Grupo Ayuso
Aluminio, PVC y Cristal

# SERIE
# SAFIR

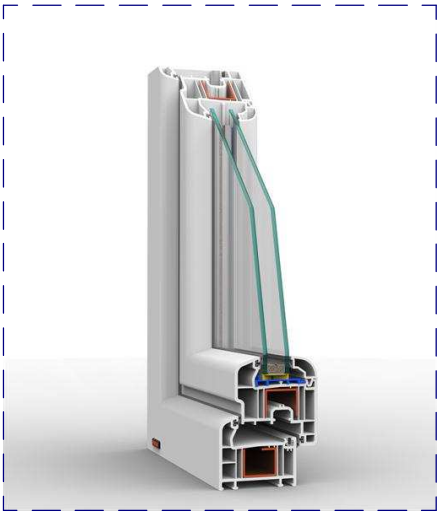
## CARACTERÍSTICAS

Sistema de capintería practicable de PVC con sección de 70mm y diseño de cinco cámaras.

Transmitancia térmica al marco de hasta Uh,m = 1,4 W/m2K (doble vidrio).

Herraje para canal 16mm.

Juntas de estanqueidad de EPDM.



## SECCIÓN

Cerco: 70mm.

Hoja: 70mm.

Acristalamiento máximo: 41mm.

## CLASIFICACIÓN DEL ENSAYO

### VENTANA (900x2200)

| AIRE | AGUA | VIENTO | ACÚSTICO | TÉRMICO |
|---|---|---|---|---|
| 4 | E1050 | C4 | 32dB | 1,4 |

Ventana de 1 hoja oscilobatiente.

### BALCONERA (900x2200)

| AIRE | AGUA | VIENTO |
|---|---|---|
| 4 | E1200 | C5 |

Balconera de 1 hoja oscilobatiente.

Clasificación **CLIMA SEVERO**

CE DISPONIBLE

## ACABADOS

Acabado Blanco.

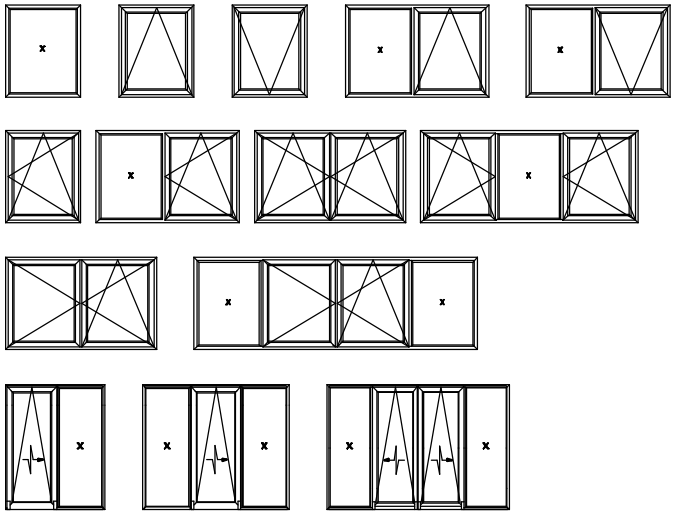
Foliado Color.

Foliado Madera.

Foliado Metalizado.

Lacado Color.

## POSIBILIDADES DE APERTURA



Fecha de Actualización: 19/04/2016

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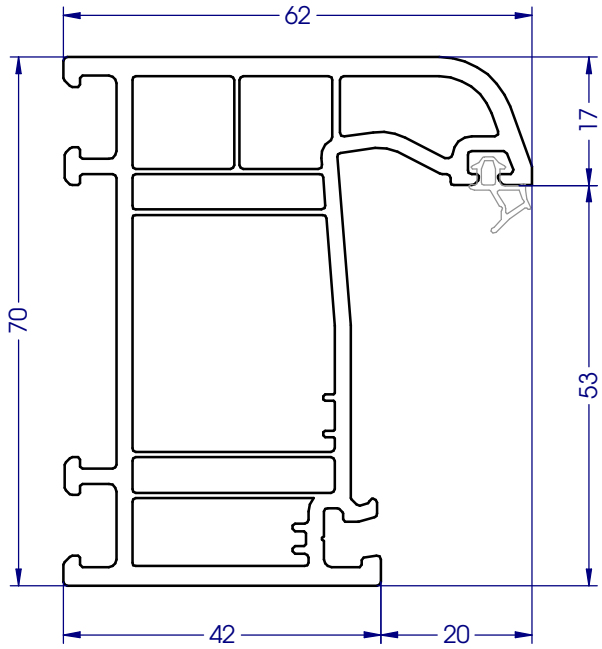
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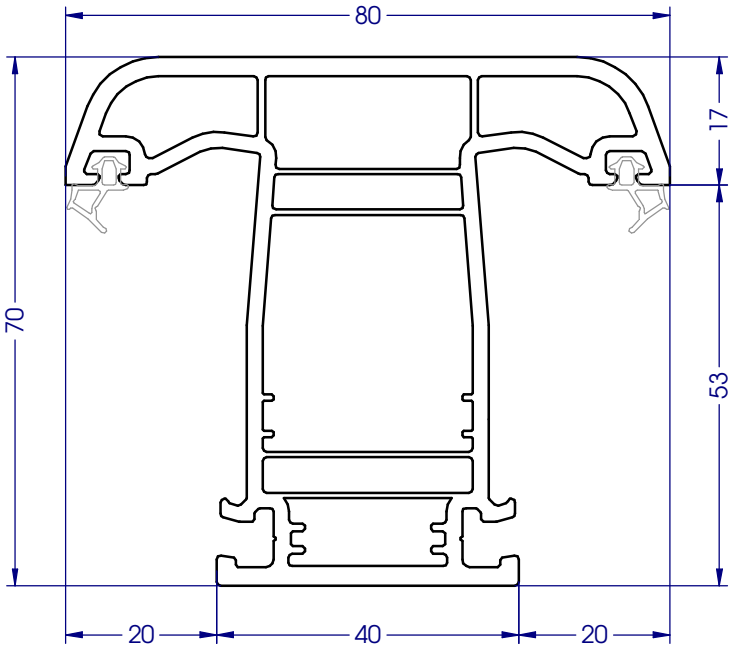
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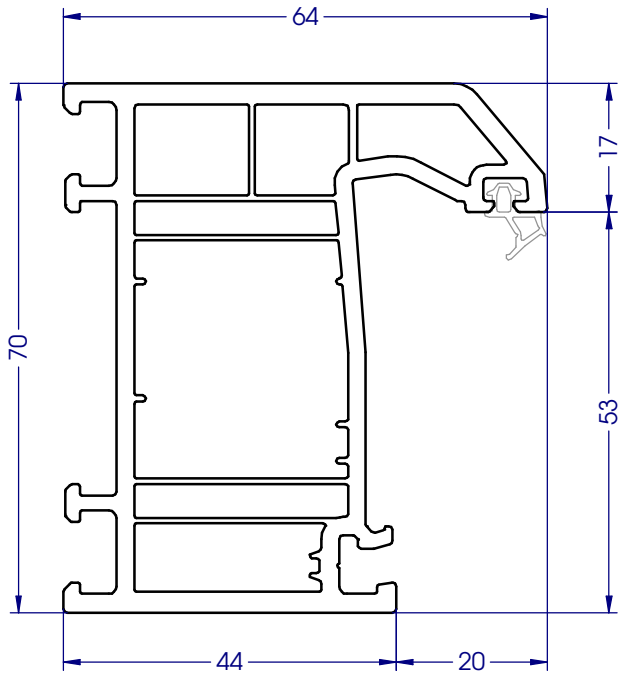
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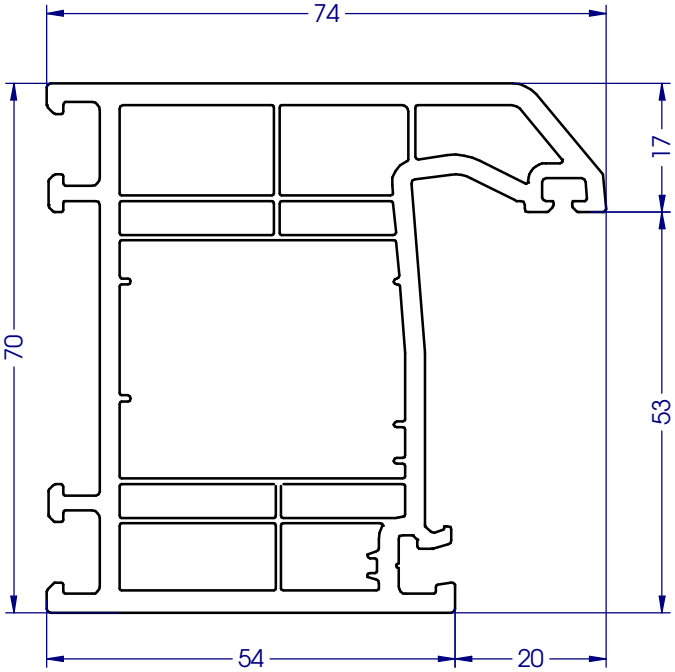

Ref. D10105
MARCO




Ref. D10124
PILASTRA



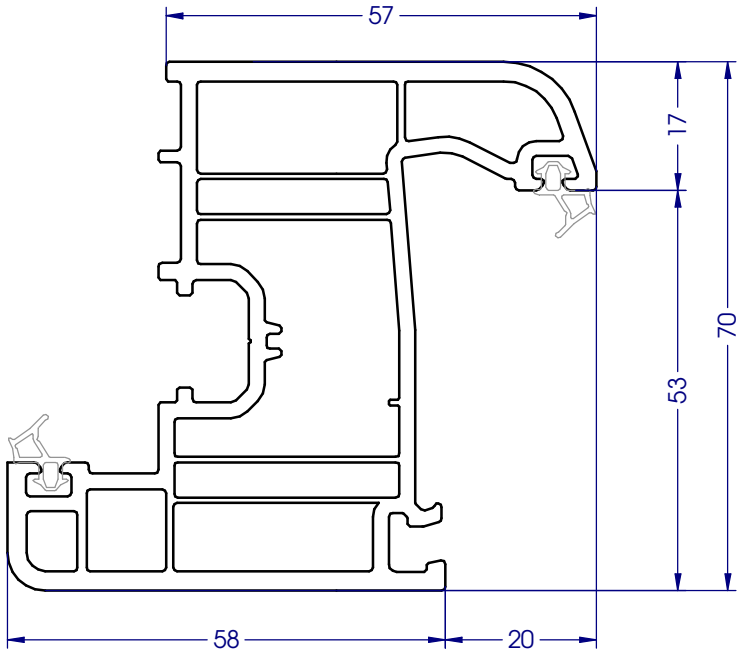

Ref. D10100
MARCO



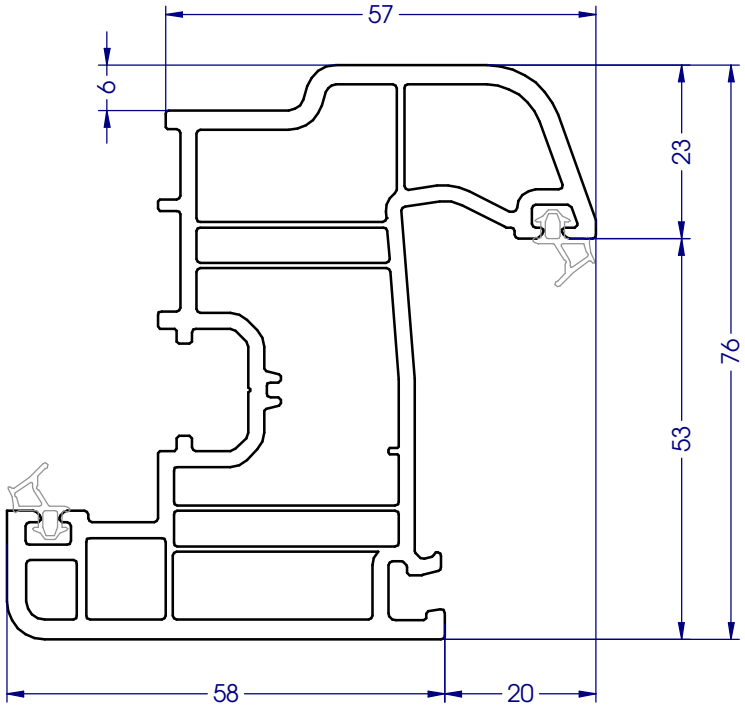

Ref. D10101 (*)
MARCO

*(*) PERFILES FUERA DE STOCK. CONSULTAR PLAZO DE ENTREGA*

## Perfiles Base




Ref. D10115
HOJA ESTÁNDAR DE VENTANA

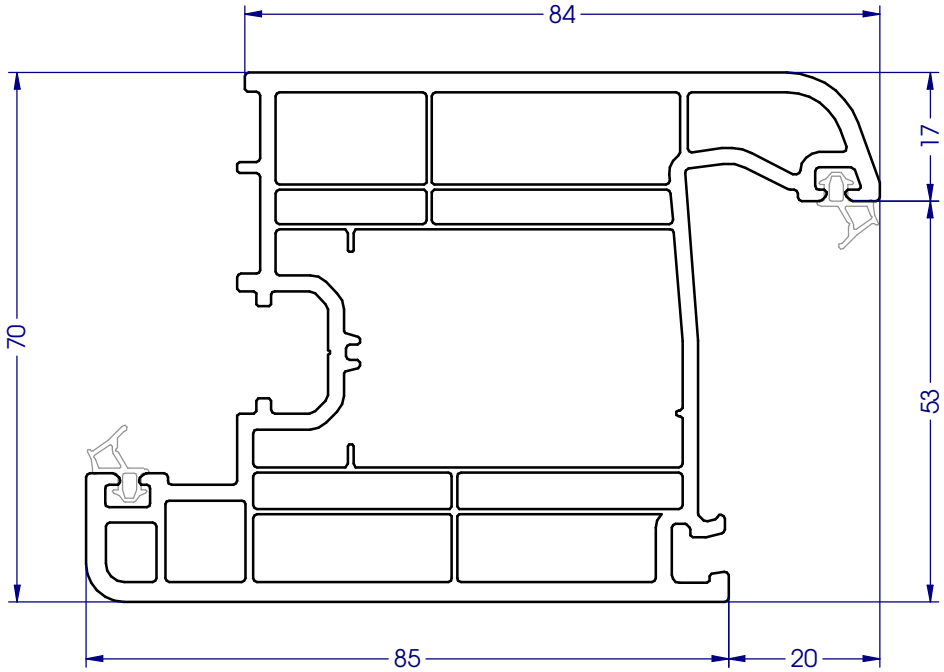



Ref. D10116
HOJA SEMIENRASADA DE VENTANA

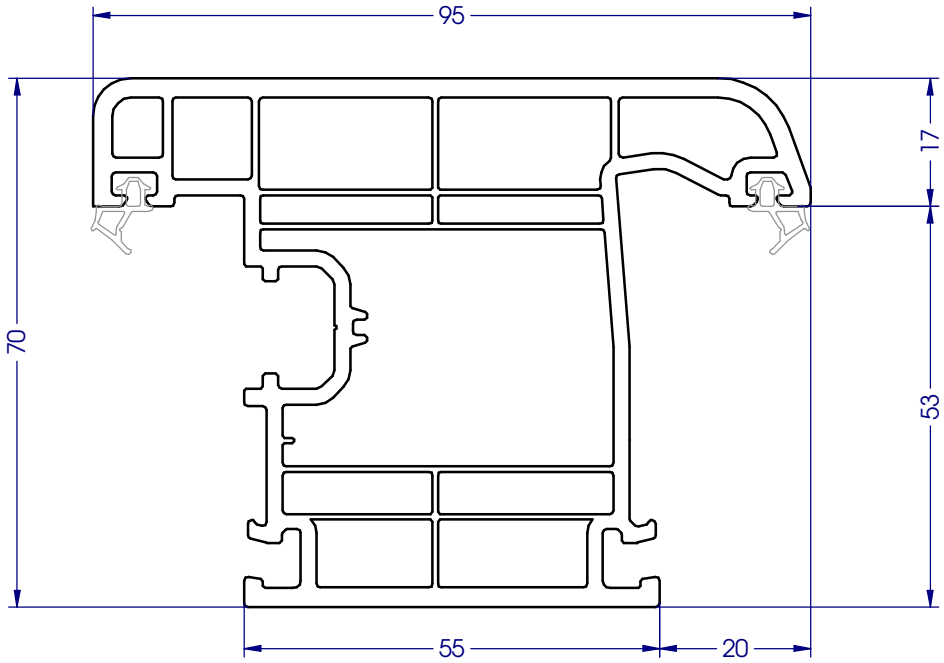
*(*) PERFILES FUERA DE STOCK. CONSULTAR PLAZO DE ENTREGA*

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## Perfiles Base



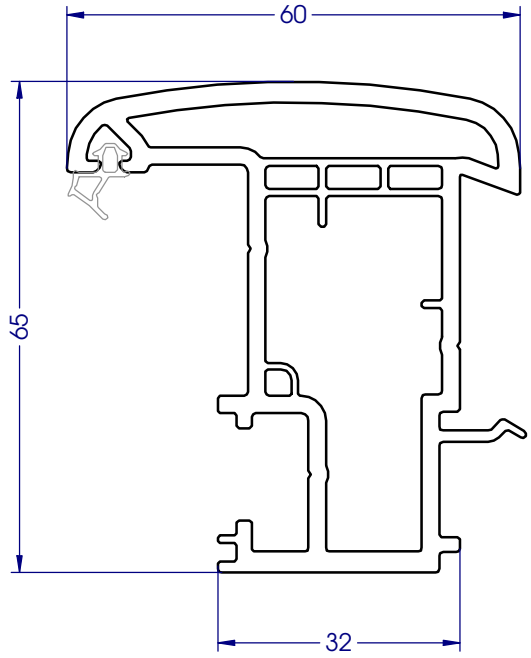

Ref. D10119
HOJA
AP. INTERIOR



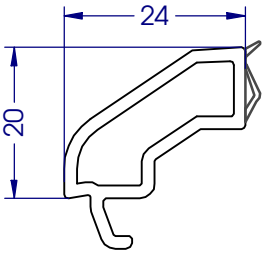

Ref. D10118
HOJA
AP. EXTERIOR

*(*) PERFILES FUERA DE STOCK. CONSULTAR PLAZO DE ENTREGA*

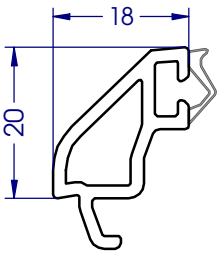
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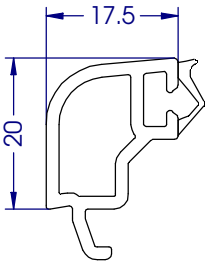

Ref. D12622
INVERSORA



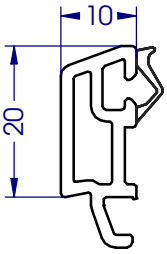

Ref. D10144
JUNQUILLO 23/24mm




Ref. D10042
JUNQUILLO 29/30mm



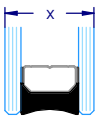

Ref. D3030
JUNQUILLO 30/31mm

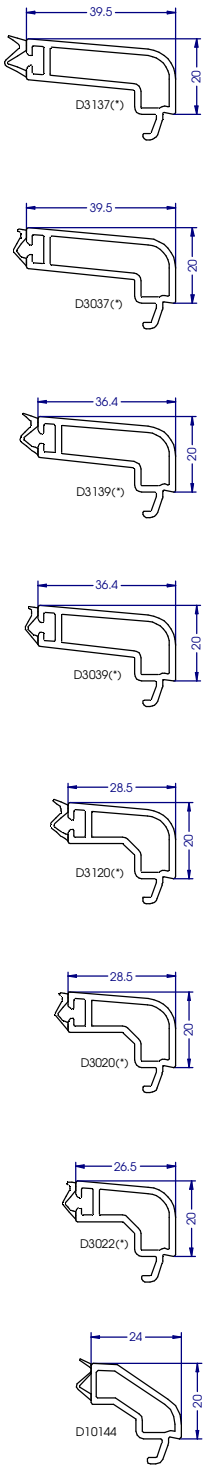


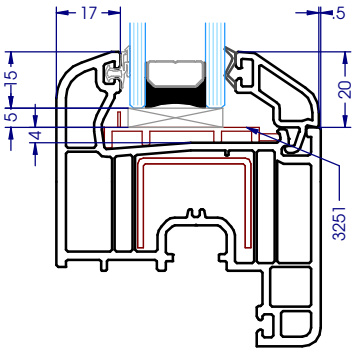

Ref. D12648
JUNQUILLO 38/39mm

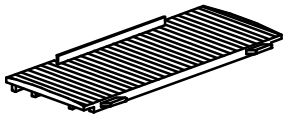
*(*) PERFILES FUERA DE STOCK. CONSULTAR PLAZO DE ENTREGA*

# Tabla de Acristalamientos - Junquillos

|  | **Referencia STANDARD** |
|---|---|
| 5<br>6 | D3137(*) |
| 7<br>8 | D3037(*) |
| 9<br>10 | D3139(*) |
| 11<br>12 | D3039(*) |
| 17<br>18 | D3120(*) |
| 19<br>20 | D3020(*) |
| 21<br>22 | D3022(*) |
| 23<br>24 | D10144 |
| 25<br>26 | D3026(*) |
| 27<br>28 | D3028(*) |
| 29<br>30 | D10042 |
| 30<br>31 | D3030 |
| 36<br>37 | D3124(*) |
| 38<br>39 | D12648 |
| 40<br>41 | D3038(*) |



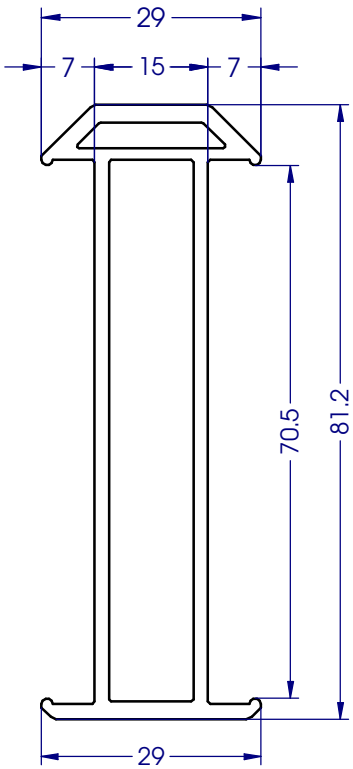



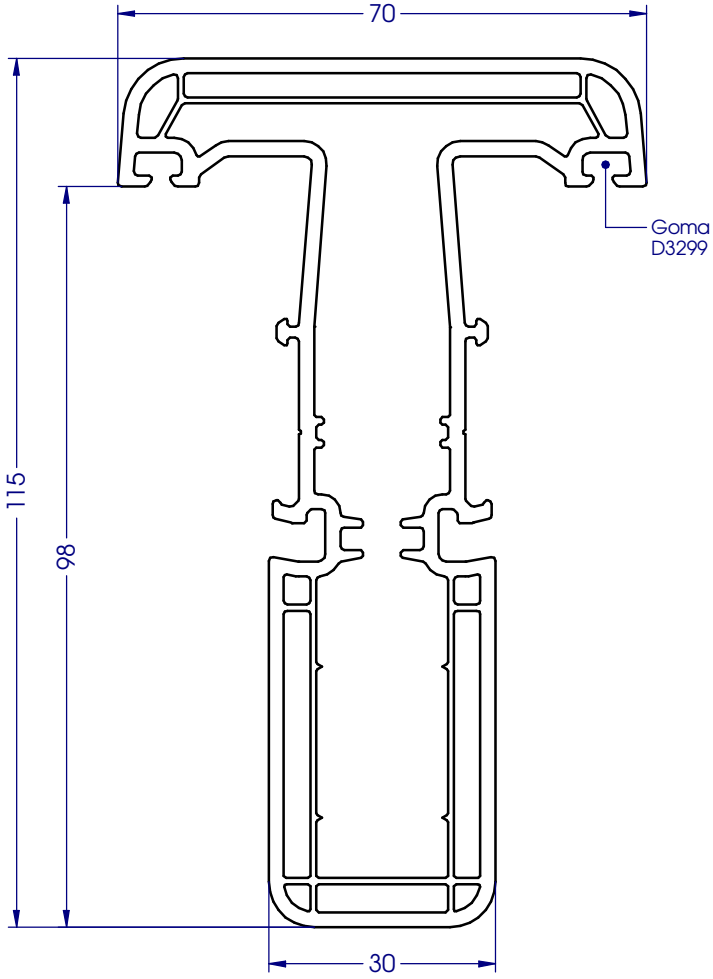
Ref.- D13106
Cuña de acristalamiento

*(*) PERFILES FUERA DE STOCK. CONSULTAR PLAZO DE ENTREGA*

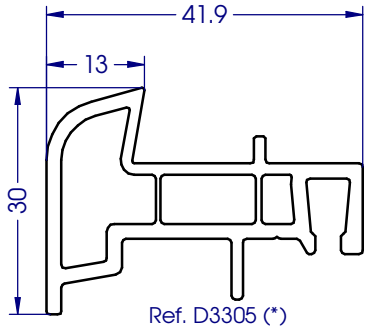
## Complementos



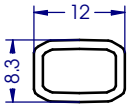

Ref.- D6960
Perfil Unión Tubular



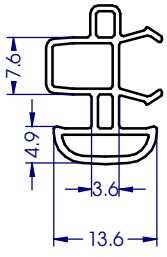

Ref.- D3705 (*)
Unión de Cercos Pilastra




Ref. D3305 (*)
Cortavientos para puerta



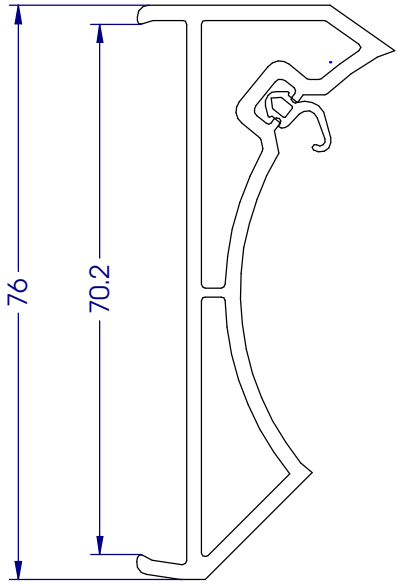

Ref.- D3312
Clip Unión
de Cercos



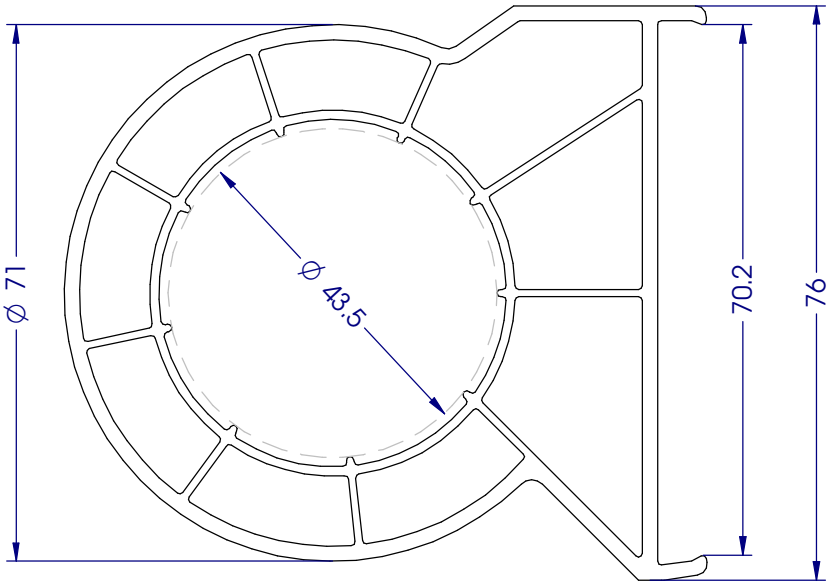

Ref.- D3310 (*)
Clip Unión
de Cercos

*(*) PERFILES FUERA DE STOCK. CONSULTAR PLAZO DE ENTREGA*

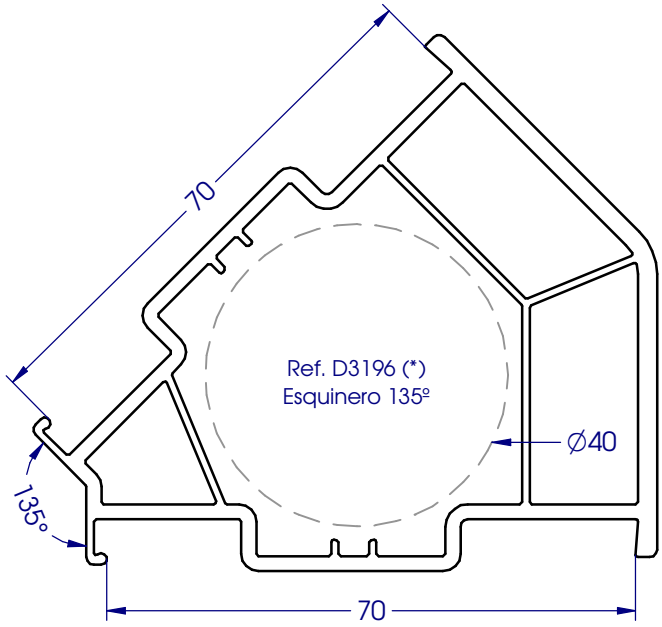
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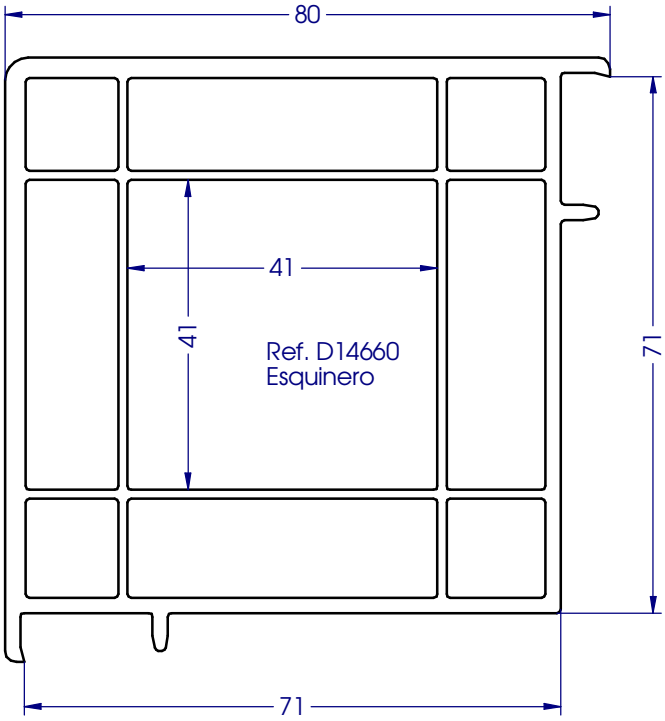



Ref. D14699
Rótula Esquinero Graduable



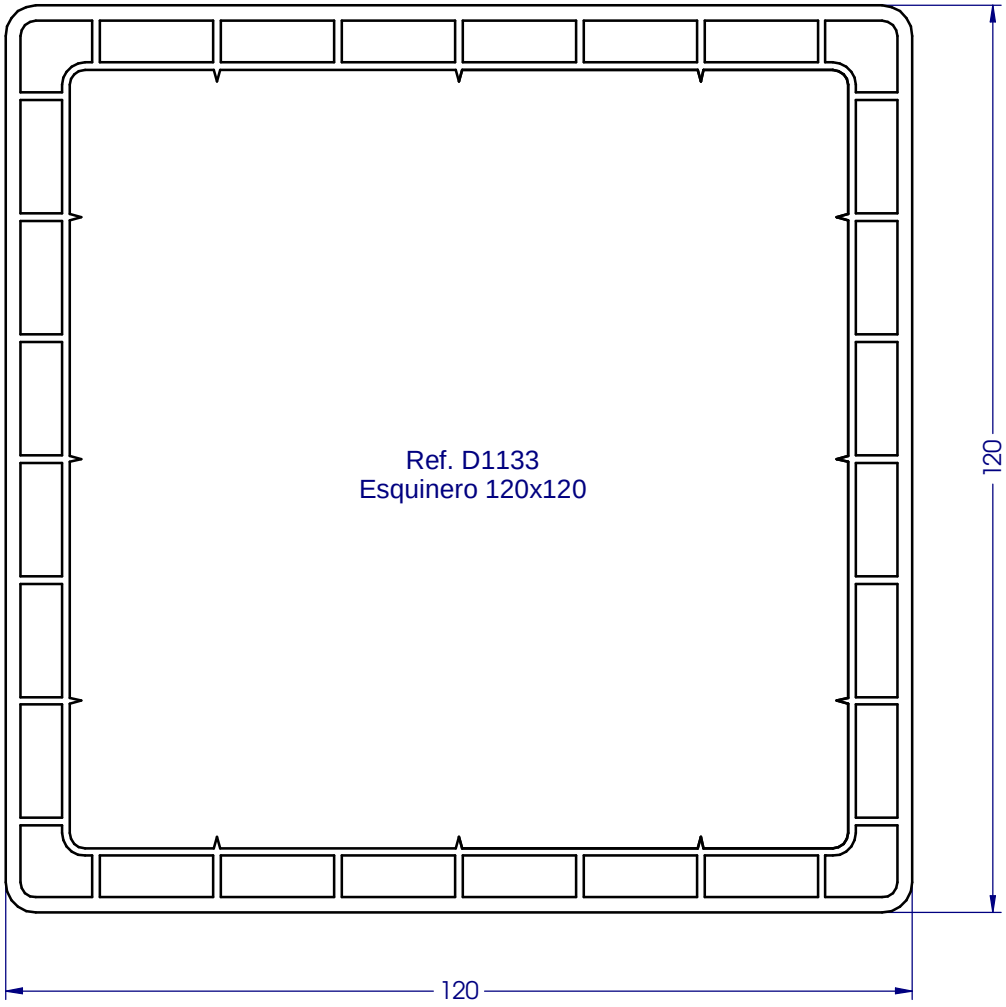

Ref. D14698
Esquinero Graduable



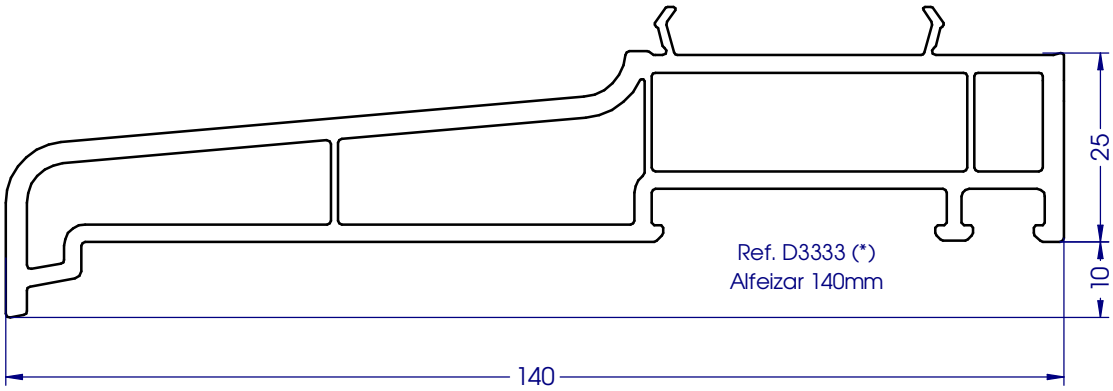

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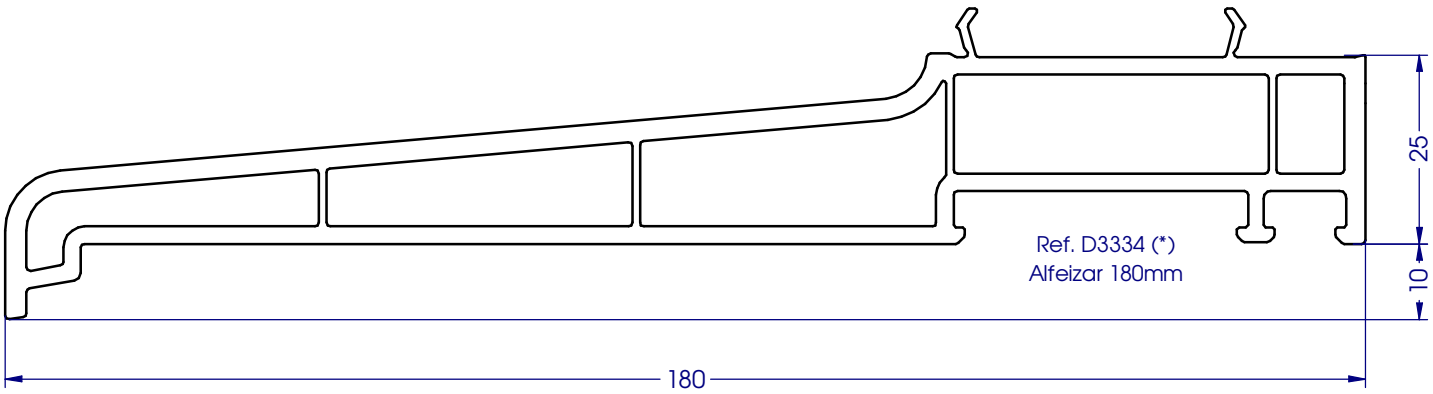
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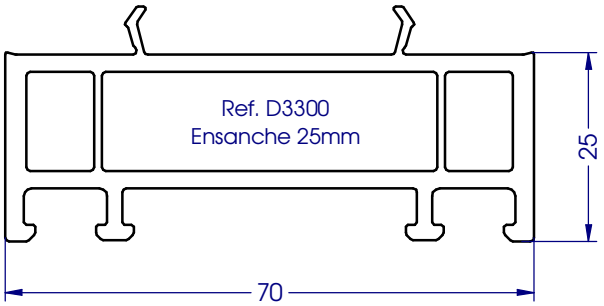
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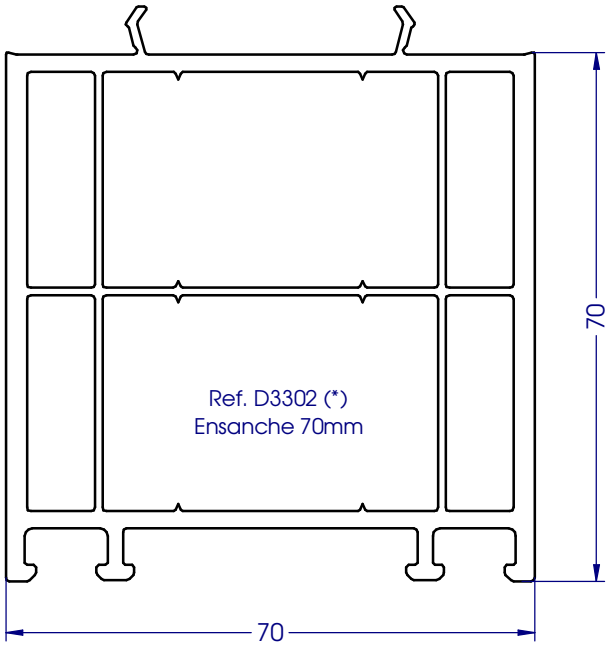


