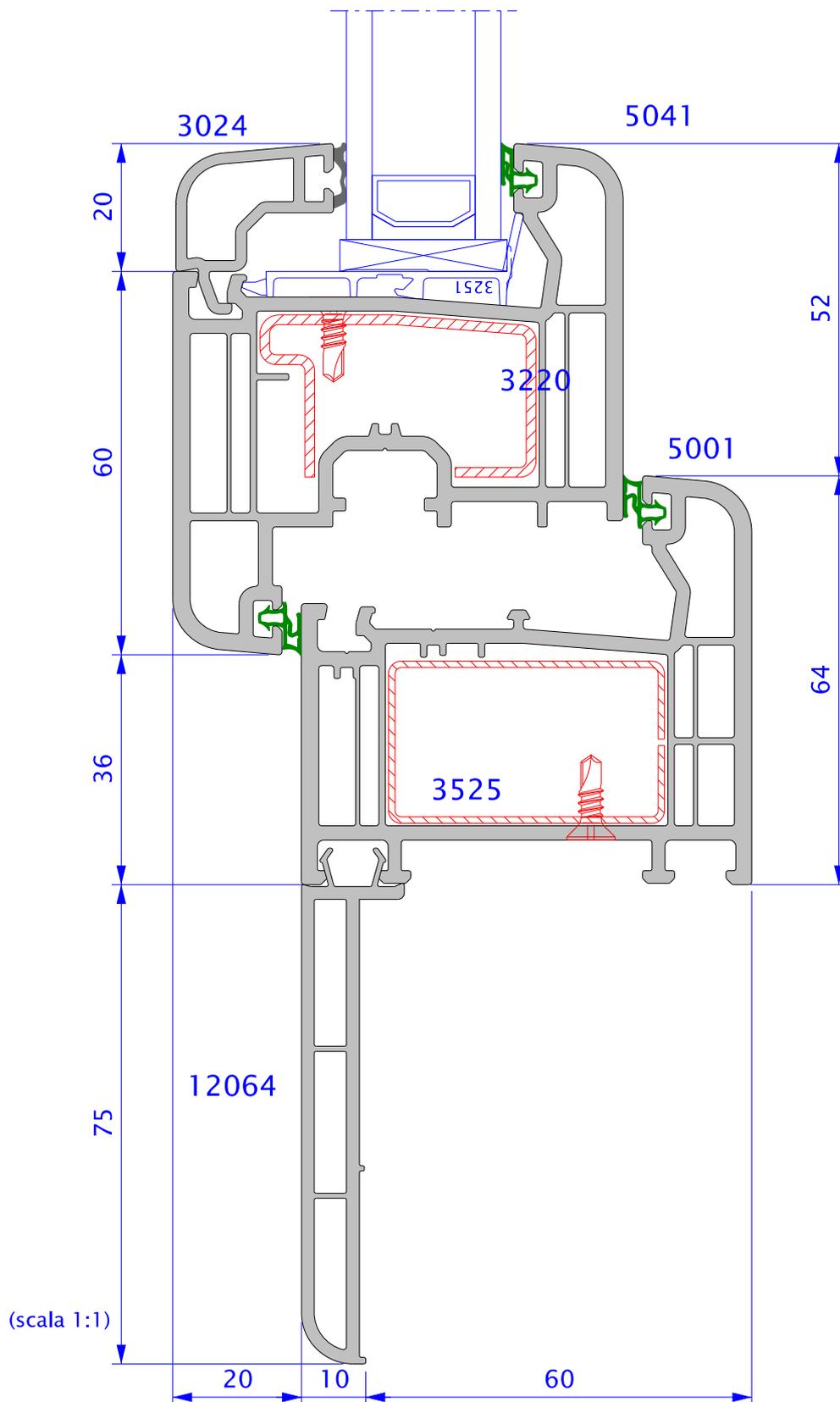
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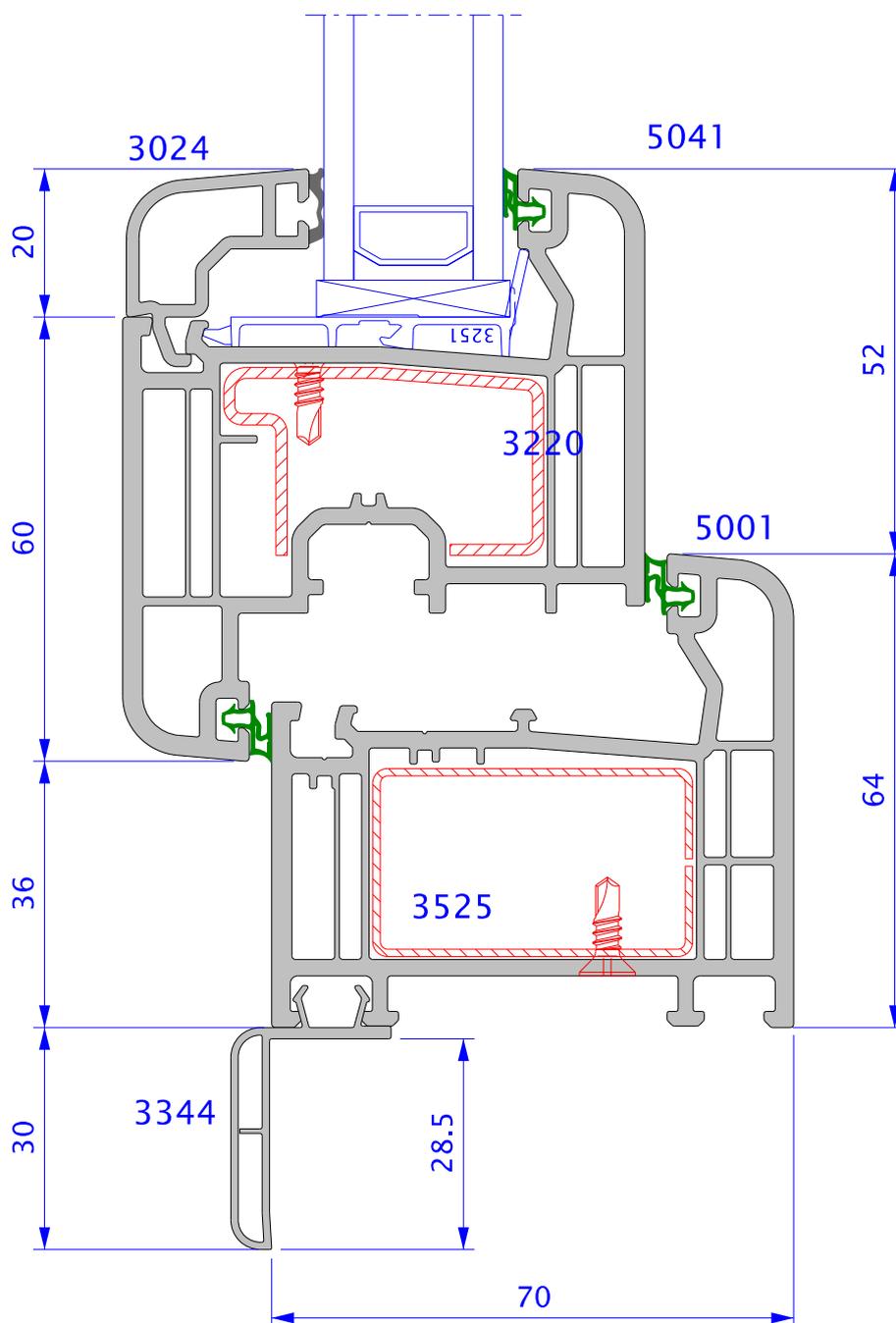


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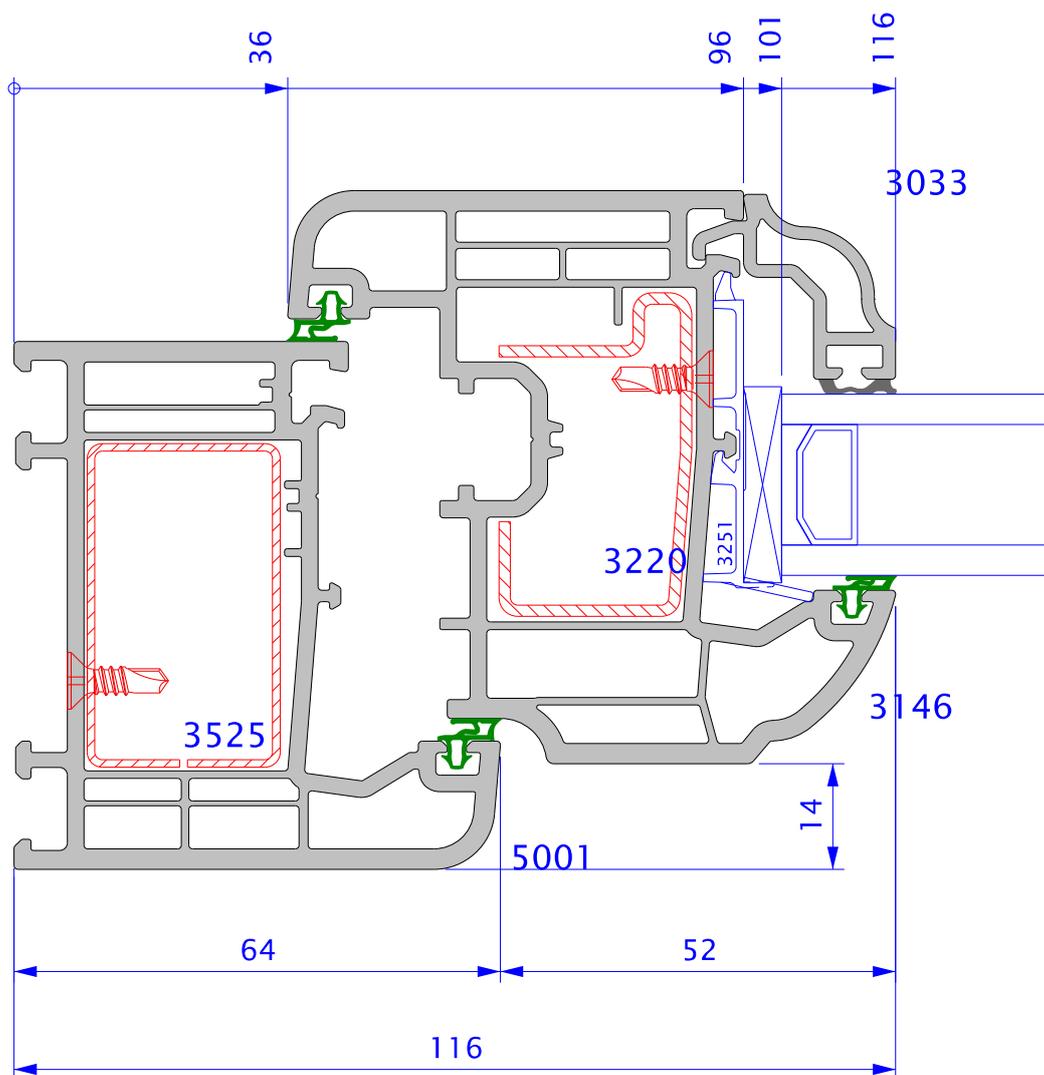


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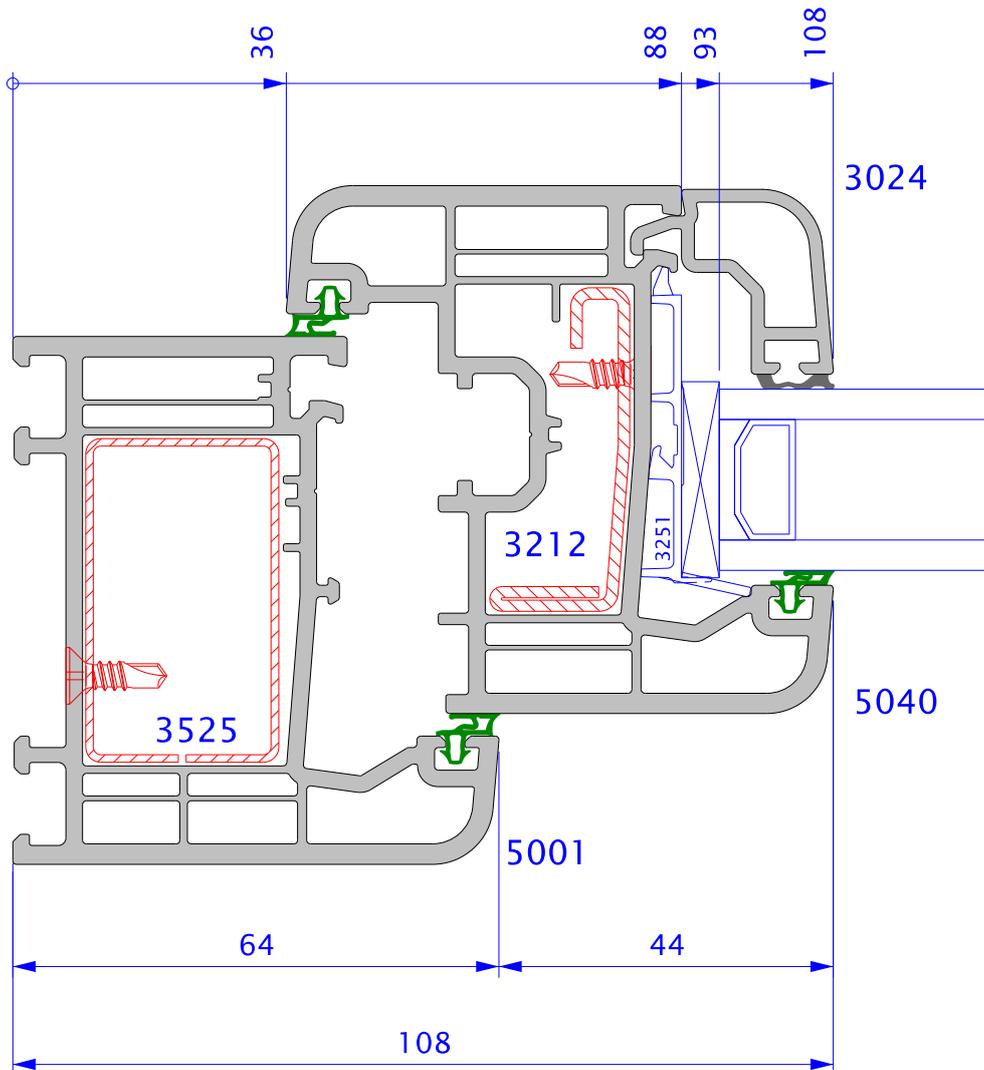




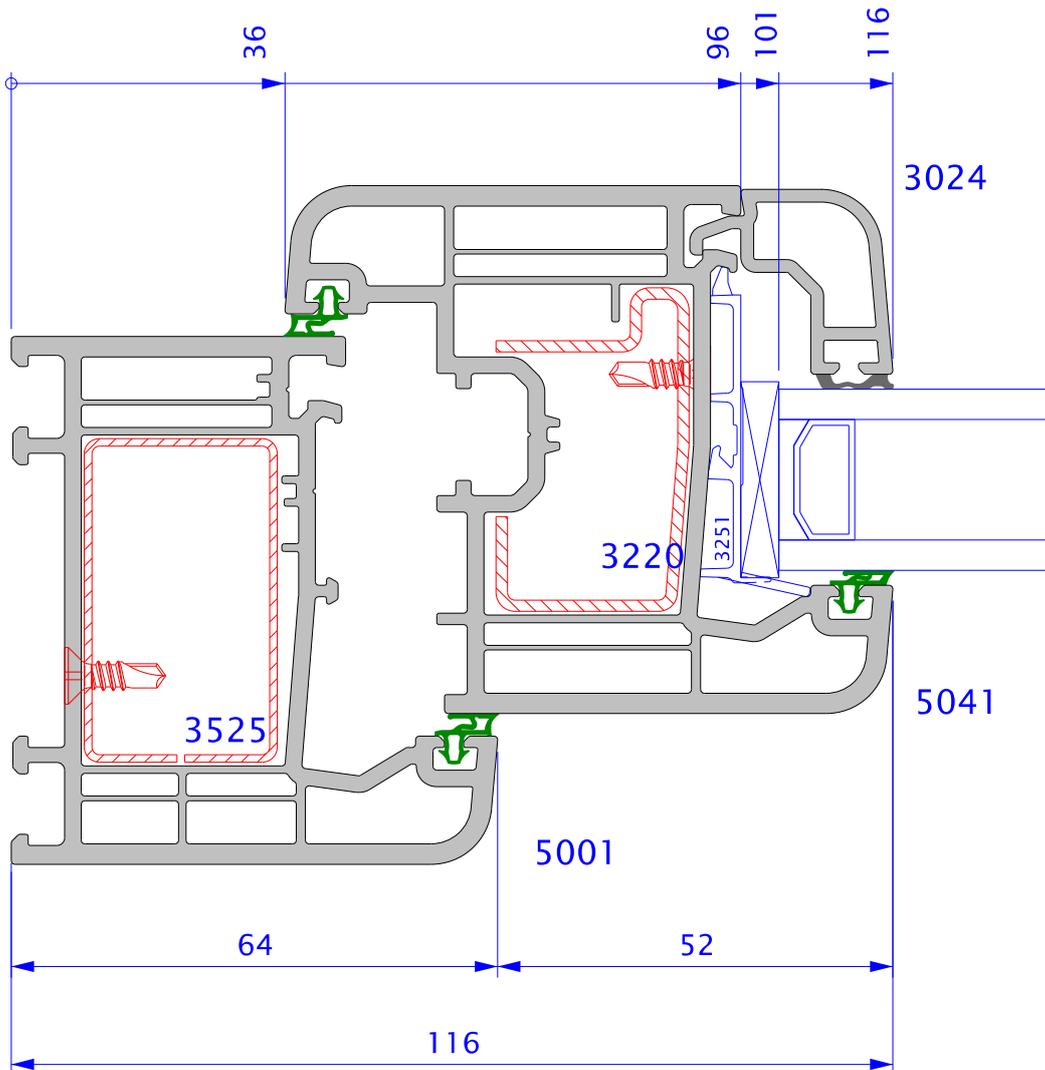
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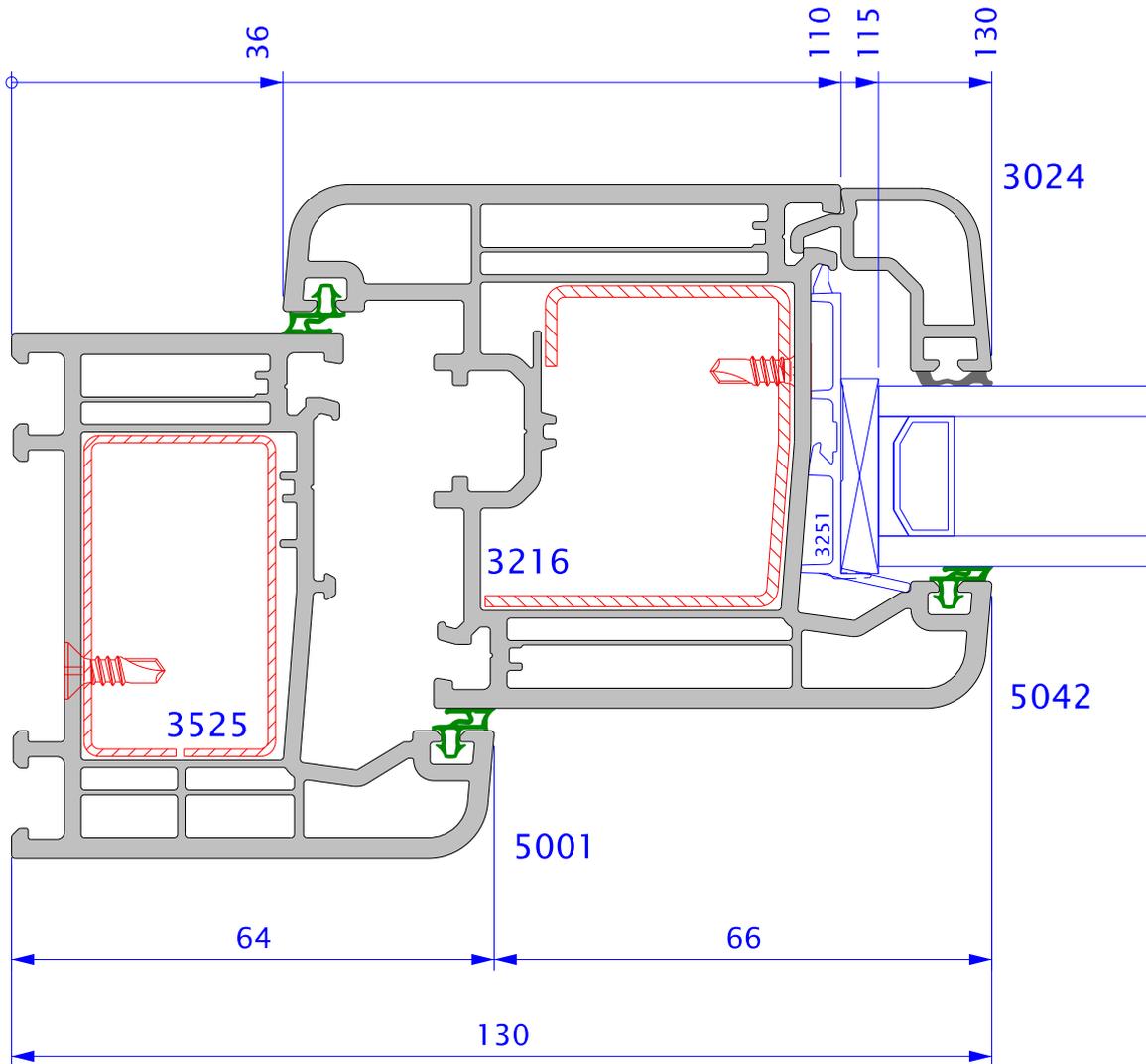
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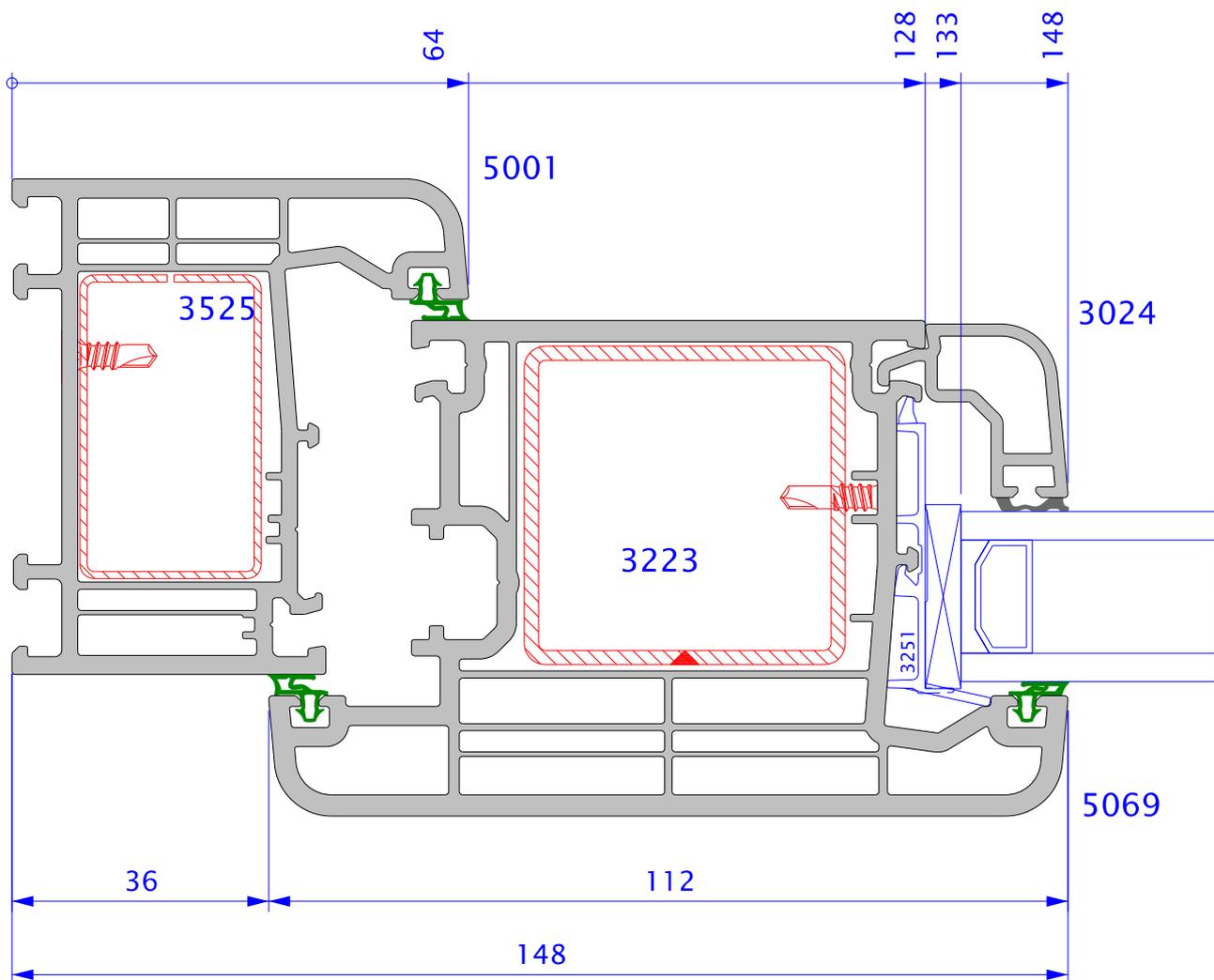
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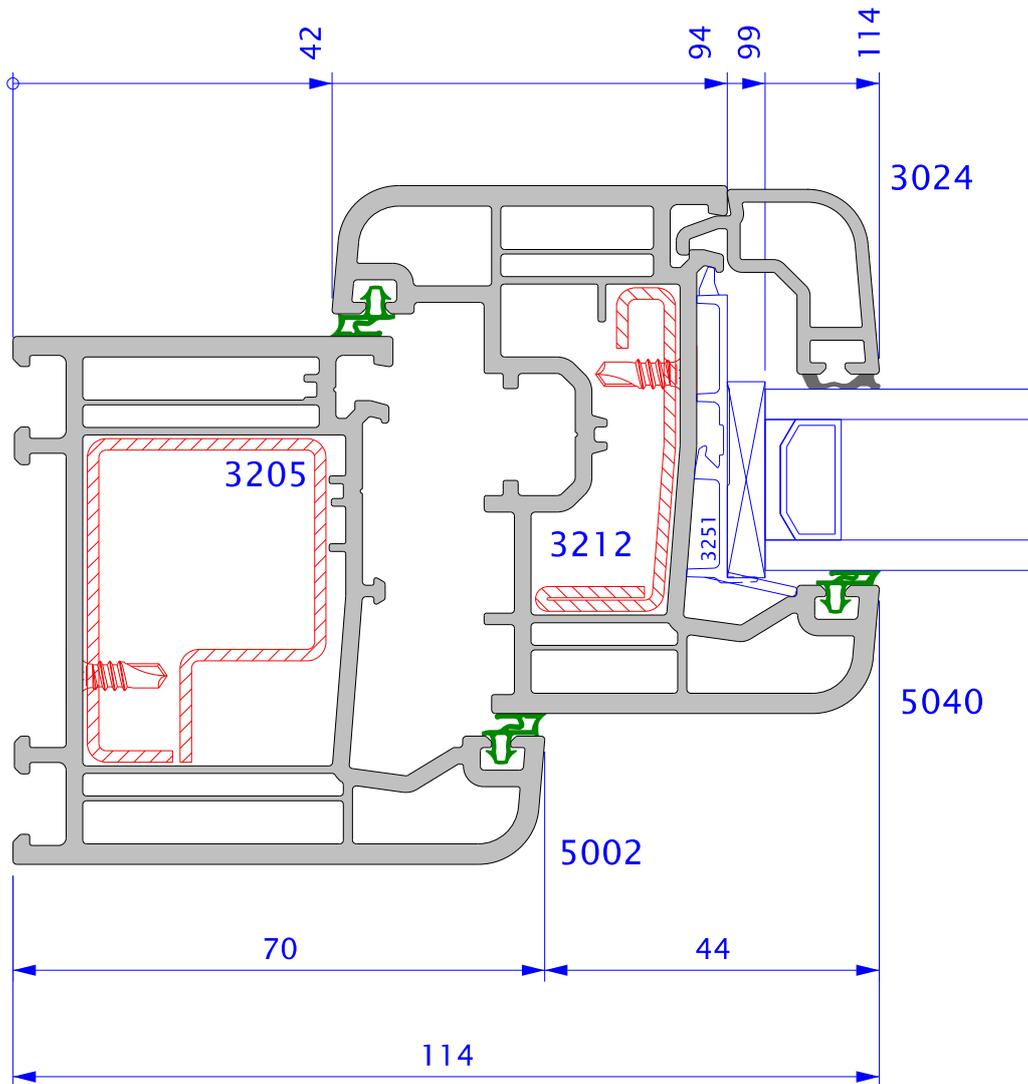
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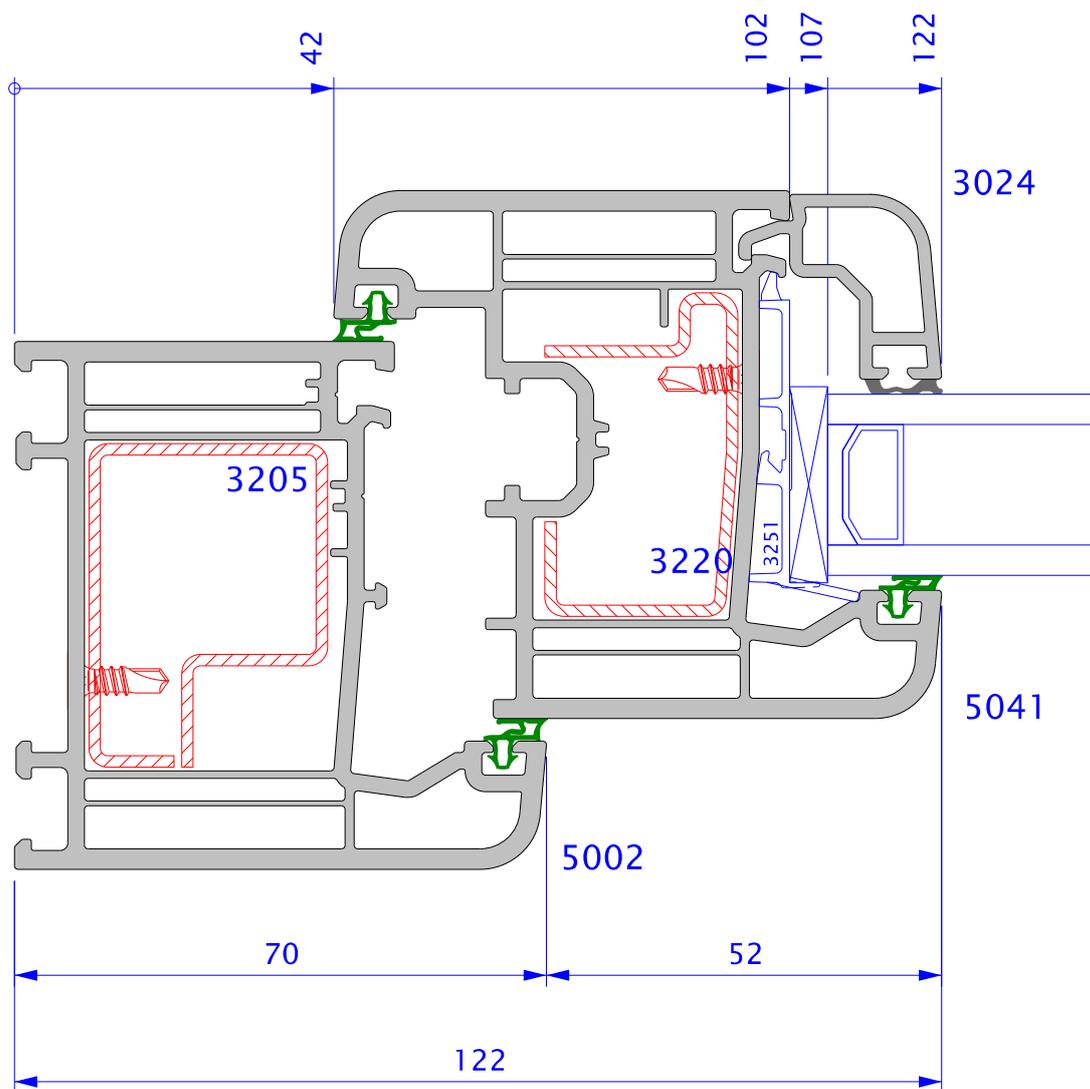
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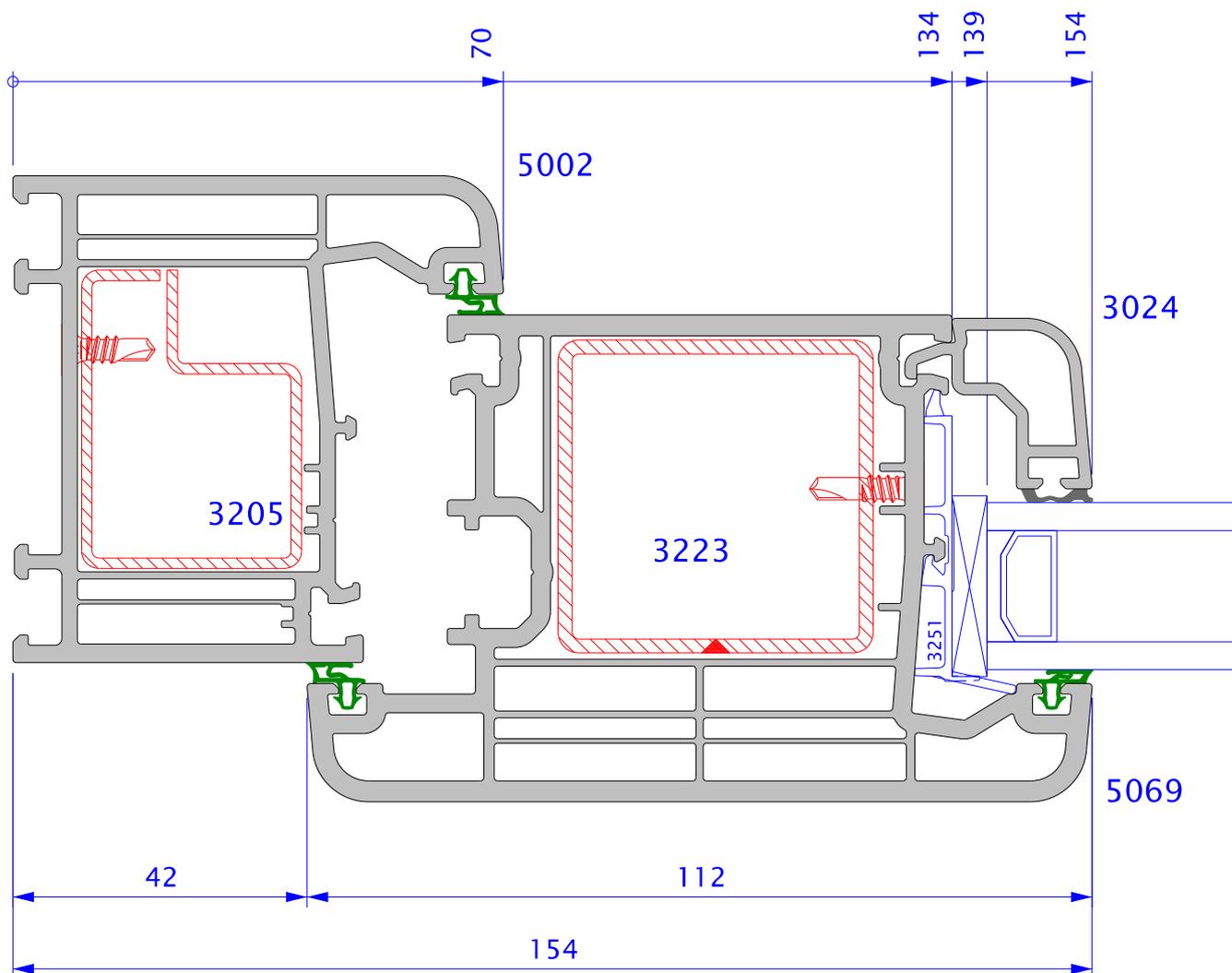
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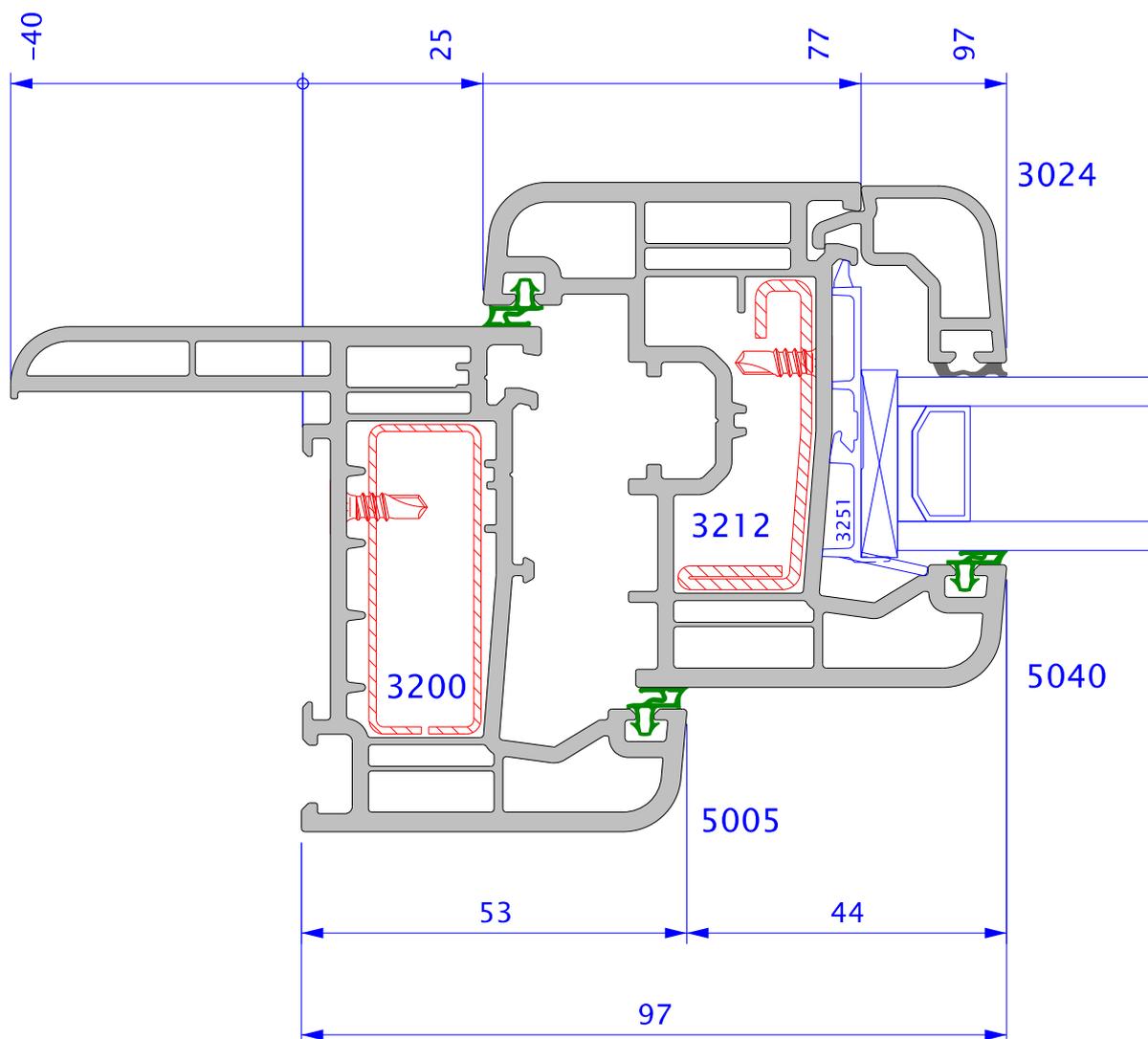
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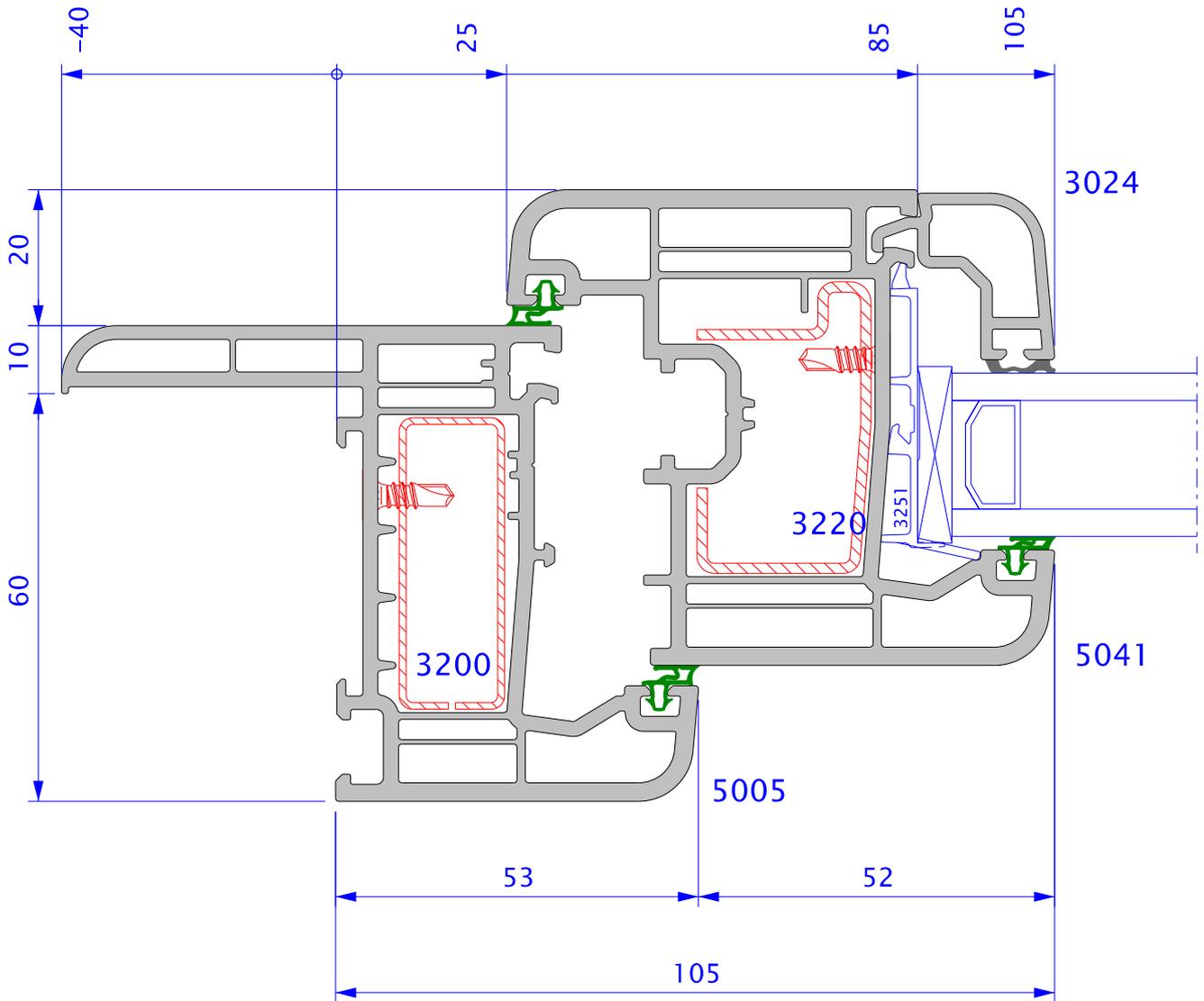
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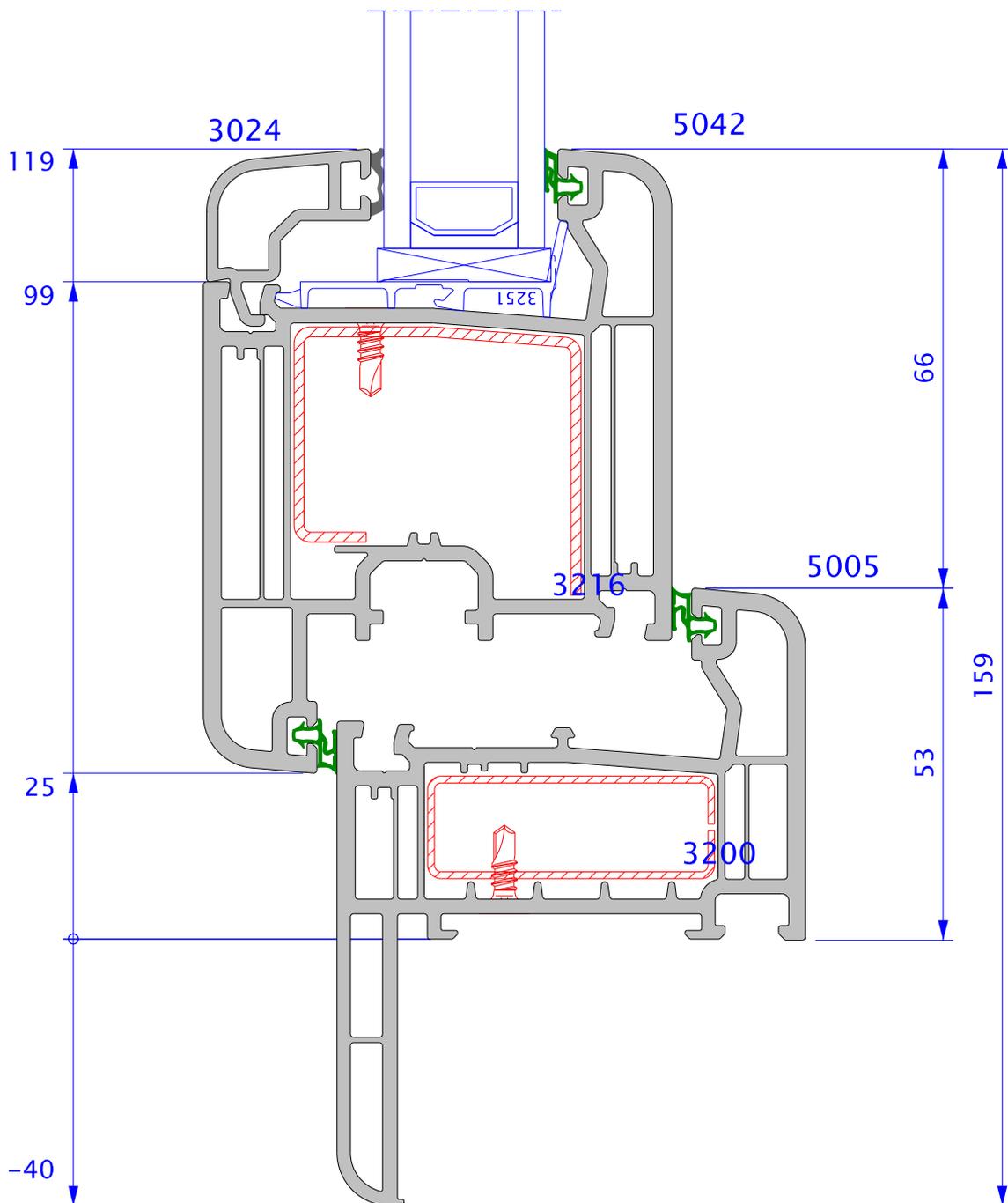
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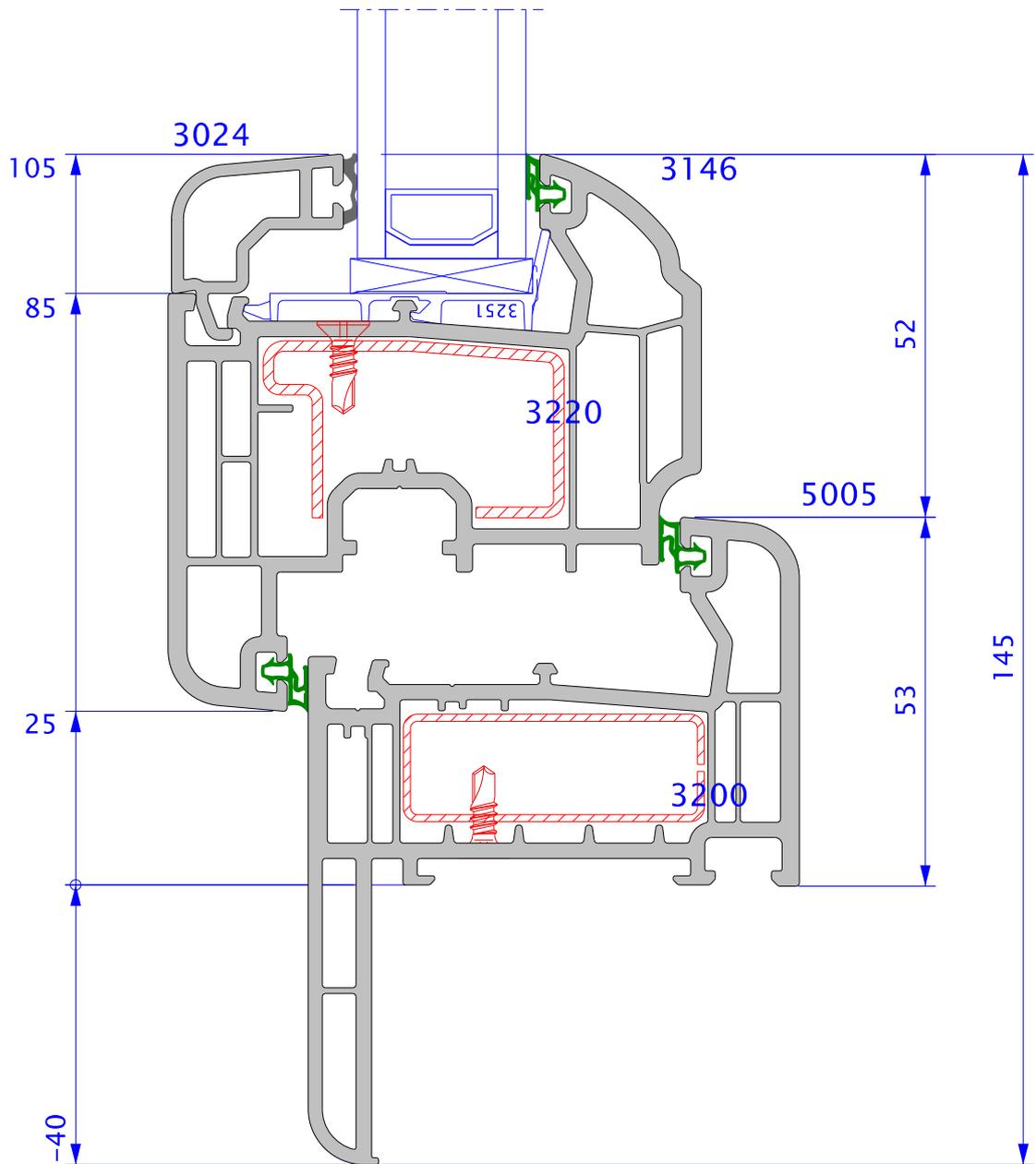
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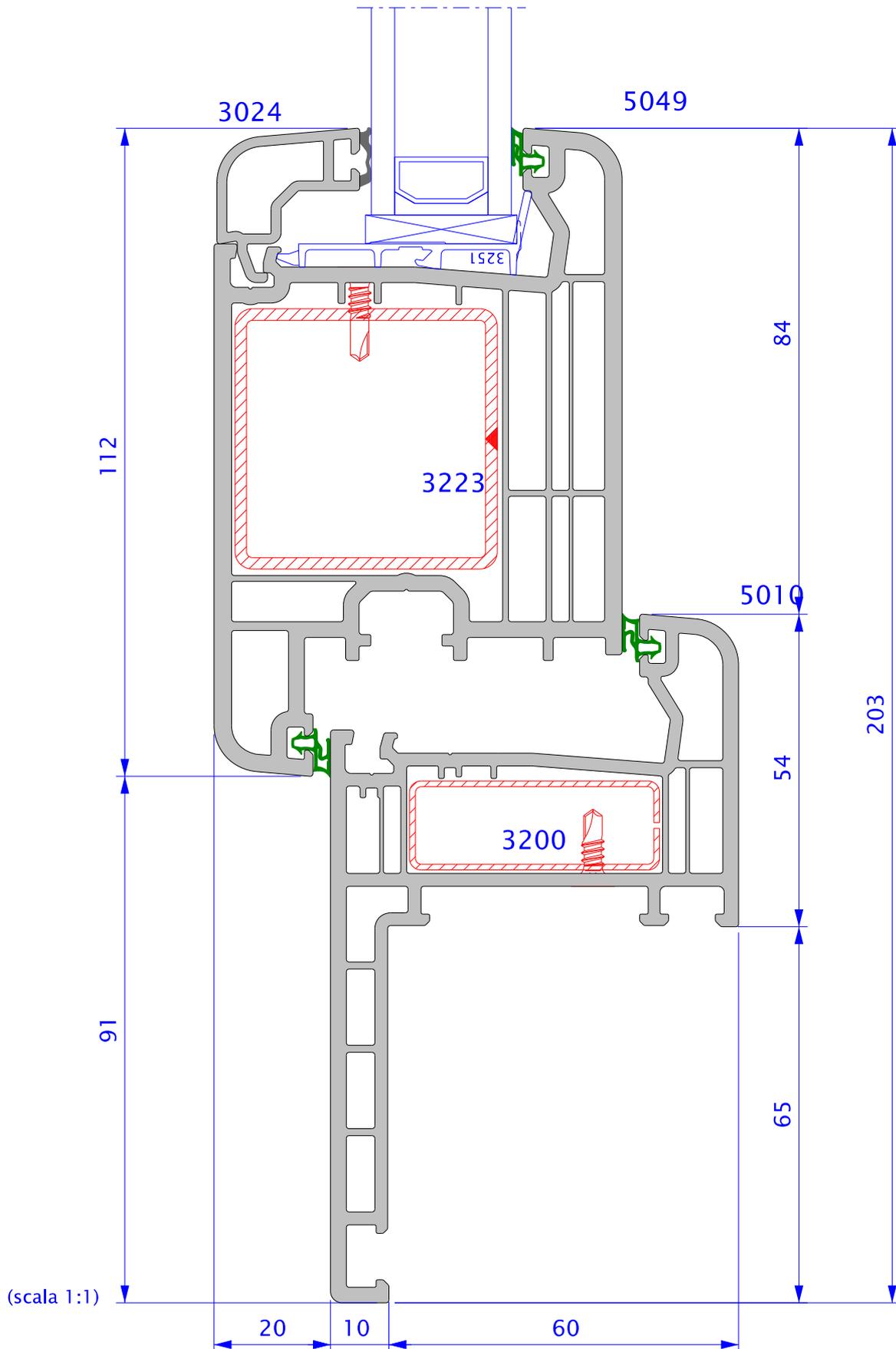
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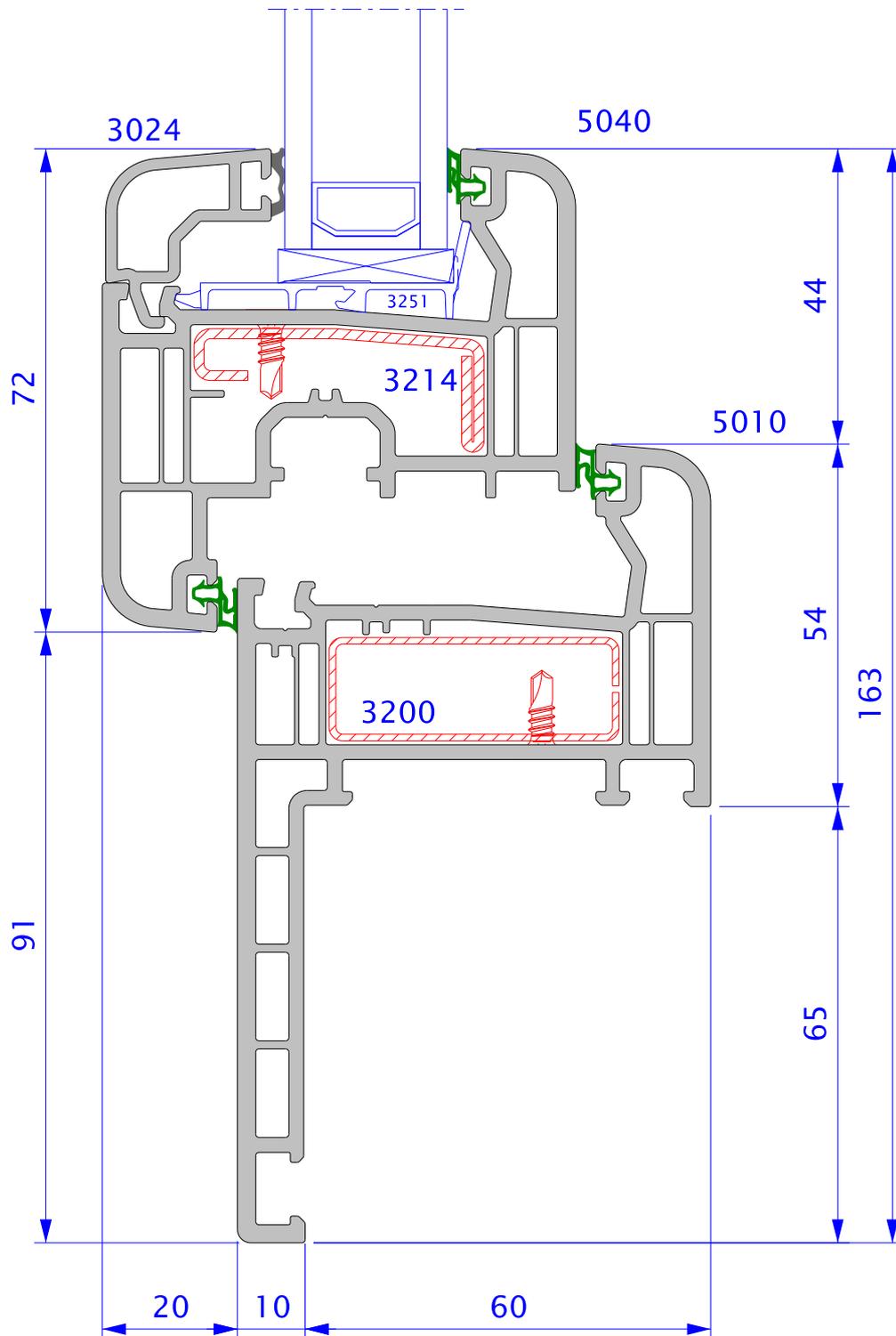


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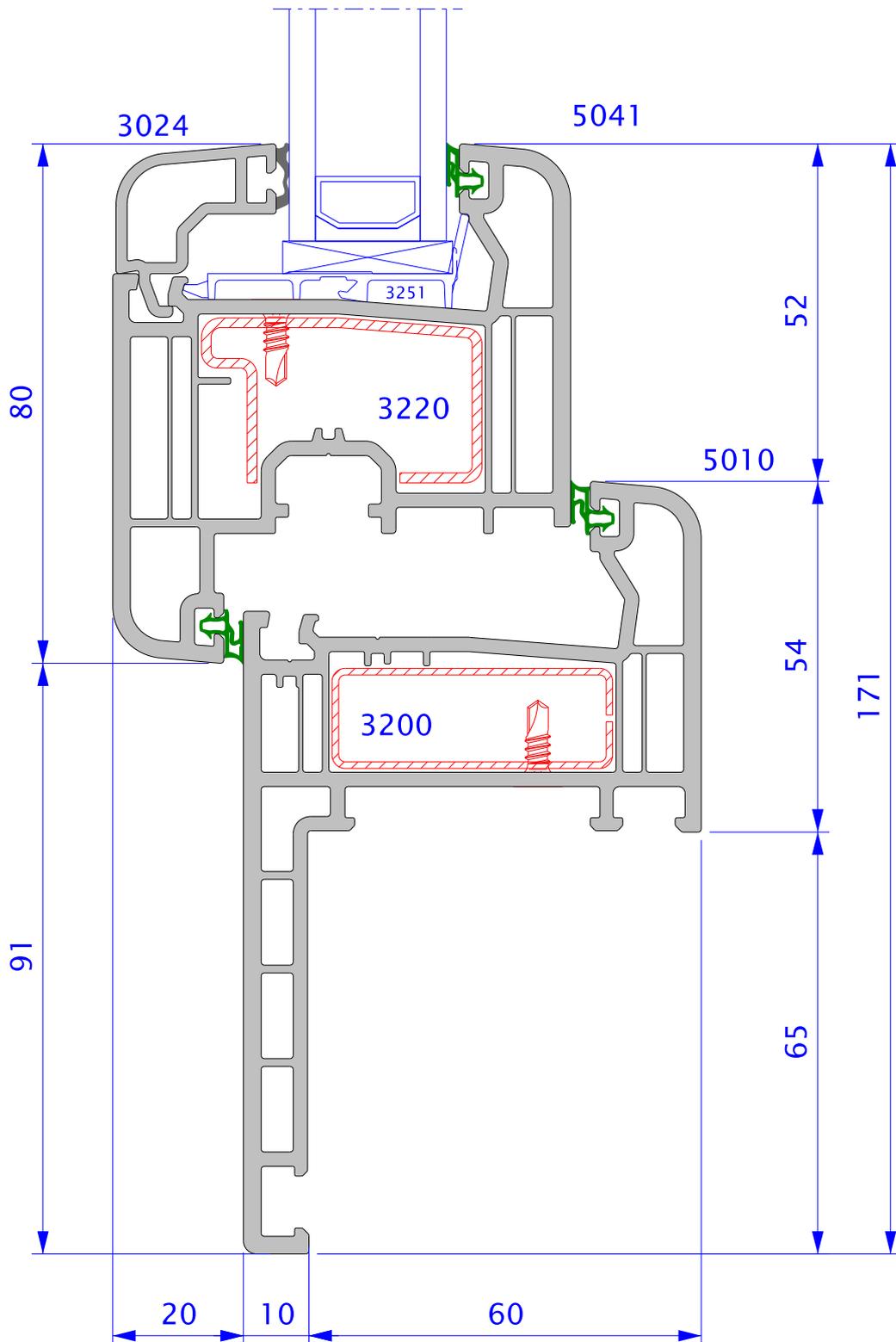


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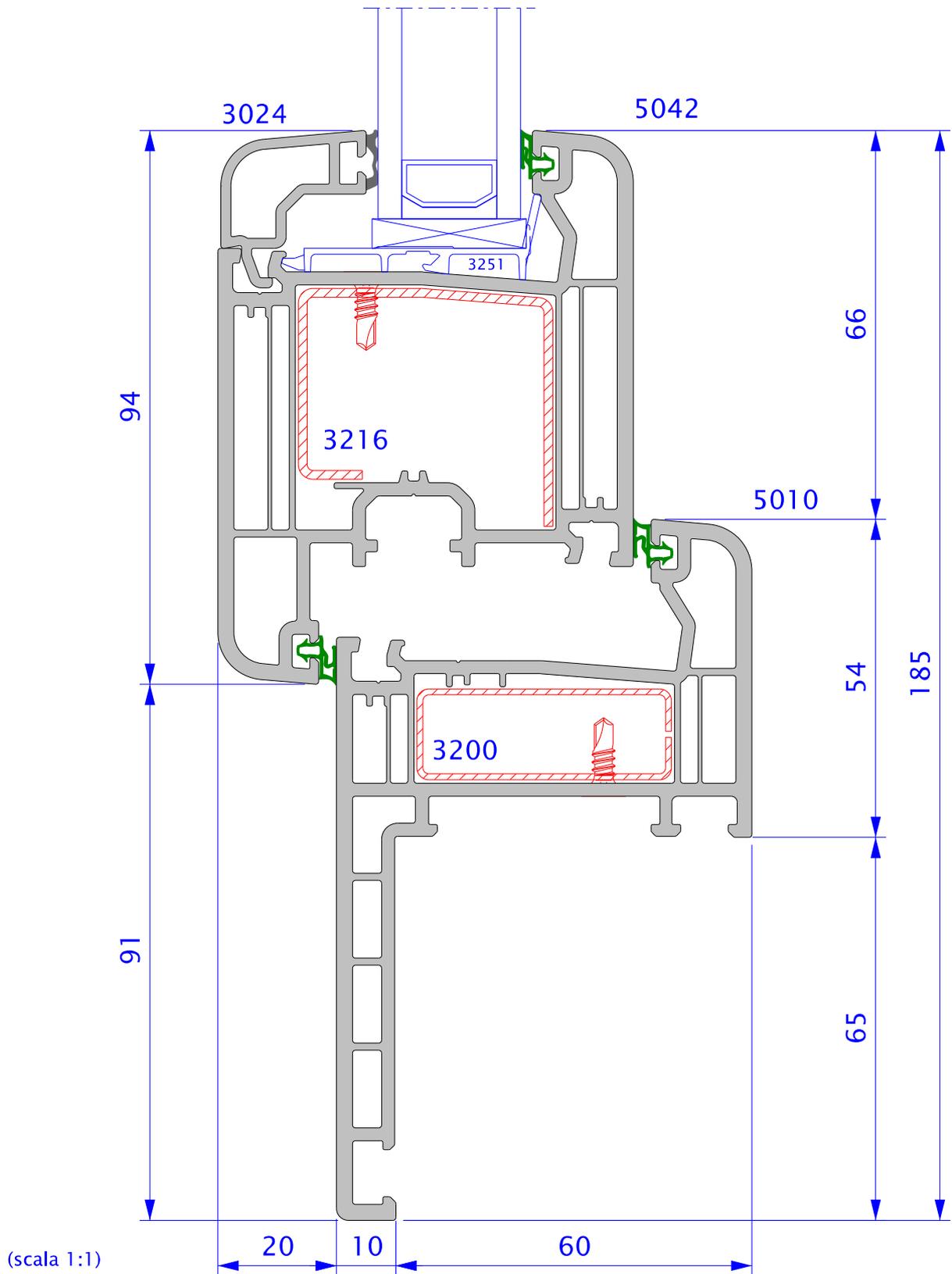


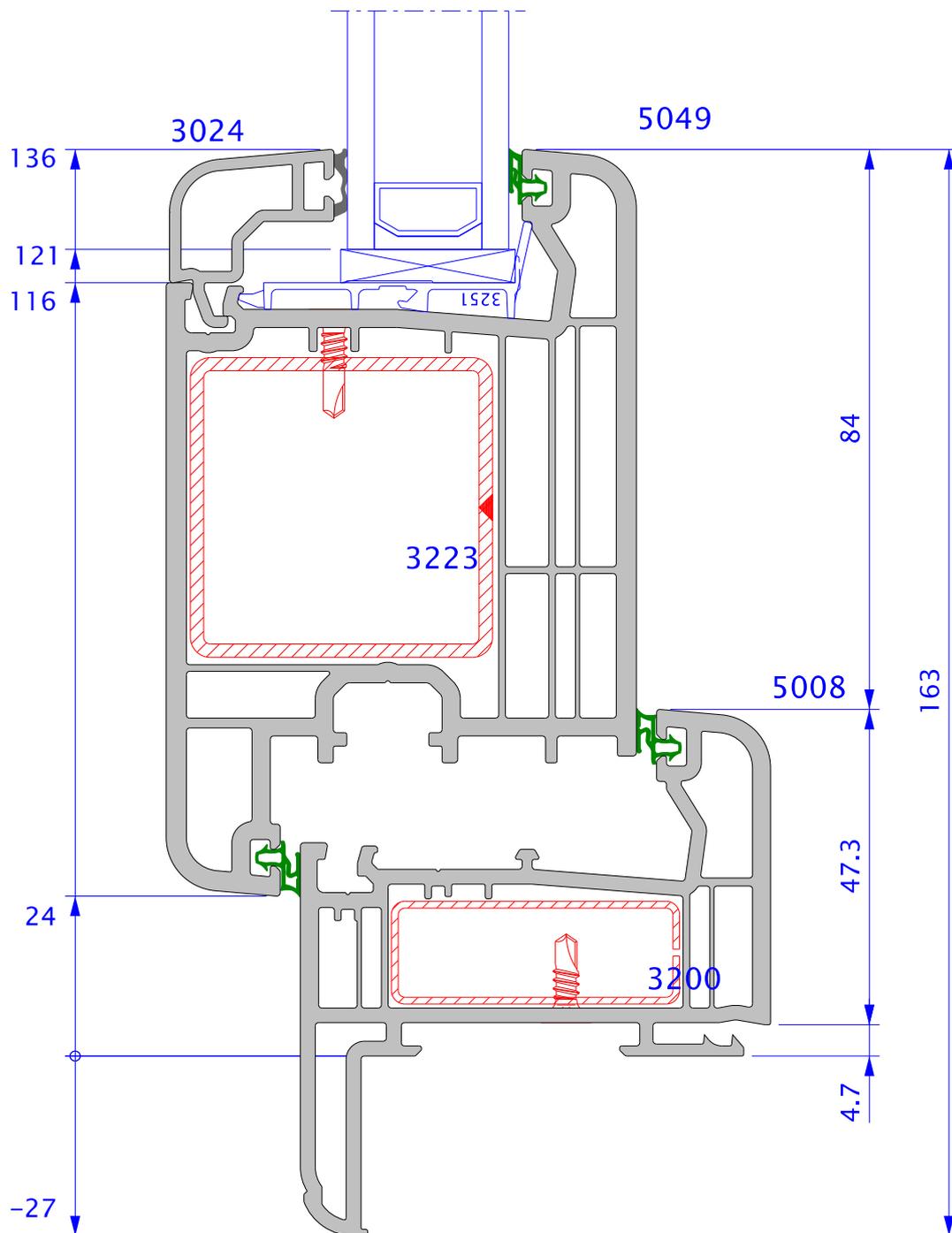


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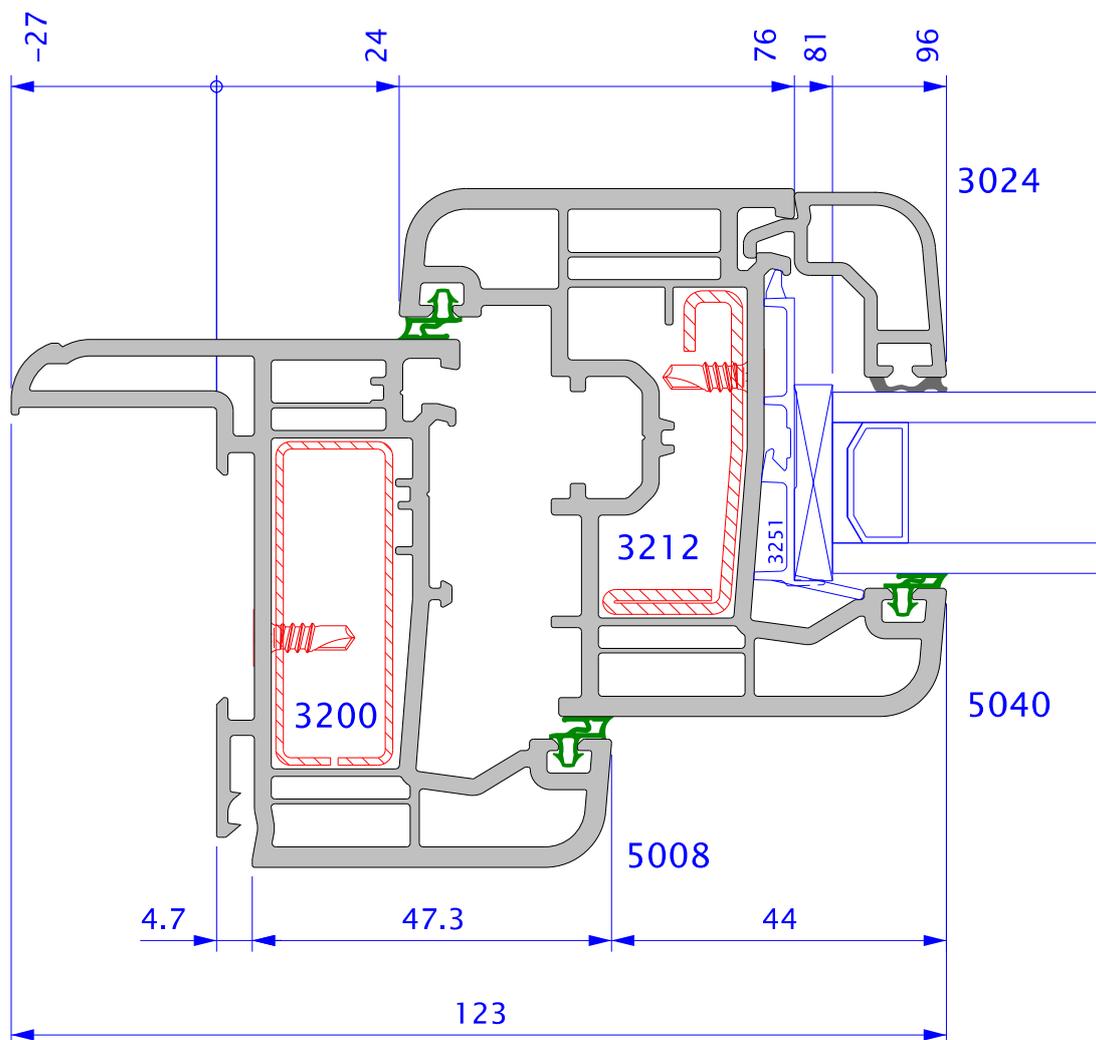