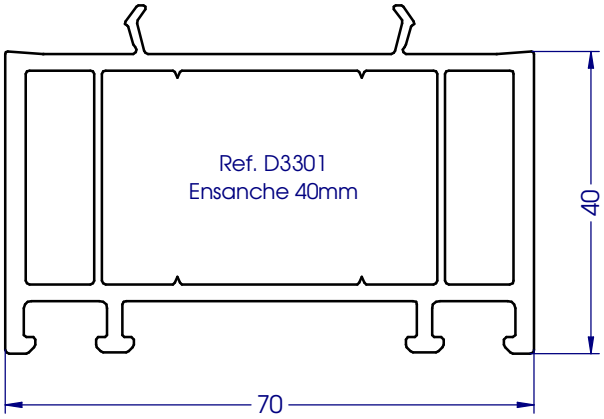



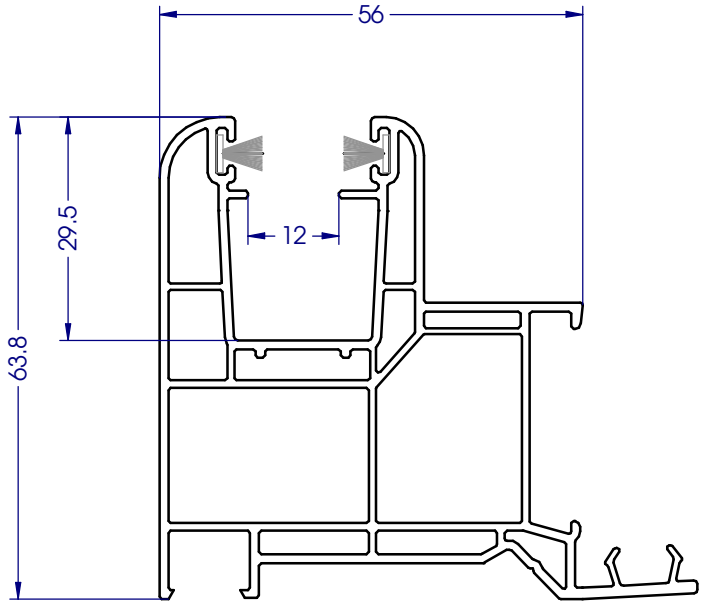

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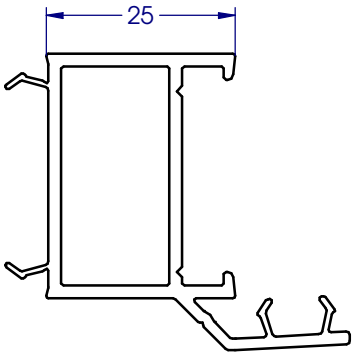


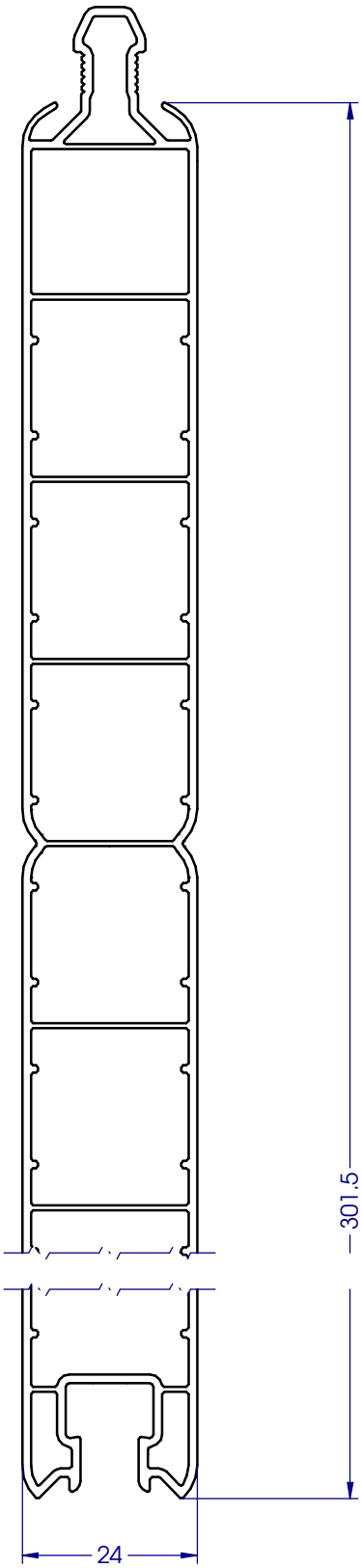

Ref. D3891
Guía de Persiana 55mm



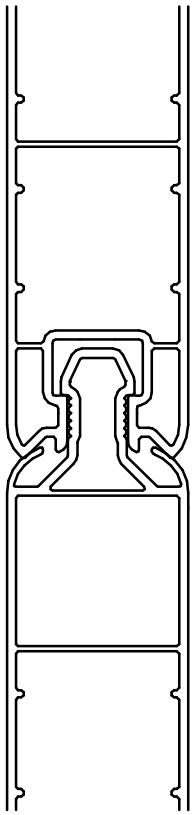

Ref. D3892
Prolongador 25mm
para guía D3891

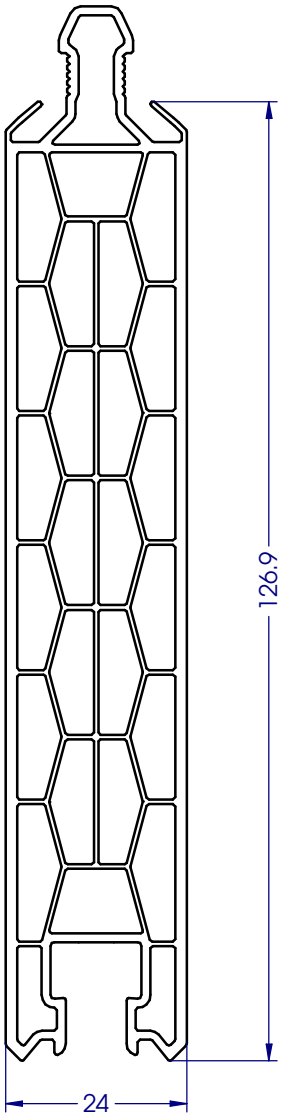
*(*) PERFILES FUERA DE STOCK. CONSULTAR PLAZO DE ENTREGA*

## Complementos

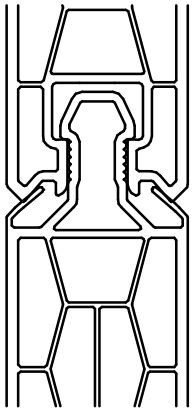



Ref. D3580
Lama Panel 300x24mm



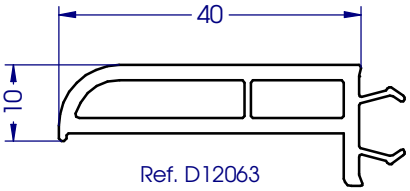



Ref. D90 (*)
Lama Panel 125x24mm

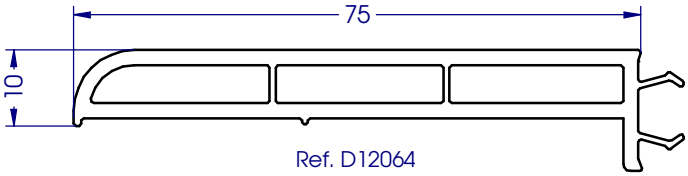


*(*) PERFILES FUERA DE STOCK. CONSULTAR PLAZO DE ENTREGA*

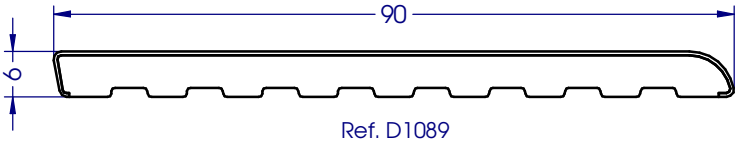
## Complementos



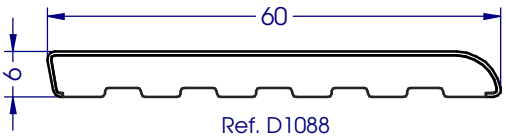

Ref. D12063
Tapajuntas Clipado 40mm



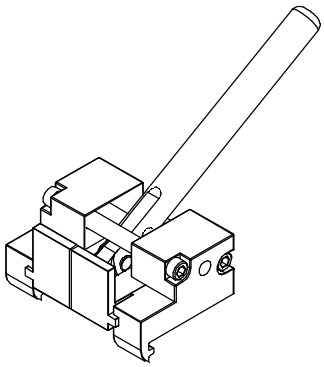

Ref. D12064
Tapajuntas Clipado 75mm



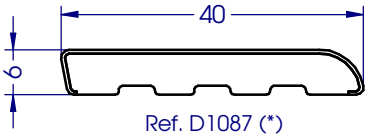

Ref. D1089
Tapajuntas 90x6mm



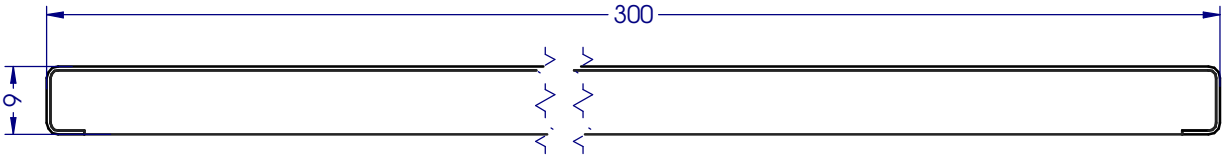

Ref. D1088
Tapajuntas 60x6mm



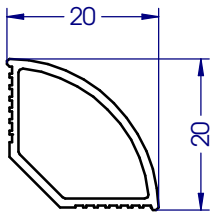
Ref. D3276
Palanca para Fijación
de Travesaños



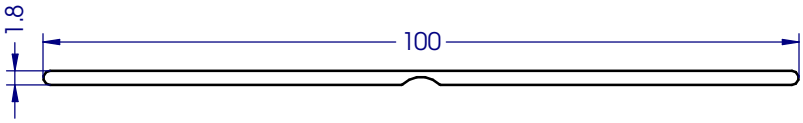

Ref. D1087 (*)
Tapajuntas de 40x6mm



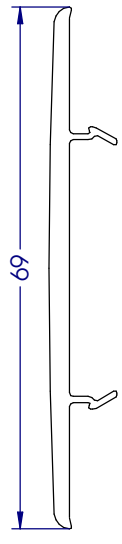

Ref. D1042 (*)
Tabla de 300x9mm



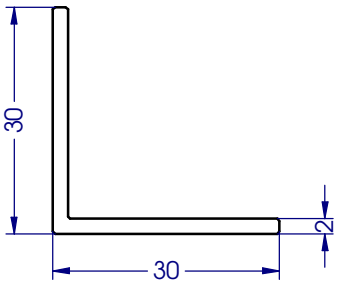

Ref. D823
Remate para ángulos
interiores 20x20mm



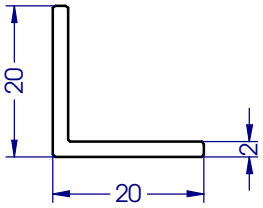

Ref. D468 (*)
Pletina 100x1,8



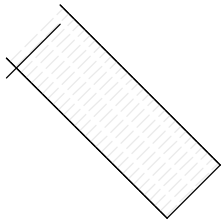

Ref.- D3346
Tapa Trasera
Cerco Safir




Ref. D194
Perfil de ángulo 30x30



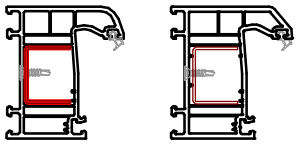
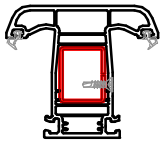
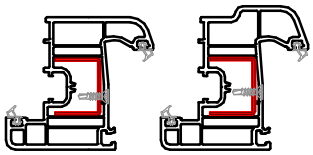
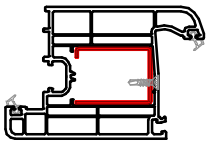
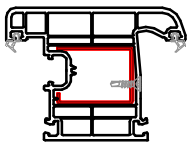
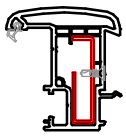

Ref. D195 (*)
Perfil de ángulo 20x20



Ref.- D15180 (*)
Plancha de PVC
3000x1000x3

*(*) PERFILES FUERA DE STOCK. CONSULTAR PLAZO DE ENTREGA*

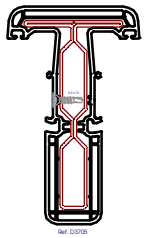
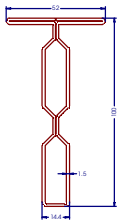
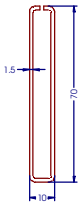
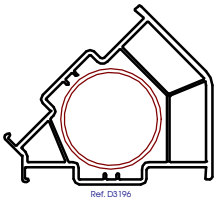
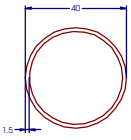
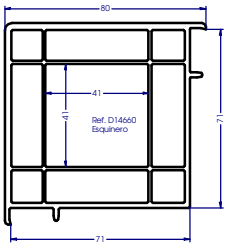
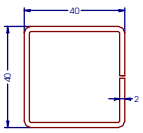
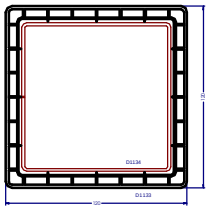
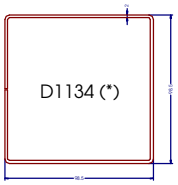
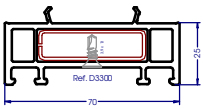
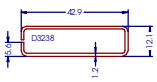
## Refuerzos

| PERFIL PVC | REFUERZO | DIMENSIÓN | **Ix (cm$^4$)** | Iy (cm$^4$) |
|---|---|---|---|---|
|  D10105 D10100 |  D11453 | 23,8 x 30 x 23,8 x 1,5 | **1,66** | 0,65 |
| |  D11454 | 23,8 x 30 x 23,8 x 2 | **2,10** | 0,83 |
| |  D11452 | 23,8 x 29,5 x 2 | **2,25** | 1,57 |
|  D10124 |  D11452 | 23,8 x 29,5 x 2 | **2,25** | 1,57 |
|  D10115 D10116 |  D11453 | 23,8 x 30 x 23,8 x 1,5 | **1,66** | 0,65 |
| |  D11454 | 23,8 x 30 x 23,8 x 2 | **2,10** | 0,83 |
|  D10119  D10118 |  D11455 | 5,5 x 40 x 30 x 40 x 1,5 | **2,71** | 2,97 |
|  D12622 |  D3221 | 26,9 x 11,4 x 45,8 x 11,4 x 1,5 | **2,91** | 0,27 |

- Tornillo recomendado para el refuerzos de la inversora: DIN 7504 A2 3,9x13
- Tornillo recomendado para el resto de refuerzos: DIN 7504 A2 3,9x16

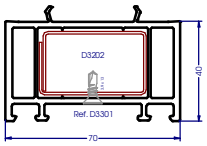
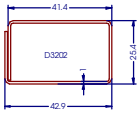
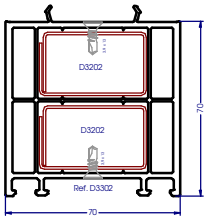
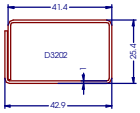
*(*) PERFILES FUERA DE STOCK. CONSULTAR PLAZO DE ENTREGA*

# Refuerzos

| PERFIL PVC | REFUERZO | DIMENSIÓN | Ix ($cm^4$) | Iy ($cm^4$) |
|---|---|---|---|---|
|  |  D3715 (*) | 100 x 52 x 1,5 | 55,09 | 4,42 |
|  |  D6760 | 70 x 10 x 1,5 | 10,23 | 0,38 |
|  |  2014 | 40 x 1,5<br>Aluminio | 3,37 | 3,37 |
|  |  D14357 | 40 x 40 x 2 | 7,14 | 7,07 |
|  |  D1134 (*) | 98,5 x 2 | 11,82 | 11,77 |
|  |  D3238 | 42,0 x 12,1 x 5,6 x 1,2 | 2,47 | 0,31 |

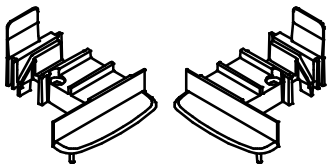
*(*) PERFILES FUERA DE STOCK. CONSULTAR PLAZO DE ENTREGA*

## Refuerzos

| PERFIL PVC | REFUERZO | DIMENSIÓN | Ix ($cm^4$) | Iy ($cm^4$) |
|---|---|---|---|---|
|  |  D3202 (*) | 42,9 x 25,4 x 41,4 x 1 | 3,83 | 1,49 |
|  |  D3202 (*) x2 | 42,9 x 25,4 x 41,4 x 1 | 7,65 | 2,98 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

*(*) PERFILES FUERA DE STOCK. CONSULTAR PLAZO DE ENTREGA*

# Accesorios



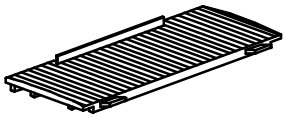
Ref.- D3252
Tapones de Inversora D12622



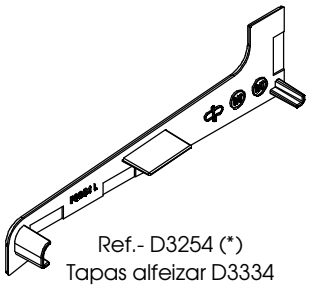
Ref.- D3299 (*)
Goma Universal



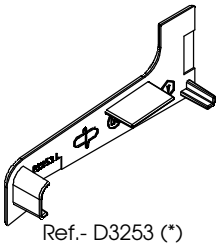
Ref.- D3261
Tapa de desagüe



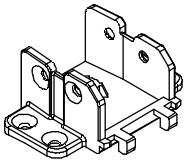
Ref.- D13106
Cuña de acristalamiento



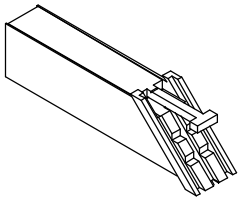
Ref.- D3254 (*)
Tapas alfeizar D3334



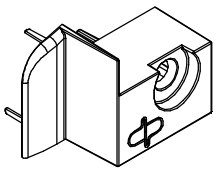
Ref.- D3253 (*)
Tapas alfeizar D3333



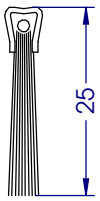
Ref.- D10540
Unión Mecánica para
travesaño D10124



Ref.- D11644
Unión Soldable para Puerta de
Entrada



Ref. D3265 (*)
Remate Cortavientos Puerta




Ref.- D836 (*)
Felpudo D3305



Ref.- D12098 (*)
Escuadra de alineamiento para
D12063 y D12064



Ref.- D373
Rotulador para repaso de
soldadura



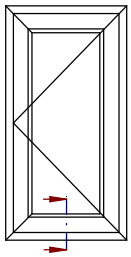
Ref.- D962 (*)
Pegamento PVC
Deco-Coll



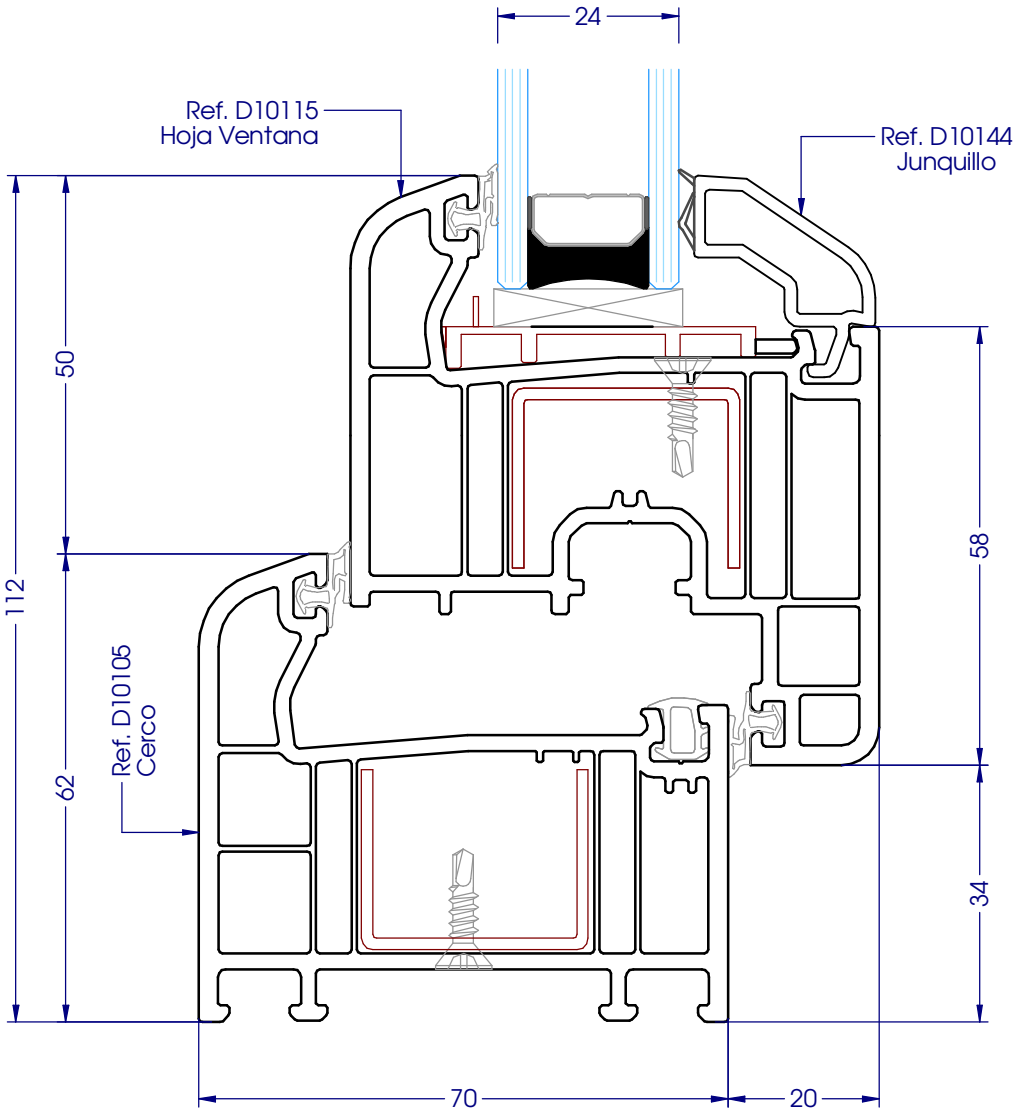

Ref.- D964
Kit Limpieza Perfiles

*(*) ACCESORIOS FUERA DE STOCK. CONSULTAR PLAZO DE ENTREGA*

# Hoja de Ventana - Cerco D10105

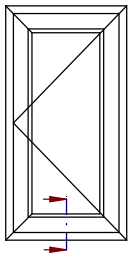


Ventana 1H

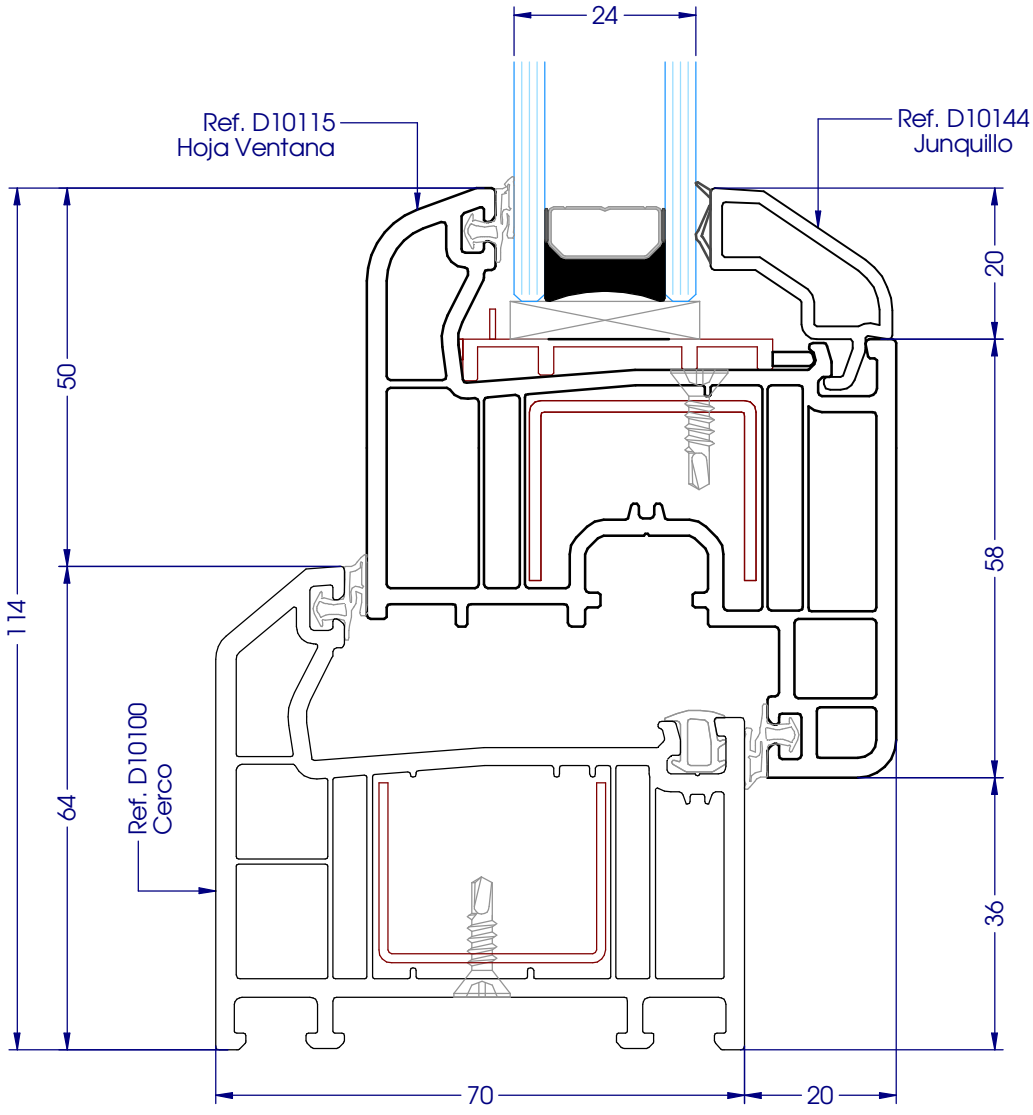



ESCALA 1:1

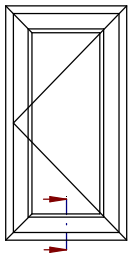
# Hoja de Ventana - Cerco D10100



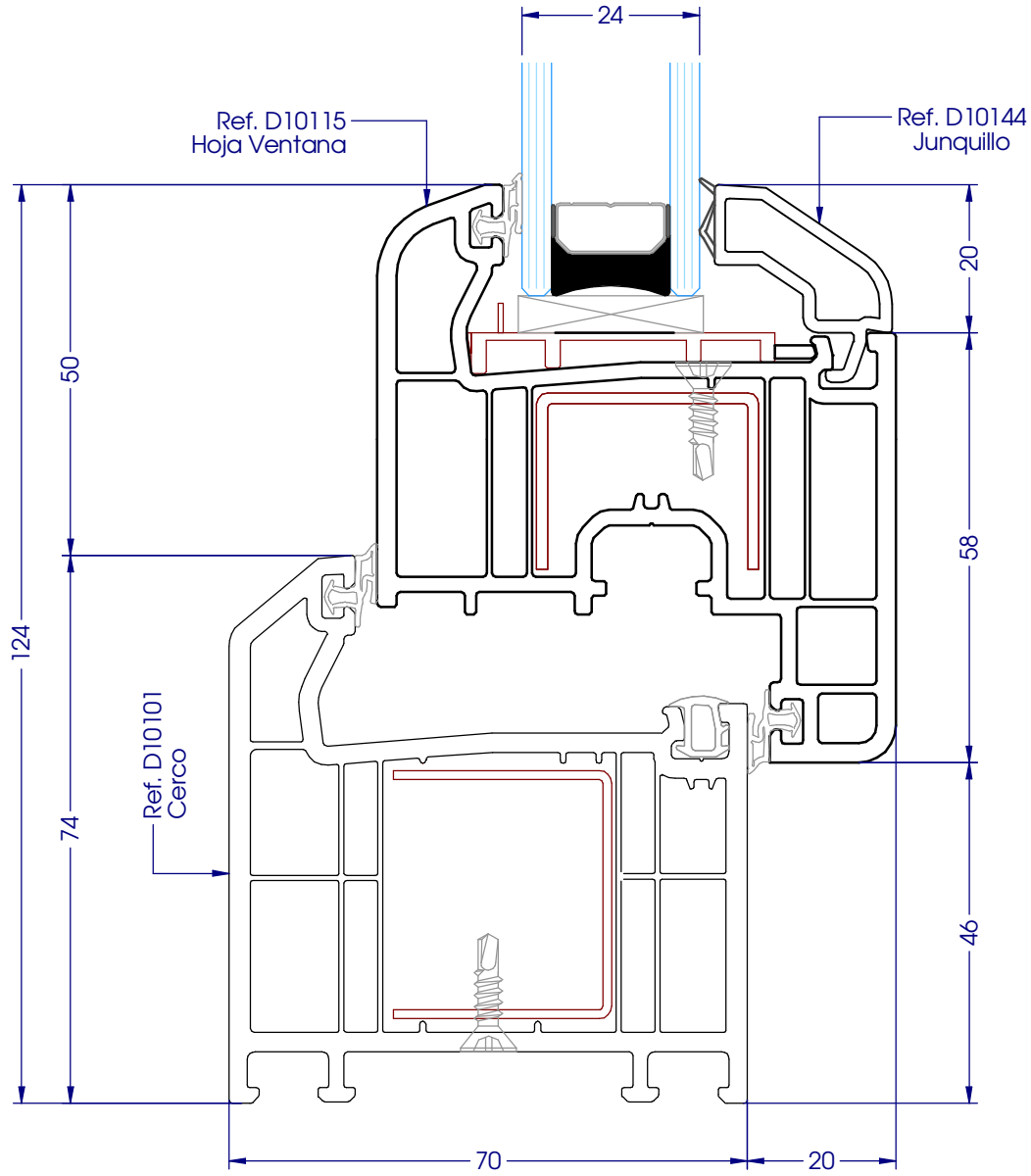
Ventana 1H



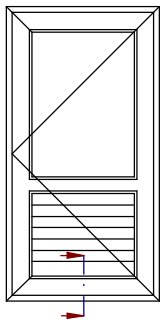
# Hoja de Ventana - Cerco D10101



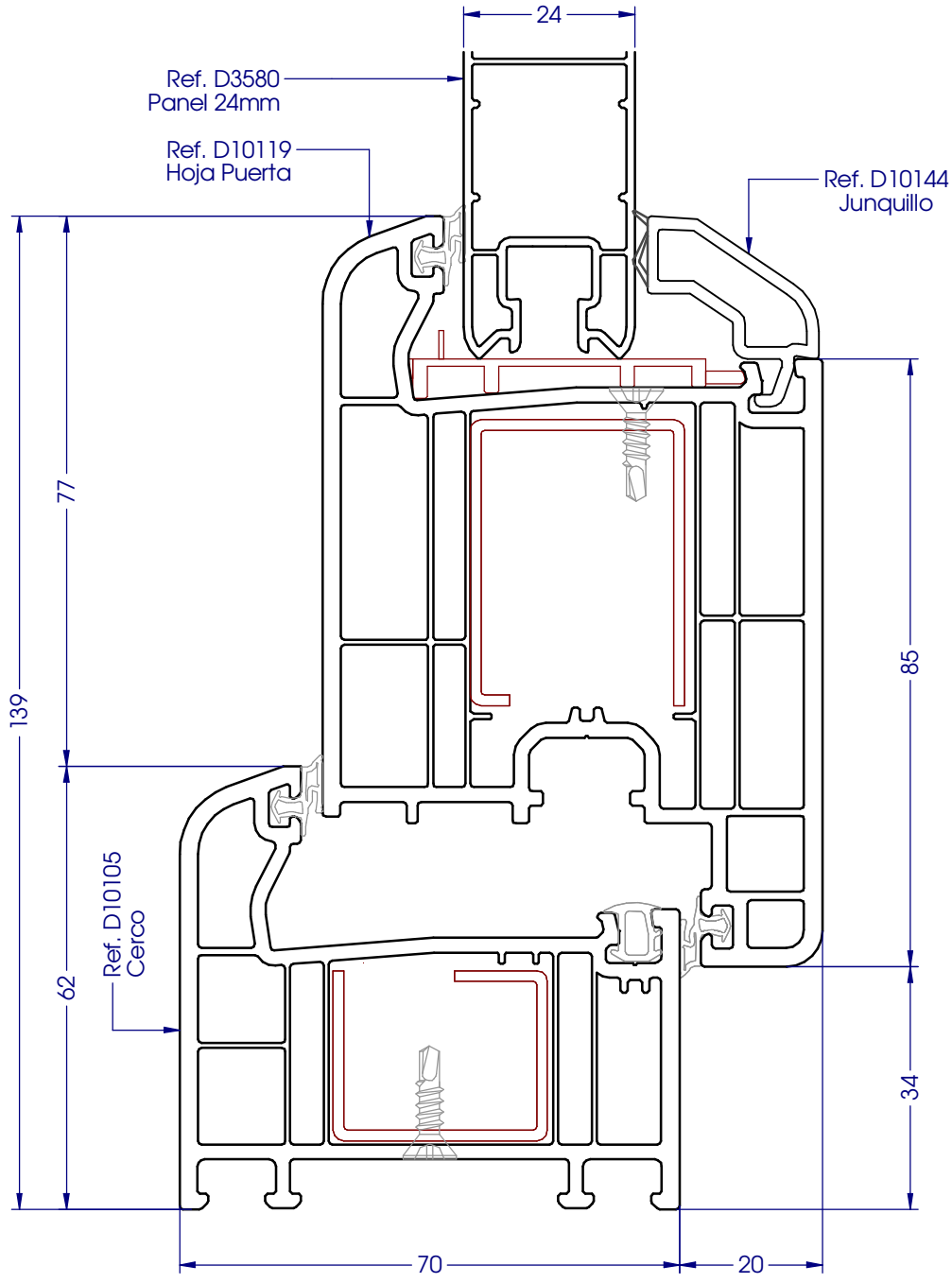
Ventana 1H



# Hoja de Puerta. Apertura Interior - Cerco D10105

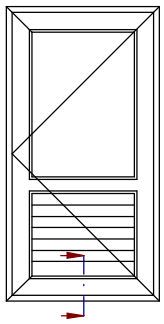


Puerta 1H
Ap. Interior

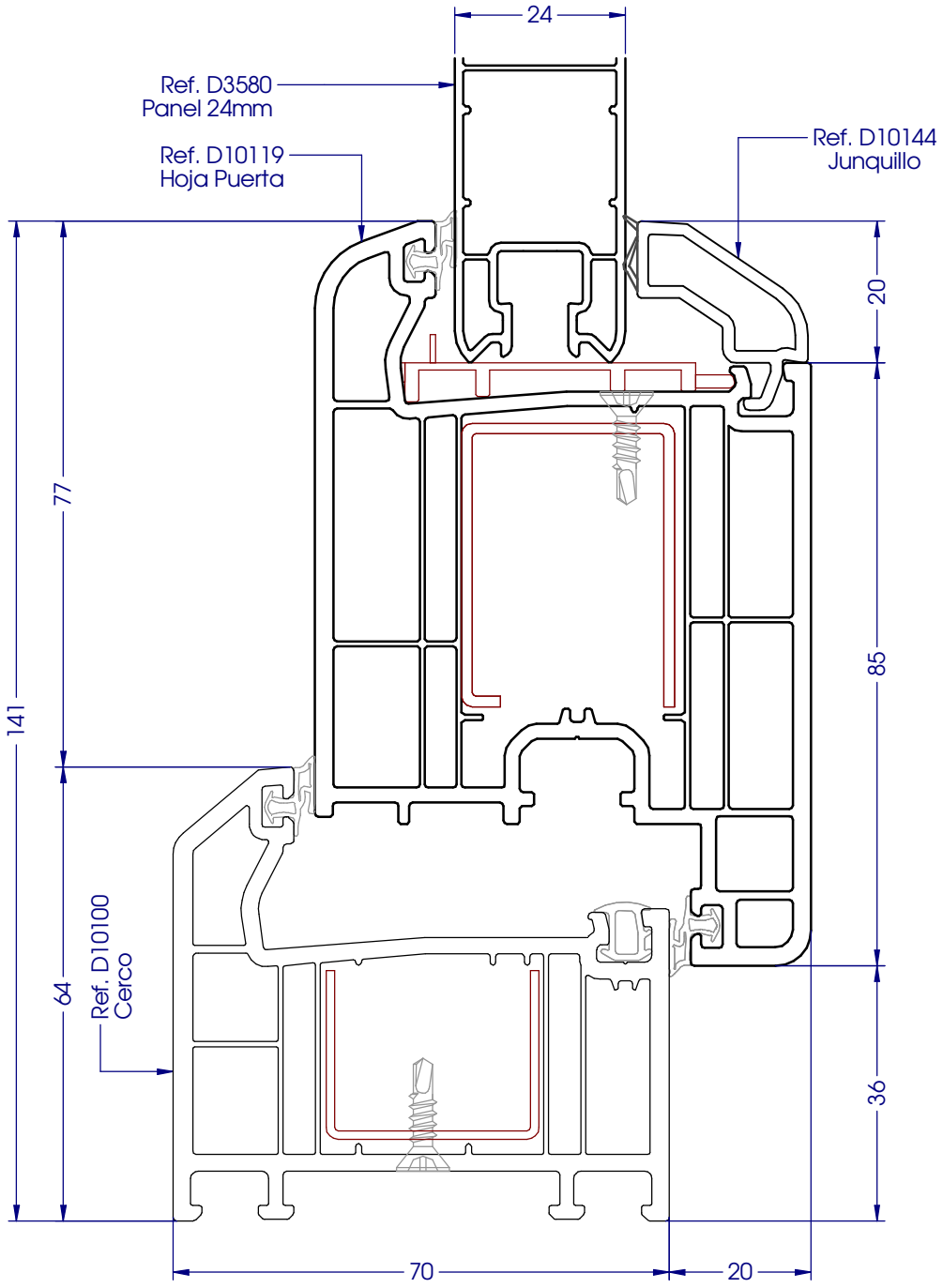



ESCALA 1:1

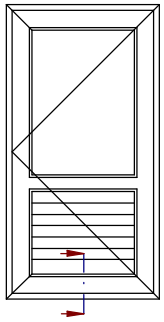
# Hoja de Puerta. Apertura Interior - Cerco D10100



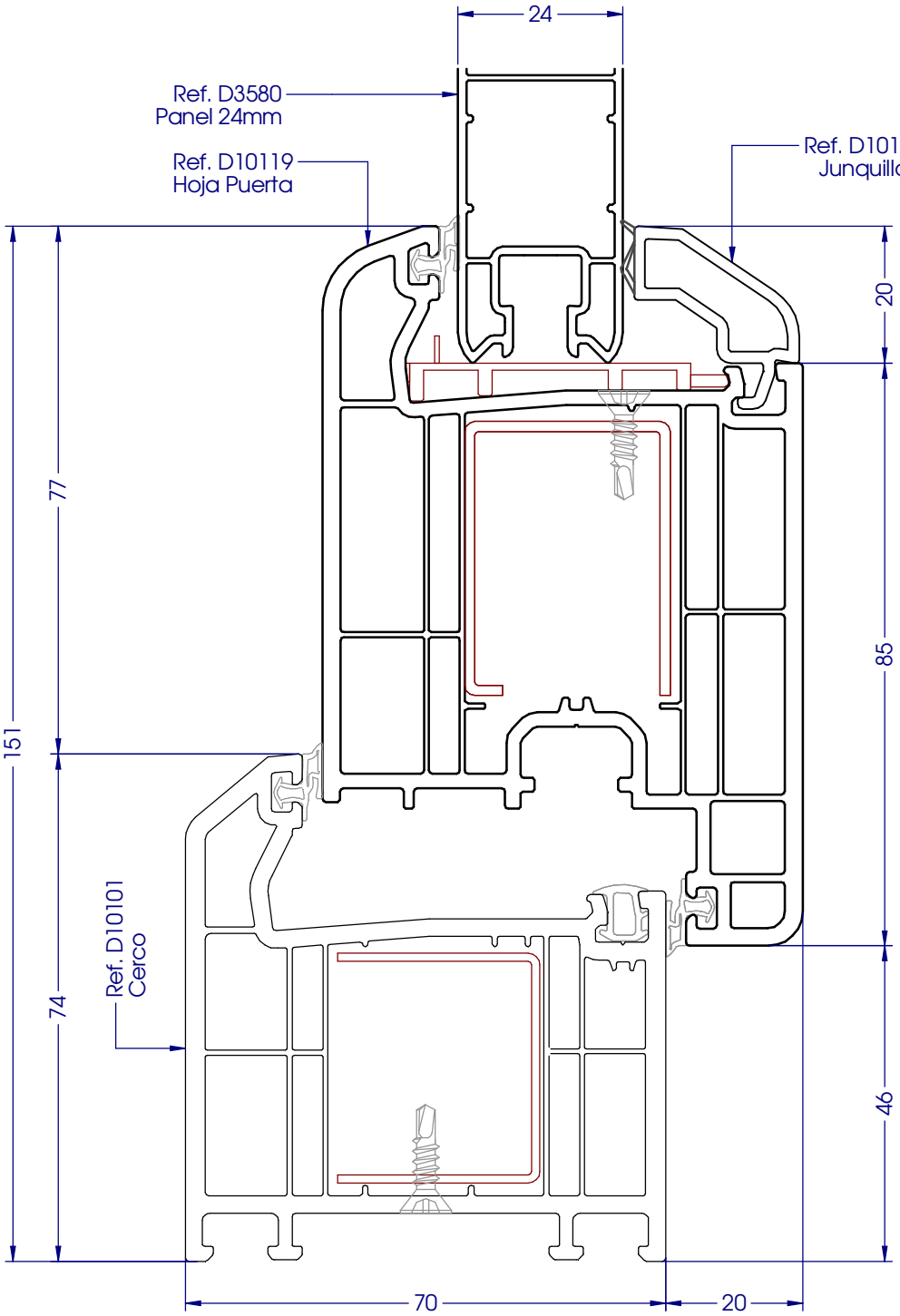
Puerta 1H
Ap. Interior



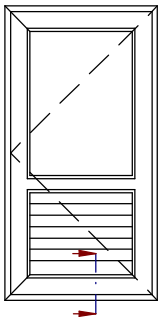
# Hoja de Puerta. Apertura Interior - Cerco D10101



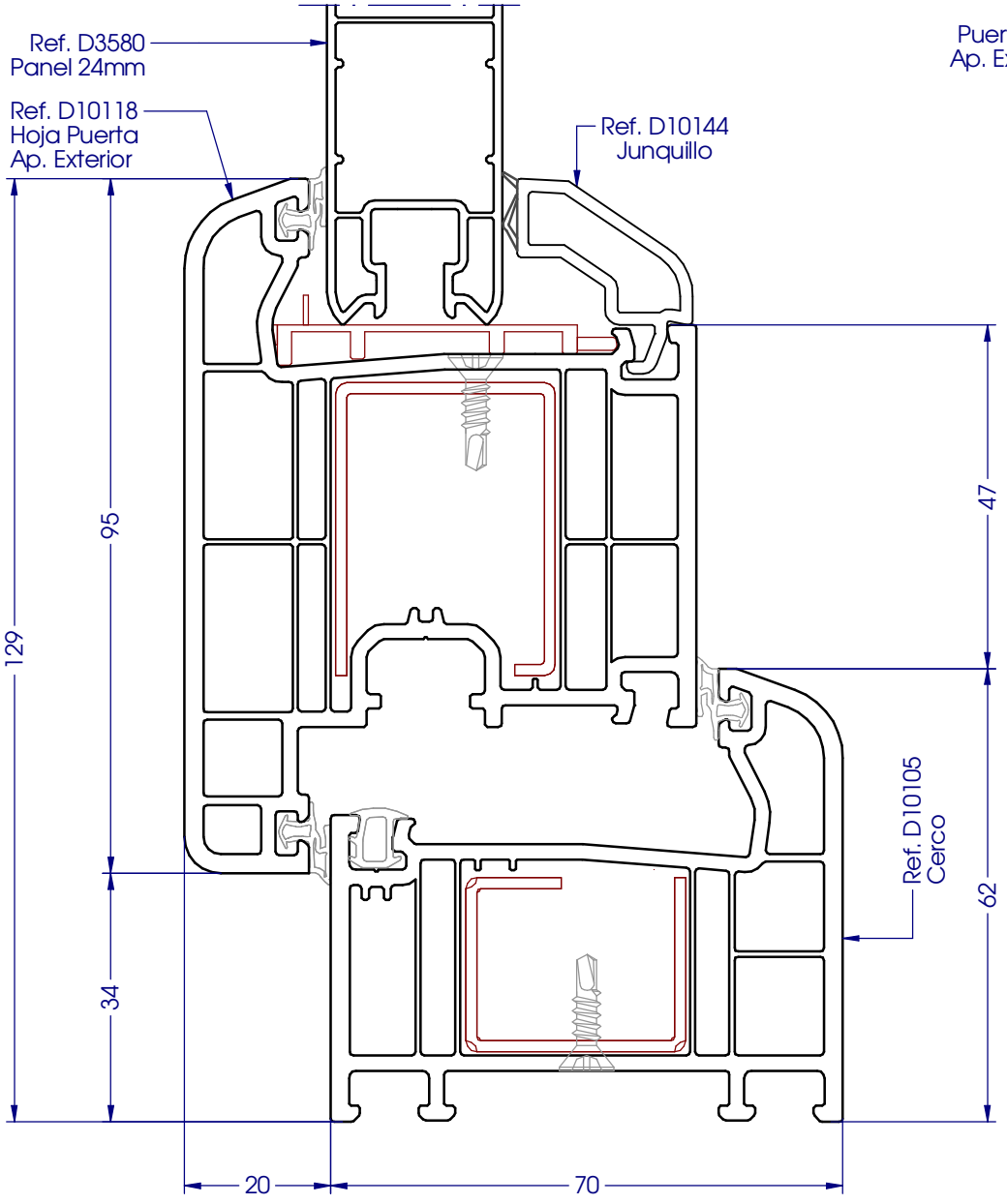
Puerta 1H
Ap. Interior



# Hoja de Puerta. Apertura Exterior - Cerco D10105

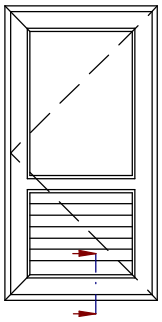


Puerta 1H
Ap. Exterior

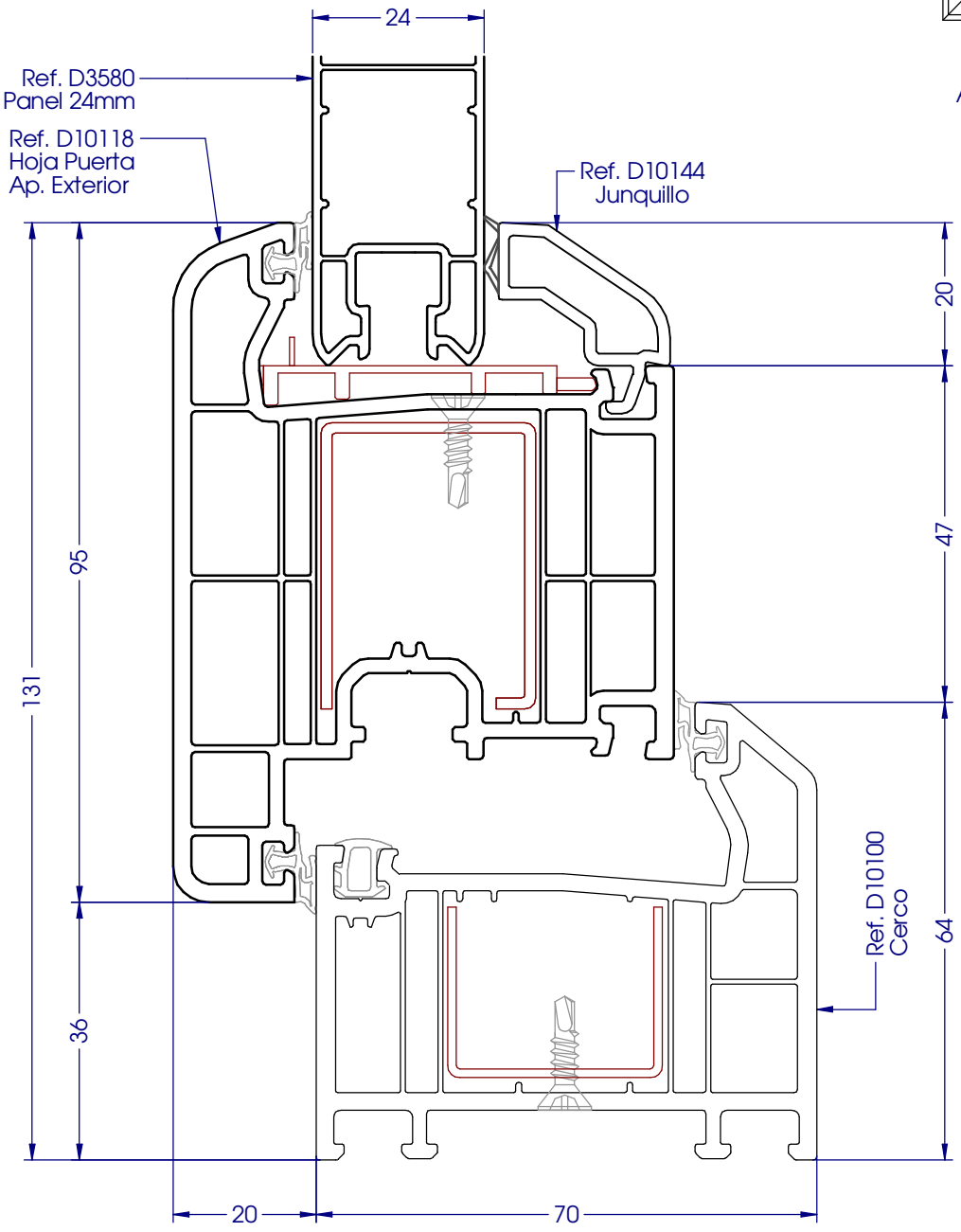



ESCALA 1:1

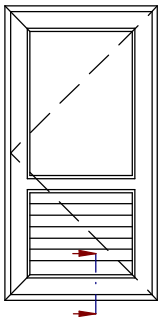
# Hoja de Puerta. Apertura Exterior - Cerco D10100



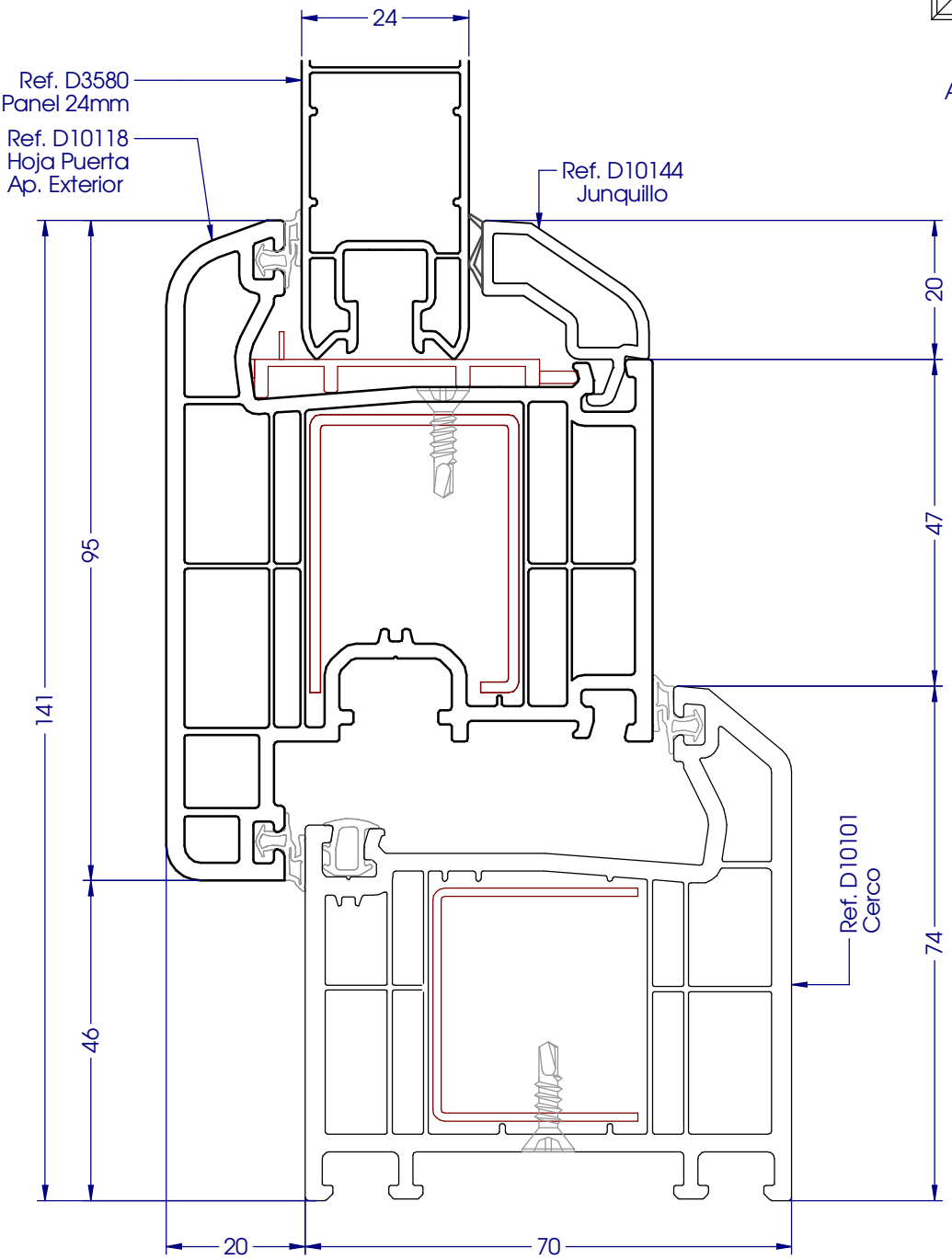
Puerta 1H
Ap. Exterior



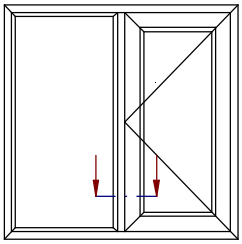
# Hoja de Puerta. Apertura Exterior - Cerco D10101