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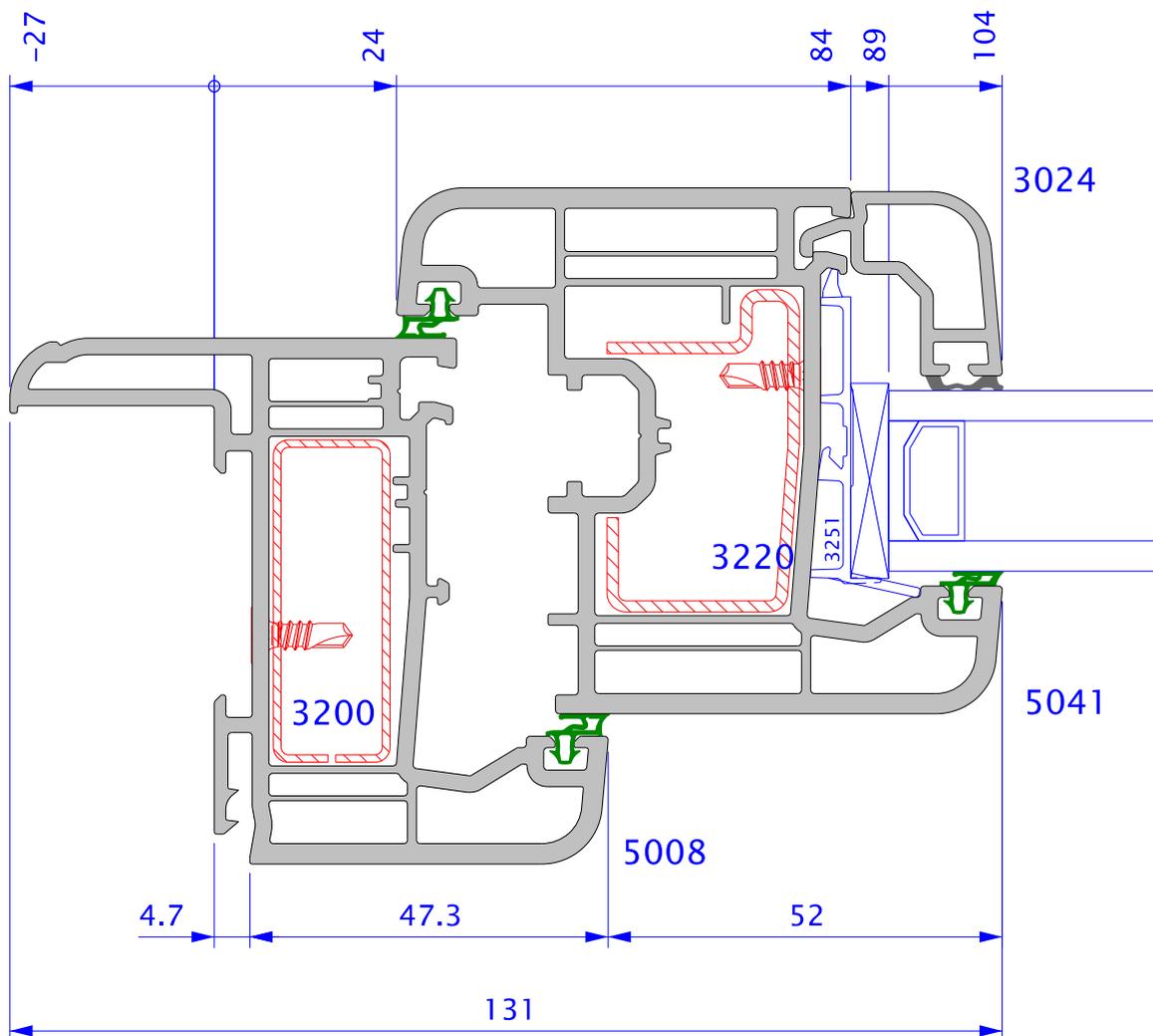




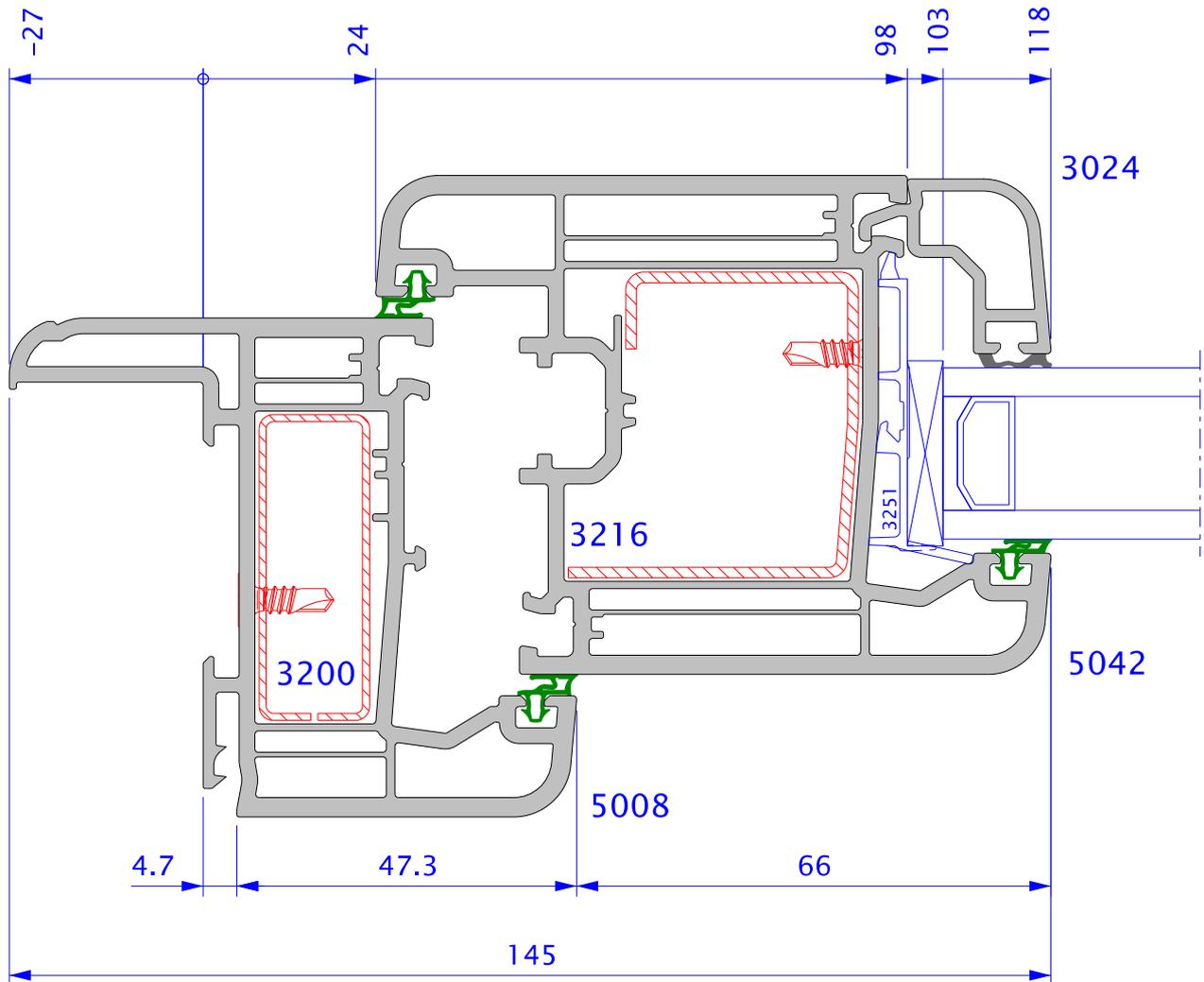
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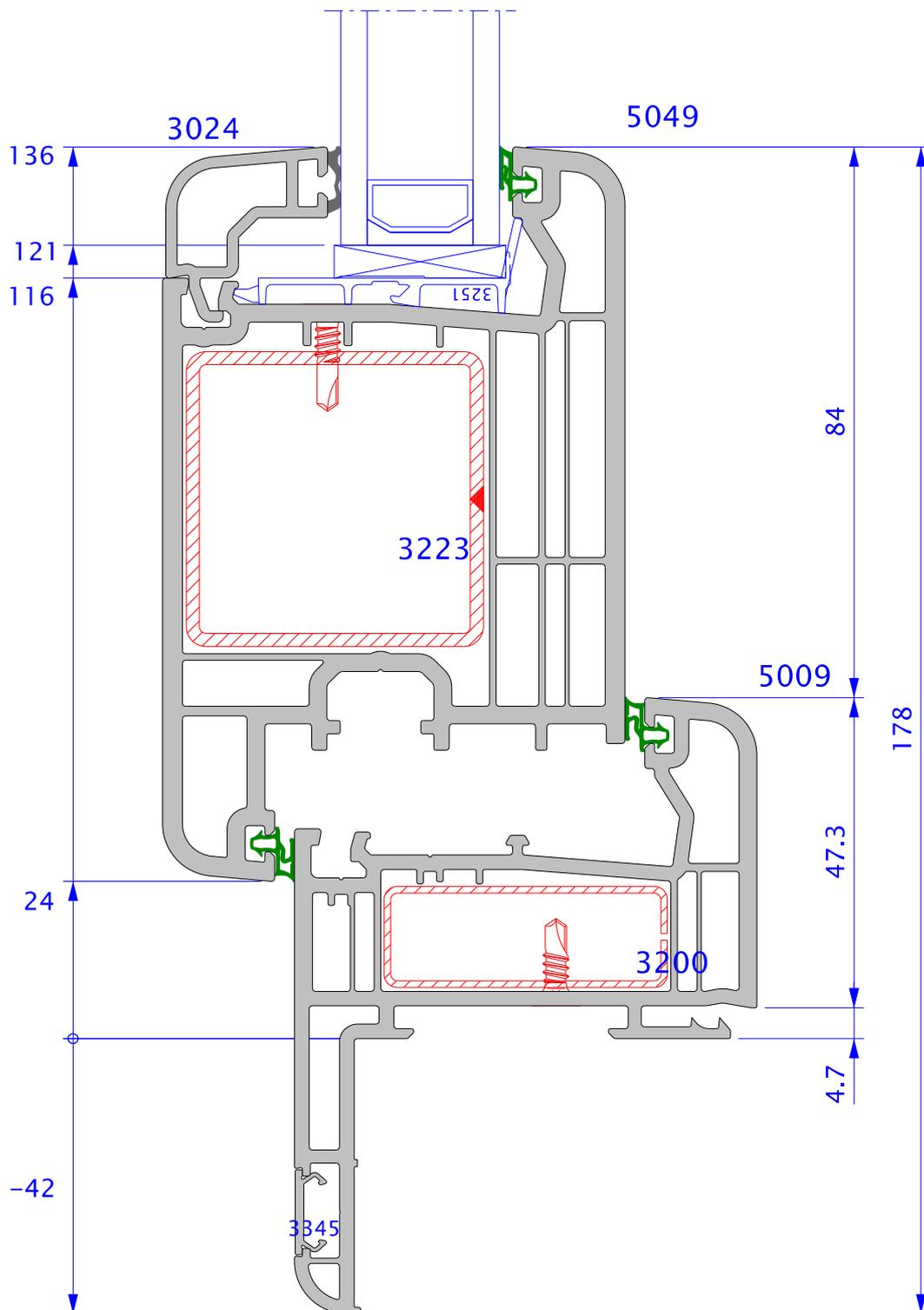
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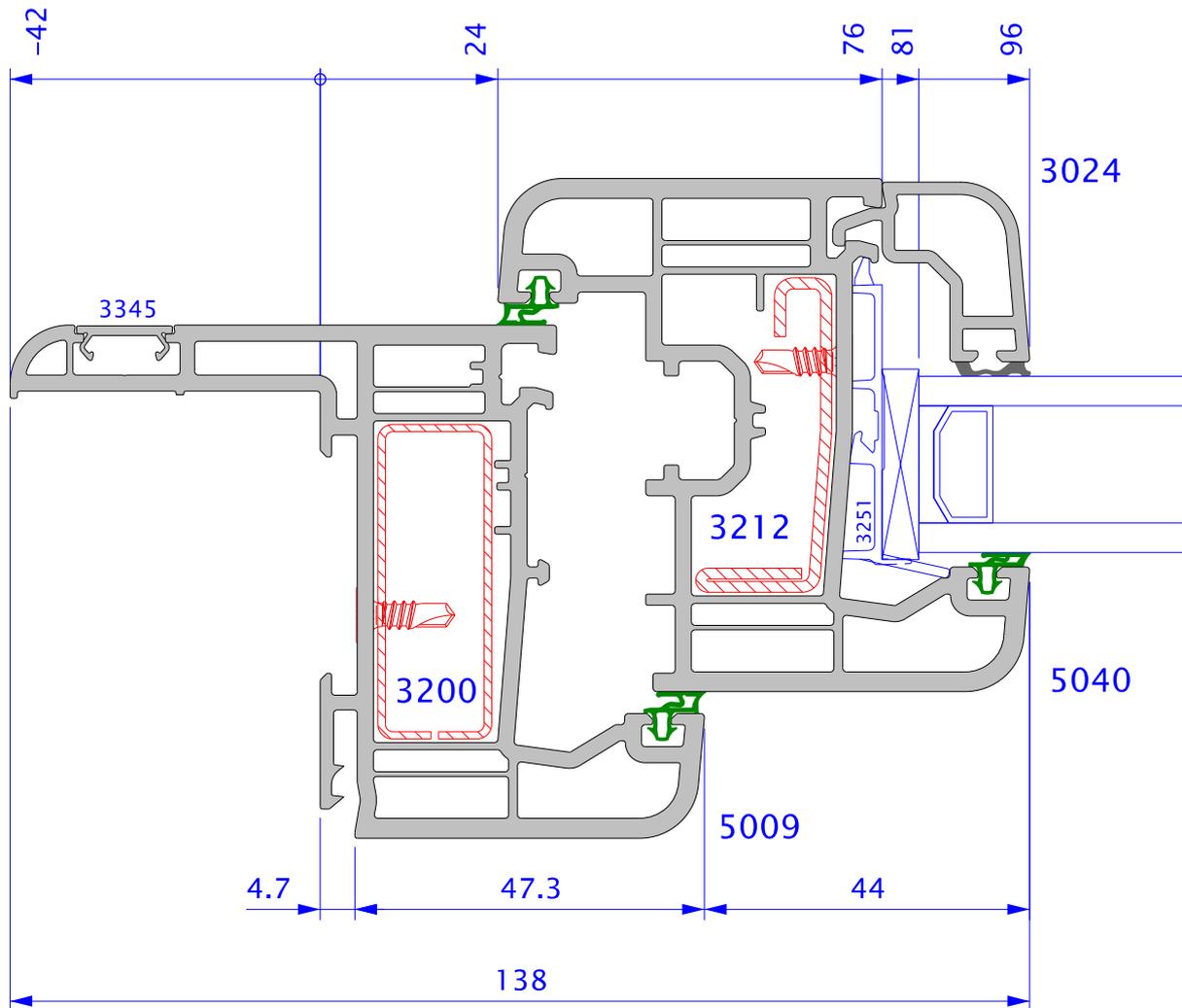
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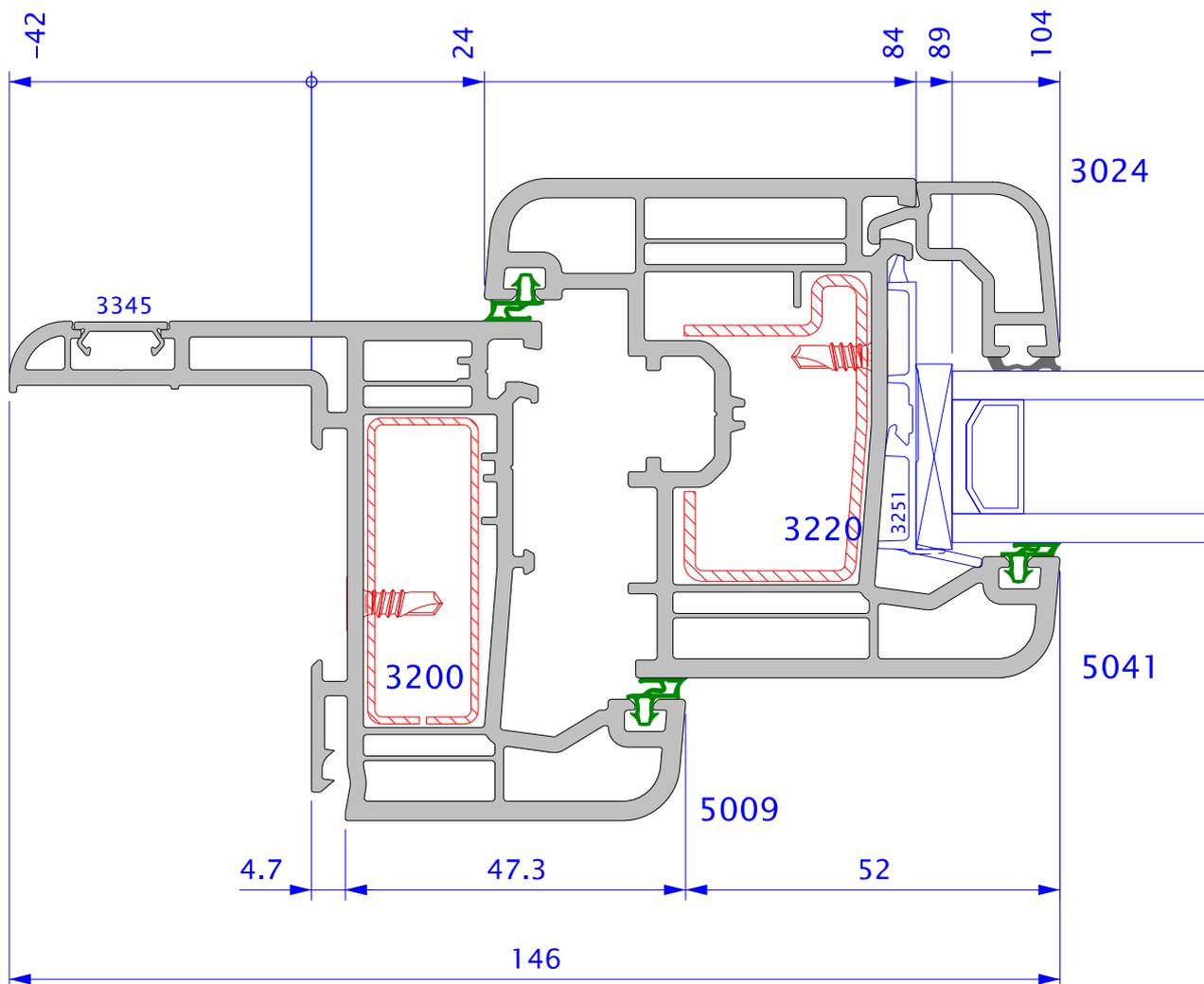
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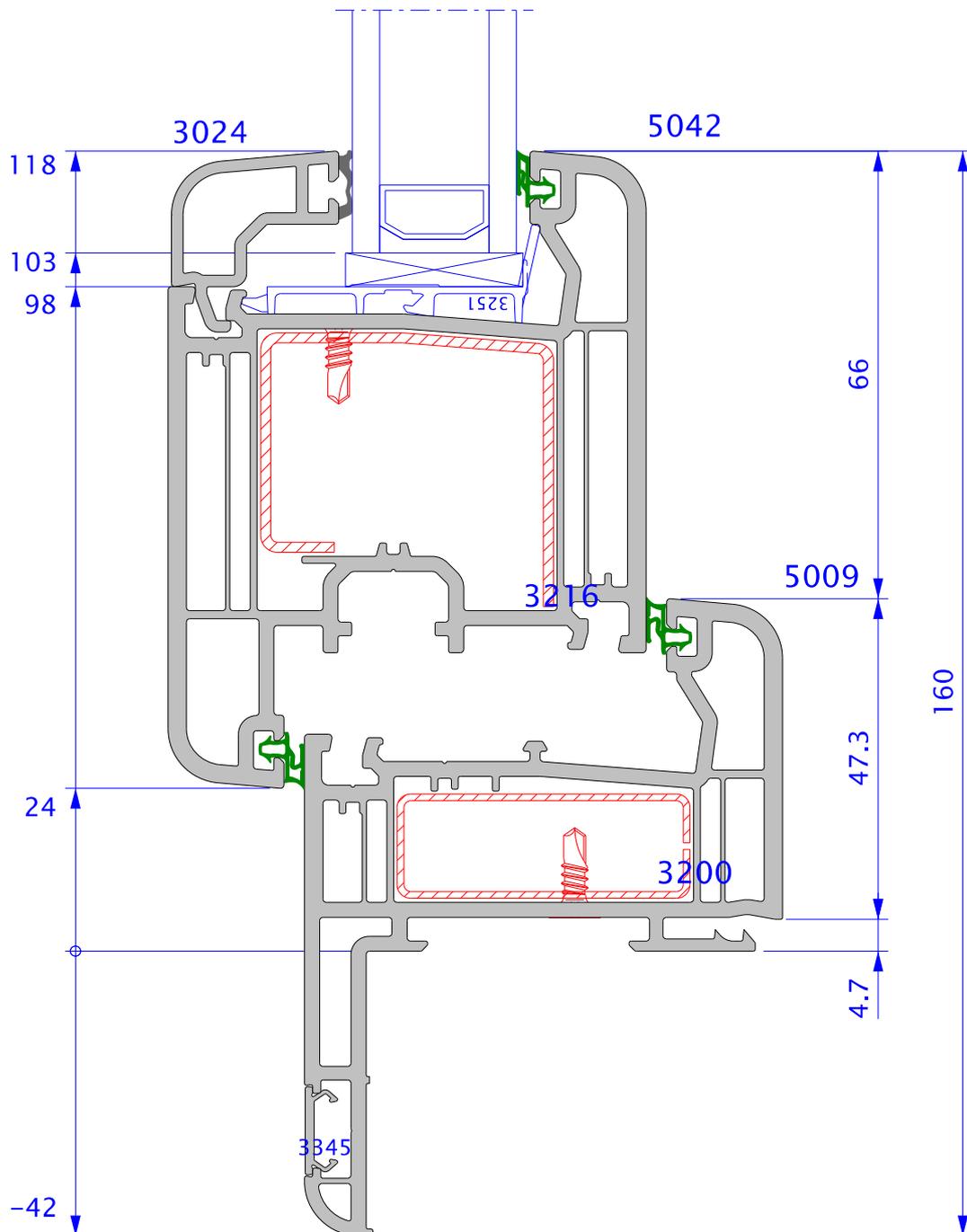
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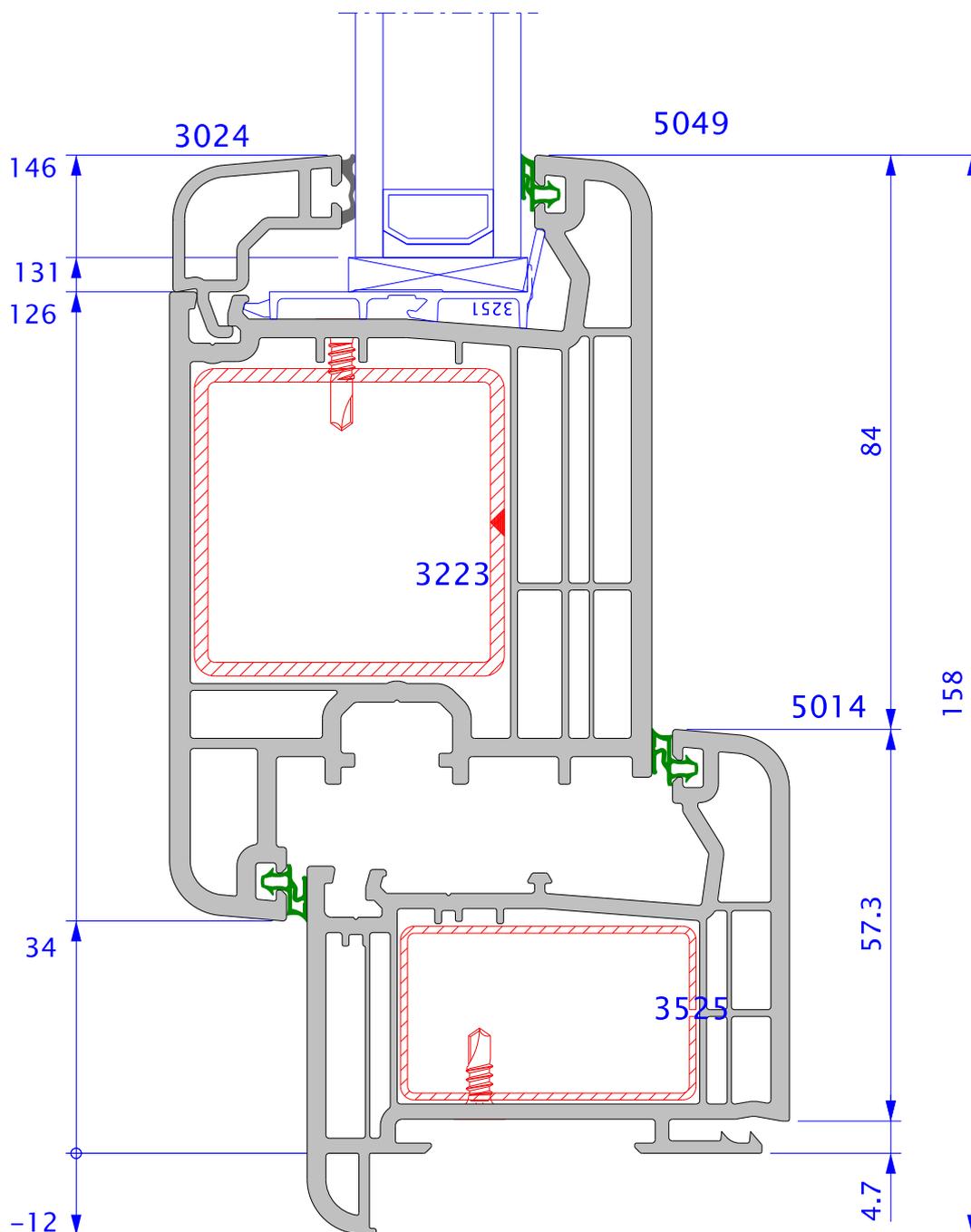
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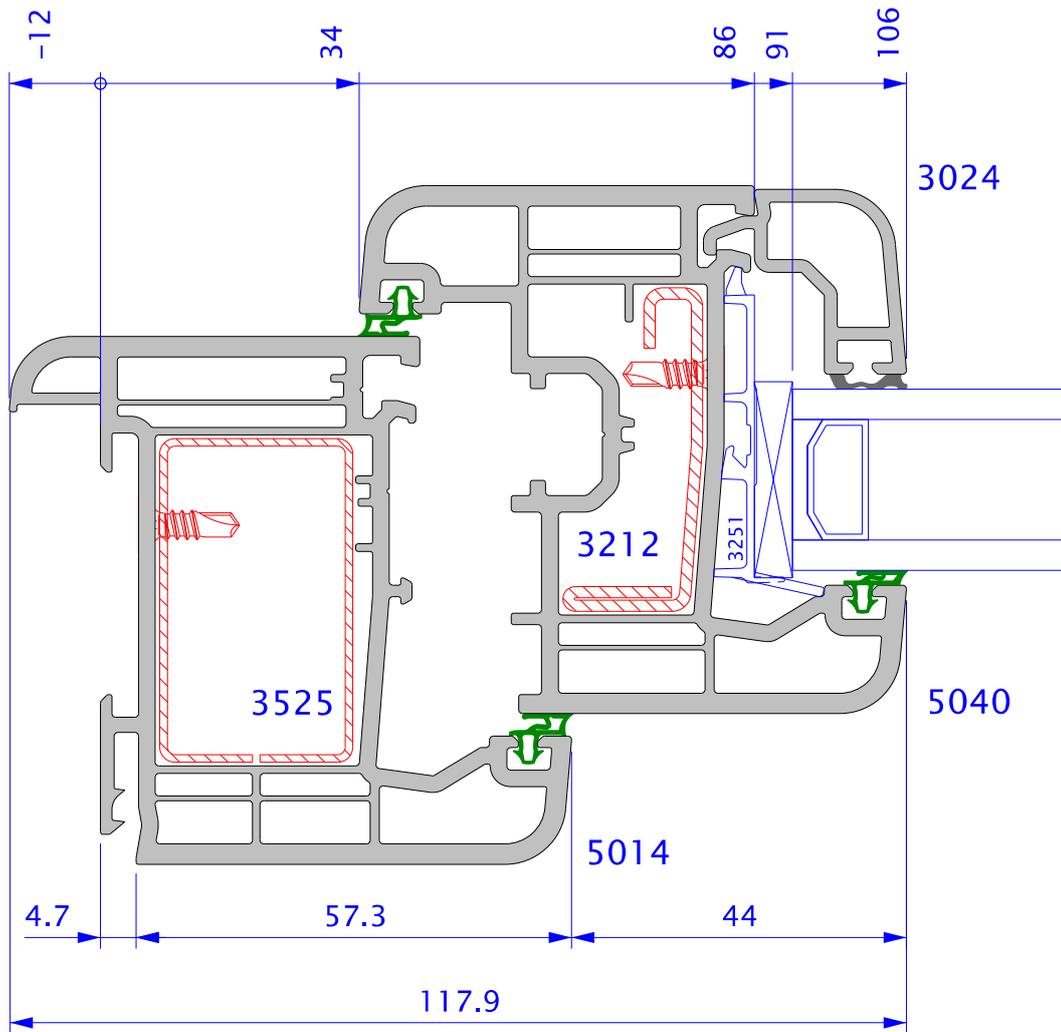
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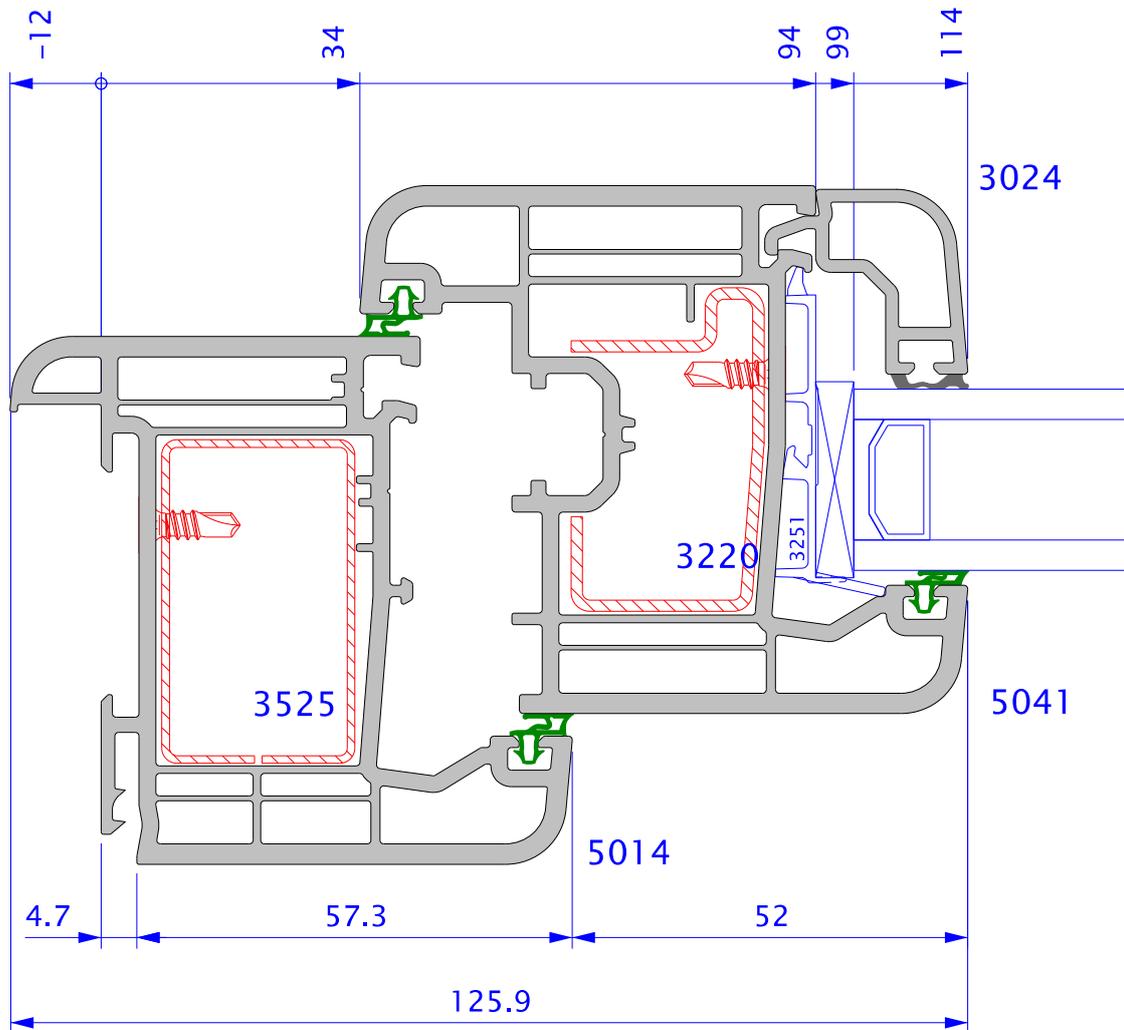
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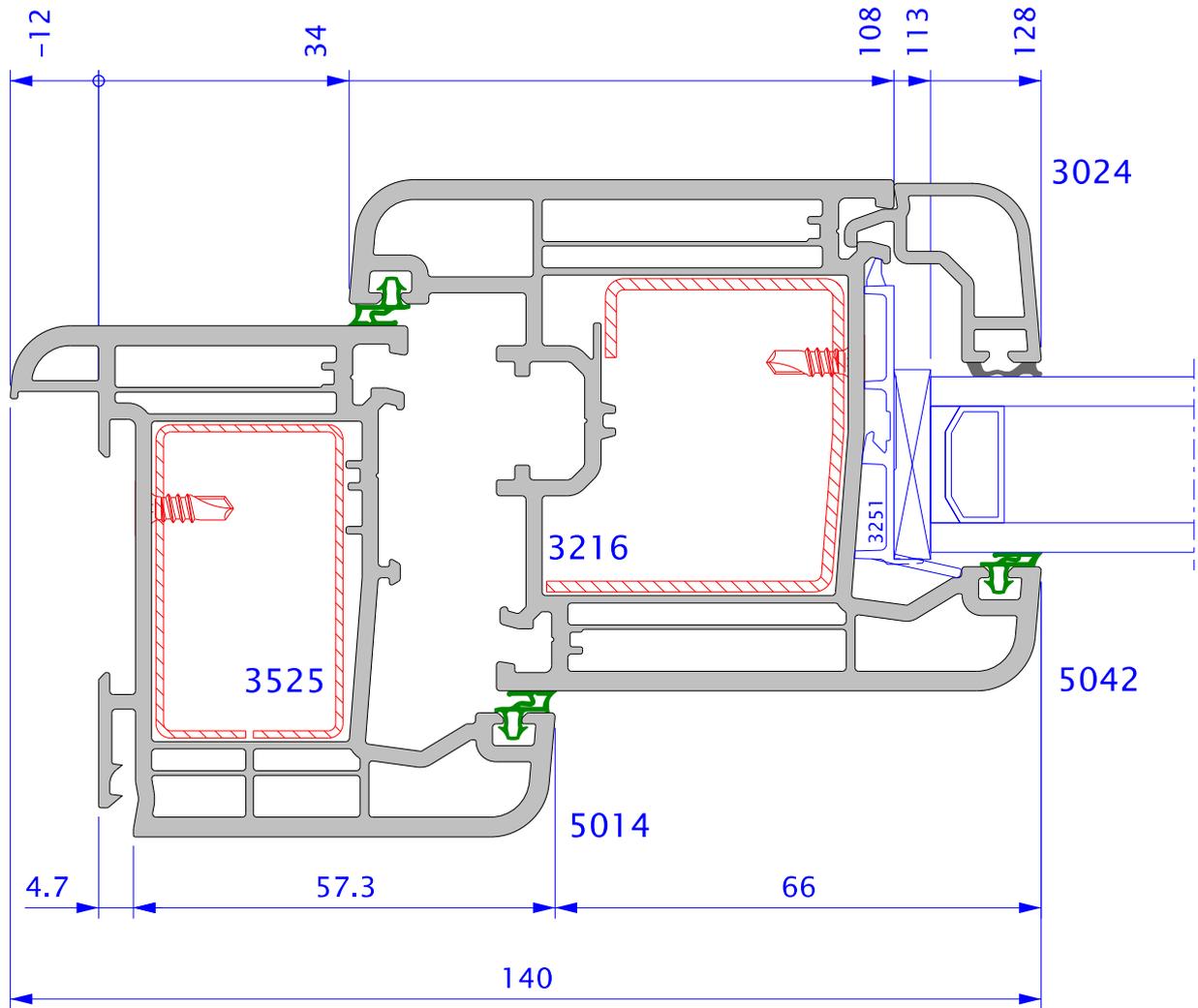
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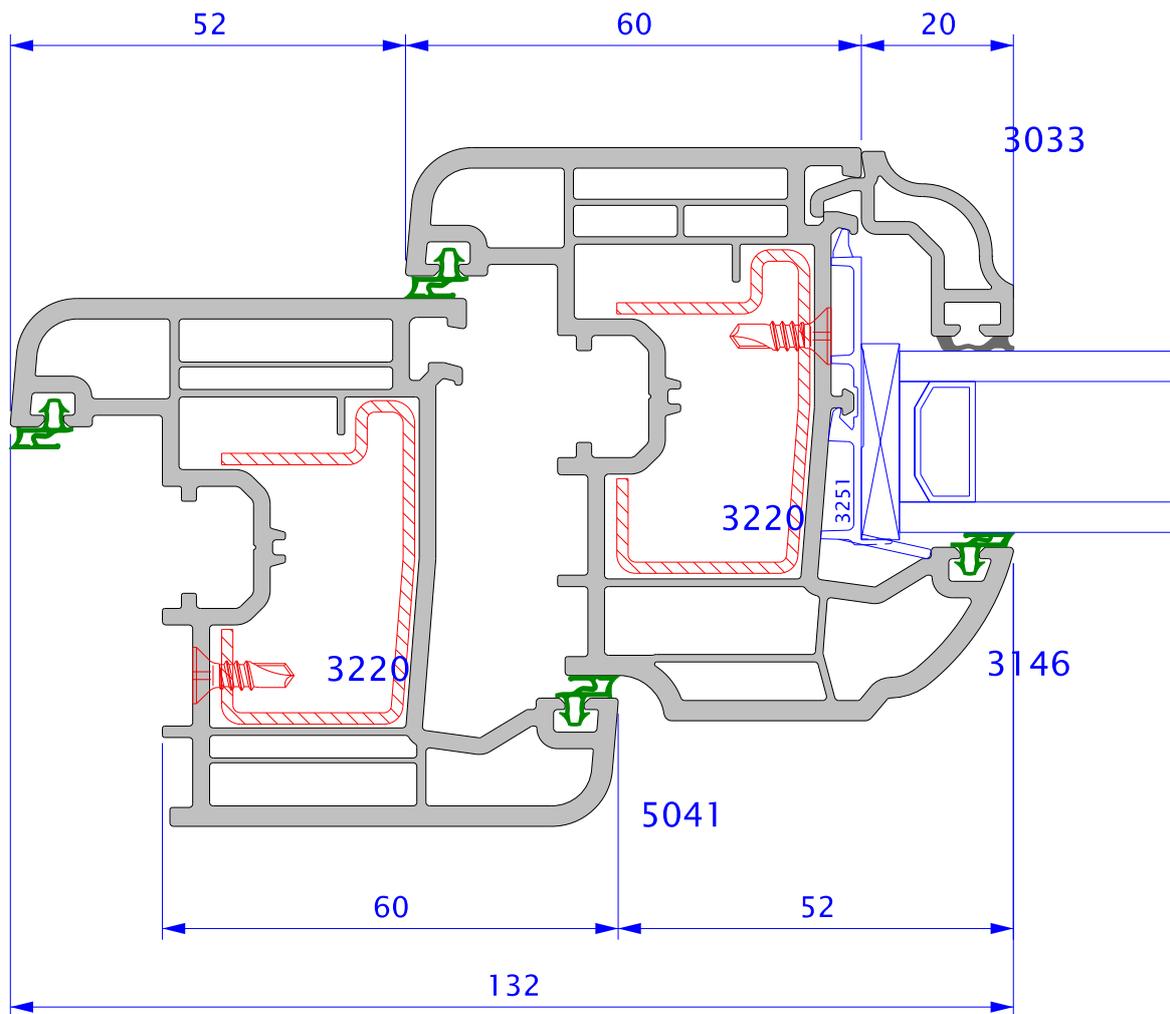
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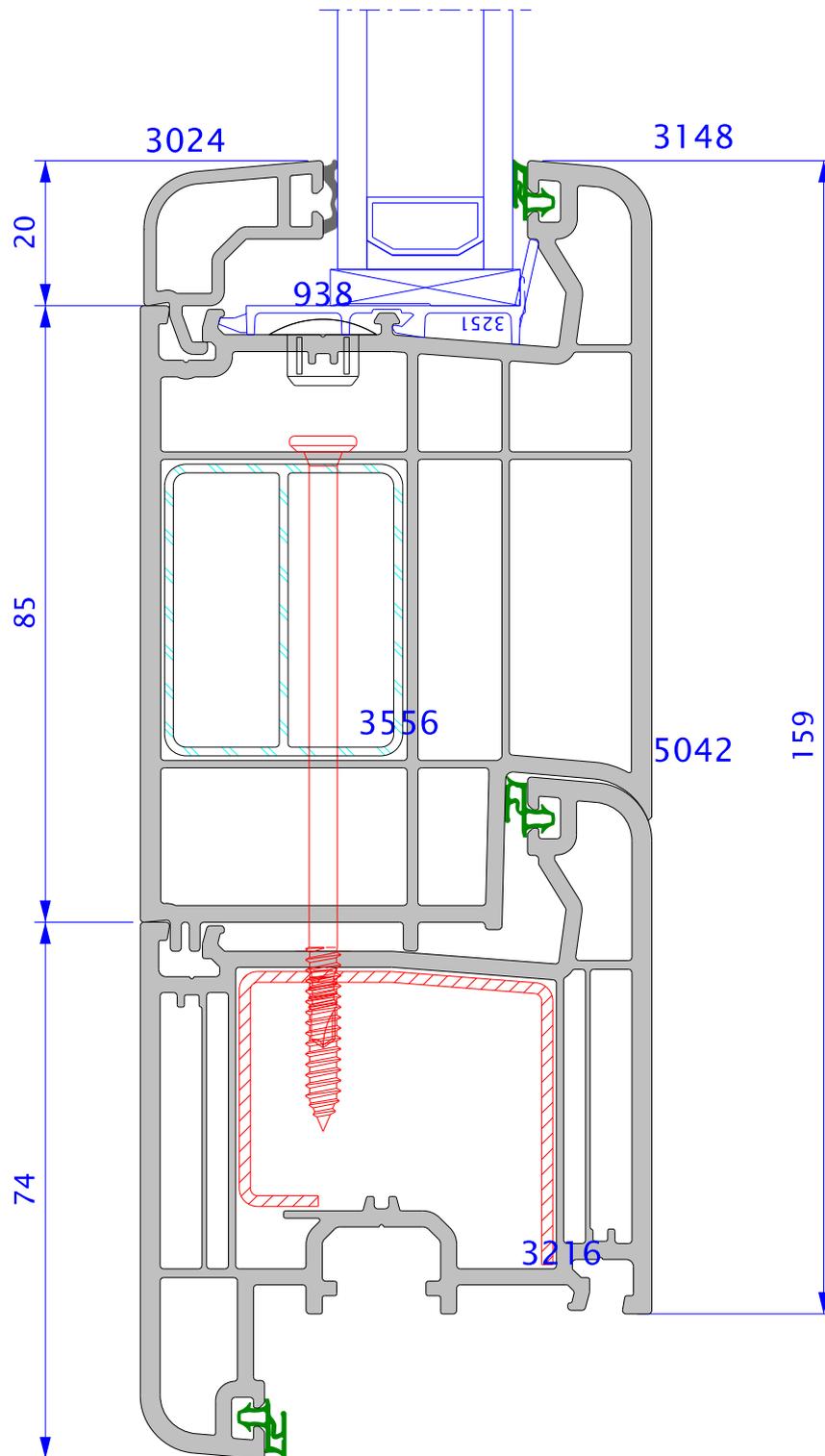
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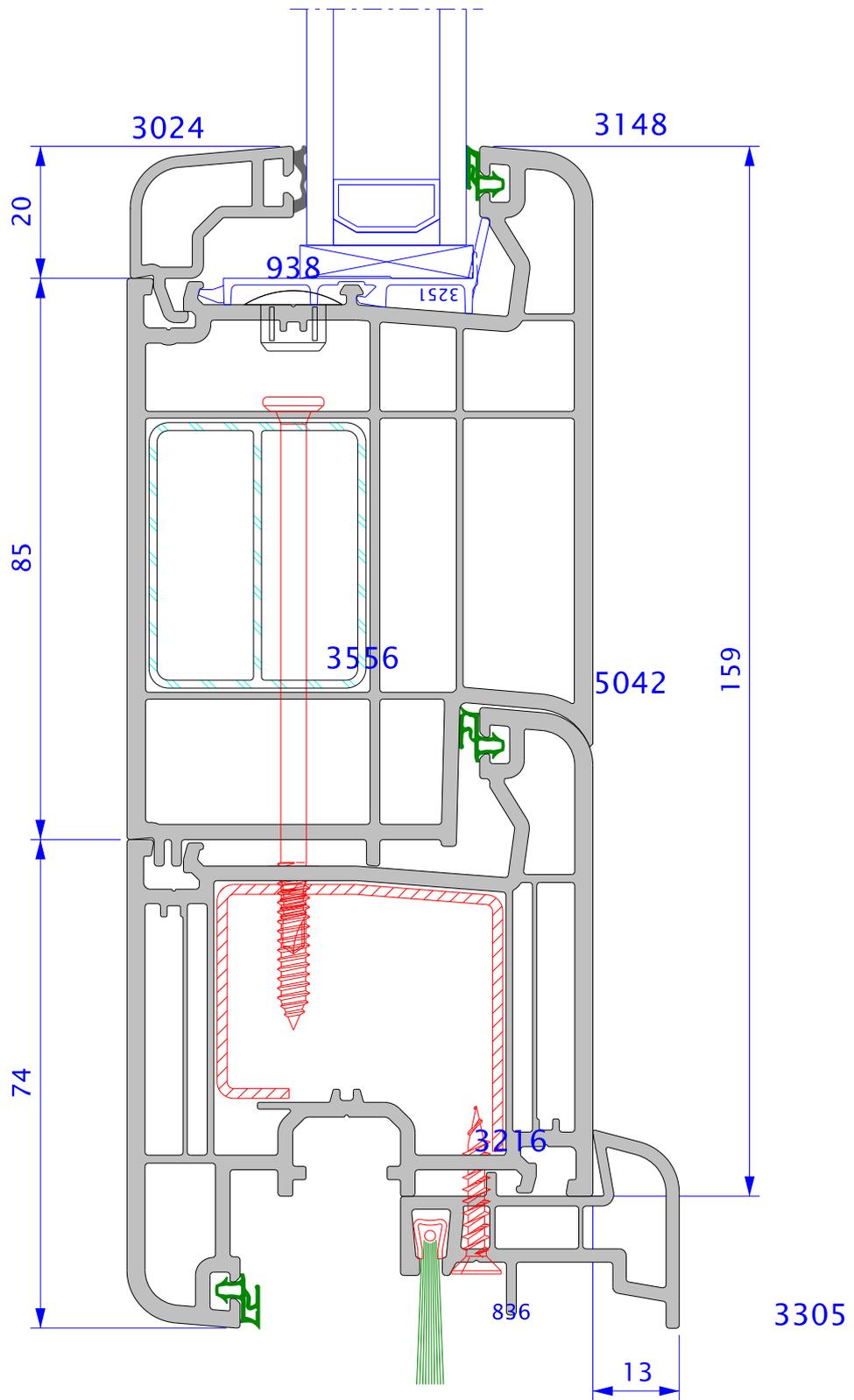
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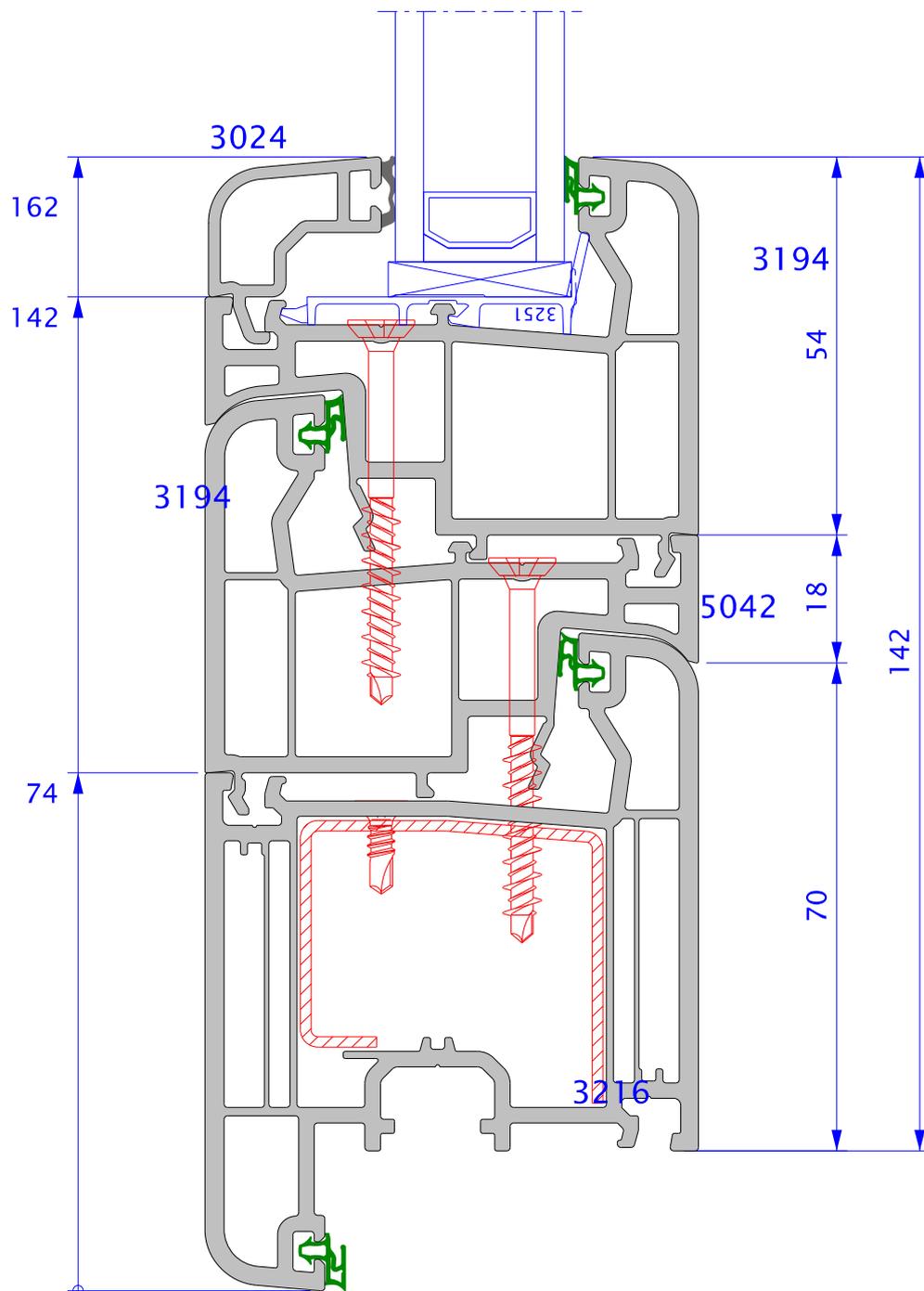
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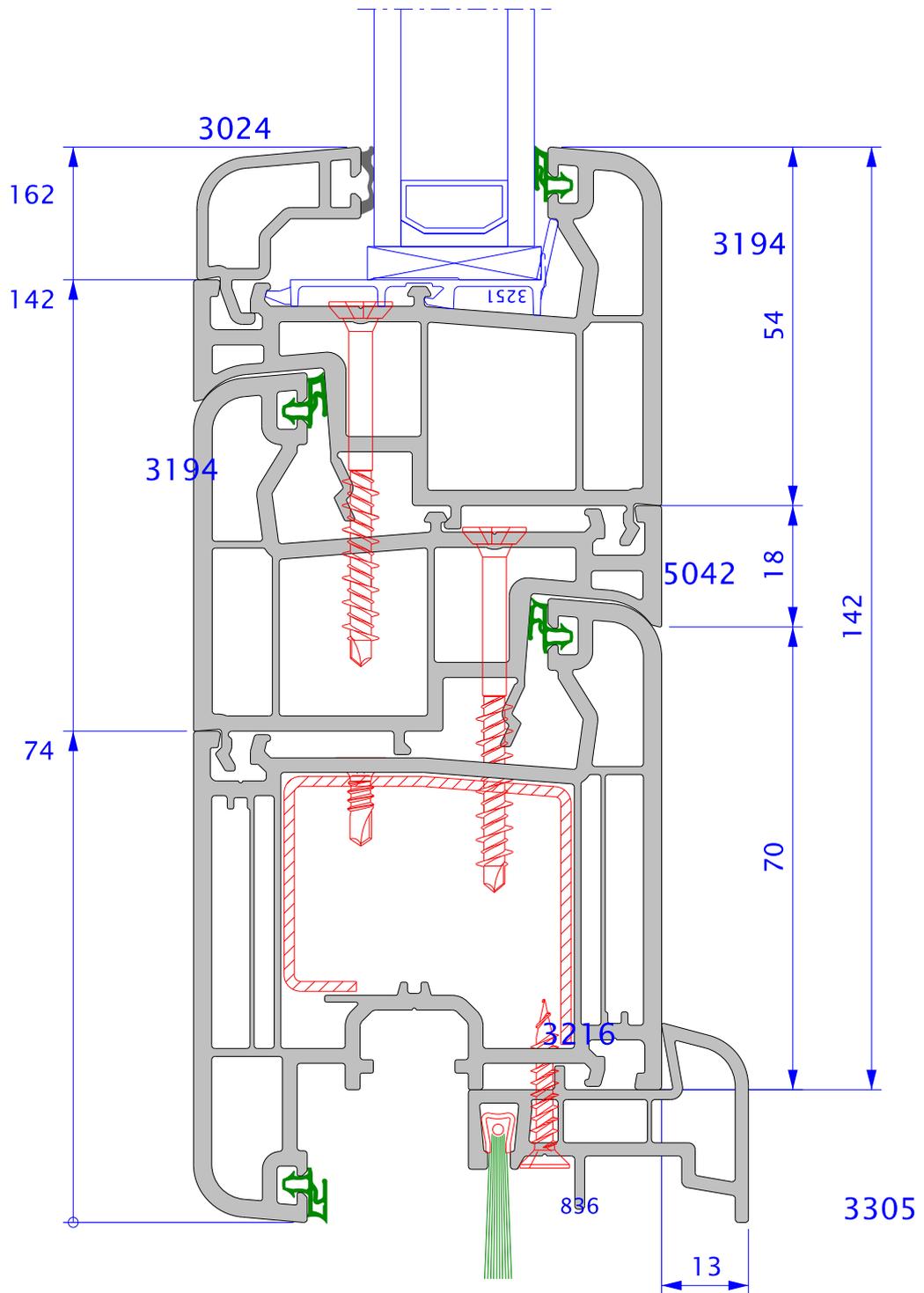
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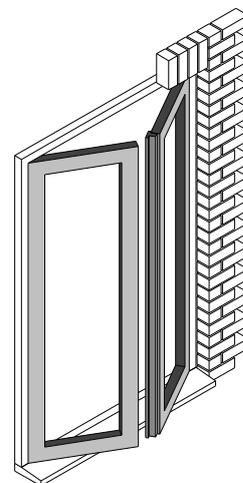
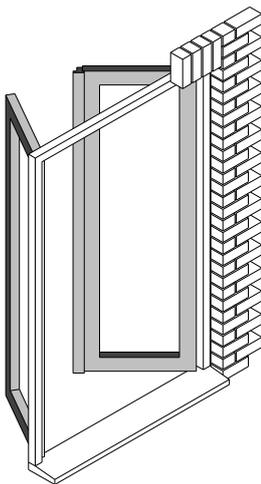
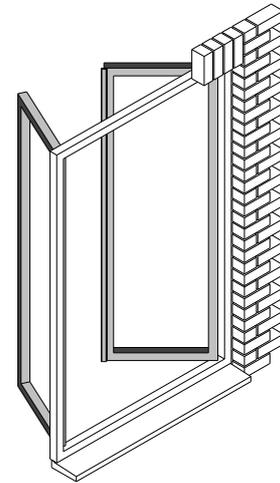
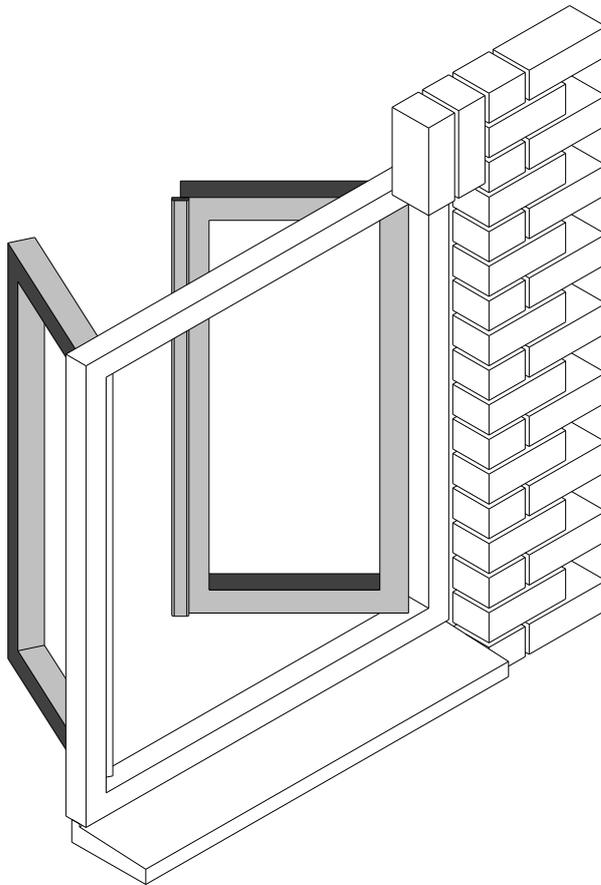
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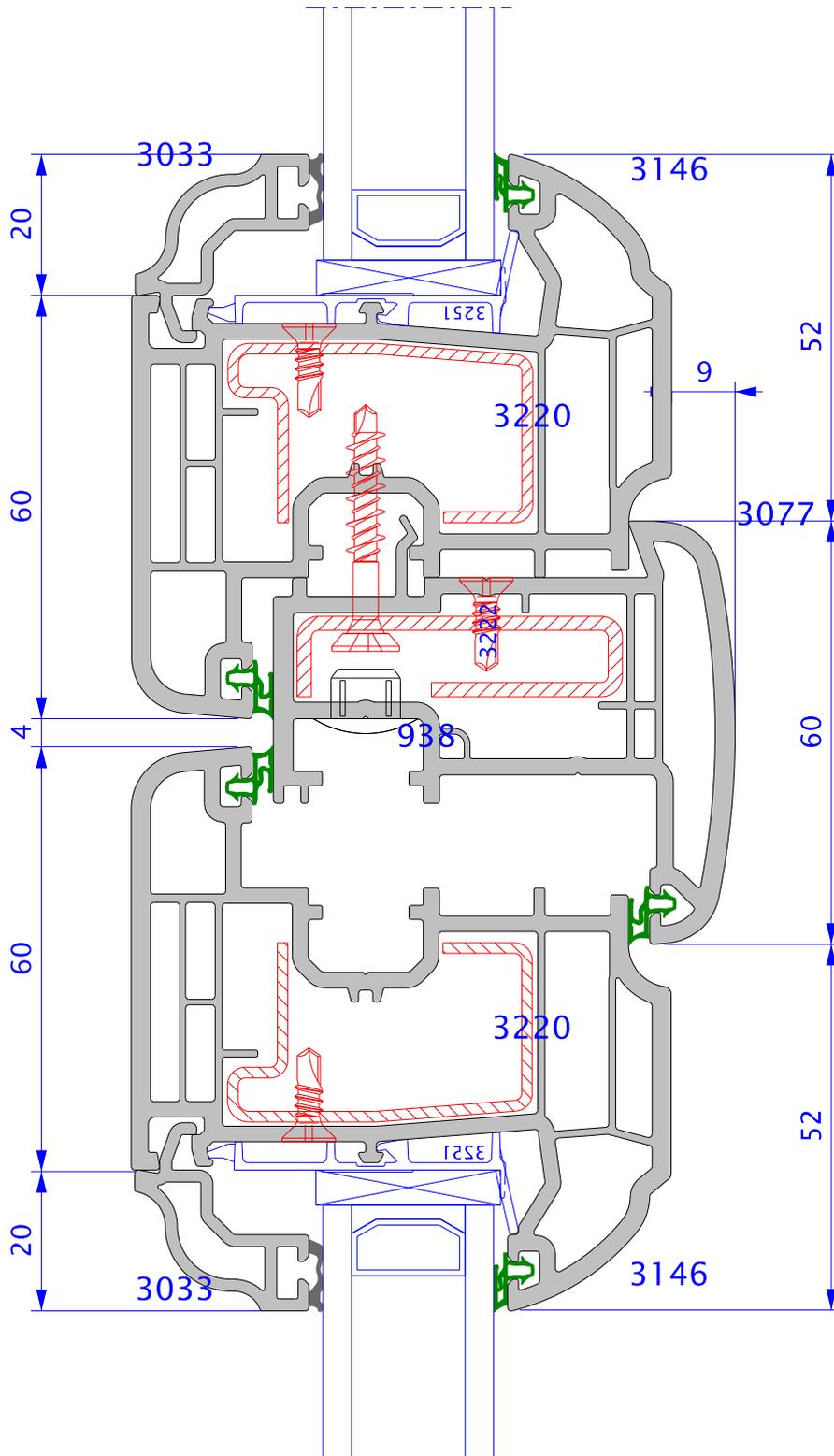


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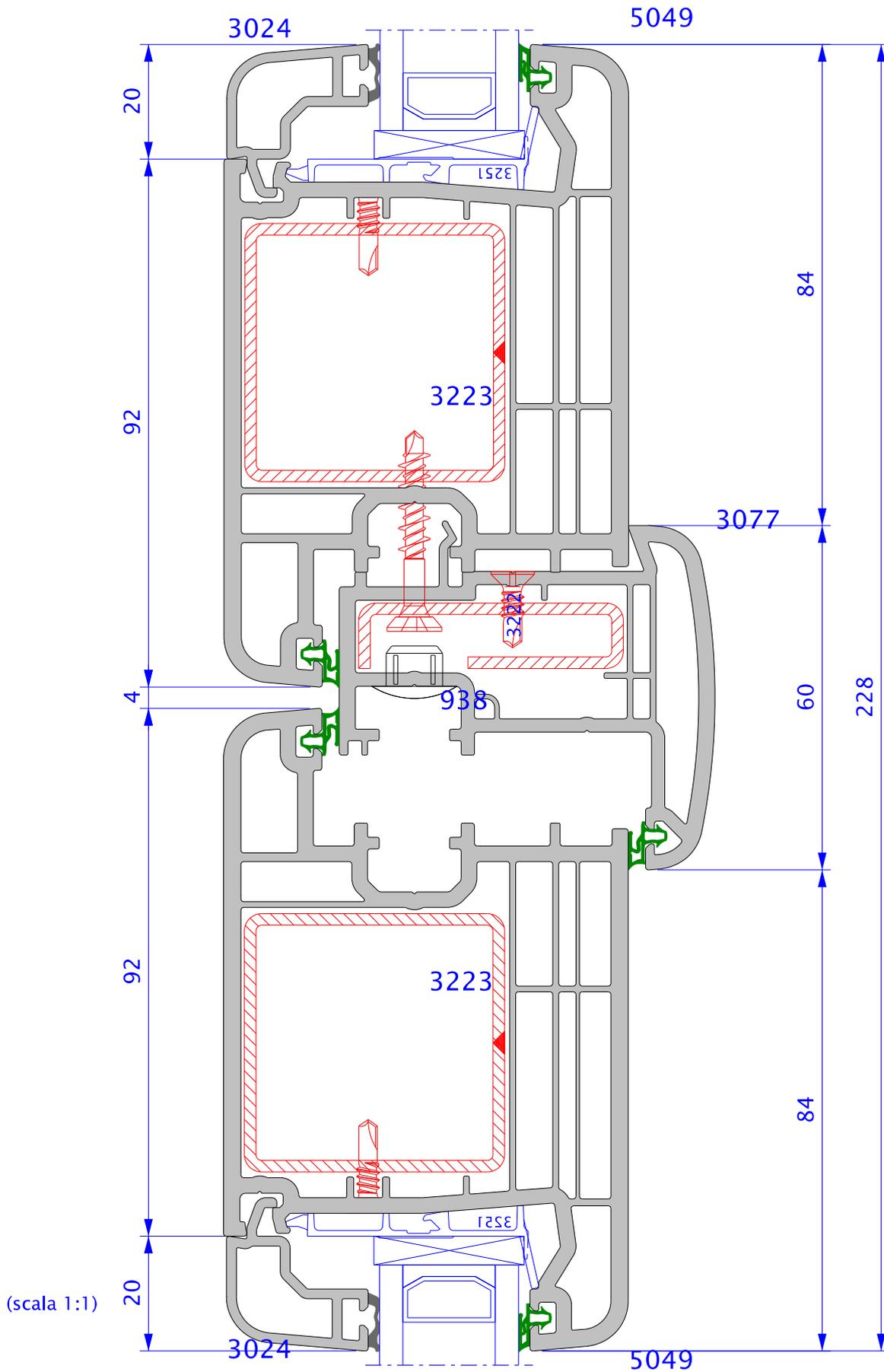


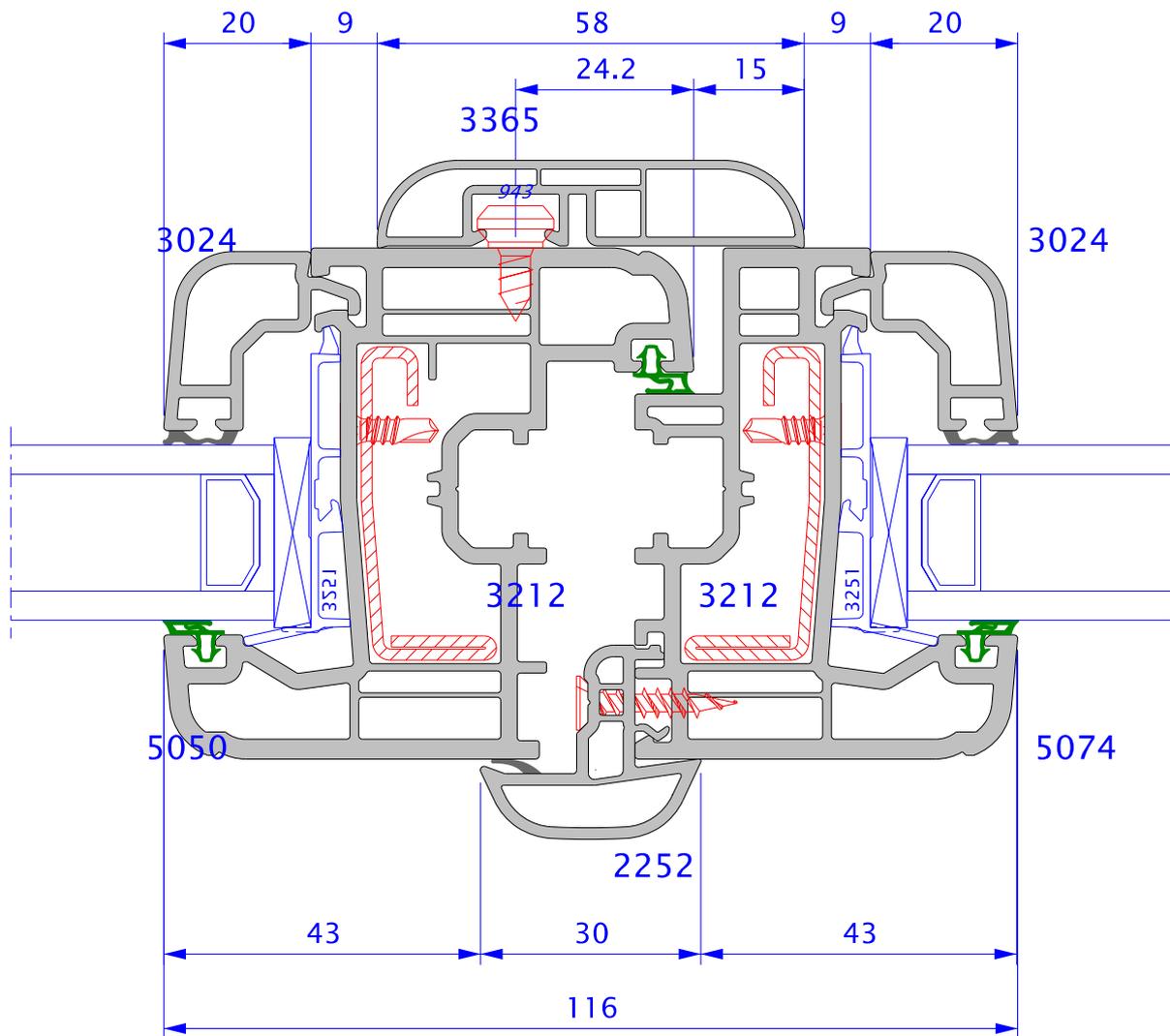
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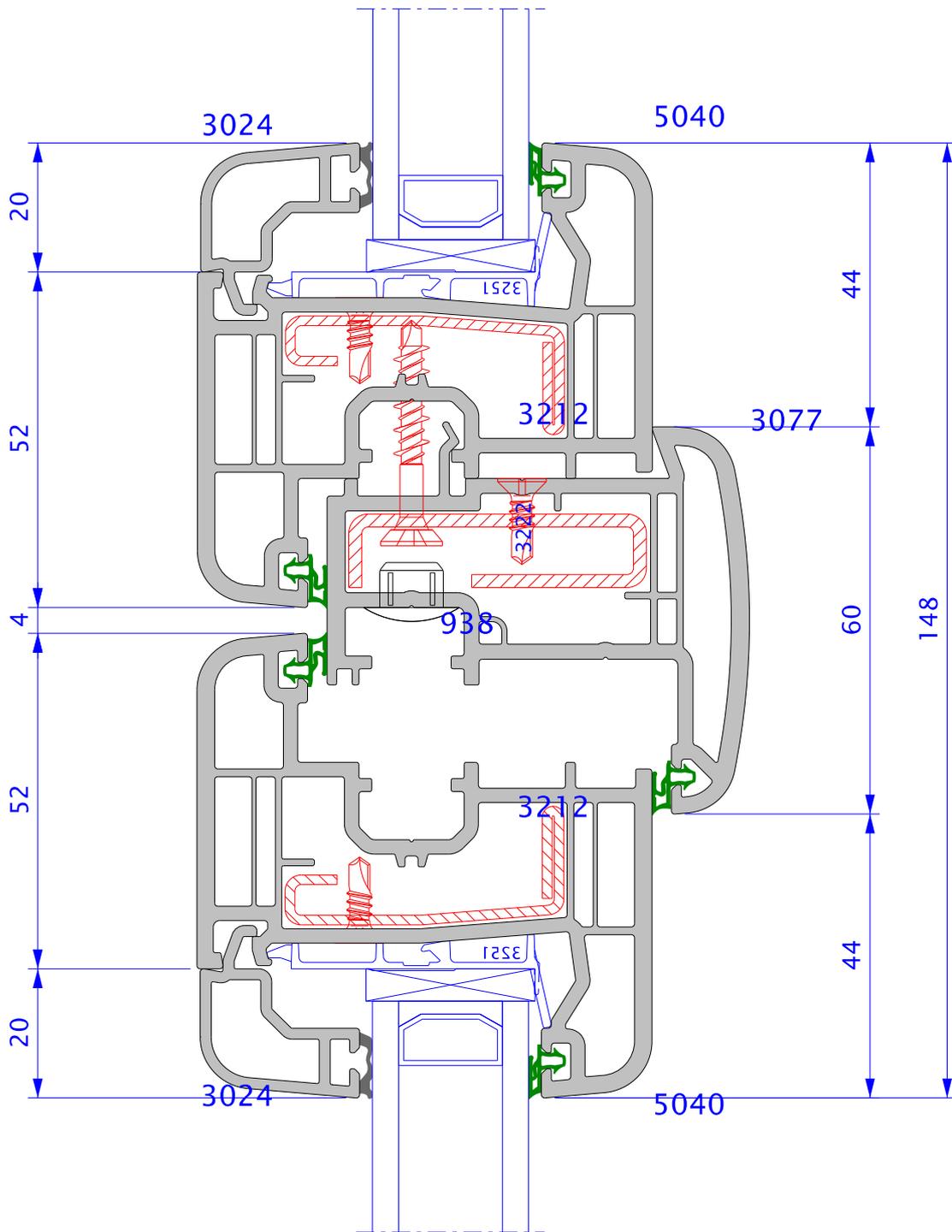


(scala 1:1)

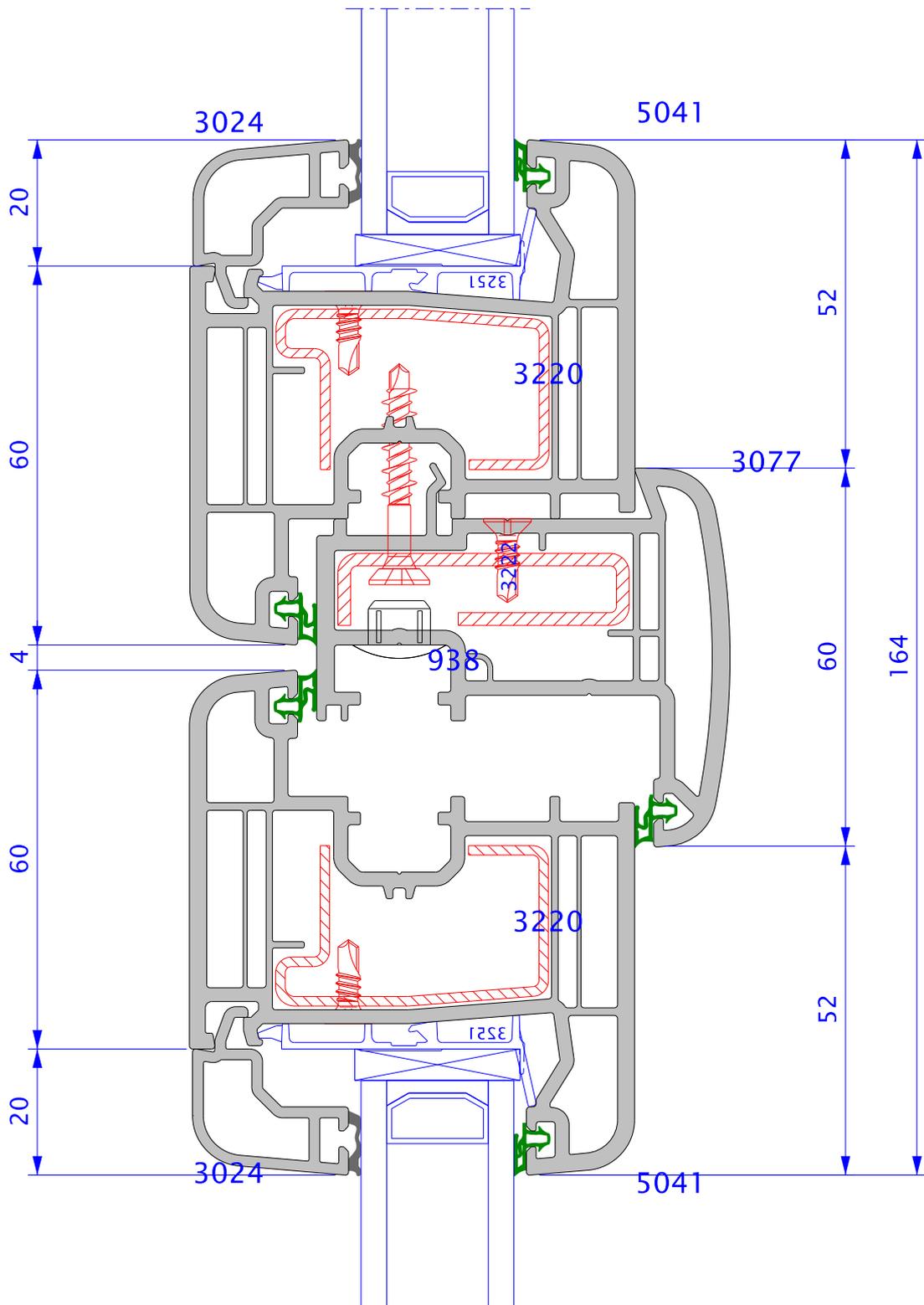




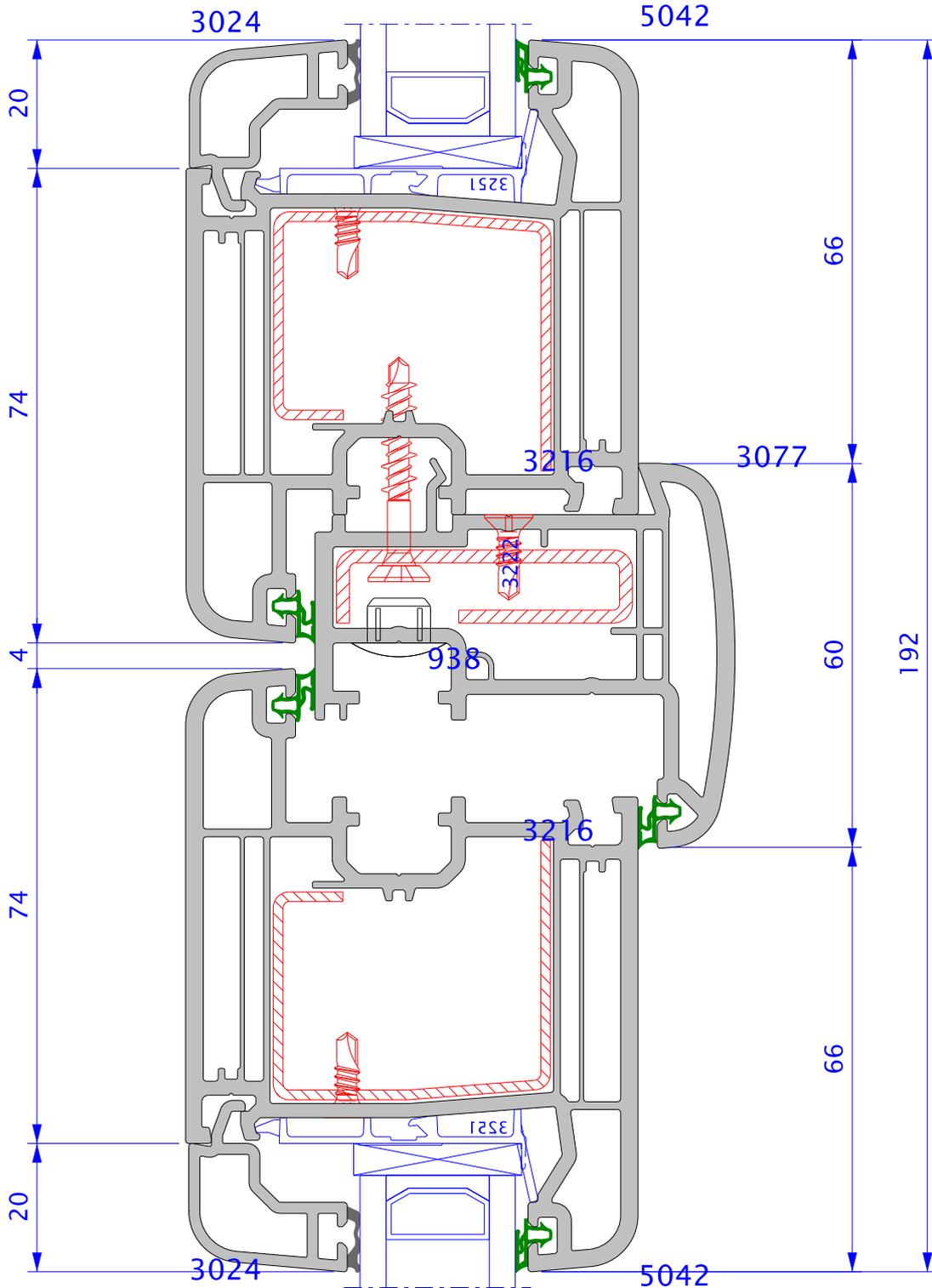
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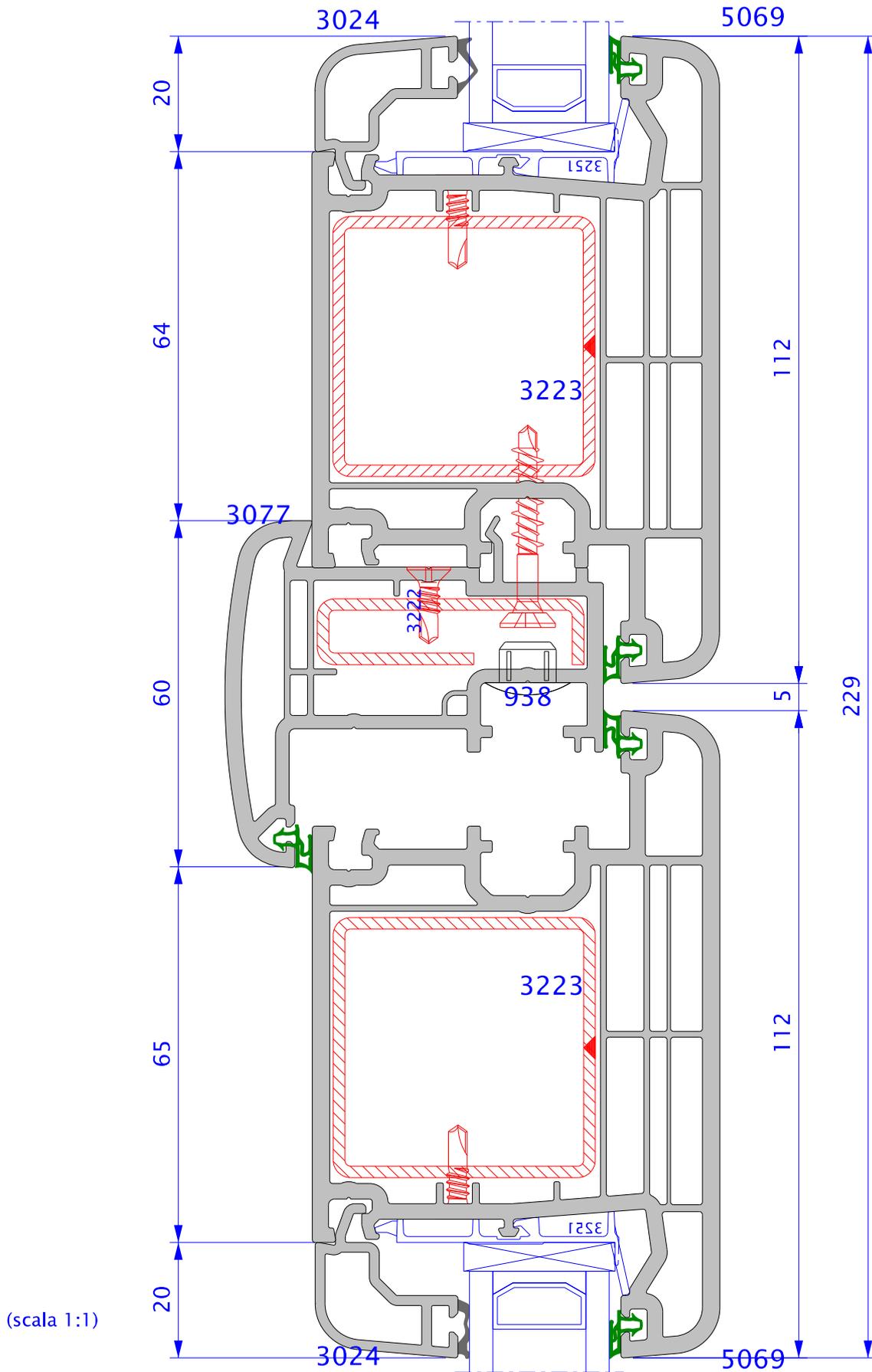
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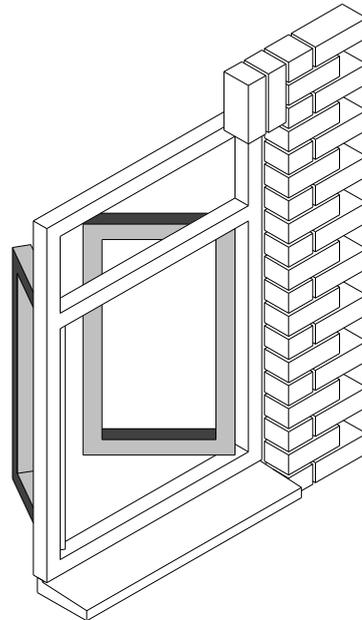
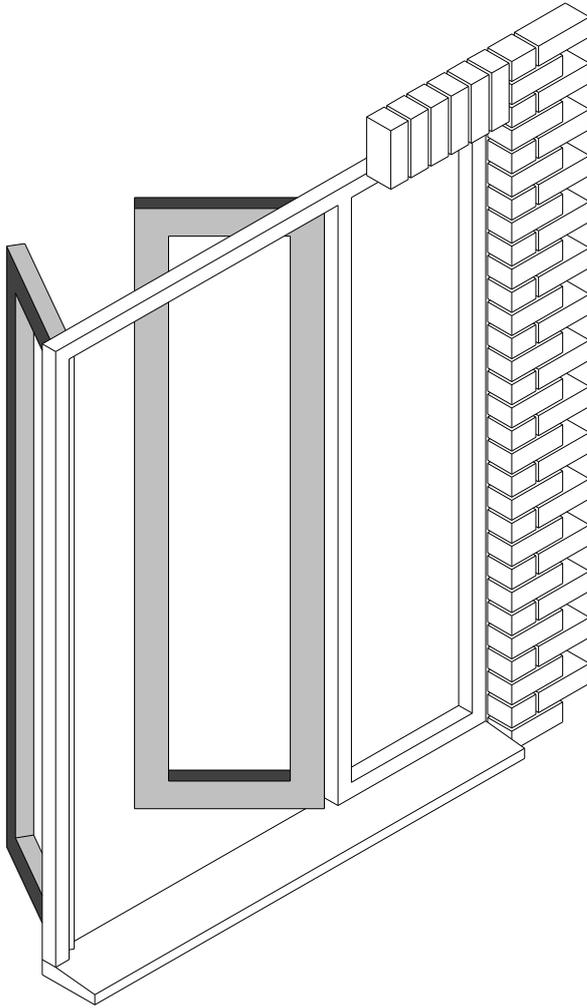


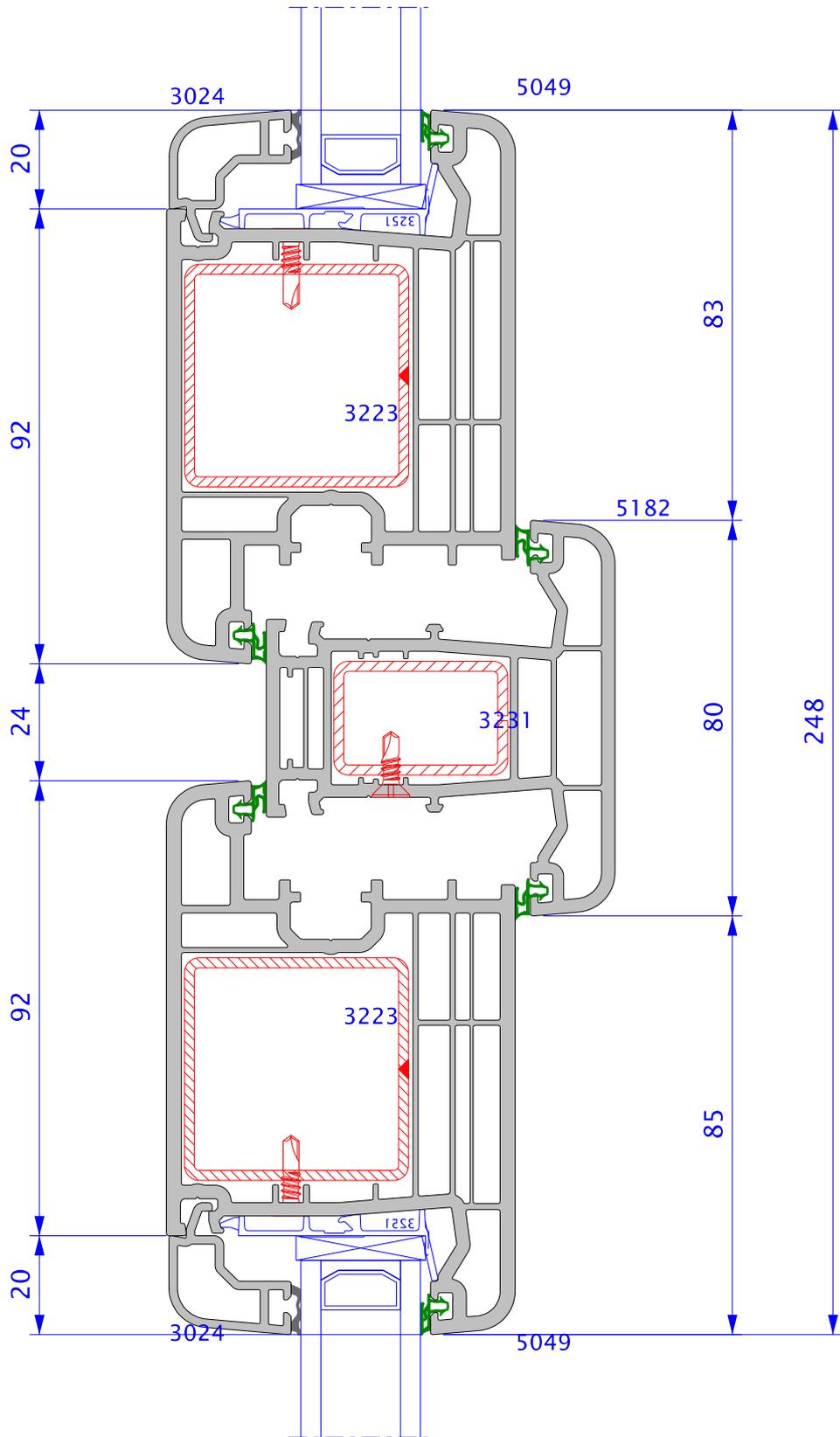
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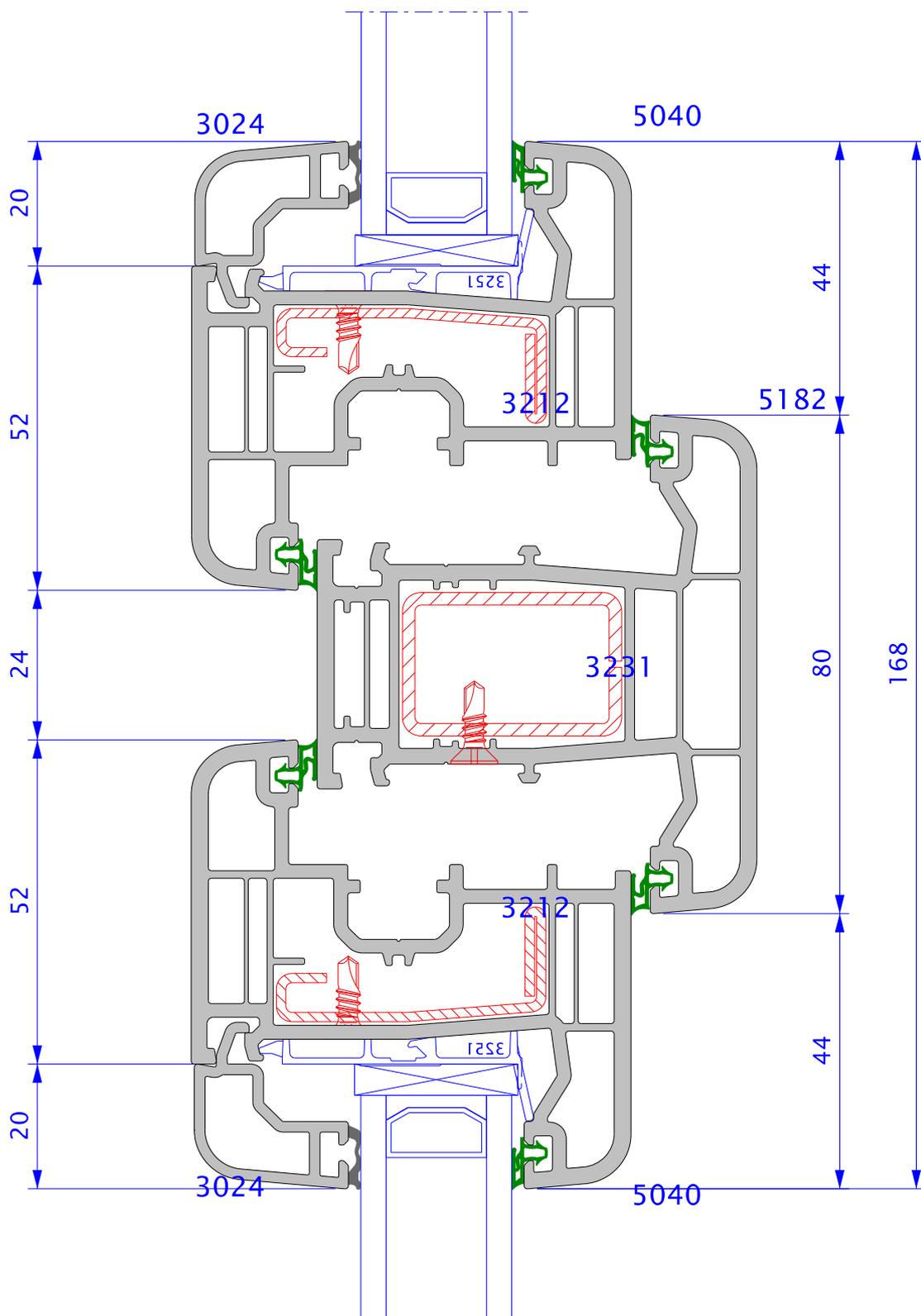
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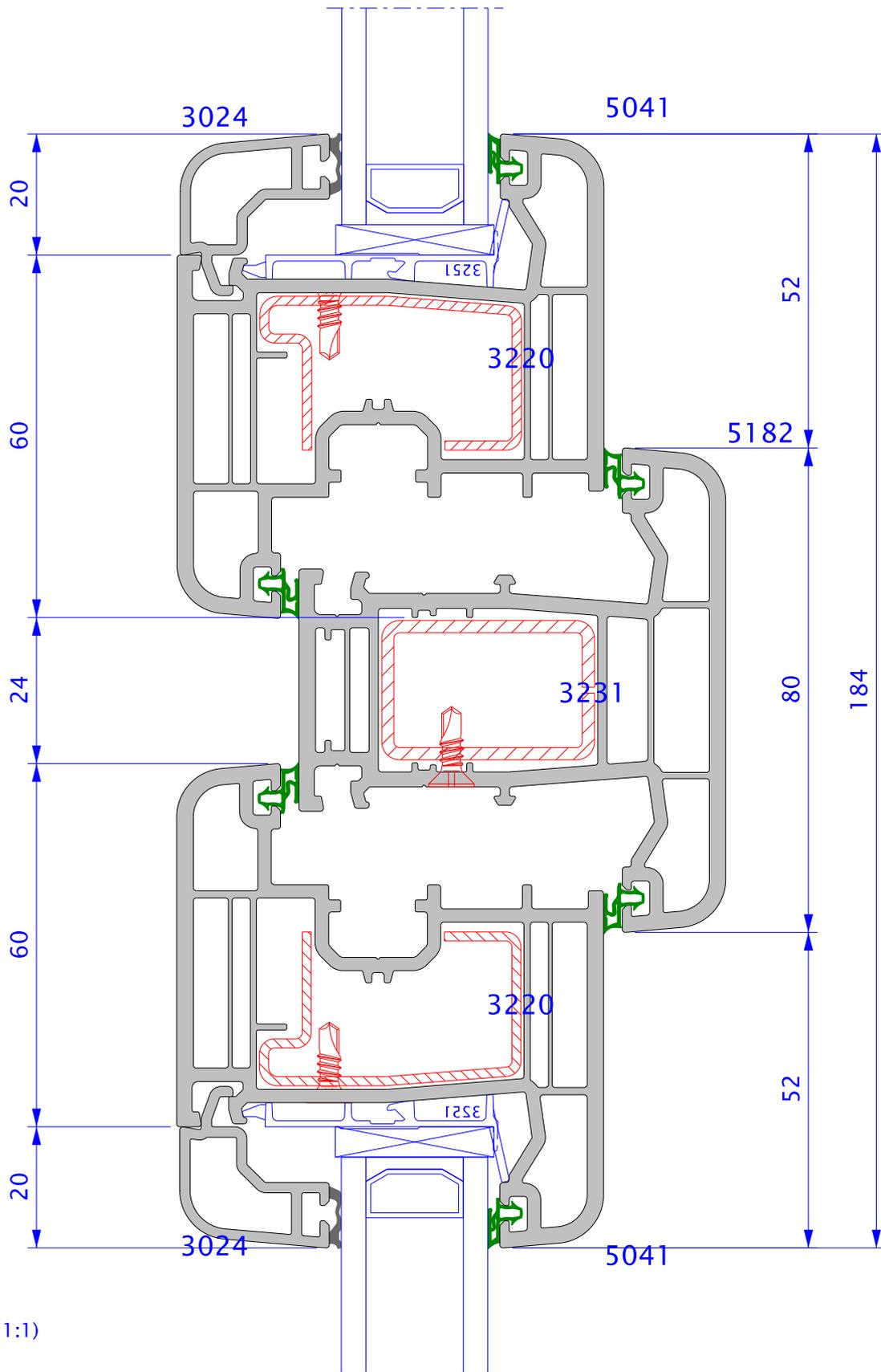




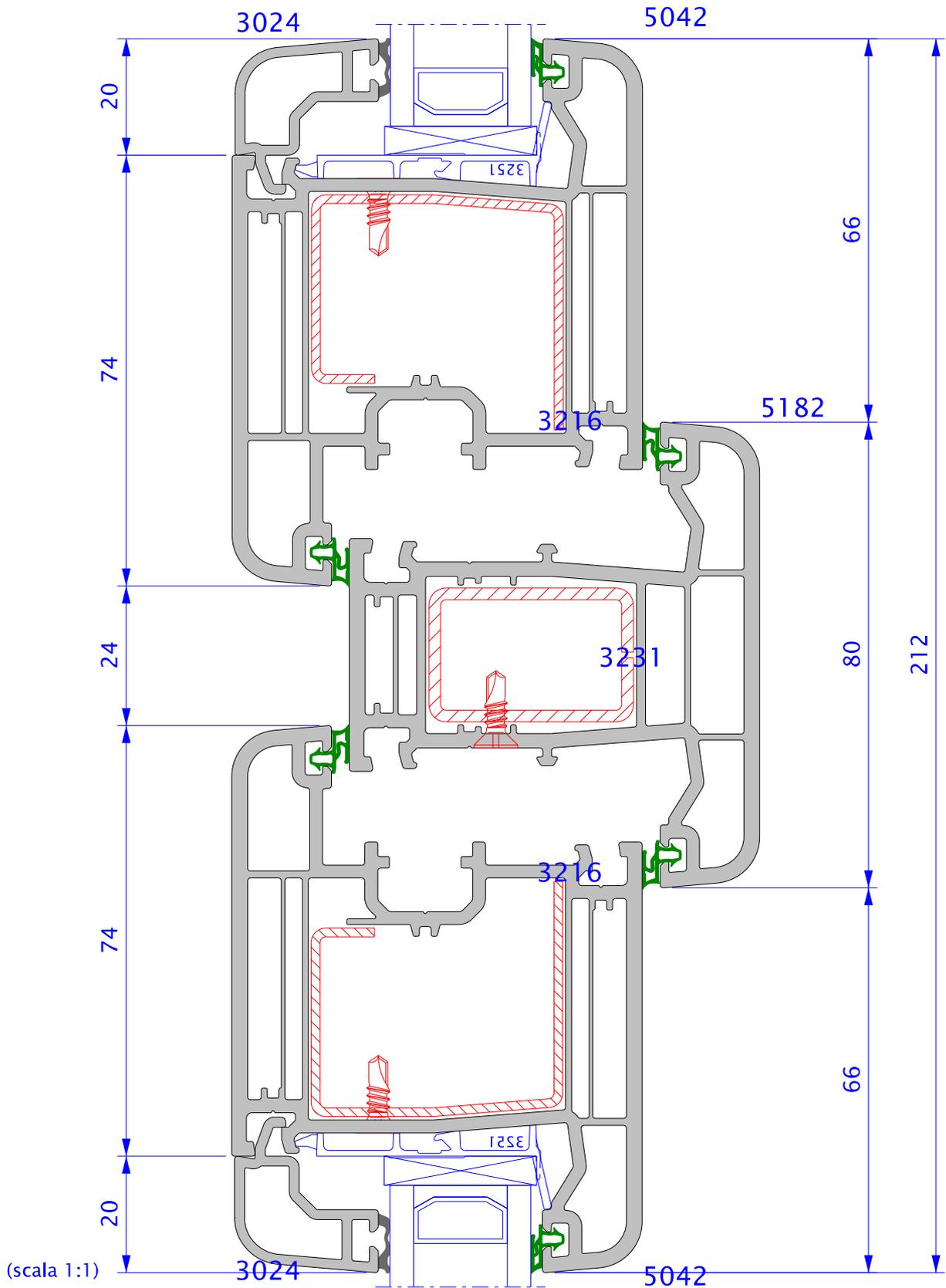
(scala 0.75:1)

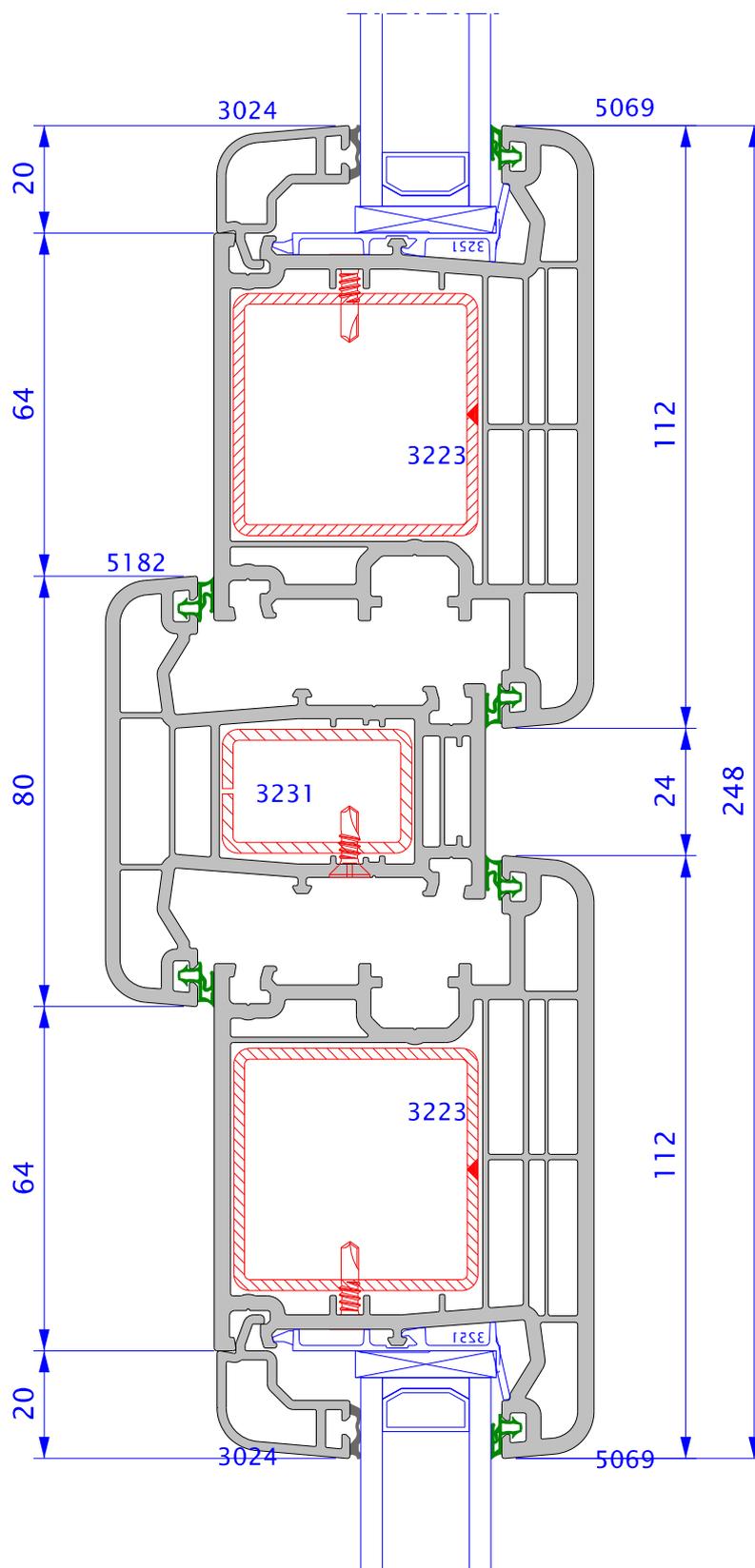


(scala 1:1)

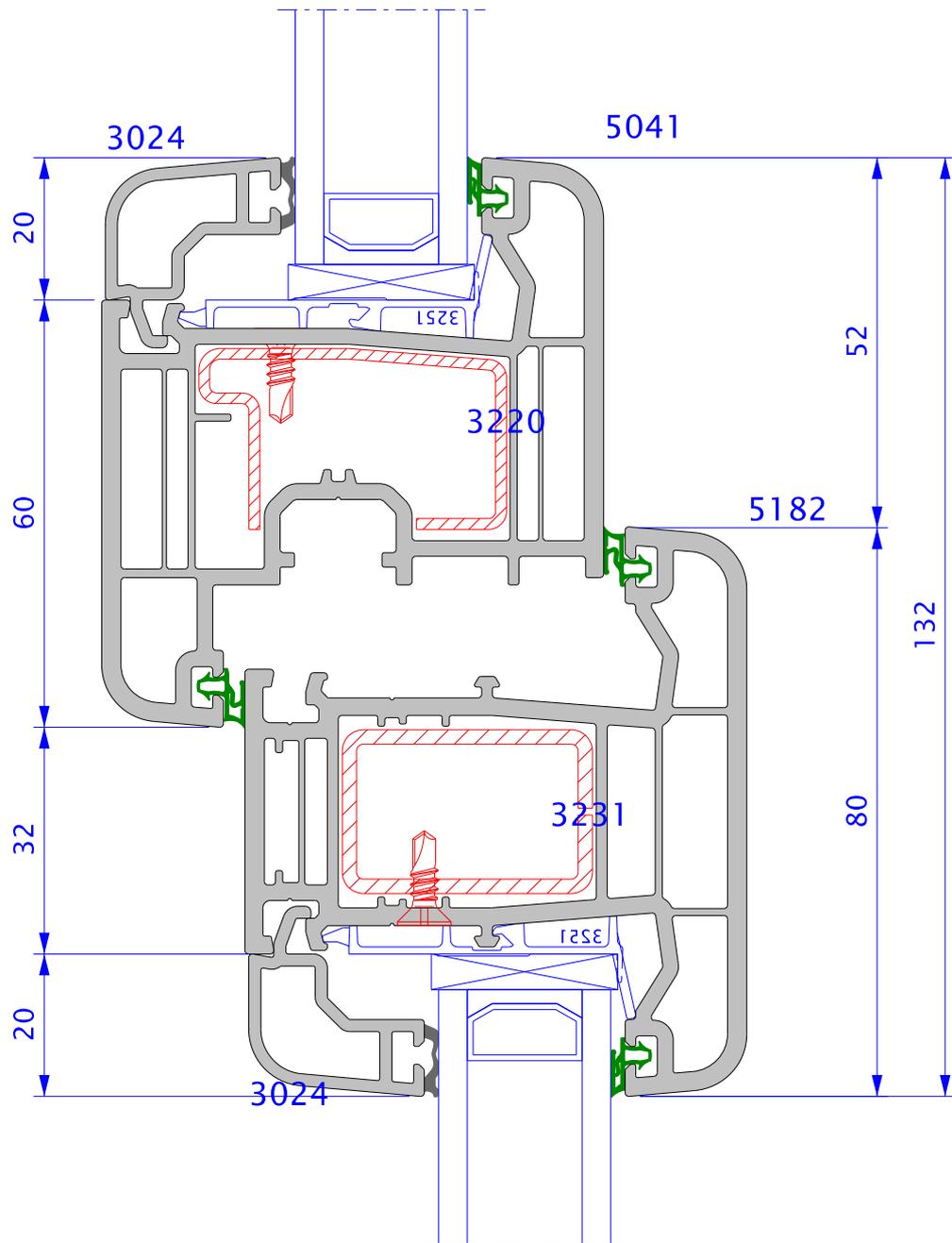


(scala 1:1)

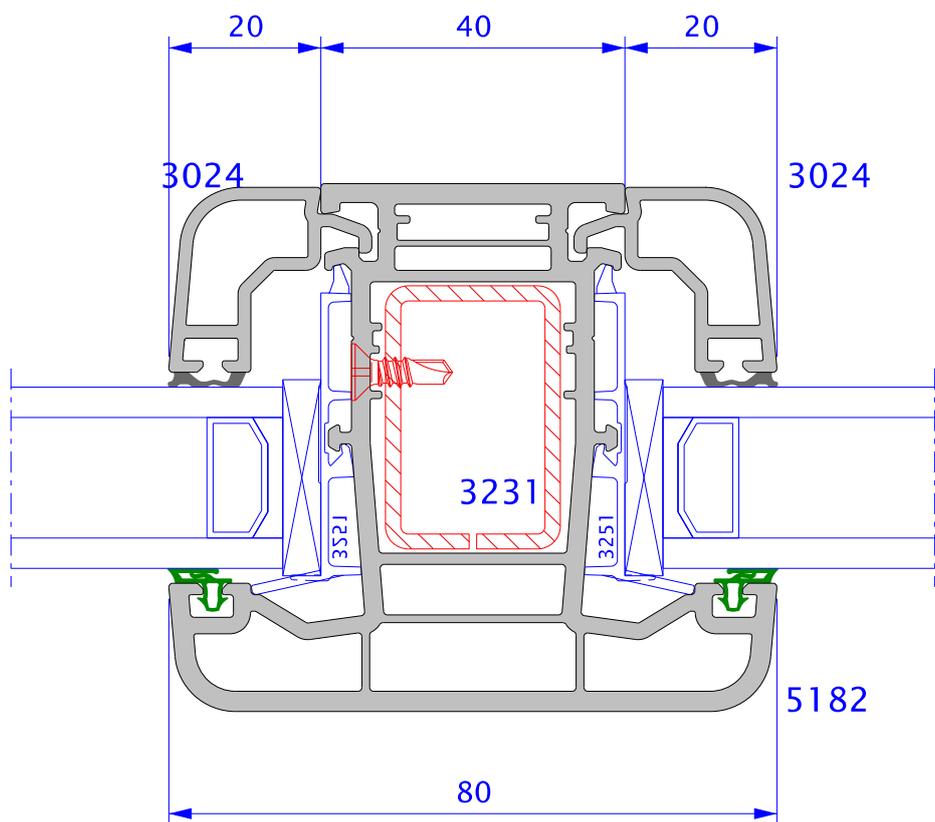




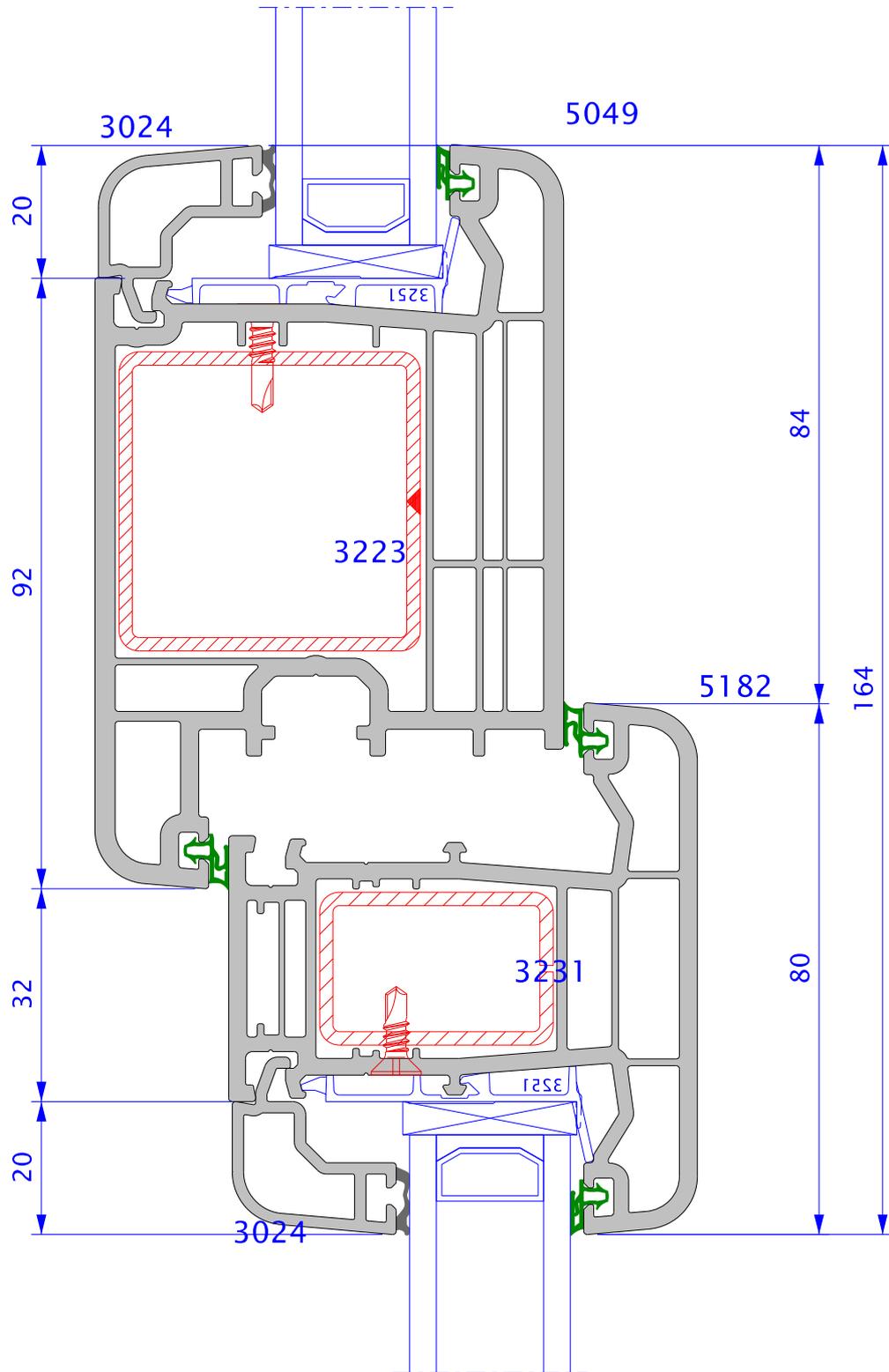
(scala 0.75:1)



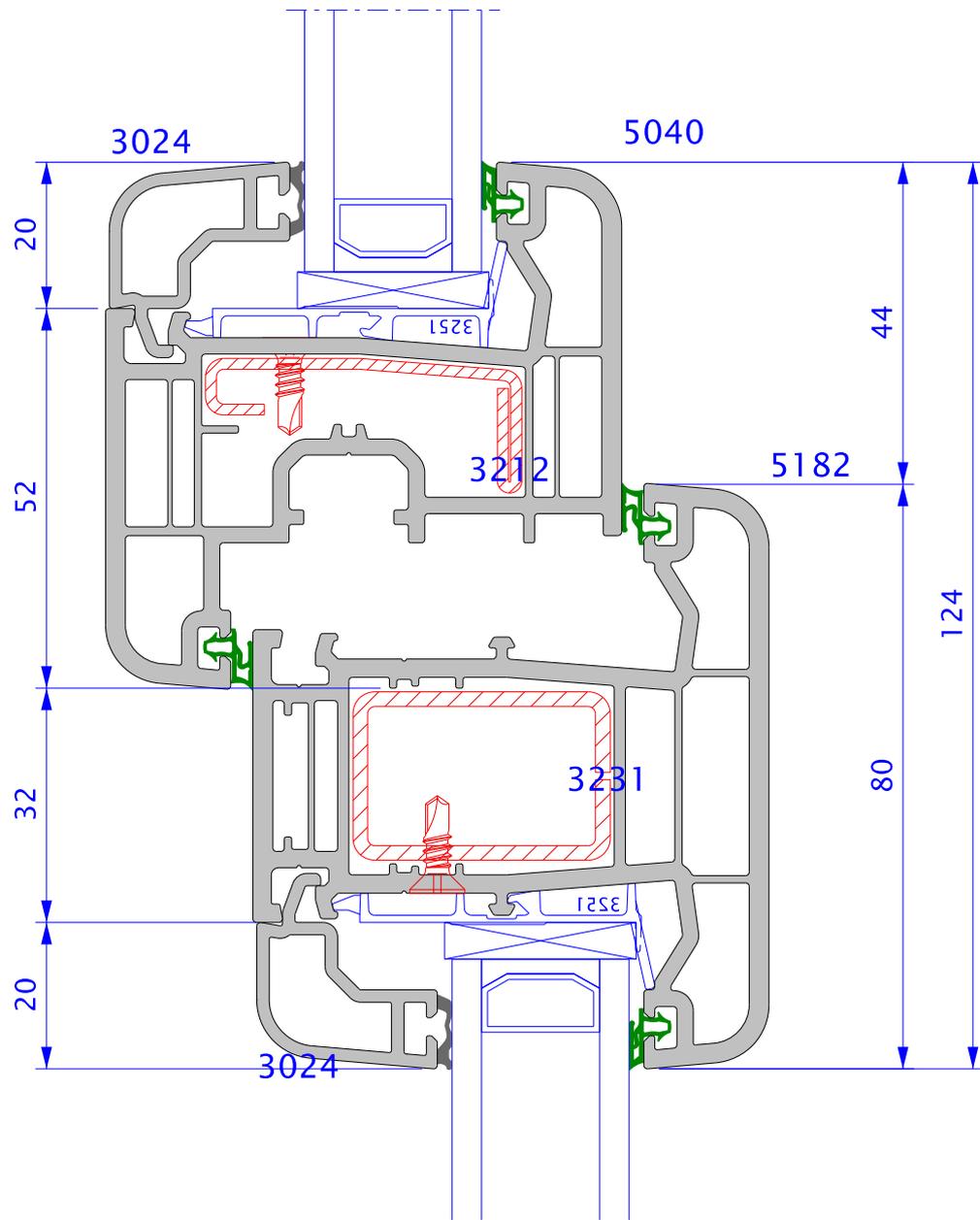
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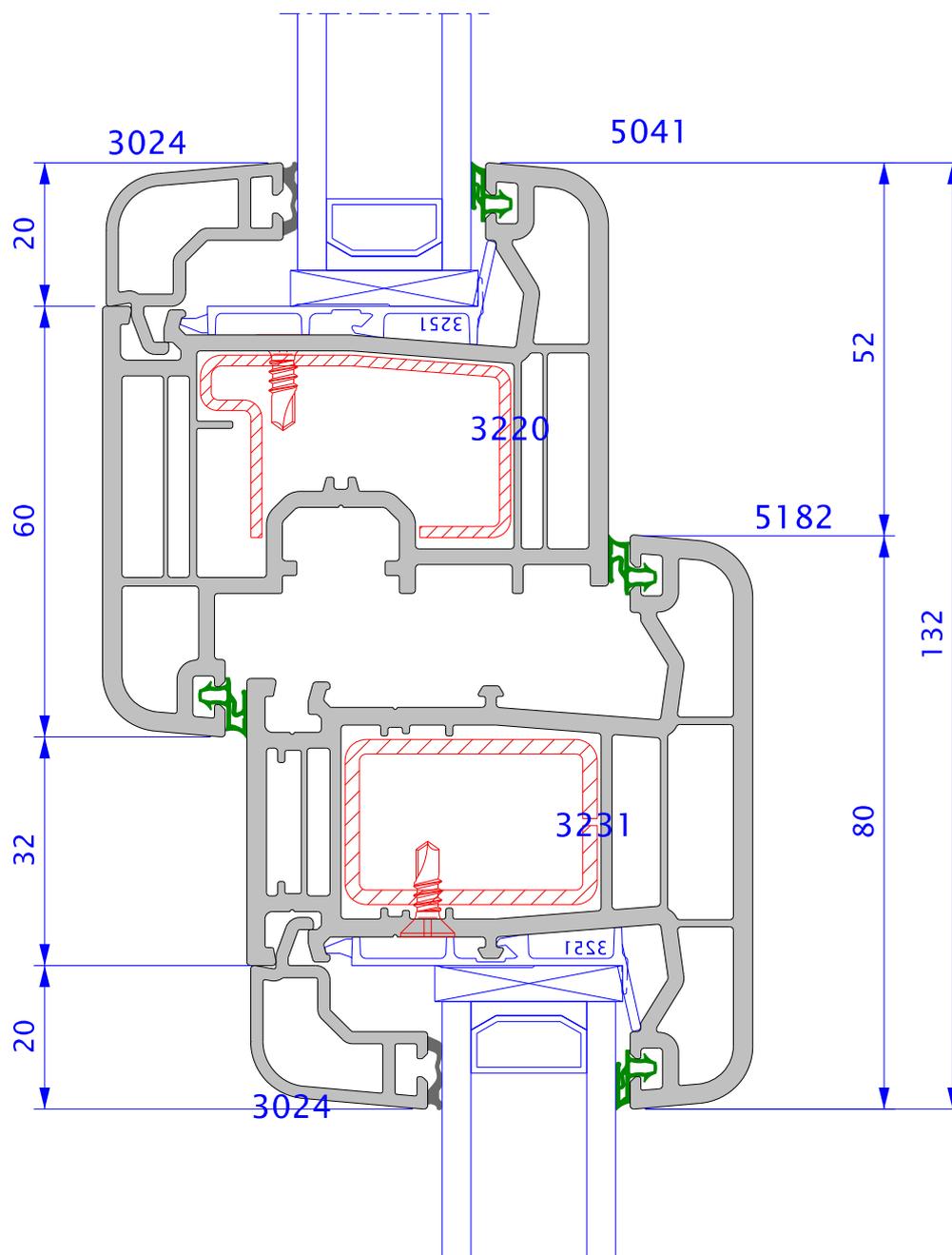
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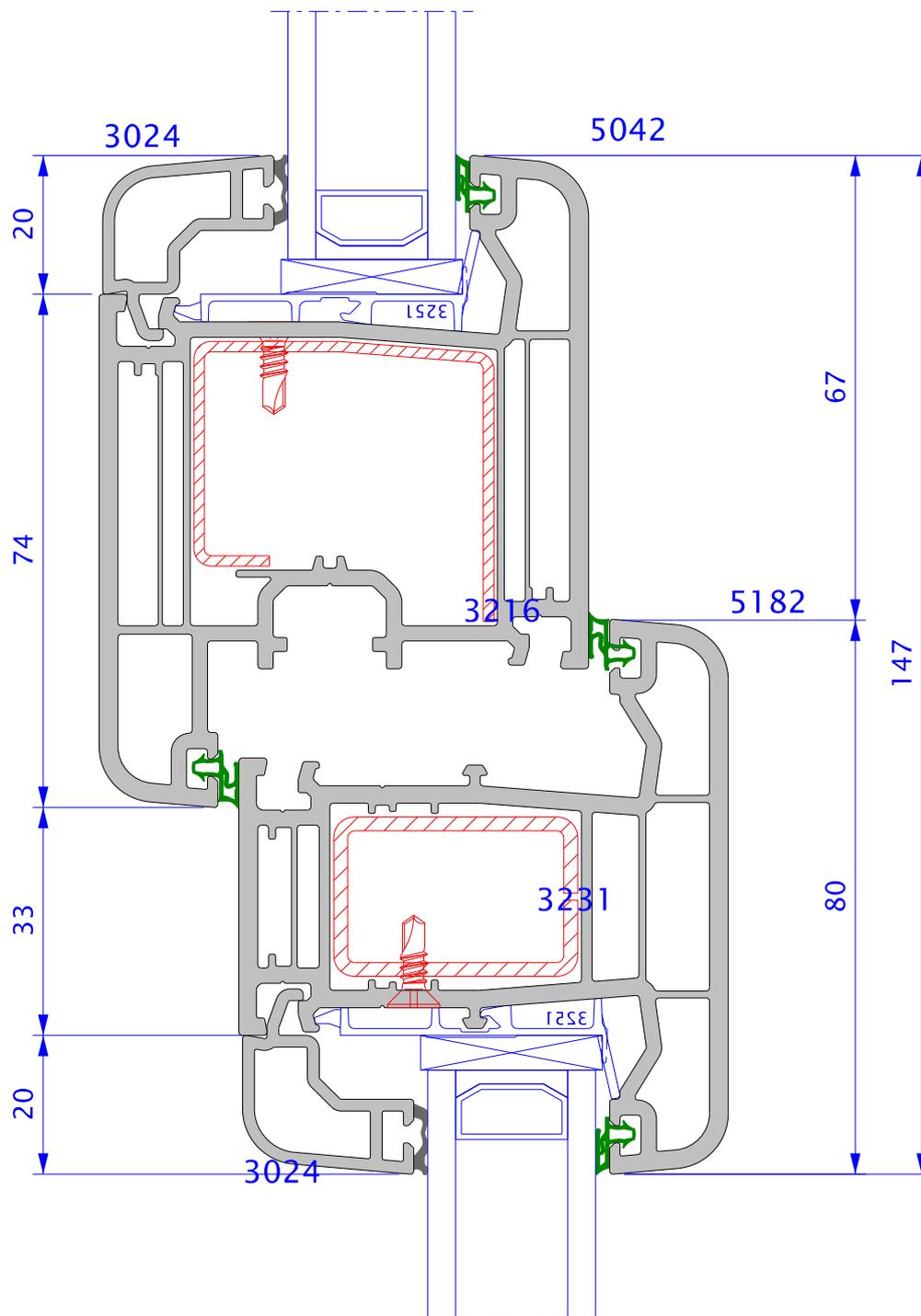
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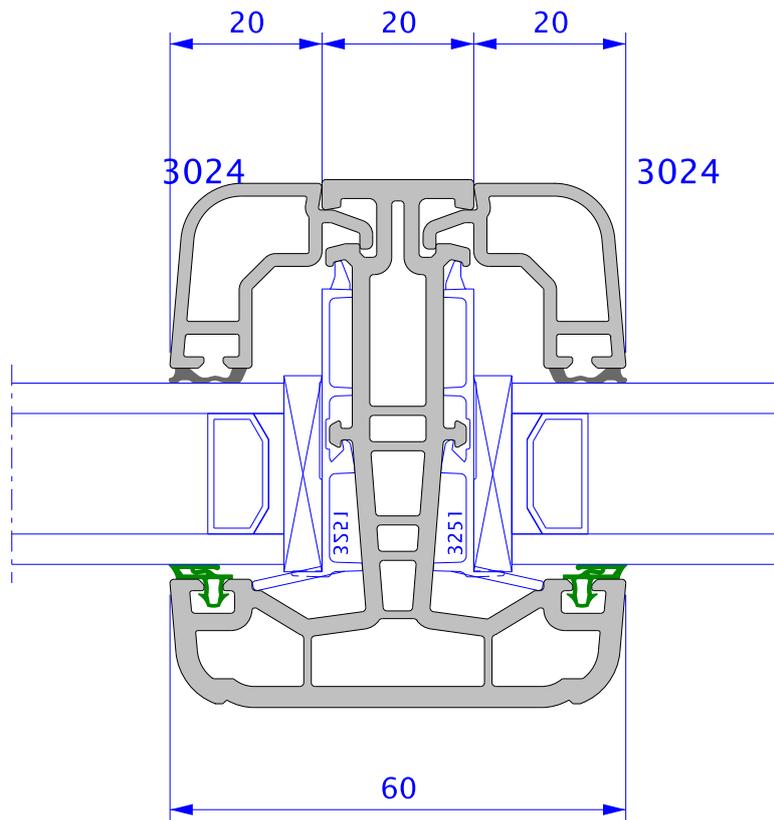
(scala 1:1)



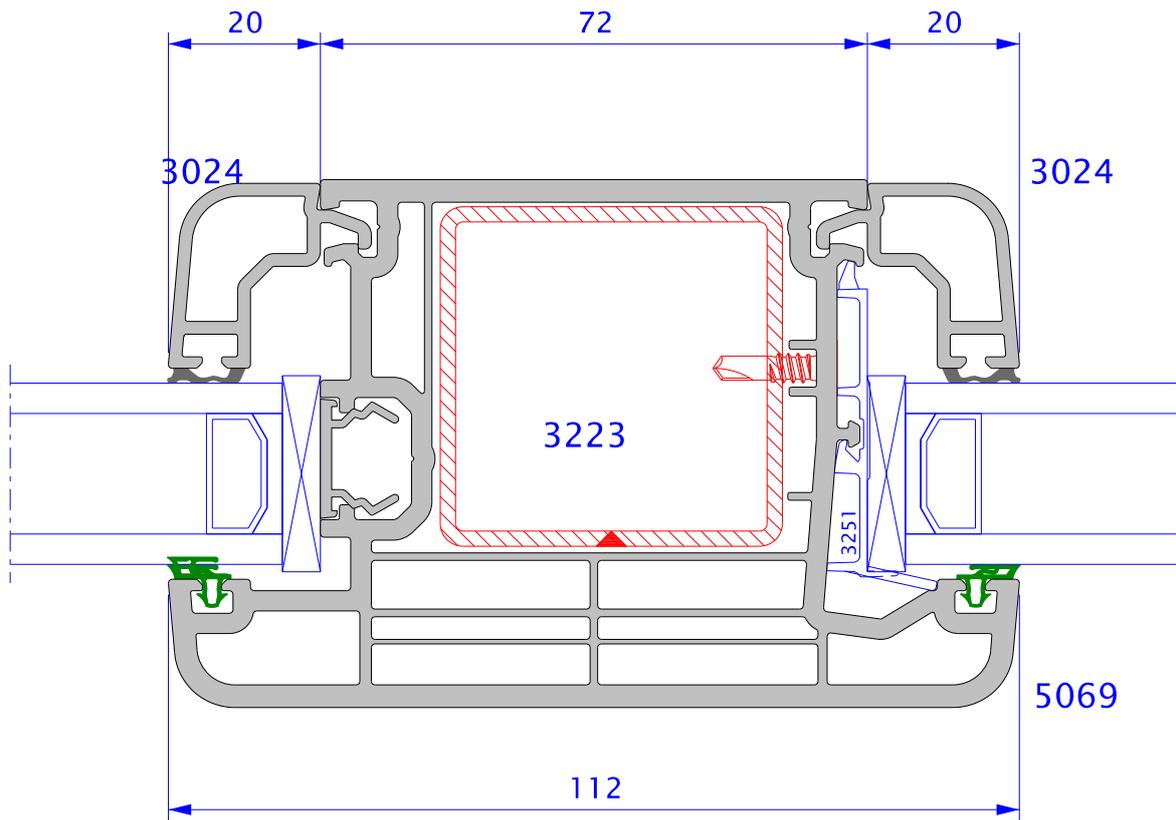
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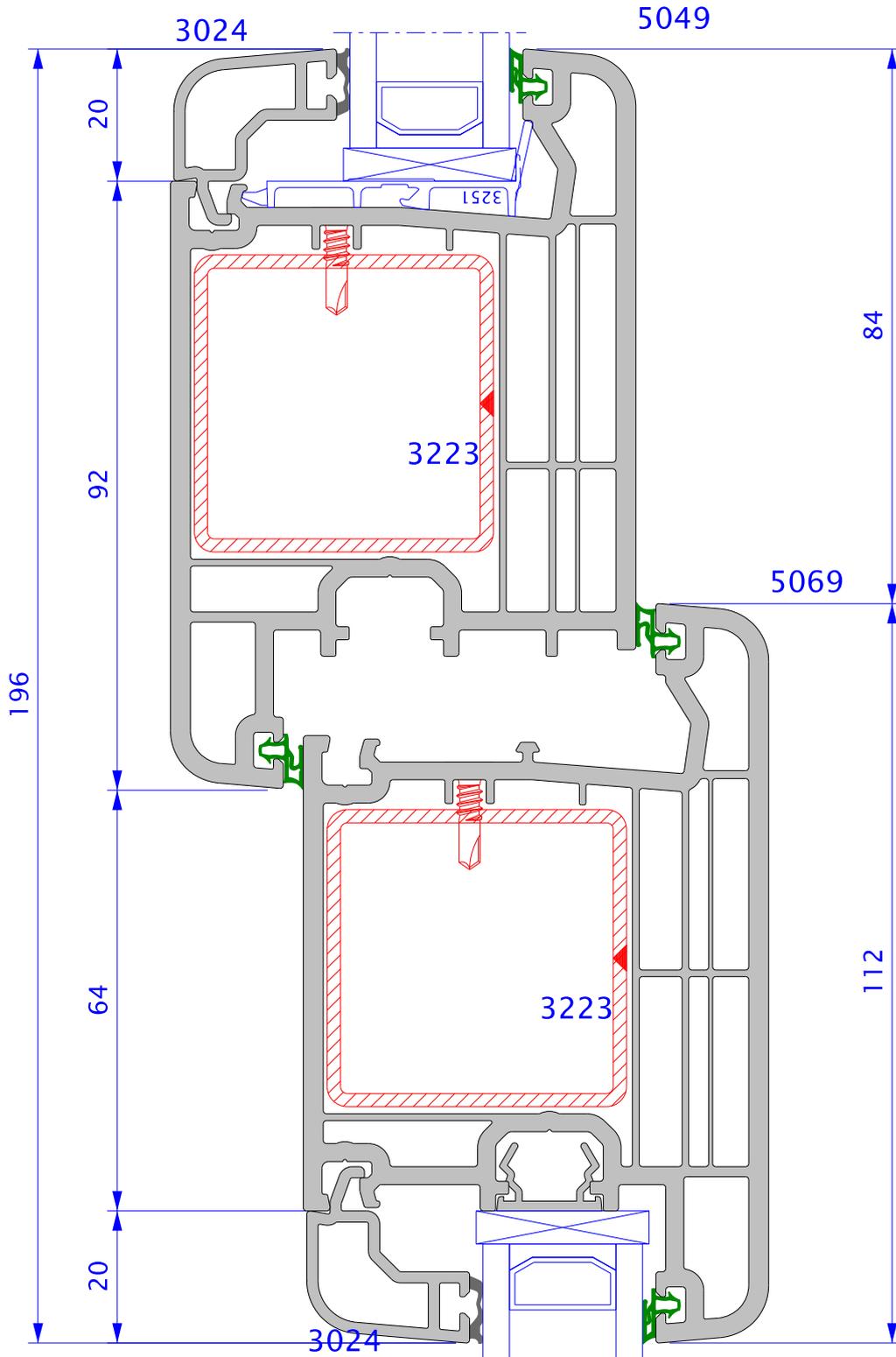
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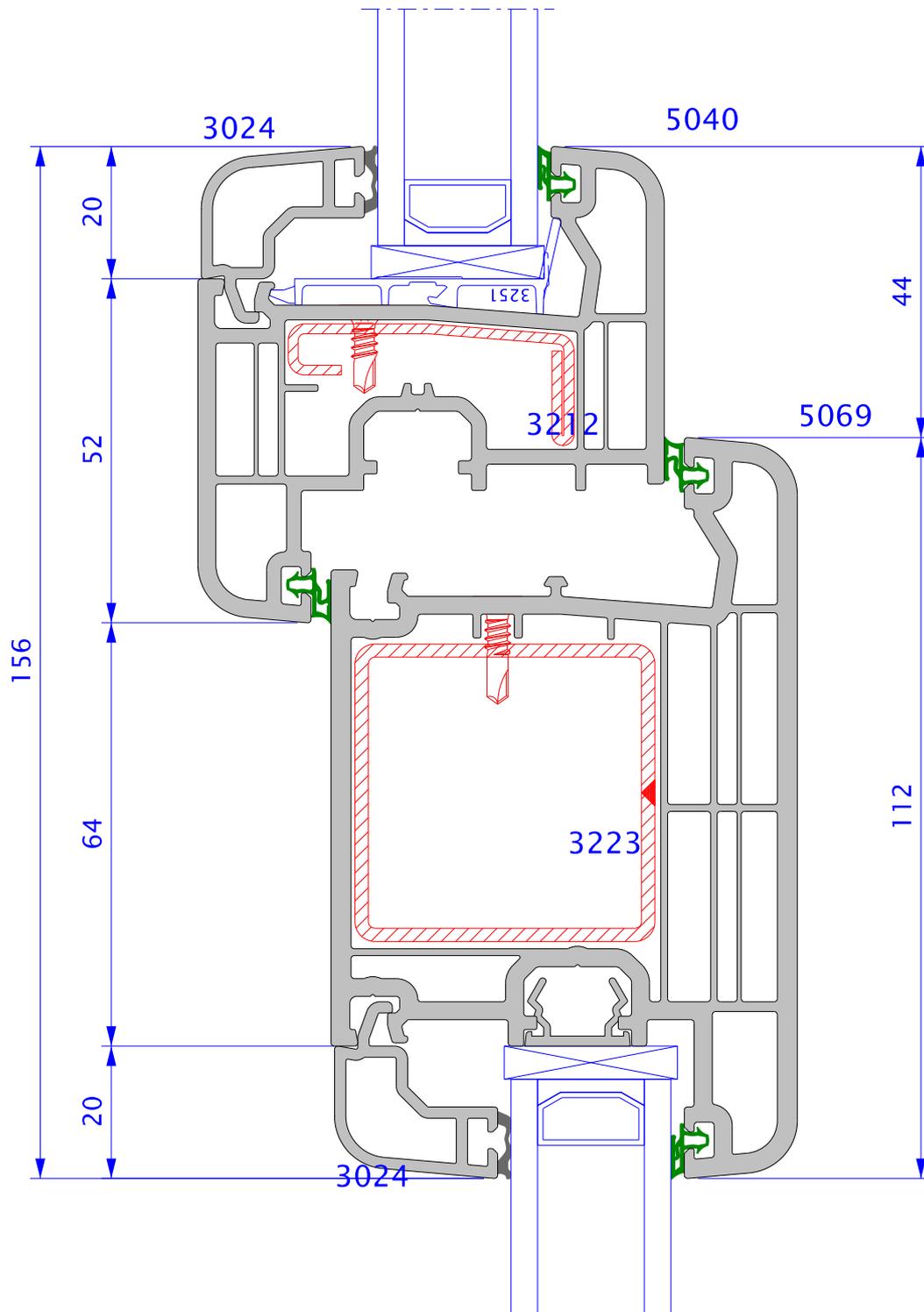
(scala 1:1)