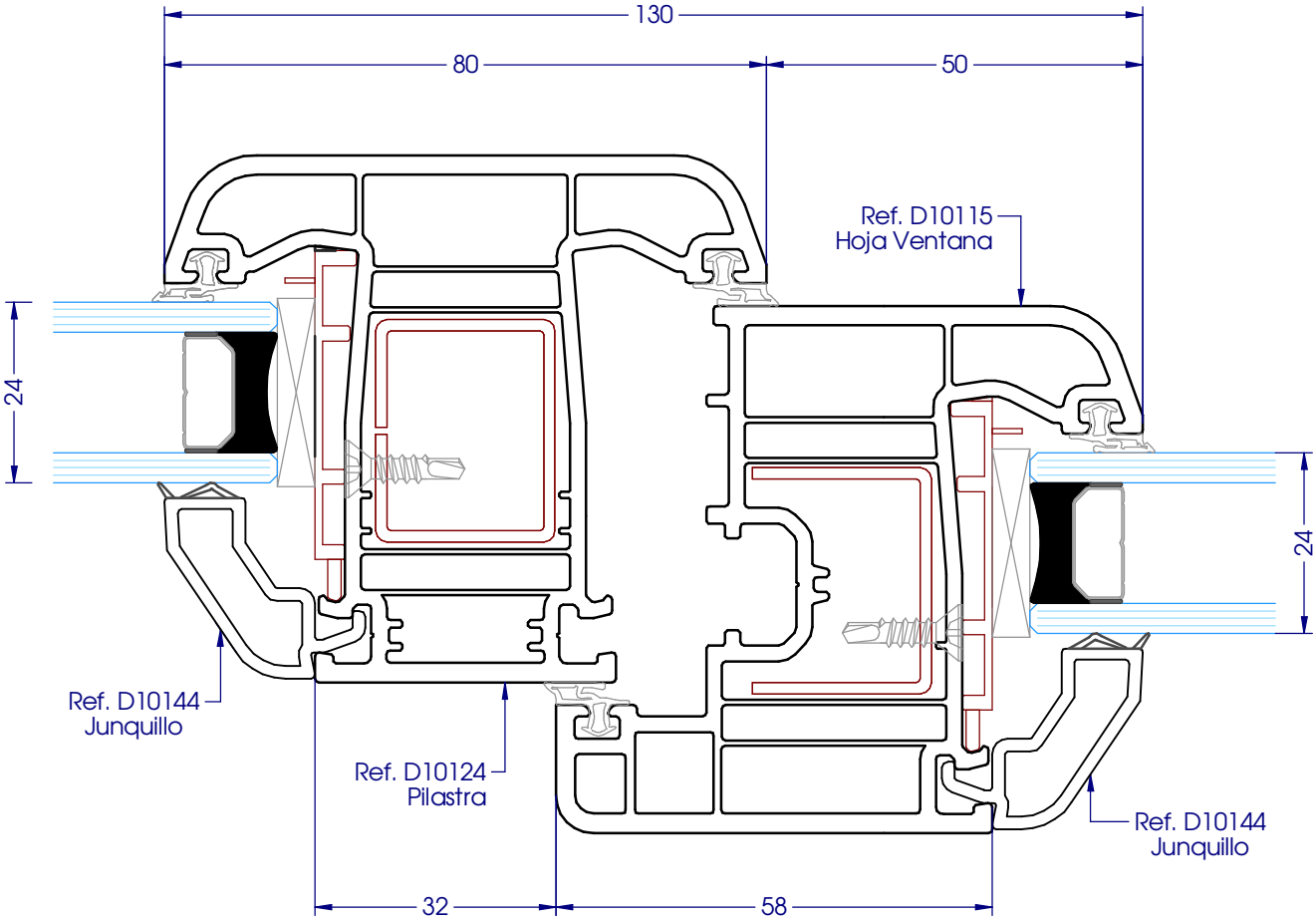
Puerta 1H
Ap. Exterior



# Hoja de Ventana + Pilastra

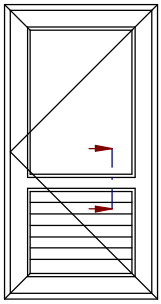


Ventana 1H + Fijo

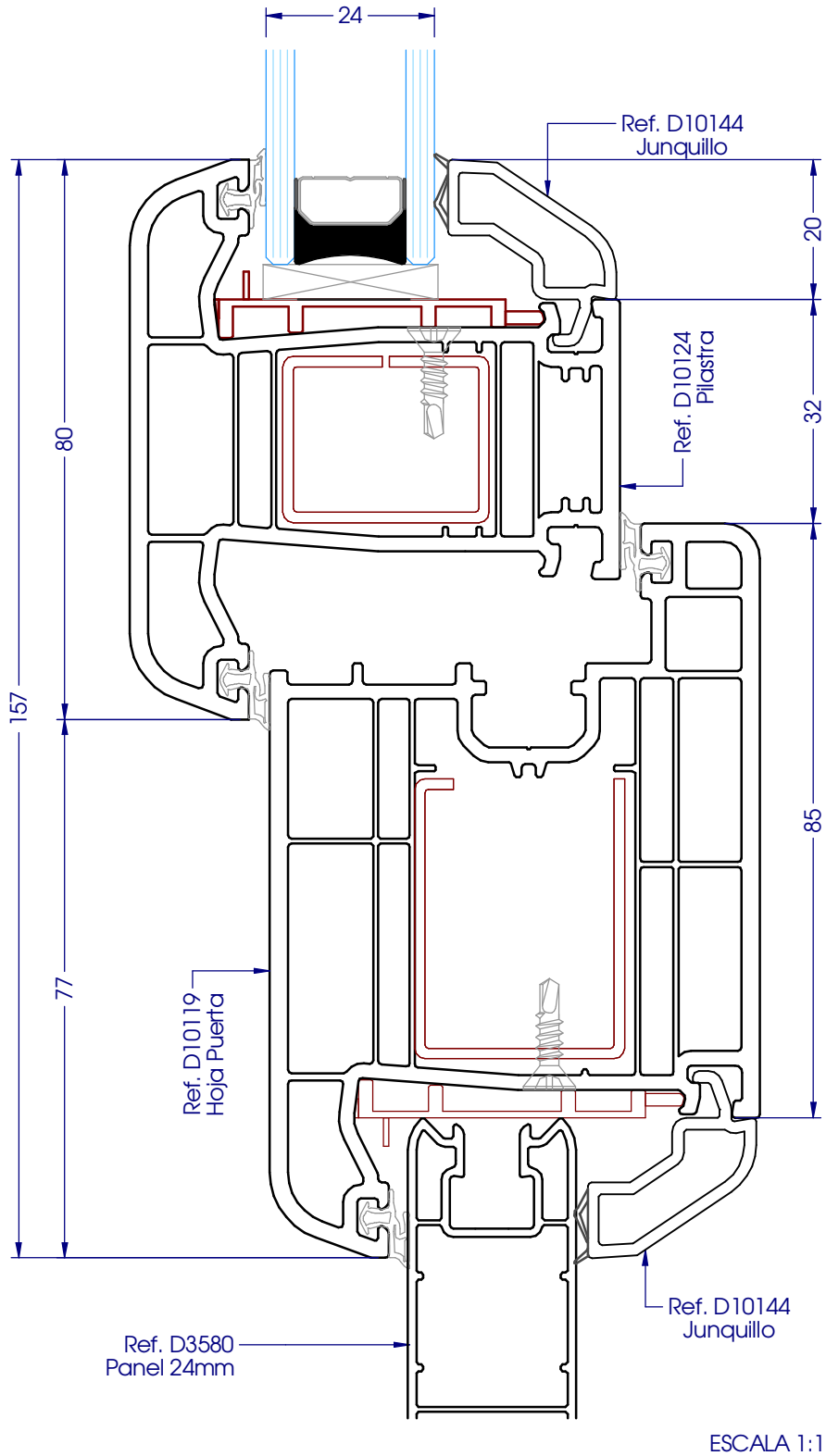



ESCALA 1:1

# Hoja de Puerta + Pilastra. Apertura Interior

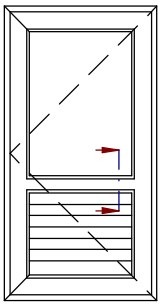


Puerta 1H
Ap. Interior

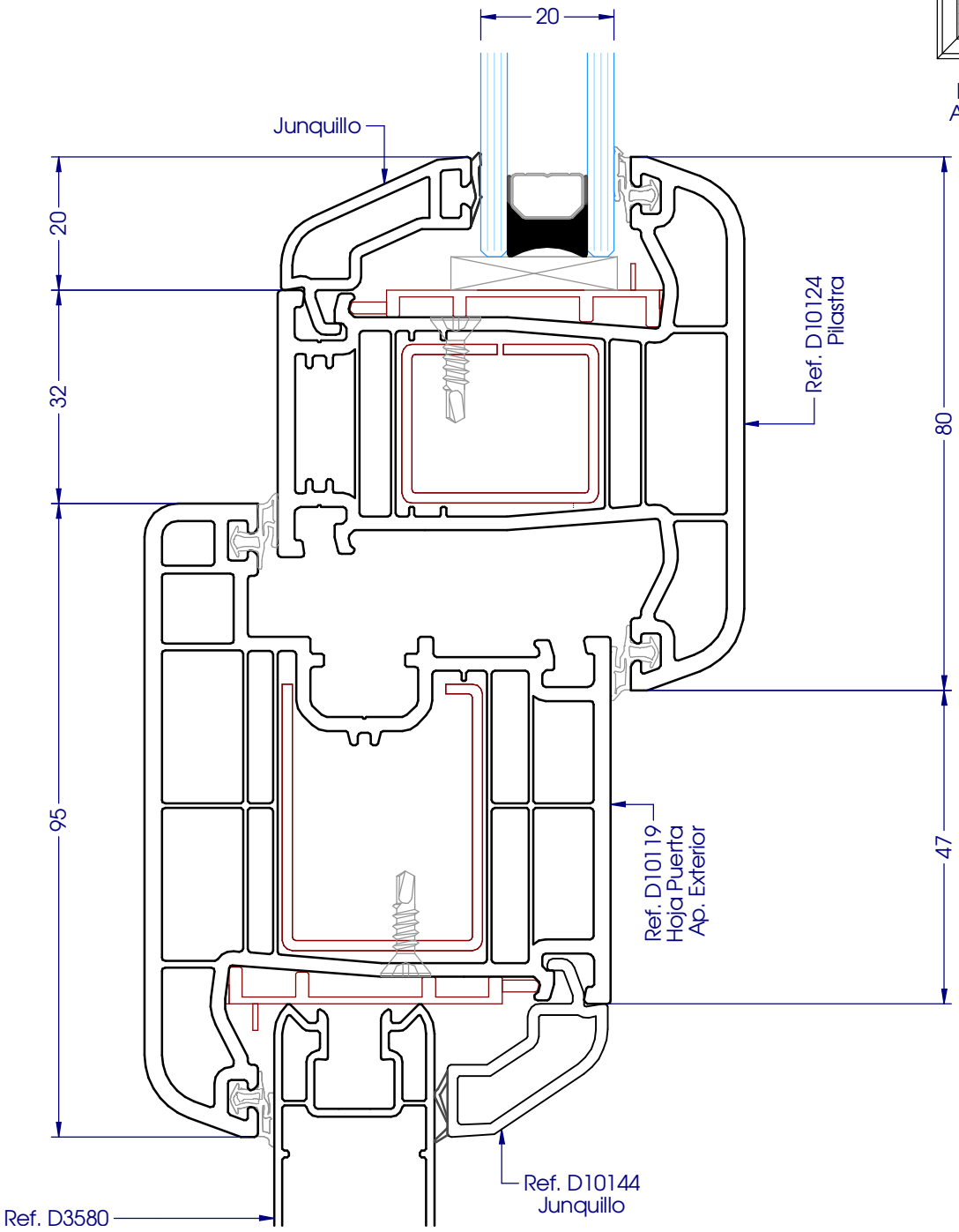



ESCALA 1:1

# Hoja de Puerta + Pilastra. Apertura Exterior

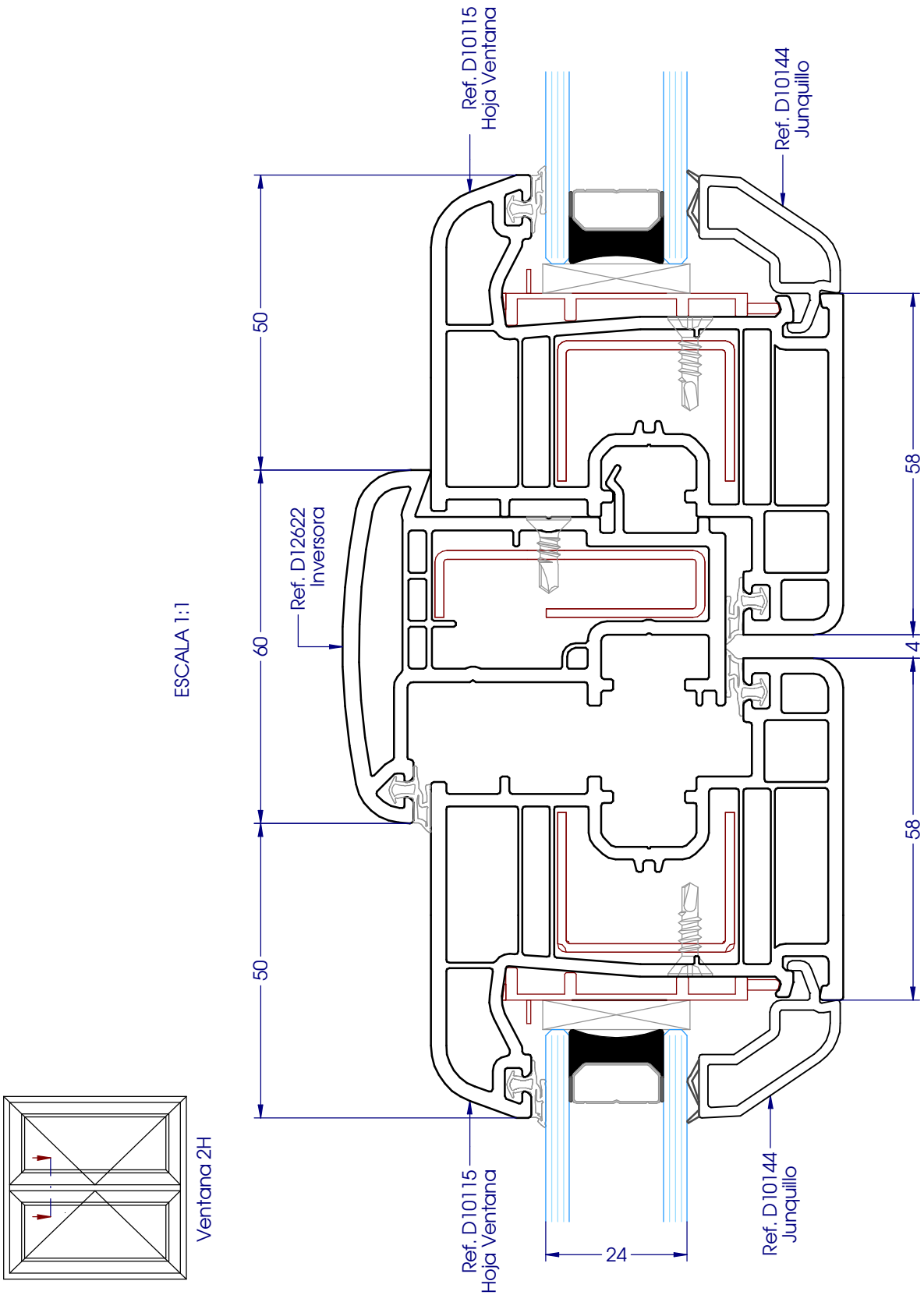


Puerta 1H
Ap. Exterior

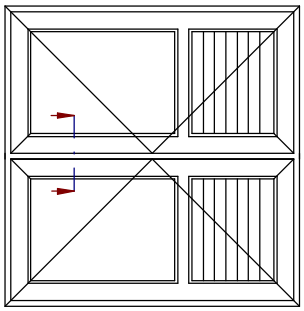



ESCALA 1:1

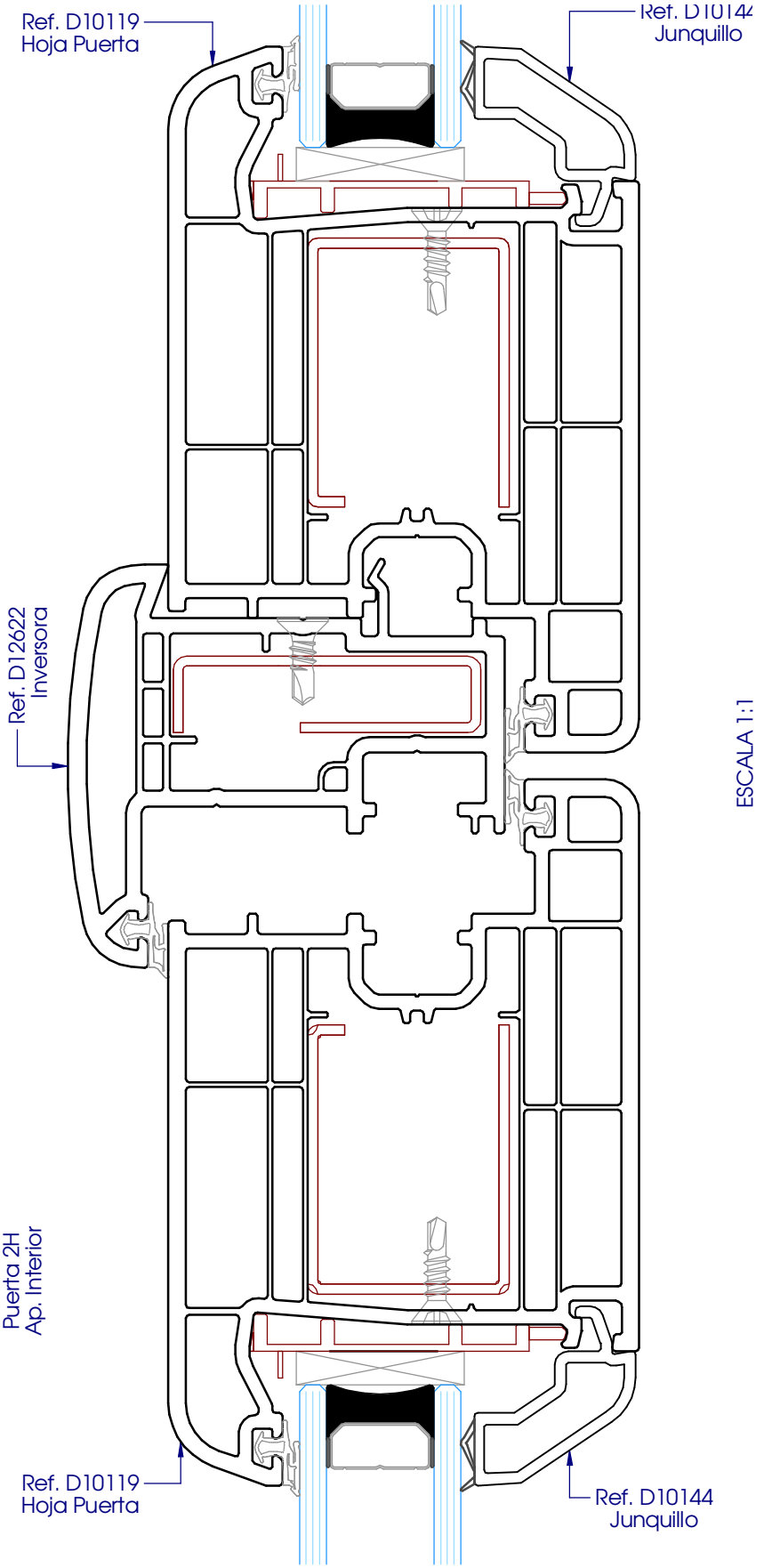
# Inversora + Hoja de Ventana



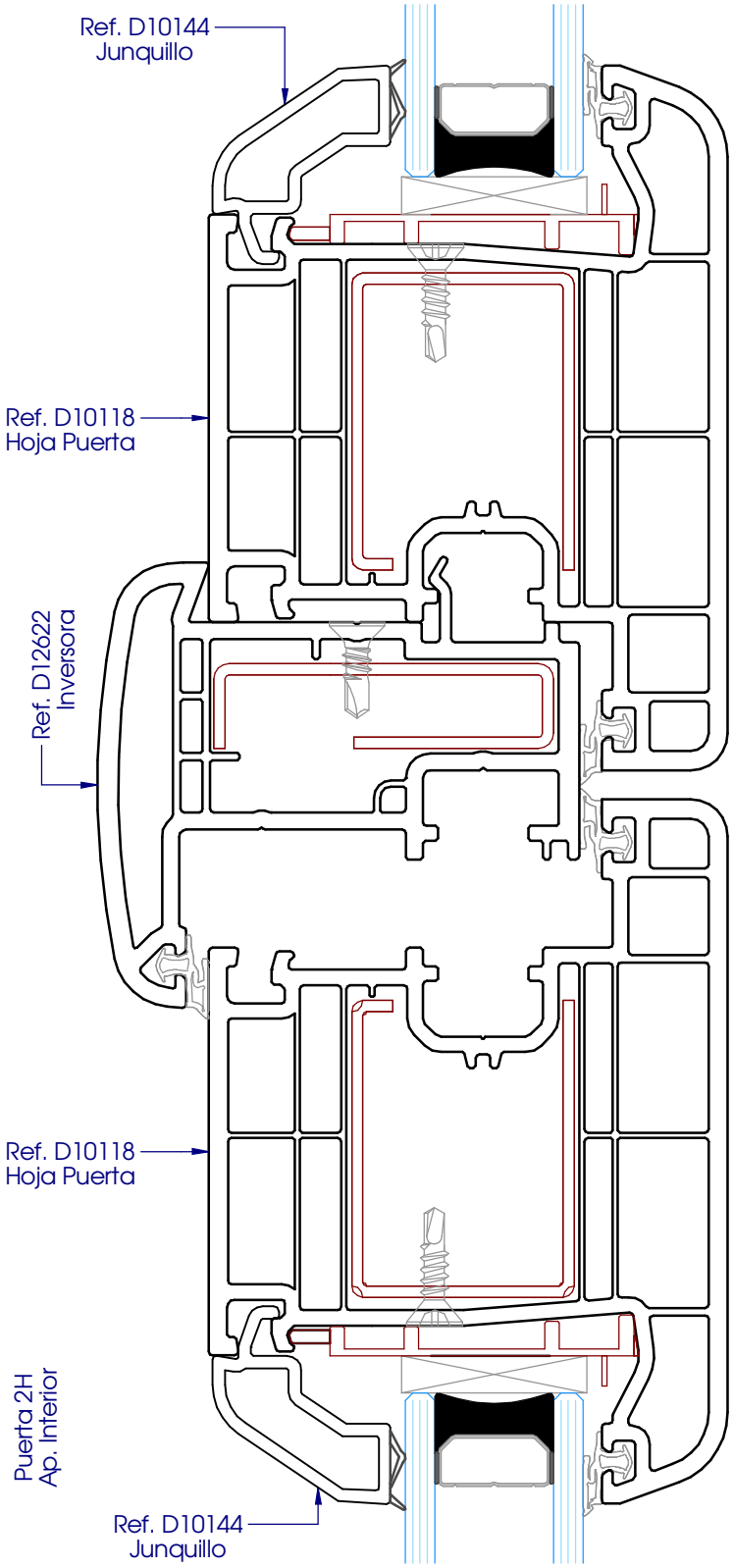
# Inversora + Hoja de Puerta. Apertura Interior

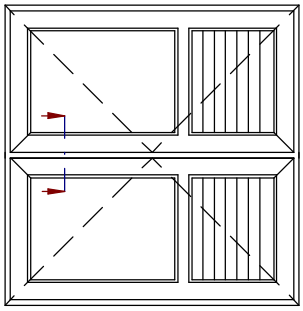


Puerta 2H
Ap. Interior

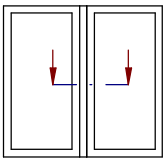


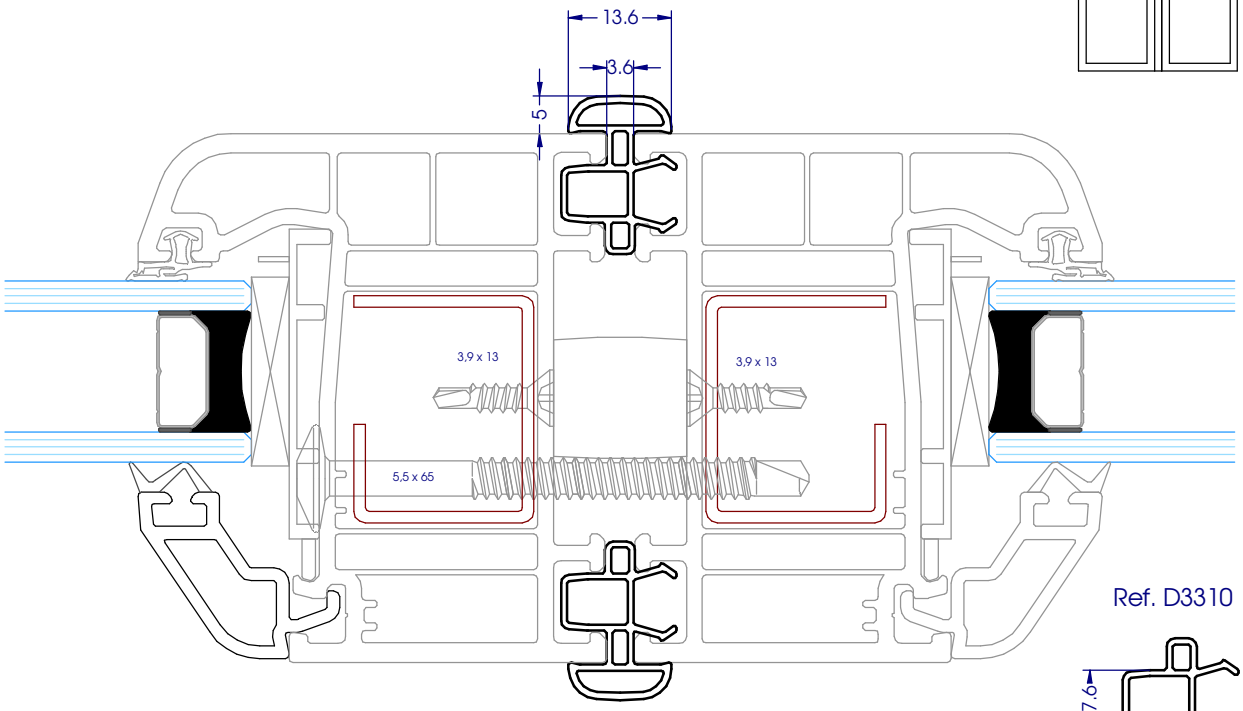
# Inversora + Hoja de Puerta. Apertura Exterior



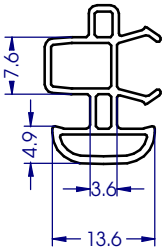



# Uniones de Cercos (no estructural) - D3310 y D3312



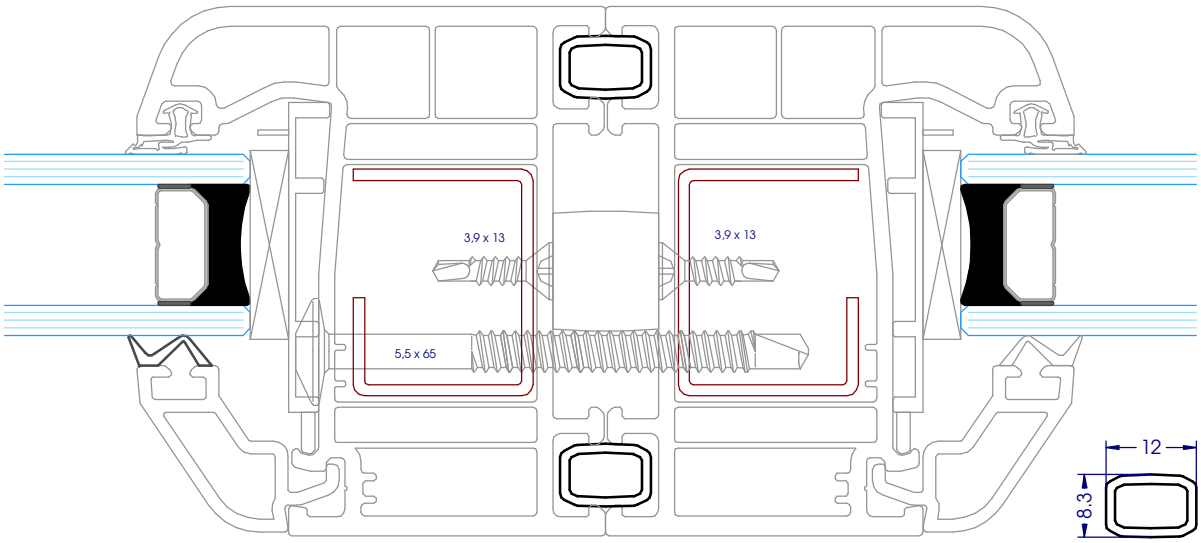



Ref. D3310




Ref. D3310

ESCALA
1:1

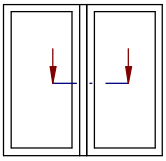


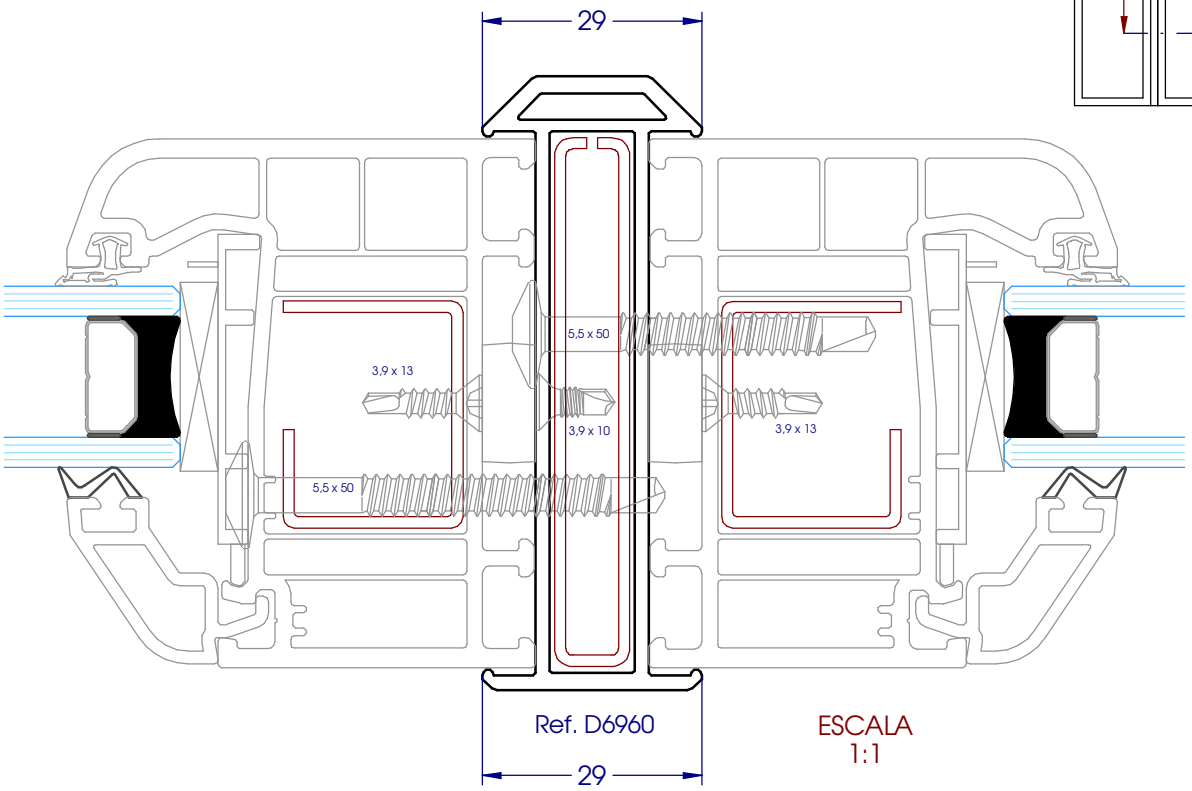

Ref. D3312

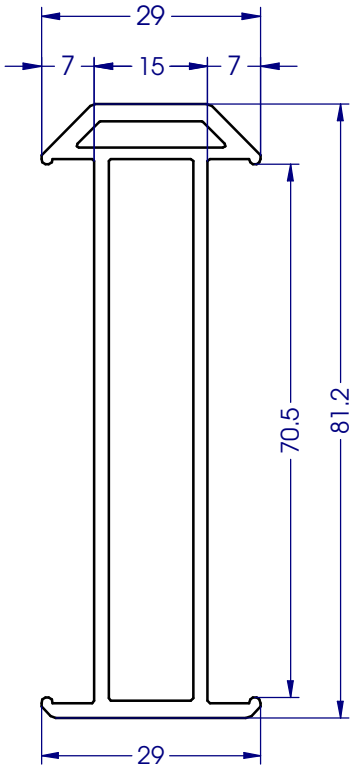



Ref. D3312

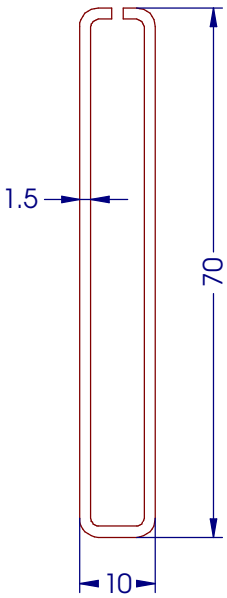
# Uniones de Cercos (estructural) - D6960

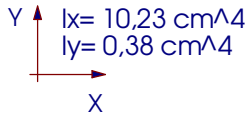





ESCALA
1:1




**BASTIDORES UNIDOS HORIZONTALMENTE**

**Unión de dos elementos en el mismo plano**
**Estructural**

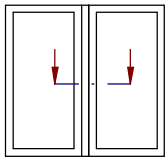
Fijación:
Atornillar a través del primer bastidor y ajustando el segundo contra el perfil de unión. La longitud del tornillo depende de la elección del bastidor y del perfil de unión. Una junta precomprimida deberá ser instalada en el centro para evitar la infiltración de aire.

NOTA:
Considerar principalmente en perfiles de color y bastidores grandes un perfil de unión capaz de absorver la dilatación del bastidor, en caso contrario podrían ser partirdas las soldaduras.

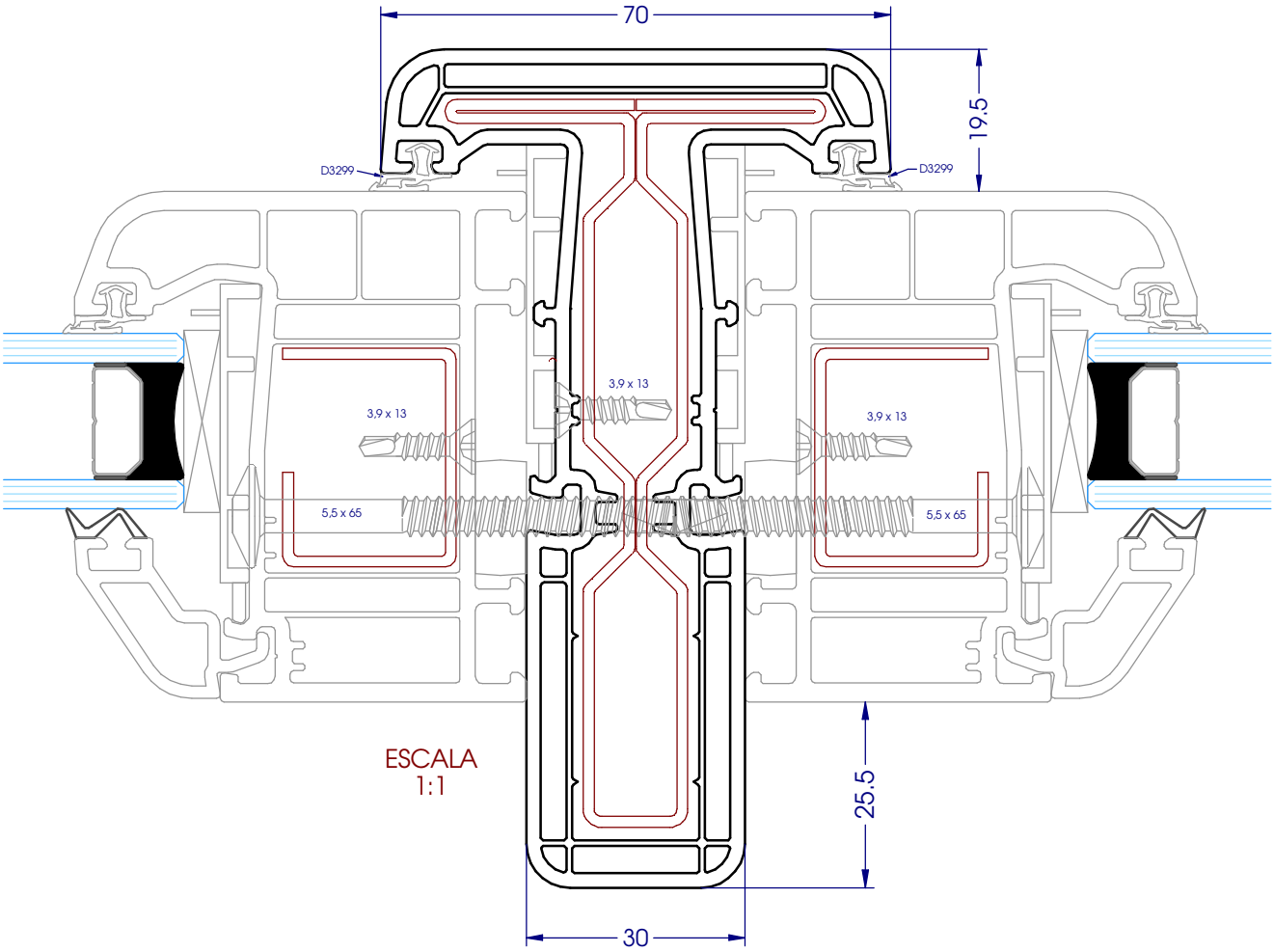
POSIBILIDADES:
La unión con estos tipos de perfiles es visto.

...continua...

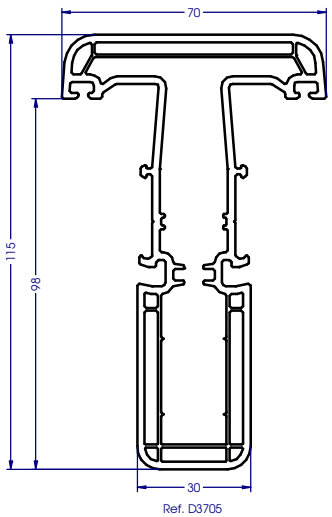
# Uniones de Cercos (estructural) - D3705



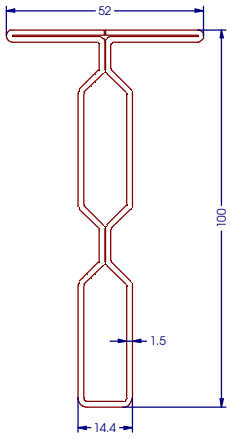
Ref. D3705




ESCALA
1:1




Ref. D3705

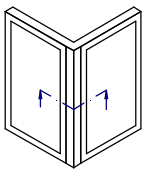


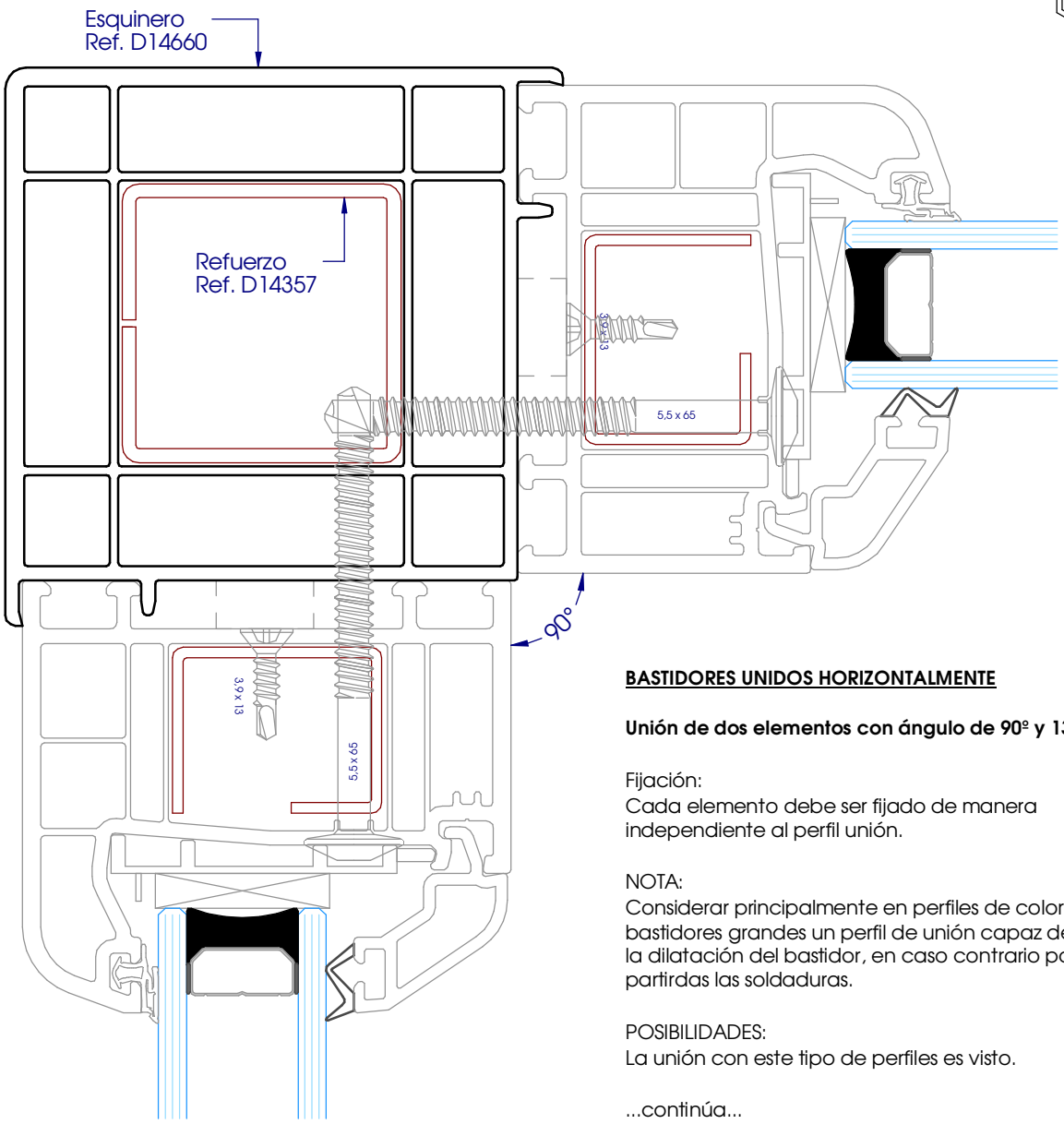

Ref. D3715

Y
Ix= 55,09 cm^4
Iy= 4,42 cm^4

ESCALA
1:2

# Unión de Esquina a 90º - D14660






**BASTIDORES UNIDOS HORIZONTALMENTE**

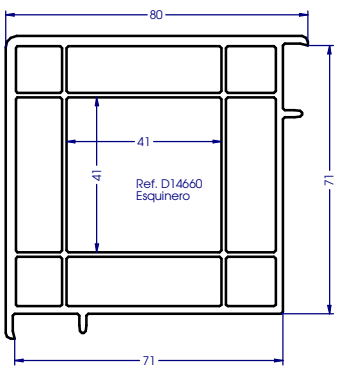
**Unión de dos elementos con ángulo de 90º y 135º**

Fijación:
Cada elemento debe ser fijado de manera independiente al perfil unión.

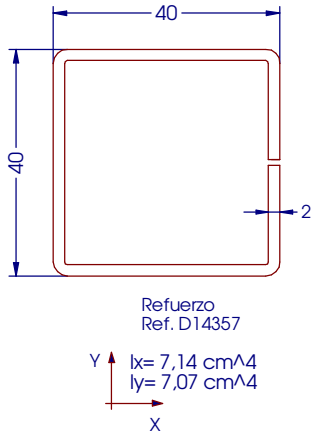
NOTA:
Considerar principalmente en perfiles de color y bastidores grandes un perfil de unión capaz de absorver la dilatación del bastidor, en caso contrario podrían ser partirdas las soldaduras.

POSIBILIDADES:
La unión con este tipo de perfiles es visto.

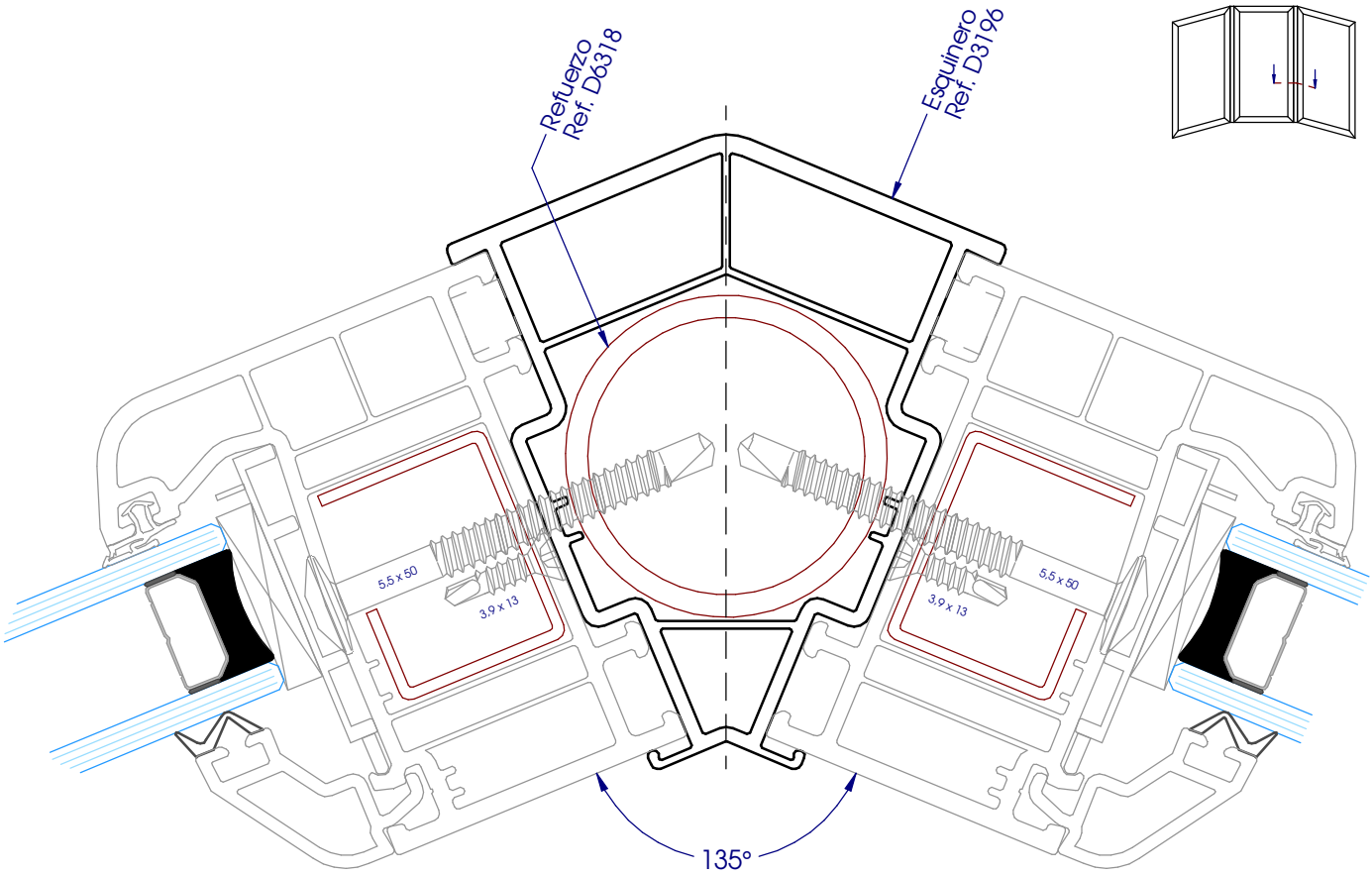
...continúa...

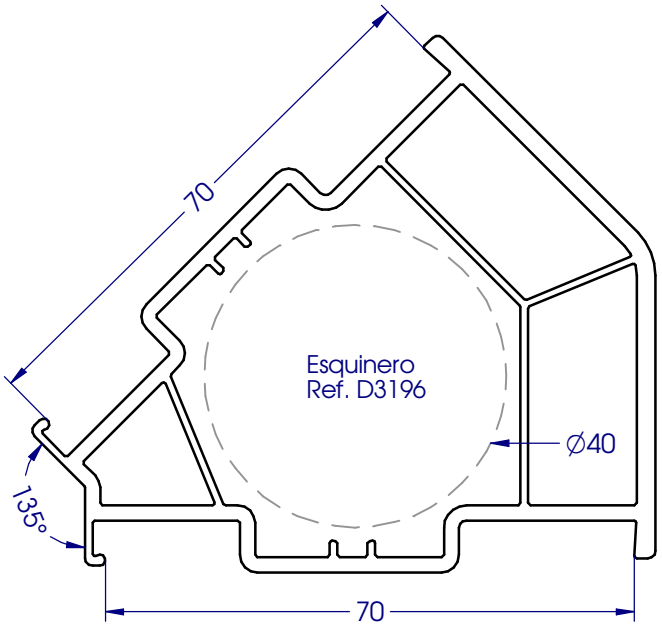


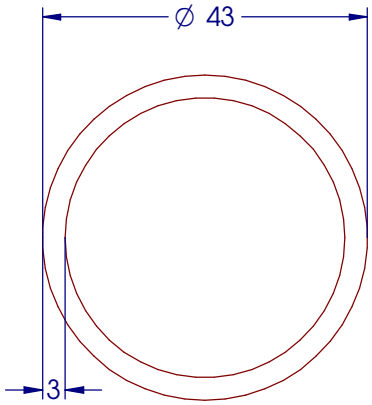

ESCALA 1:2



# Unión de Esquina a 135º - D3196

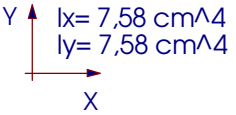


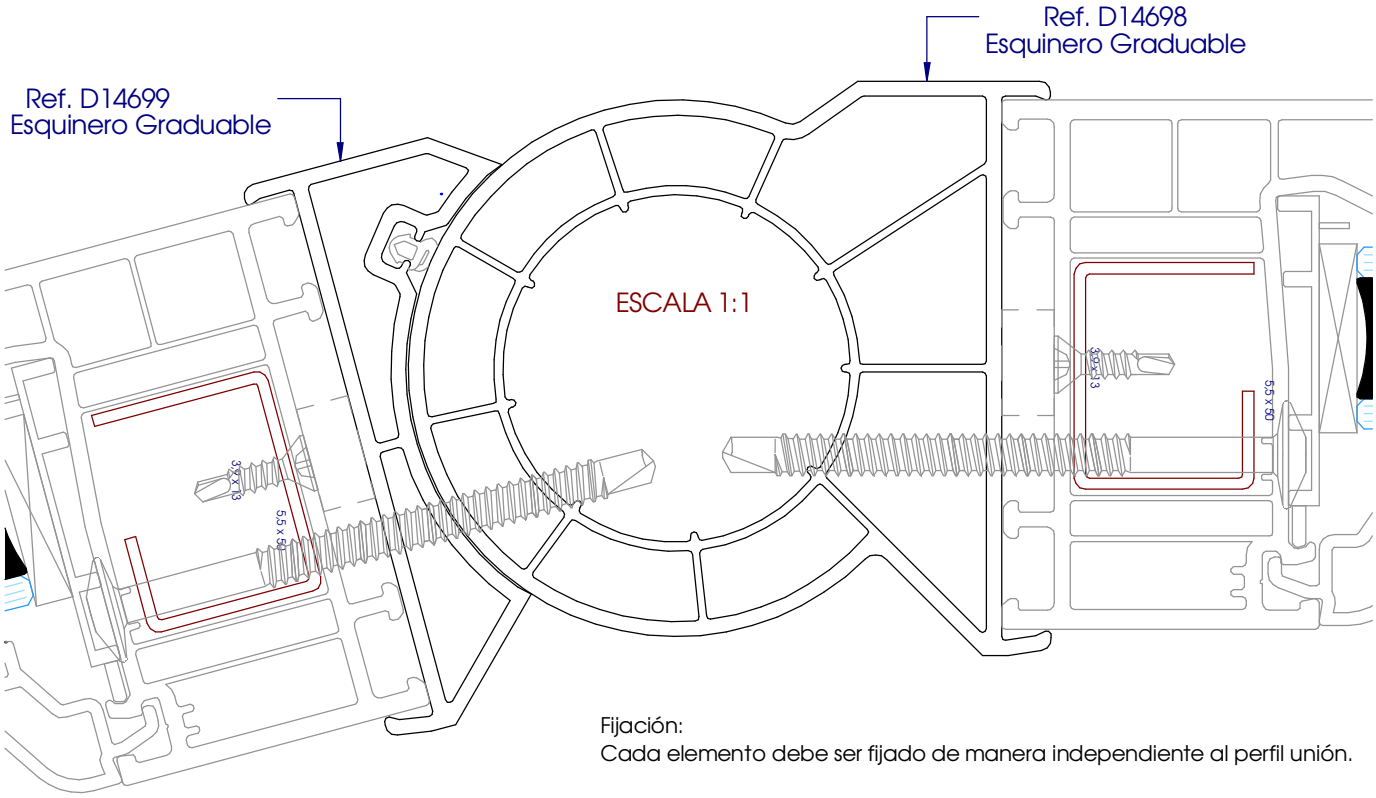




Refuerzo
Ref. D6318

ESCALA
1:1



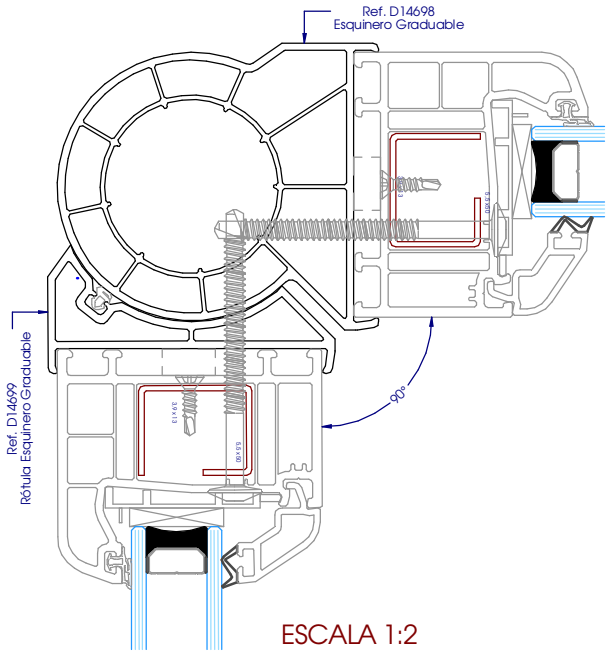
# Unión en Esquina Regulable - D14698 y D14699

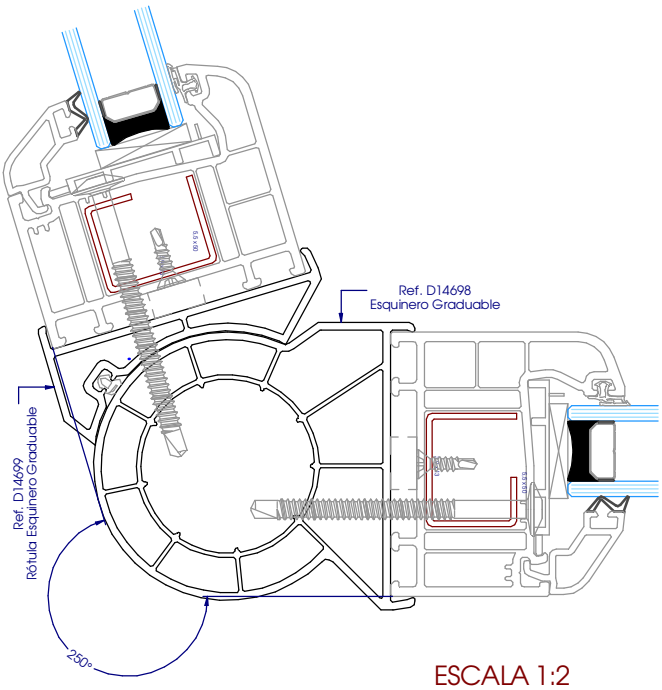



Fijación:
Cada elemento debe ser fijado de manera independiente al perfil unión.

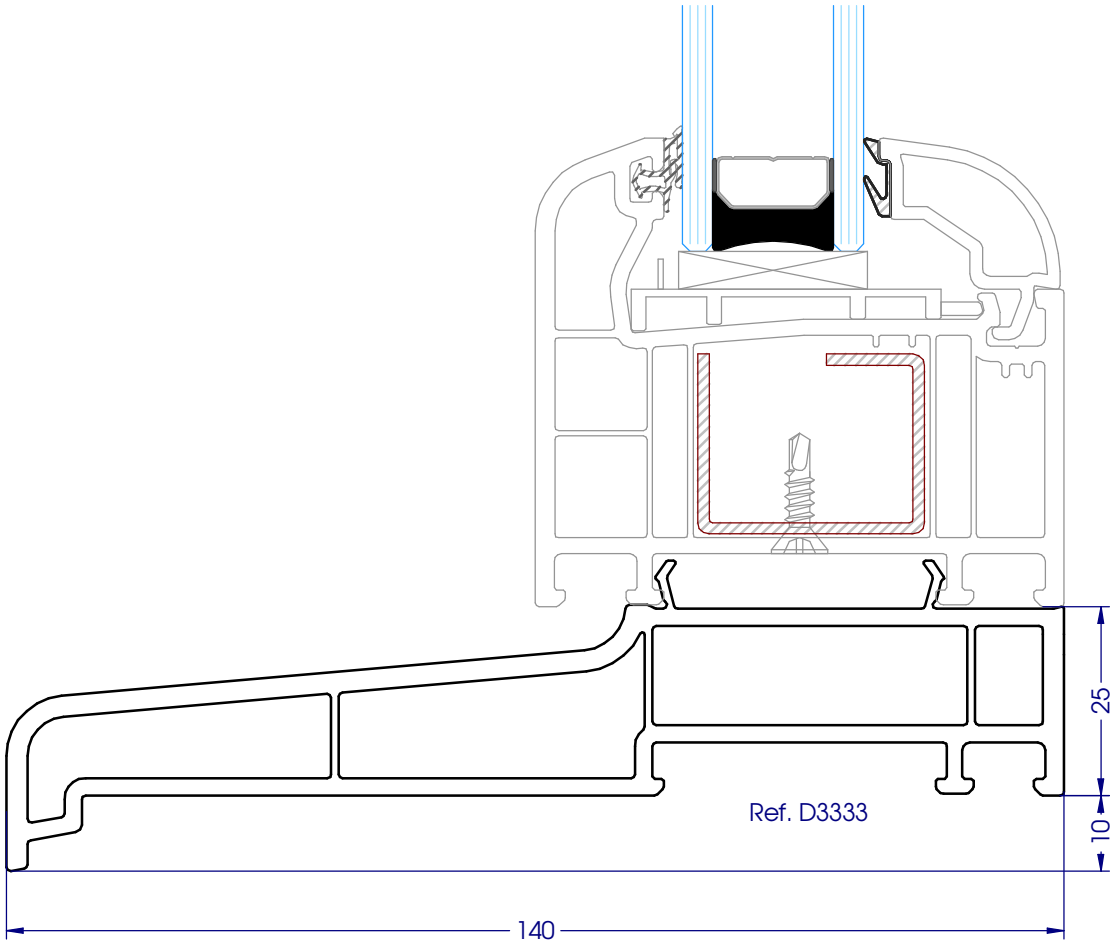
NOTA:
Considerar principalmente en perfiles de color y bastidores grandes un perfil de unión capaz de absorver la dilatación del bastidor, en caso contrario podrían ser partirdas las soldaduras.

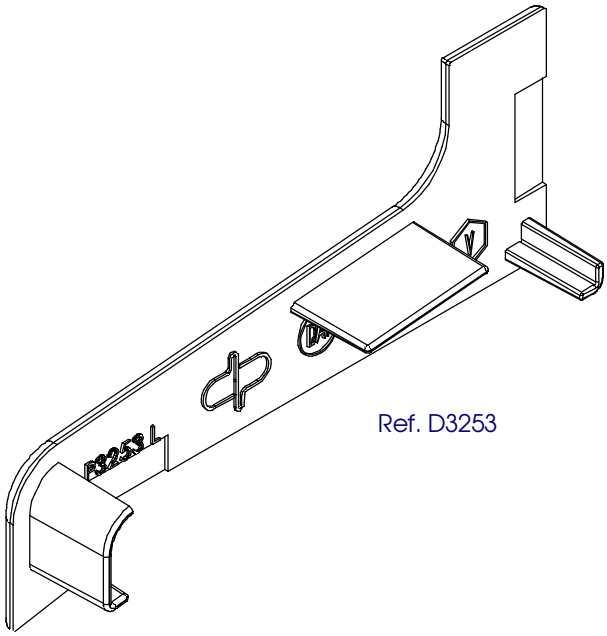
POSIBILIDADES:
Ángulo variable entre 90º y 250º. La unión con este tipo de perfiles es visto.



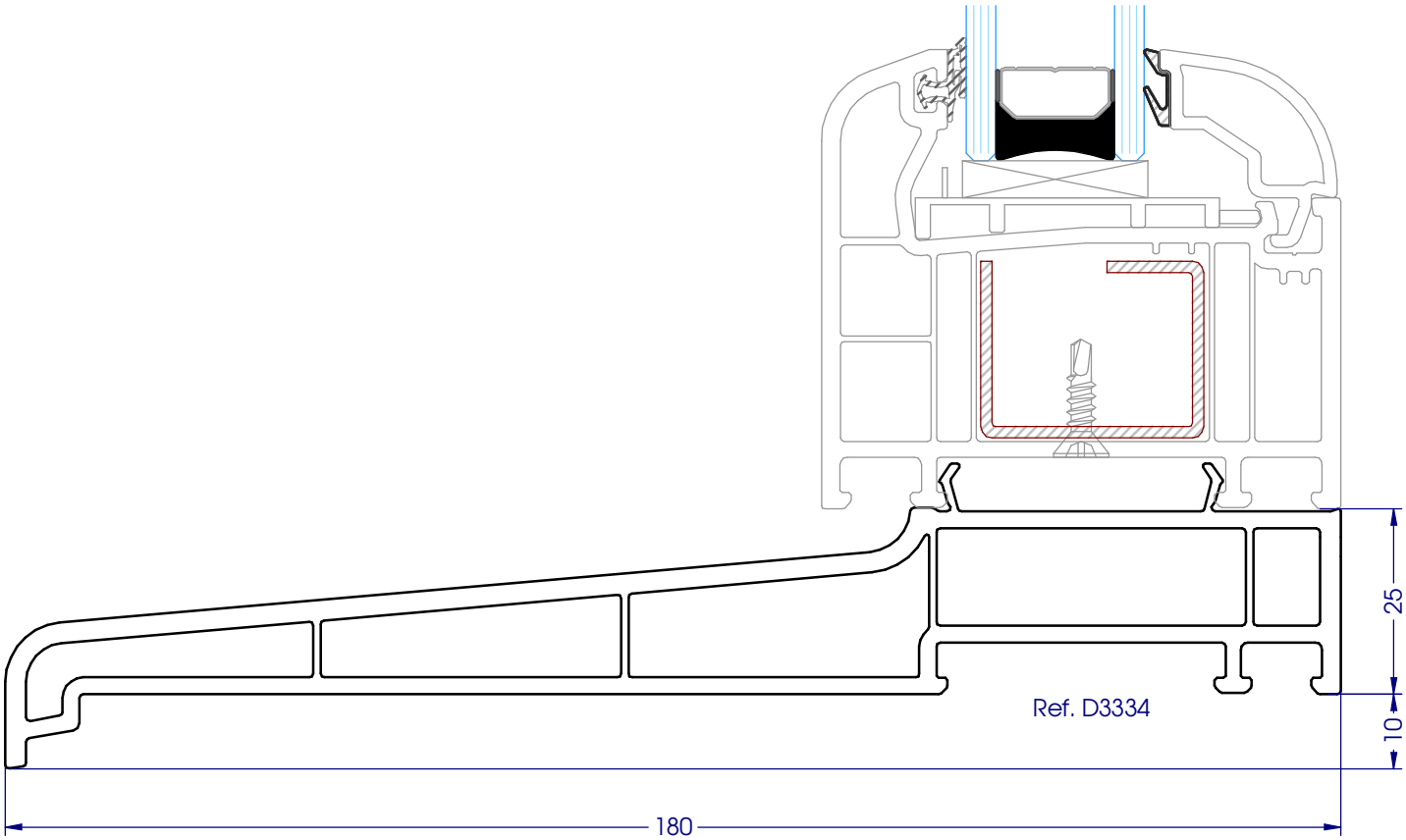



## Alfeizar 140mm

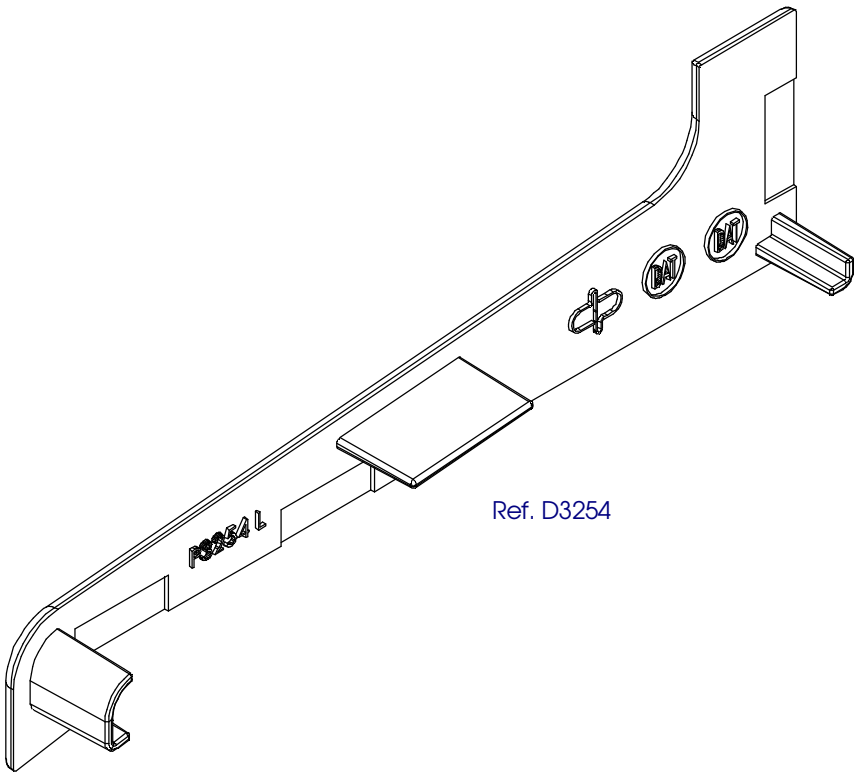


## Alfeizar 180mm

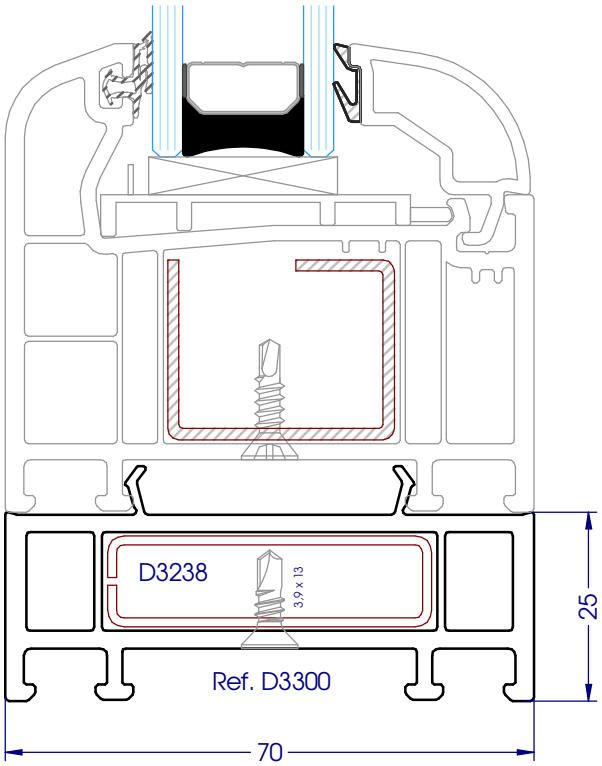


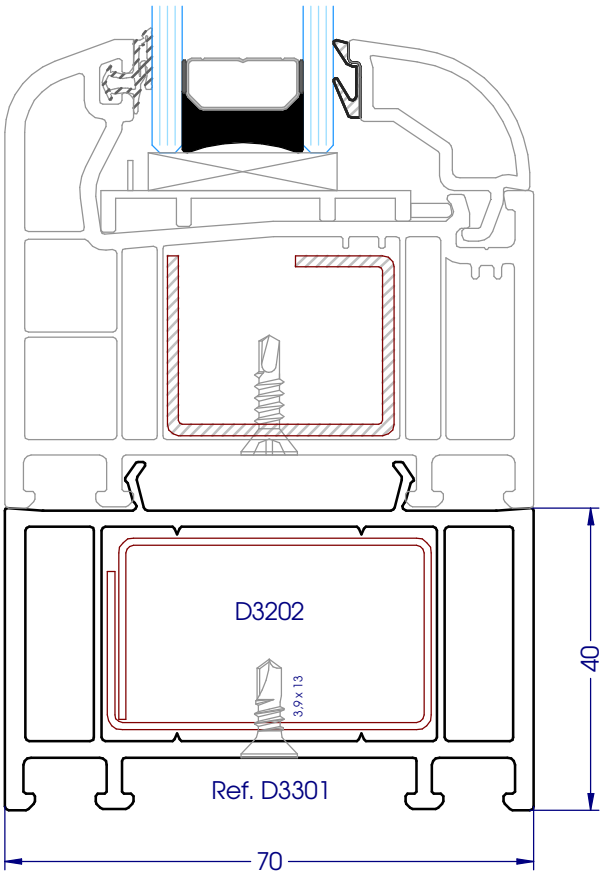

Ref. D3334

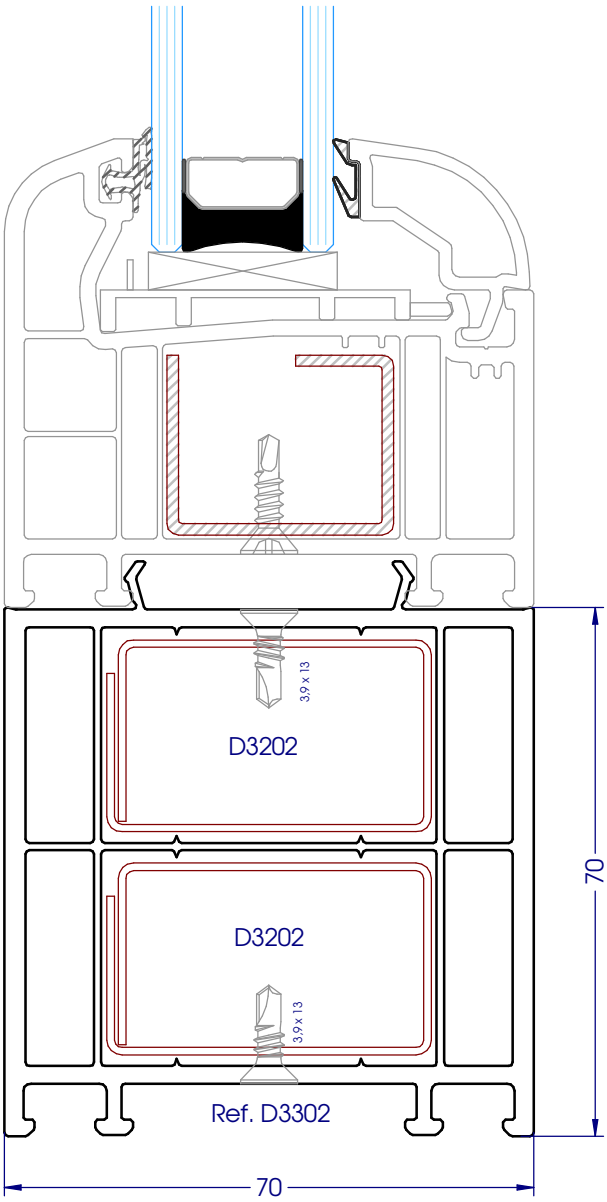


Ref. D3254

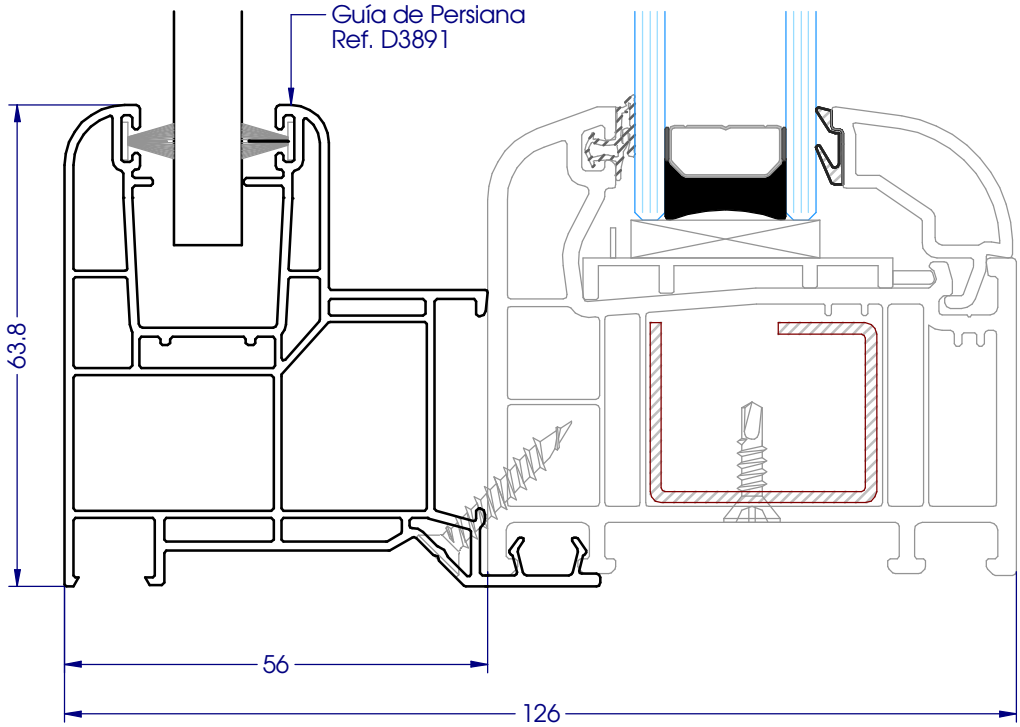
## Ensanche 25, 40 y 70mm

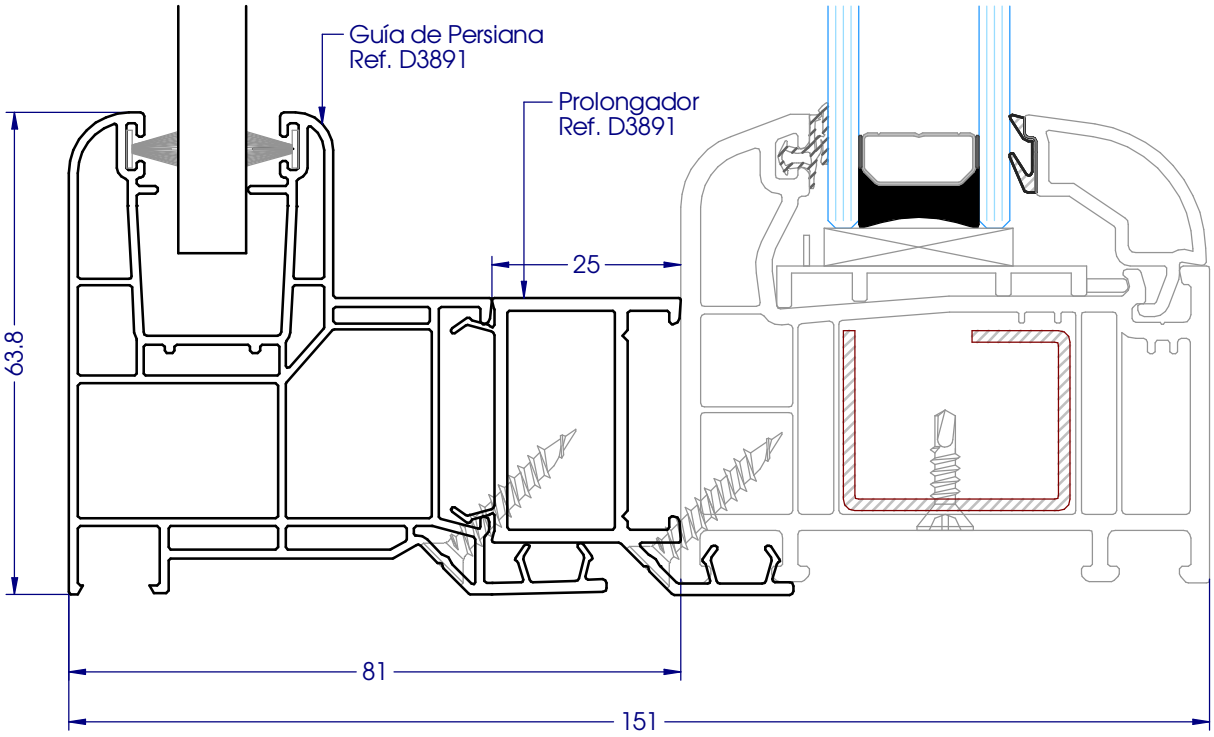


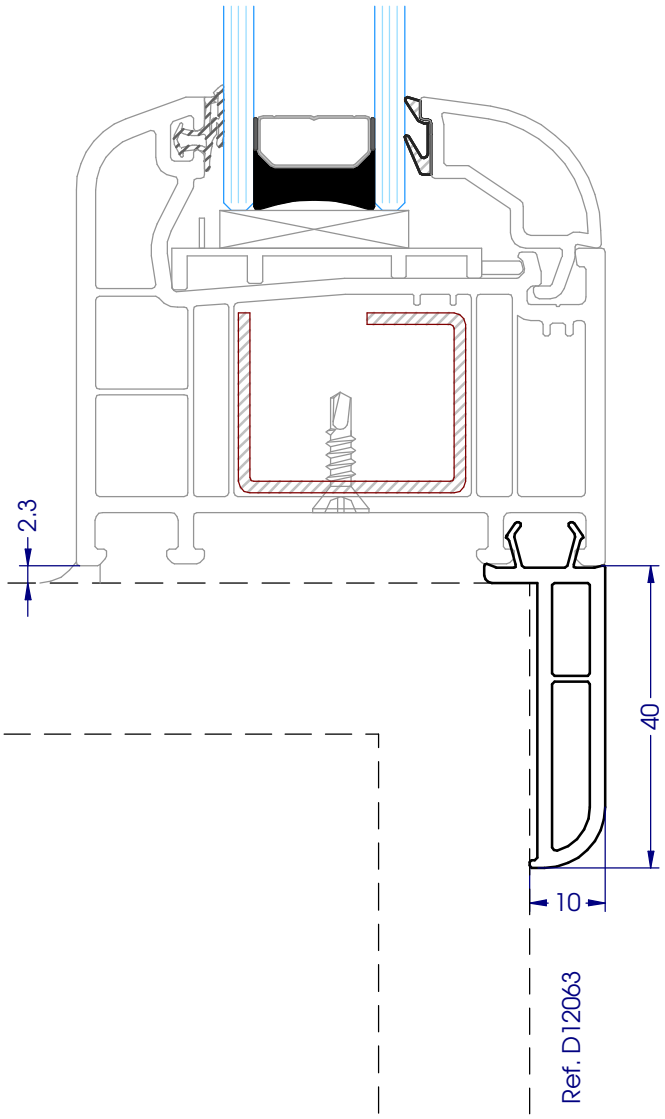
# Guía de Persiana y prolongador

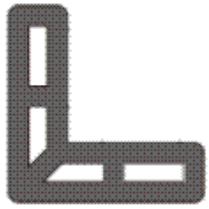


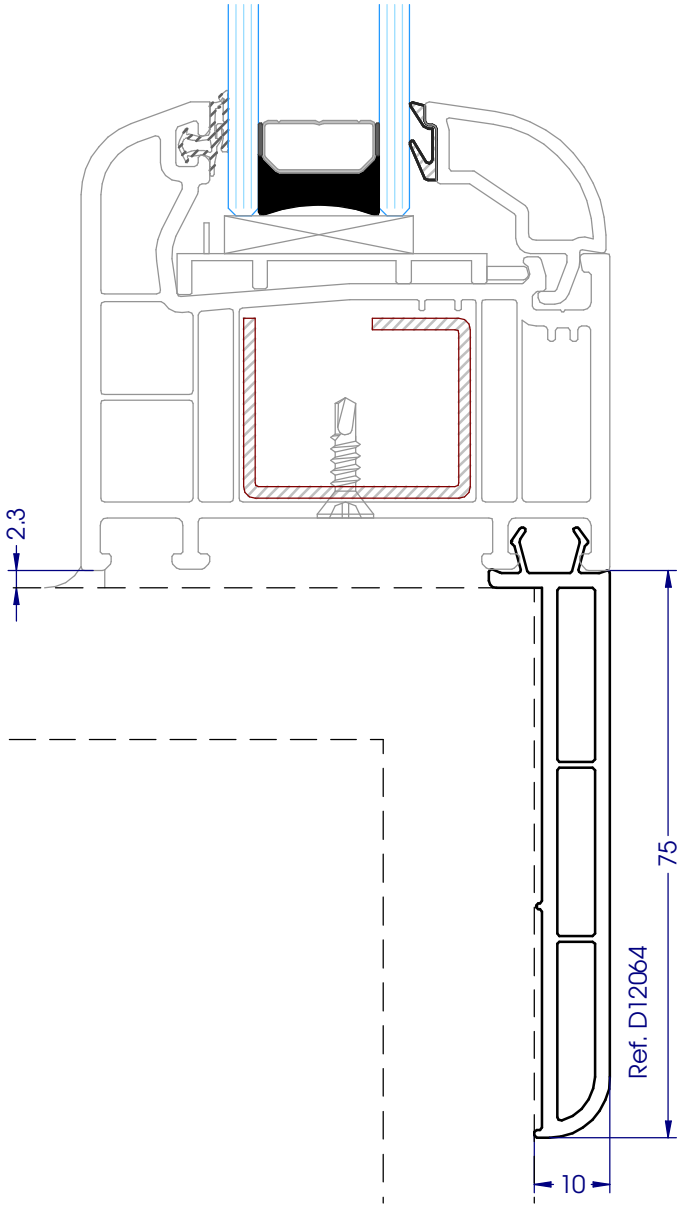

Nota:
Añadir los prolongadores necesarios para alargar la guía de persiana en pasos de 25mm.

## Solapes

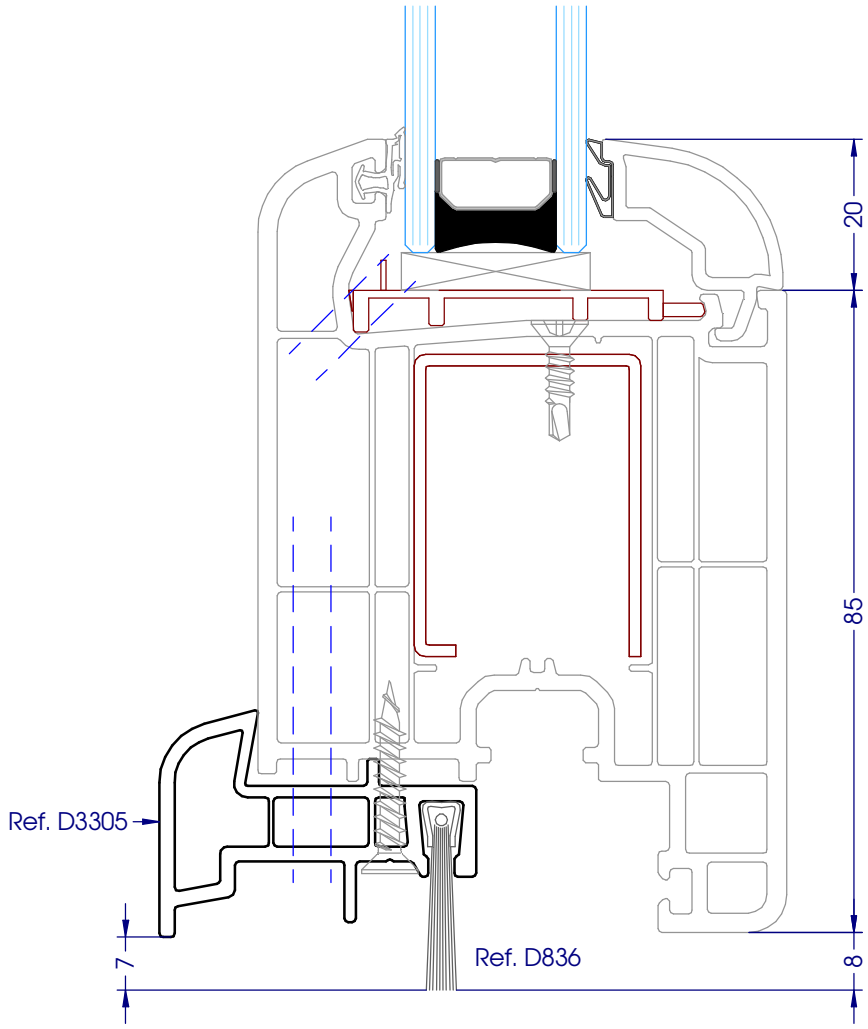


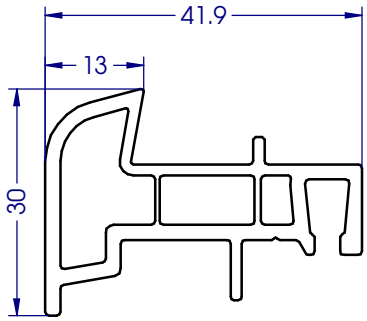



Ref.- D12098
Escuadra de alineamiento para
solapes D12063 y D12064

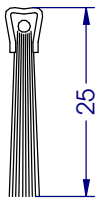


# Puerta de Entrada

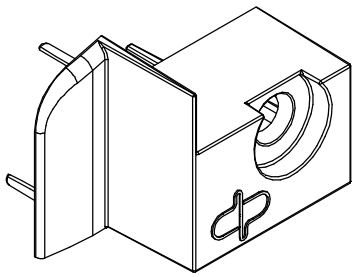



Ref. D3305
Cortavientos para
puerta de entrada




Ref. D836
Cortavientos

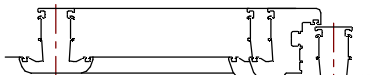
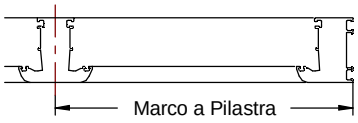
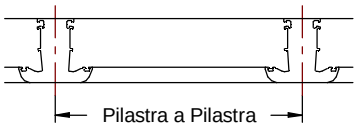
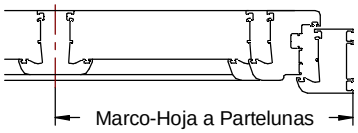


Ref. D3265
Remate Cortavientos Puerta

# Descuentos de Corte - Marco D10105

| DIMENSIÓN / FABRICACIÓN | Marco a Marco | Marco a Pilastra | Pilastra a Pilastra | Marco-Hoja a Partelunas | Pilastra-Hoja a Partelunas |
|---|---|---|---|---|---|
| MARCO D10105 | +6 | - | - | - | - |
| HOJAS (Todos los tipos) | -62 | -40 | -18 | - | - |
| PILASTRA (Marco) | -84 | -62 | -40 | - | - |
| PILASTRA (Partelunas H. Ventana) | -184 | -162 | -140 | -112 | -90 |
| PILASTRA (Partelunas H. Int.Puerta) | -238 | -216 | -194 | -139 | -117 |
| PILASTRA (Partelunas H. Ext.Puerta) | -218 | -196 | -174 | -129 | -107 |
| VIDRIO/PANEL (Marco) | -94 | -72 | -50 | - | - |
| VIDRIO/PANEL (Hoja Ventana) | -194 | -172 | -150 | -122 | -100 |
| VIDRIO/PANEL (Hoja Int. Puerta) | -248 | -226 | -204 | -149 | -127 |
| VIDRIO/PANEL (Hoja Ext. Puerta) | -228 | -206 | -184 | -139 | -117 |

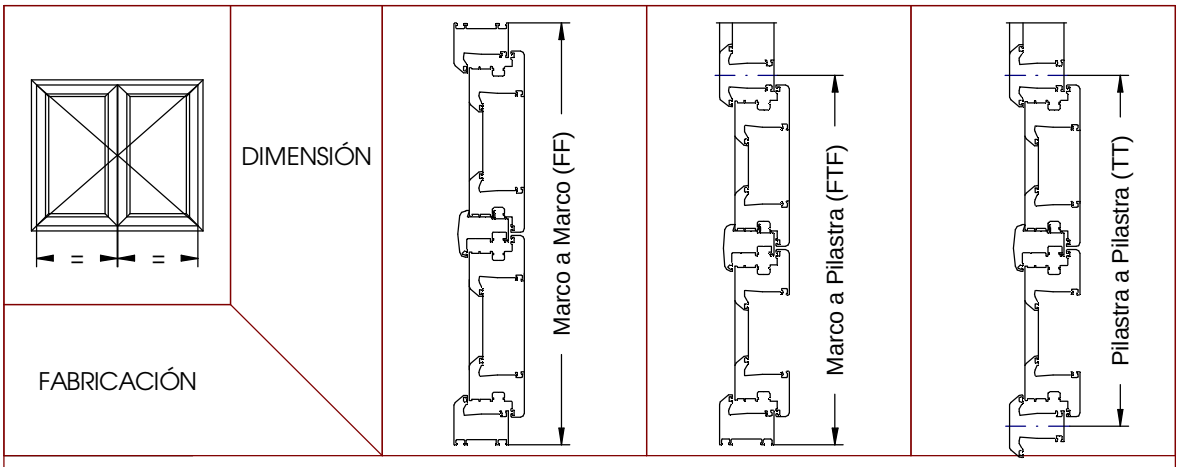
# Descuentos de Corte - Marco D10101

| DIMENSIÓN / FABRICACIÓN |  Marco a Marco |  Marco a Pilastra |  Pilastra a Pilastra |  Marco-Hoja a Partelunas |  Pilastra-Hoja a Partelunas |
|---|---|---|---|---|---|
| MARCO D10101 | +6 | - | - | - | - |
| HOJAS (Todos los tipos) | -86 | -52 | -18 | - | - |
| PILASTRA (Marco) | -108 | -74 | -40 | - | - |
| PILASTRA (Partelunas H. Ventana) | -208 | -174 | -140 | -124 | -90 |
| PILASTRA (Partelunas H. Int.Puerta) | -262 | -228 | -194 | -163 | -117 |
| PILASTRA (Partelunas H. Ext.Puerta) | -242 | -208 | -174 | -153 | -107 |
| VIDRIO/PANEL (Marco) | -118 | -84 | -50 | - | - |
| VIDRIO/PANEL (Hoja Ventana) | -218 | -184 | -150 | -134 | -100 |
| VIDRIO/PANEL (Hoja Int. Puerta) | -272 | -238 | -204 | -173 | -127 |
| VIDRIO/PANEL (Hoja Ext. Puerta) | -252 | -218 | -184 | -163 | -117 |

# Descuentos de Corte - Marco D10100

| DIMENSIÓN / FABRICACIÓN | Marco a Marco | Marco a Pilastra | Pilastra a Pilastra | Marco-Hoja a Partelunas | Pilastra-Hoja a Partelunas |
|---|---|---|---|---|---|
| MARCO D10100 | +6 | - | - | - | - |
| HOJAS (Todos los tipos) | -66 | -42 | -18 | - | - |
| PILASTRA (Marco) | -88 | -64 | -40 | - | - |
| PILASTRA (Partelunas H. Ventana) | -188 | -164 | -140 | -114 | -90 |
| PILASTRA (Partelunas H. Int.Puerta) | -242 | -218 | -194 | -141 | -117 |
| PILASTRA (Partelunas H. Ext.Puerta) | -222 | -198 | -174 | -131 | -107 |
| VIDRIO/PANEL (Marco) | -98 | -74 | -50 | - | - |
| VIDRIO/PANEL (Hoja Ventana) | -198 | -174 | -150 | -124 | -100 |
| VIDRIO/PANEL (Hoja Int. Puerta) | -252 | -228 | -204 | -151 | -127 |
| VIDRIO/PANEL (Hoja Ext. Puerta) | -232 | -208 | -184 | -141 | -117 |

# Descuentos de Corte (2 hojas - Inversora) - Marco D10105




| | Tipo de Marco | Tipo de Hoja | Horizontal | Vertical | Horizontal | Vertical | Horizontal | Vertical |
|---|---|---|---|---|---|---|---|---|
| HOJA | D10105 | Todos | FF-60 / 2 | - 62 | FTF-38 / 2 | - 40 | TT-16 / 2 | - 18 |
| PILASTRA | D10105 | D10115<br>D10116 | FF-304 / 2 | | FTF-282 / 2 | | TT-260 / 2 | |
| | D10105 | D10119 | FF-412 / 2 | | FTF-390 / 2 | | TT-368 / 2 | |
| | D10105 | D10118 | FF-372 / 2 | | FTF-350 / 2 | | TT-328 / 2 | |
| | *Medidas de corte de pilastra entre hojas (partelunas)* | | | | | | | |
| INVERSORA | D10105 | D10115<br>D10116<br>D10119<br>D10118 | | -138 | | -116 | | -94 |
| VIDRIO | D10105 | D10115<br>D10116 | FF-324 / 2 | - 194 | FTF-304 / 2 | - 172 | TT-280 / 2 | - 150 |
| | D10105 | D10119 | FF-432 / 2 | - 248 | FTF-410 / 2 | - 226 | TT-388 / 2 | - 204 |
| | D10105 | D10118 | FF-392 / 2 | - 228 | FTF-370 / 2 | - 206 | TT-348 / 2 | - 184 |

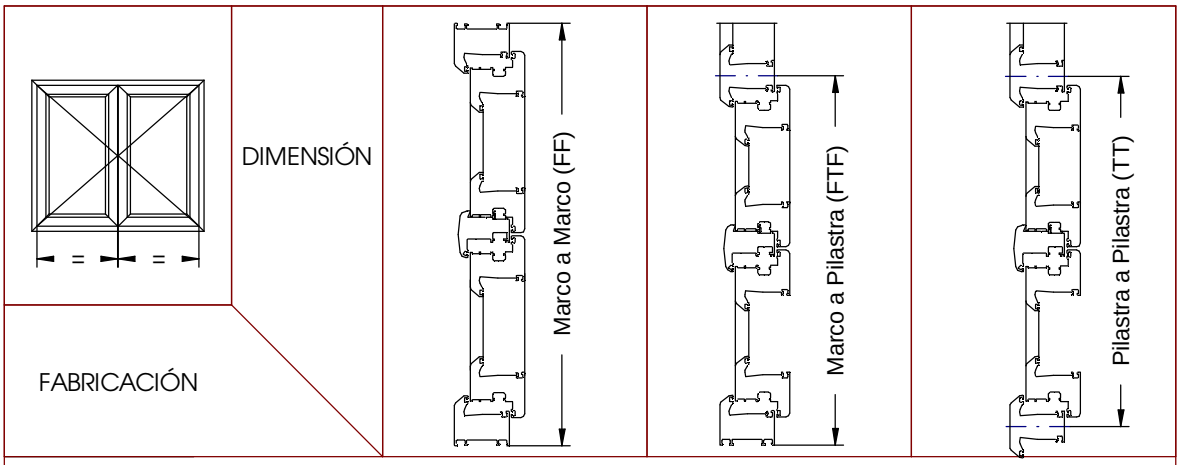
Nota:

Los espesores de la soldadura están incluidos en las dimensiones de hoja.