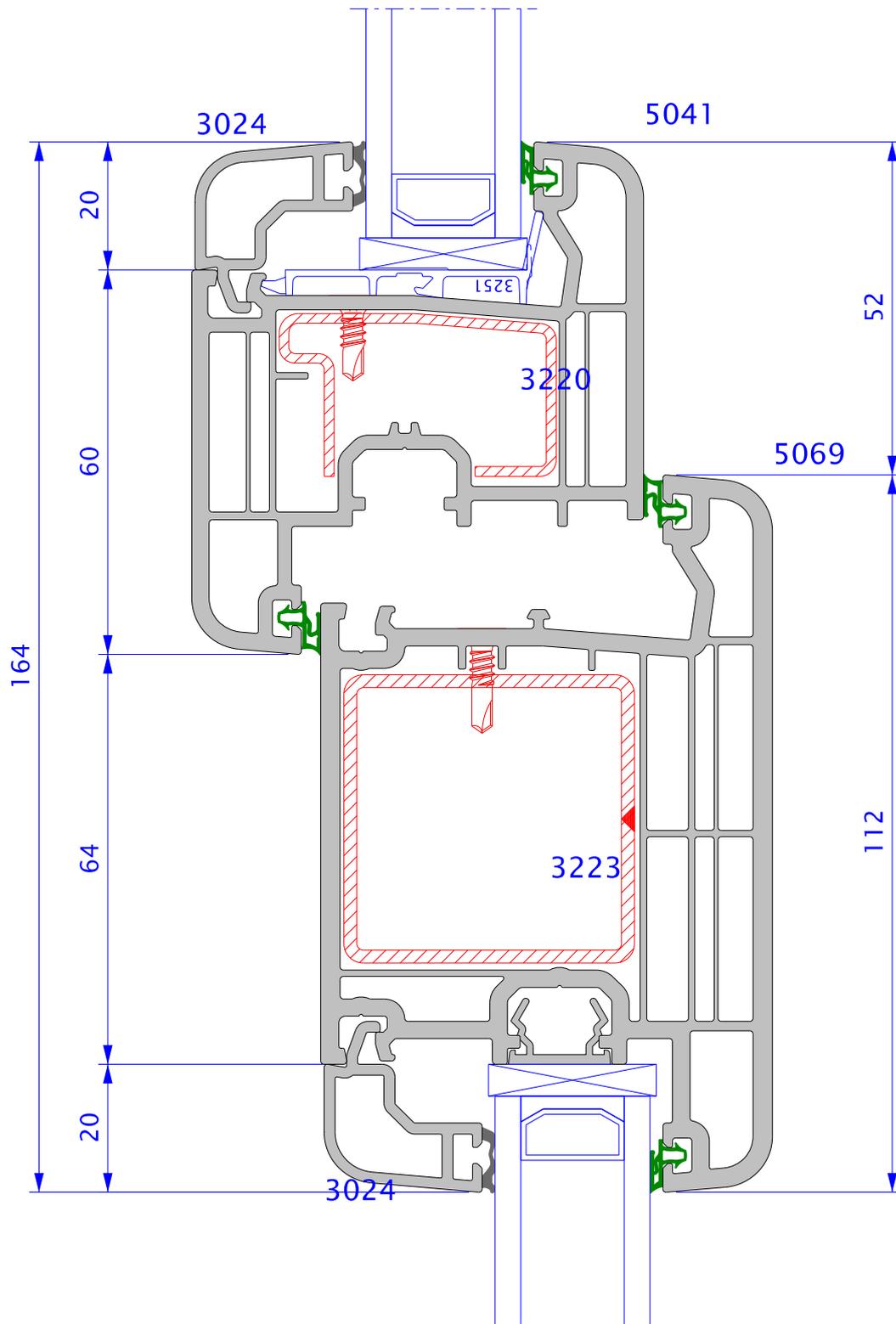
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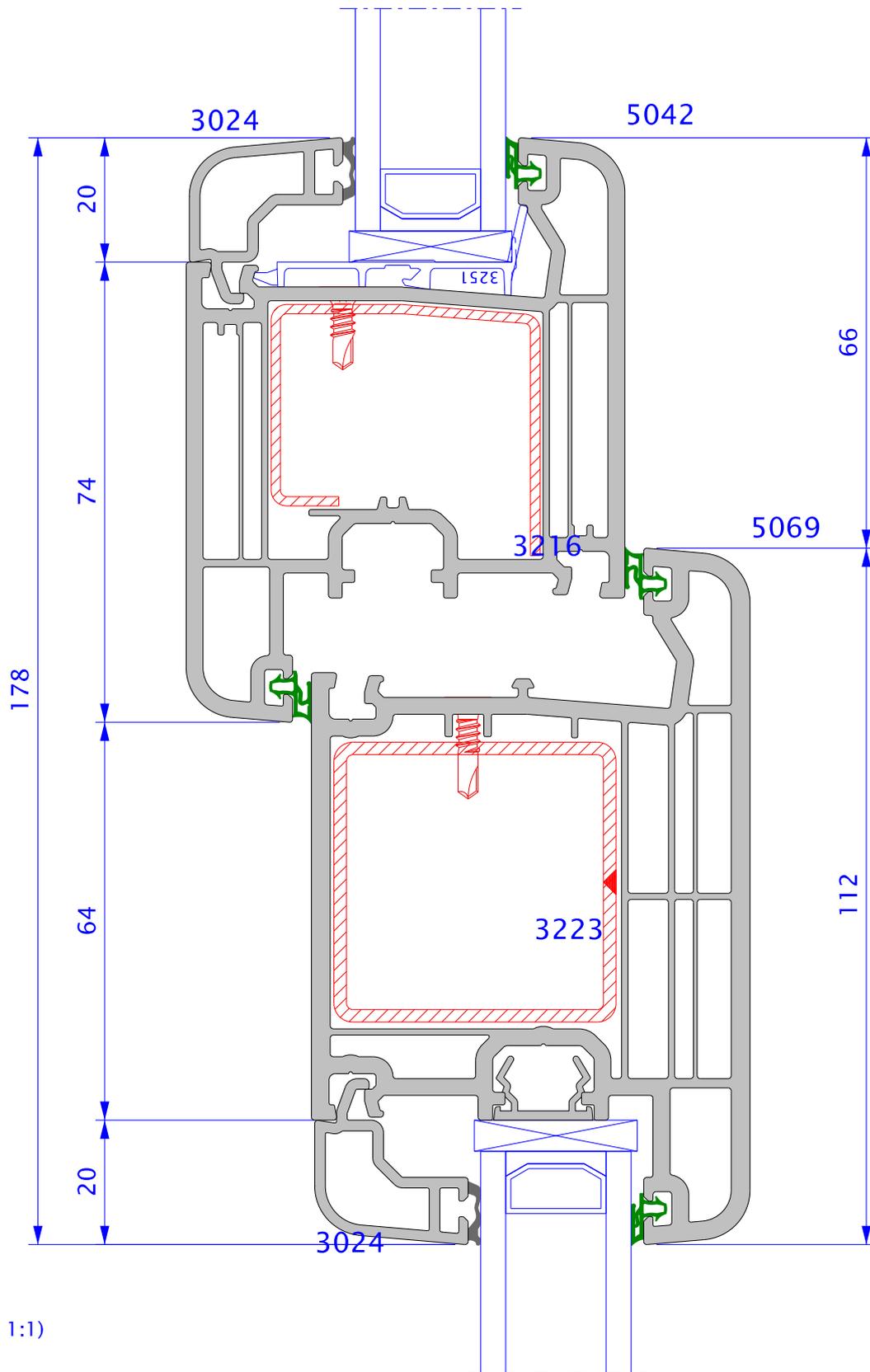
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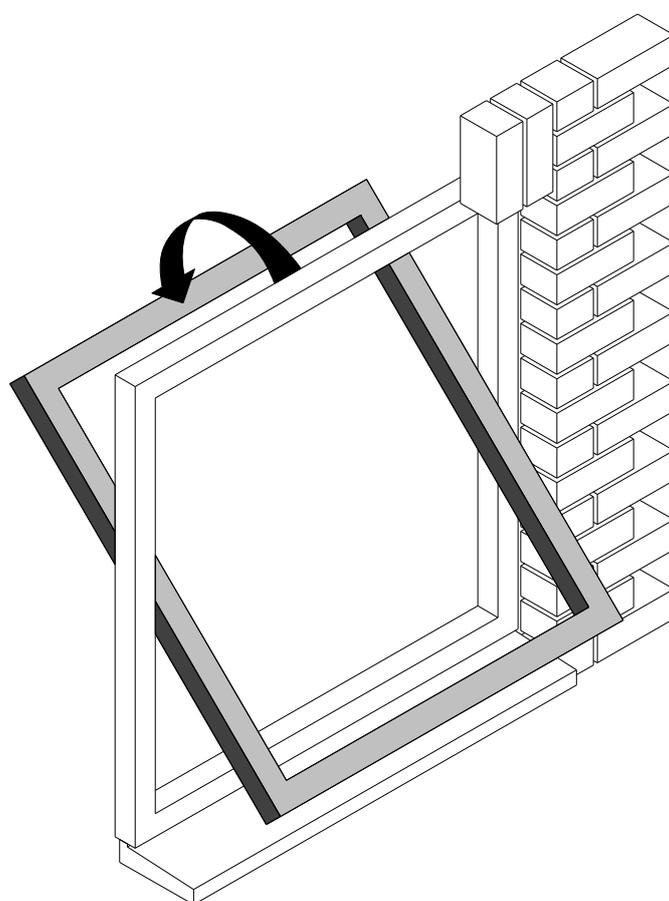
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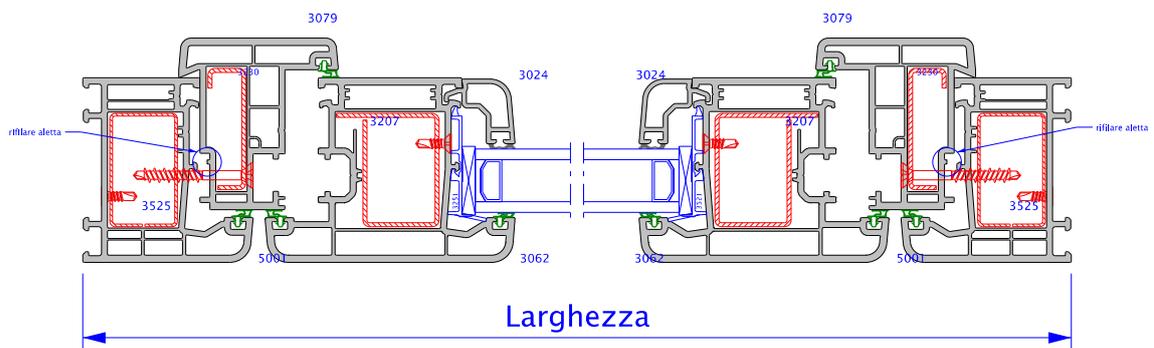
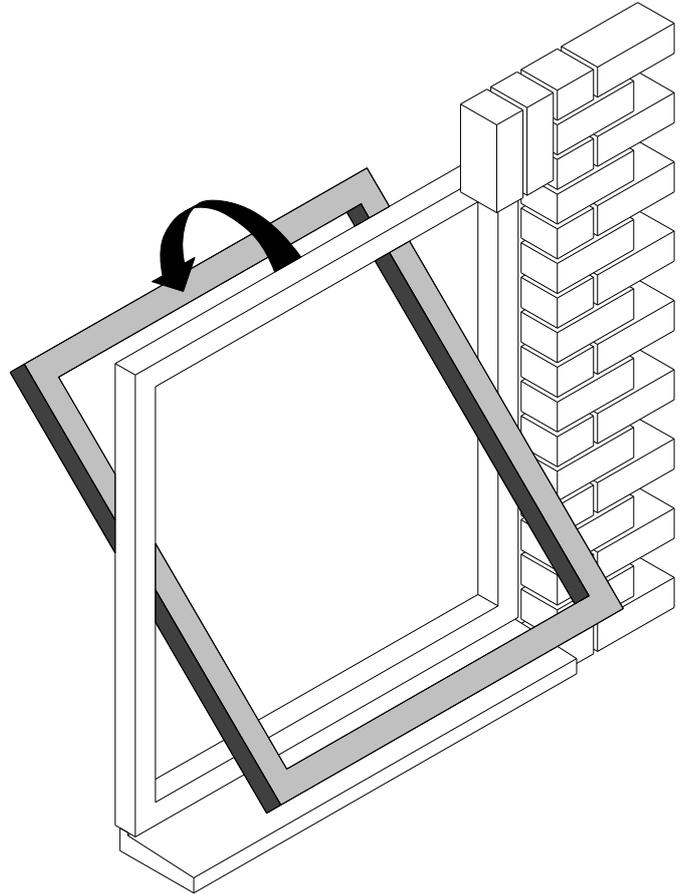
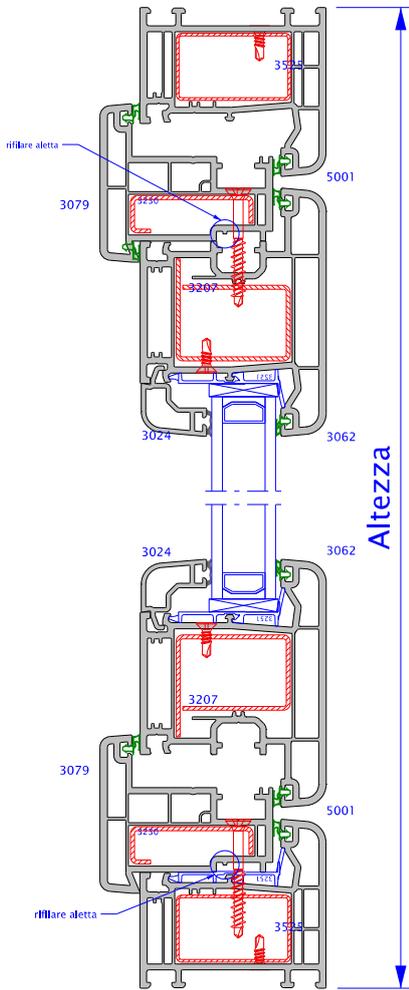


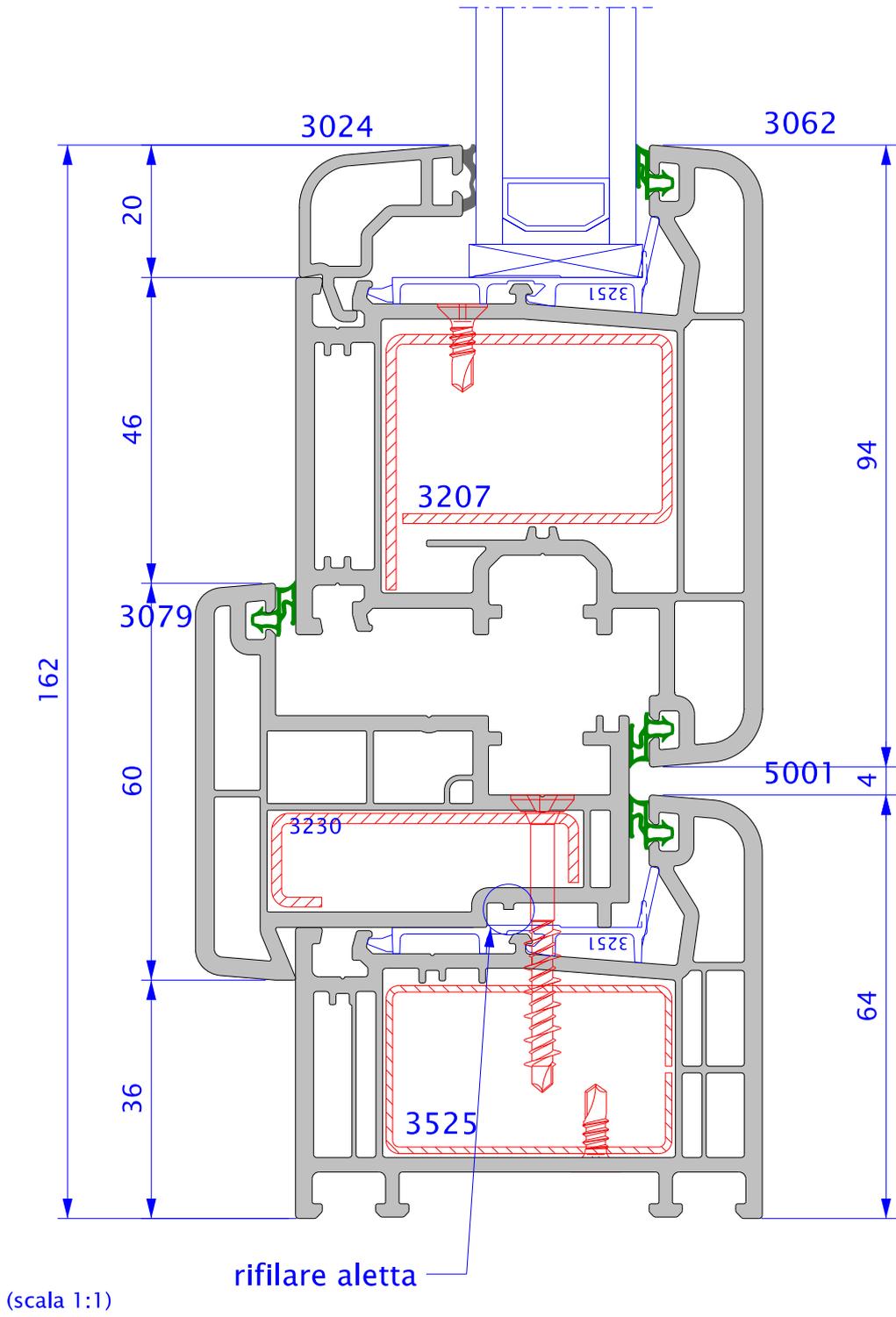
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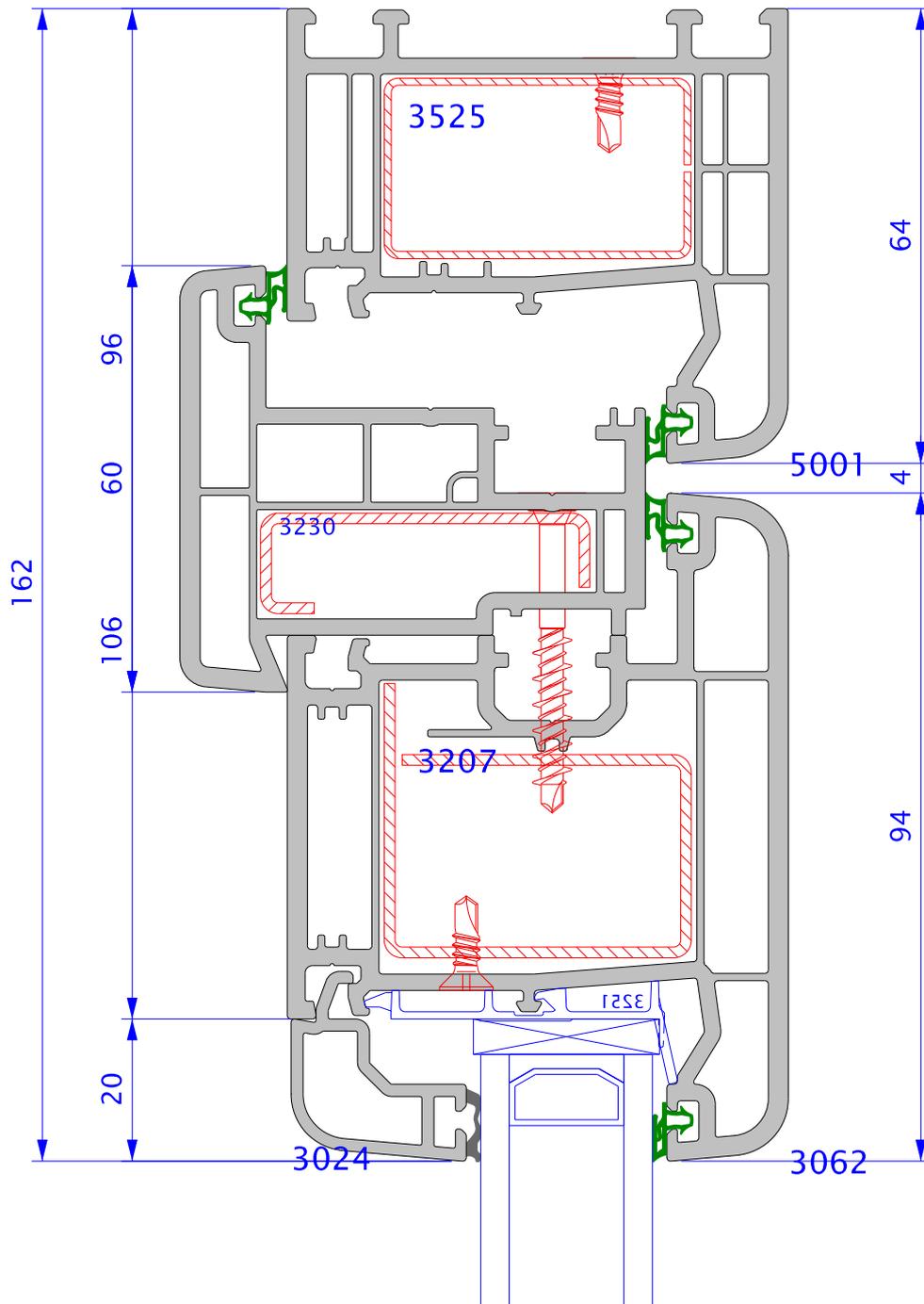
(scala 1:1)







(scala 1:1)



(scala 1:1)

PRODUZIONE

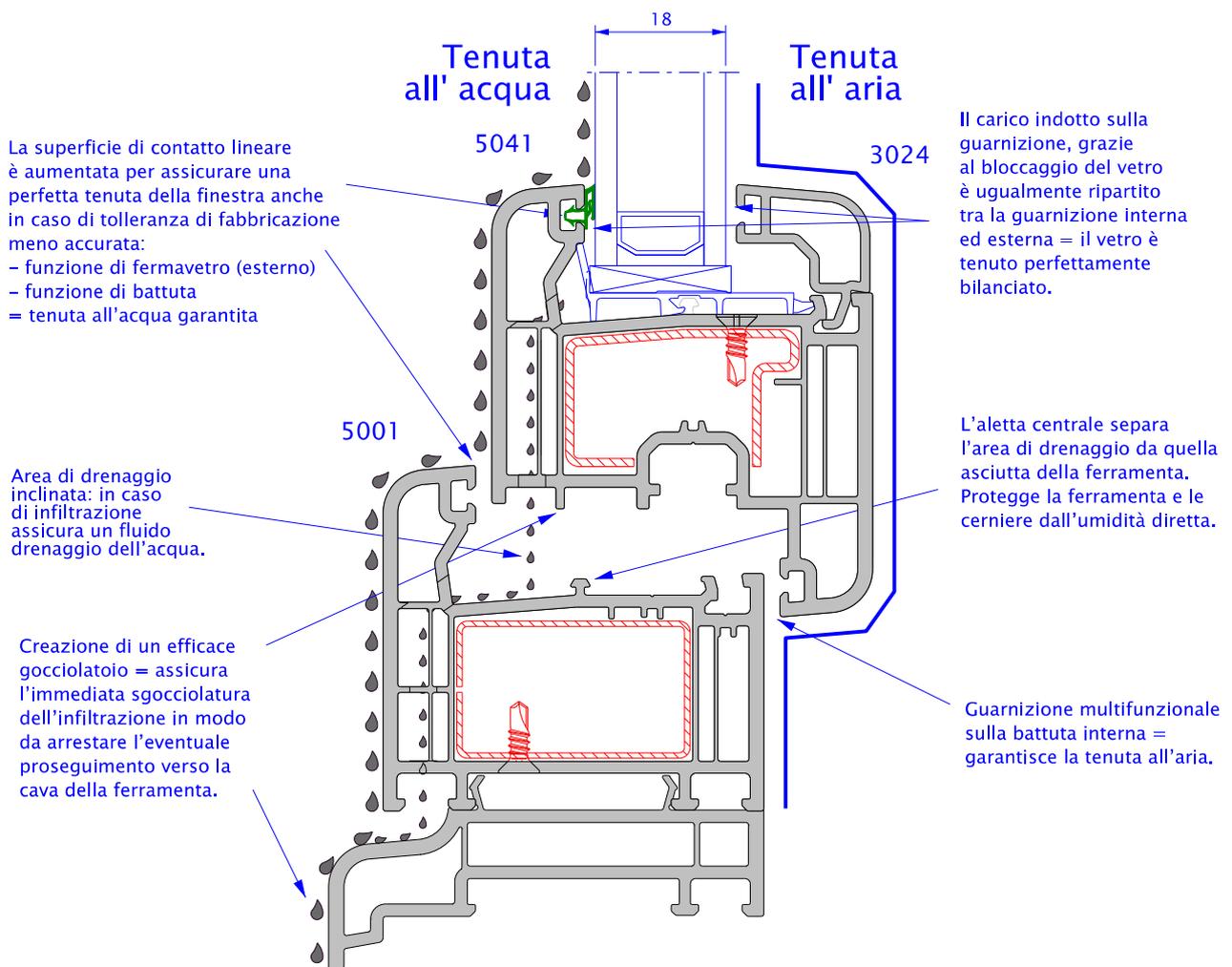
	Sezioni 2.1
Drenaggio e decompressione	2.2
	Ferramenta 2.3
	Tavole di vetratura 2.4
	Uso degli accessori 2.5

Perché?

- Il sistema finestre di 70 mm è stato progettato sul principio della “pressione livellata”. La corretta posizione dei passaggi di decompressione e drenaggio è essenziale affinché la finestra raggiunga le sue ottimali capacità di prestazioni.
- La camera centrale dei profili è stata progettata per contenere tutti i rinforzi richiesti. Deve essere posta attenzione che il passaggio non intacchi né mostri la camera centrale.
- I fori e le fresature possono essere utili sia sotto il profilo del drenaggio sia sotto quello della decompressione.

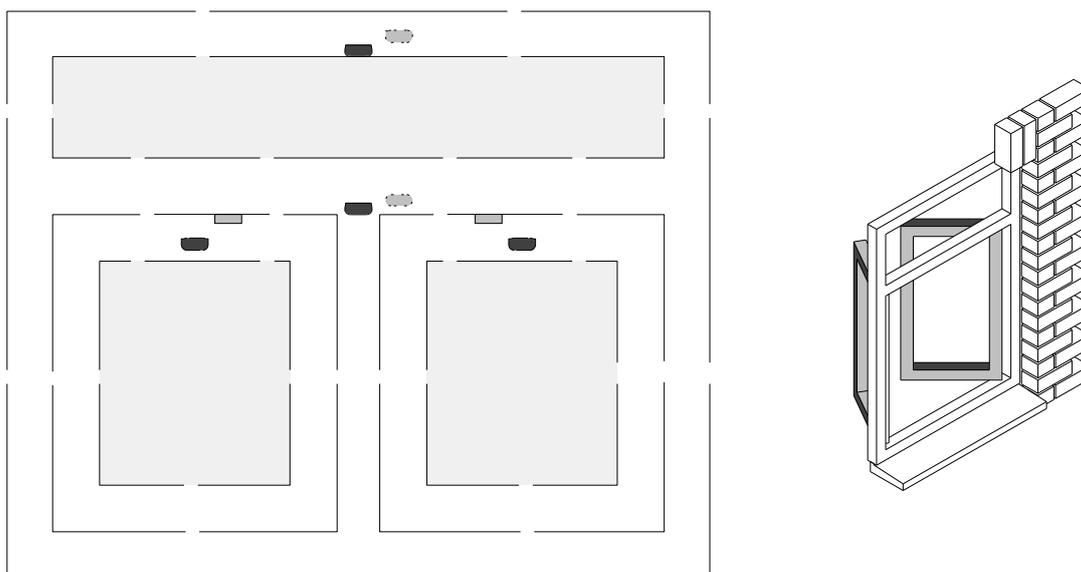
La dimensione di fresatura raccomandata è = 27 x 5 mm

La dimensione di foratura raccomandata è = Ø 8 mm

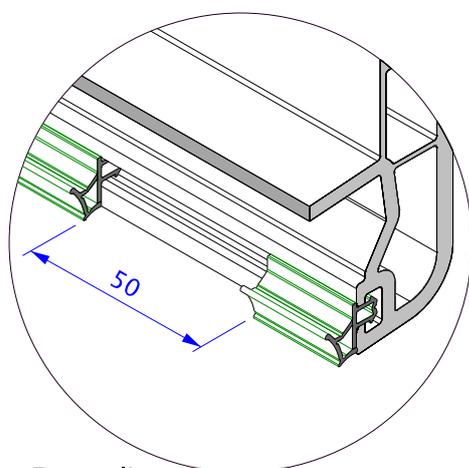


- Preparazione della decompressione (per sezione) :
 - o **interno** (area di decompressione) :
 - fresatura minima 27 mm lunghezza x 5 mm di altezza (minimo 1)
 - o foratura di 8 mm (minimo 2)
 - o **esterno** (area di decompressione) :
 - fresatura minima 27 mm di lunghezza x 5 mm di altezza (minimo 1)
 - o foratura di 8 mm (minimo 2)

Posizionamento dei passaggi di decompressione



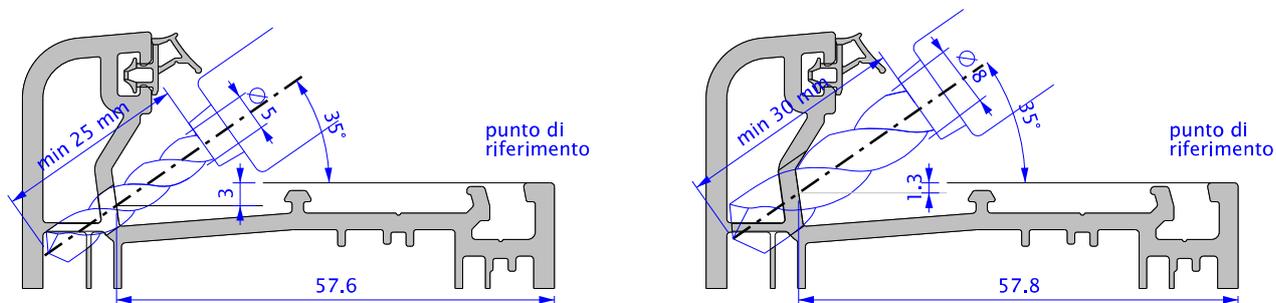
o Queste due fresature possono essere sostituite da una parziale rimozione, di minimo 50 mm, della guarnizione esterna. Nelle finestre a 2 ante, è necessaria una interruzione sopra ogni anta, nelle sezioni fisse è sufficiente una sola.



Dettaglio

Posizionamento delle macchine

- Il posizionamento standard per il drenaggio interno è di 30° - 40°. I 35°, quando è possibile, sono raccomandati. È richiesta una specifica sistemazione dell'attrezzatura per i 35° ed i 40°. Grazie al sistema ottimizzato, questo posizionamento è unico per tutti i profili eccetto che per quelli per le aperture verso l'esterno.
- Con il posizionamento standard la camera superiore della battuta del vetro è automaticamente ventilata (evita l'innalzamento della temperatura nei profili colorati).

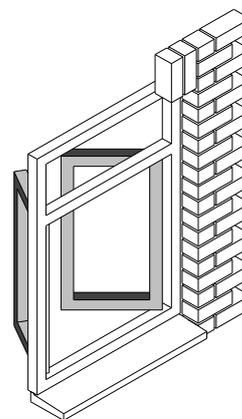
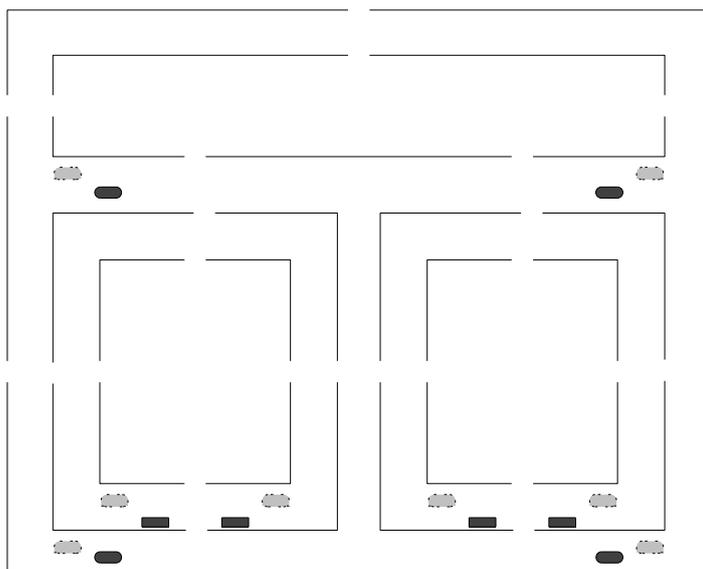


- Per evitare di danneggiare il profilo o la guarnizione, la punta deve fuoriuscire dal mandrino per 25 mm minimo.
- Ricordate che il diametro di 8 mm è importante per sfondare la camera; è raccomandata una testa smussata specialmente con i 30°.

Configurazione

- Preparazione dei fori di drenaggio (per sezione) :
 minimo due fori (fuori da ciascun angolo) per profilo (vedi disegni specifici)
 - o **interno** (area di drenaggio):
 - fresatura minima 27 mm lunghezza x 5 mm di altezza, distanza (da asse ad asse) 1.000 mm
 - o foratura di 8 mm, distanza 600 mm
 - o **esterno** (area di drenaggio):
 - fresatura minima 27 mm di lunghezza x 5 mm di altezza, distanza (da asse ad asse) 1.300 mm
 - o foratura di 8 mm, distanza 1.000 mm

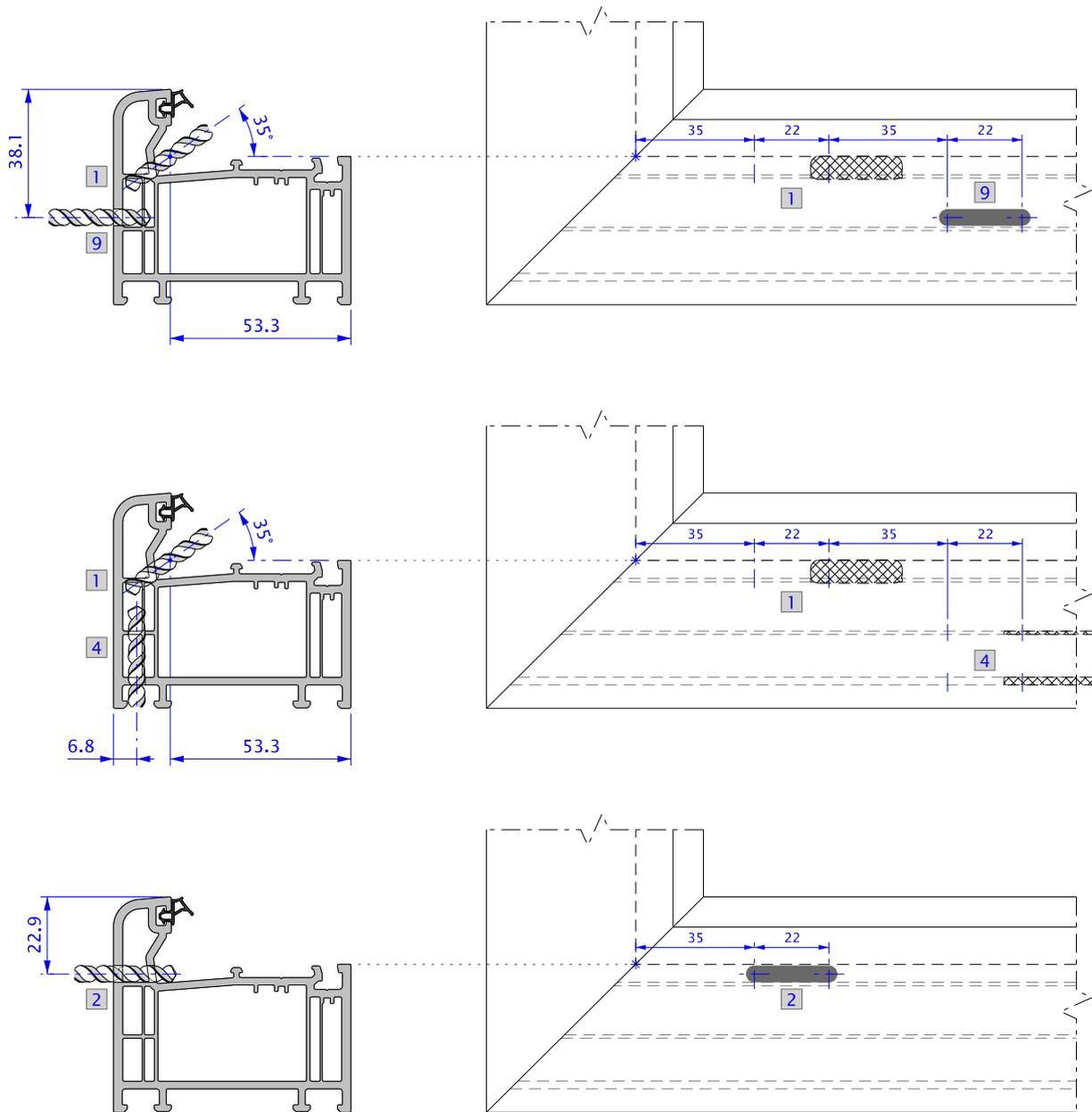
Posizionamento dei passaggi di drenaggio



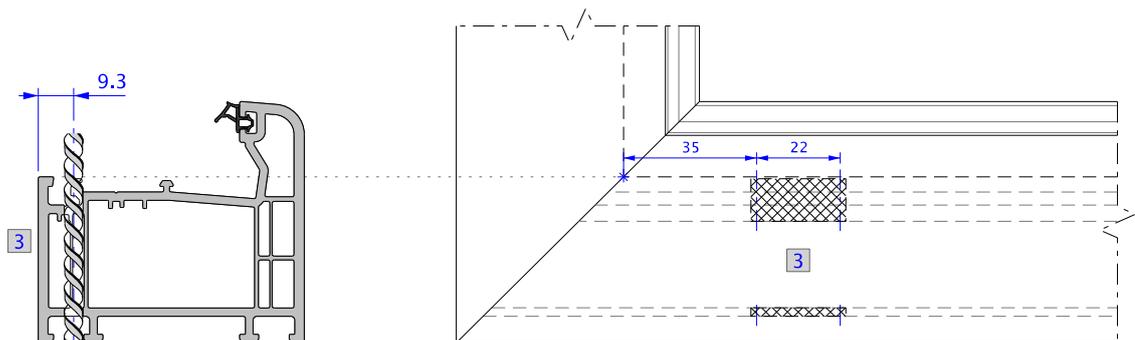
La figura mostra solo una possibilità. In funzione della finitura e della scelta del cliente un occultamento è possibile.

DRENAGGIO: asole 27x5mm profilo 5001

Apertura interna

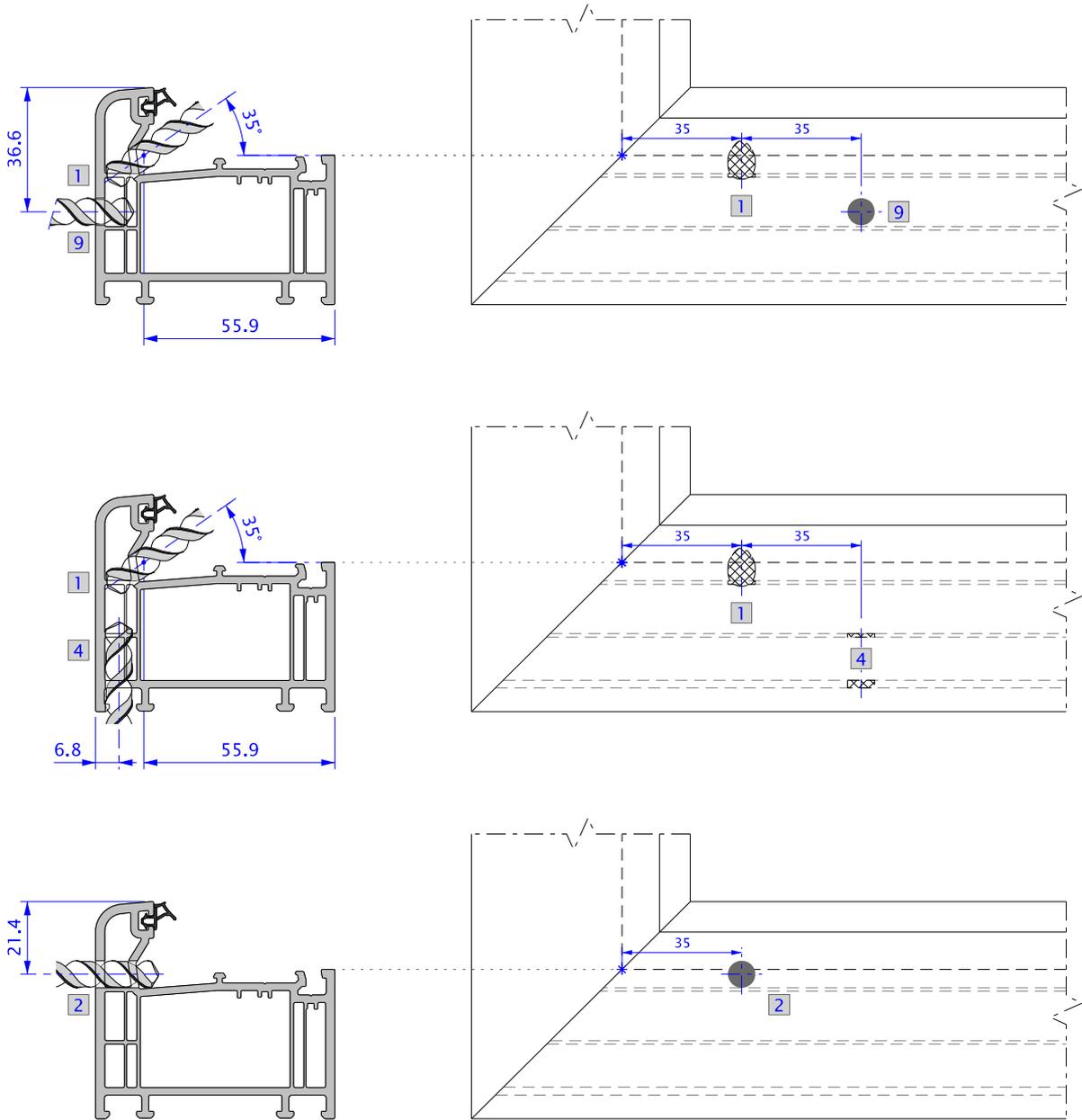


Apertura esterna

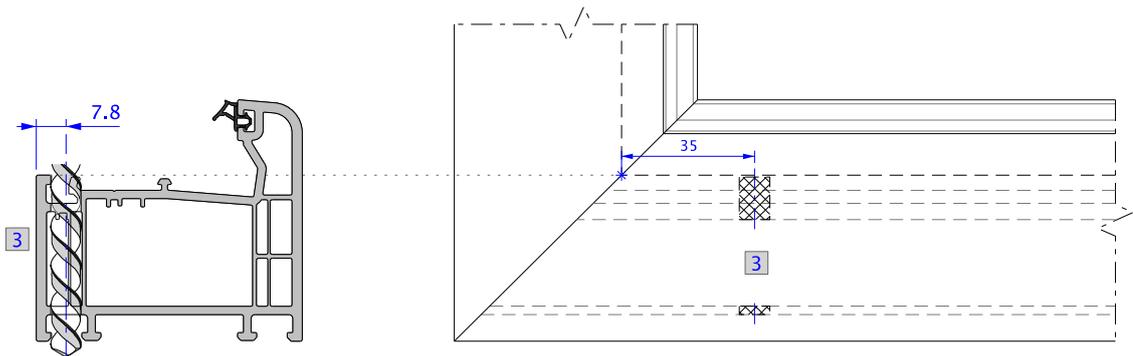


DRENAGGIO: fori 8mm profilo 5001

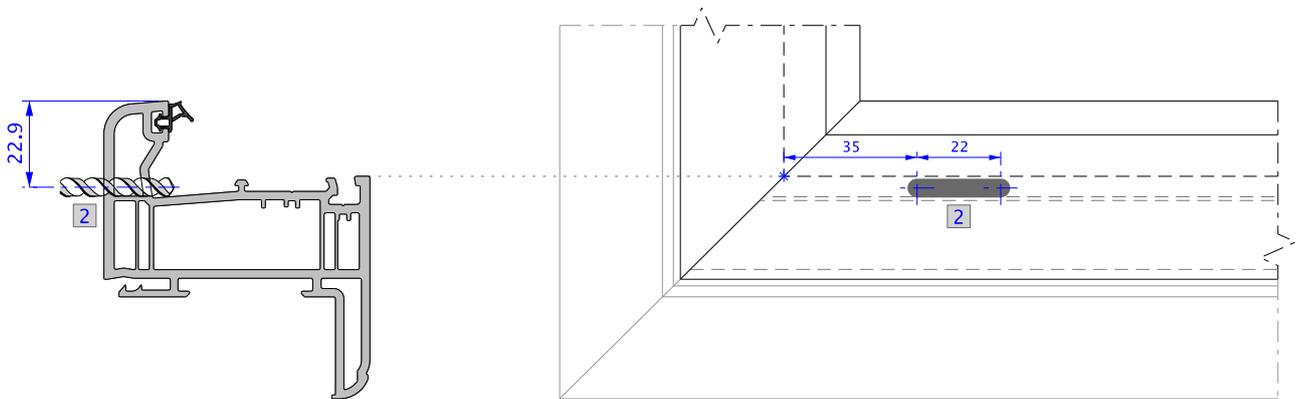
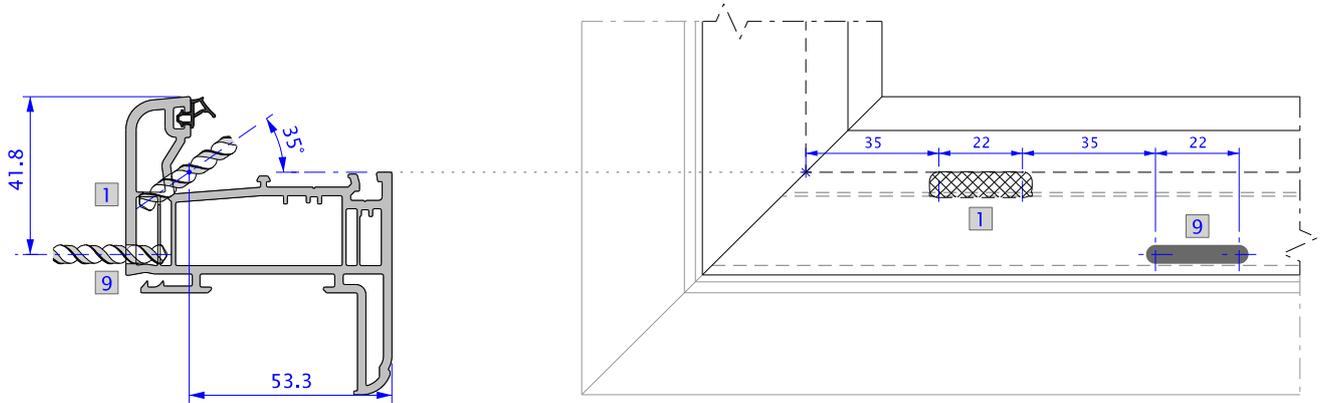
Apertura interna



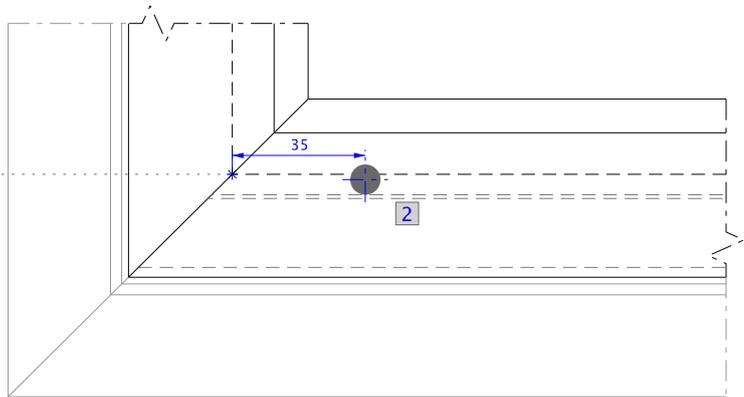
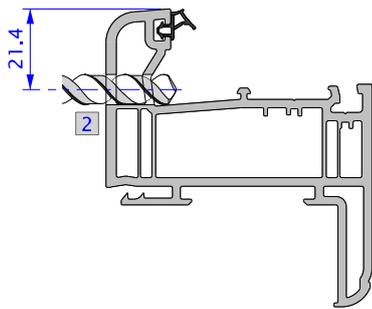
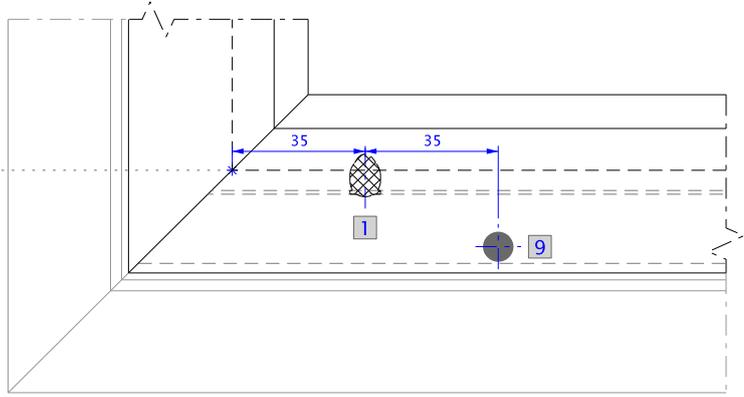
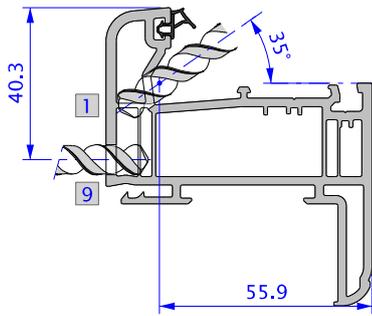
Apertura esterna



DRENAGGIO: asole 27x5mm profilo 5008

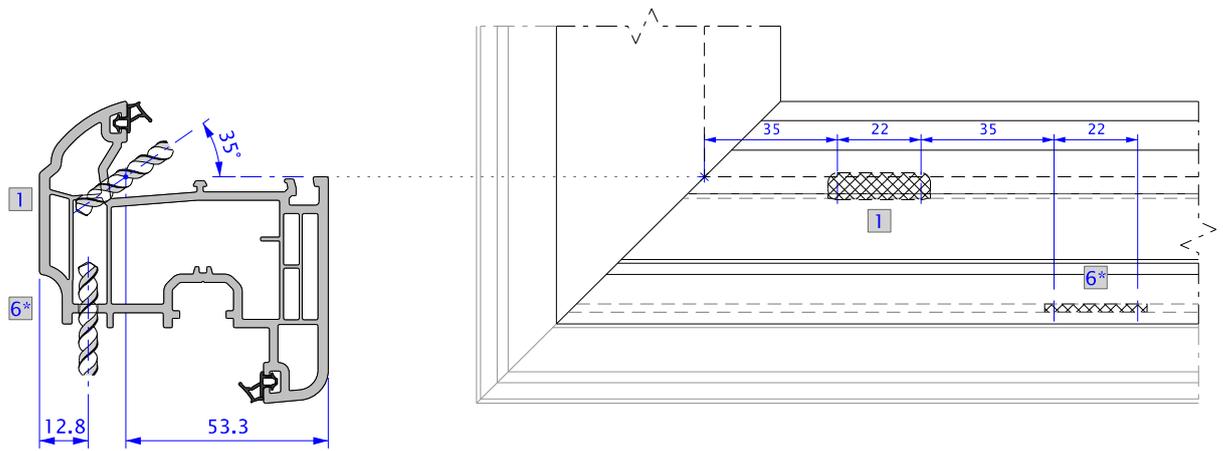


DRENAGGIO: fori 8mm profilo 5008

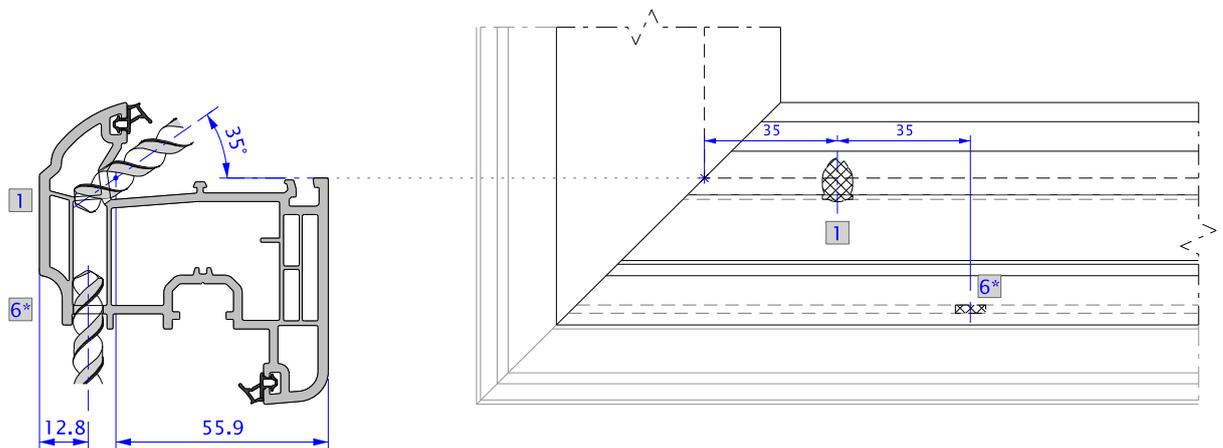


DRENAGGIO: asola 27x5mm e foro 8mm profilo 3146

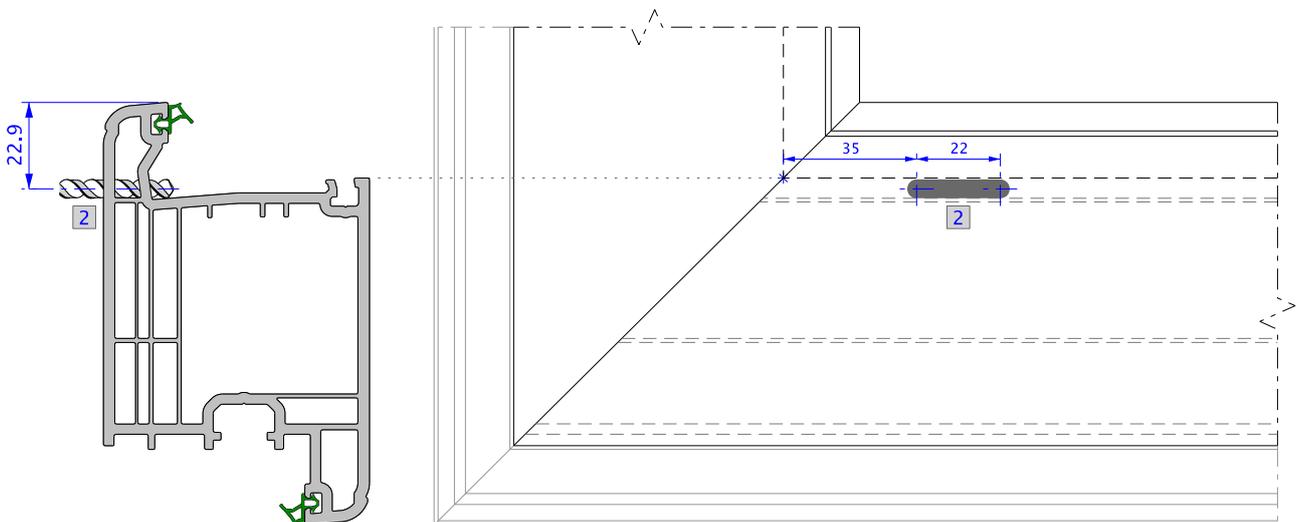
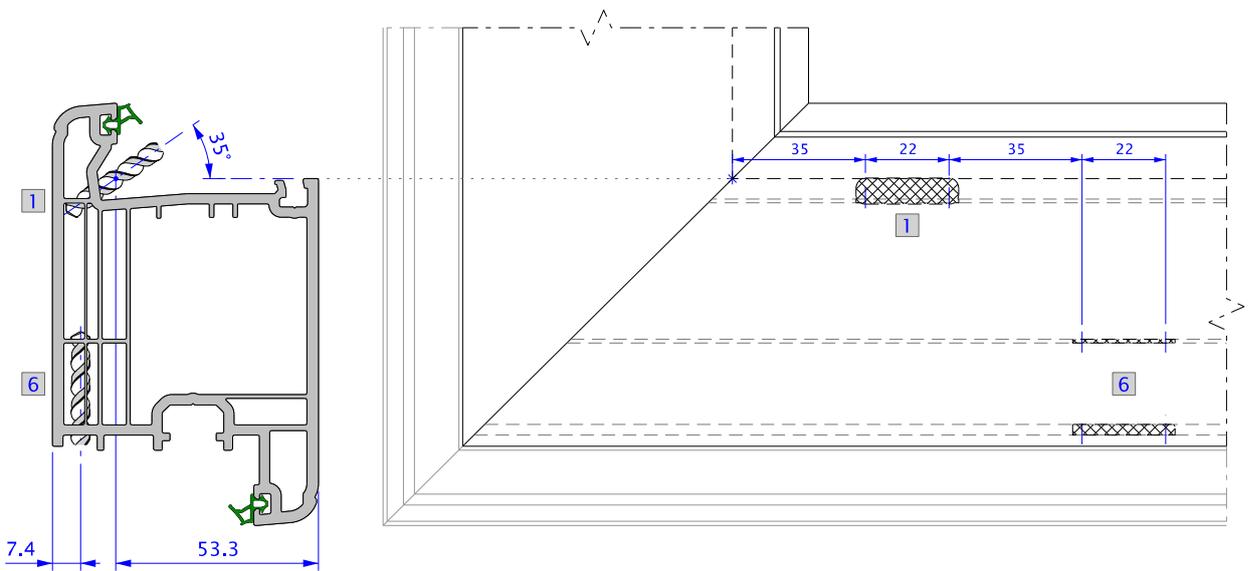
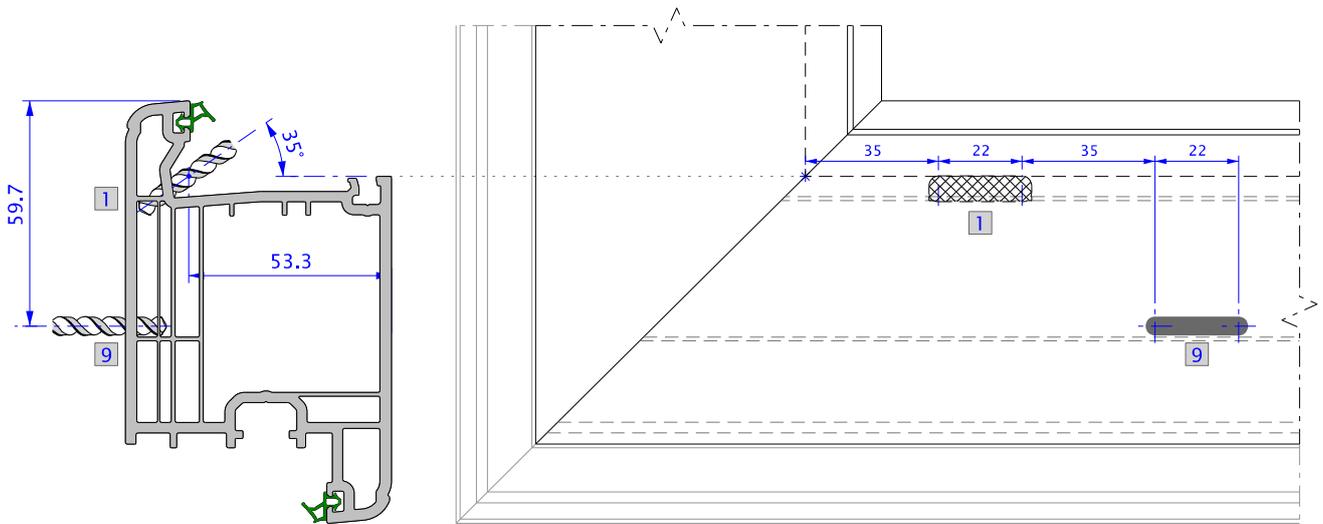
asola 27x5mm



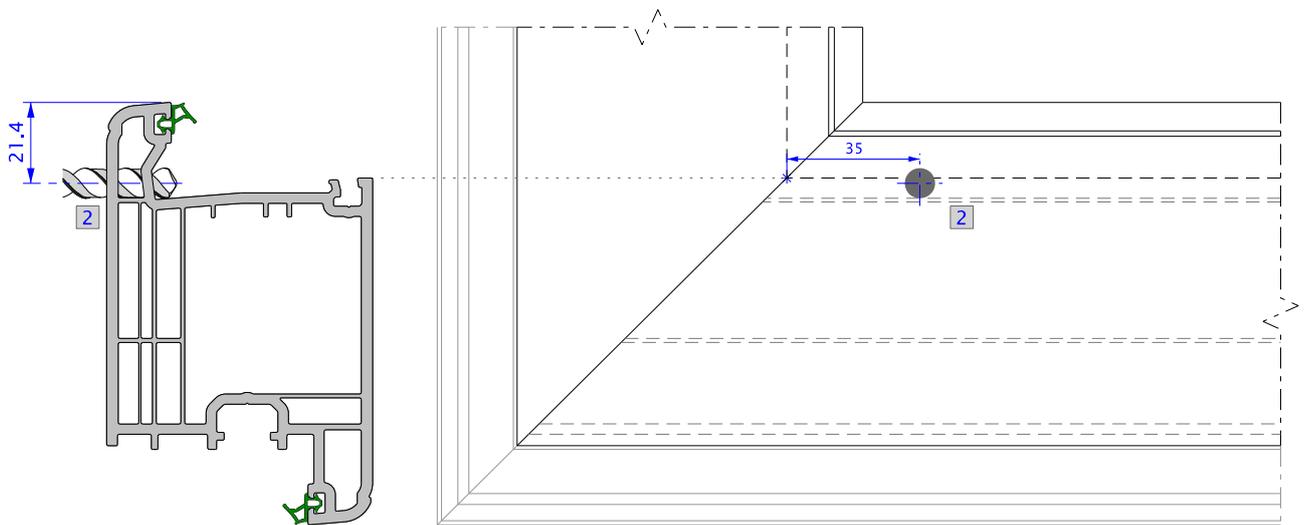
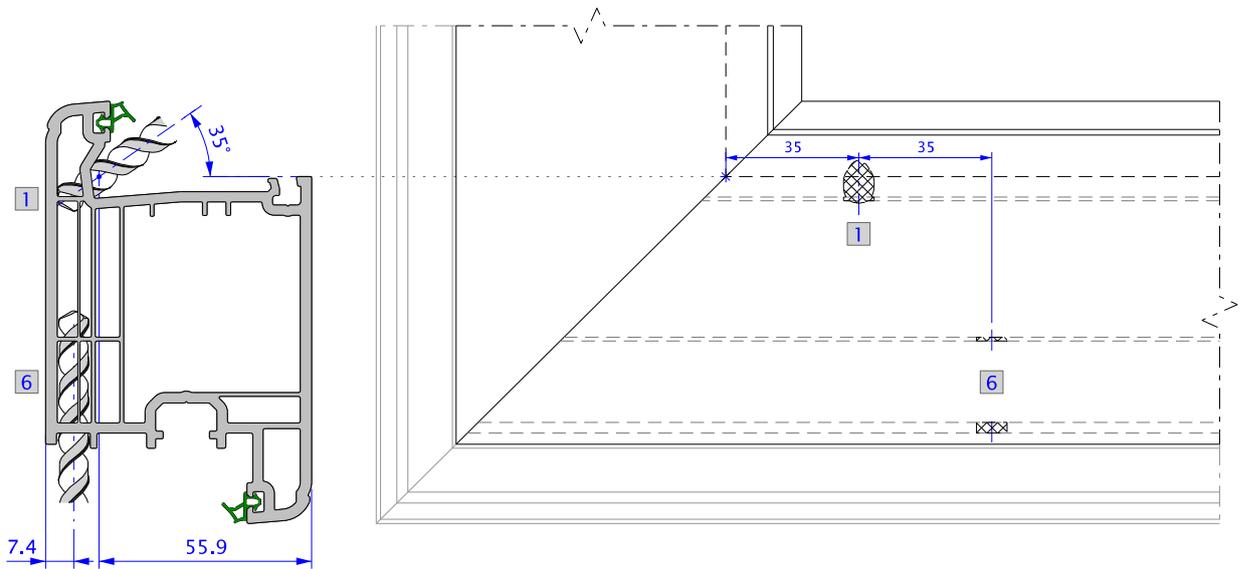
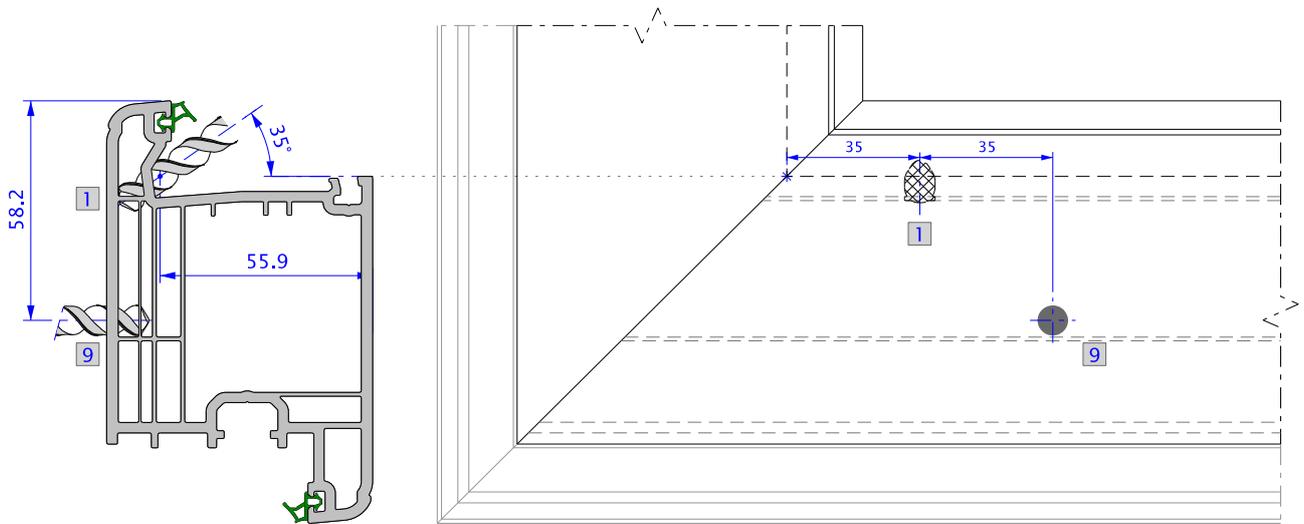
foro 8mm



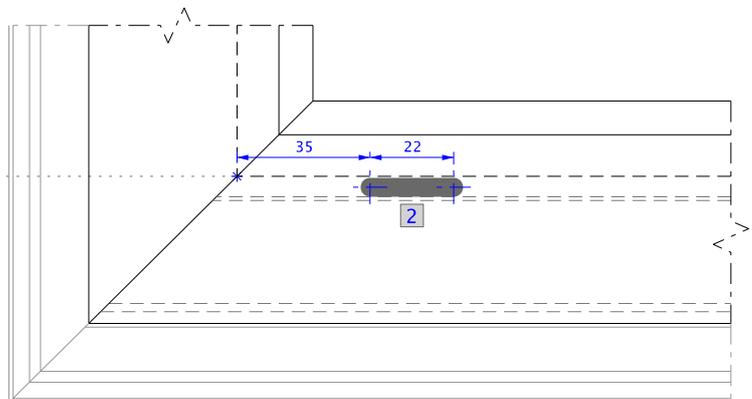
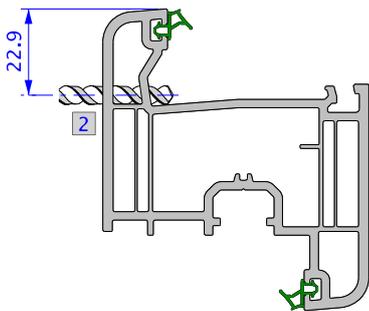
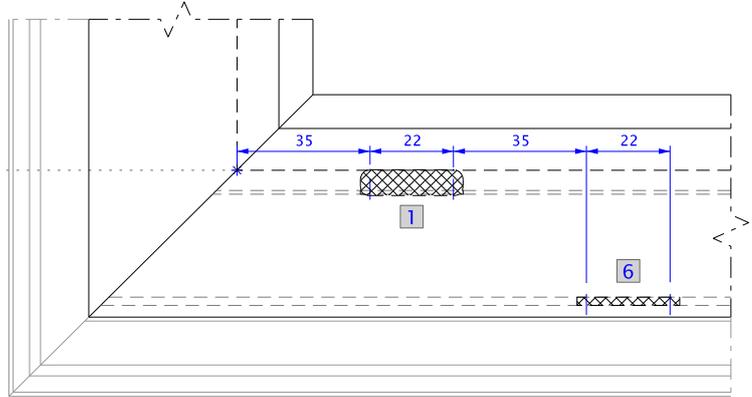
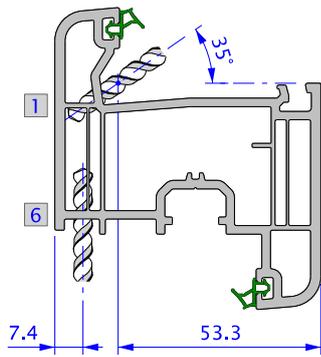
DRENAGGIO: asole 27x5mm profilo 5048



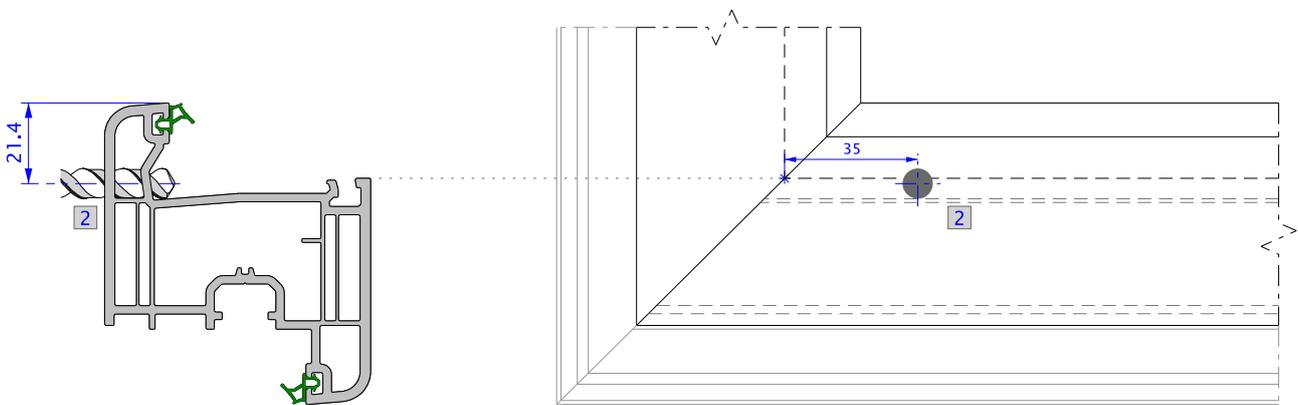
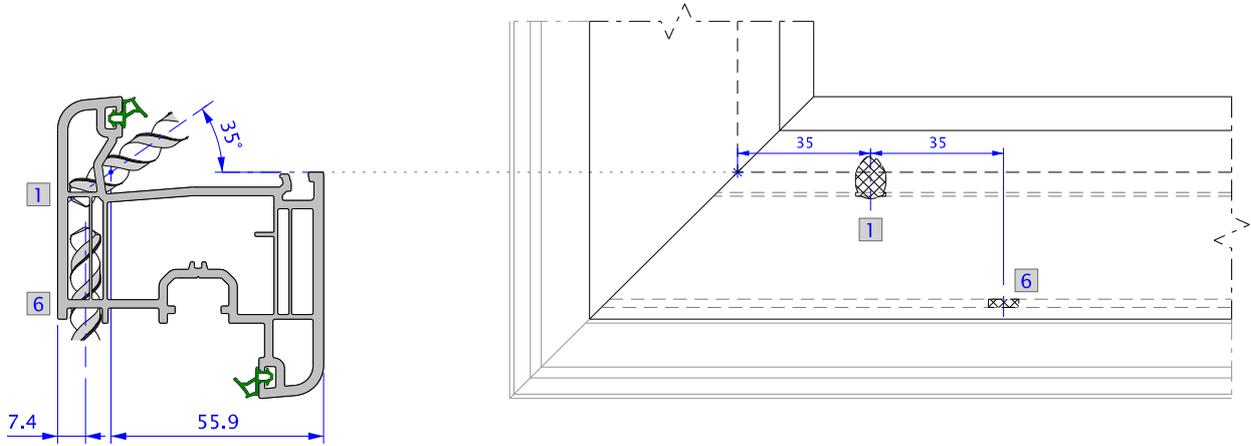
DRENAGGIO: fori 8mm profilo 5048



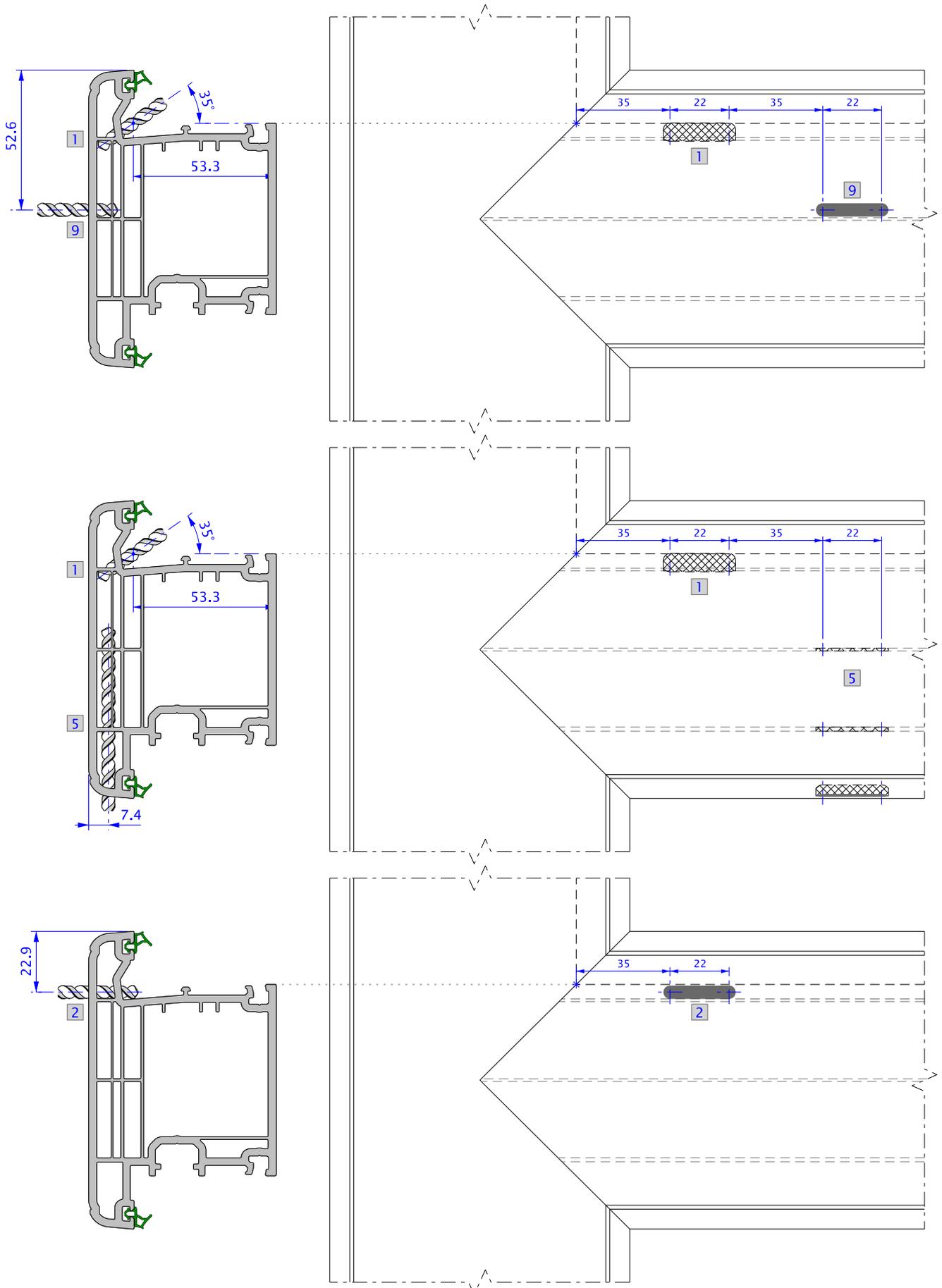
DRENAGGIO: asole 27x5mm profilo 5041



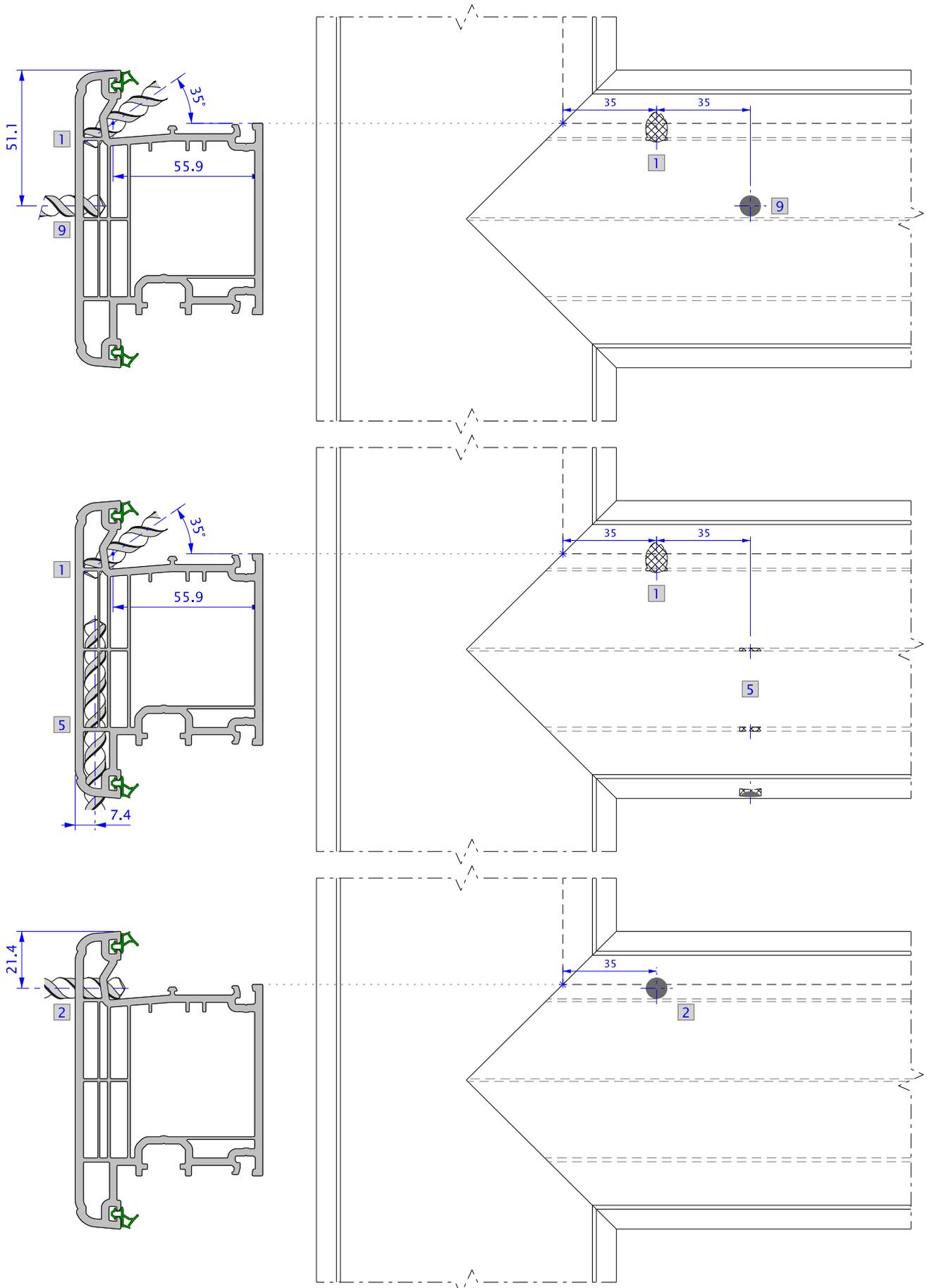
DRENAGGIO: foro 8mm profilo 5041



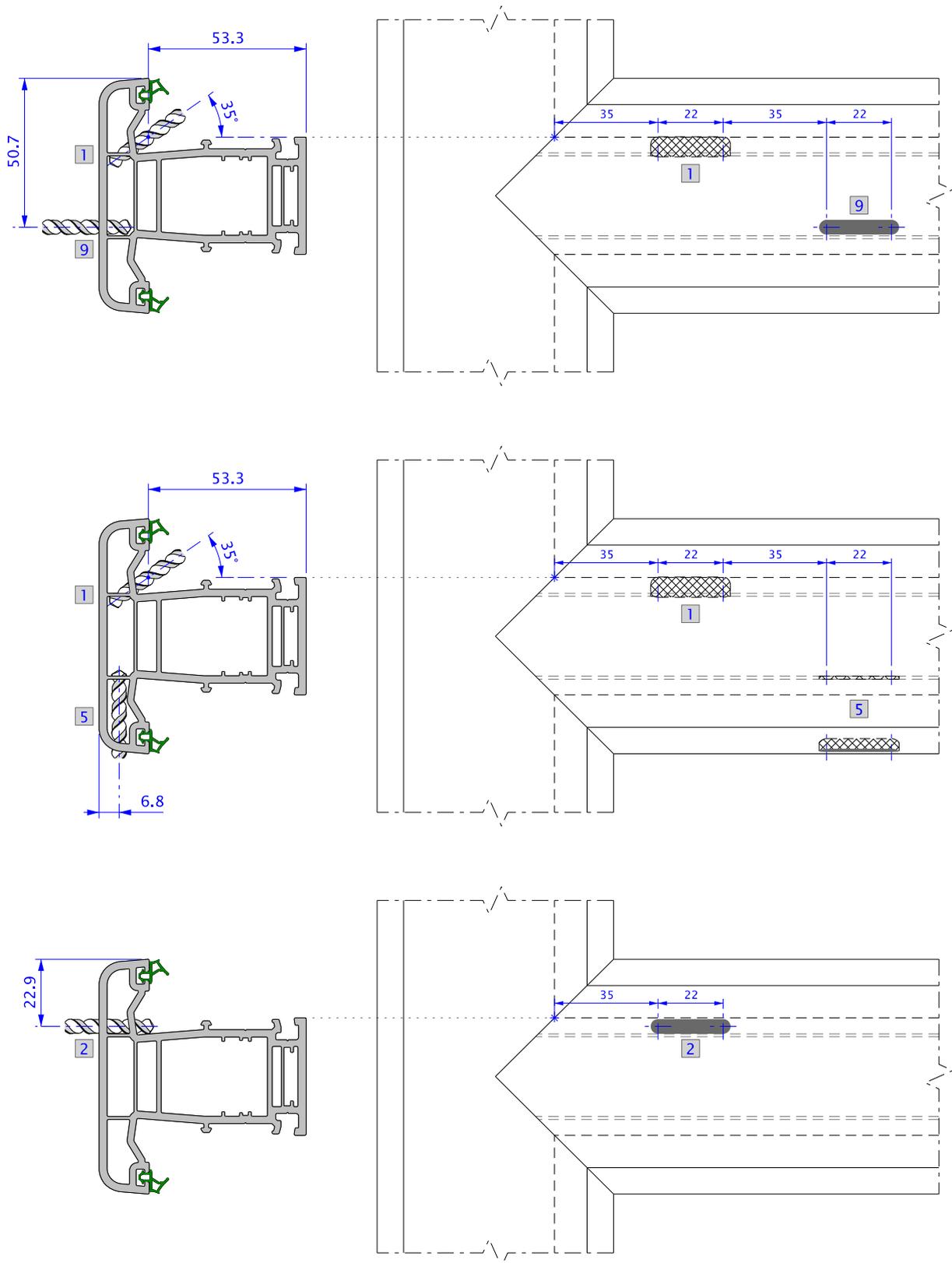
DRENAGGIO: asole 27x5mm profilo 5068



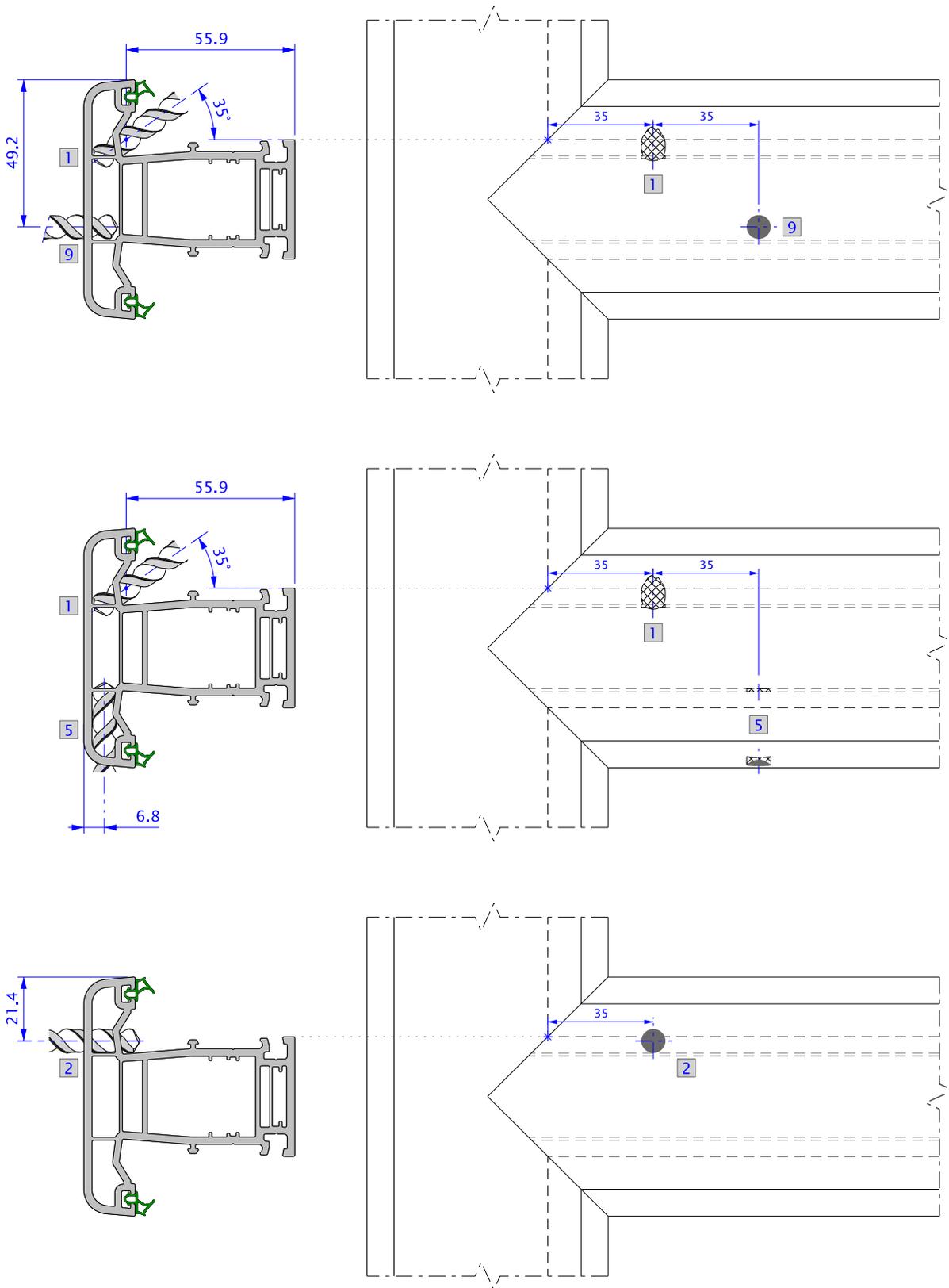
DRENAGGIO: fori 8mm profilo 5068



DRENAGGIO: asole 27x5mm profilo 5182

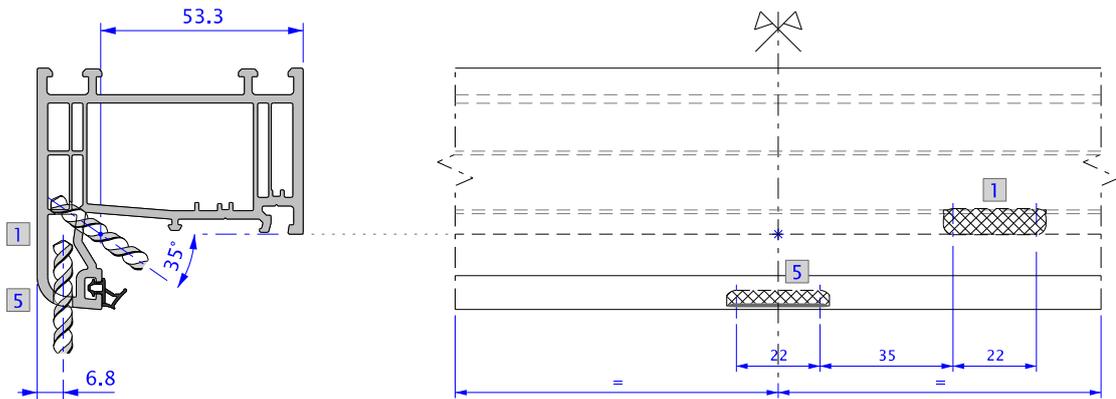


DRENAGGIO: fori 8mm profilo 5182

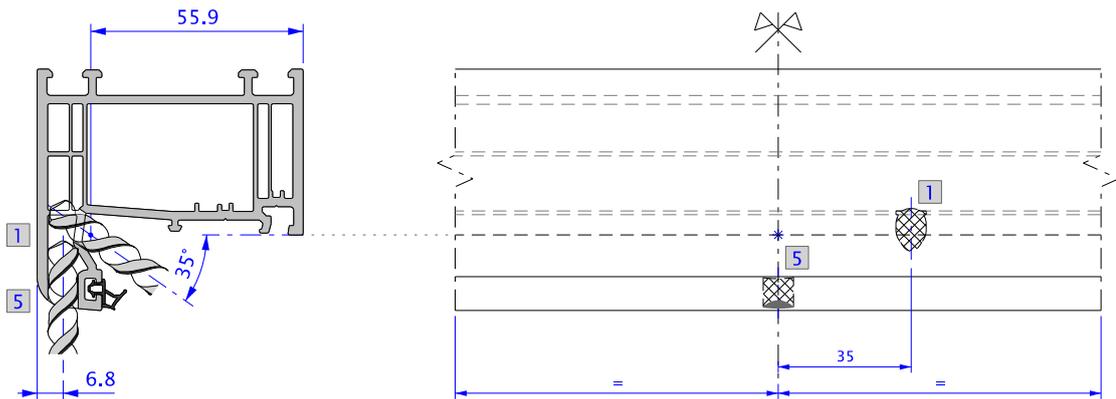


DECOMPRESSIONE: asola 27x5mm e foro 8mm profilo 5001

asola 27x5mm

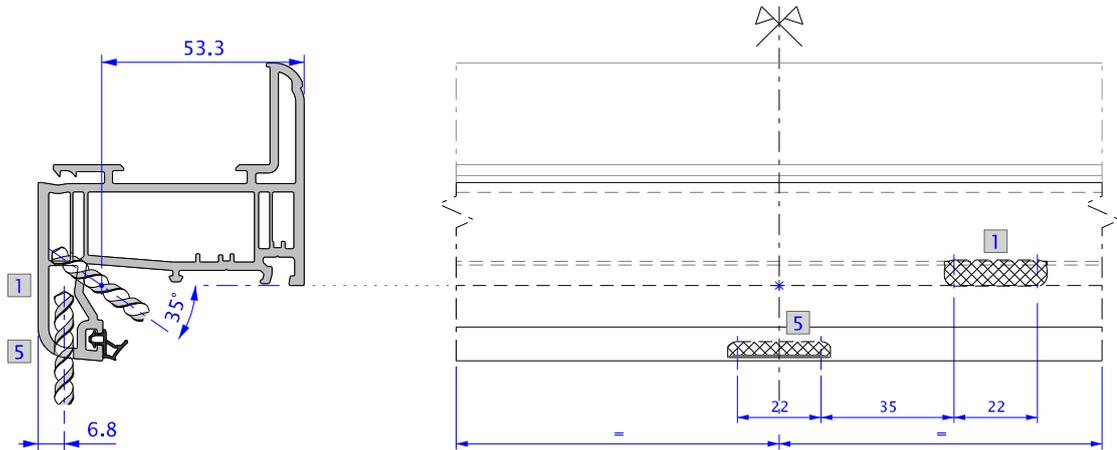


foro 8mm

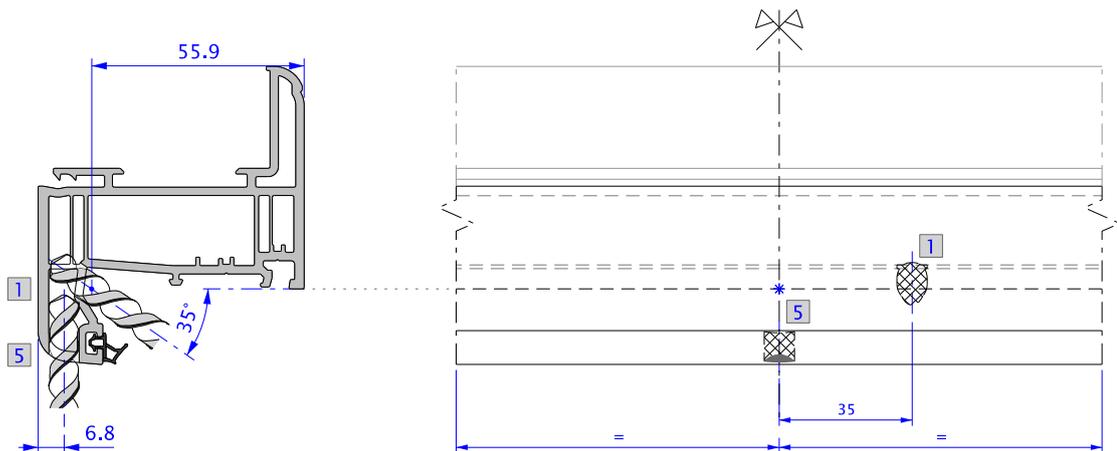


DECOMPRESSIONE: asola 27x5mm e foro 8mm profilo 5008

asola 27x5mm

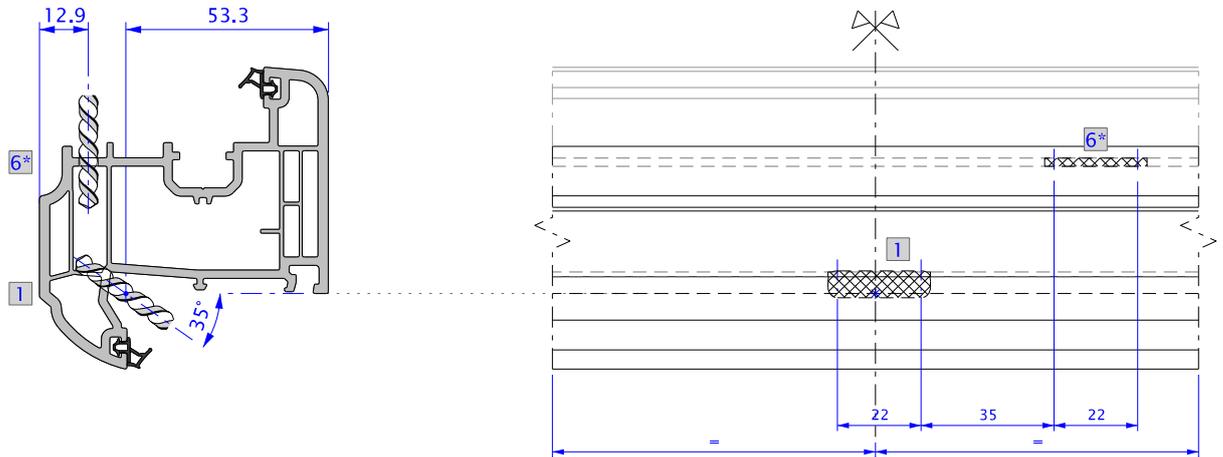


foro 8mm

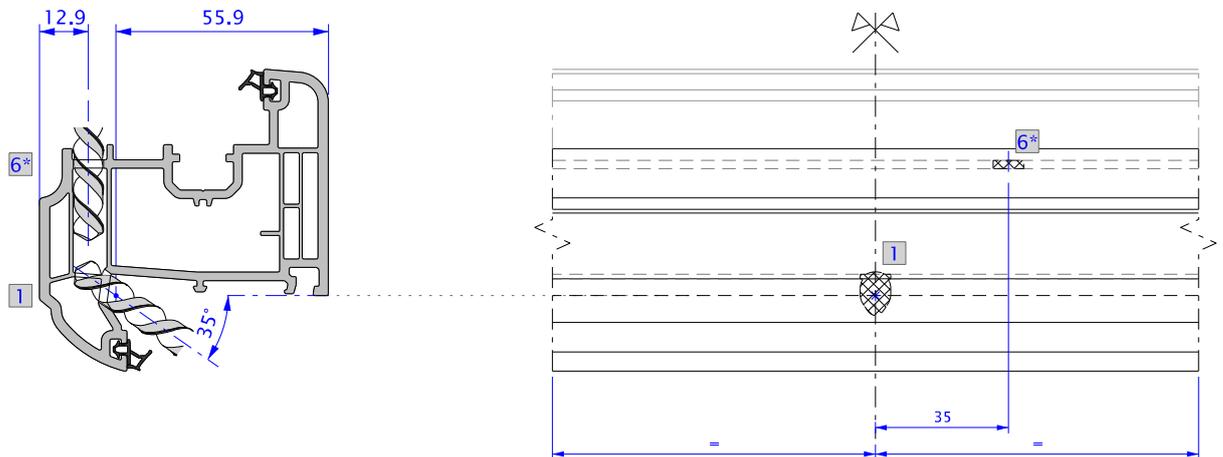


DECOMPRESSIONE: asola 27x5mm e foro 8mm profilo 3146

asola 27x5mm

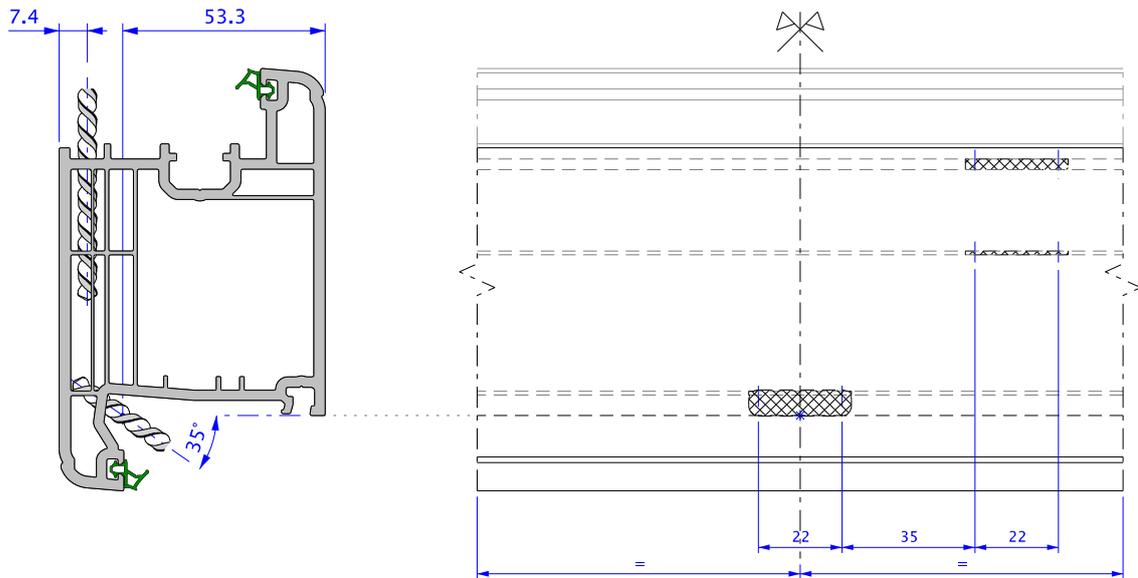


foro 8mm

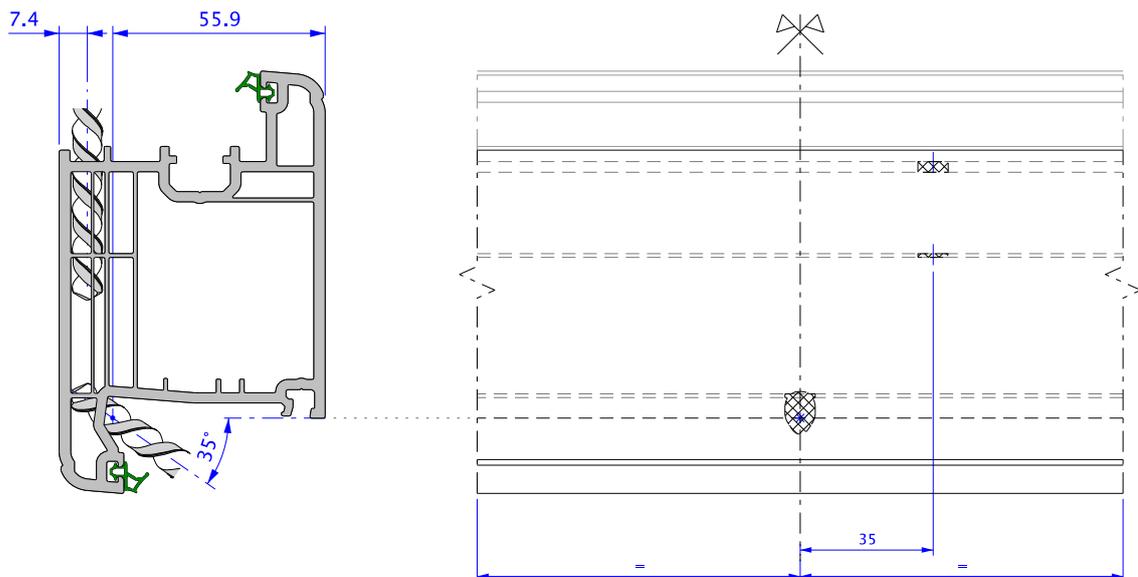


DECOMPRESSIONE: asola 27x5mm e foro 8mm profilo 5048

asola 27x5mm

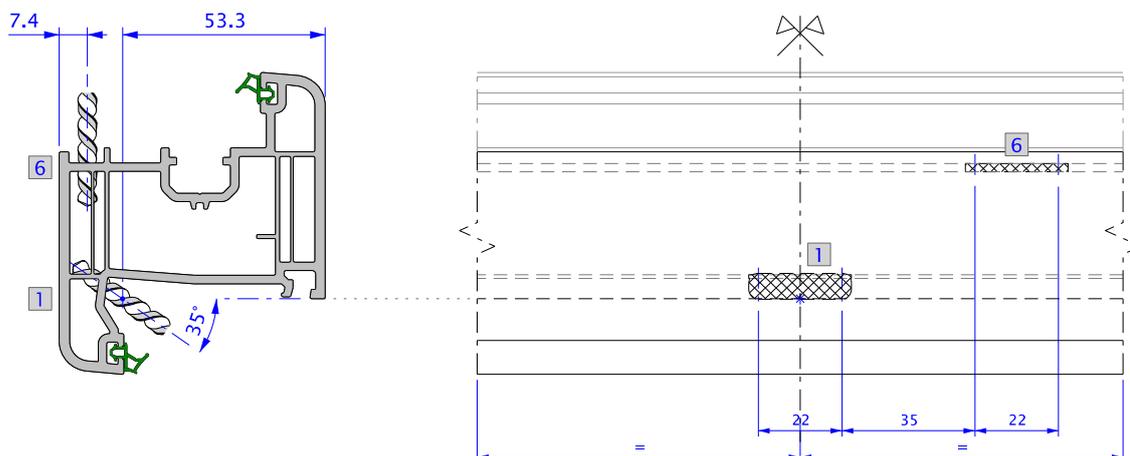


foro 8mm

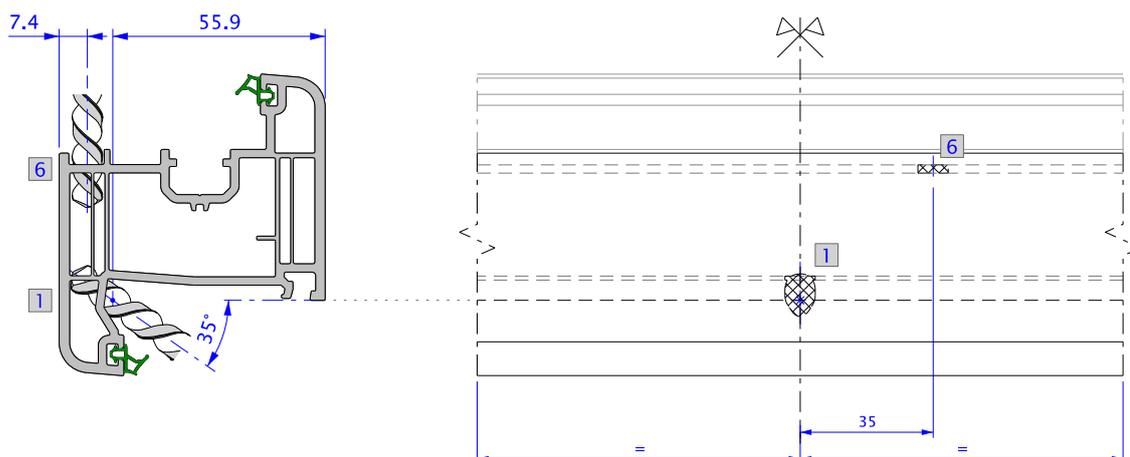


DECOMPRESSIONE: asola 27x5mm e foro 8mm profilo 5041

asola 27x5mm

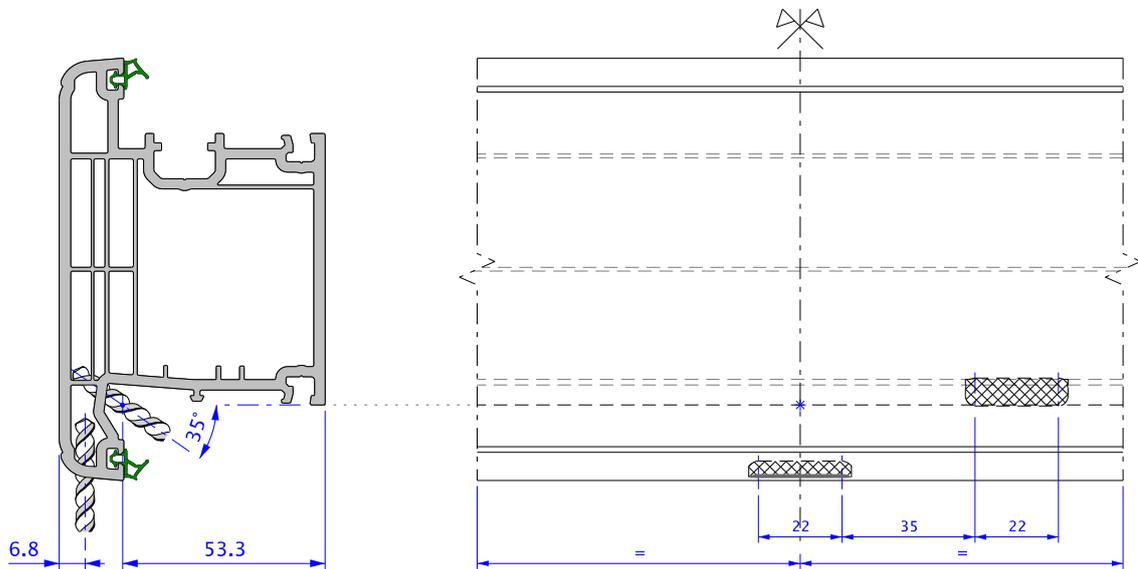


foro 8mm

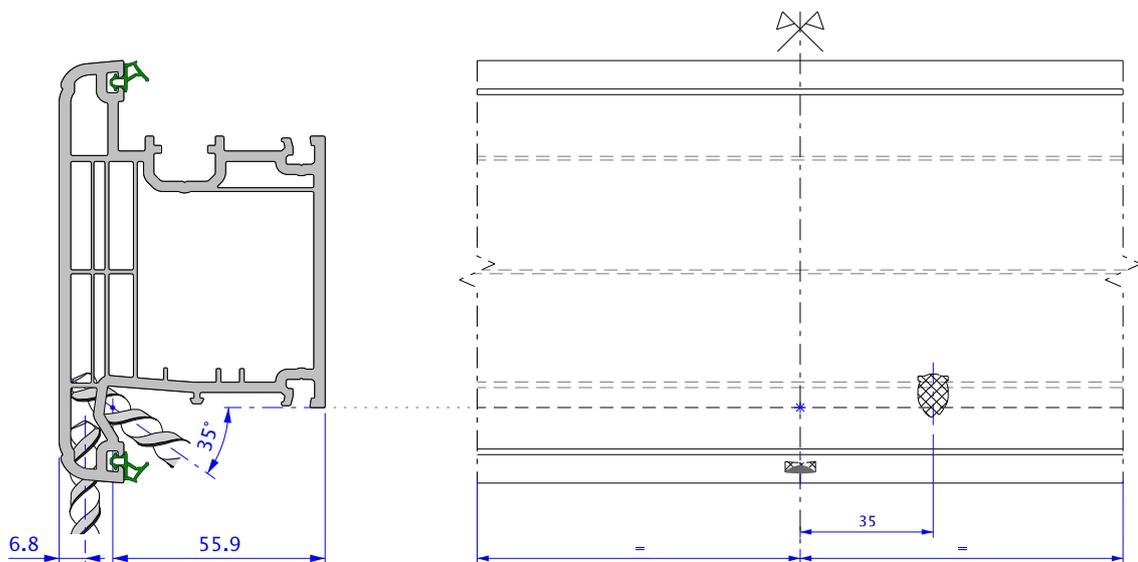


DECOMPRESSIONE: asola 27x5mm e foro 8mm profilo 5068

asola 27x5mm

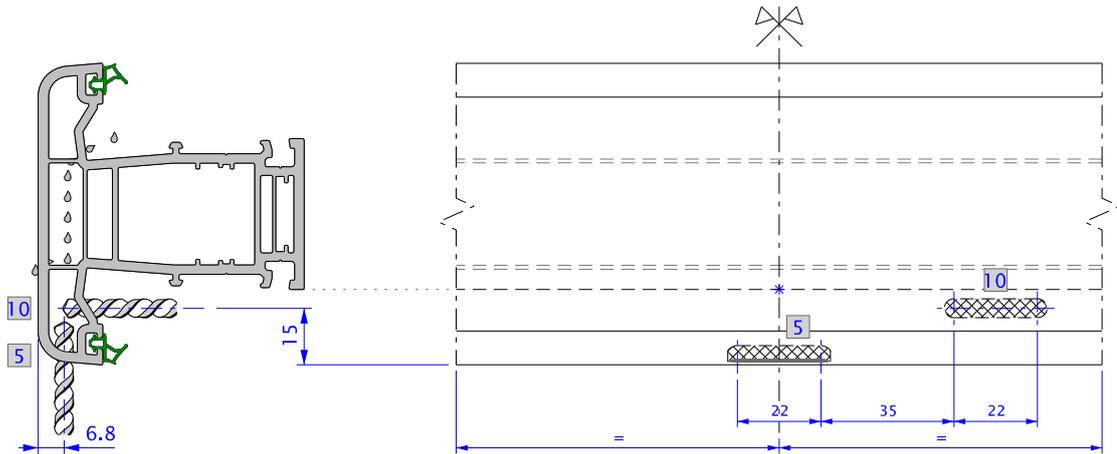


foro 8mm

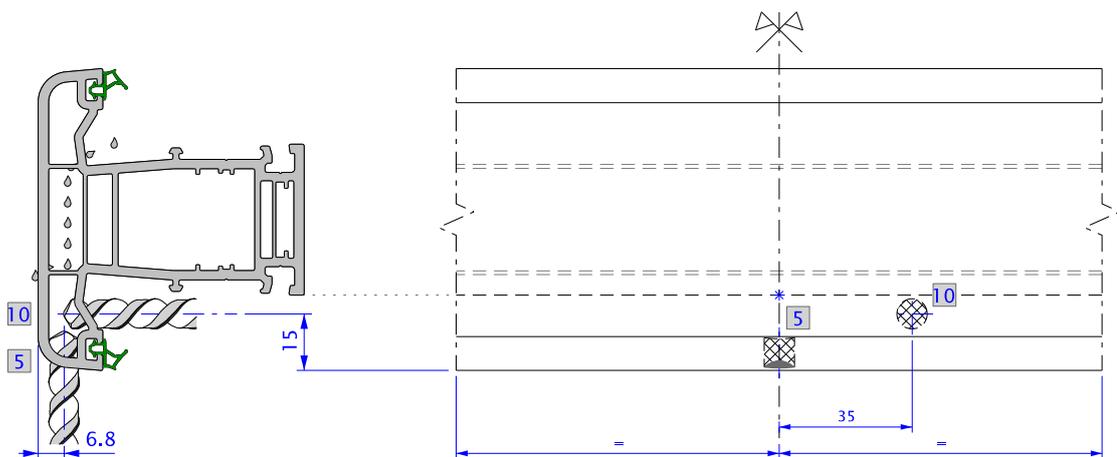


DECOMPRESSIONE: asola 27x5mm e foro 8mm profilo 5182

asola 27x5mm



foro 8mm



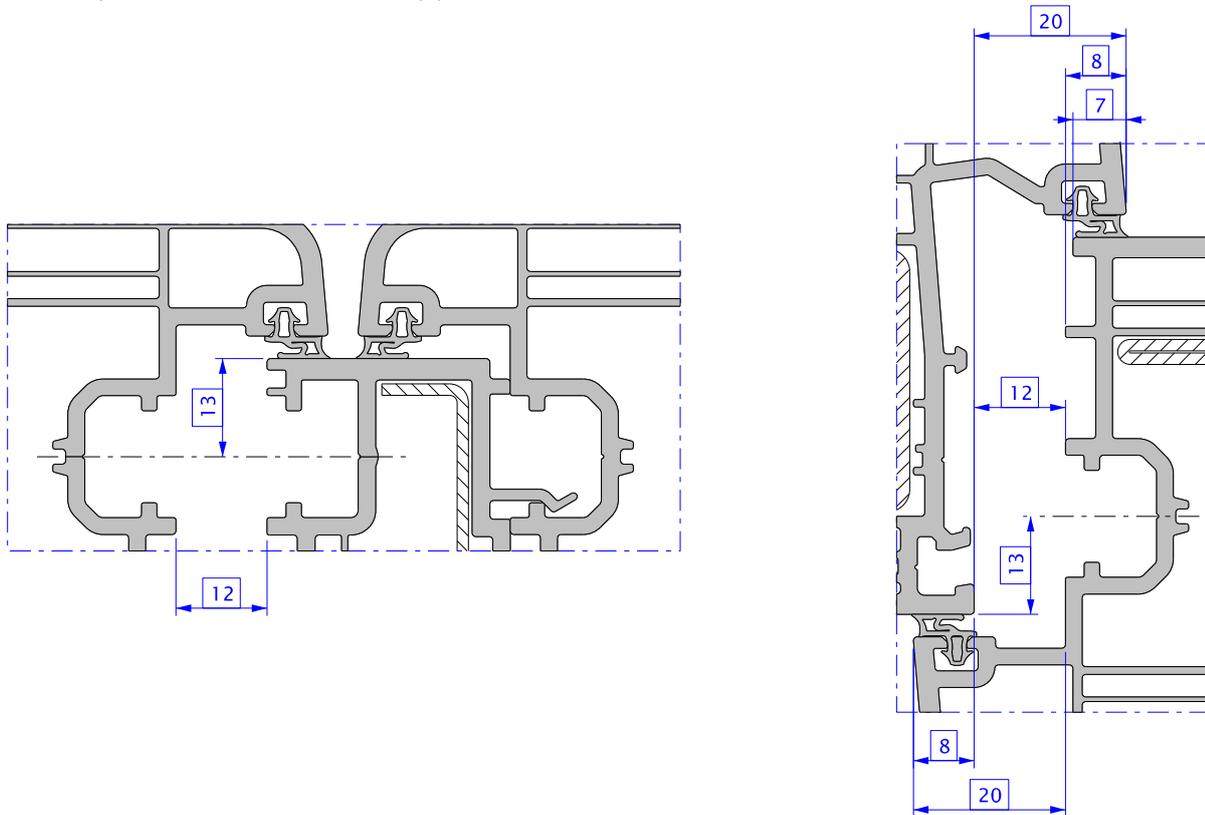
PRODUZIONE

Sezioni 2.1
Drenaggio e decompressione 2.2
Ferramenta 2.3
Tavole di vetratura 2.4
Uso degli accessori 2.5

Sistema/Gamma

Ferramenta: tutti i profili hanno un identico sistema modulare con due configurazioni di base:

1. combinazione del telaio anta con 12/20 - 13 mm di configurazione
2. posizione delle cave opposta nelle finestre a due ante



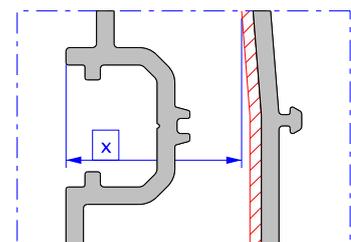
Tutti i principali produttori di ferramenta (Ferco, Fuhr, Gretsch-Unitas, Hautau, Maco, Roto, Schuring, Sigenia-Aubi, Winkhaus) sono stati completamente informati. Loro hanno individuato gli articoli relativi ai profili e li hanno confermati dopo vari test. Trovate allegate le ultime informazioni che abbiamo ricevuto da loro.

La distanza dalla parte interna del profilo anta all'asse della martellina è di 33 mm. Ciò è importante per determinare la lunghezza del perno. Le viti di fissaggio devono essere M5 x45 mm!!

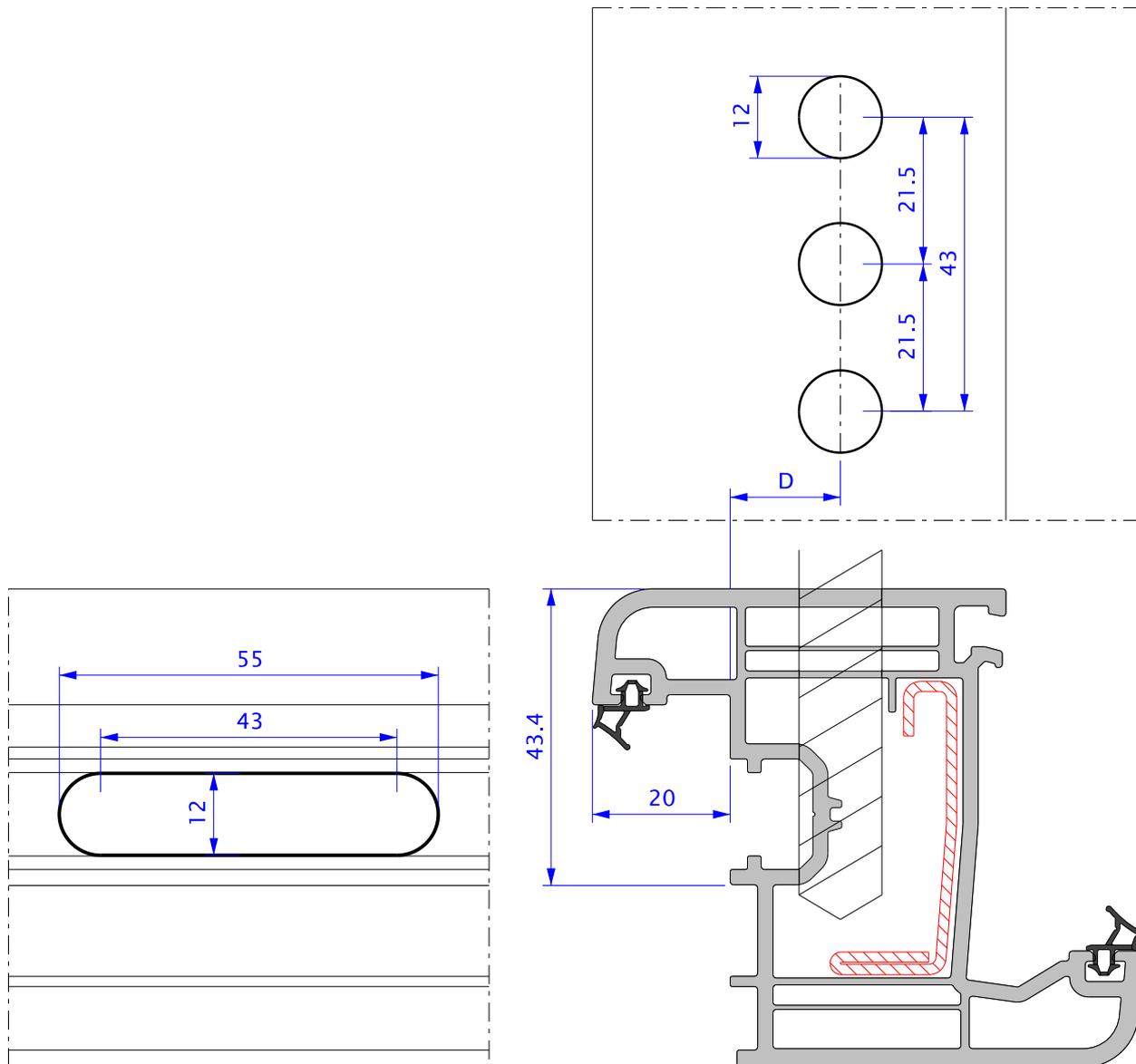
Le dimensioni importanti per il cilindro sono 33mm/37mm.

Queste ante sono state sviluppate per accettare, senza fresatura del rinforzo, serrature con le seguenti dimensioni totali:

- | | | |
|----------------------------------|---|---------|
| • 5040/5050 + rinforzo | X | :23.5mm |
| • 5041/5051/3146/3141 + rinforzo | | :31.5mm |
| • 5042/5052 + rinforzo | | :45.0mm |
| • 5048/5049/5068/5069 + rinforzo | | :59.5mm |
| • 3062 + rinforzo | | :44.5mm |
| • 3144/3145 + rinforzo | | :35.0mm |

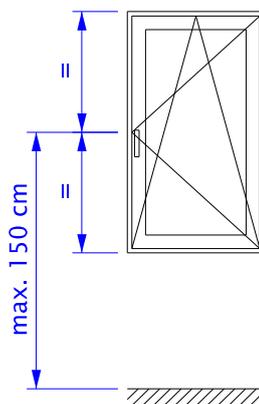


Schema di foratura e fresatura per la ferramenta finestre

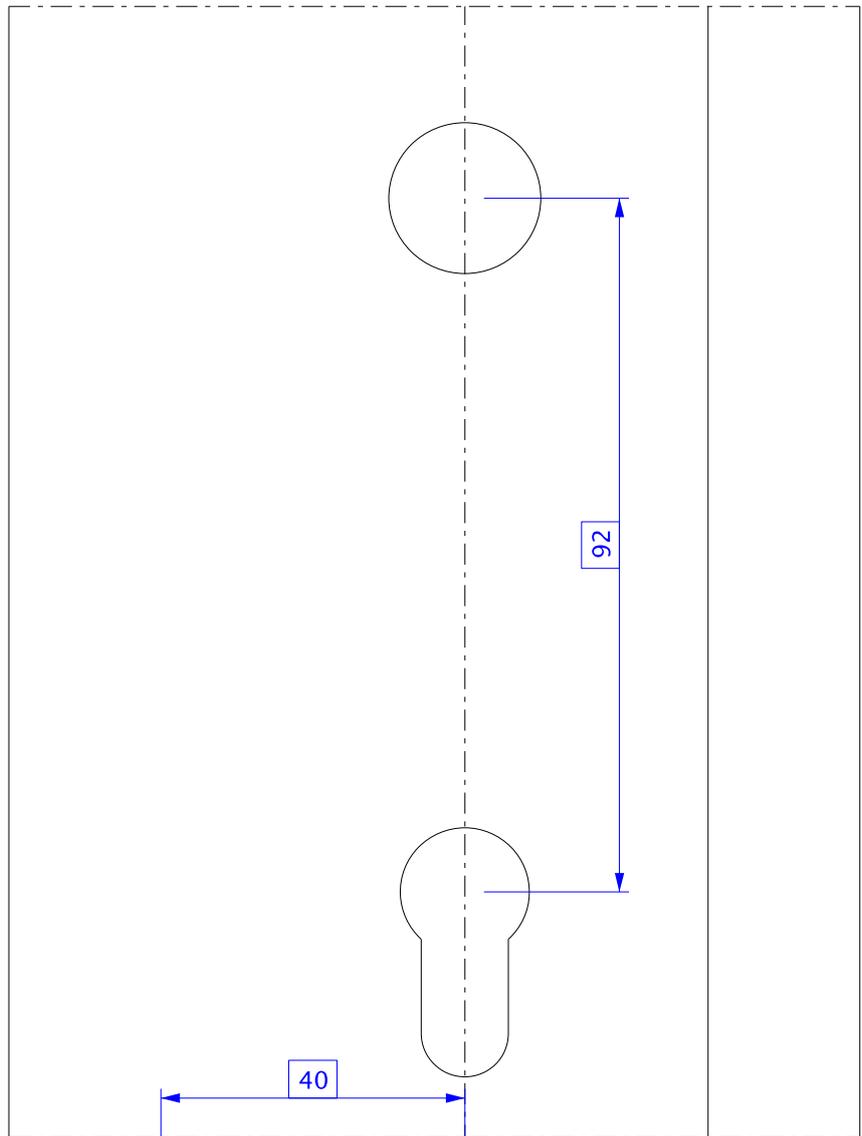


ANTA 5040	ferramenta	D (mm)
	Siegenia	-7
	Roto	-6
	Winkhaus	?
	Maico	-6
	G.U.	-7.5
AGB	-7.5	

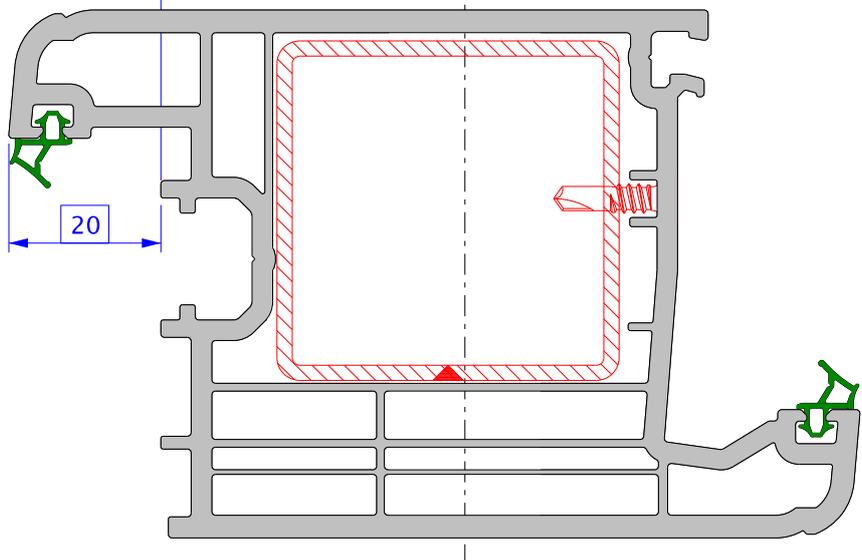
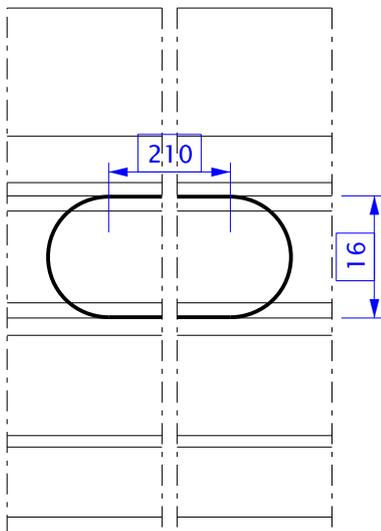
ANTA 5041	ferramenta	D (mm)
	Siegenia	16
	Roto	14.5
	Winkhaus	15
	Maico	15
	G.U.	15
AGB	15	



Schema di foratura e fresatura per la ferramenta porte



: P5048, P5049, P5068, P5069

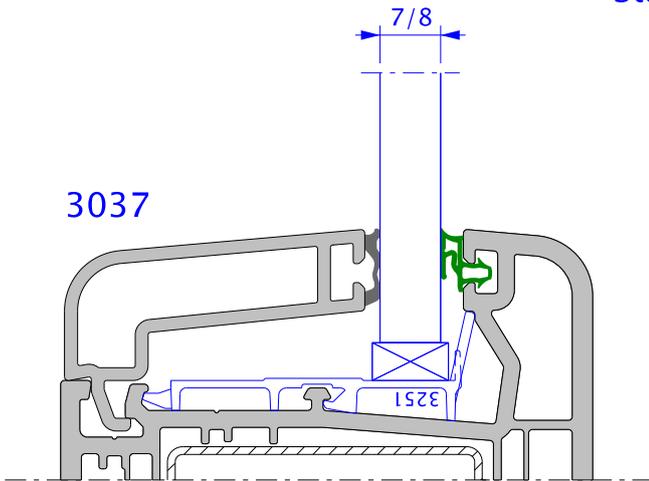


PRODUZIONE

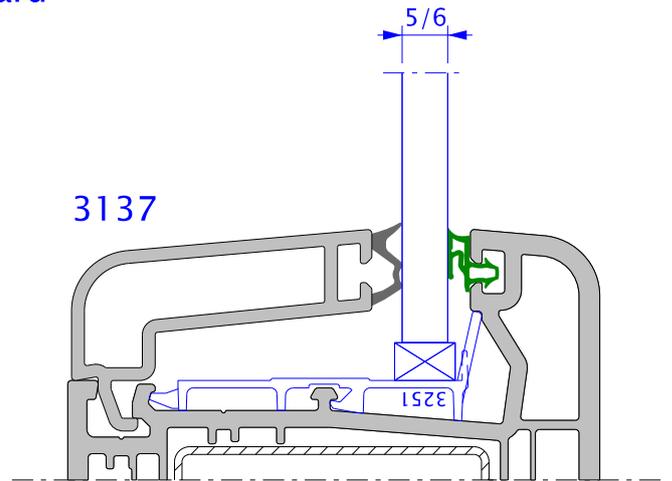
Sezioni	2.1
Drenaggio e decompressione	2.2
Ferramenta	2.3
Tavole di vetratura	2.4
Uso degli accessori	2.5

Standard

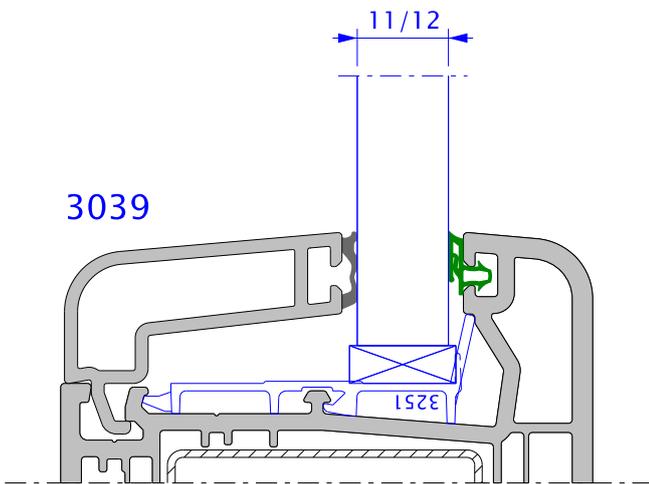
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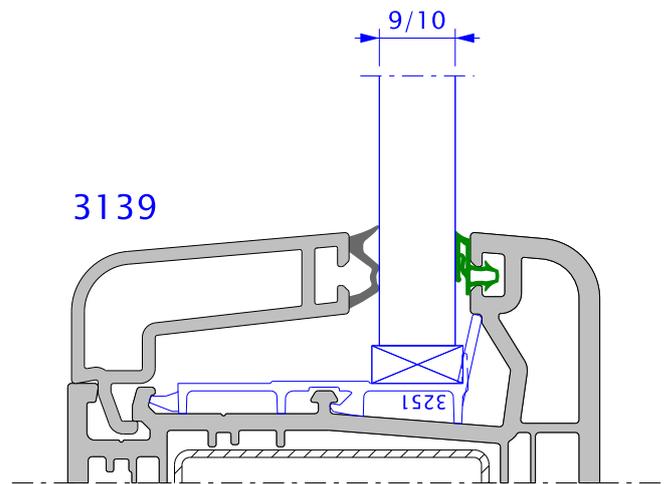
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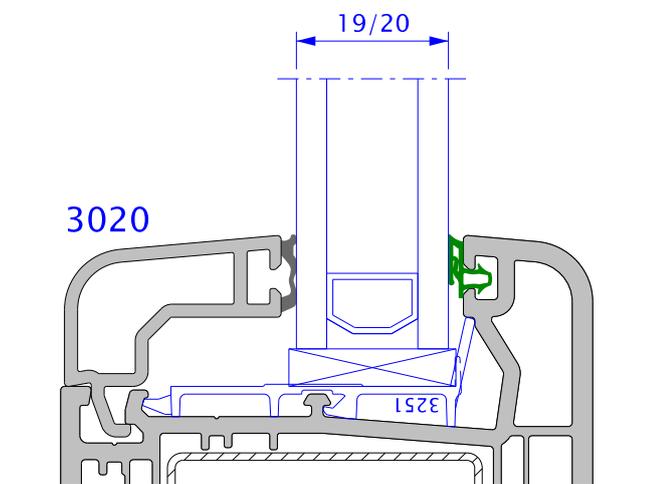
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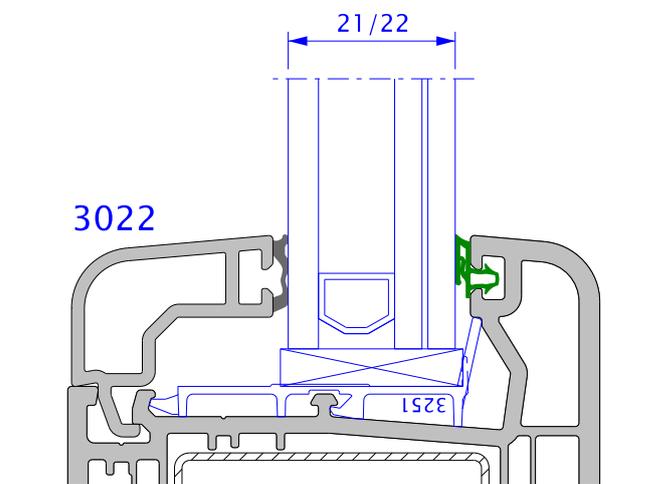
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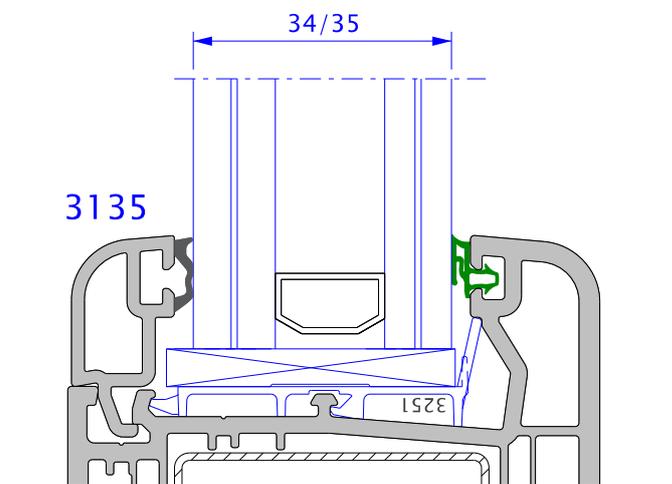
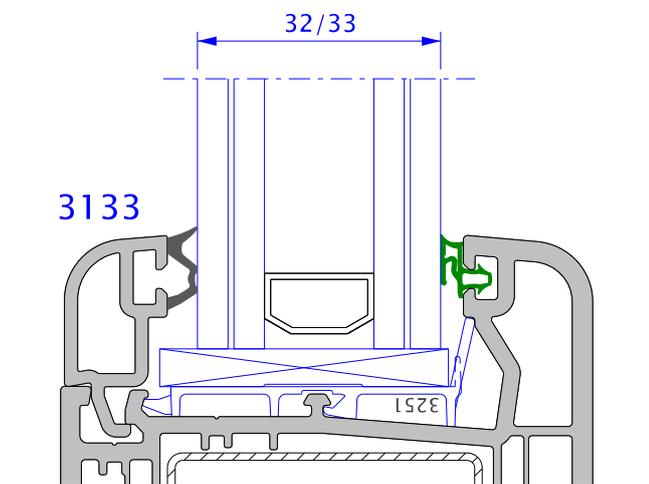
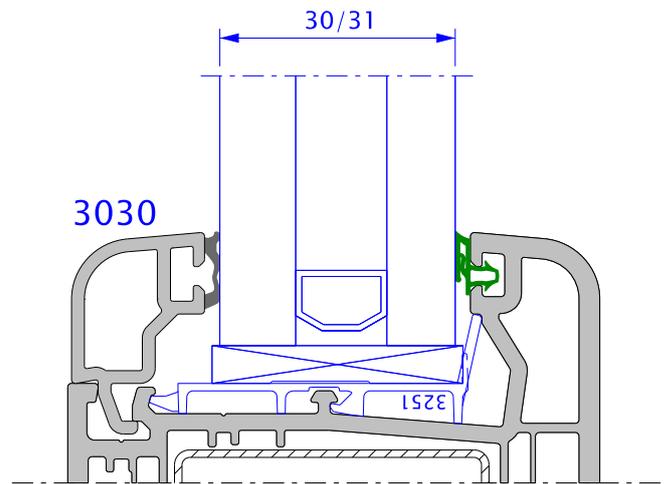
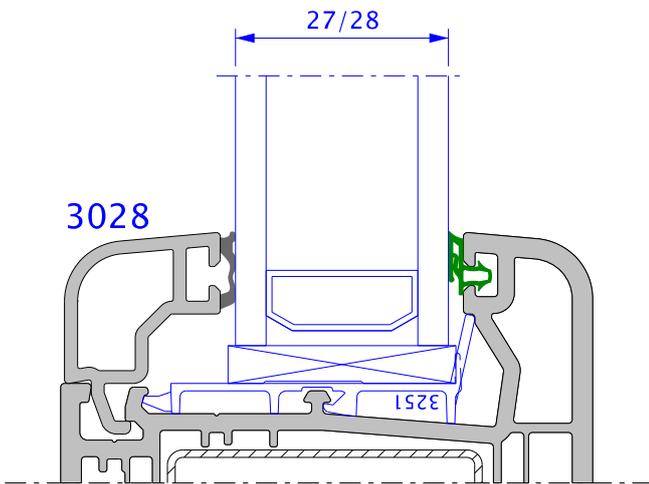
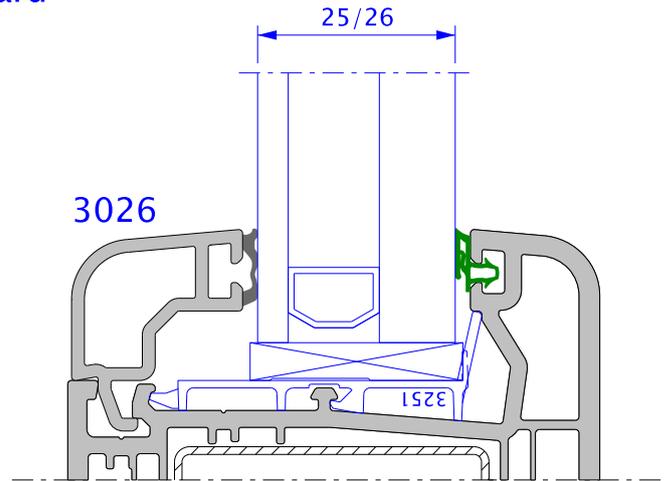
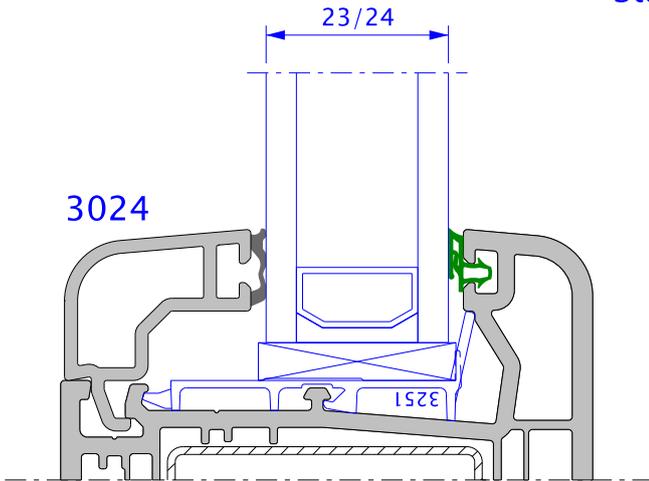
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3022