Medidas de Corte de la inversora: Es la altura de la hoja montada -70mm (sin incluir las soldaduras).

Las medidas de corte han sido calculadas para ventanas de 2 hojas iguales (y tammbién vidrio).

# Descuentos de Corte (2 hojas - Inversora) - Marco D10101




| | Tipo de Marco | Tipo de Hoja | Horizontal | Vertical | Horizontal | Vertical | Horizontal | Vertical |
|---|---|---|---|---|---|---|---|---|
| HOJA | D10101 | Todos | FF-84 / 2 | - 86 | FTF-50 / 2 | - 52 | TT-16 / 2 | - 18 |
| PILASTRA | D10101 | D10115<br>D10116 | FF-328 / 2 | | FTF-294 / 2 | | TT-260 / 2 | |
| | D10101 | D10119 | FF-436 / 2 | | FTF-402 / 2 | | TT-368 / 2 | |
| | D10101 | D10118 | FF-396 / 2 | | FTF-362 / 2 | | TT-328 / 2 | |
| | *Medidas de corte de pilastra entre hojas (partelunas)* | | | | | | | |
| INVERSORA | D10101 | D10115<br>D10116<br>D10119<br>D10118 | | -162 | | -128 | | -94 |
| VIDRIO | D10101 | D10115<br>D10116 | FF-348 / 2 | - 218 | FTF-316 / 2 | - 184 | TT-280 / 2 | - 150 |
| | D10101 | D10119 | FF-456 / 2 | - 272 | FTF-422 / 2 | - 238 | TT-388 / 2 | - 204 |
| | D10101 | D10118 | FF-416 / 2 | - 252 | FTF-382 / 2 | - 218 | TT-348 / 2 | - 184 |

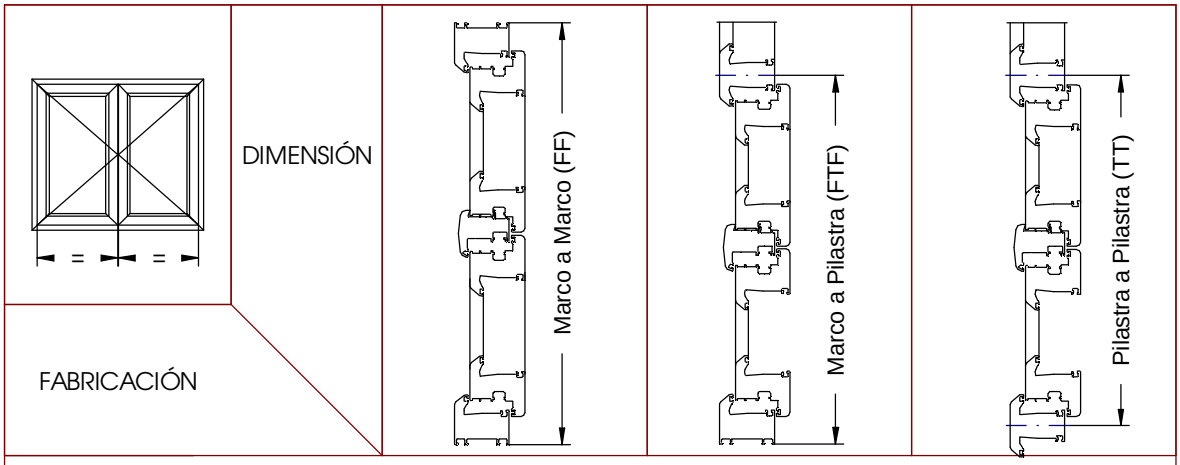
Nota:

Los espesores de la soldadura están incluidos en las dimensiones de hoja.

Medidas de Corte de la inversora: Es la altura de la hoja montada -70mm (sin incluir las soldaduras).

Las medidas de corte han sido calculadas para ventanas de 2 hojas iguales (y tammbién vidrio).

# Descuentos de Corte (2 hojas - Inversora) - Marco D10100




| | Tipo de Marco | Tipo de Hoja | Horizontal | Vertical | Horizontal | Vertical | Horizontal | Vertical |
|---|---|---|---|---|---|---|---|---|
| HOJA | D10100 | Todos | FF-64 / 2 | - 64 | FTF-40 / 2 | - 42 | TT-16 / 2 | - 18 |
| PILASTRA | D10100 | D10115<br>D10116 | FF-308 / 2 | | FTF-284 / 2 | | TT-260 / 2 | |
| | D10100 | D10119 | FF-416 / 2 | | FTF-392 / 2 | | TT-368 / 2 | |
| | D10100 | D10118 | FF-376 / 2 | | FTF-352 / 2 | | TT-328 / 2 | |
| | *Medidas de corte de pilastra entre hojas (partelunas)* | | | | | | | |
| INVERSORA | D10100 | D10115<br>D10116<br>D10119<br>D10118 | | -142 | | -118 | | -94 |
| VIDRIO | D10100 | D10115<br>D10116 | FF-328 / 2 | - 198 | FTF-306 / 2 | - 174 | TT-280 / 2 | - 150 |
| | D10100 | D10119 | FF-436 / 2 | - 252 | FTF-412 / 2 | - 228 | TT-388 / 2 | - 204 |
| | D10100 | D10118 | FF-396 / 2 | - 232 | FTF-372 / 2 | - 208 | TT-348 / 2 | - 184 |

Nota:

Los espesores de la soldadura están incluidos en las dimensiones de hoja.

Medidas de Corte de la inversora: Es la altura de la hoja montada -70mm (sin incluir las soldaduras).

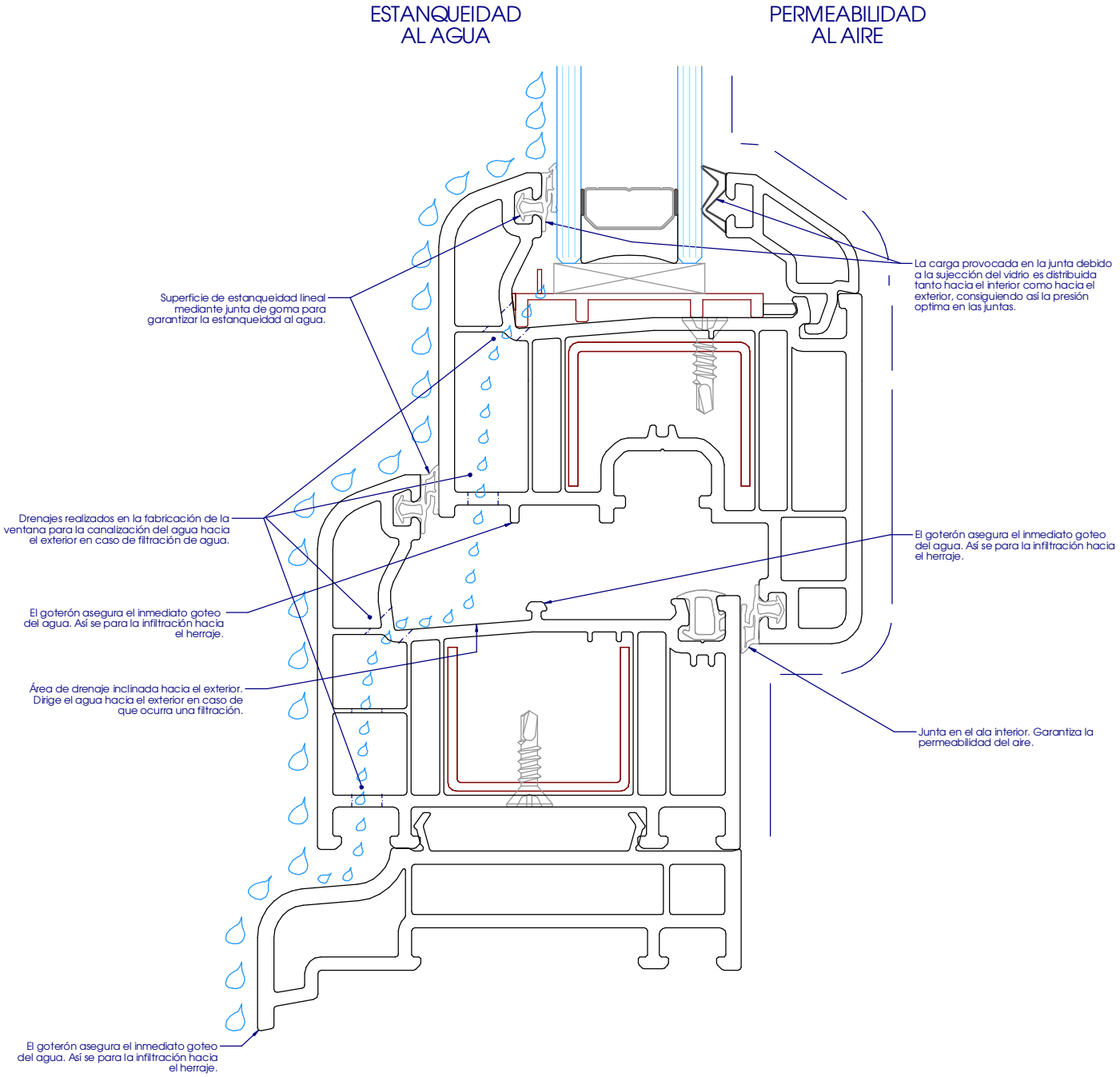
Las medidas de corte han sido calculadas para ventanas de 2 hojas iguales (y tammbién vidrio).

# Drenaje

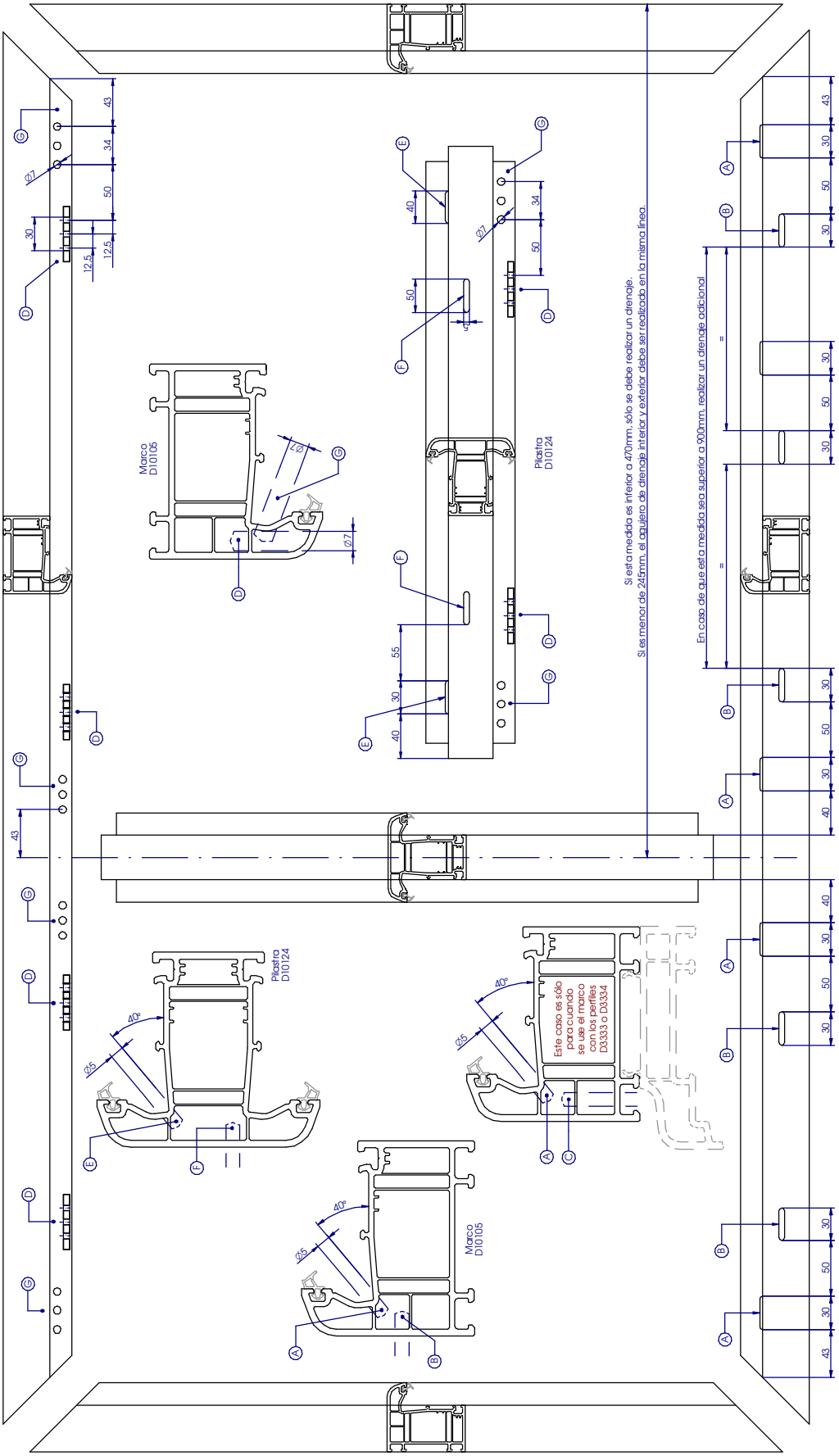
- El sistema de ventana de 70mm está diseñado en base a una "Presión Igualada".
La colocación adecuada de las ranuras de descompresión y drenaje es esencial para lograr el óptimo rendimiento de las prestaciones de la ventana.

- Las cámaras centrales de los perfiles están diseñados para albergar cualquier refuerzo requerido. debe ponerse especial atención para que las ranuras no traspasen y expongan el área de la cámara donde está alojado el refuerzo.

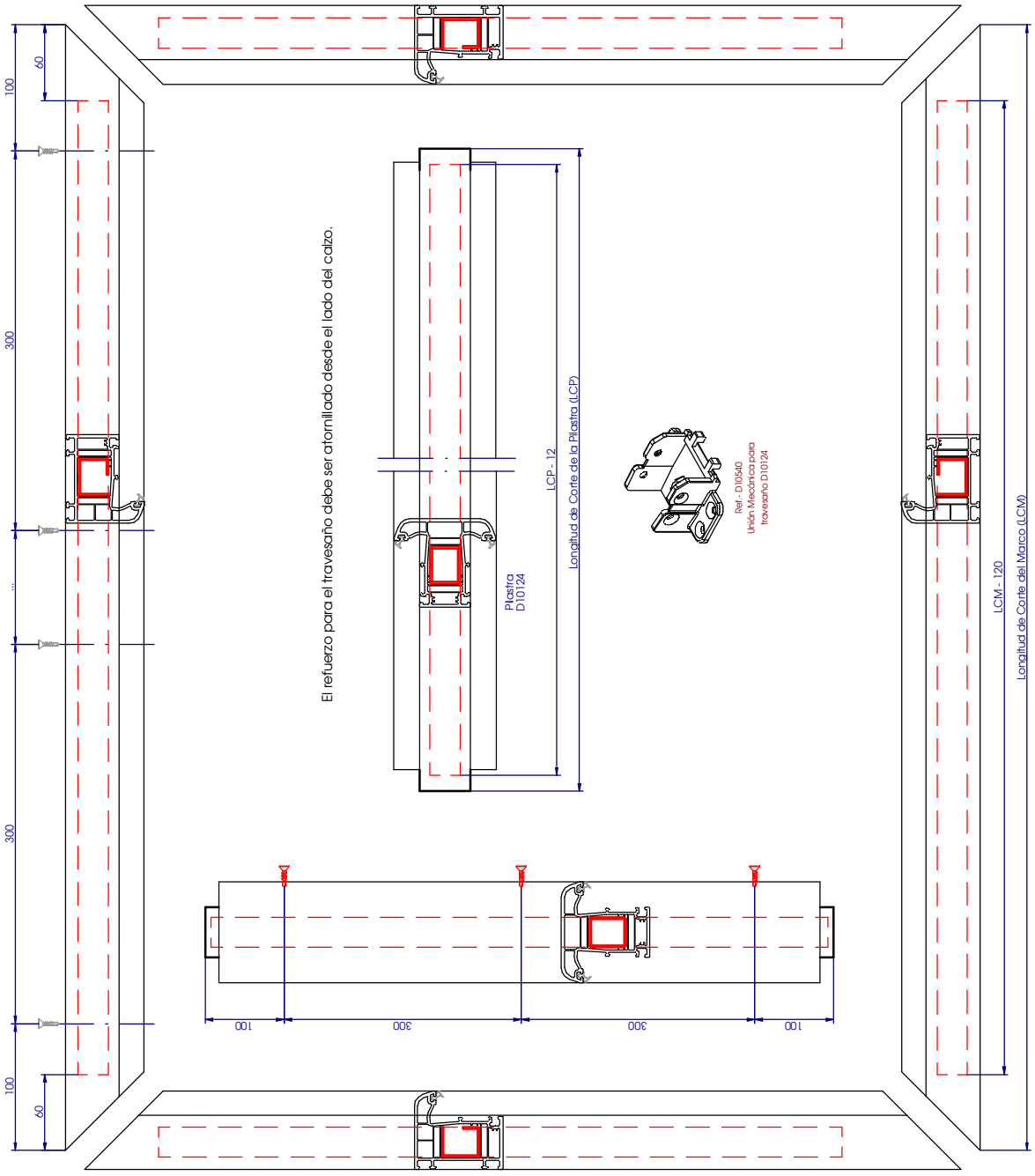
- Para descomprimir y drenar perfiles pueden usarse tanto ranuras como taladros. En las próximas páginas se explica las medidas y posiciones recomendadas para un drenaje y descompresión correcto.

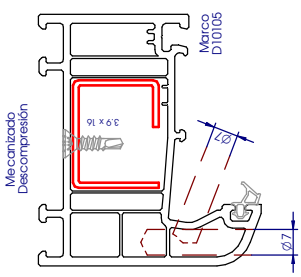


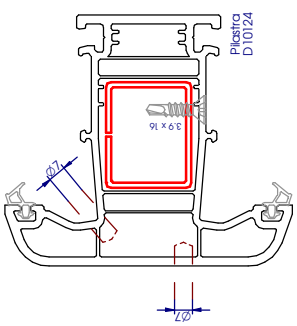
# Mecanizados de drenaje y descompresión

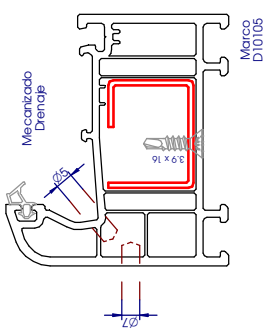


# Corte de los refuerzos para el marco (D10105) y pilastra (D10124)

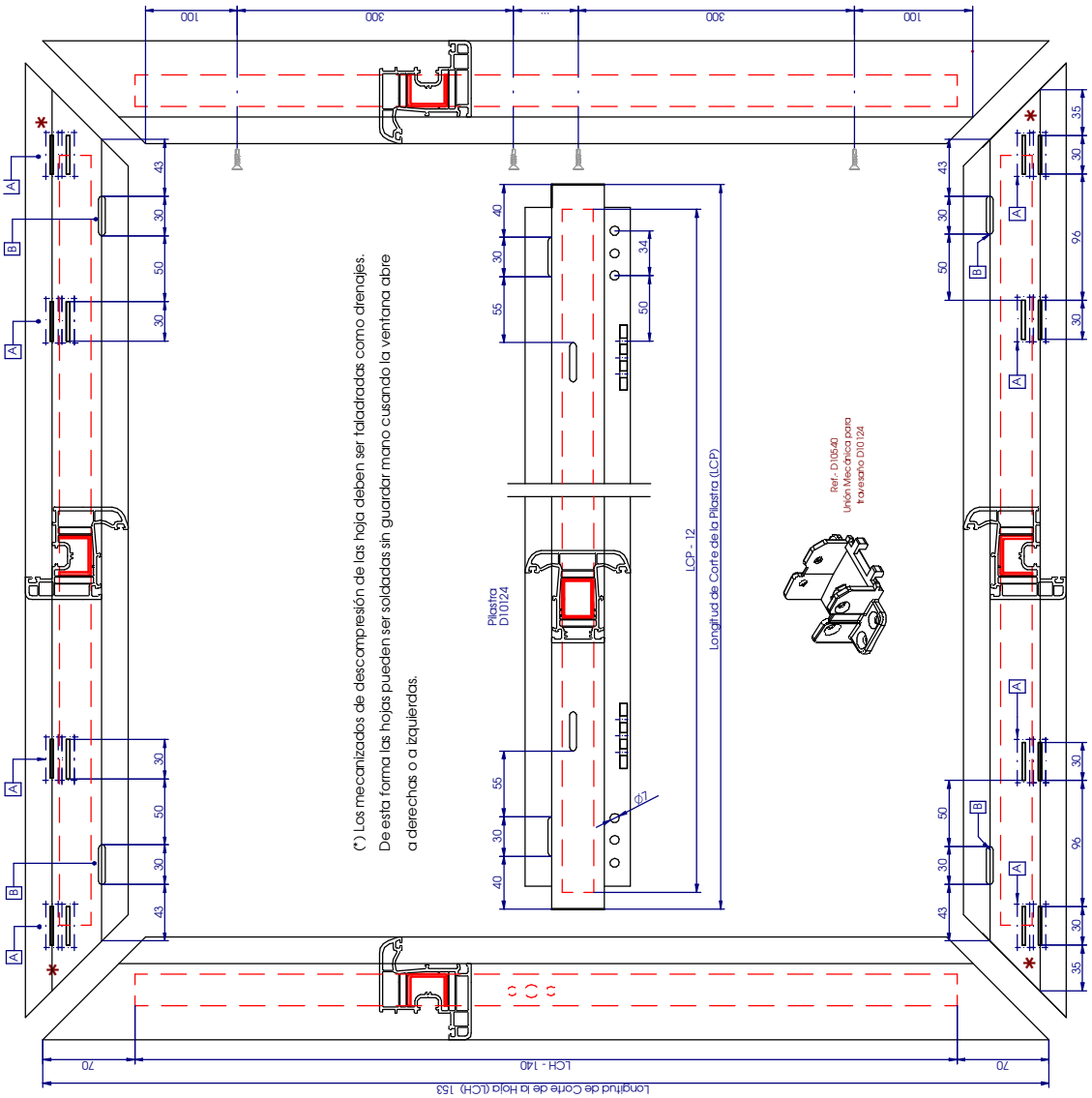


# Corte de los refuerzos y drenaje-descompresión (D0115 / D10116)

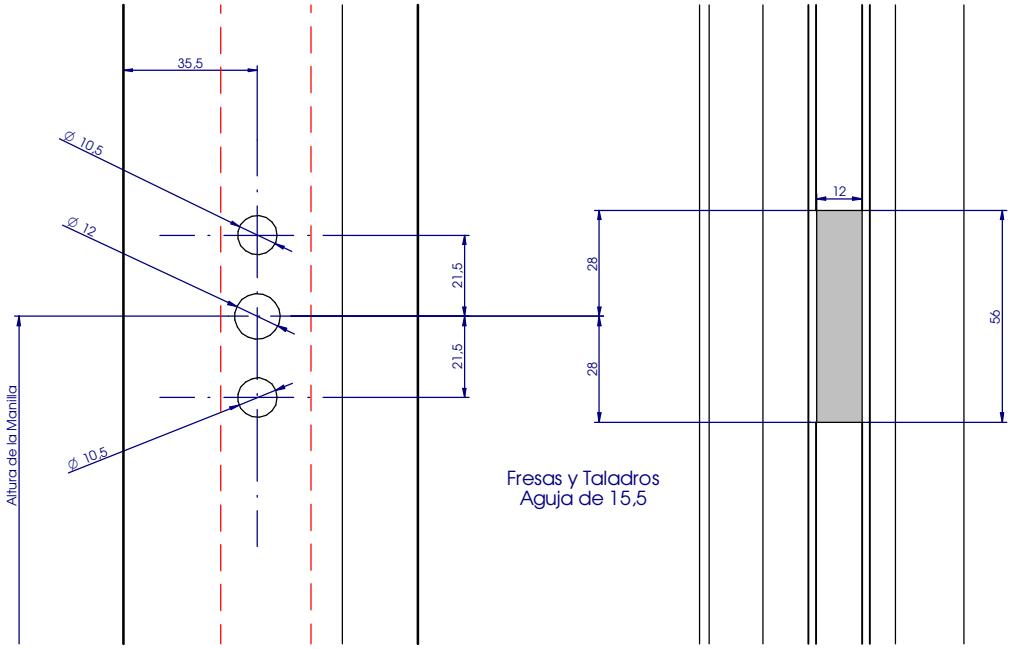




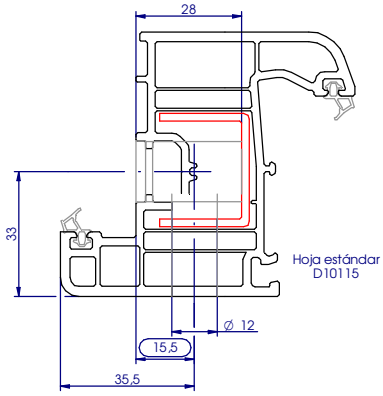


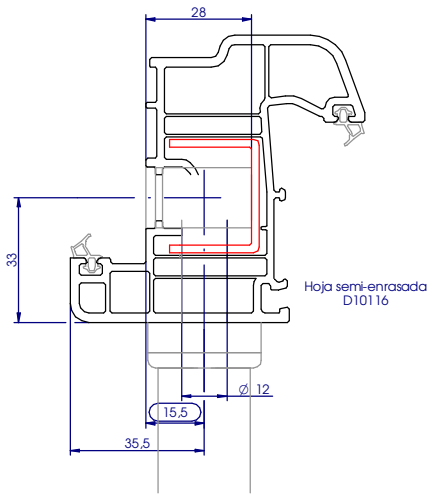


# Mecanizados para falleba en la hoja D10115 / D10116 - Aguja 15,5

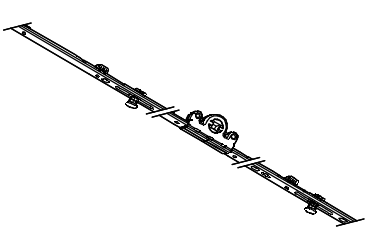



Nota:
Los mecanizados de la manilla pueden variar dependiendo del fabricante y modelo.
Mecanizados válidos para manilla 0300-M2

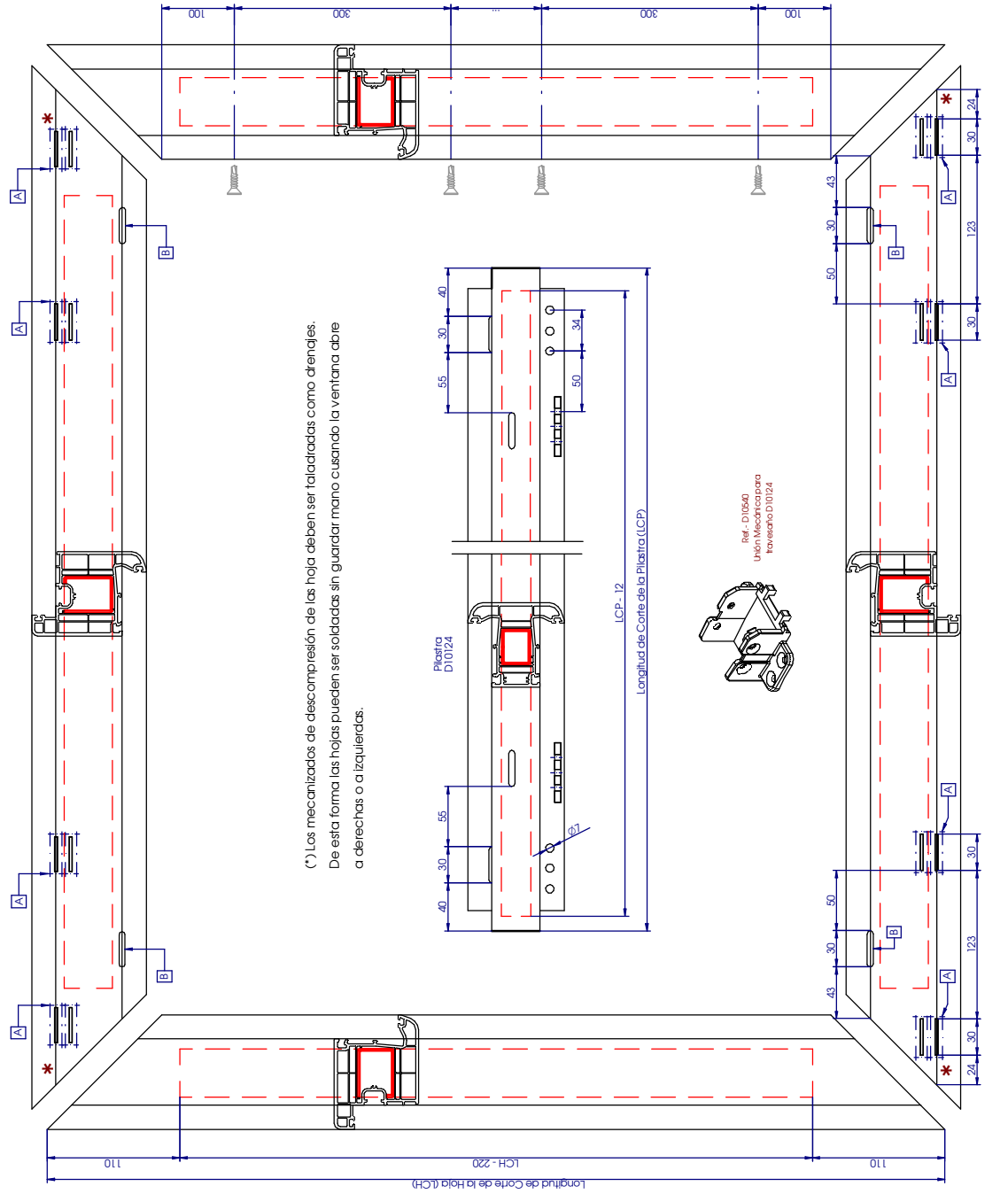


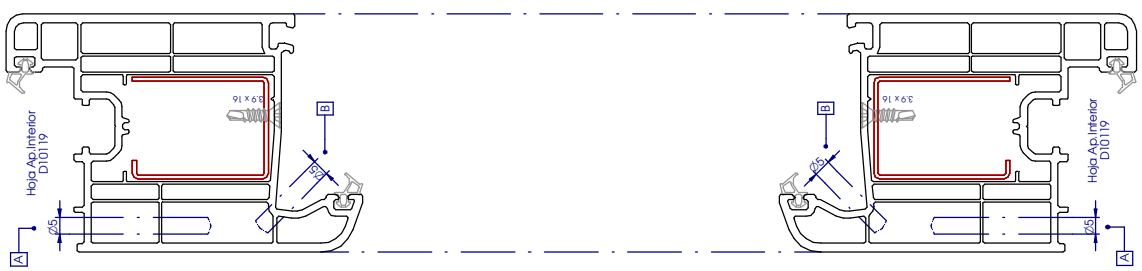




| CREMONA VENTANA | | |
|---|---|---|
| **REF. AYUSO** | **REF. WINKHAUS** | **DESCRIPCIÓN TEC.** |
| 0300-FV0800 | 4926267 | GAM.800 |
| 0300-FV1050 | 4926268 | GAM.1050 |
| 0300-FV1400 | 4926291 | GAM.1400-1 |
| 0300-FV1800 | 4926295 | GAM.1800-2 |
| 0300-FV2300 | 4926297 | GAM.2300-3 |
| 0300-FF0465 | 4926221 | GAK.465 |
| 0300-FF0710 | 4926207 | GAK.710 |
| 0300-FA0175 | 4927927 | GAVM.175-1 |
| 0300-FA0300 | 4927928 | GAVM.300-2 |
| 0300-FA0420 | 4927929 | GAVM.420-2 |
| 0300-FA0620 | 4927940 | GAVM.620-2 |
| 0300-FA0920 | 4927941 | GAVM.920-3 |
| 0300-FA1320 | 4927942 | GAVM.1320-3 |
| 0300-FA1820 | 4927943 | GAVM.1820-4 |