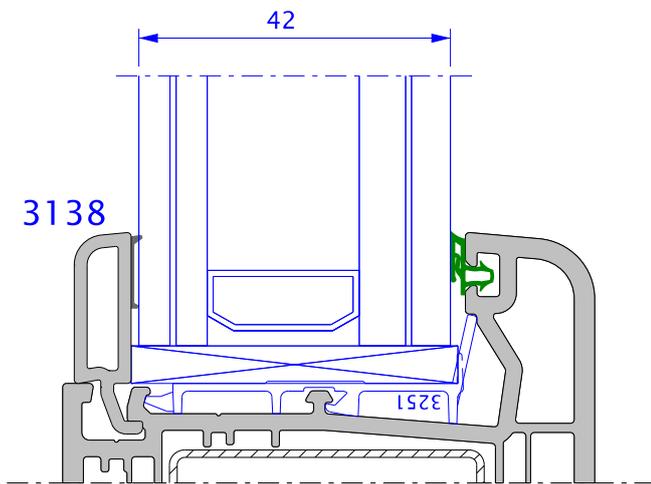
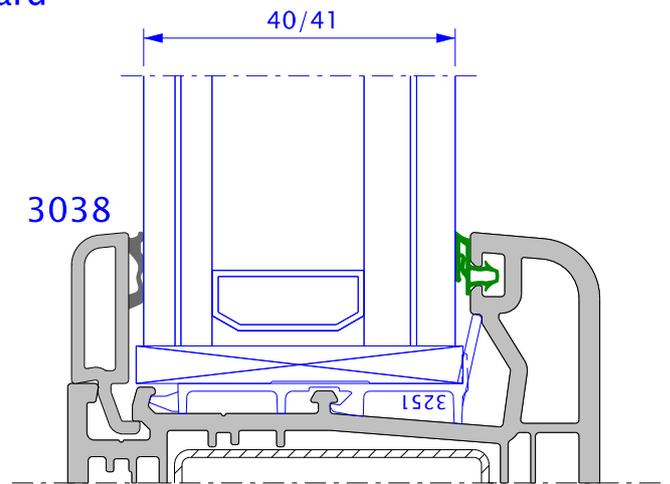
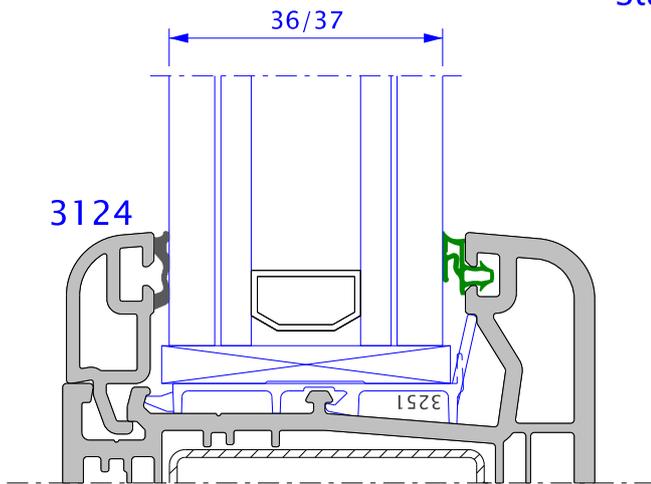


Standard

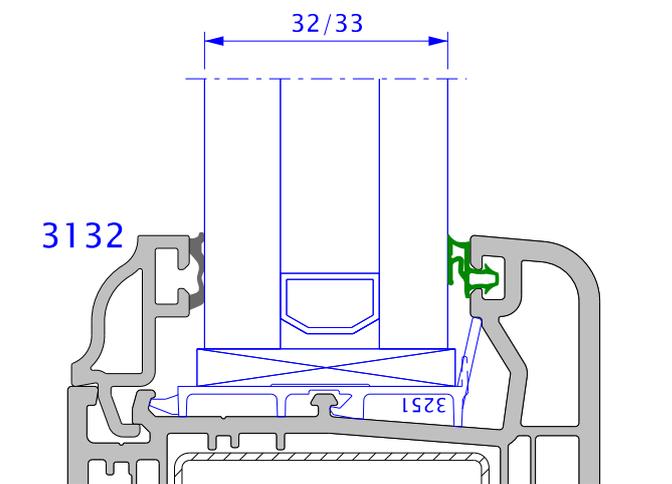
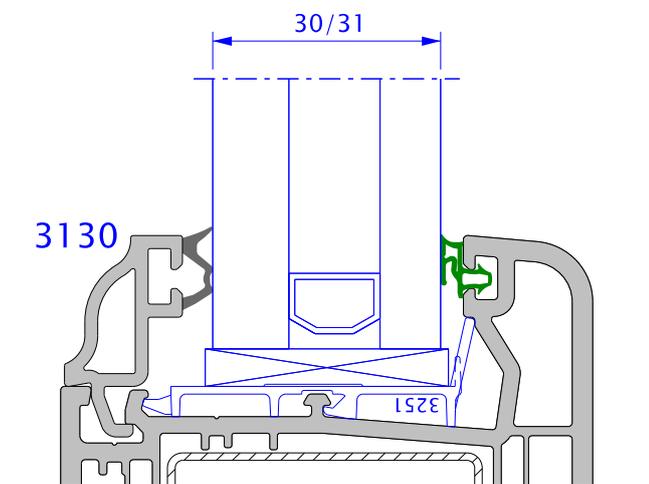
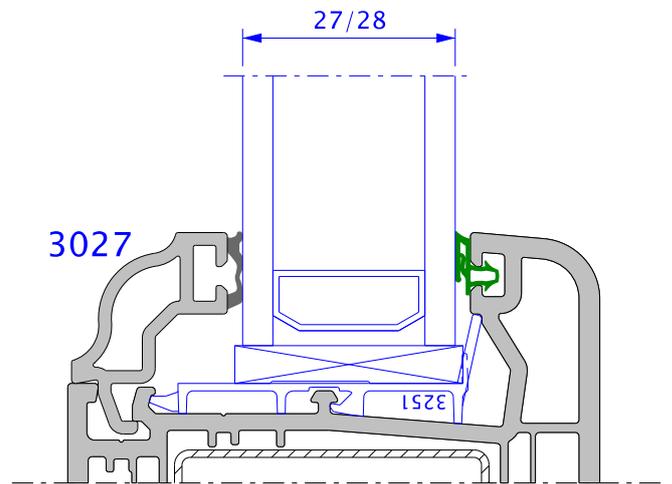
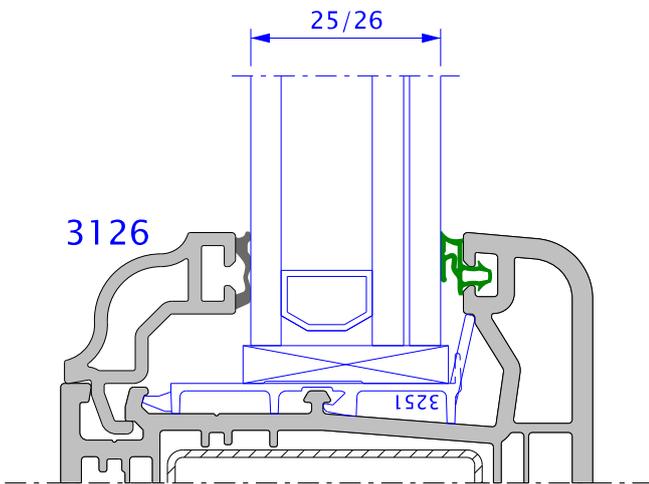
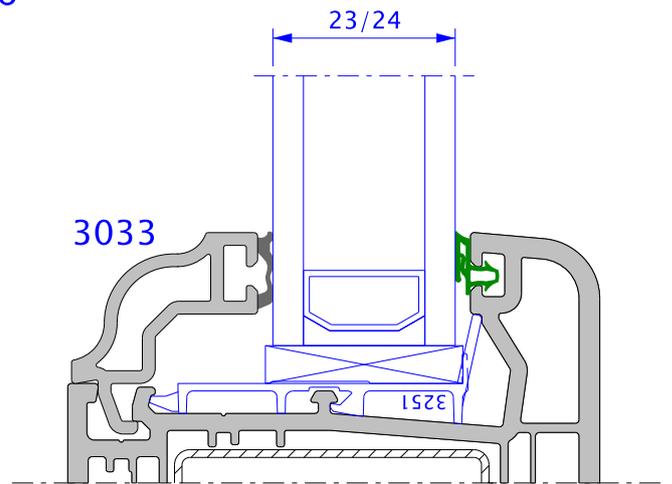
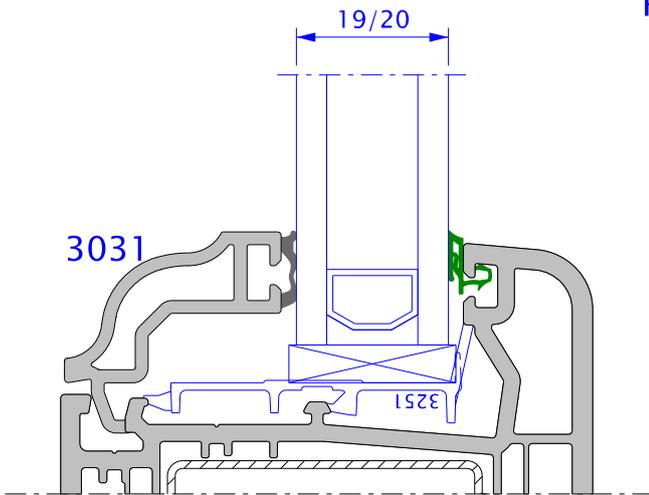


TAVOLE DI VETRATURA

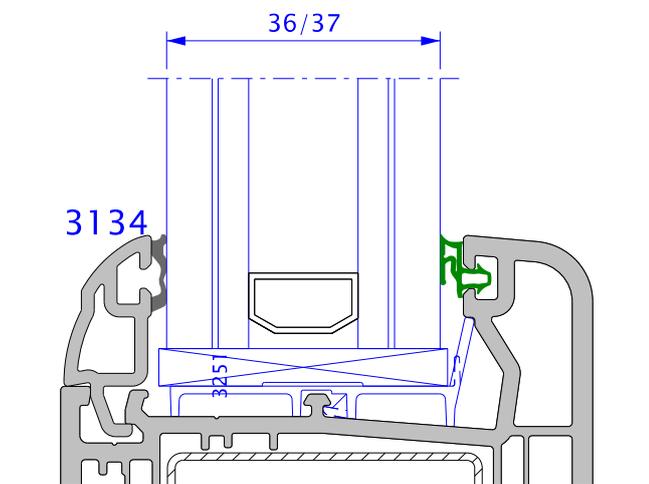
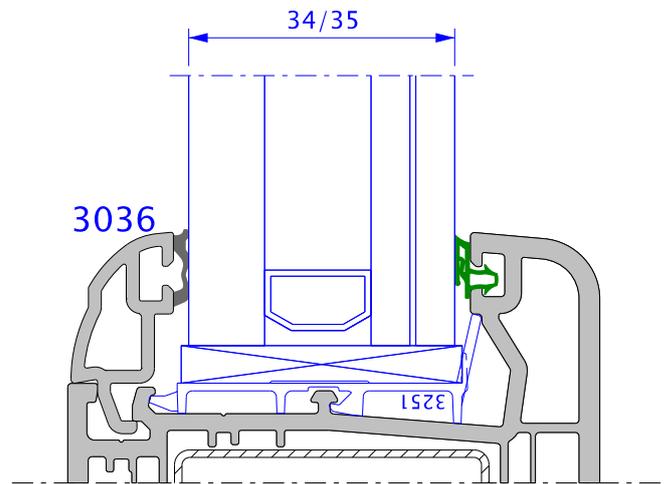
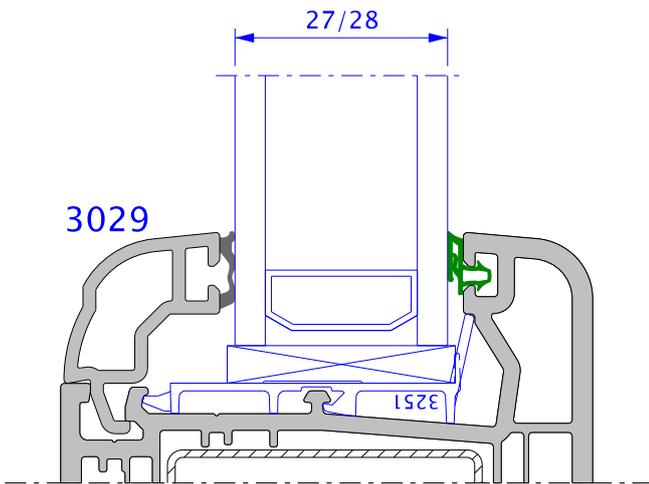
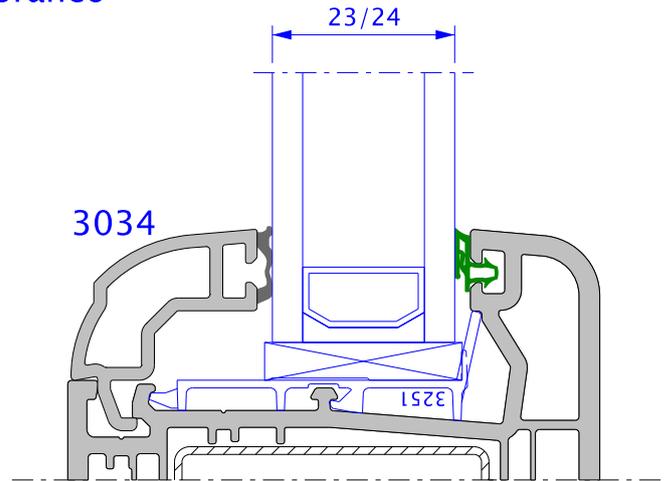
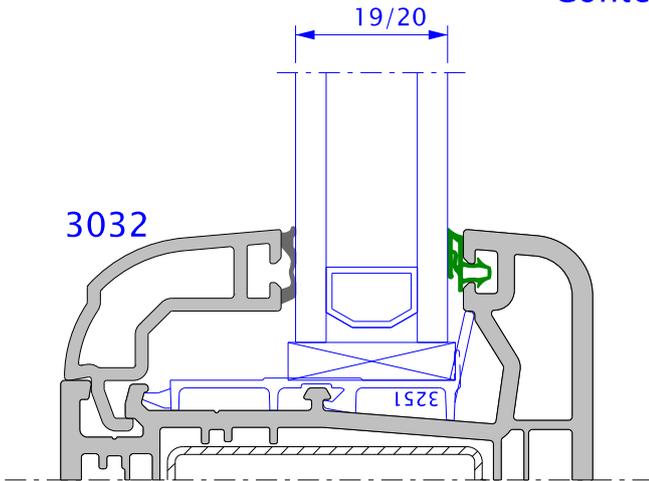
Standard



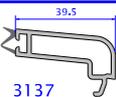
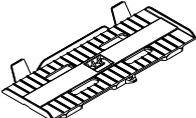
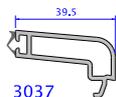
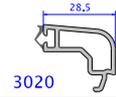
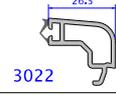
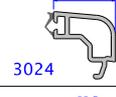
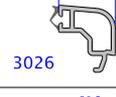
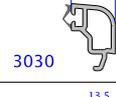
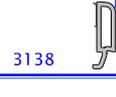
Retrò

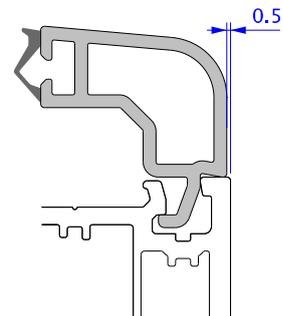
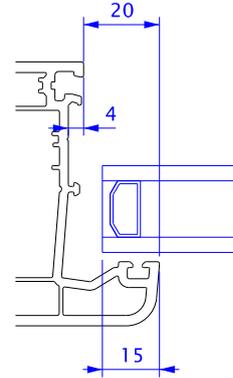


Contemporaneo



TAVOLE DI VETRATURA

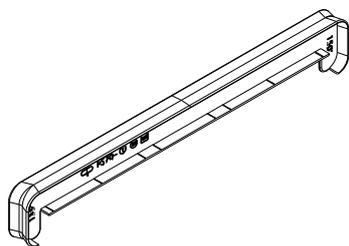
STANDARD			
5 6	 3137	 3251	
7 8	 3037		
9 10	 3139		
11 12	 3039		
15 16	 3128		
17 18	 3120		
19 20	 3020	 3032	 3031
21 22	 3022		
23 24	 3024	 3034	 3033
25 26	 3026		 3126
27 28	 3028	 3029	 3027
30 31	 3030		 3130
32 33	 3133		 3132
34 35	 3135	 3036	
36 37	 3124	 3134	
40 41	 3038		
42	 3138		



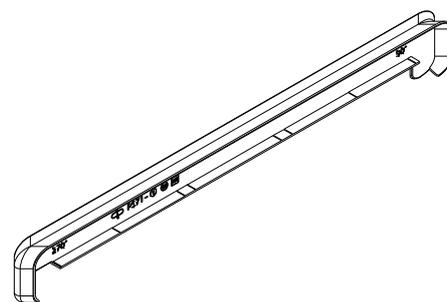
PRODUZIONE

Sezioni	2.1
Drenaggio e decompressione	2.2
Ferramenta	2.3
Tavole di vetratura	2.4
Uso degli accessori	2.5

Assemblaggio del 570/571



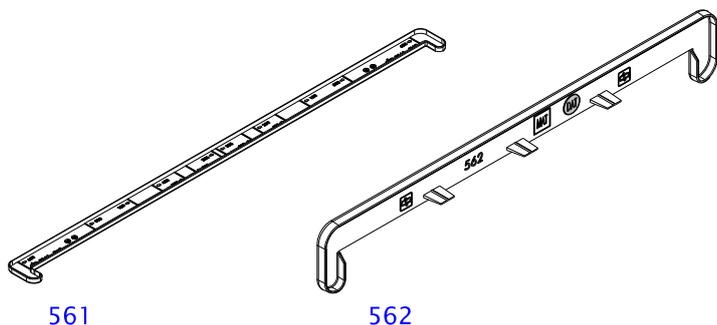
570 (135°/150°)



571 (90°/270°)

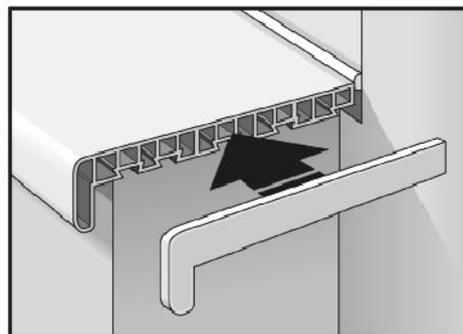


Assemblaggio del 561/562

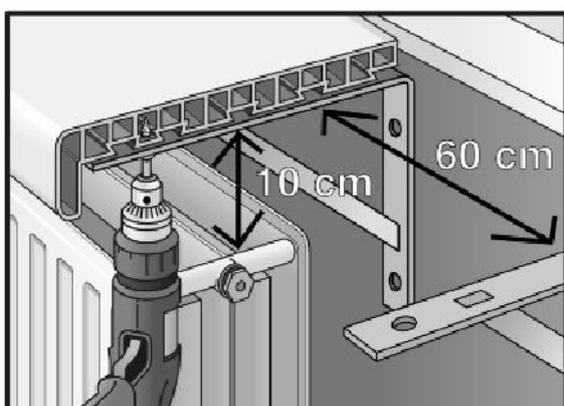


561

562

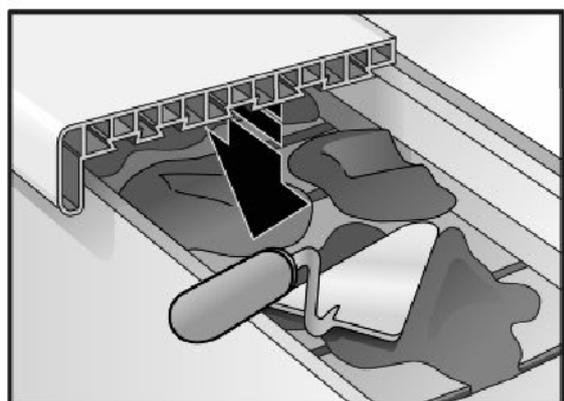


FISSAGGIO



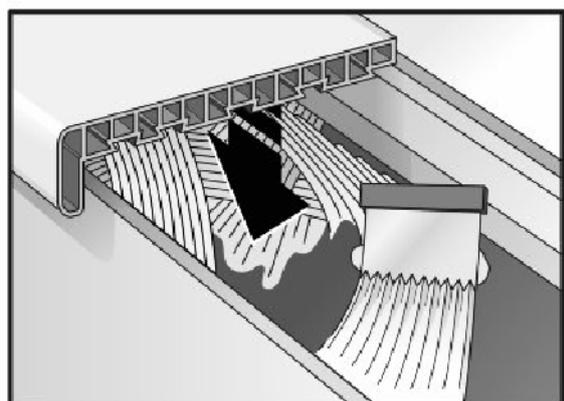
Opzione 1:

Fissaggio del davanzale con viti e staffe opportune.
 La distanza massima tra le staffe deve essere 60cm.
 La distanza tra il davanzale ed il radiatore deve essere almeno 10cm.



Opzione 2:

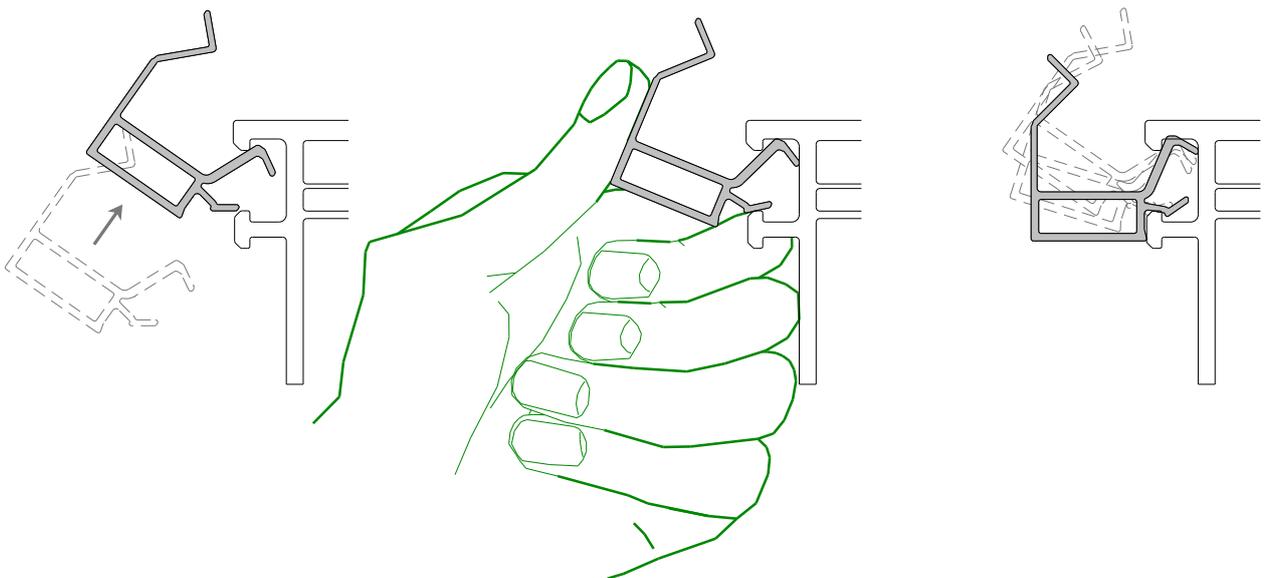
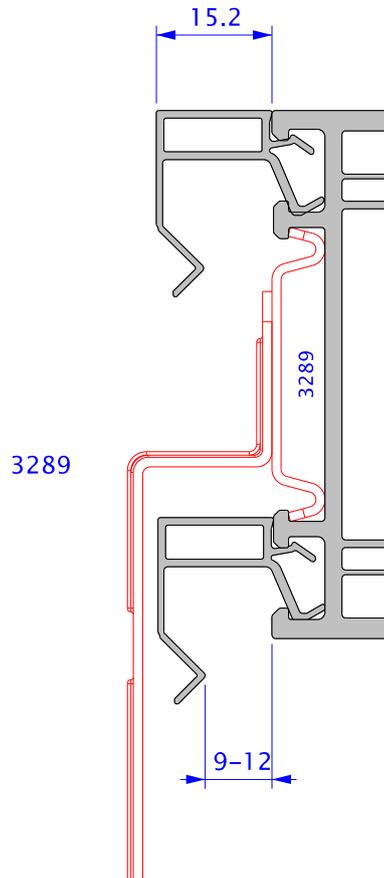
Fissaggio del davanzale con malta.



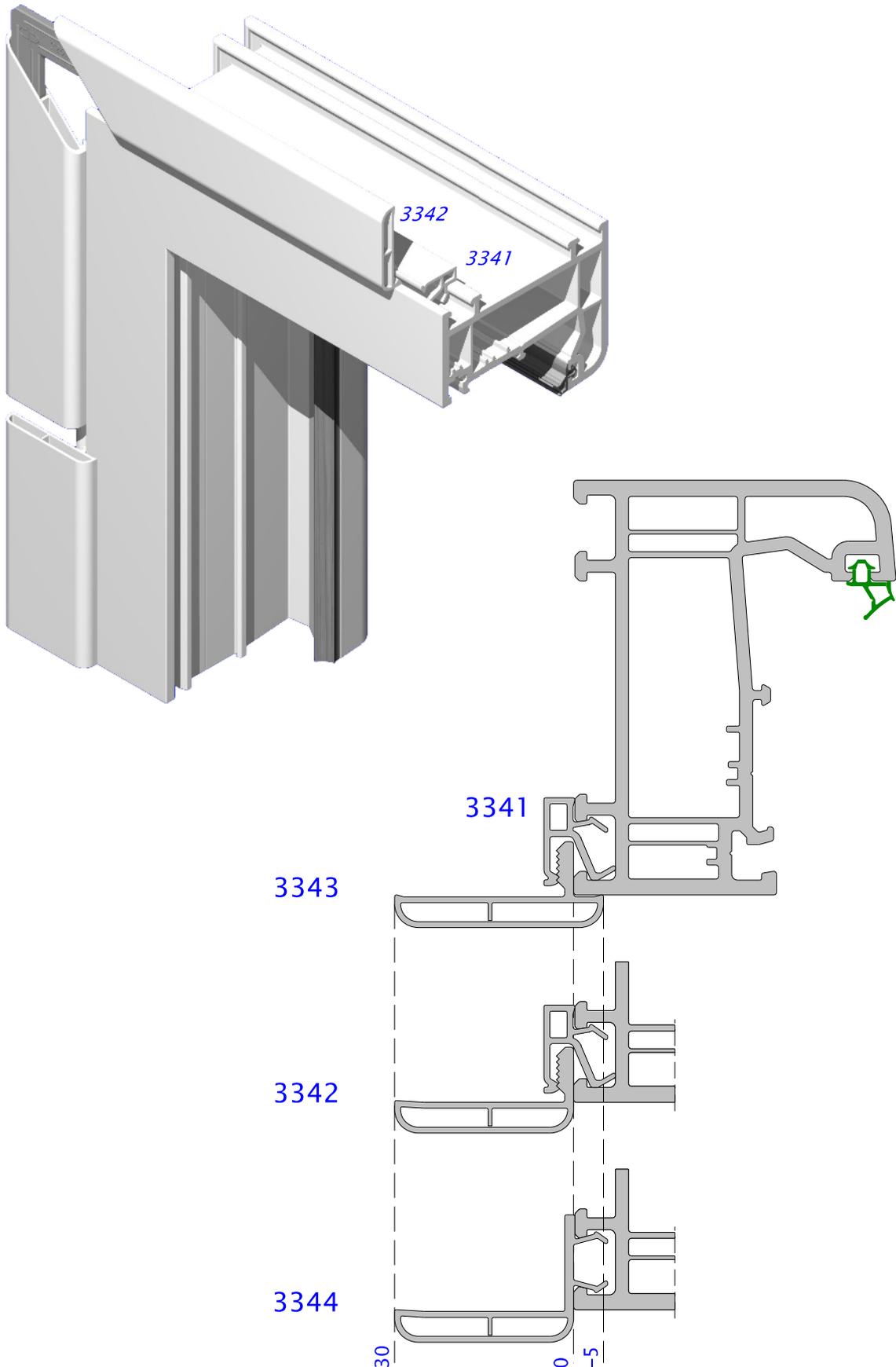
Opzione 3:

Fissaggio del davanzale con colla per edilizia.

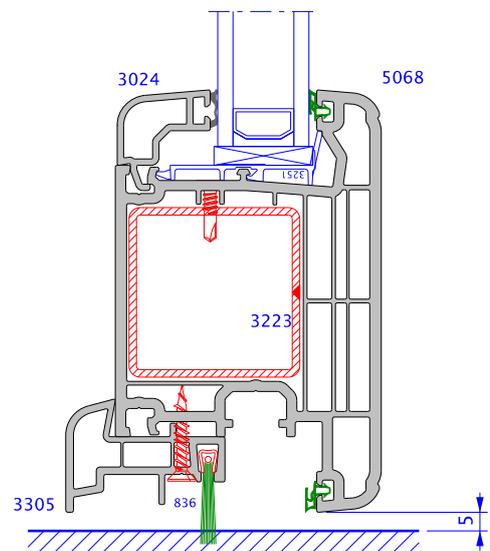
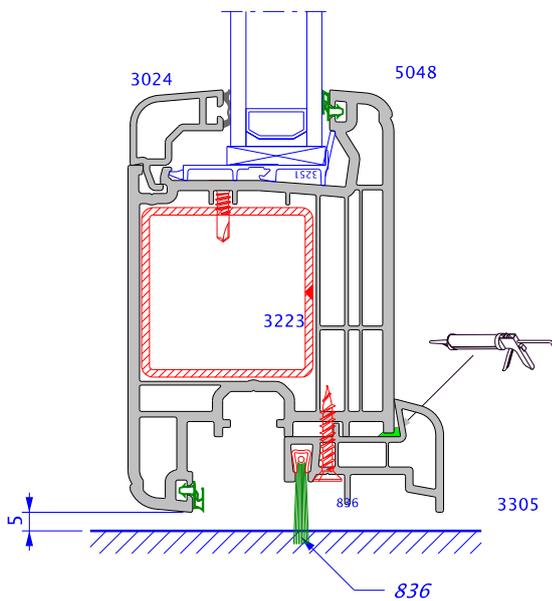
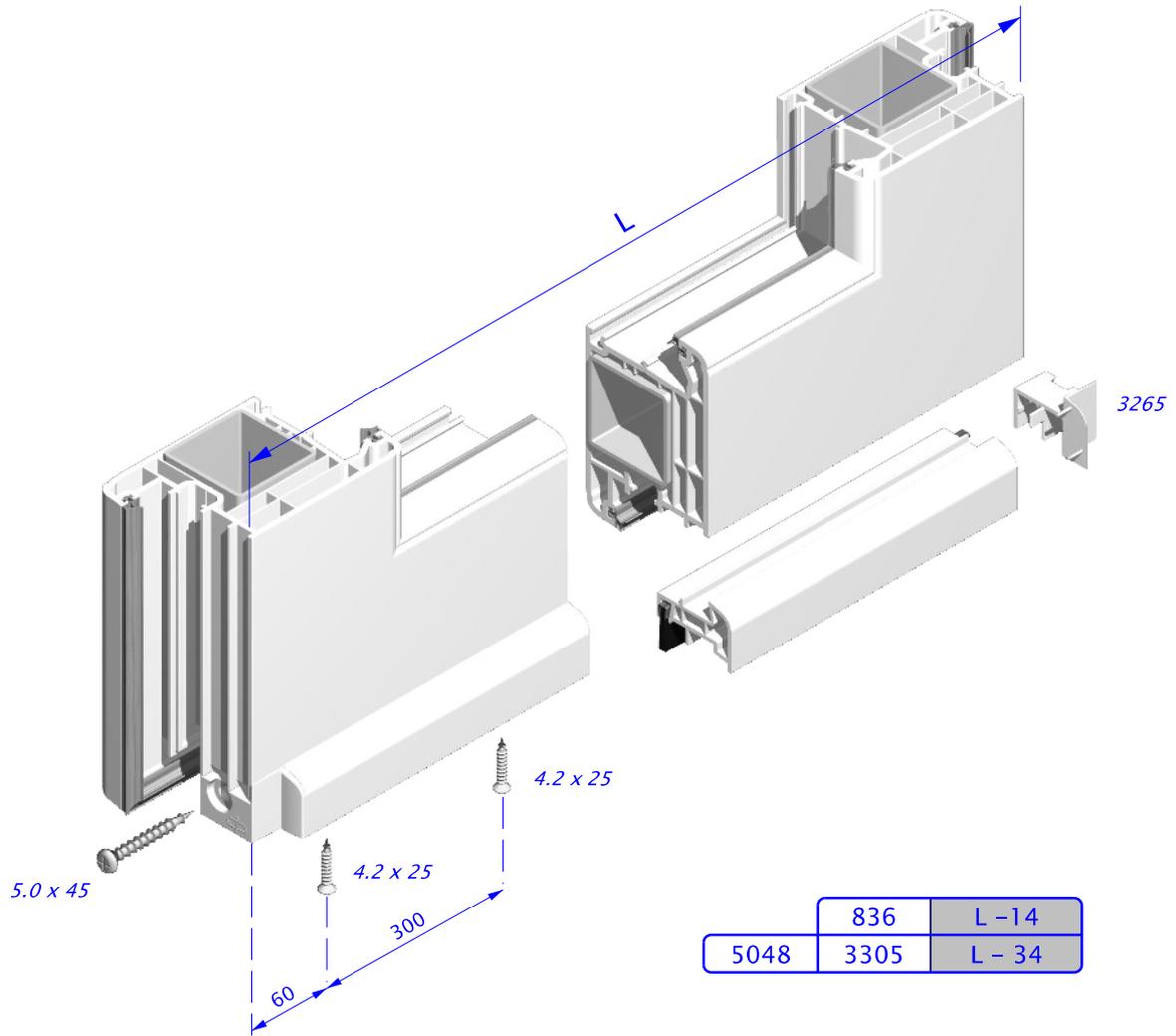
Assemblaggio del 3340



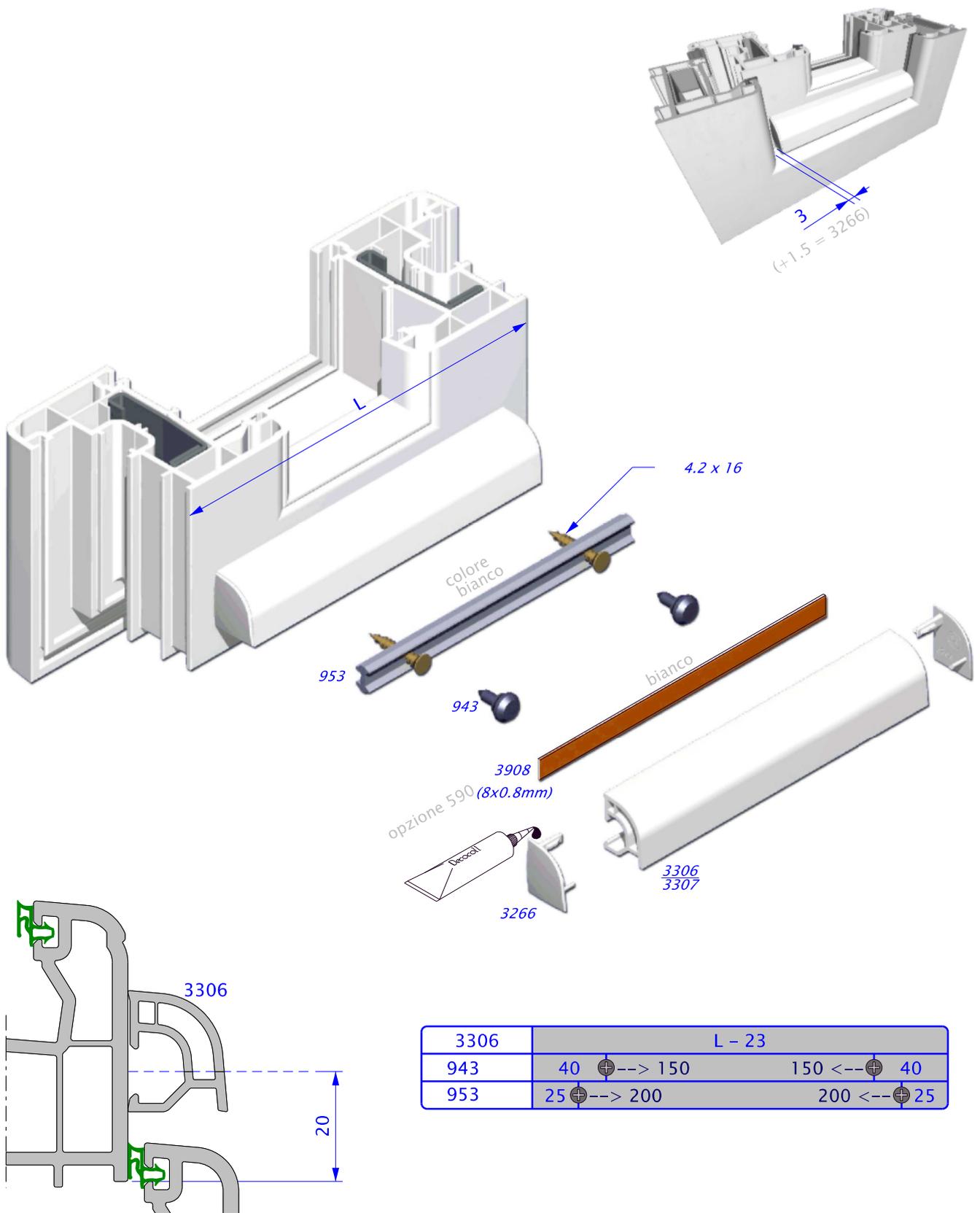
Assemblaggio del 3341-3342/3343



Assemblaggio del 3305

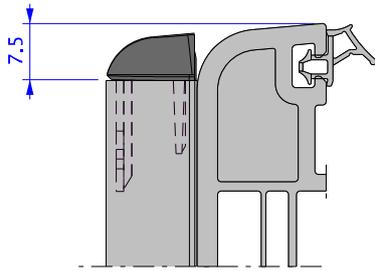


Assemblaggio del 3306

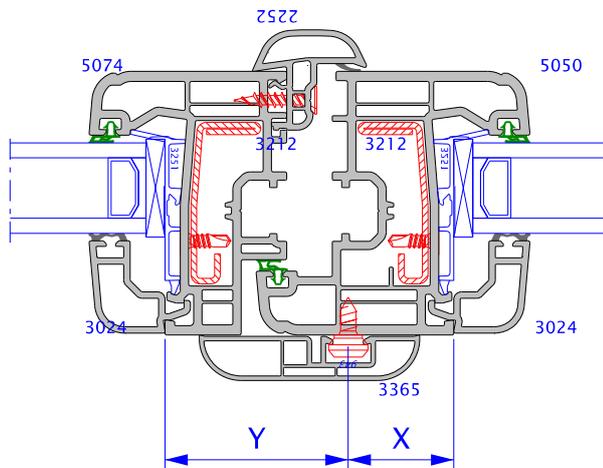
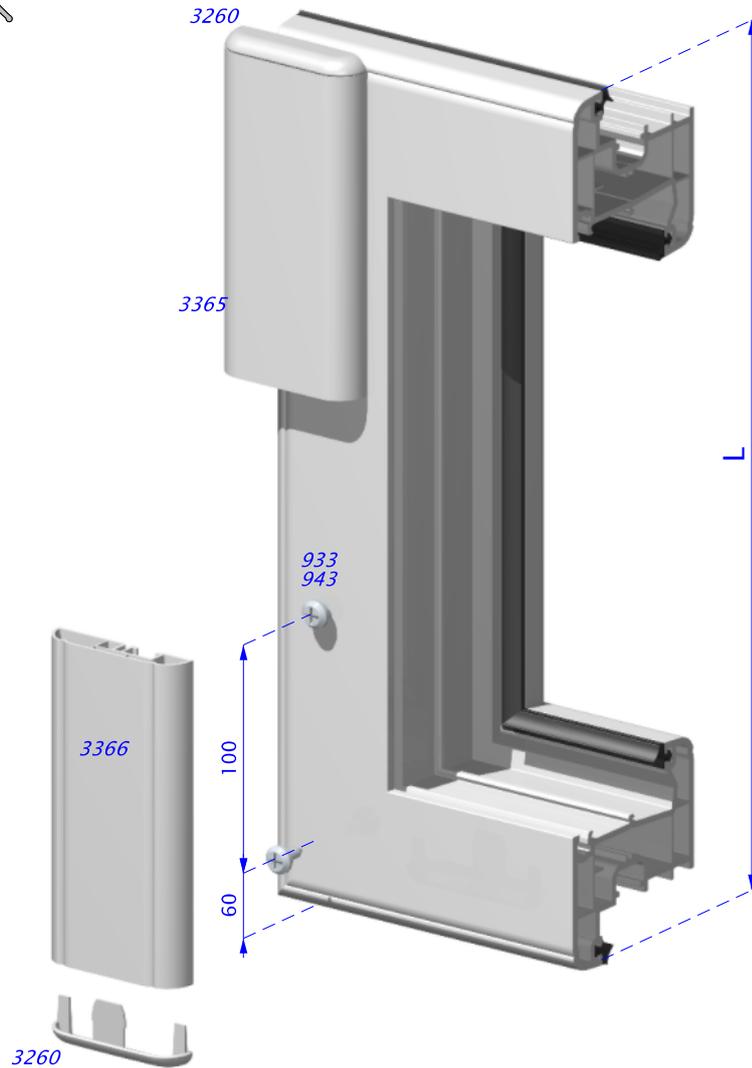


3306	L - 23				
943	40	⊕ --->	150	150 <--- ⊕	40
953	25	⊕ --->	200	200 <--- ⊕	25

Assemblaggio del 3365



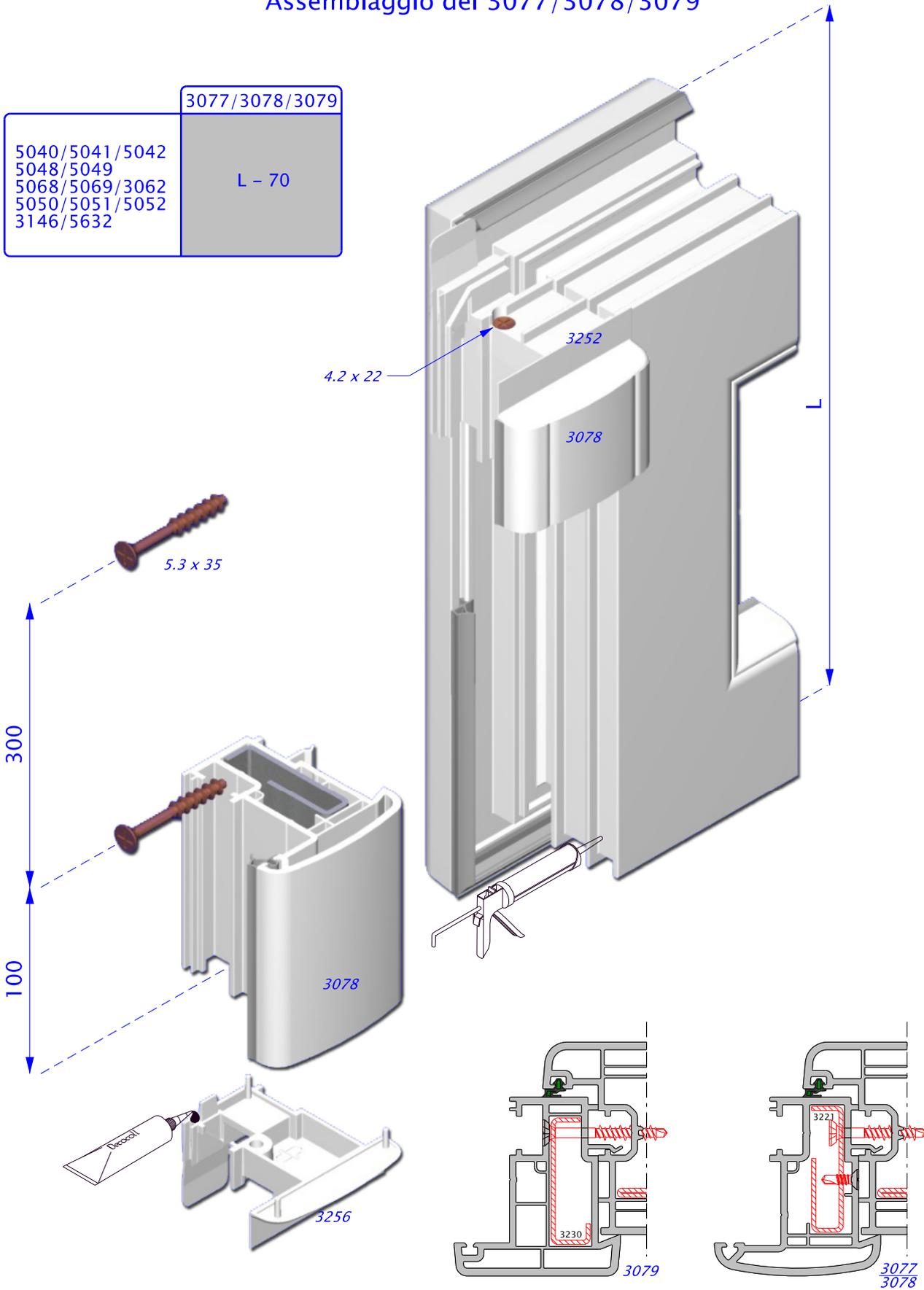
	5050/5074 5051/5075 5052/5076
3365	L - 15



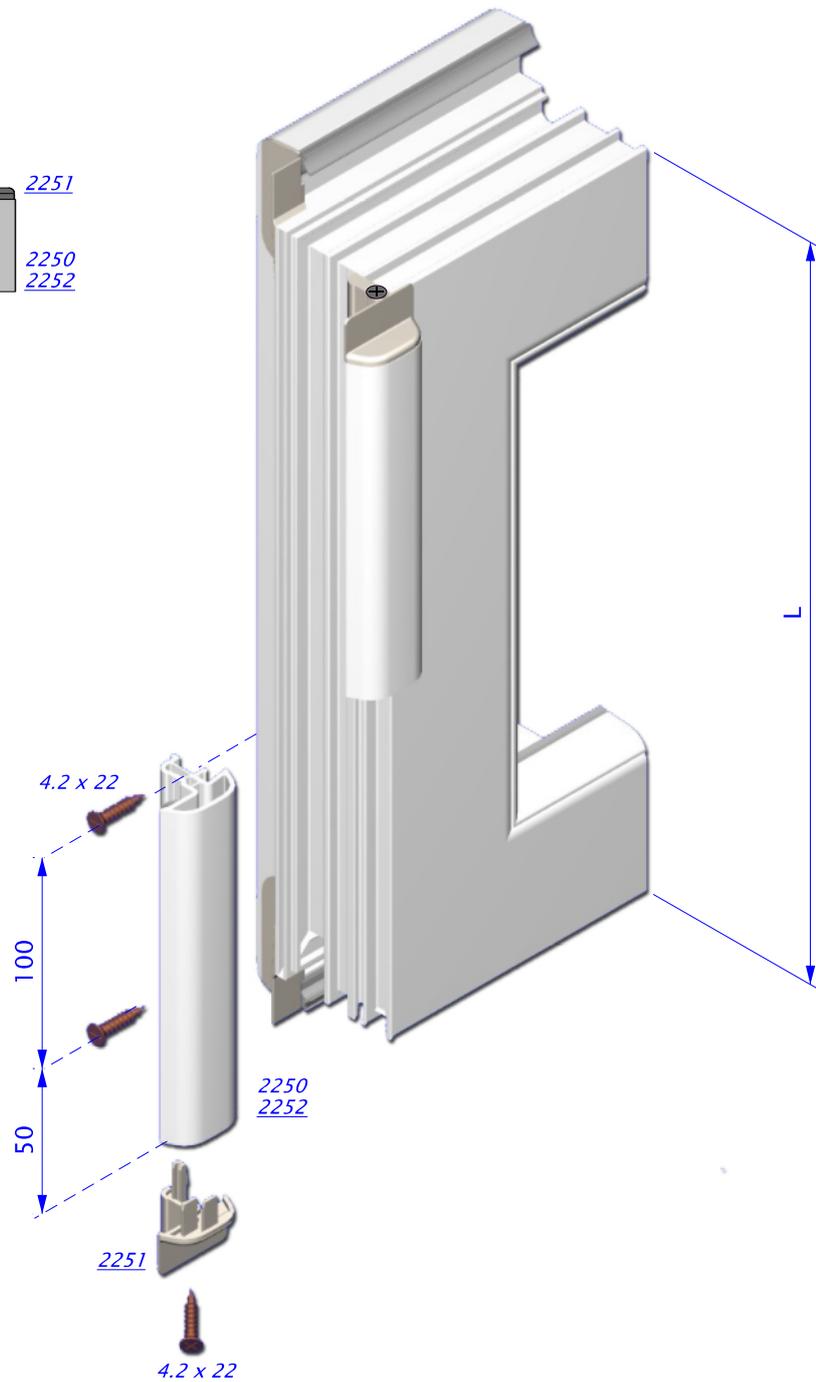
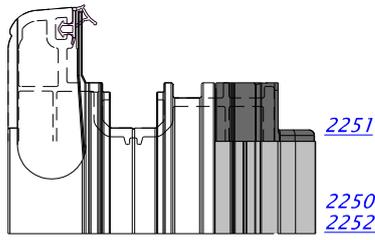
		5050/5074	5051/5075	5052/5076
3365	Y/X	48.2/27.8	56.2/35.8	70.2/49.8

Assemblaggio del 3077/3078/3079

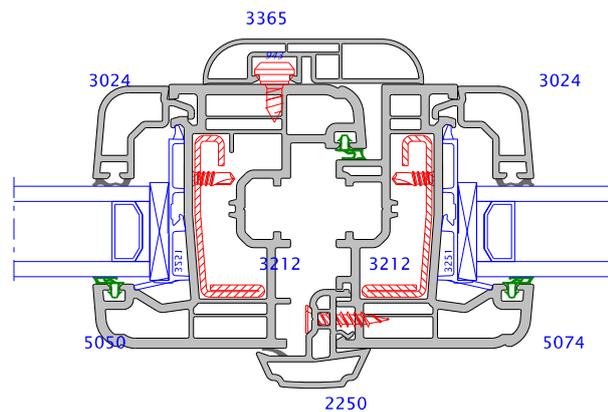
5040/5041/5042 5048/5049 5068/5069/3062 5050/5051/5052 3146/5632	3077/3078/3079 L - 70
--	------------------------------



Assemblaggio del 2250/2252

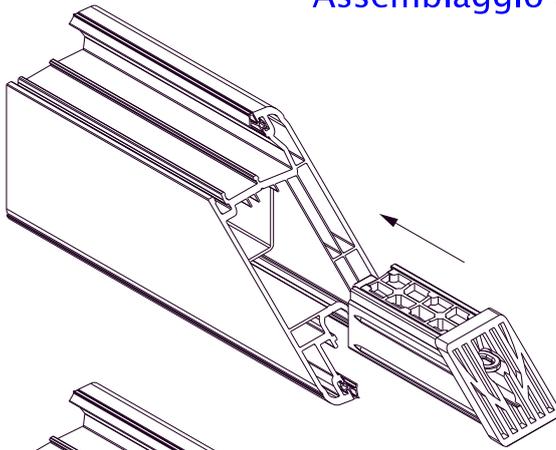


	2250/2252
5050	L - 29
5051	L - 29
5052	L - 31

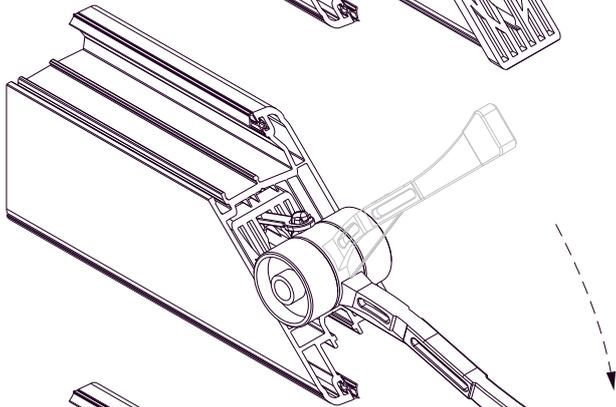


Assemblaggio del 3285

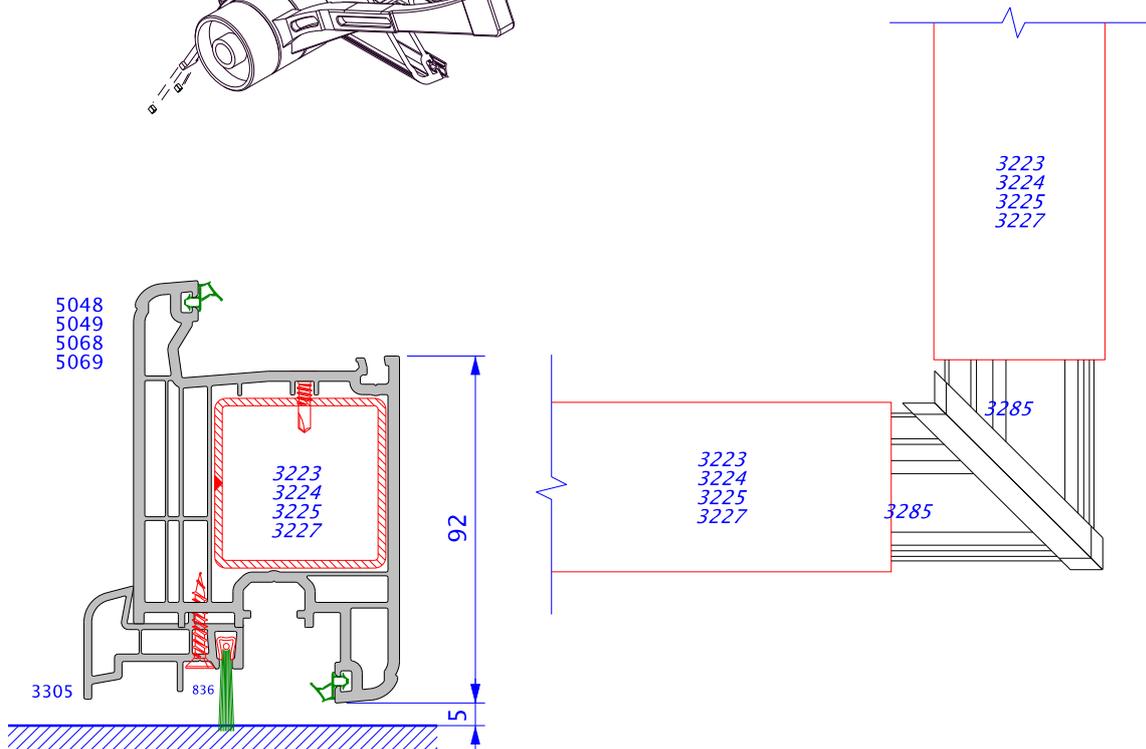
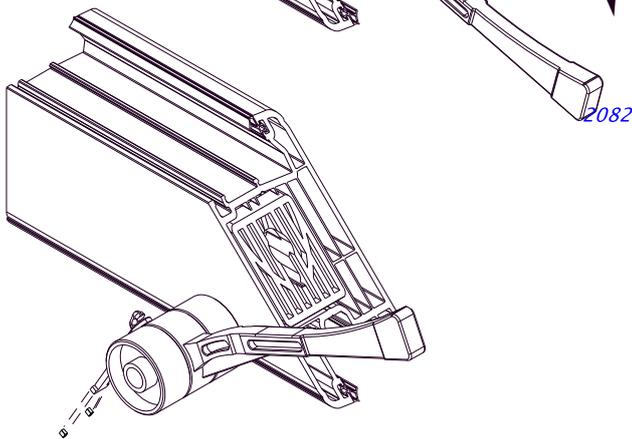
1.



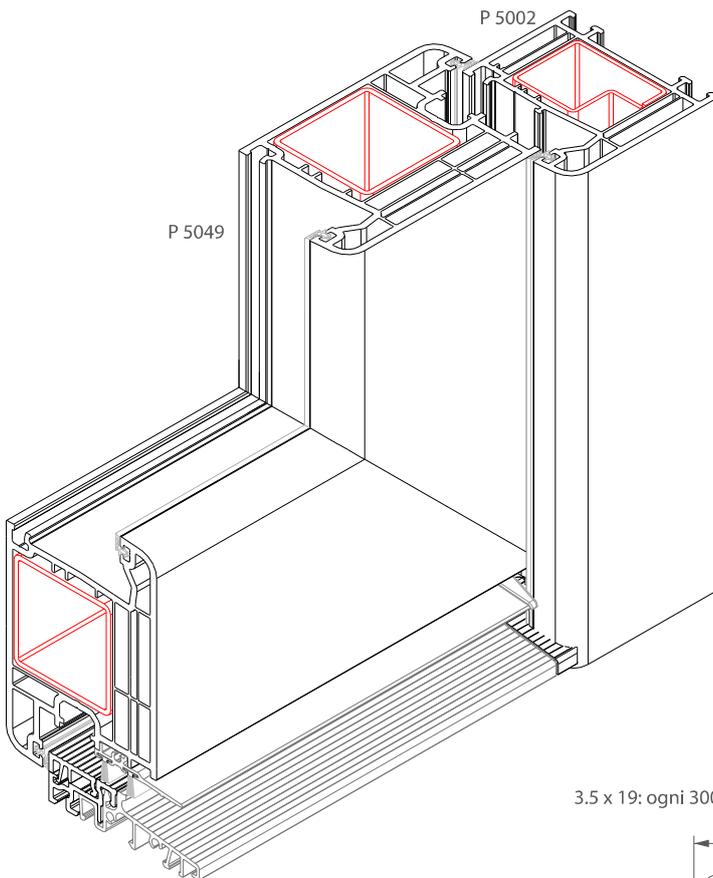
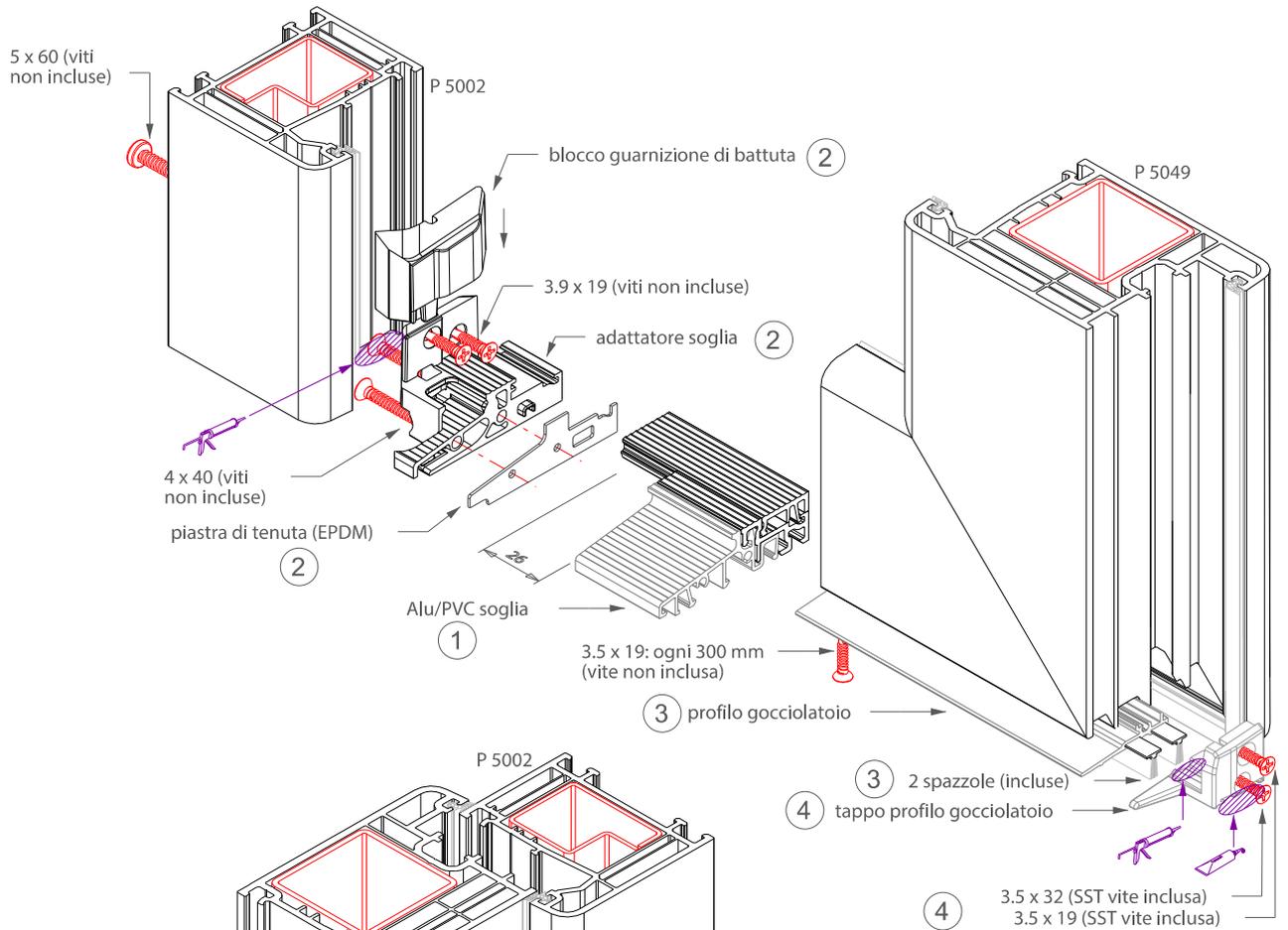
2.



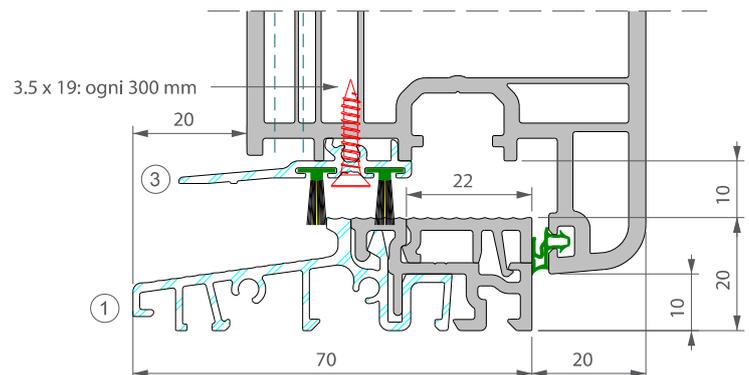
3.



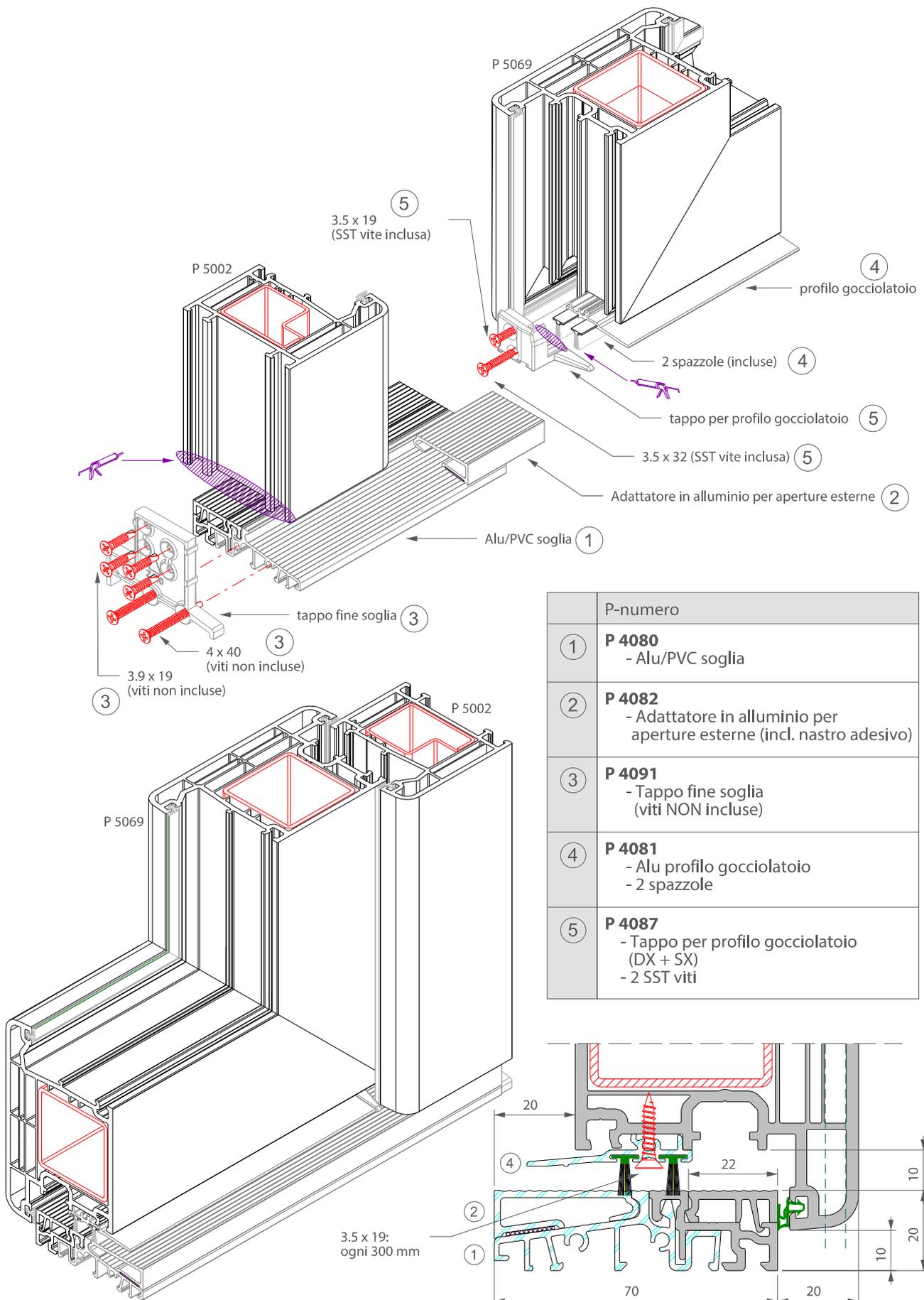
GKG - Apertura interna



P-numero	
①	P 4080 - Alu/PVC soglia
②	P 4085 - Adattatore - Blocco tenuta - Piastra di tenuta
③	P 4081 - Alu profilo gocciolatoio - 2 spazzole
④	P 4086 (P 4087 per anta P 5042) - Tappo per profilo gocciolatoio (DX + SX) - 2 SST vite

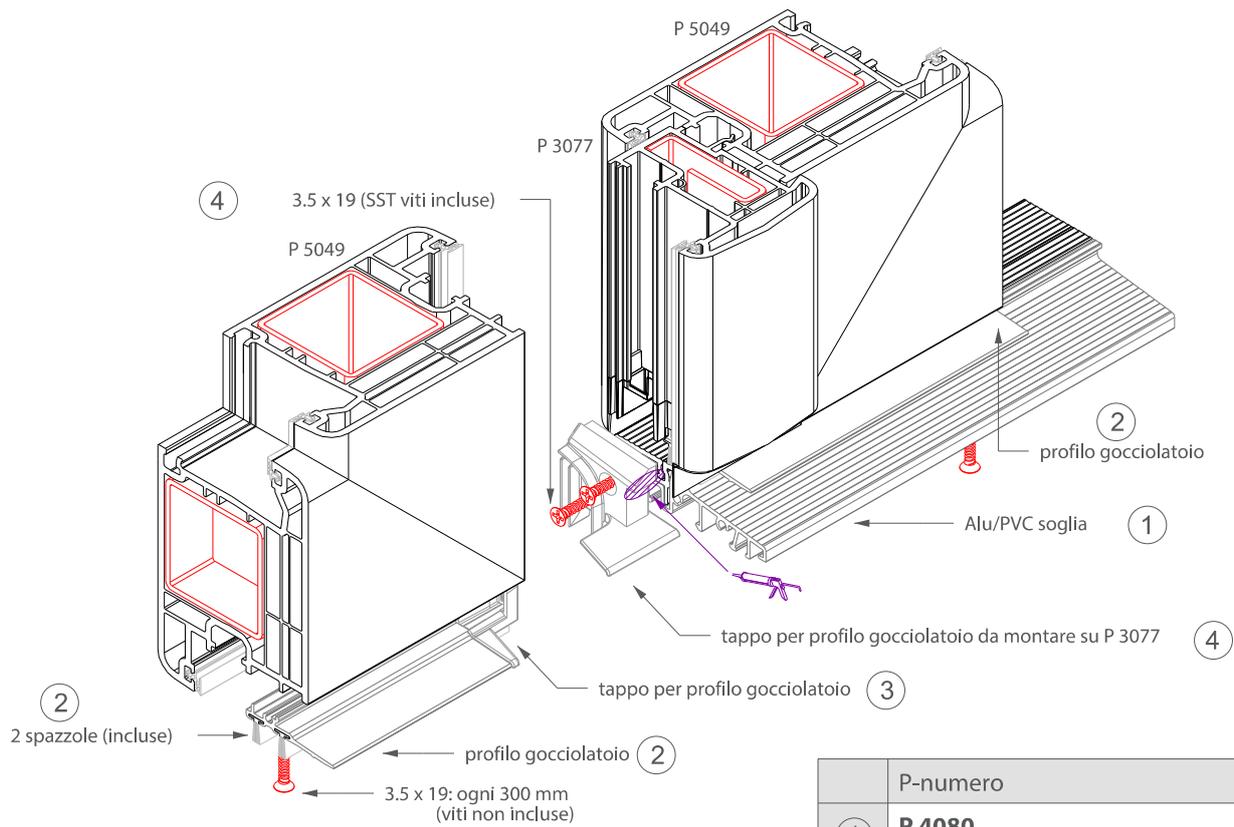


GKG - Apertura esterna Zendow

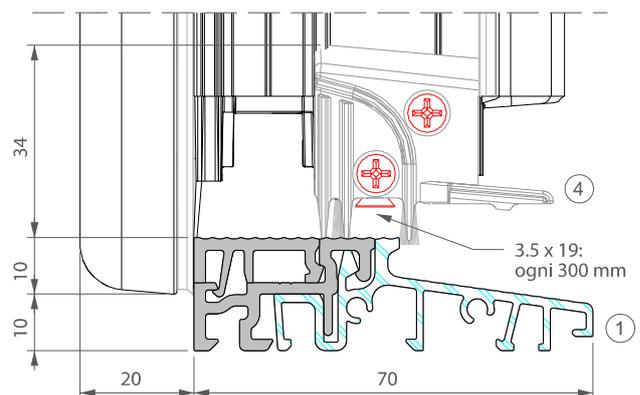
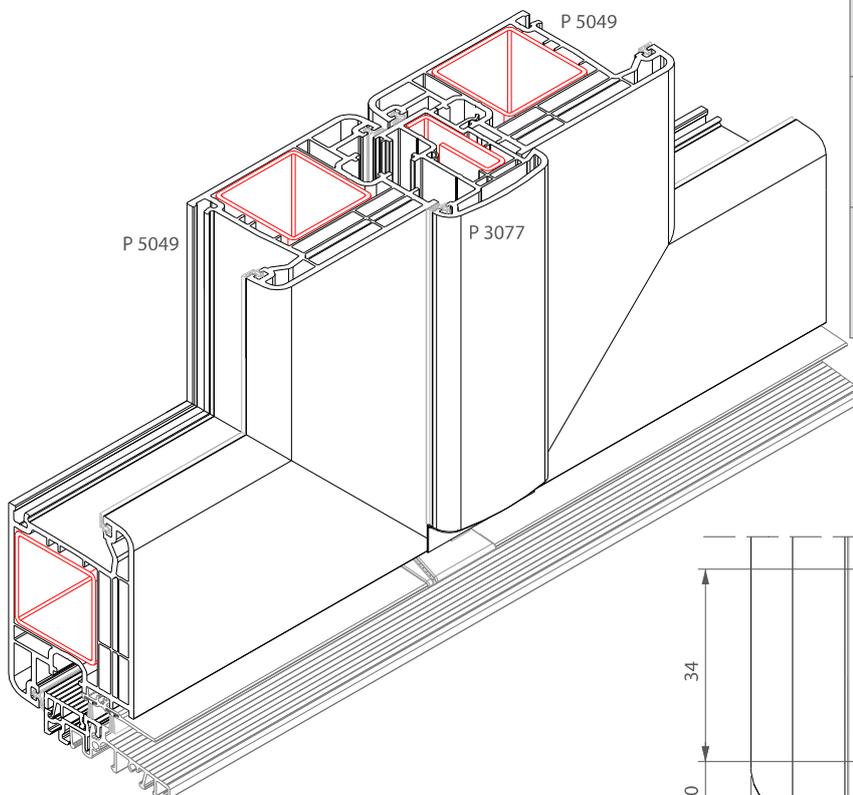


	P-numero
①	P 4080 - Alu/PVC soglia
②	P 4082 - Adattatore in alluminio per aperture esterne (incl. nastro adesivo)
③	P 4091 - Tappo fine soglia (viti NON incluse)
④	P 4081 - Alu profilo gocciolatoio - 2 spazzole
⑤	P 4087 - Tappo per profilo gocciolatoio (DX + SX) - 2 SST viti

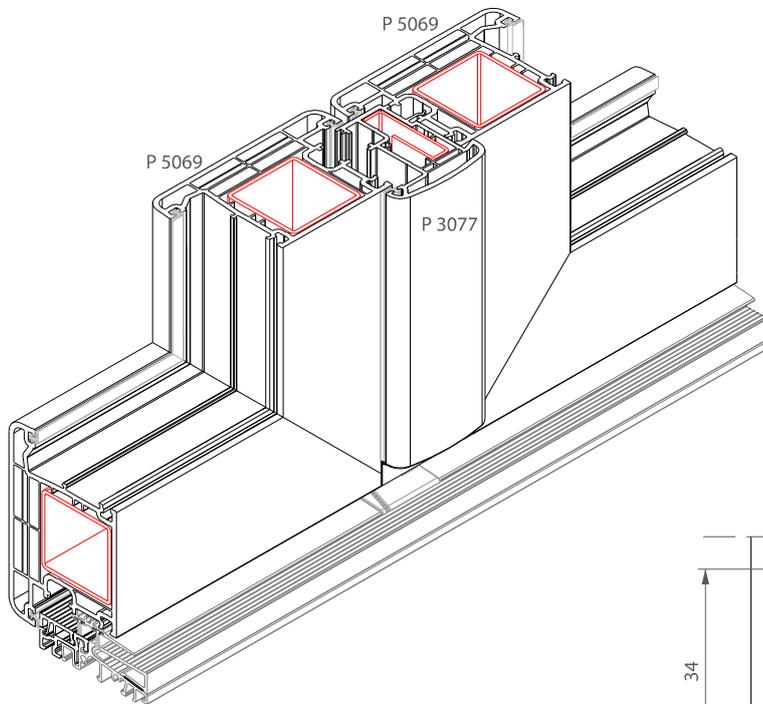
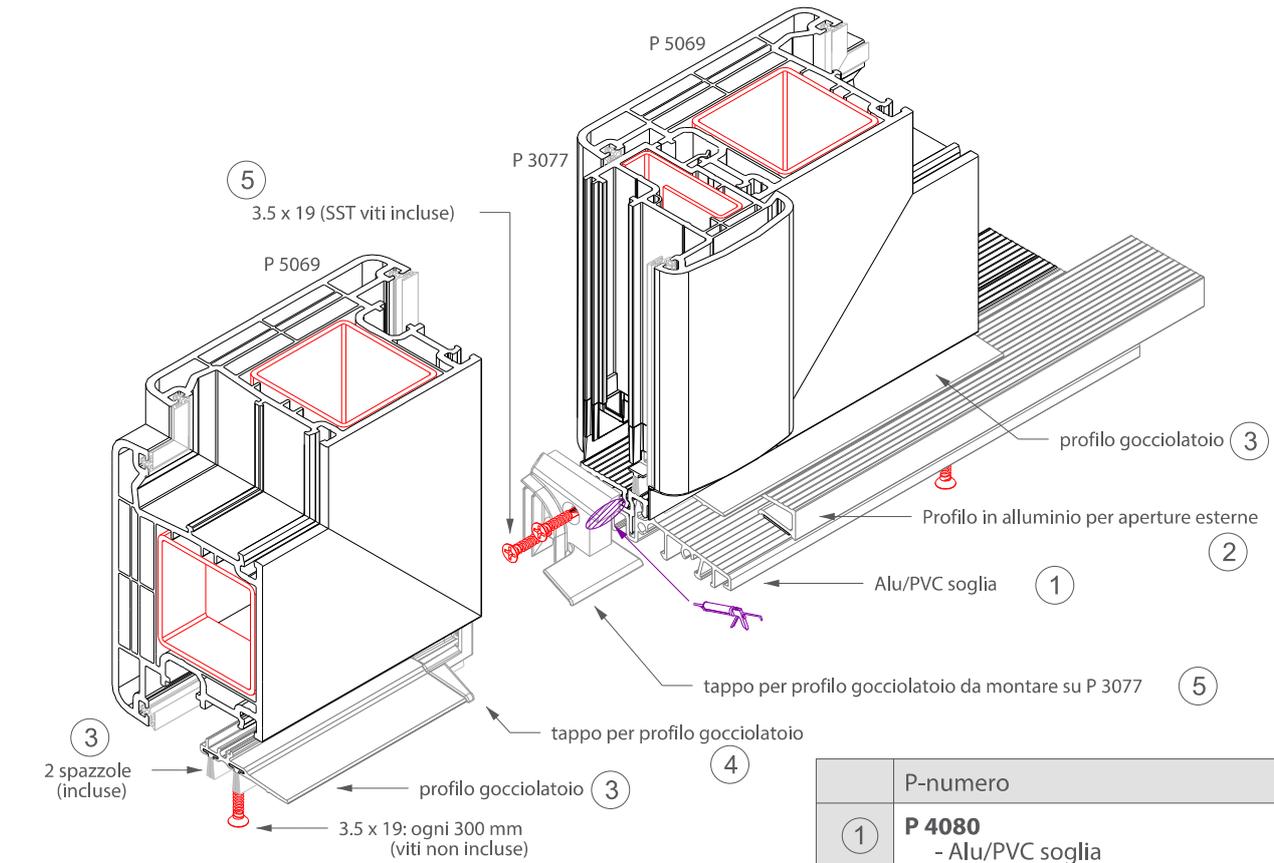
GKG - Doppia apertura interna Zendow



	P-numero
①	P 4080 - Alu/PVC soglia
②	P 4081 - Profilo gocciolatoio in alluminio - 2 spazzole
③	P 4086 - Tappo per profilo gocciolatoio (DX + SX) - 2 SST viti
④	P 4089 - tappo per profilo gocciolatoio da montare su P 3077 (L + R) - 2 SST viti

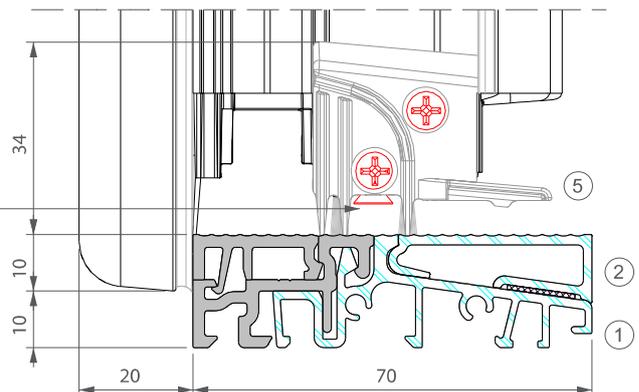


GKG - Doppia apertura esterna Zendow

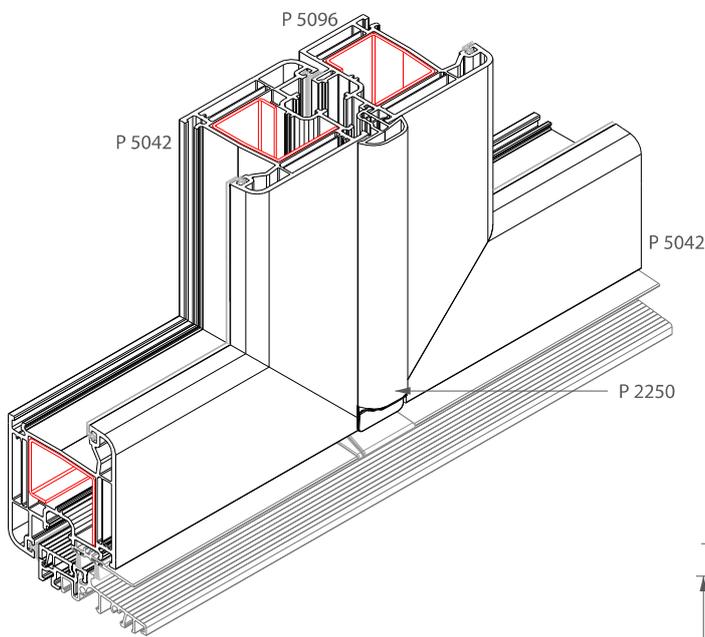
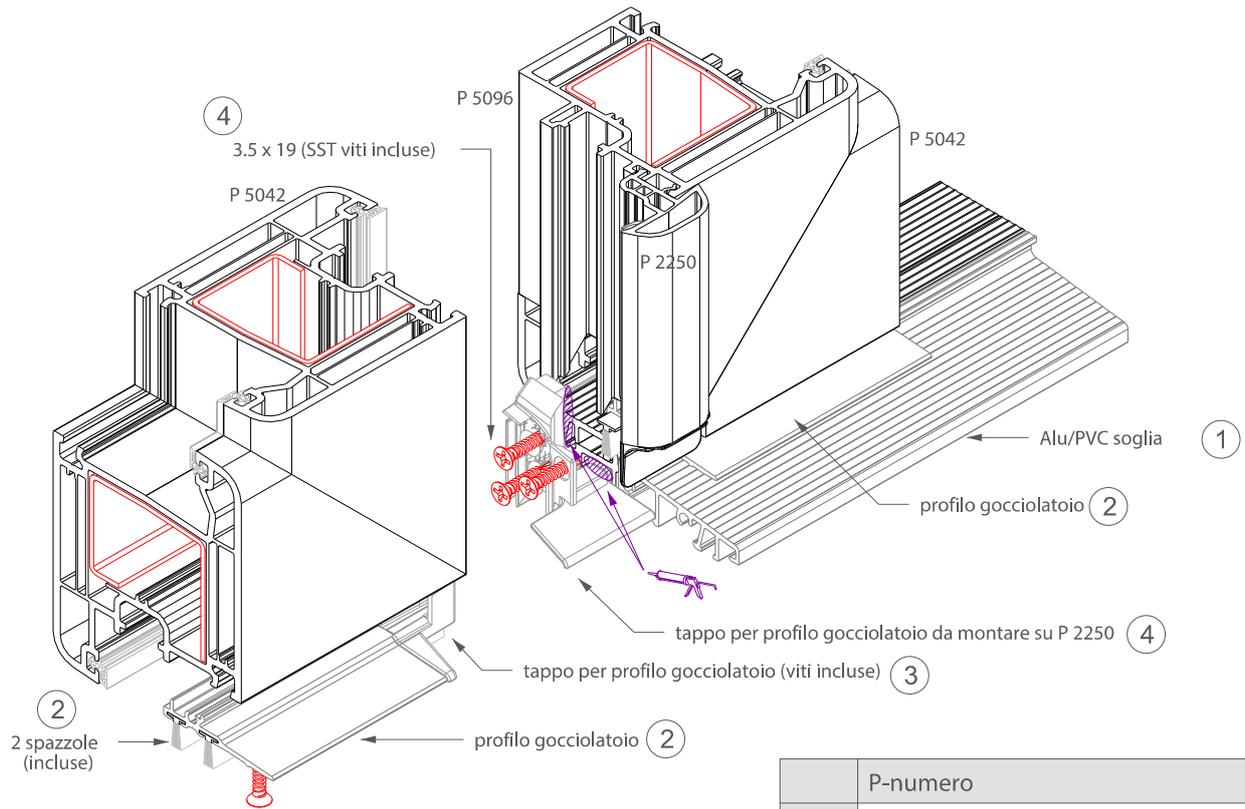


	P-numero
1	P 4080 - Alu/PVC soglia
2	P 4082 - Profilo in alluminio per aperture esterne (incl. nastro adesivo)
3	P 4081 - Profilo gocciolatoio in alluminio - 2 spazzole
4	P 4086 - Tappo per profilo gocciolatoio (DX + SX) - 2 SST viti
5	P 4089 - Tappo per profilo gocciolatoio da montare su P 3077 (DX + SX) - 2 SST viti

3.5 x 19:
ogni 300 mm

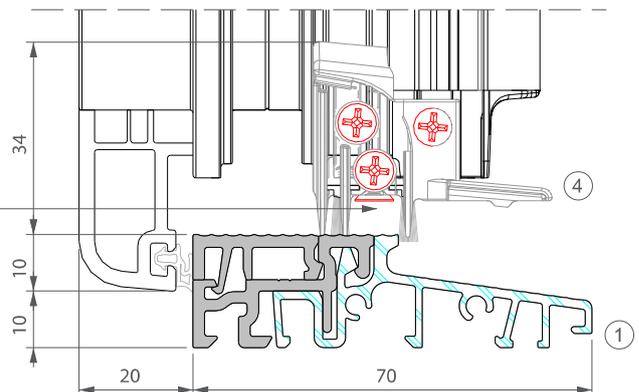


GKG - Doppia apertura interna porta balcone

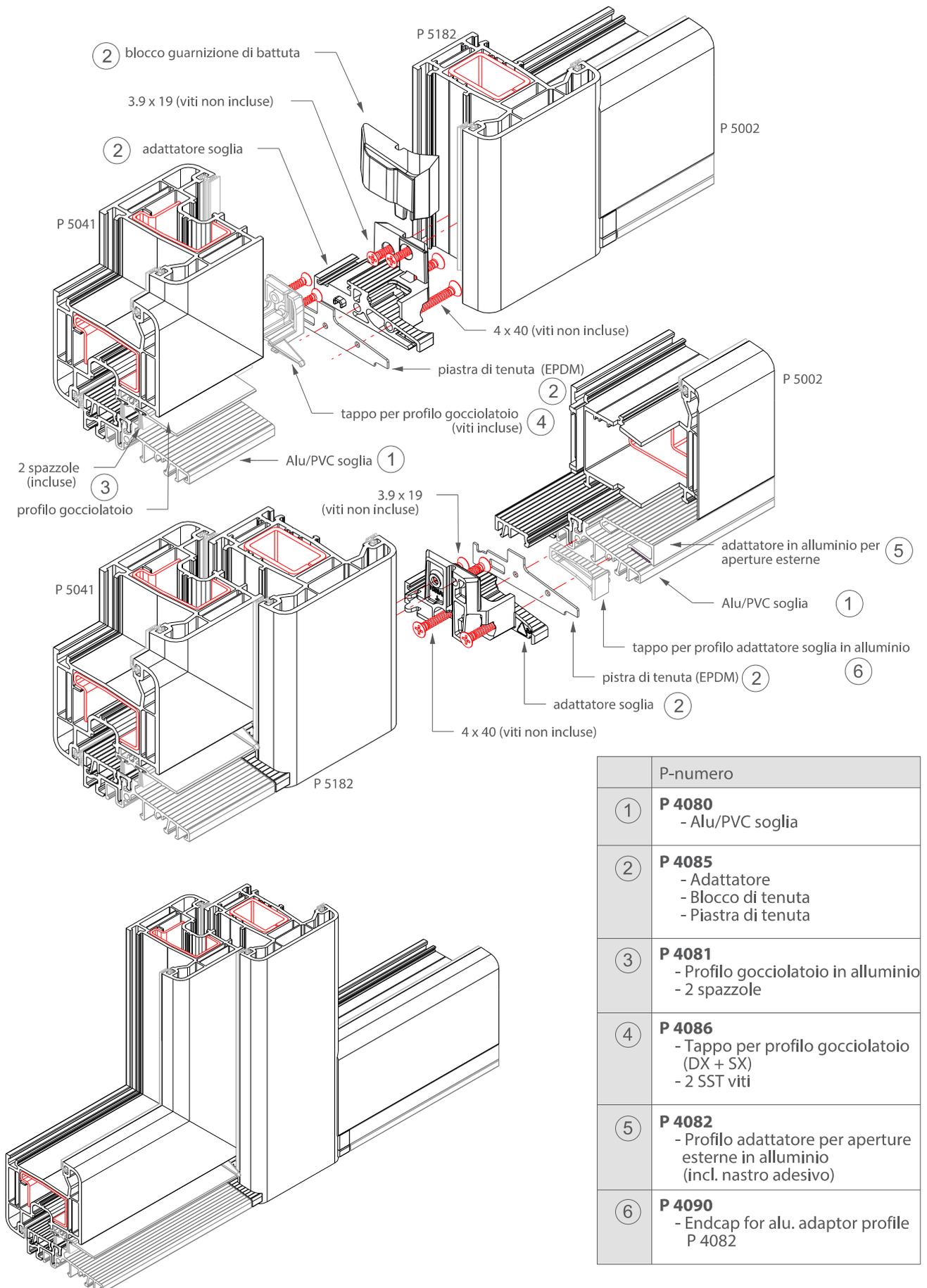


	P-numero
①	P 4080 - Alu/PVC soglia
②	P 4081 - Profilo gocciolatoio in alluminio - 2 spazzole
③	P 4087 - Tappo per profilo gocciolatoio (DX + SX) - 2 SST viti
④	P 4088 - Tappo per profilo gocciolatoio da montare su P 2250 (DX + SX) - 3 SST viti

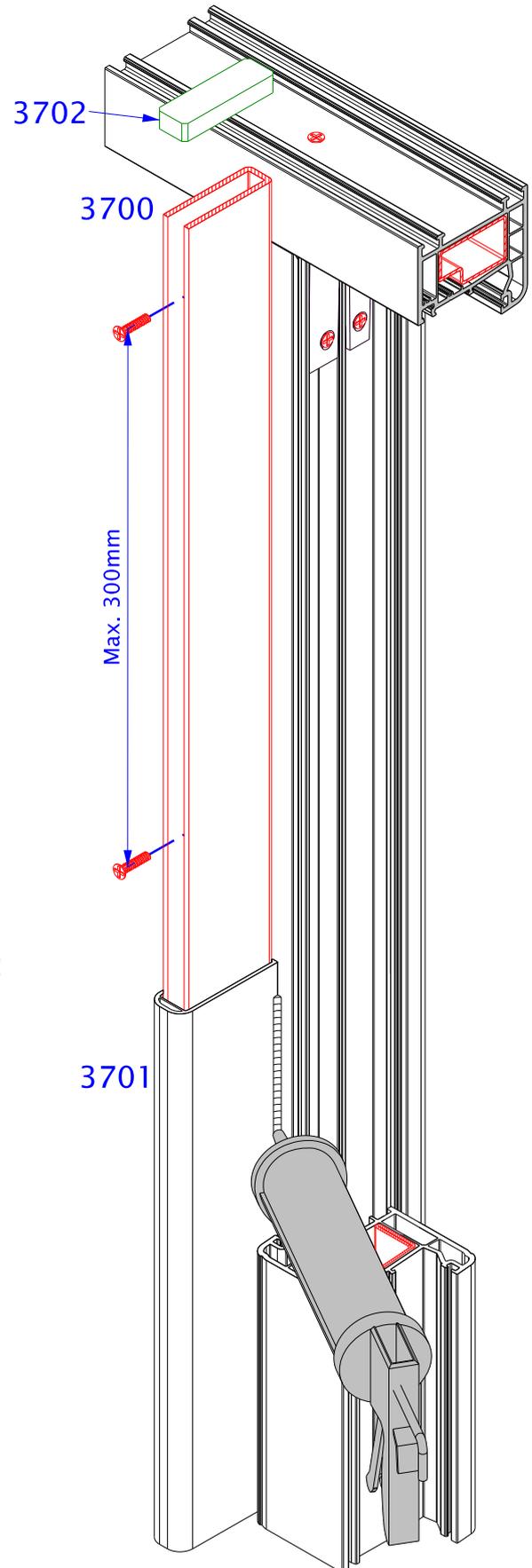
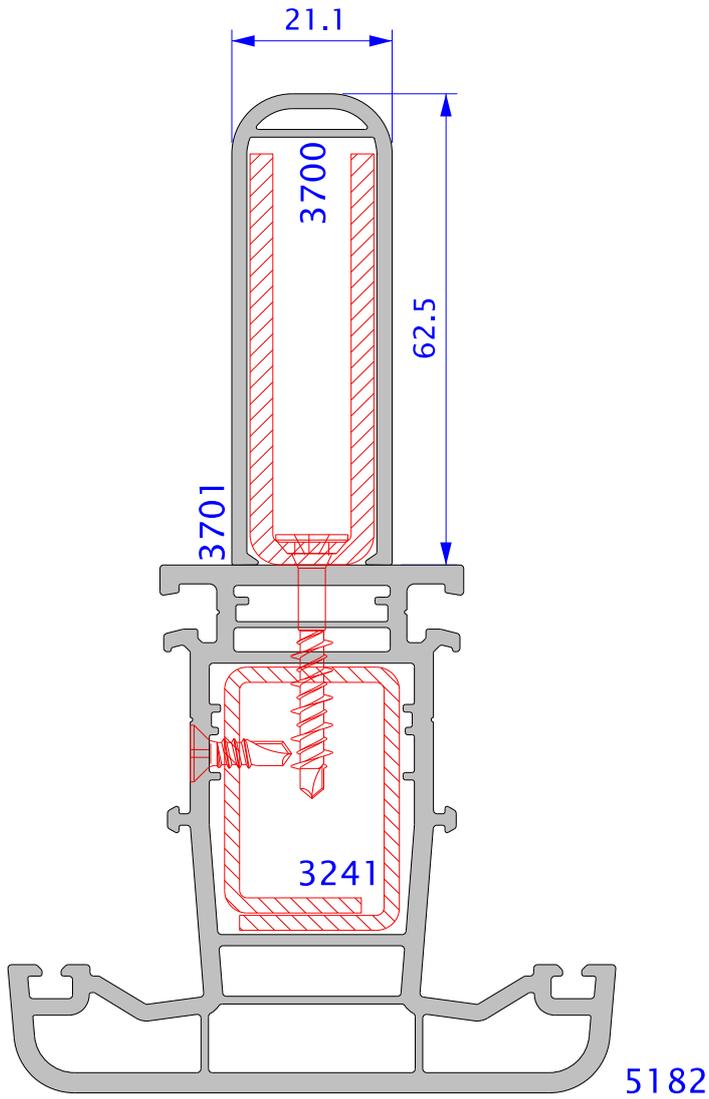
3.5 x 19:
every 300 mm



GKG - Finestra con vetrata fissa

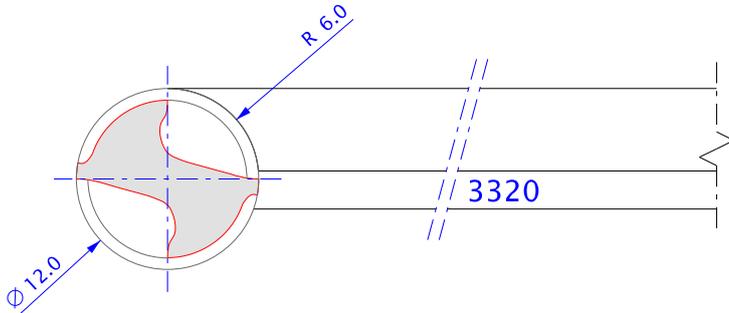


Assemblaggio del 3700/3701

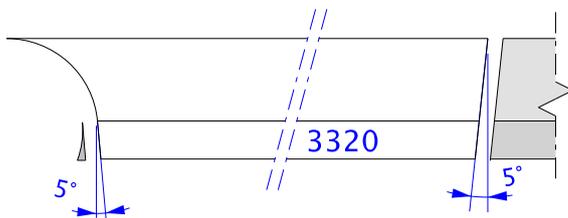


	Lunghezza
3701	X
3700	X-(20)

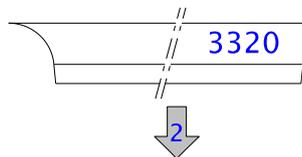
Assemblaggio del 3320 (inglesina)



Quando si utilizza un fermavetro diverso da quello mostrato in figura, fare riferimento all'elenco qui sotto che mostra l'angolo di taglio per ciascun fermavetro.



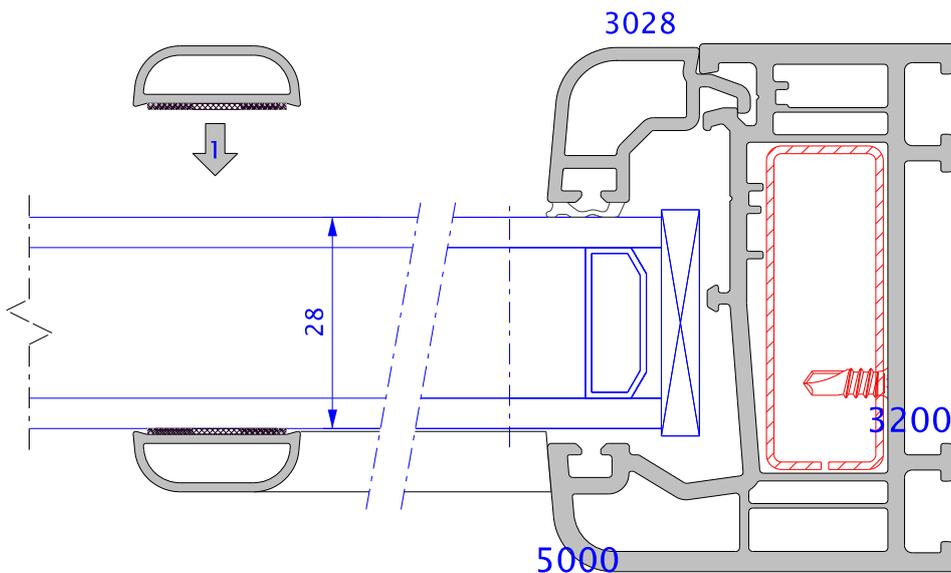
f.v.	Angolo di taglio
3027	taglio a 90°
3028	5°
3029	6°
3033	taglio a 90°
3024	5°
3034	5°



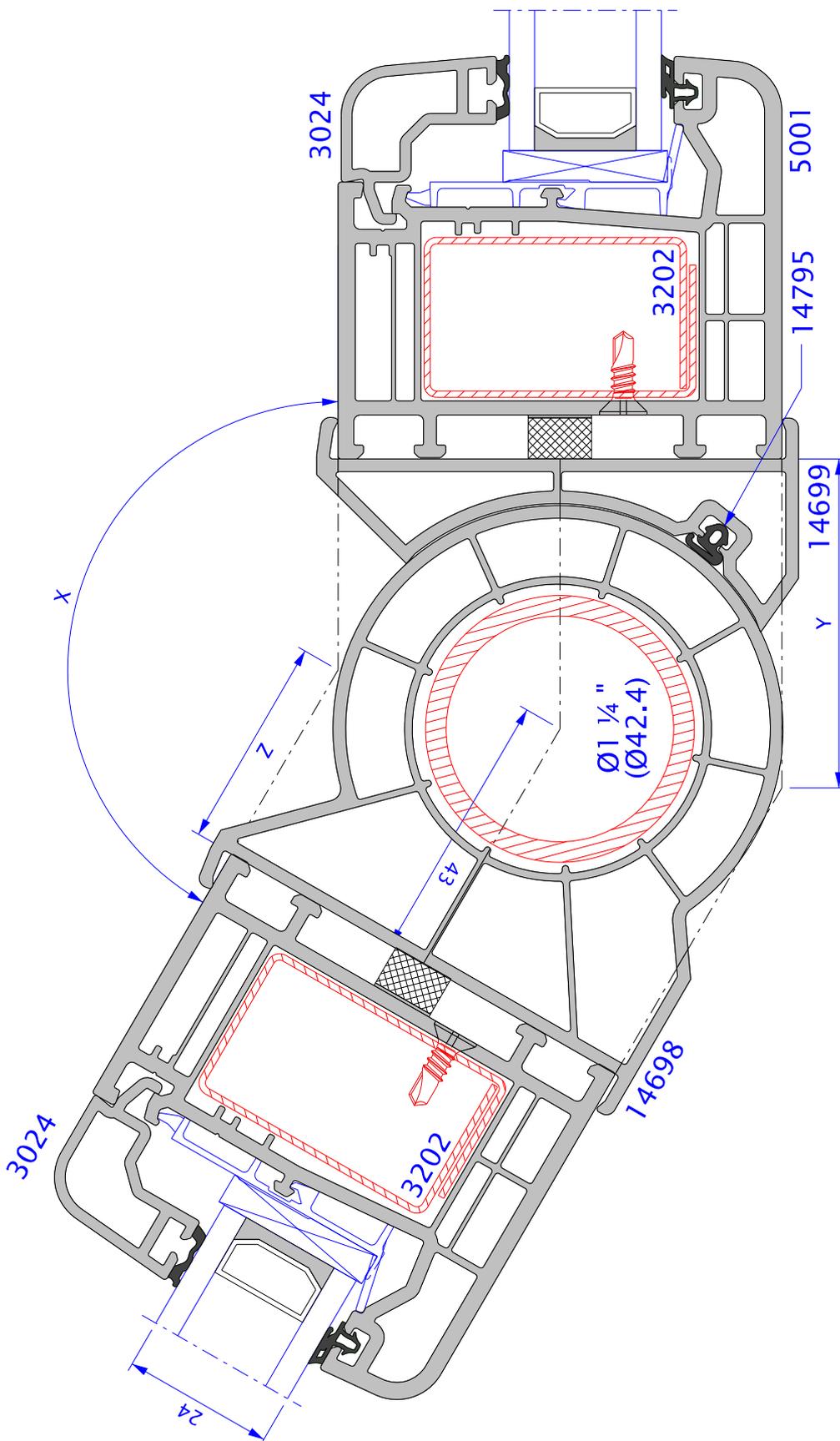
Applicazione

Assicurarsi che il vetro sia pulito prima di applicare il profilo inglesina.

Utilizzare un nastro biadesivo da 16,0 mm x 1,0 mm per applicare il profilo inglesina al vetro.



Assemblaggio del 14698/14699



X°	Y mm	Z mm
90	78.0	8.0
92	76.5	9.0
94	75.5	10.0
96	74.5	11.0
98	73.0	12.5
100	72.0	13.5
102	71.0	14.5
104	70.0	15.5
106	69.0	16.5
108	68.0	17.5
110	67.5	18.0
112	66.5	19.0
114	65.5	20.0
116	64.5	21.0
118	64.0	21.5
120	63.0	22.5
122	62.0	23.5
124	61.5	24.0
126	60.5	25.0
128	60.0	25.5
130	59.0	26.5
132	58.5	27.0
134	57.5	28.0
135	57.0	28.5
136	57.0	28.5
138	56.0	29.5
140	55.5	30.0
142	55.0	30.5
144	54.0	31.5
146	53.5	32.0
148	53.0	32.5
150	52.0	33.5
152	51.5	34.0
154	51.0	34.5
156	50.0	35.5
158	49.5	36.0
160	49.0	36.5
162	48.5	37.0
164	47.5	38.0
166	47.0	38.5
168	46.5	39.0
170	46.0	39.5
172	45.0	40.5
174	44.5	41.0
176	44.0	41.5
178	43.5	42.0
180	43.0	43.0

PRESTAZIONI

Calcolo della pressione del vento 3.1
Linee guida per i rinforzi 3.2

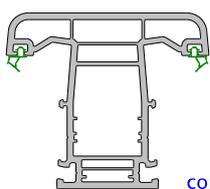
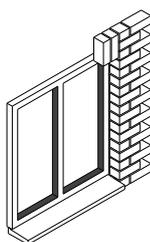
Calcolo della pressione del vento

Questi diagrammi restituiscono una panoramica di base sulle dimensioni massime relativamente alla pressione esercitata dal vento.

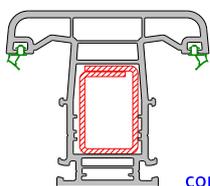
I presupposti sono:

- flessione relativa 1/300
- flessione assoluta 8 mm
- pressione 1000Pa

5182

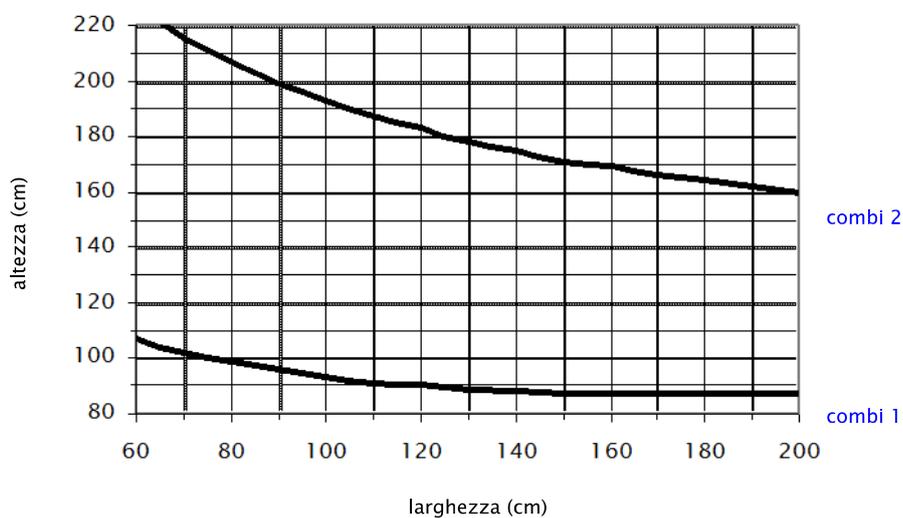


combi 1

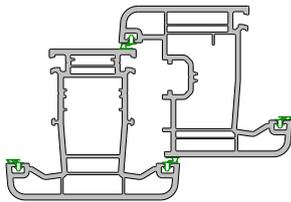
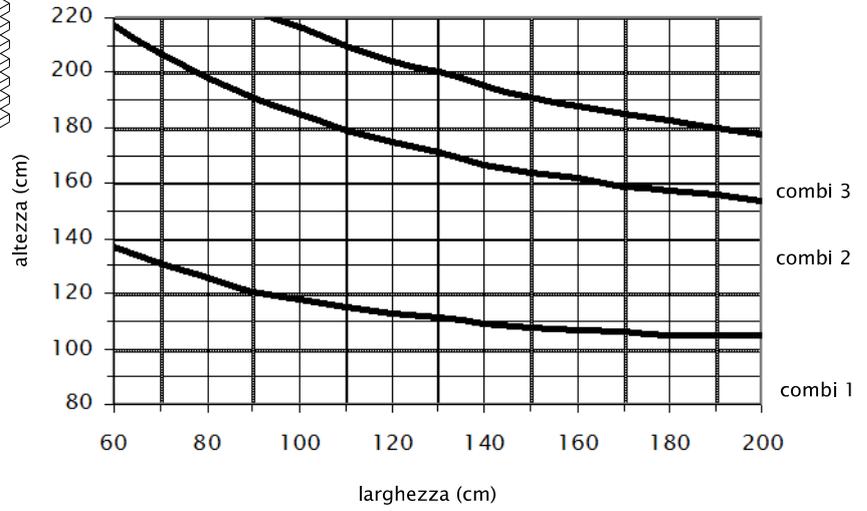
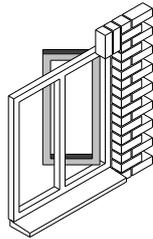


combi 2

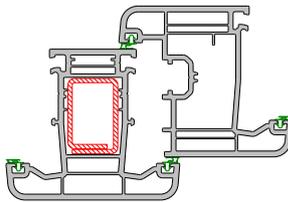
3241



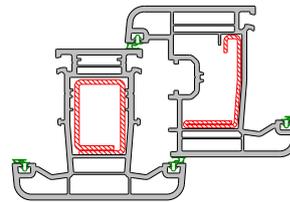
5182_5041



combi 1

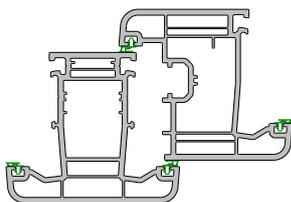
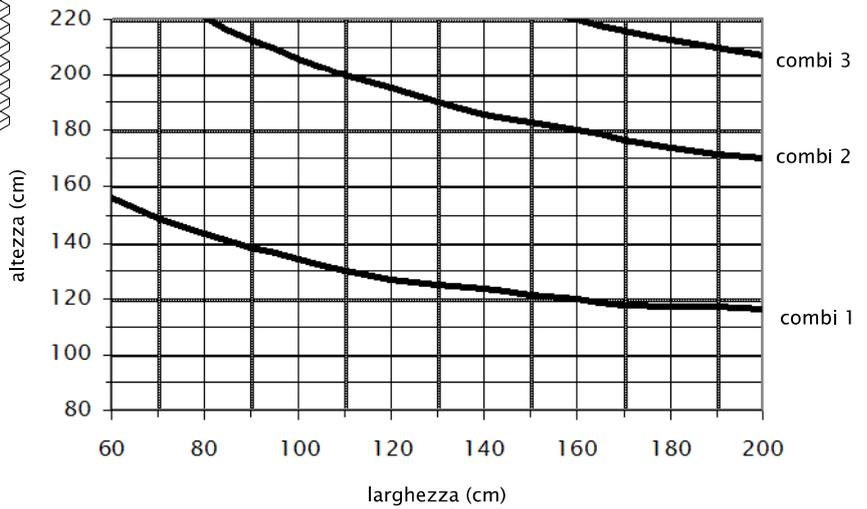
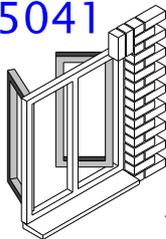


combi 2

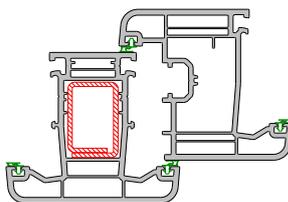


combi 3

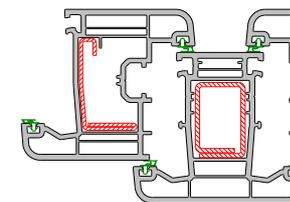
5041_5182_5041



combi 1

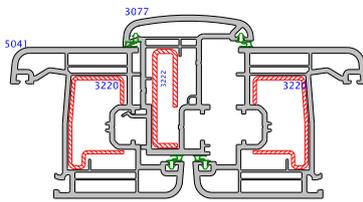
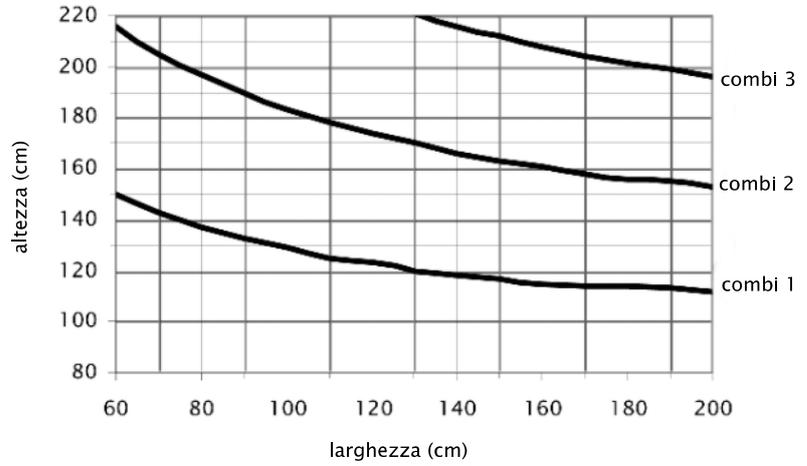
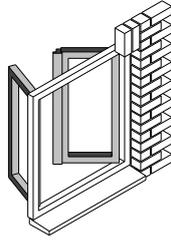


combi 2

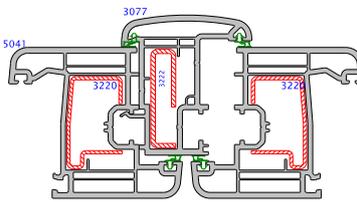


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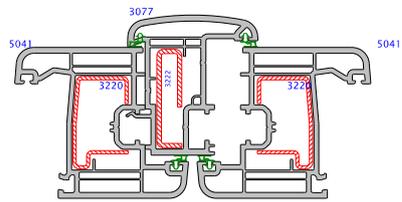
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combi 1

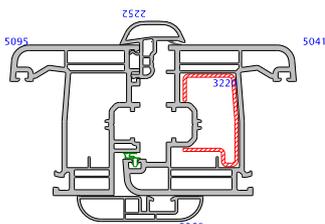
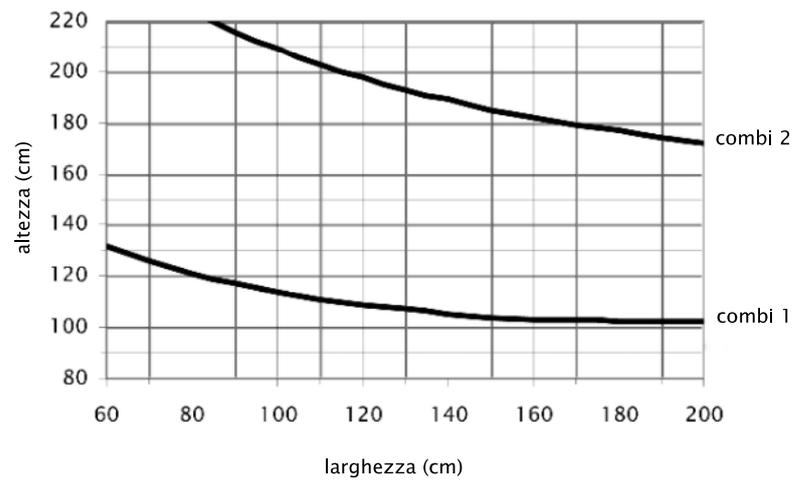
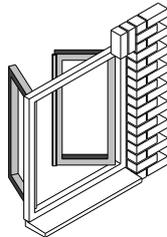


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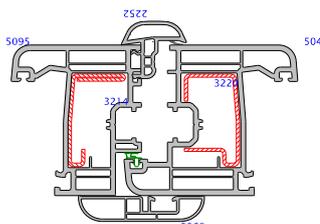


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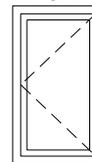
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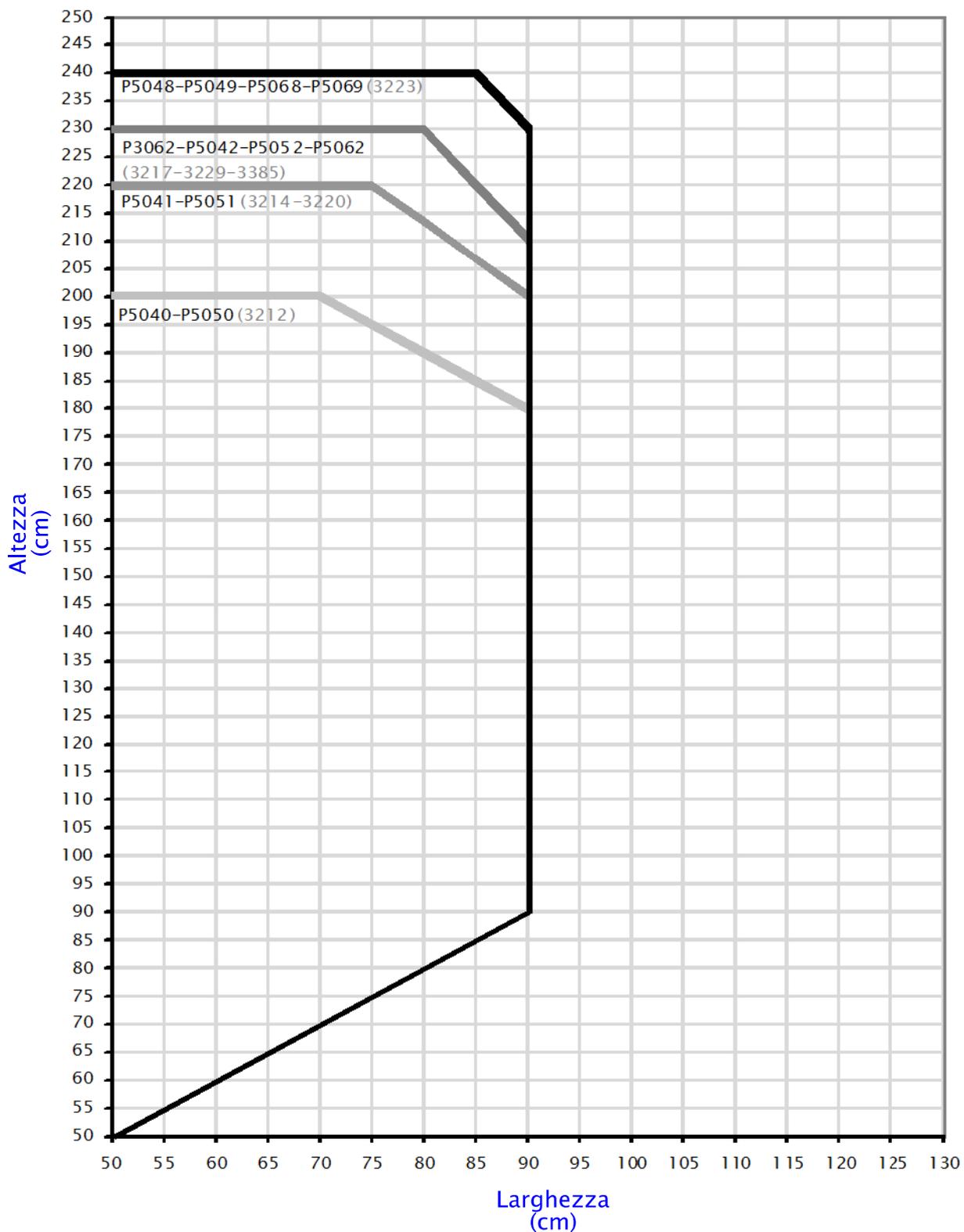
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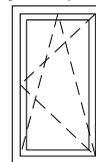


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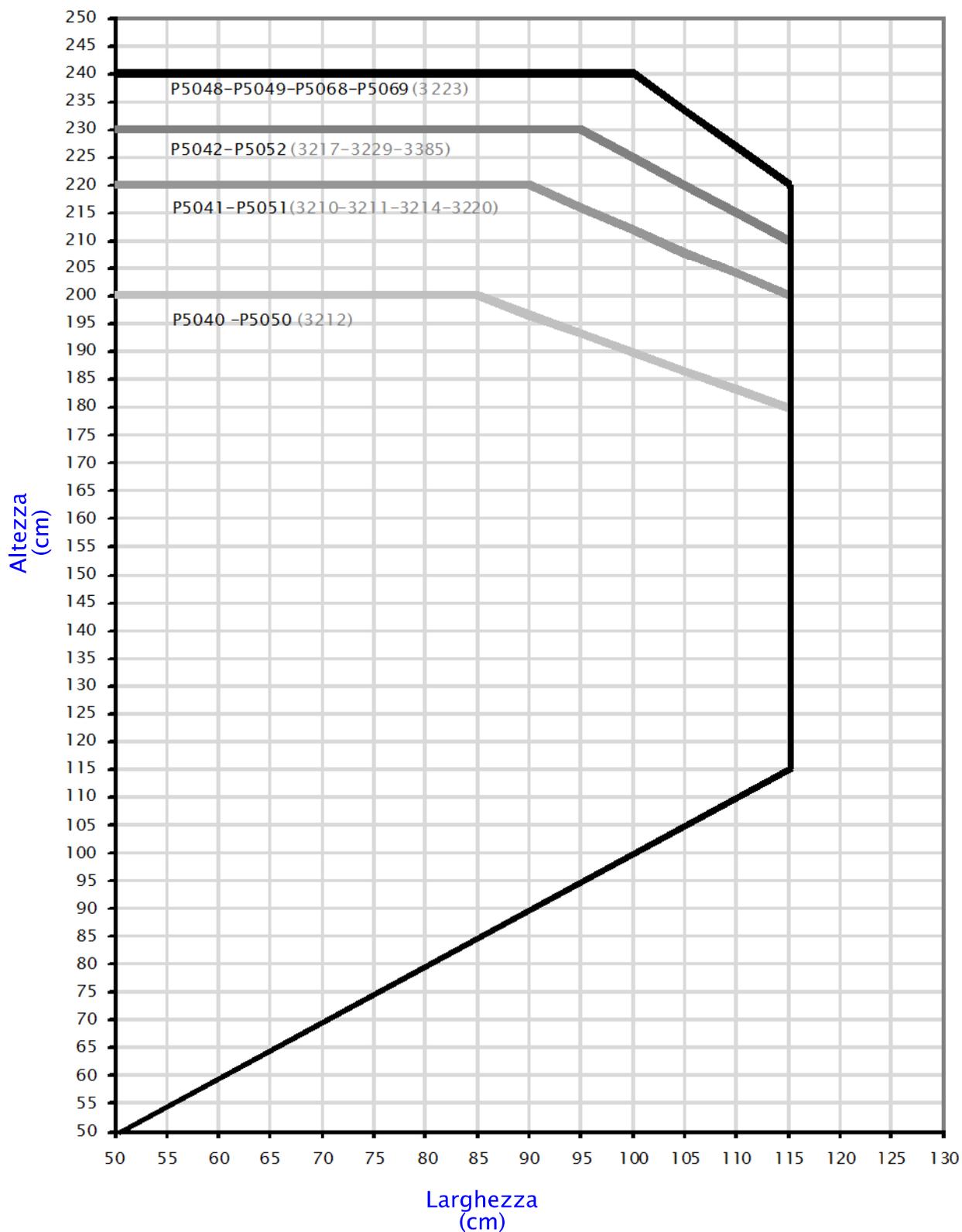


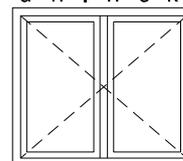
Apertura singola



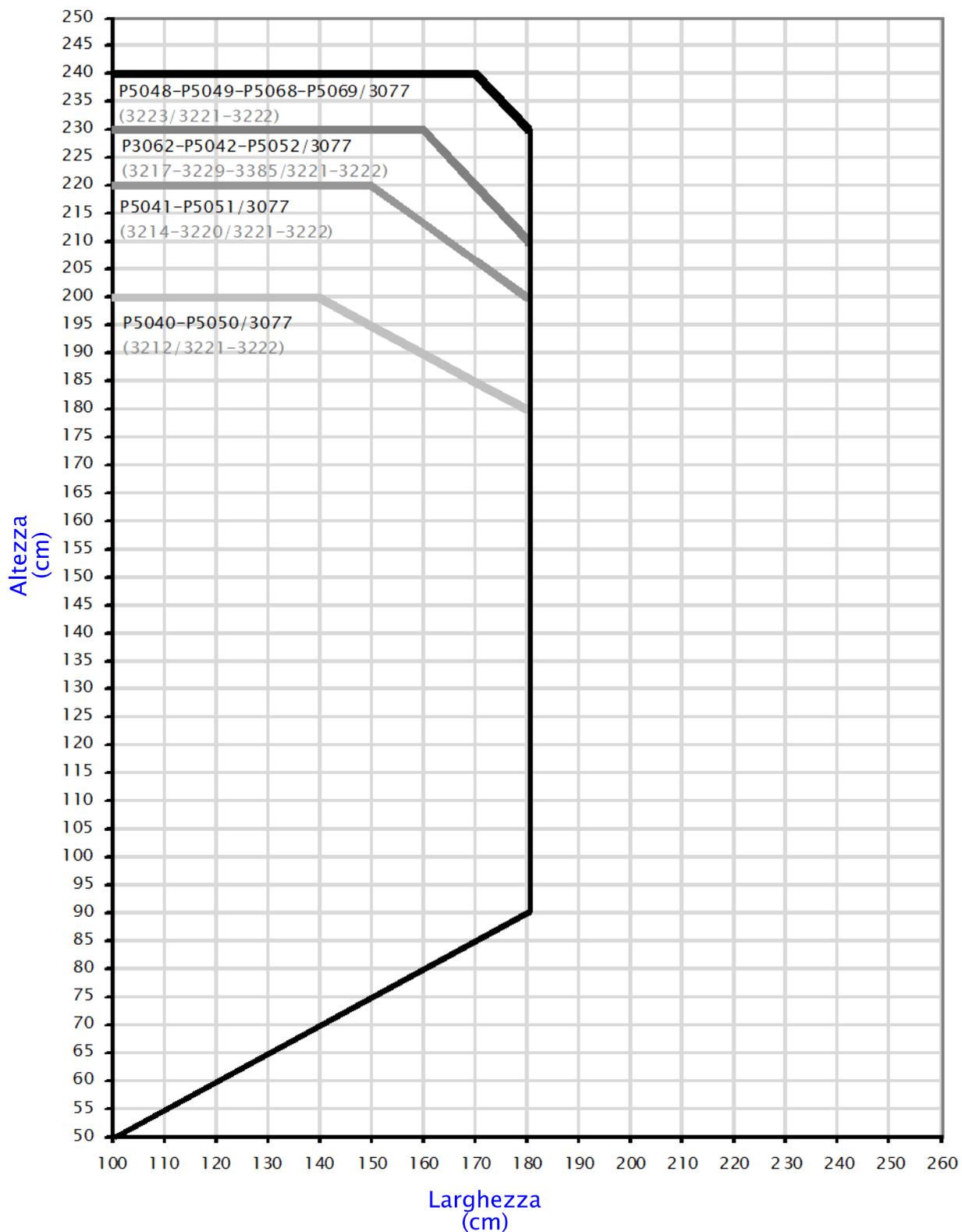


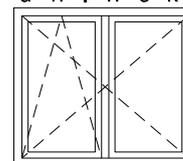
Anta ribalta



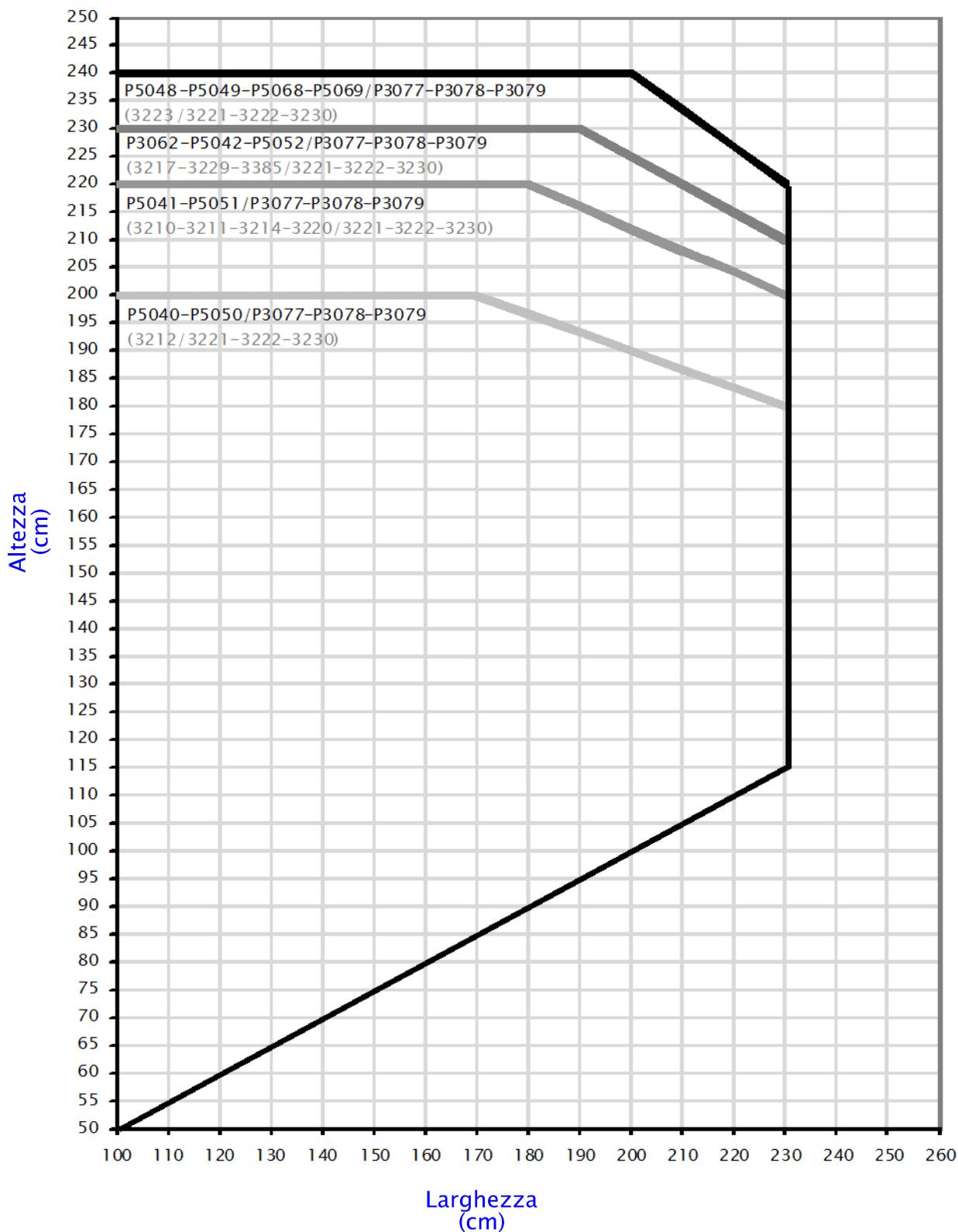


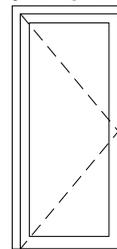
Due ante con scambio battuta



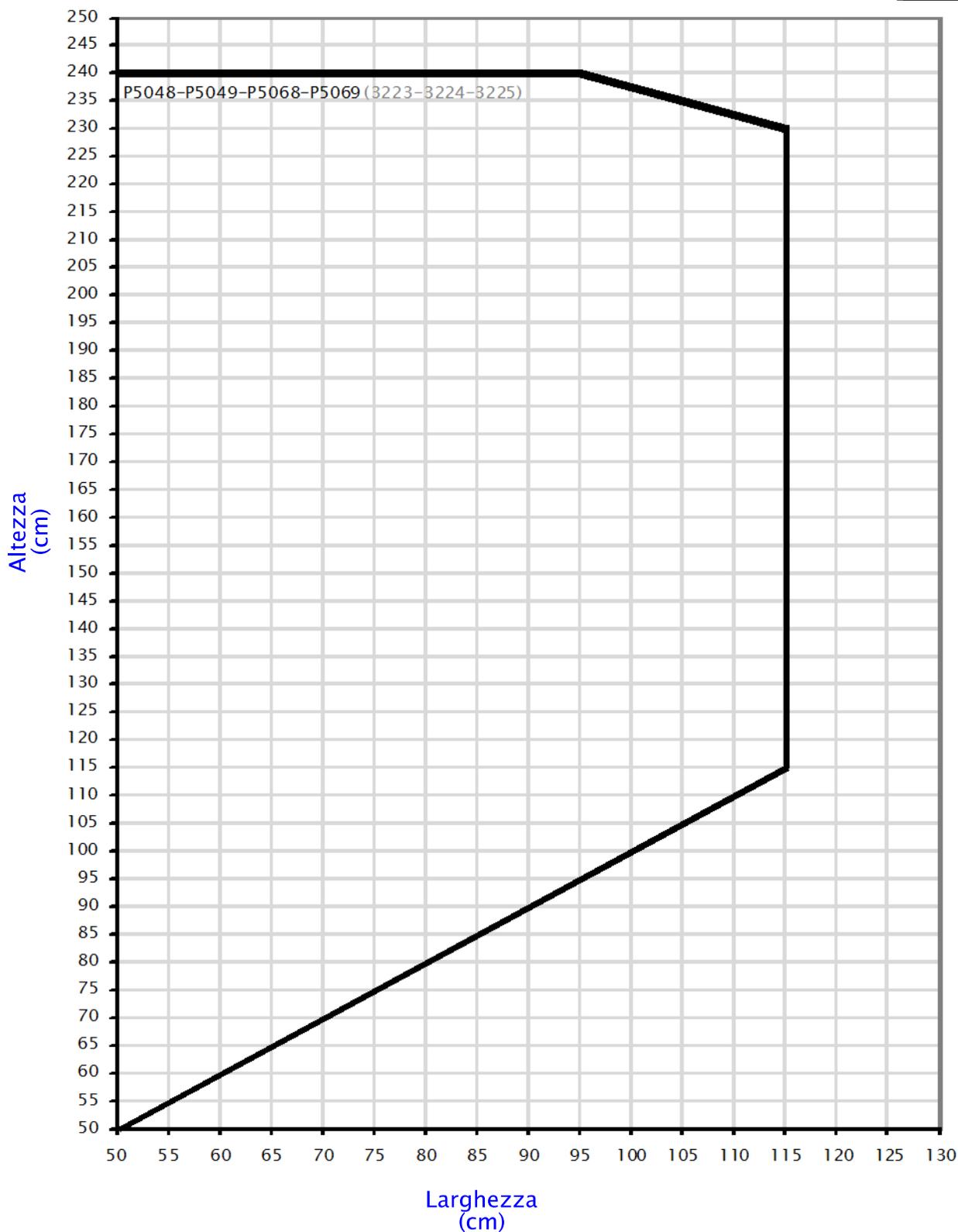


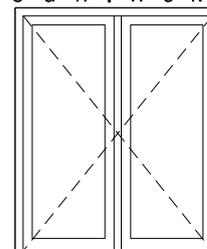
Due ante (A+AR) con scambio battuta



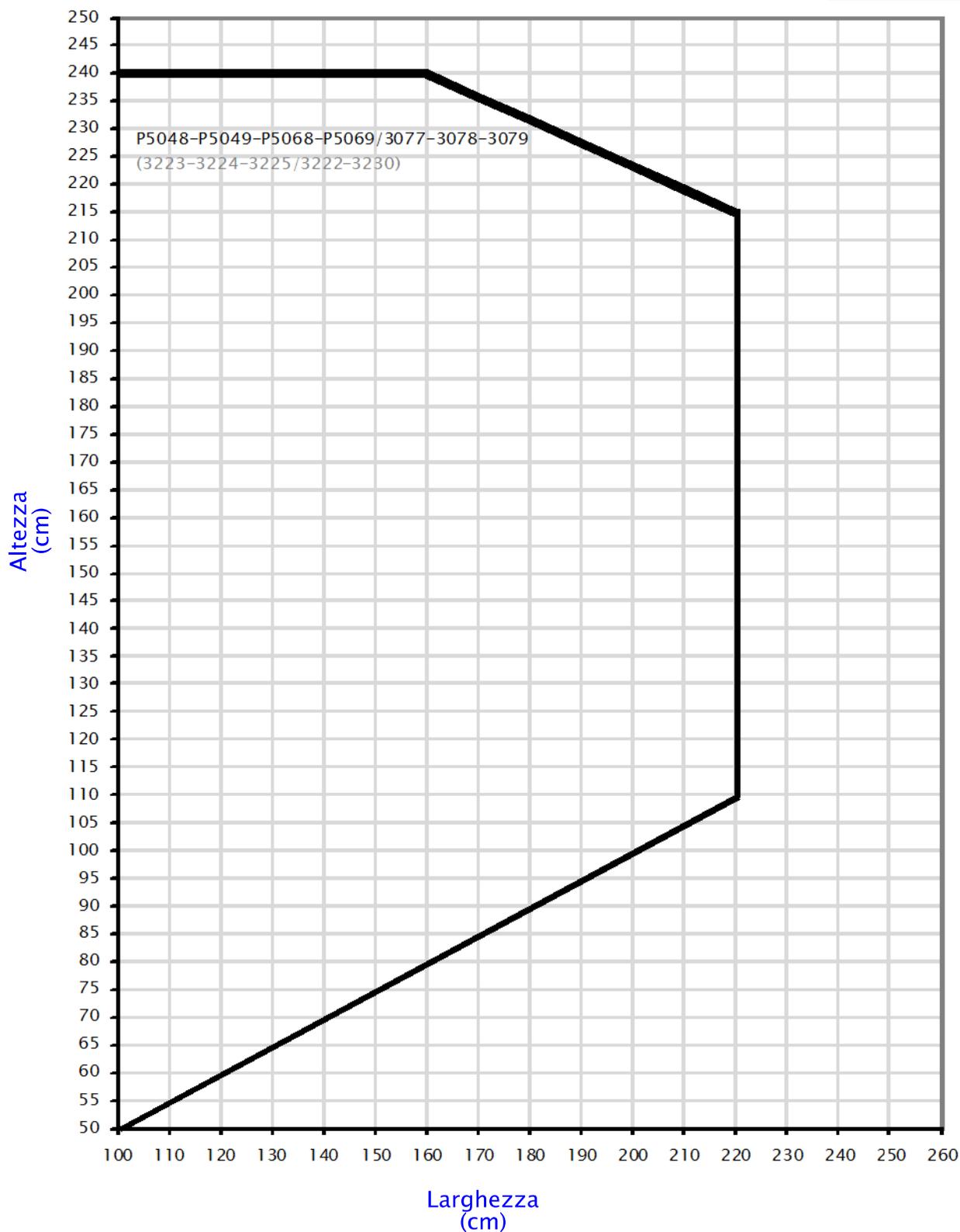


Porta 1 anta





Porta 2 ante

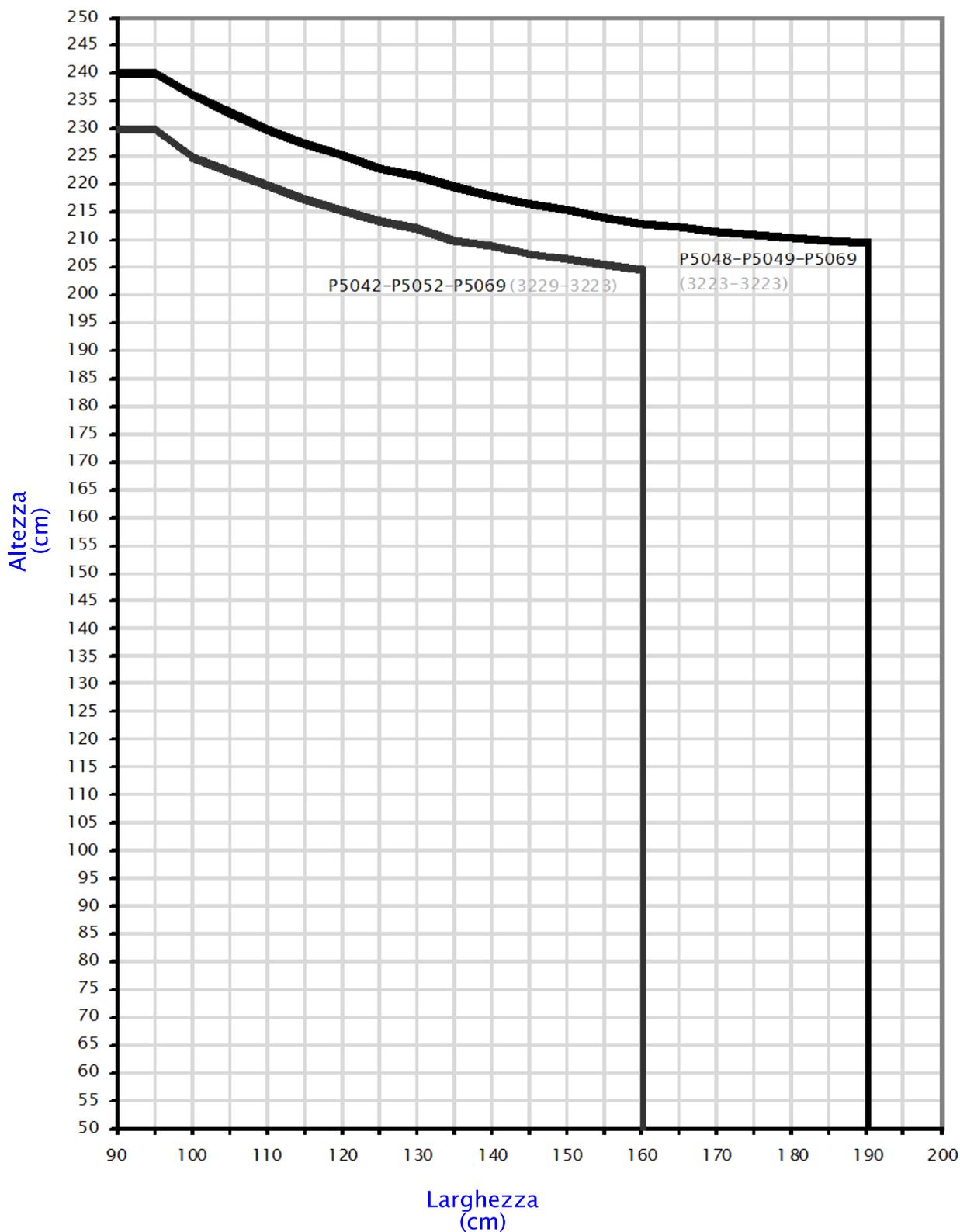
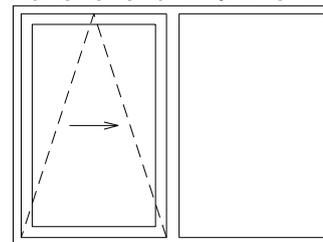