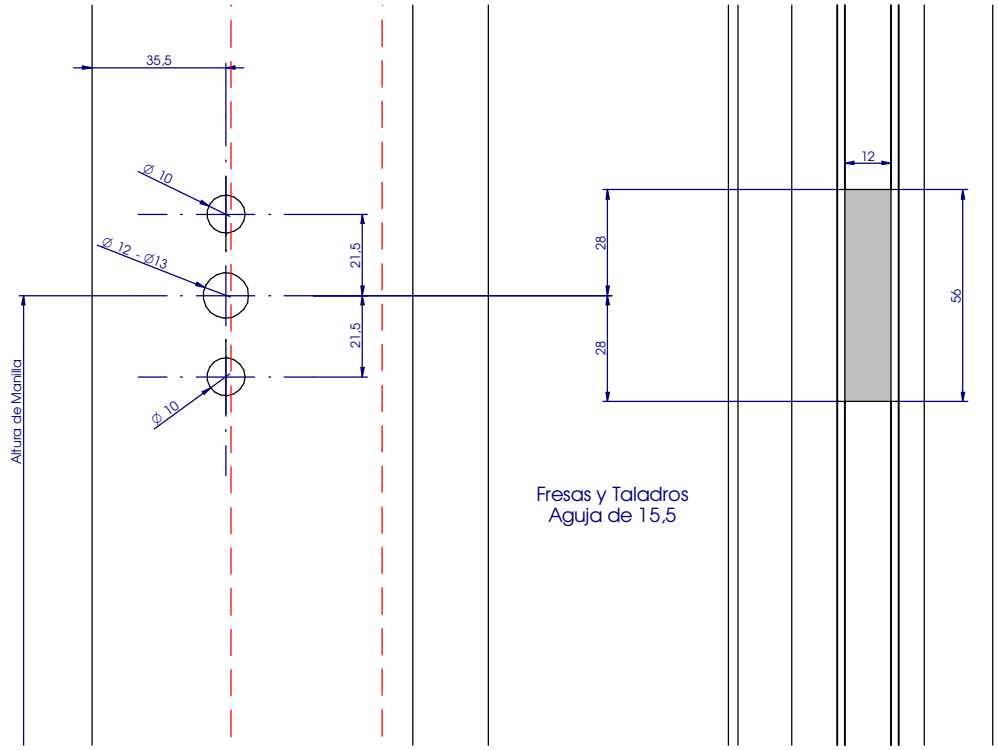


# Corte de los refuerzos y drenaje-descompresión (D10119)

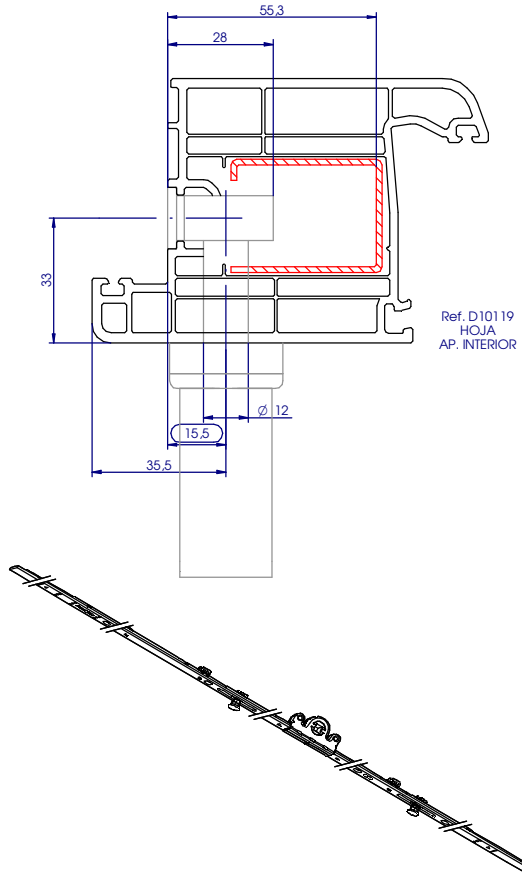


# Mecanizados para falleba en la hoja D10119 - Aguja 15,5

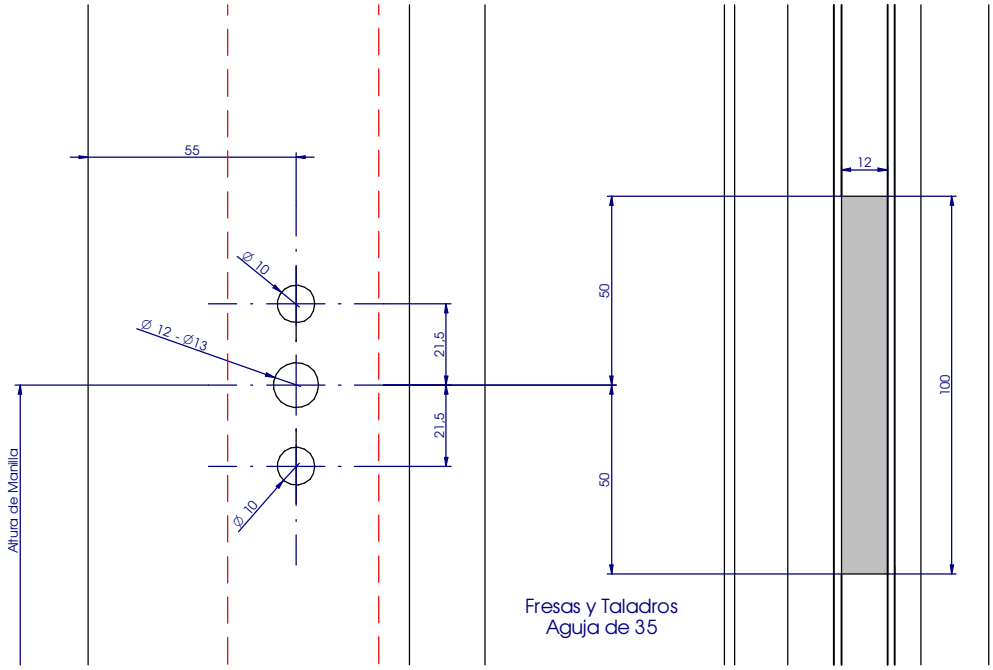


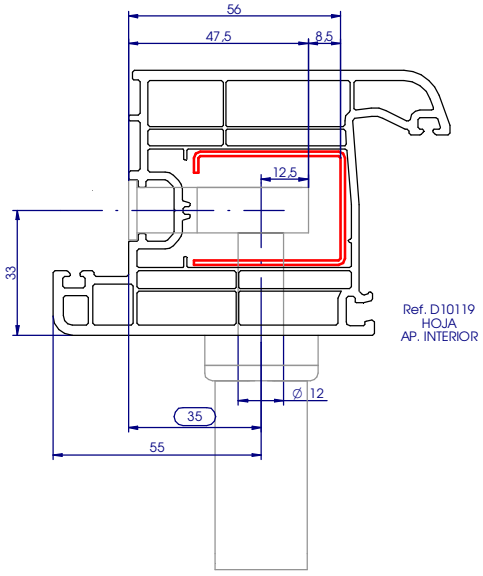

Nota:
Los mecanizados de la manilla pueden variar dependiendo del fabricante y modelo.
Mecanizados válidos para manilla 0300-M2




| CREMONA VENTANA | | |
|---|---|---|
| **REF. AYUSO** | **REF. WINKHAUS** | **DESCRIPCIÓN TEC.** |
| 0300-FV0800 | 4926267 | GAM.800 |
| 0300-FV1050 | 4926268 | GAM.1050 |
| 0300-FV1400 | 4926291 | GAM.1400-1 |
| 0300-FV1800 | 4926295 | GAM.1800-2 |
| 0300-FV2300 | 4926297 | GAM.2300-3 |
| 0300-FF0465 | 4926221 | GAK.465 |
| 0300-FF0710 | 4926207 | GAK.710 |
| 0300-FA0175 | 4927927 | GAVM.175-1 |
| 0300-FA0300 | 4927928 | GAVM.300-2 |
| 0300-FA0420 | 4927929 | GAVM.420-2 |
| 0300-FA0620 | 4927940 | GAVM.620-2 |
| 0300-FA0920 | 4927941 | GAVM.920-3 |
| 0300-FA1320 | 4927942 | GAVM.1320-3 |
| 0300-FA1820 | 4927943 | GAVM.1820-4 |

# Mecanizados para falleba en la hoja D10119 - Aguja 35

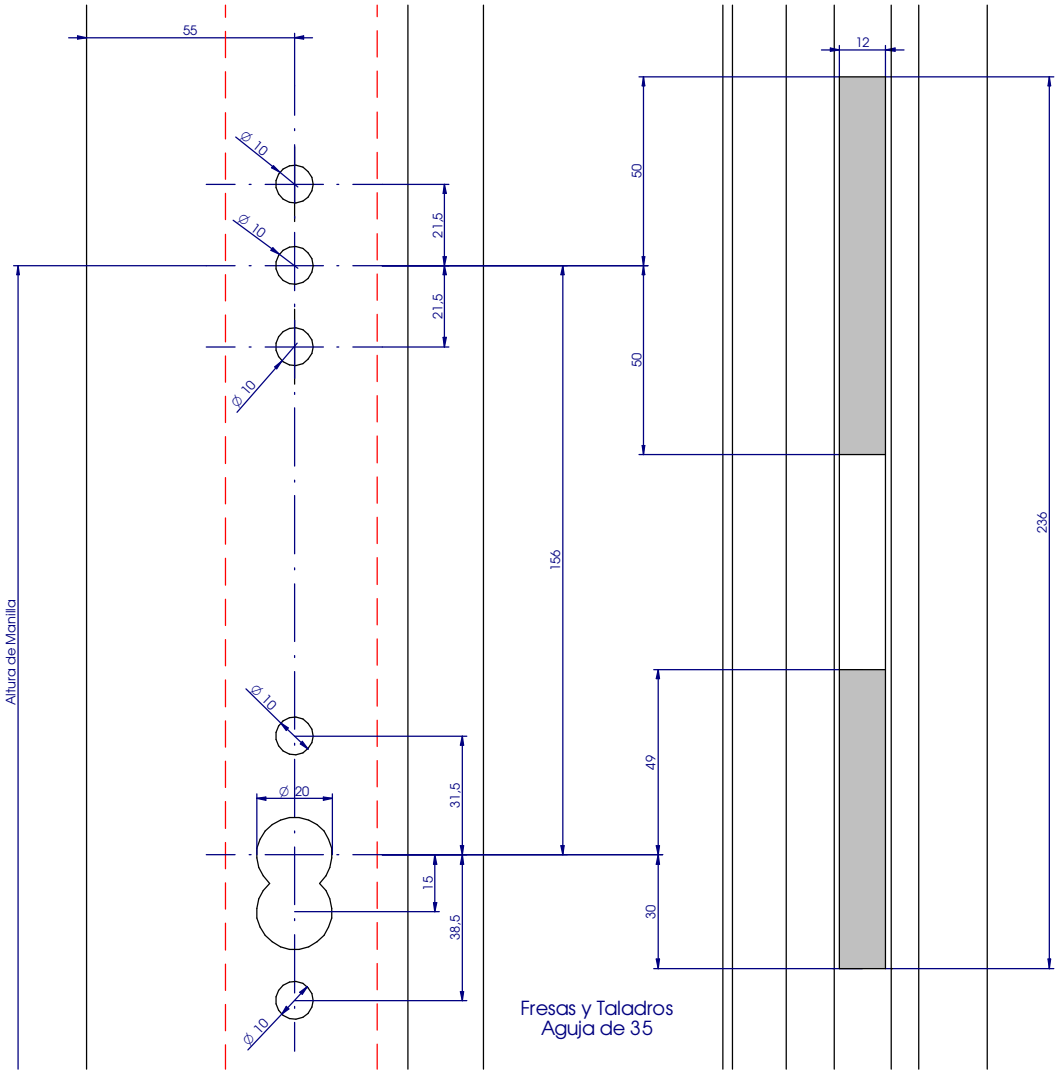


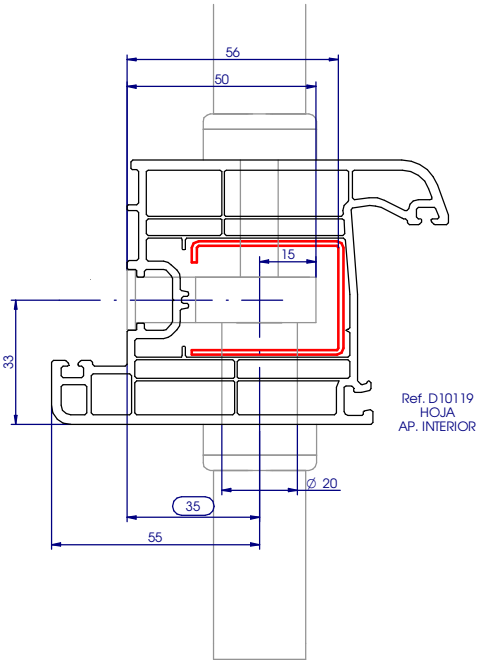

| CREMONA BALCONERA | | |
|---|---|---|
| **REF. AYUSO** | **REF. WINKHAUS** | **DESCRIPCIÓN TEC.** |
| 0300-FV0800B | 4941069 | GAM.800.D30 |
| 0300-FV1050B | 4941082 | GAM.1050-1.D30 |
| | 4927171 | GAM.1400-1.D30 |
| 0300-FV1400B | 4927172 | GAM.1400-1.D35 |
| 0300-FV1800B | 4933341 | GAM.1800-2.D35 |
| | 4933340 | GAM.1800-2.D30 |
| 0300-FV2300B | 4938169 | GAM.2300-4.D35 |
| | 4938168 | GAM.2300-4.D30 |



# Mecanizados para falleba en la hoja D10119 - Aguja 35 y Cerradura



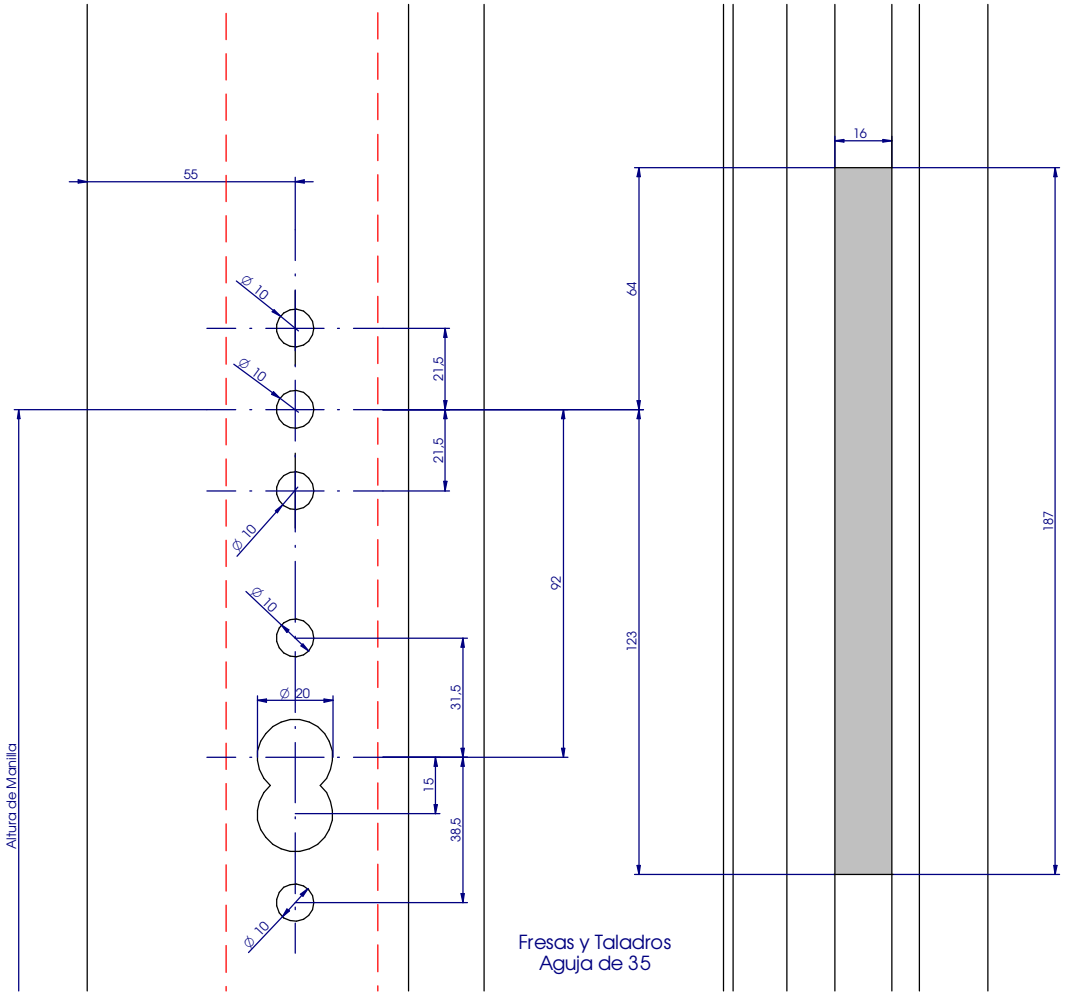

Nota:
Los mecanizados de la manilla pueden variar dependiendo del fabricante y modelo.



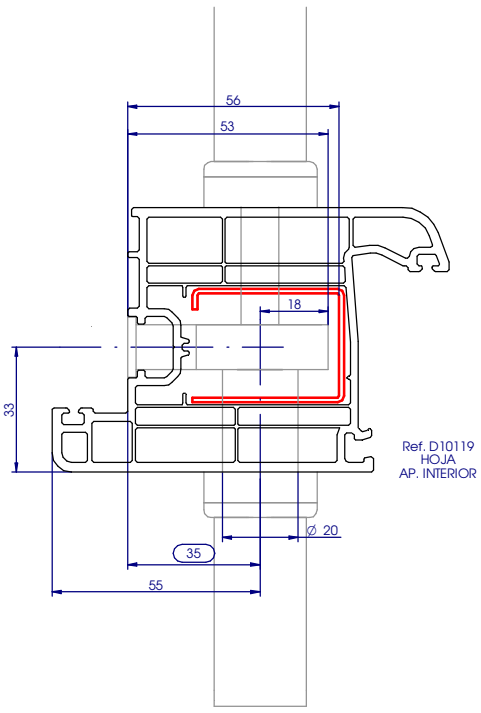

| CREMONA BALCONERA CON CERRADURA | | |
|---|---|---|
| **REF. AYUSO** | **REF. WINKHAUS** | **DESCRIPCIÓN TEC.** |
| 0300-FV2300C | 4927161 | GAMA.2300-3.D35 |



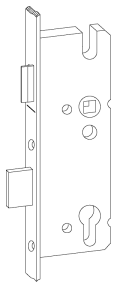
# Mecanizados para falleba en la hoja D10119 - Aguja 35 y Cerradura



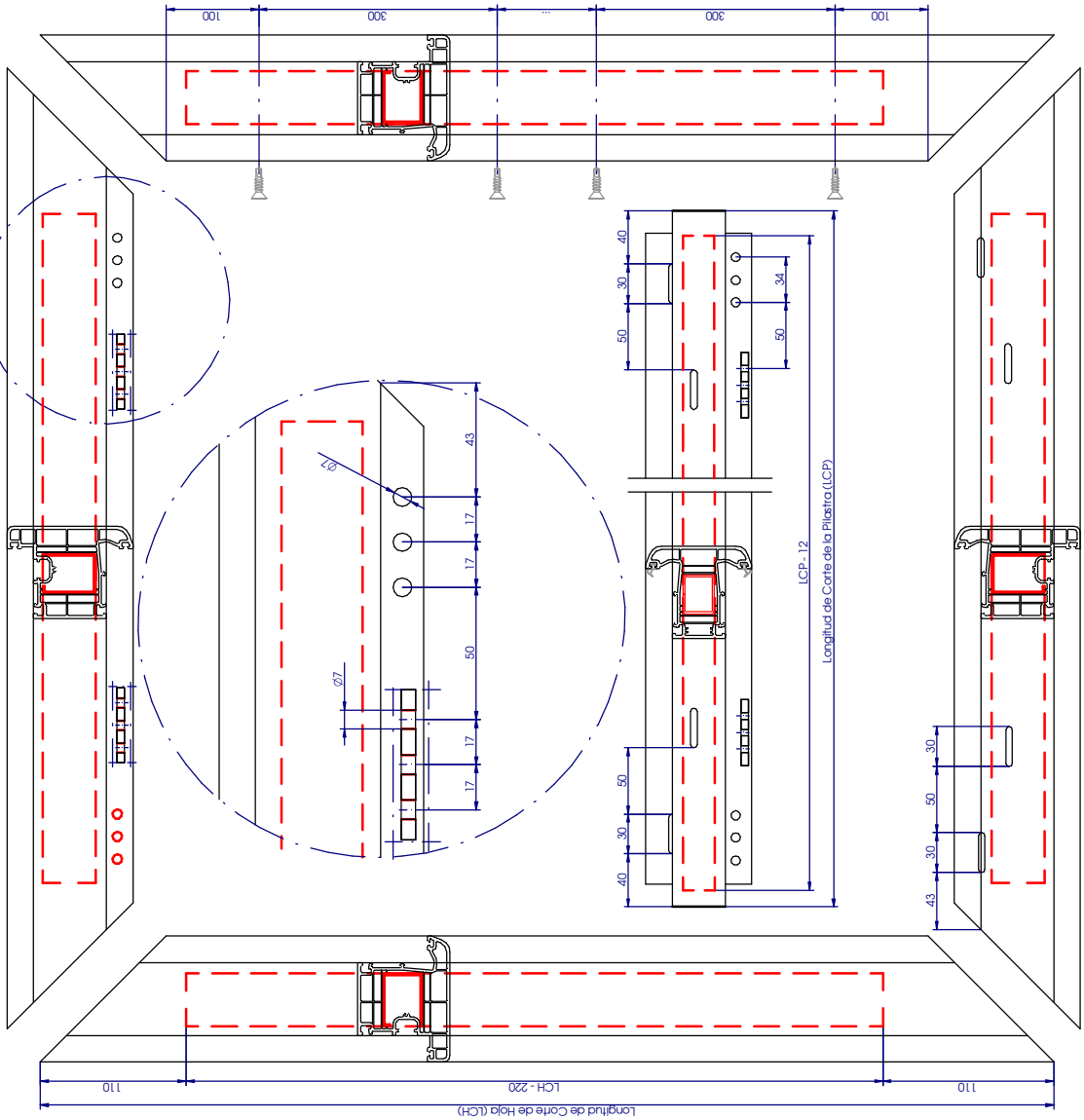

Nota:
Los mecanizados de la manilla pueden variar dependiendo del fabricante y modelo.
Mecanizados válidos para manilla 0300-M2

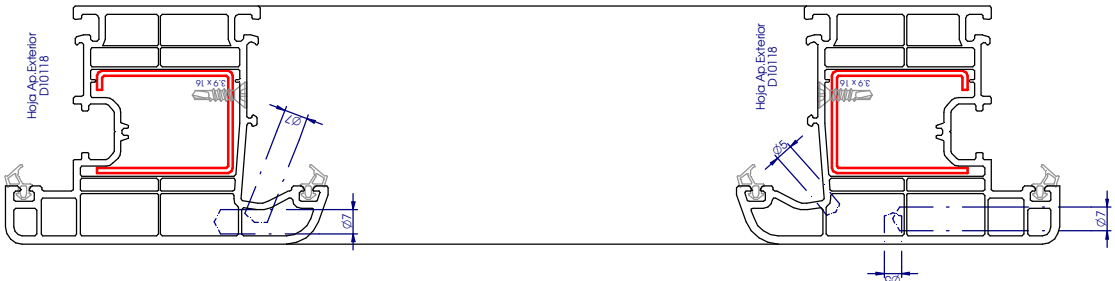


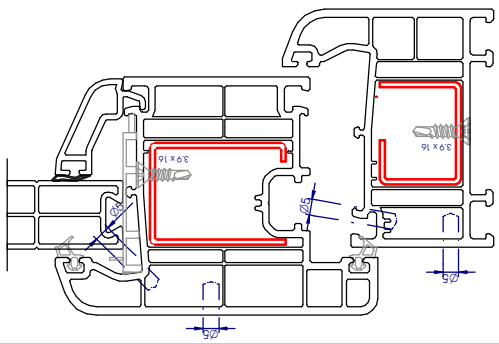

| CERRADURA PUERTA | | |
|---|---|---|
| **REF. AYUSO** | **REF. WINKHAUS** | **DESCRIPCIÓN TEC.** |
| 0300-PZW | 1260556 | RR 02 PZW FK 16/35 92 08 MC |
| 0300-STV-R4 | 1987193 | STV-F 1660/35 92/8 R4 |
| 0300-STV-M2D | 2049861 | STV-F 1660/35 92/8 M2 |
| 0300-STV-M2I | 2049879 | STV-F 1660/35 92/8 M2 |
| 0300-AV-M2D | 2352122 | AV2-F 1660/35 92/8 M2 |
| 0300-AV-M2I | 2352131 | AV2-F 1660/35 92/8 M2 |



# Corte de los refuerzos y drenaje-descompresión (D10118)



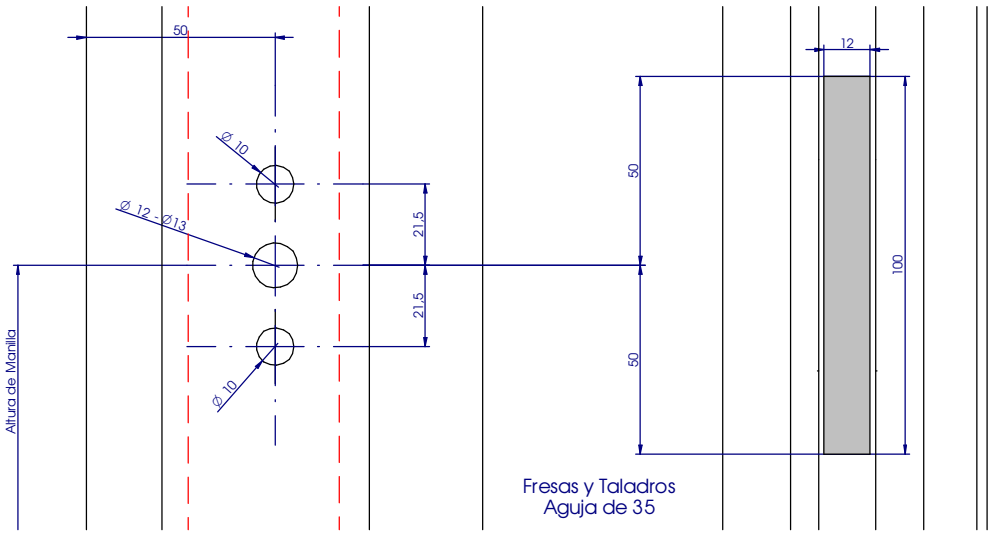

Drenaje del marco para hojas de apertura exterior.

Nota importante:

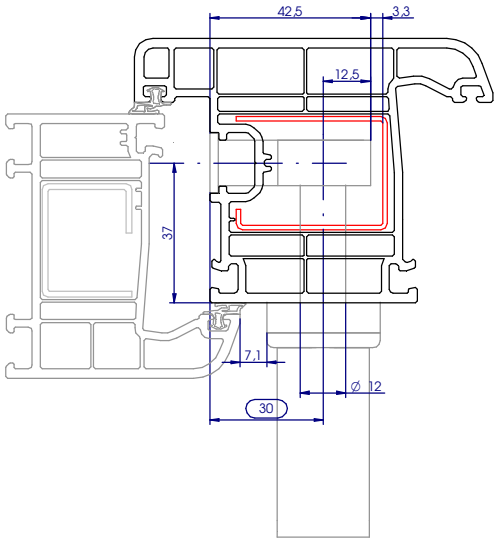
Para puertas de pertura exterior de colores oscuros, los agujeros de descompresión y drenaje se deben realizar como se ven en la imagen.

En el caso de realizar 3 taladros de 7mm, no se necesita realizar los taladros exteriores para el drenaje.

# Mecanizados para falleba en la hoja D10118 - Aguja 35



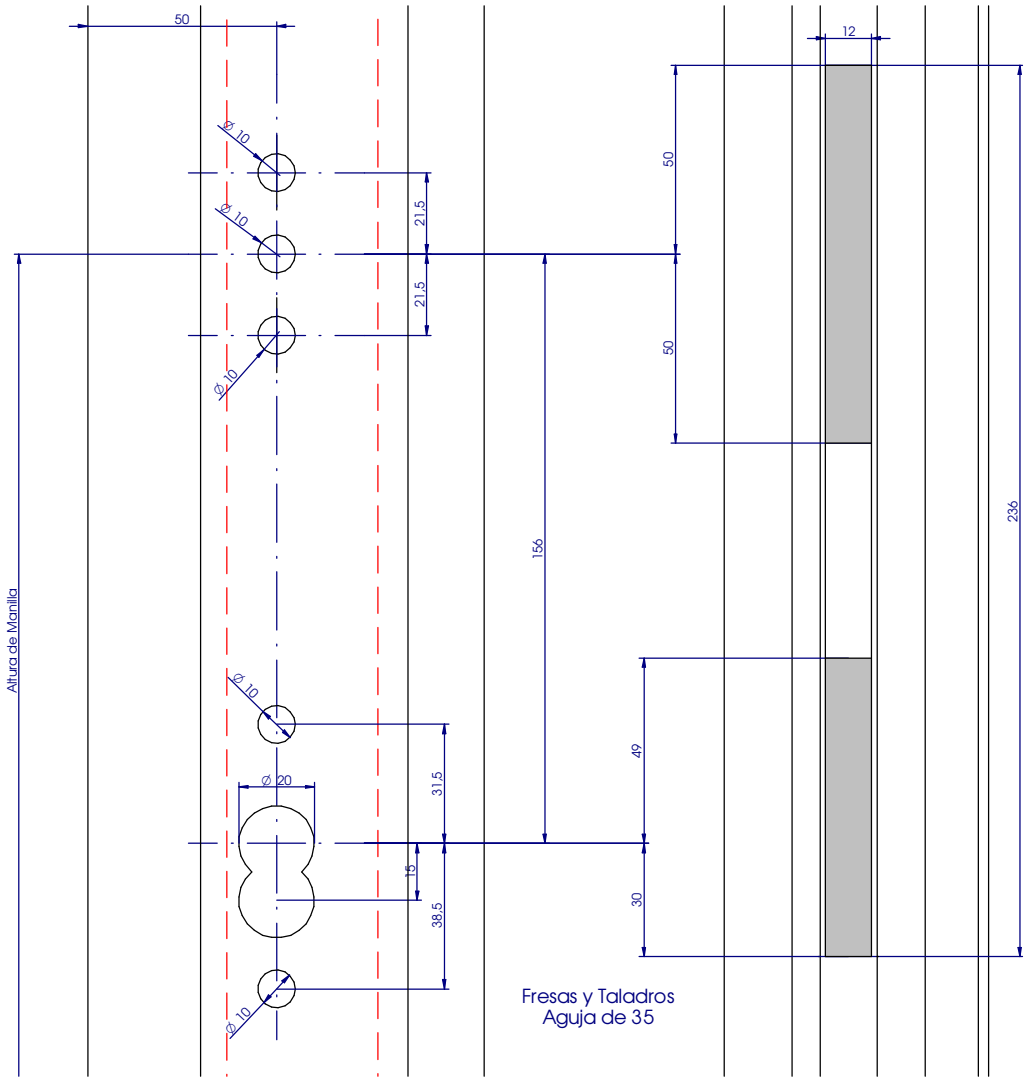

Nota:
Los mecanizados de la manilla pueden variar dependiendo del fabricante y modelo.
Mecanizados válidos para manilla 0300-M2



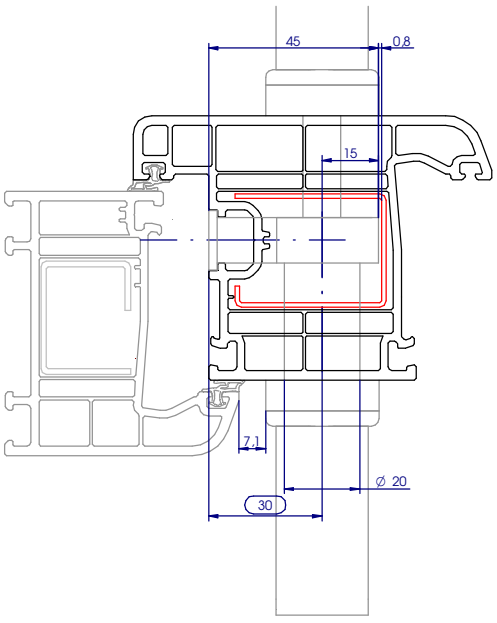



| CREMONA BALCONERA | | |
|---|---|---|
| **REF. AYUSO** | **REF. WINKHAUS** | **DESCRIPCIÓN TEC.** |
| 0300-FV0800B | 4941069 | GAM.800.D30 |
| 0300-FV1050B | 4941082 | GAM.1050-1.D30 |
| | 4927171 | GAM.1400-1.D30 |
| | 4933340 | GAM.1800-2.D30 |
| | 4938168 | GAM.2300-4.D30 |

# Mecanizados para falleba en la hoja D10118 - Aguja 35 y Cerradura



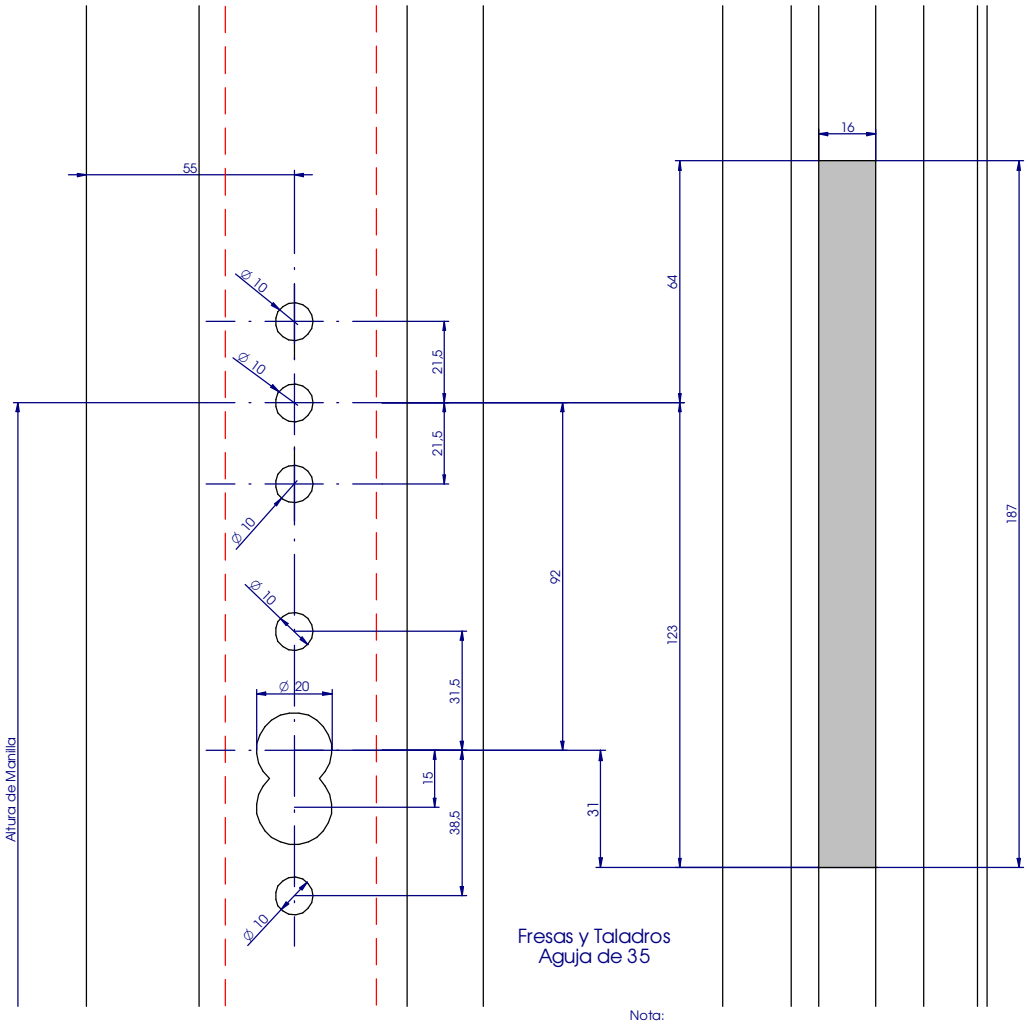

Nota:
Los mecanizados de la manilla pueden variar dependiendo del fabricante y modelo.



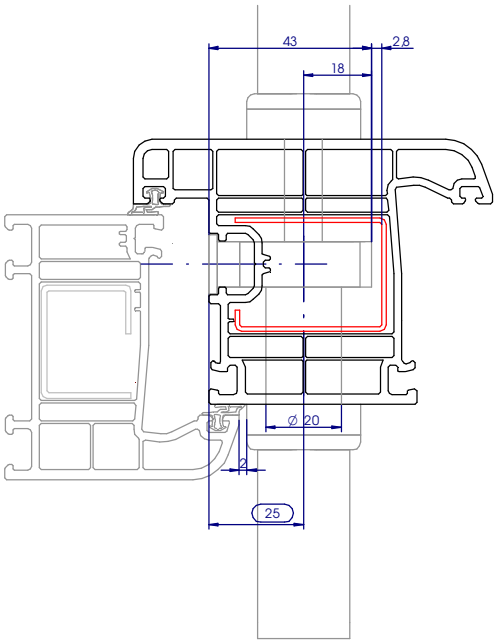

| CREMONA BALCONERA CON CERRADURA | | |
|---|---|---|
| **REF. AYUSO** | **REF. WINKHAUS** | **DESCRIPCIÓN TEC.** |
| | 4927160 | GAMA.2300-3.D30 |

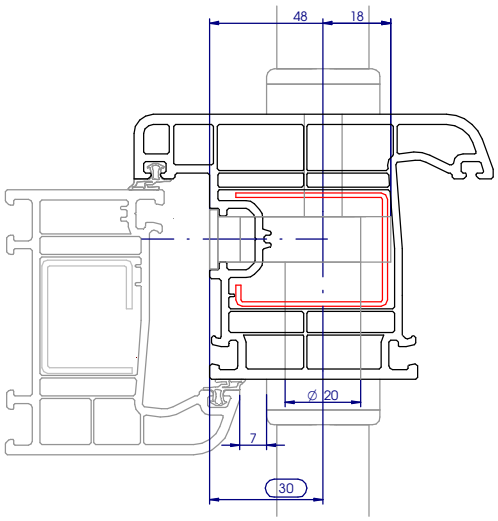


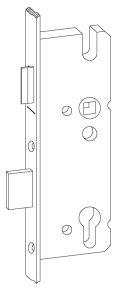
# Mecanizados para falleba en la hoja D10118 - Aguja 35 y Cerradura




Nota:
Los mecanizados de la manilla pueden variar dependiendo del fabricante y modelo.