CALCOLO DELLA PRESSIONE DEL VENTO

massima dimensione dell'anta

Scorrevole parallelo

Pressione del vento fino a 1000 N/mq (Pa)

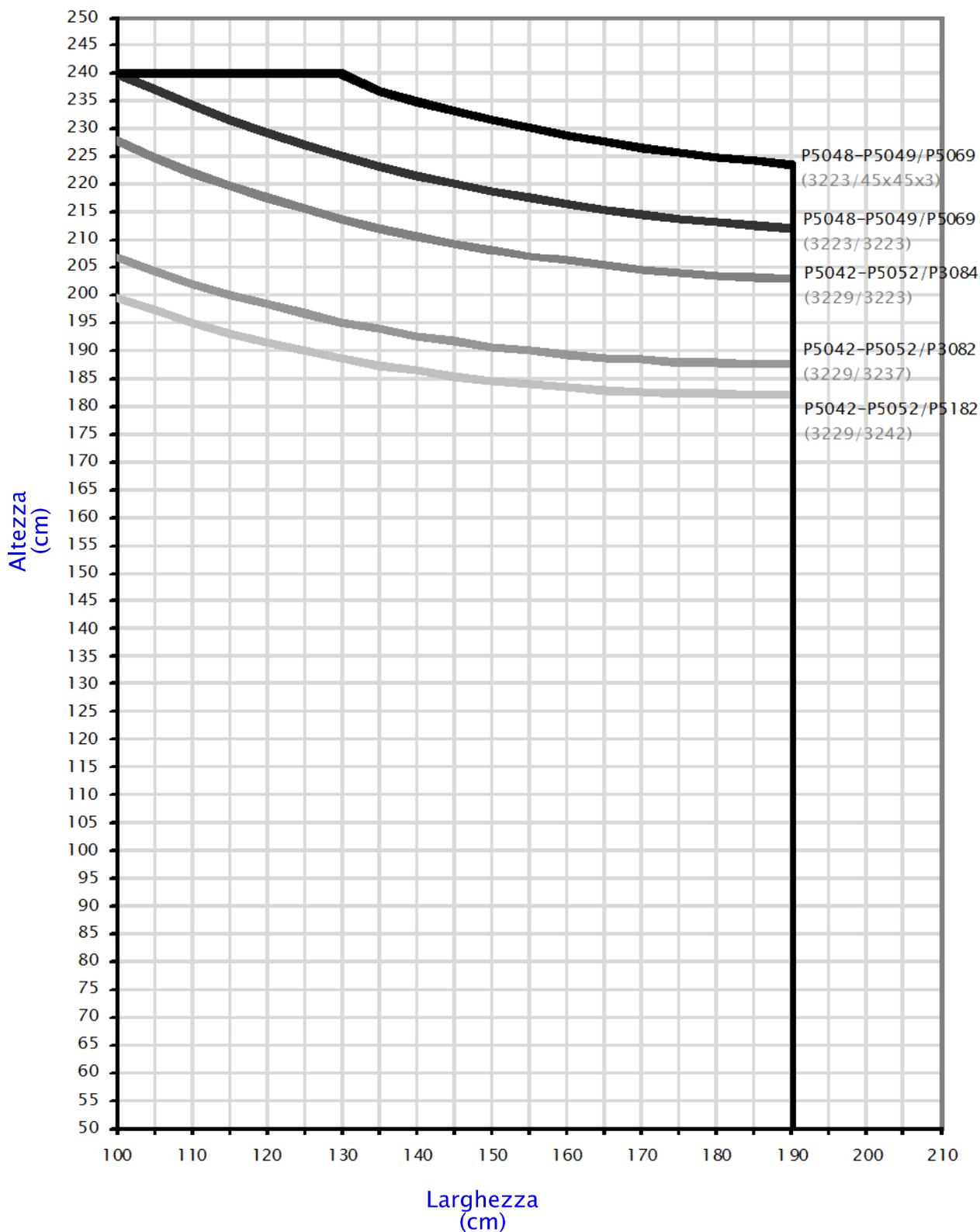
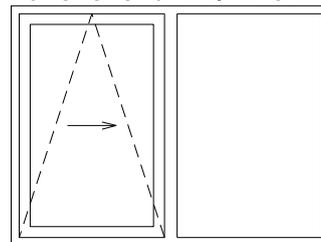


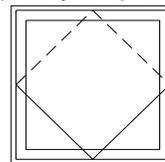
CALCOLO DELLA PRESSIONE DEL VENTO

massima dimensione dell'anta

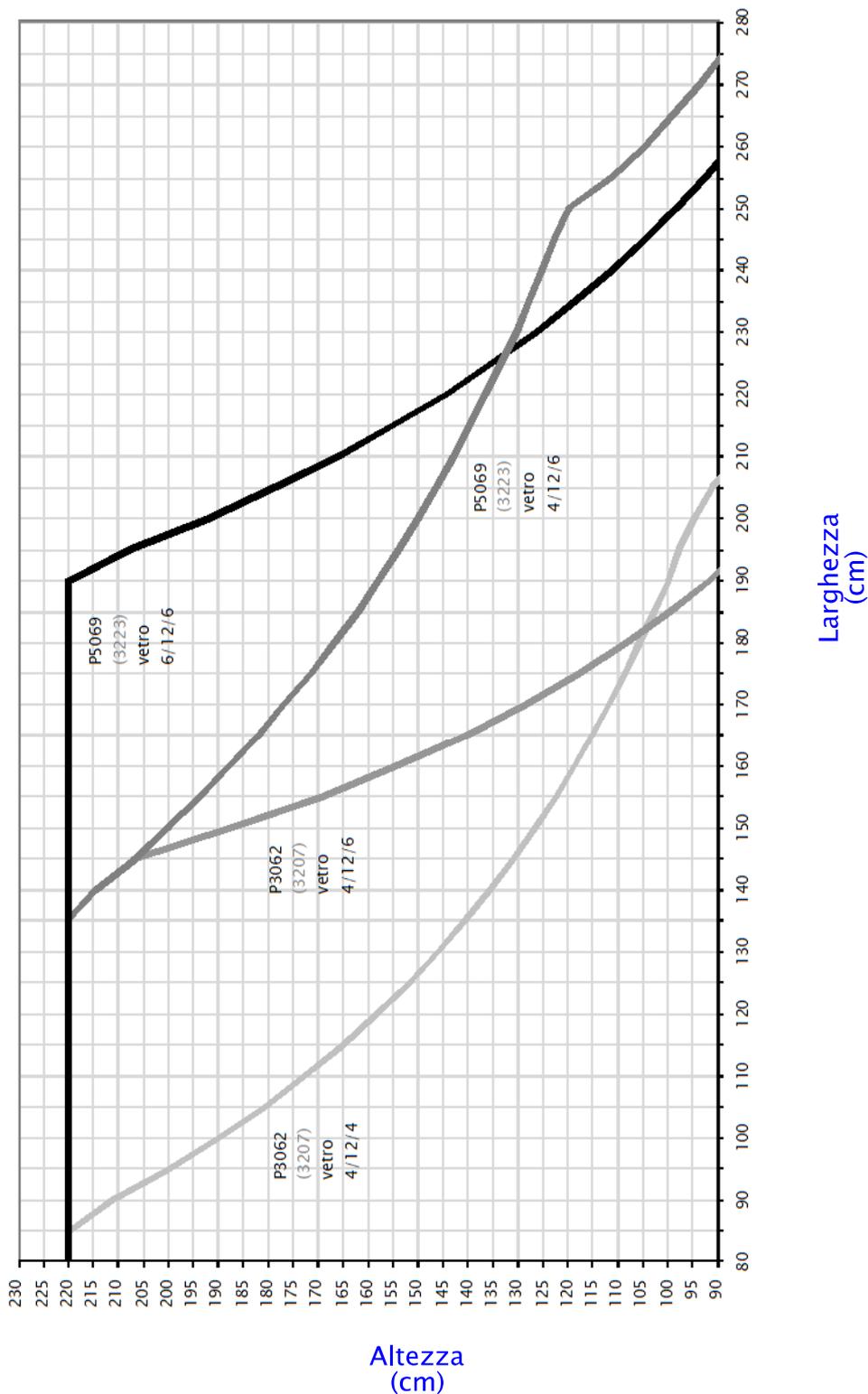
Scorrevole parallelo

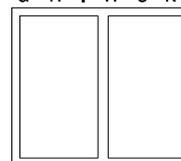
Pressione del vento fino a 800 N/mq (Pa)





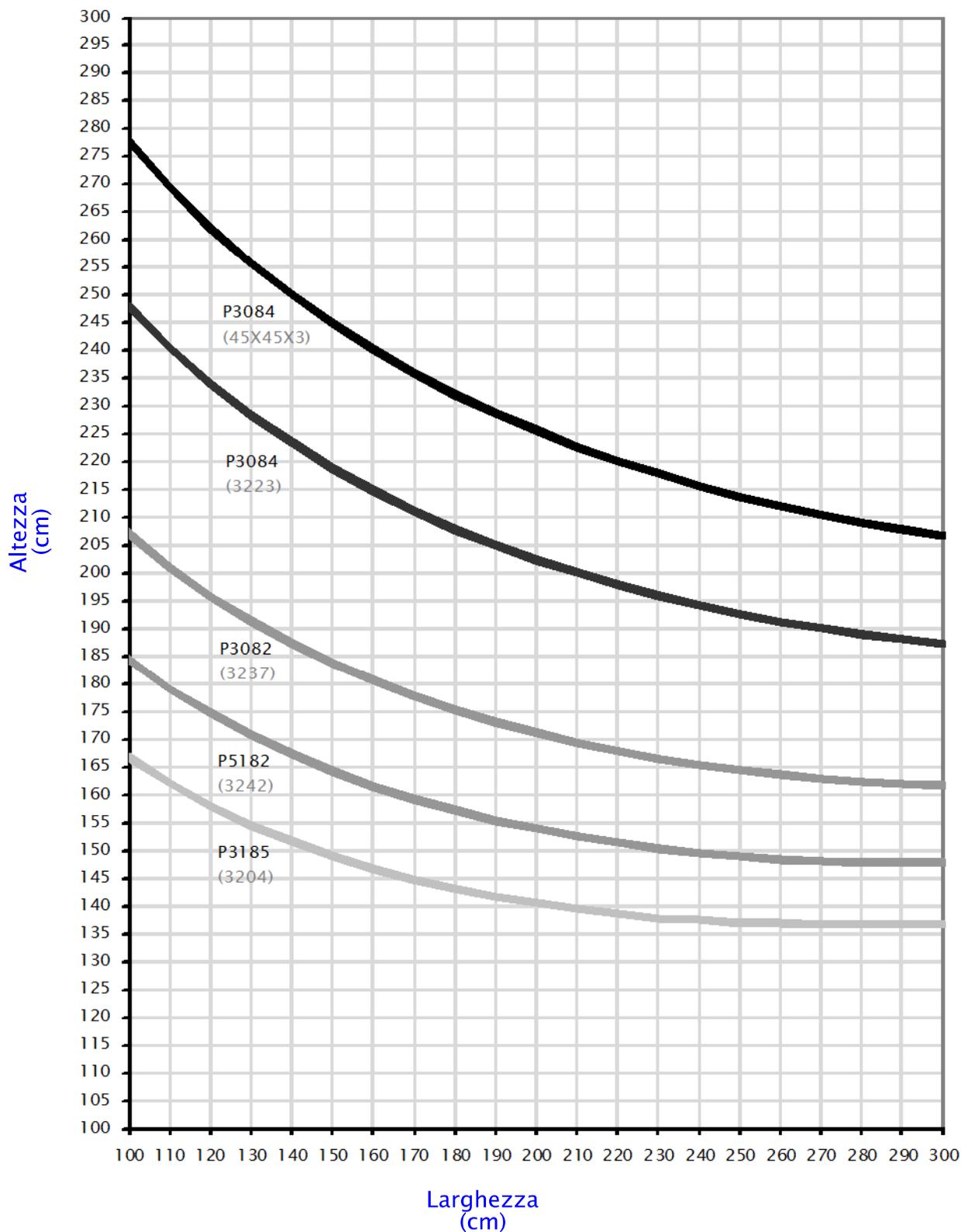
Bilico orizzontale

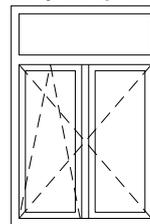




Fisso con montante centrale

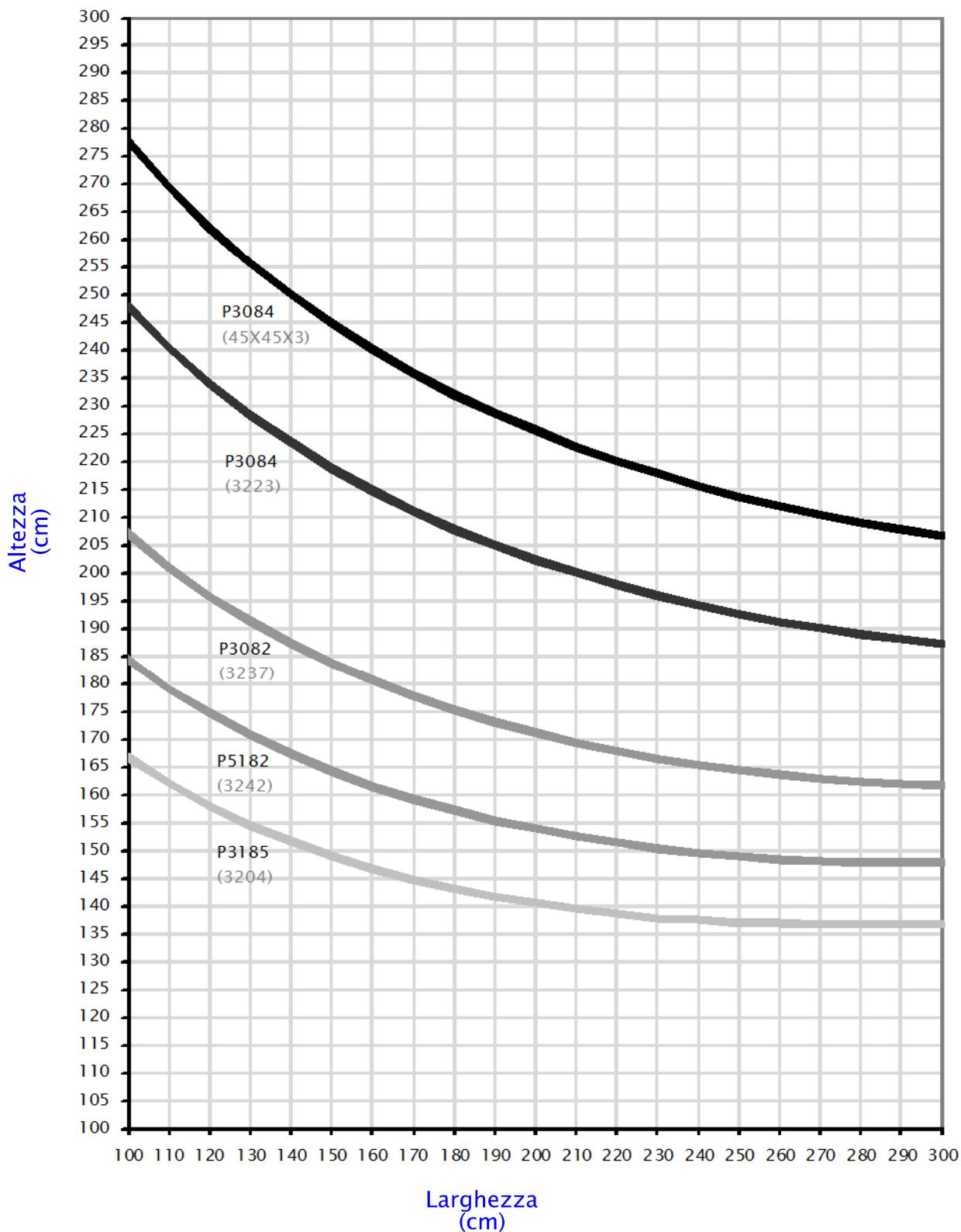
Pressione del vento fino a 800 N/mq (Pa) e freccia 1/300





Finestra 2 ante con soprauce fisso

Pressione del vento fino a 800 N/mq (Pa) e freccia 1/300



PRESTAZIONI

Calcolo della pressione del vento 3.1
Linee guida per i rinforzi 3.2

Le dimensioni delle finestre sono limitate dalle massime deformazioni permesse dal vetro e dai profili sotto l'influenza di una specifica tensione. Per i profili possiamo distinguere le seguenti tensioni: carico del vento, peso del vetro, carico/tensione termica, carichi funzionali, ecc.

Carico del vento

Per spiegare l'effetto del vento sulle finestre partiamo da un esempio.

La figura 1 mostra una finestra di dimensioni 1480 x 1230 mm. Un montante divide la finestra in due parti uguali. Se il vento esercita una pressione sulla finestra, si presume che la pressione sia egualmente distribuita sul vetro e sui profili di perimetro. Se il telaio è sufficientemente fissato al muro, deve essere esaminata solo la rigidità del montante centrale. Il telaio subisce una tensione ripartita (area tratteggiata), dalla quale ne consegue una deformazione perpendicolare alla superficie della finestra. Questa deformazione avviene in una specifica area, dunque il profilo deve essere sufficientemente largo.

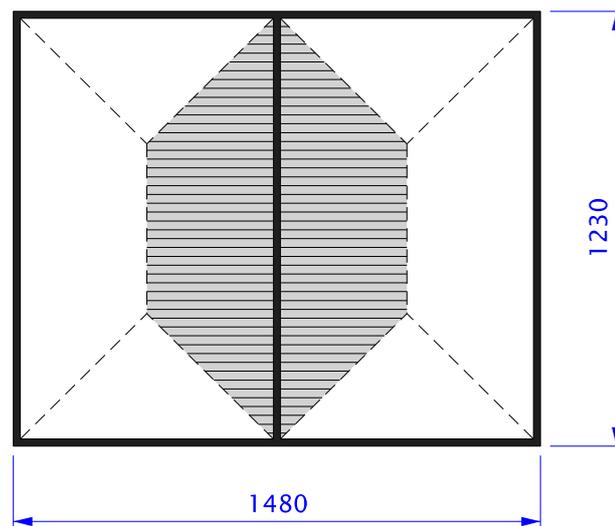


Figura 1: carico ripartito sulla finestra sotto il carico del vento.

La necessaria rigidità del montante può essere valutata per mezzo di questa formula:

$$EI_x = \frac{10^{-6} - WB}{61440f} (20H^2 - B^2)^2$$

Dove:

B – è la larghezza della finestra in mm

H – è l'altezza della finestra in mm

W – è il carico del vento in Pa

f – è la flessione massima permessa in mm

El_x – è la rigidità del montante Nmm²,

E – è il modulo di elasticità del PVCu = 2600N/mm² o acciaio = 210.000 N/mm²,

I_x – è il momento di inerzia del montante o del rinforzo comparati al X-assi in mm⁴ (X-*axis* = assi posti nella superficie del vetro)

Usiamo come esempi il "T" P3081, un carico di vento di 800 Pa, una flessione relativa di 1/300 ed una flessione assoluta di 15 mm. Sotto queste condizioni il "T" ha bisogno, come deriva dalla formula (1), una rigidità minima di 3,7 GNmm². La rigidità del "T" ammonta a 1,50 GNmm² ed è insufficiente.

Quando il "T" è rinforzato con il P3233, ne risulta una più alta rigidità sino 7,63 GNmm², in altre parole molto oltre quanto richiesto.

Peso del vetro

Guardiamo la finestra mostrata nella figura 2. Il peso del vetro superiore è trasferito sulla traversa centrale da due spessori di vetratura. A causa di ciò la traversa è soggetta a due punti di carico dai quali deriva una flessione verticale. Il punto di carico della finestra in esempio ammonta a circa 90N in caso di doppio vetro camera 4/16/4 (peso del vetro 2,5 Kg/mm/mq).

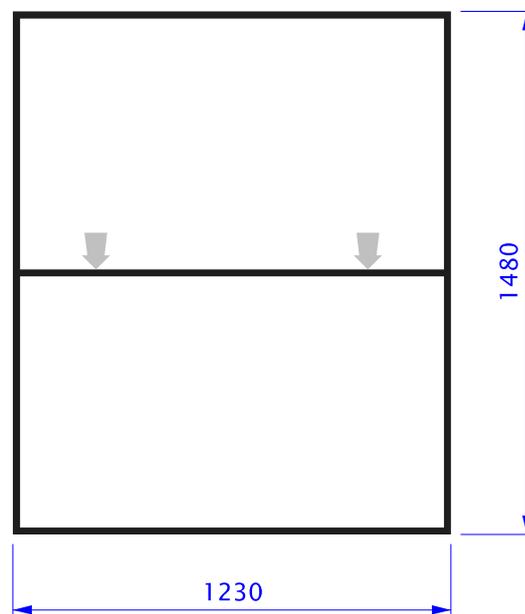


Figura 2: punto di carico della finestra sotto il peso del vetro.

Per non eccedere nella specifica flessione massima, il calcolo della rigidità richiesta per la traversa deriva dalla seguente formula:

$$EI_y = \frac{Fa}{24f} (3B^2 - 4a^2)$$

Dove:

B – è la larghezza della finestra in mm

a – è la distanza tra gli spessori in mm comparata al telaio

F – è il punto di carico sotto il peso dei vetri in N

f – è la flessione permessa del "T" in mm

E_{iy} – è la rigidità del "T" in Nmm²

E – è il modulo di elasticità del PVCu = 2600N/mm² o acciaio = 210.000 N/mm²,

I_y – è il momento di inerzia del montante o del rinforzo comparati al Y-assi in mm⁴ (Y-axis = assi posti nella superficie del vetro)

Partiamo dal presupposto di una flessione ammessa di 2 mm. Quando, come nella finestra di esempio, gli spessori del vetro sono posizionati a 200 mm verso il telaio, la rigidità del "T" ammonta a 1,64 GNmm². La rigidità del "T" ammonta a circa il Y-asse 1,01 GNmm, il quale è insufficiente. Quando il "T" è rinforzato con il P3233 ne deriva che la rigidità aumenta sino a 4,11 GNmm².

Carico termico

Le caratteristiche termiche del PVC e il suo alto coefficiente di espansione lineare, creano una flessione dovuta alla differenza di temperatura tra la parte esterna ed interna del profilo. La temperatura della superficie esterna di un profilo può arrivare a oltre 70° C a causa della suo assorbimento dei raggi solari. Dunque, è sempre consigliabile rinforzare i profili pellicolati e verniciati.

Peso funzionale

L'uso frequente delle porte, per esempio, può rendere necessario rinforzarle. D'altro canto, la porta rinforzata totalmente mostra un aspetto più robusto.

Linee guida

1. La lunghezza di taglio dei profili di rinforzo deve essere minimo l'85% di quella dei profili in PVC. IL profilo di rinforzo deve essere inserito in un solo pezzo, senza spezzature.
2. I profili pellicolati o verniciati devono essere pienamente rinforzati indipendentemente dalla lunghezza
3. I profili porte devono essere pienamente rinforzati
4. Il posizionamento delle viti di fissaggio deve essere ad un interasse non più grande di 300 mm ed ad un massimo di 100 mm da ogni estremità

LINEE GUIDA

Saldatura	4.1
Lavorazione dei profili colorati	4.2
Lavorazione delle giunzioni meccaniche	4.3
Installazione del vetro	4.4

1 Importanza della saldatura

È effettuata con un procedimento di saldatura la cui qualità è influenzata da numerosi fattori. Una buona saldatura è essenziale per la robustezza del telaio e dovrebbe resistere a forze minime. Inoltre la saldatura è anche importante per ottenere le corrette dimensioni del telaio. La giunzione degli angoli è una delle operazioni più critiche durante la fabbricazione di porte e finestre.

2 Il ciclo di saldatura

Dopo il corretto posizionamento ed aggancio dei profili (aggancio a pressione), entrambi sono spinti contro la piastra di saldatura (pressione di fusione) che raggiunge una particolare temperatura. All'inizio, una quantità di materiale è fuso per il trasferimento termico ed il movimento (percorso di fusione) delle teste di saldatura. Dato che il movimento è meccanicamente ristretto, il trasferimento di calore avverrà solo in un tempo stabilito (tempo di riscaldamento) in un secondo momento. Qui la piastra di fissaggio è rimossa (interfase), dopodiché i profili sono pressati insieme con una certa forza (pressione di assemblaggio) e su una distanza limitata (percorso di fusione). I profili sono dunque tenuti in questa posizione per un tempo limitato (tempo di assemblaggio).

3 Condizioni prima della saldatura

I profili devono essere climatizzati per almeno 24 ore sino a quando la temperatura raggiunge almeno 15°C su tutta la superficie. Non devono avvenire deformazioni durante l'immagazzinamento. Ciò significa che i profili devono essere tenuti orizzontalmente avendo cura che la distanza tra i punti di supporto non sia più lunga di 1 mt. Ogni imballaggio deve essere ben aperto (es: dalla parte frontale), o completamente rimosso per permettere alla condensa di evaporare. Bisogna porre attenzione alle corrette dimensioni di taglio. Le lame di taglio devono avere denti sufficienti ed abbastanza puliti. La velocità di rotazione e l'avanzamento devono essere adattati. La superficie di saldatura non deve essere danneggiata e libera da ogni impurità. È anche imperativo mantenere la superficie di saldatura pulita quando si piazzano i rinforzi, evitando ogni sporizia come il grasso delle mani, etc....

4 La saldatrice

Si distinguono due sistemi di saldatura in funzione di come le tavole si muovono l'una verso l'altra. Quando il movimento è perpendicolare allo specchio della superficie, allora stiamo parlando di un movimento parallelo, il quale è soprattutto il caso di una saldatrice ad una testa. Quando usiamo saldatrici multitesta, il movimento è a 45° (rispetto allo specchio della superficie), ed è chiamato movimento diagonale. La maggior parte delle saldatrici sono equipaggiate con coltelli limitatori regolabili. La distanza tra i coltelli è anch'essa decisiva per la qualità della saldatura. La distanza ideale può variare tra 1 e 2 mm nella posizione finale. Se i coltelli sono riscaldati è molto importante che la loro temperatura non ecceda i 40° c.

5 Il processo di saldatura, i parametri di saldatura

5.1 Posizionamento

Entrambi i profili devono essere posizionati correttamente sulla macchina. Questo implica che i profili siano livellati e completamente spinti verso i blocchi di battuta. Per evitare deformazioni durante l'aggancio sono richiesti blocchi di supporto dedicati.

La pressione di aggancio dei profili deve essere sufficientemente alta per evitare movimenti durante la saldatura.

5.2 La fusione

Le piastre di saldatura sono utilizzate per riscaldare i profili. La piastra di saldatura è equipaggiata con una resistenza e rivestita di Teflon sull'esterno. Questo evita che i profili si incollino alla piastra quando il contatto è fatto. La resistenza deve essere montata in modo che l'accrescimento di calore sia egualmente ripartito su tutta la superficie ed una energia minima di 2 W/cm² sia garantita sul lato di saldatura. Una temperatura iniziale di 255–260° è richiesta per la mescola utilizzata. Passiamo alla fase di fusione quando i profili sono spinti contro lo specchio. Manovrando la pressione di fusione noi otteniamo un tempo di fusione di 10–12 secondi. Questo è il tempo richiesto dalla macchina per completare il movimento, il così detto percorso di fusione. La limitazione di questo movimento è una regolazione della macchina.

5.3 Condizioni prima della saldatura

Il materiale deve essere sufficientemente riscaldato in profondità per avere una buona giunzione. Per raggiungere ciò, i profili devono essere spinti contro le piastre per 20 secondi. Non ci sono ulteriori movimenti in questo stadio.

5.4 Il riposizionamento

Ovviamente, la rimozione/rilascio della piastra di saldatura è necessaria per ottenere una buona giunzione dei profili. Lo stadio, nel quale avviene, deve essere il più breve possibile. D'altro canto non può essere repentino. Grazie a questo intervallo la superficie di saldatura può essere osservata e ci può fornire informazioni concernenti il trasferimento di calore.

5.5 L'assemblaggio ed il raffreddamento

I profili devono essere spinti insieme per raggiungere finalmente la giunzione. Qui ha luogo un altro movimento che può essere influenzato dalla regolazione della macchina. I profili sono tenuti in questa posizione per circa 30 secondi. Questo periodo è chiamato la fase di assemblaggio o la fase di raffreddamento.

5.6 Panoramica sui parametri di saldatura

5.6.A Temperatura

temperatura dello specchio 255–260° C

5.6.B Pressione

Pressione di aggancio : la minima per non avere movimenti
la massima per non avere deformazioni (nella realtà la
variazione sarà tra 4 e 6 bar)

Pressione di fusione : regolata in modo che, con la temperatura dello specchio a
255–260° C, la fusione avvenga tra 10 e 12 secondi

Pressione di assemblaggio : regolata in modo che la pressione sulla saldatura arrivi
a 0,85N/mm² (da 0,5 a 1,4N/mm²)

5.6.C Tempo

Tempo di fusione: da 10 a 12 secondi
Tempo di riscaldamento: 20 secondi
Tempo di raffreddamento: minimo 30 secondi

5.6.D Movimenti

Movimenti per la fusione: 2/3 del totale
Movimenti per l'assemblaggio: 1/3 del totale

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Saldatura 4.1
Lavorazione dei profili colorati 4.2
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Le seguenti note devono essere seguite:

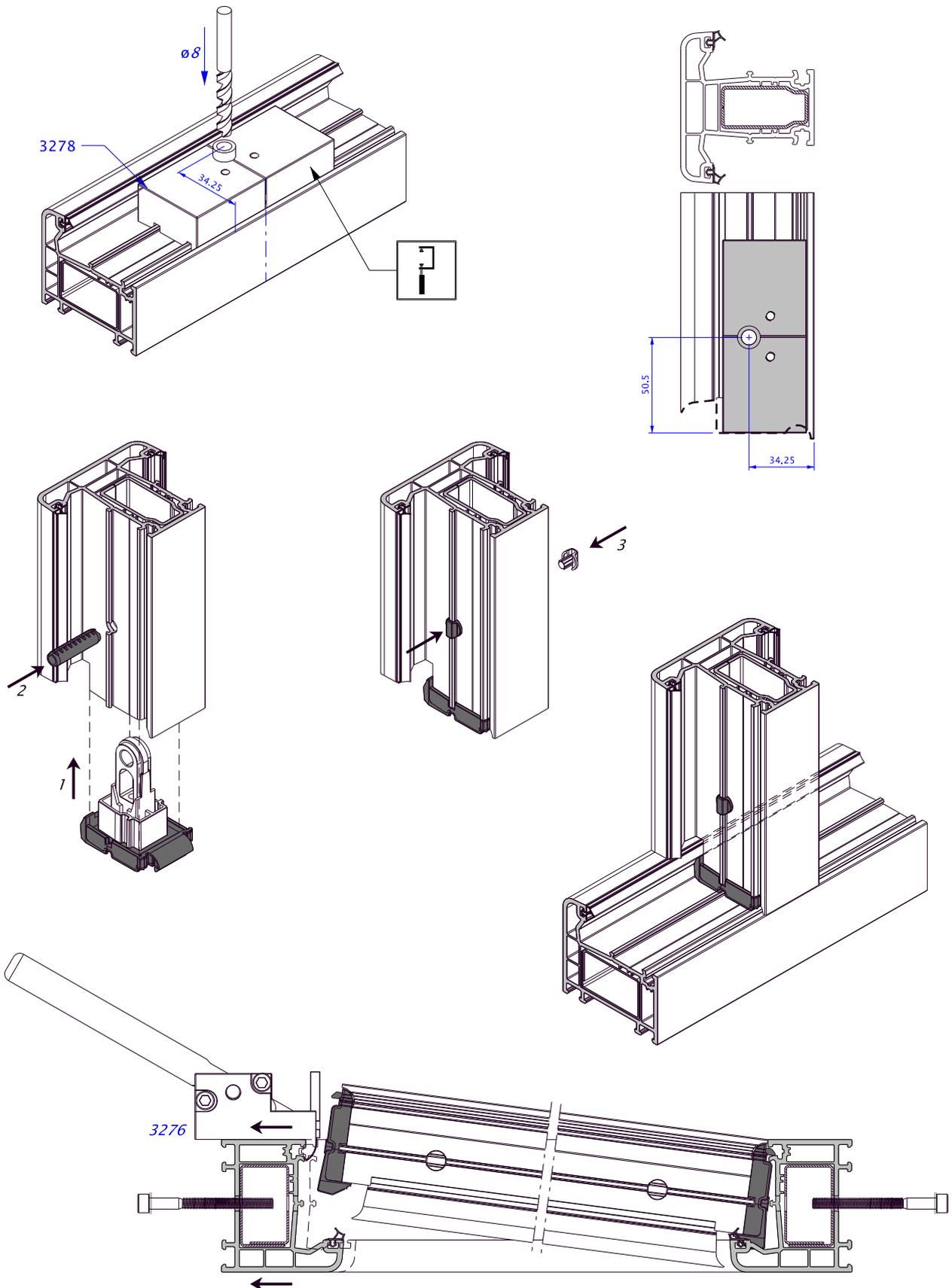
1. Tutti i profili colorati devono essere rinforzati
2. Ogni camera interna sigillata deve essere ventilata. Ciò avrà l'effetto di scaricare ogni pressione dell'aria che può espandersi all'interno delle camere, quindi di evitare la possibile deformazione del profilo.

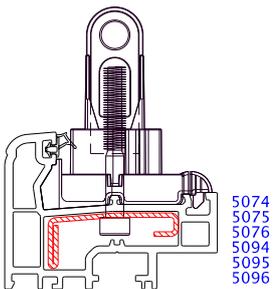
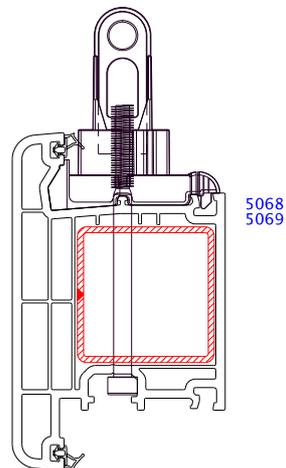
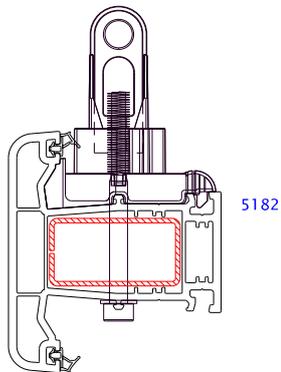
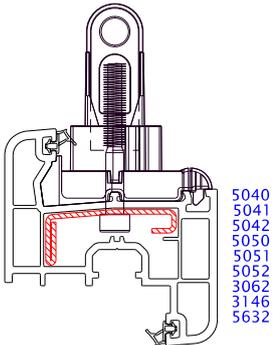
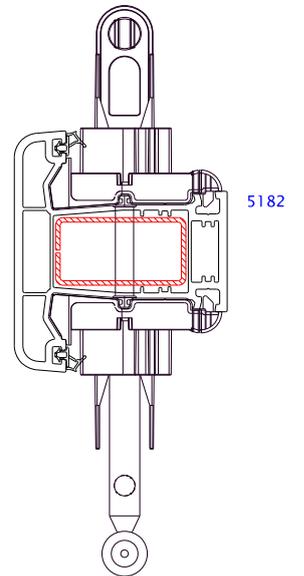
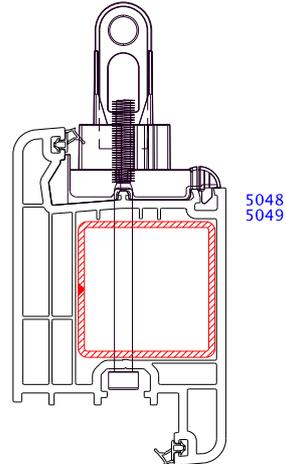
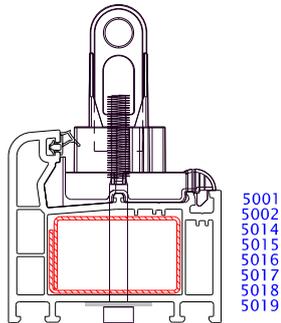
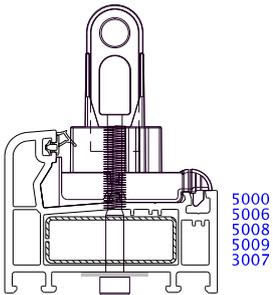
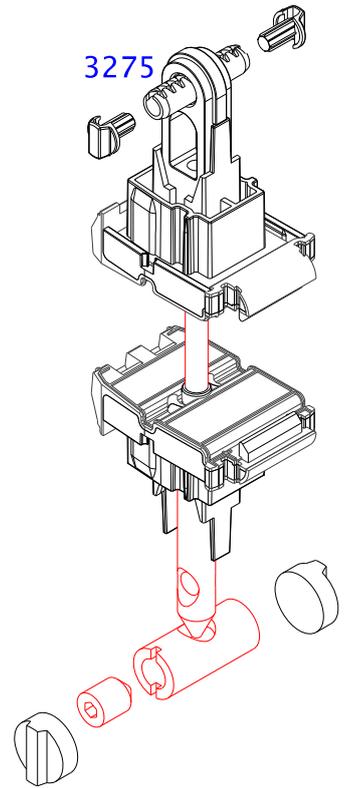
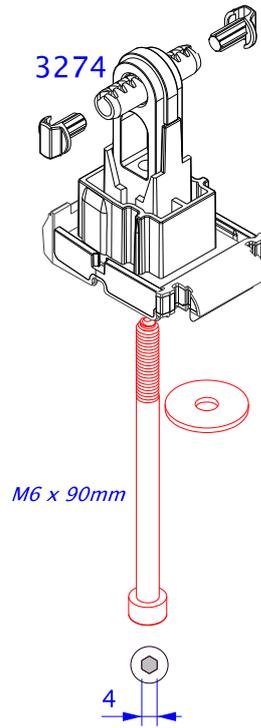
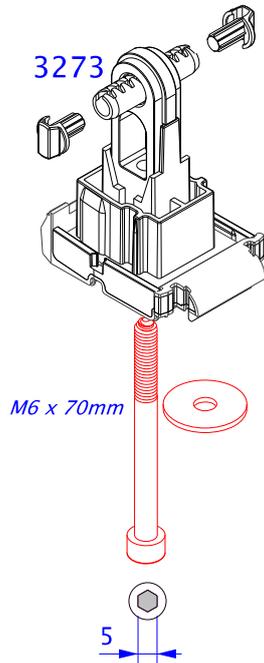
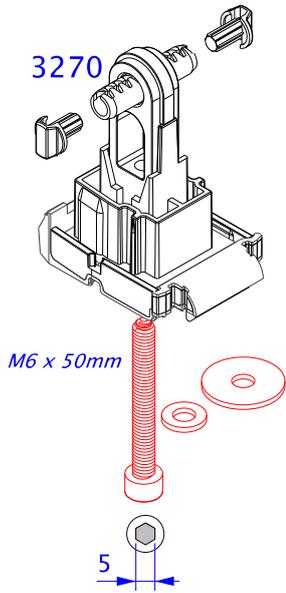
Come regola generale, potrete ottenere tutto questo con il drenaggio standard. Per le altre camere non ventilate, è sufficiente un piccolo foro di 4 mm in posizione discreta.

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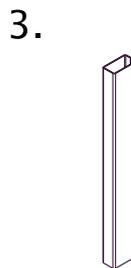
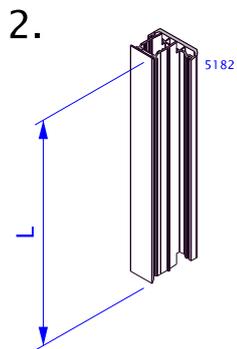
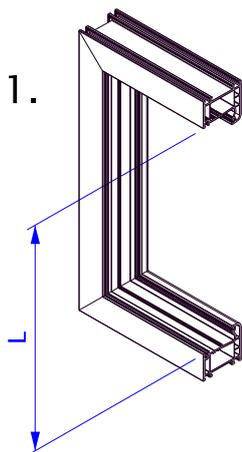
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Assemblaggio del 3270/3273/3274

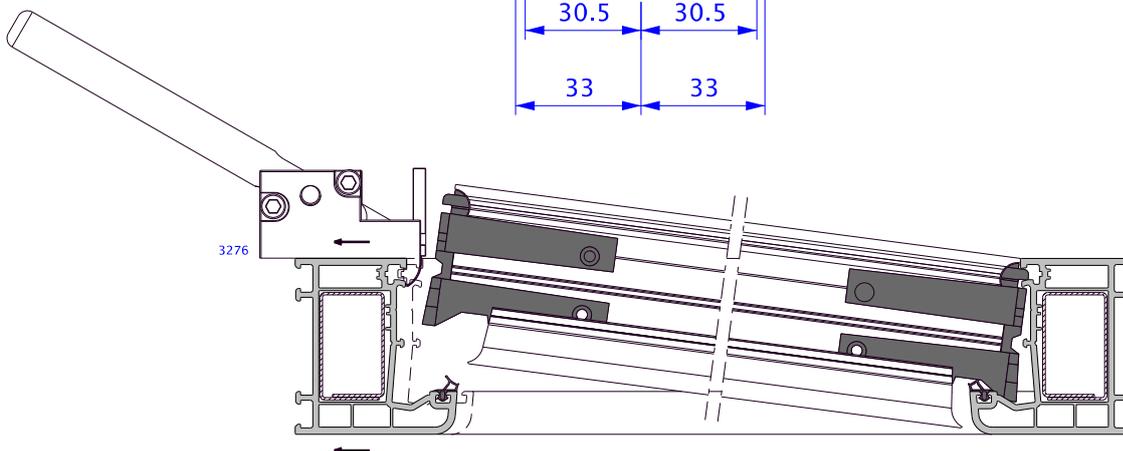
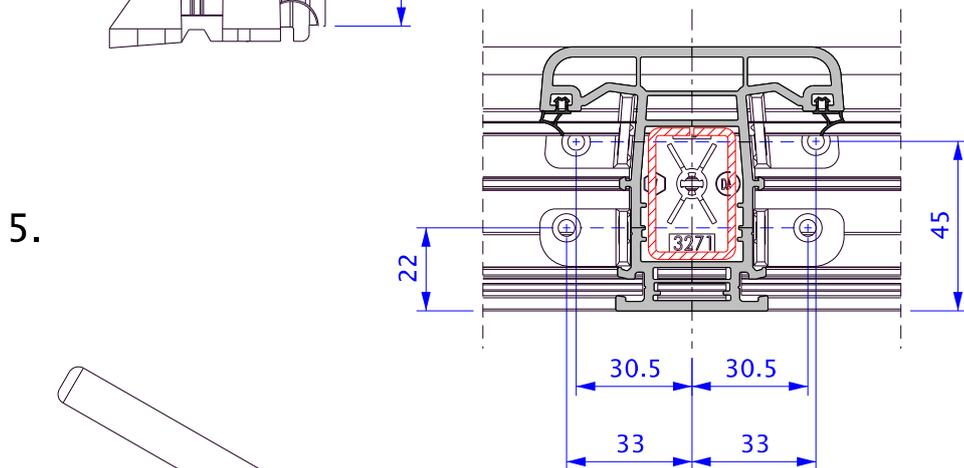
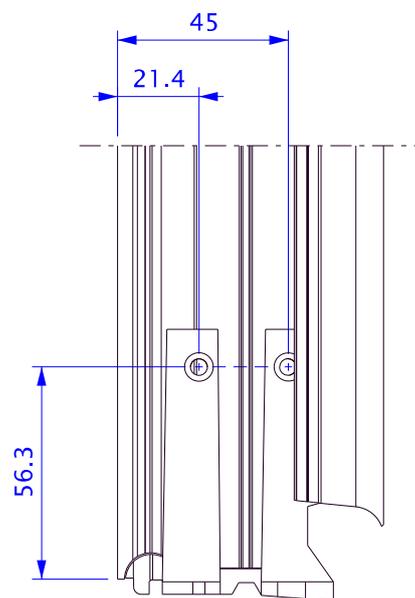
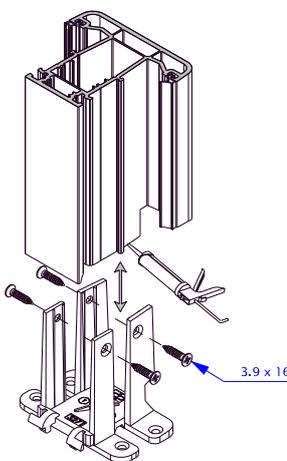
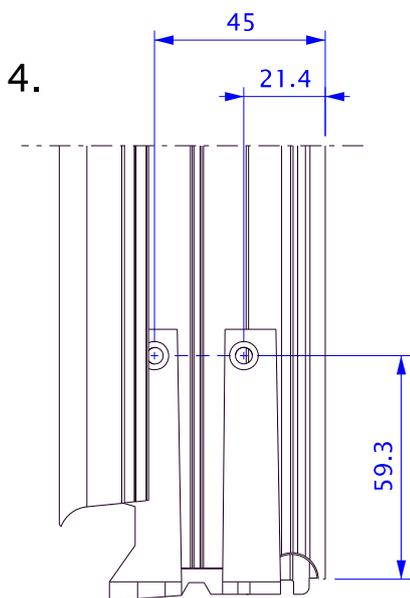




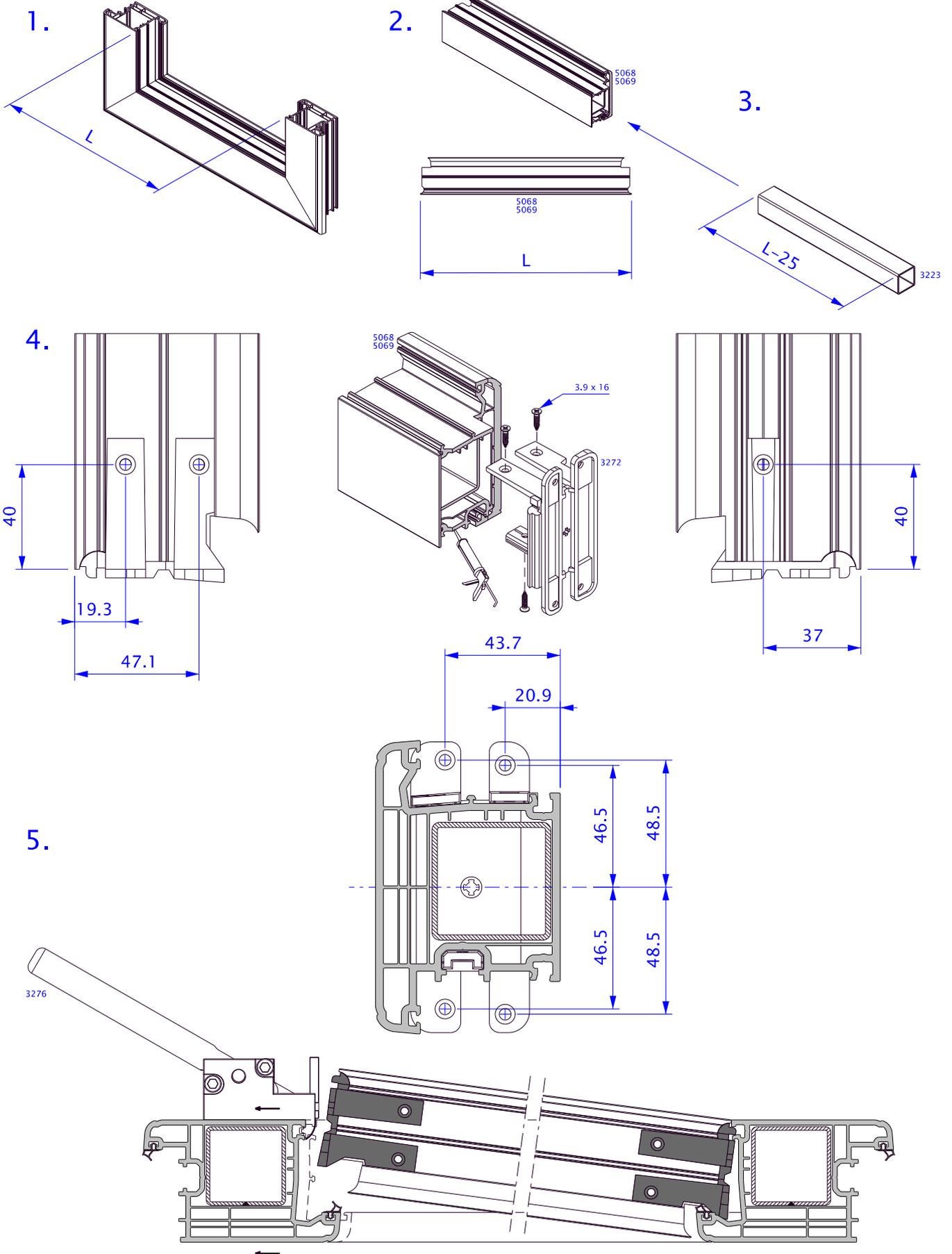
Assemblaggio del 3271



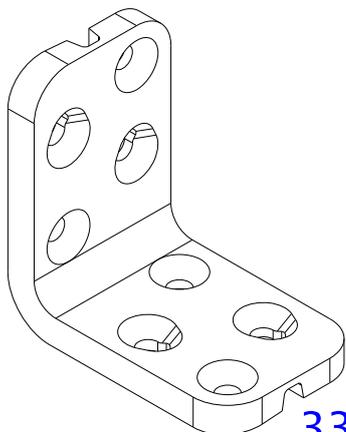
	
	5182
	3231 L-25
	3241 L-25
	3242 L-25



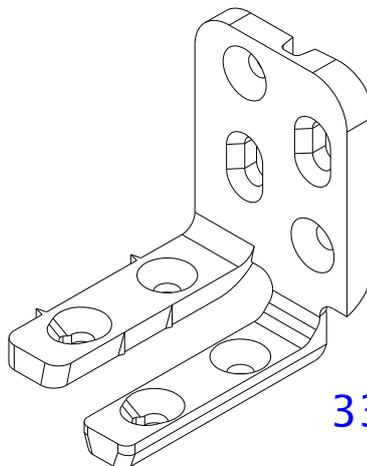
Assemblaggio del 3272



Cavallotti 3370/3371



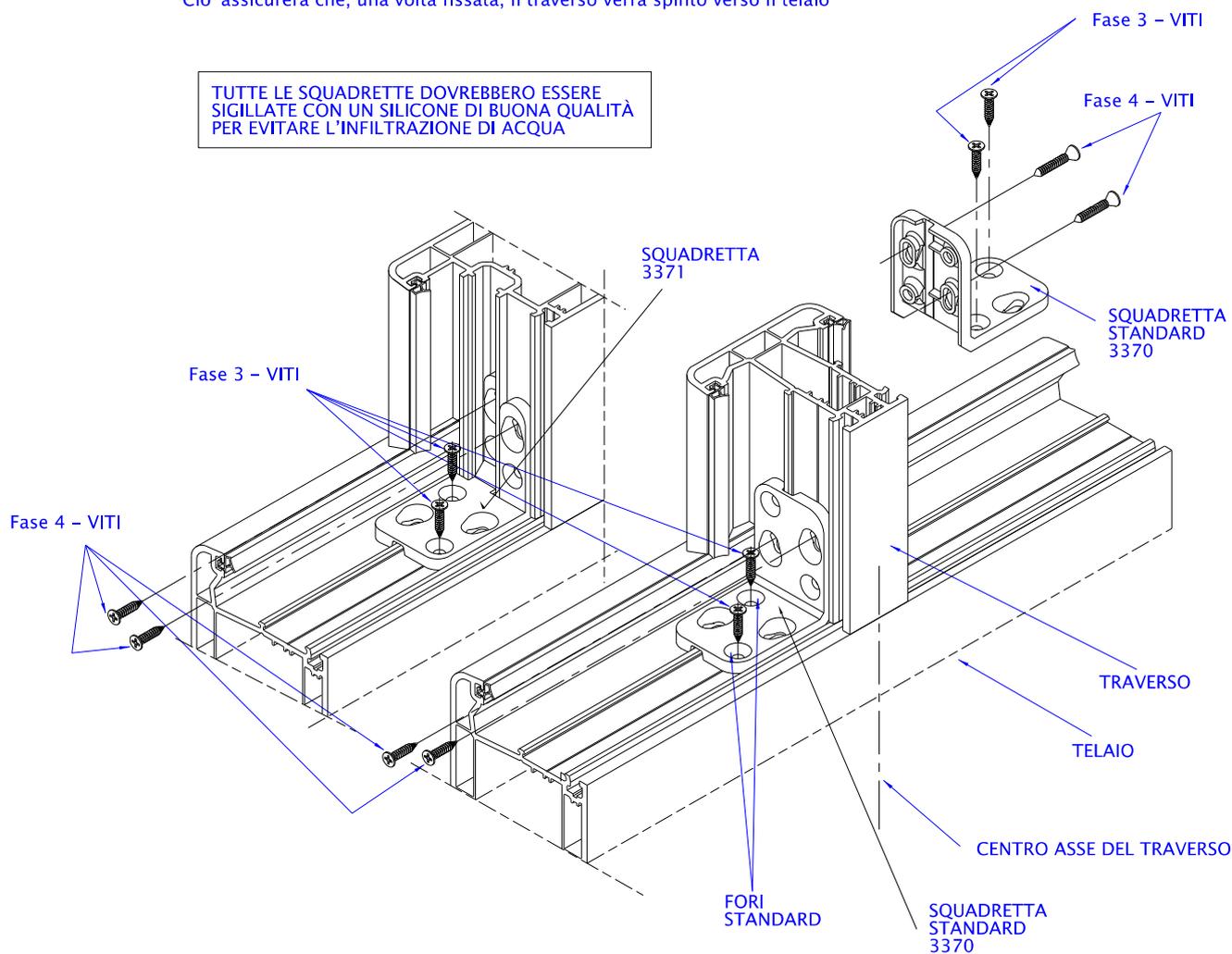
3370



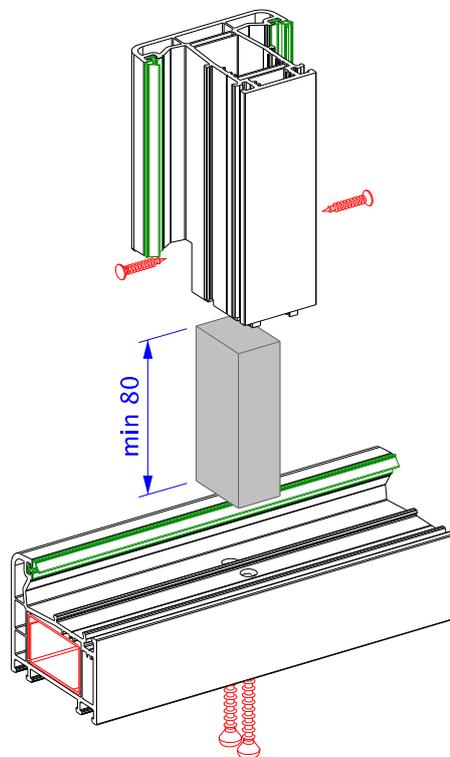
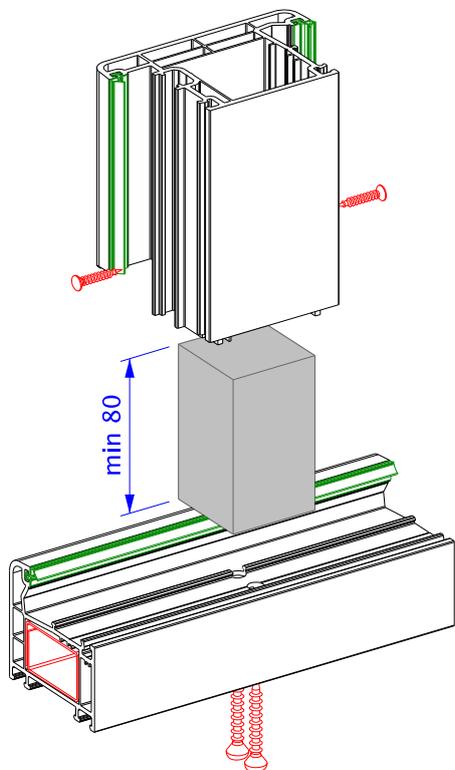
3371

- Fase 1: allineare il centro del traverso fisso con il centro del telaio relativo
- Fase 2: posizionare la squadretta a filo di entrambi i profili
- Fase 3: usare i fori di fissaggio standard per fissare con apposite viti la squadretta al telaio relativo, ripetere le fasi 2 e 3 con l'altra squadretta
- Fase 4: usare le asole per fissare il traverso. Quindi spingere il punto di fissaggio verso la parte stretta delle asole stesse e serrare le viti sul telaio. Cio' assicurerà che, una volta fissata, il traverso verrà spinto verso il telaio

TUTTE LE SQUADRETTE DOVREBBERO ESSERE SIGILLATE CON UN SILICONE DI BUONA QUALITÀ PER EVITARE L'INFILTRAZIONE DI ACQUA

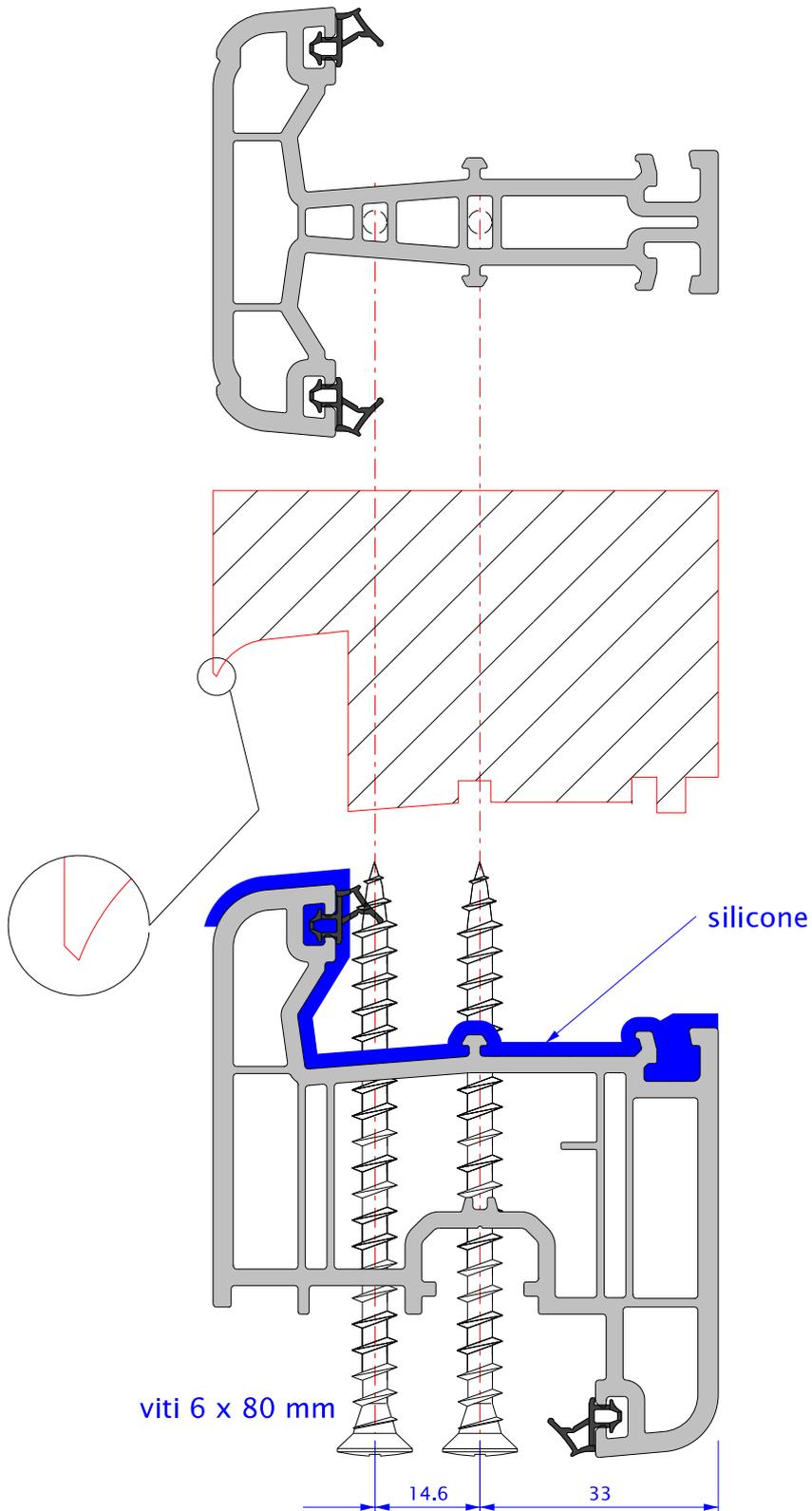


Assemblaggio del 3280/3283

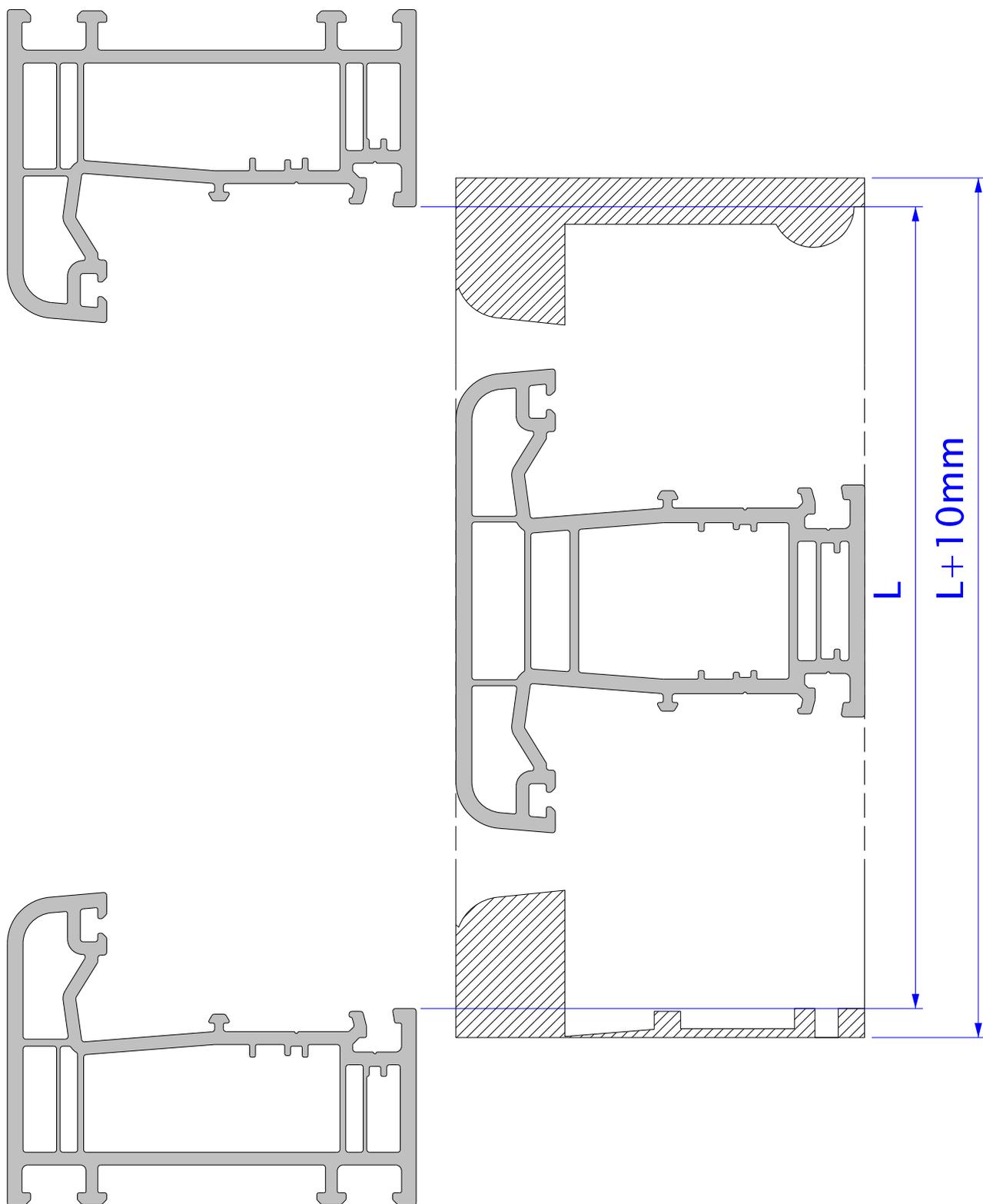


3280		5048/5049 5068/5069
3283		5182

Assemblaggio del 3083



Lunghezza della traversa



LINEE GUIDA

	Saldatura 4.1
	Lavorazione dei profili colorati 4.2
	Lavorazione delle giunzioni meccaniche 4.3
	Installazione del vetro 4.4