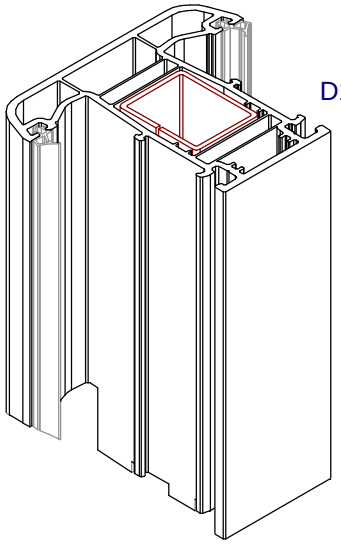


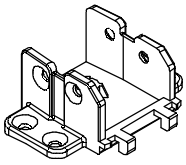



| CERRADURA PUERTA | | |
|---|---|---|
| **REF. AYUSO** | **REF. WINKHAUS** | **DESCRIPCIÓN TEC.** |
| | ??? | RR 02 PZW FK 16/25 92 08 MC |
| | ??? | RR 02 PZW FK 16/30 92 08 MC |

# Unión mecánica del travesaño



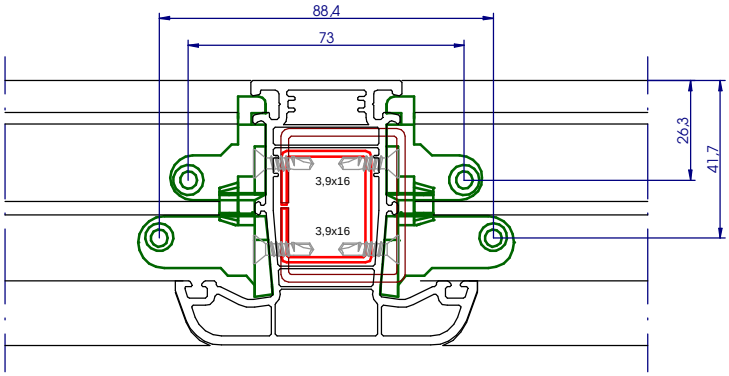
D10124



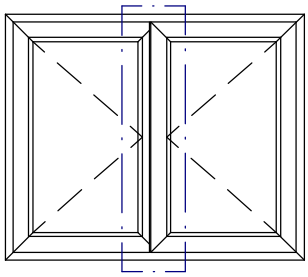
D10540

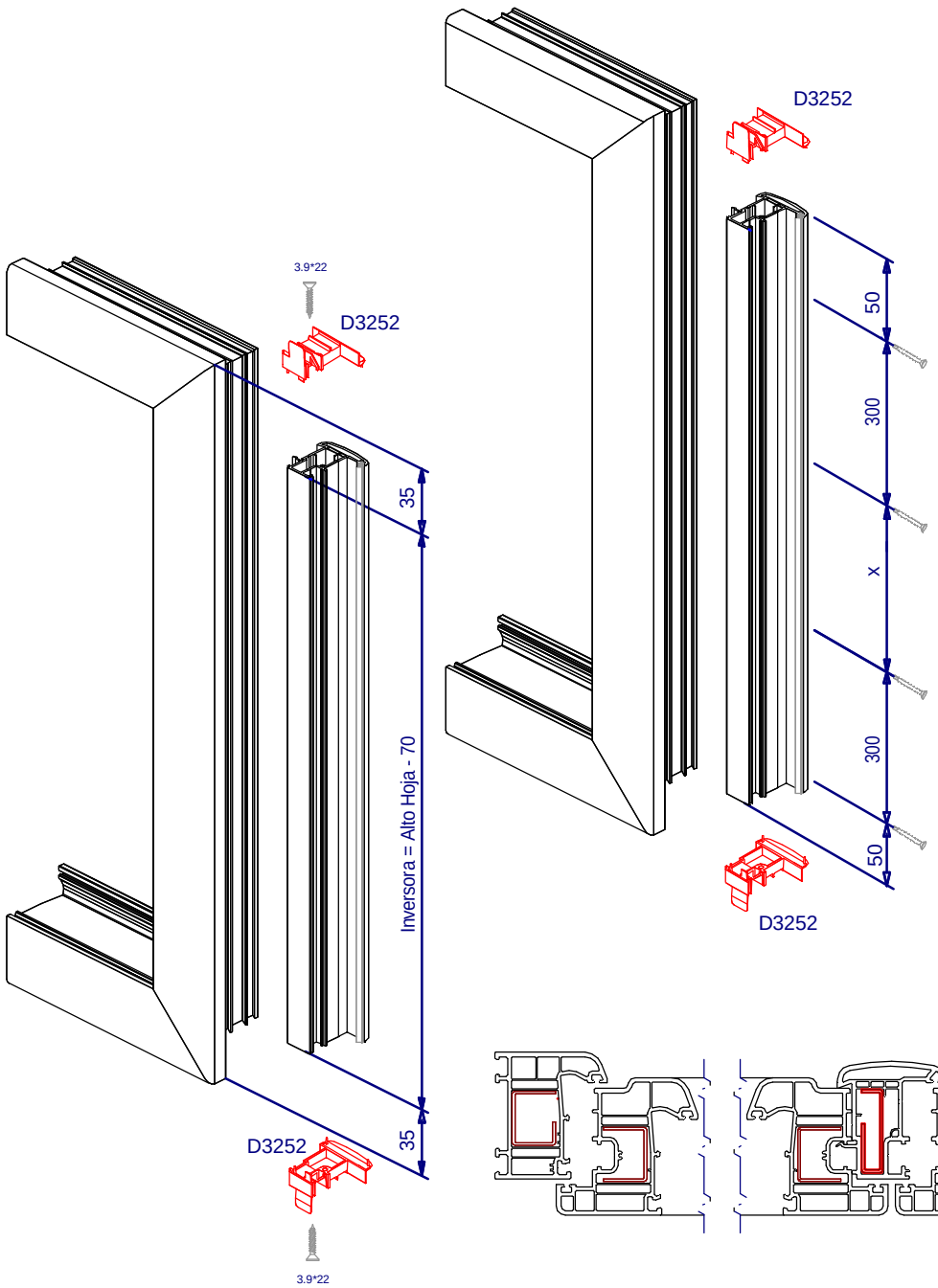


D10105

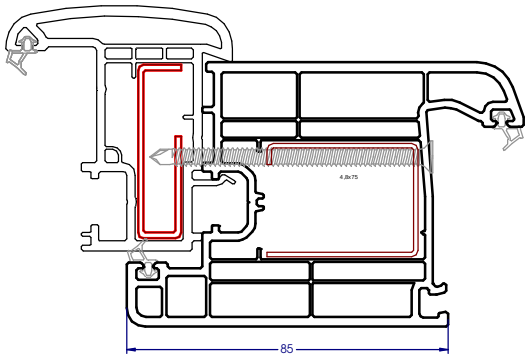


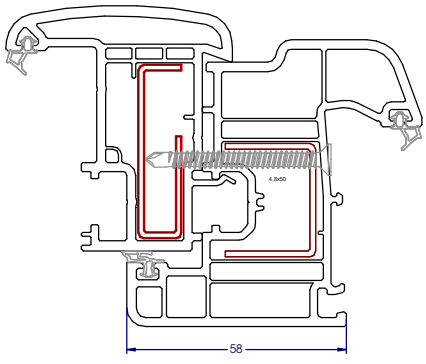
# Corte y Montaje de la Inversora



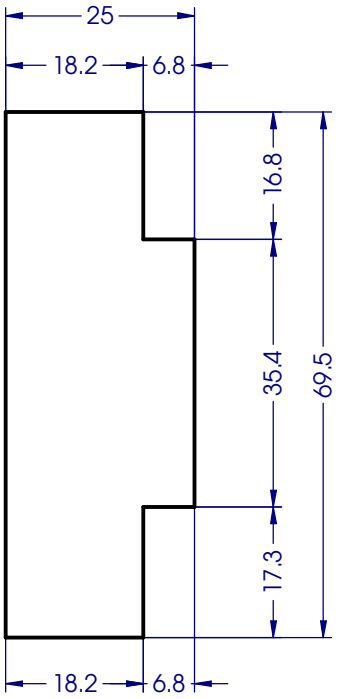




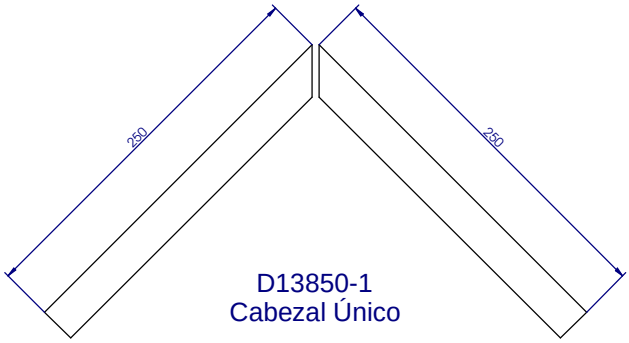



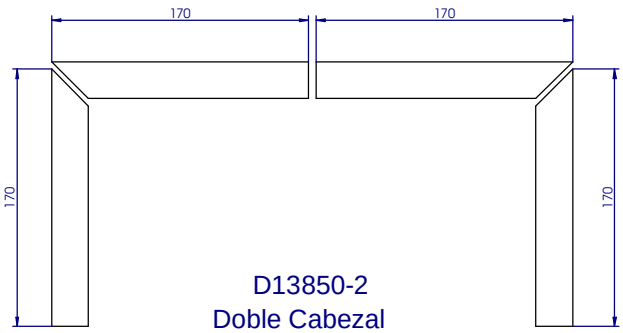
# Contra para el Cerco D10105



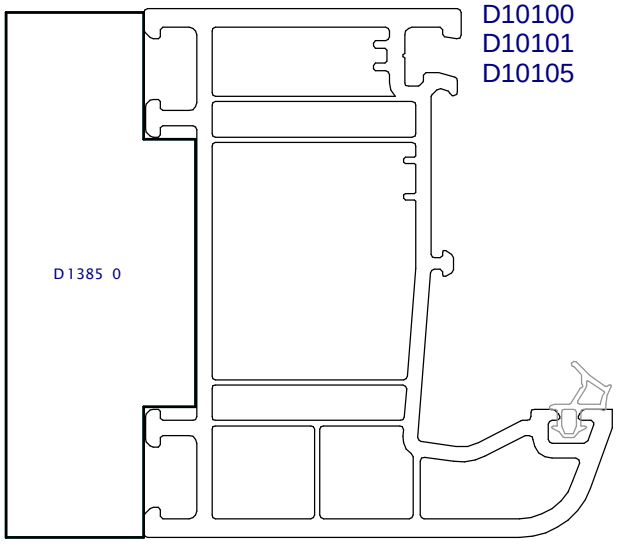

D13 85 0




D13850-1
Cabezal Único

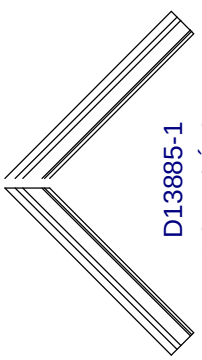



D13850-2
Doble Cabezal

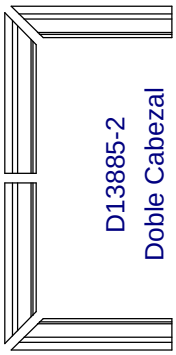



D10100
D10101
D10105

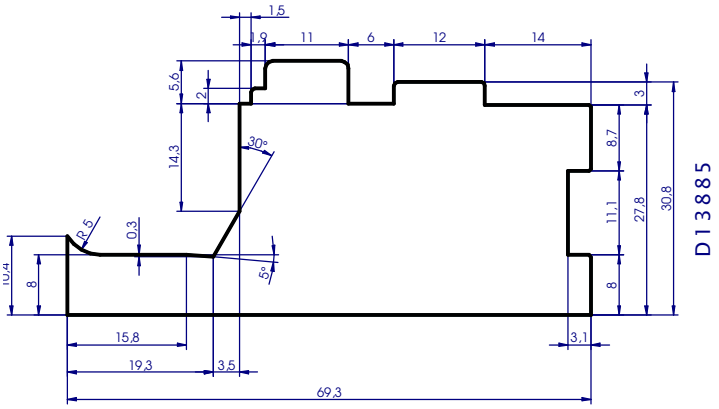
# Contras para las Hojas D10115 - D10116 - D10118 - D10119



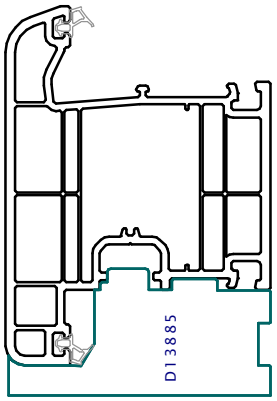
D13885-1
Cabezal Único



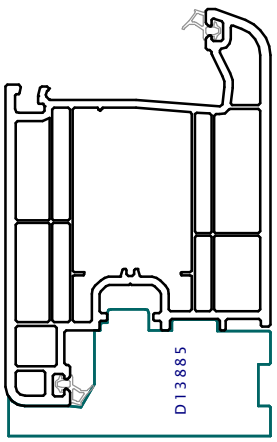
D13885-2
Doble Cabezal



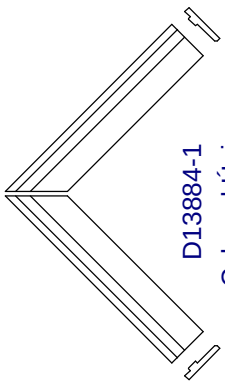

D13885



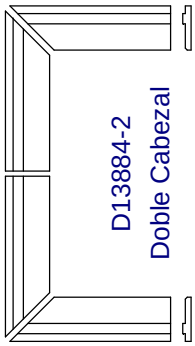

D10118



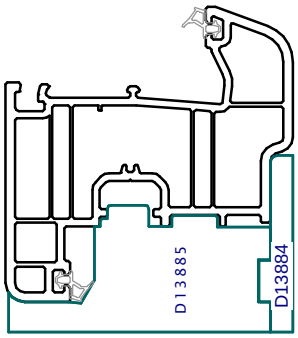

D10119



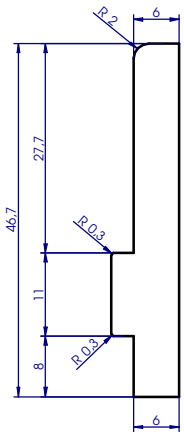
D13884-1
Cabezal Único



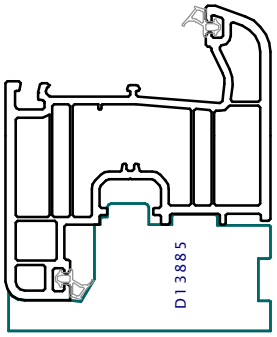
D13884-2
Doble Cabezal




D10116



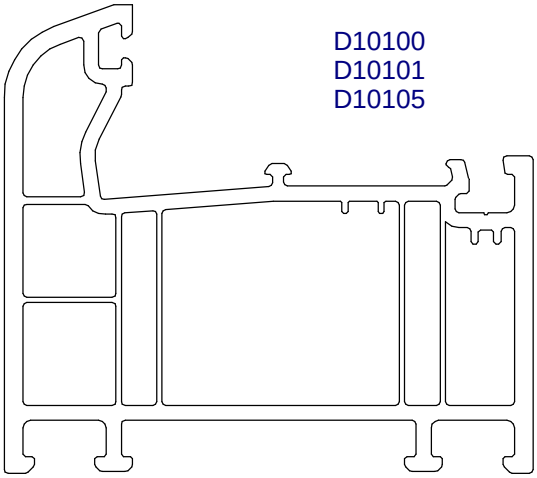

D13884

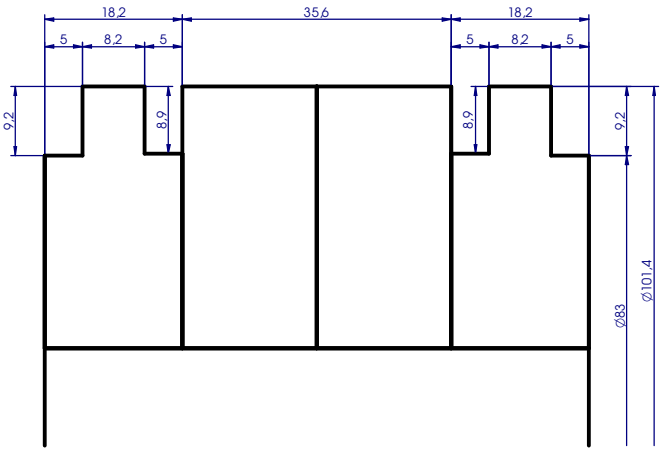



D10115

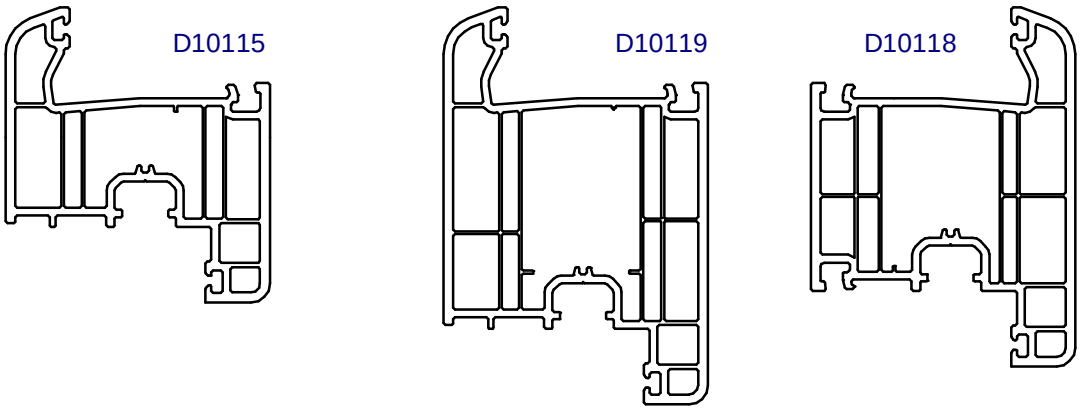
# Herramienta para la limpieza de los ingletes - Cerco

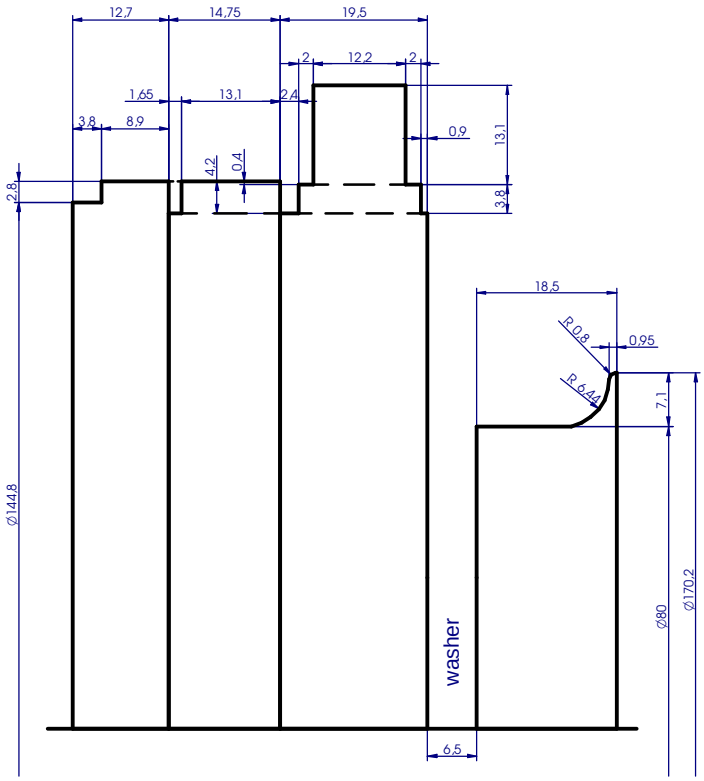
D10100
D10101
D10105



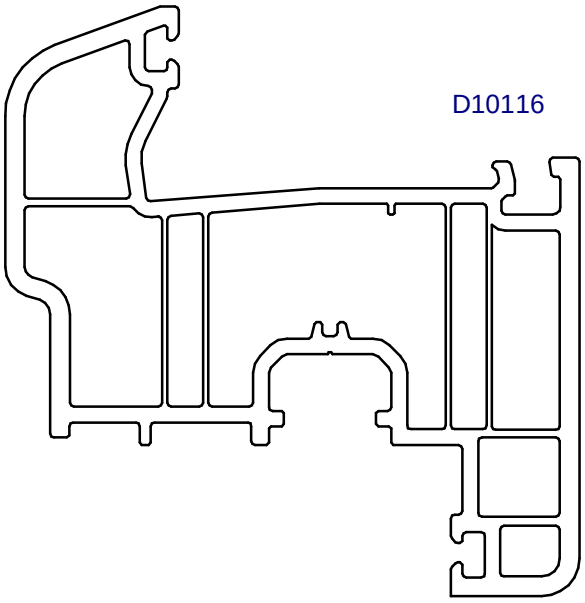


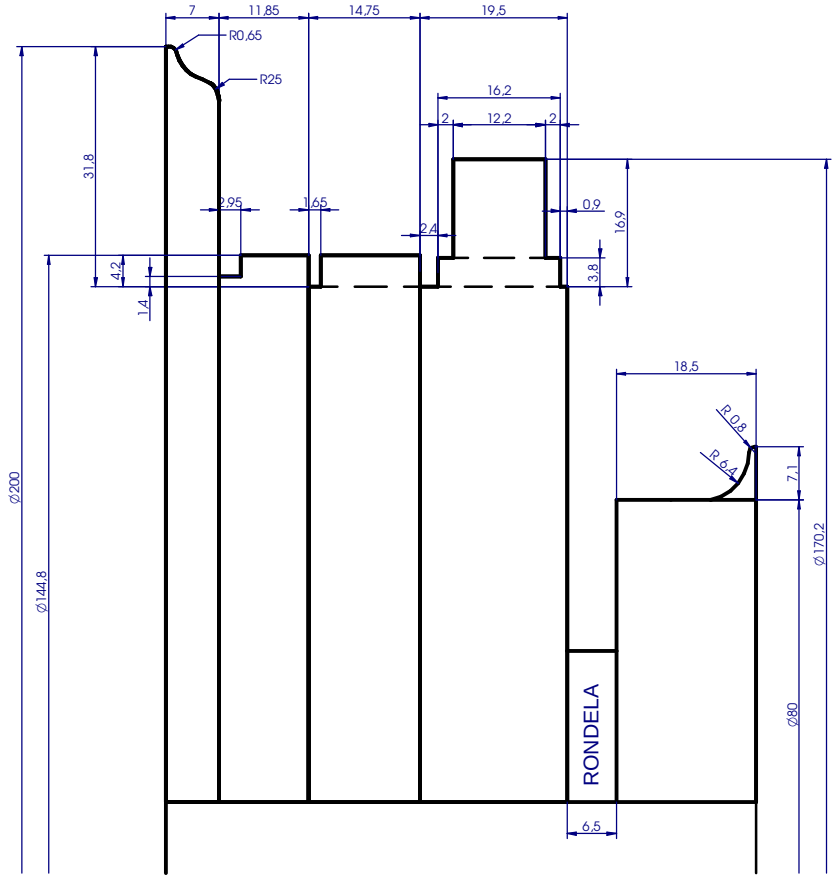
# Herramienta para la limpieza de los ingletes - Hojas



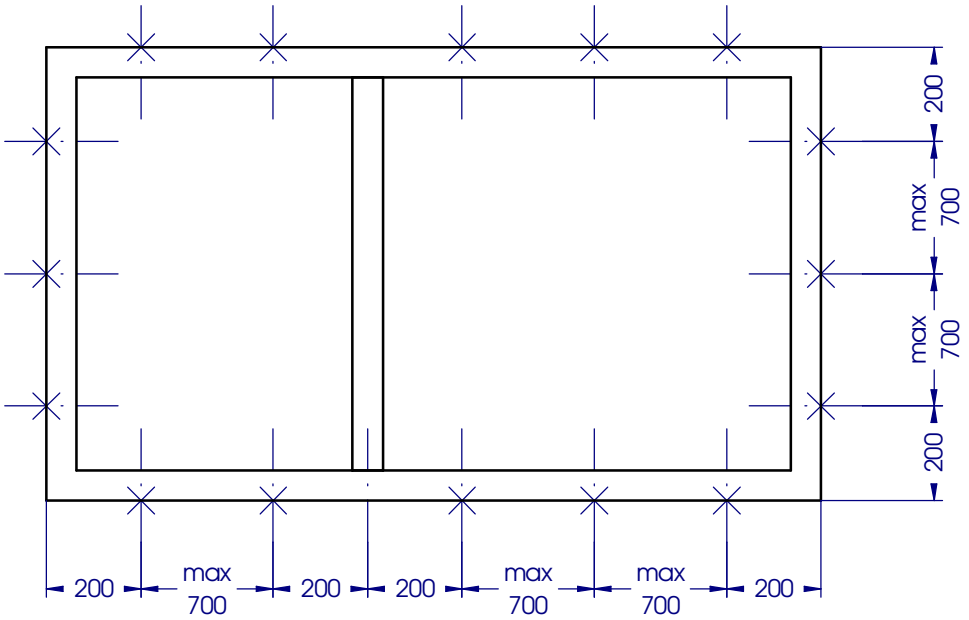



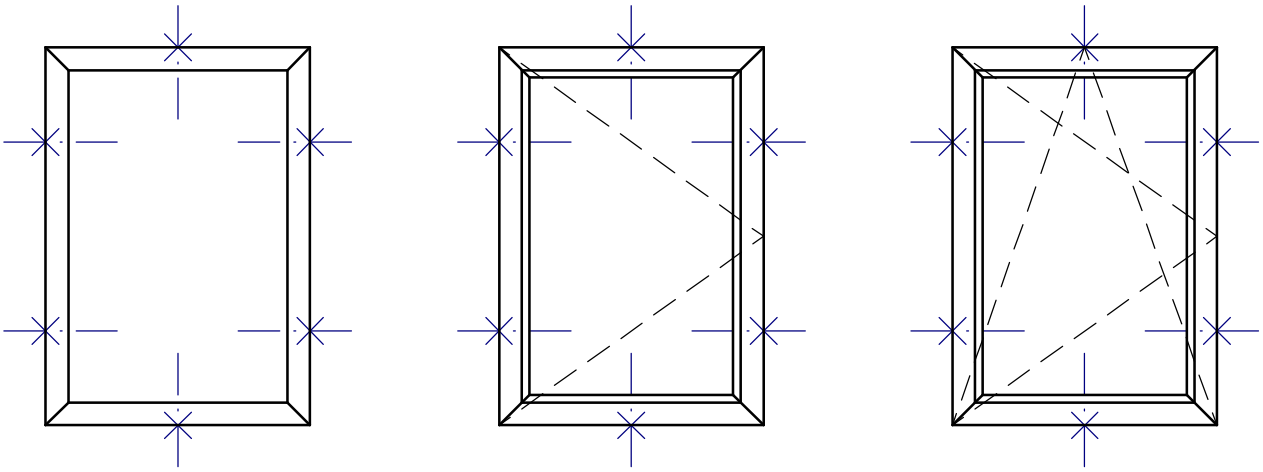
# Herramienta para la limpieza de los ingletes - Hoja Semienrrasda

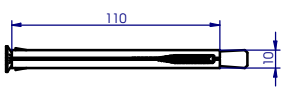


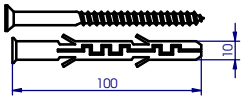



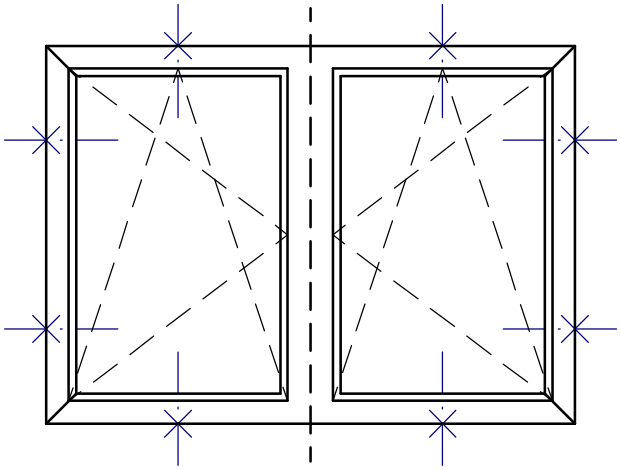
## Instalación de la Ventana





## Ensayos

| VENTANA OSCILOBATIENTE DE 1 HOJA CON FIJO INFERIOR (1400m X 2100m) (Hoja de Ventana) | | | |
|---|---|---|---|
| **PARÁMETROS DETERMINADOS** | **NORMA** | **CLASIFICACIÓN** | **NORMA** |
| ENSAYO DE PERMEABILIDAD AL AIRE | UNE-EN 1026:2000 | CLASE 4 | UNE-EN 12207:2000 |
| ENSAYO DE ESTANQUEIDAD AL AGUA | UNE-EN 1027:2000 | CLASE 9A | UNE-EN 12208:2000 |
| ENSAYO DE RESISTENCIA AL VIENTO | UNE-EN 12211:2000 | CLASE C3 / B4 | UNE-EN 12210:2000 |

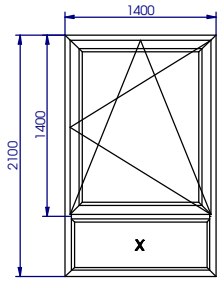
| VENTANA OSCILOBATIENTE DE 1 HOJA (900m X 2200m) (Hoja de Ventana) | | | |
|---|---|---|---|
| **PARÁMETROS DETERMINADOS** | **NORMA** | **CLASIFICACIÓN** | **NORMA** |
| ENSAYO DE PERMEABILIDAD AL AIRE | UNE-EN 1026:2000 | CLASE 4 | UNE-EN 12207:2000 |
| ENSAYO DE ESTANQUEIDAD AL AGUA | UNE-EN 1027:2000 | CLASE E1050 | UNE-EN 12208:2000 |
| ENSAYO DE RESISTENCIA AL VIENTO | UNE-EN 12211:2000 | CLASE C4 / B4 | UNE-EN 12210:2000 |

| VENTANA OSCILOBATIENTE DE 1 HOJA (900m X 2200m) (Hoja de Puerta) | | | |
|---|---|---|---|
| **PARÁMETROS DETERMINADOS** | **NORMA** | **CLASIFICACIÓN** | **NORMA** |
| ENSAYO DE PERMEABILIDAD AL AIRE | UNE-EN 1026:2000 | CLASE 4 | UNE-EN 12207:2000 |
| ENSAYO DE ESTANQUEIDAD AL AGUA | UNE-EN 1027:2000 | CLASE 9A / E1200 | UNE-EN 12208:2000 |
| ENSAYO DE RESISTENCIA AL VIENTO | UNE-EN 12211:2000 | CLASE C5 | UNE-EN 12210:2000 |

| VENTANA OSCILOBATIENTE DE 2 HOJAS (1250m X 2100m) (Hoja de Ventana) | | | |
|---|---|---|---|
| **PARÁMETROS DETERMINADOS** | **NORMA** | **CLASIFICACIÓN** | **NORMA** |
| ENSAYO DE PERMEABILIDAD AL AIRE | UNE-EN 1026:2000 | CLASE 4 | UNE-EN 12207:2000 |
| ENSAYO DE ESTANQUEIDAD AL AGUA | UNE-EN 1027:2000 | CLASE 9A | UNE-EN 12208:2000 |
| ENSAYO DE RESISTENCIA AL VIENTO | UNE-EN 12211:2000 | CLASE C2 / B4 | UNE-EN 12210:2000 |

| VENTANA OSCILOPARALELA DE 2 HOJAS (1250m X 2100m) (Hoja de Puerta) | | | |
|---|---|---|---|
| **PARÁMETROS DETERMINADOS** | **NORMA** | **CLASIFICACIÓN** | **NORMA** |
| ENSAYO DE PERMEABILIDAD AL AIRE | UNE-EN 1026:2000 | CLASE 4 | UNE-EN 12207:2000 |
| ENSAYO DE ESTANQUEIDAD AL AGUA | UNE-EN 1027:2000 | CLASE E750 | UNE-EN 12208:2000 |
| ENSAYO DE RESISTENCIA AL VIENTO | UNE-EN 12211:2000 | CLASE C1 / A2 | UNE-EN 12210:2000 |

# Ensayo nº1 - Informe 102 37447/9

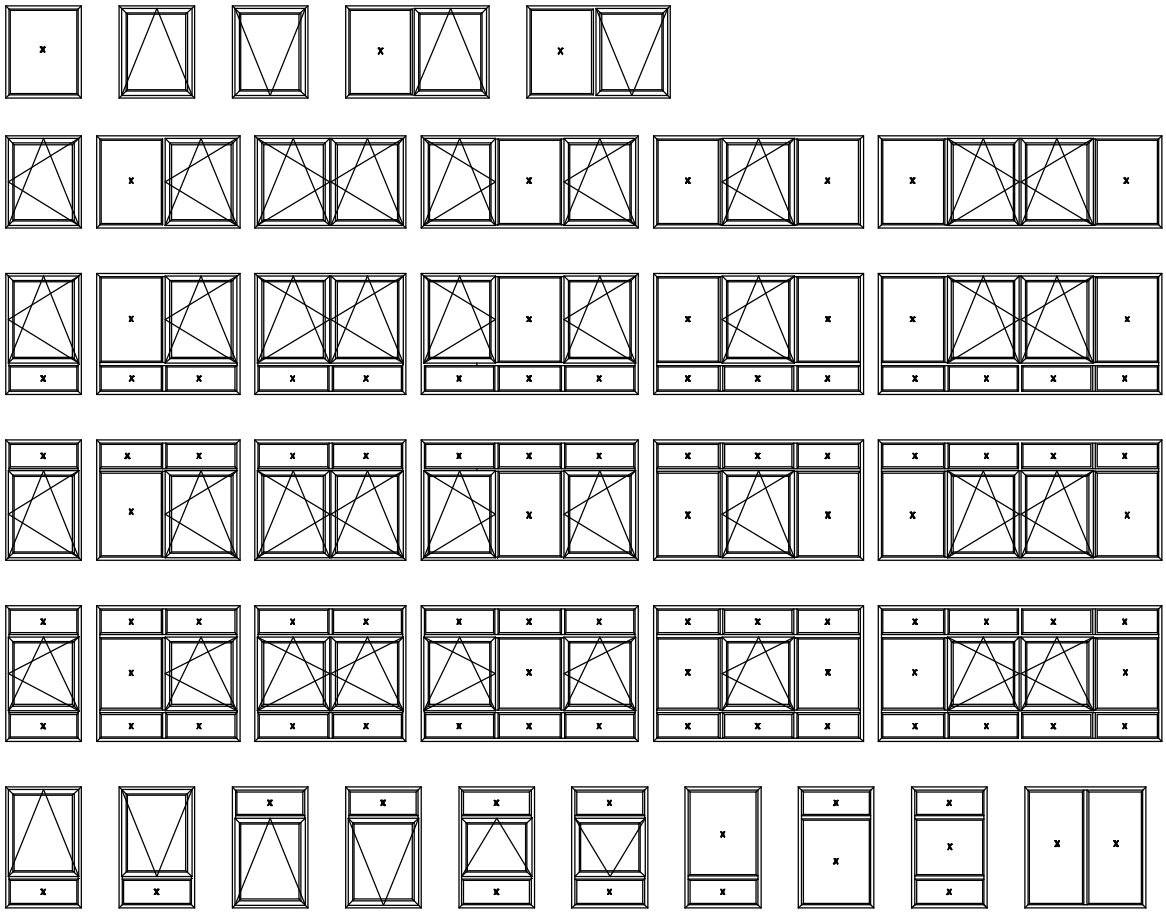



| AIRE | AGUA | VIENTO | ACÚSTICO | TÉRMICO |
|---|---|---|---|---|
| 4 | 9A | C3 | 32dB | * |

| AIRE | AGUA | VIENTO | ACÚSTICO | TÉRMICO |
|---|---|---|---|---|
| 4 | 9A | B4 | 32dB | * |

*(*) Ver en las siguientes páginas la sección "Tablas Térmicas UNE EN ISO 10077-1"*
*Valor de atenuación acústica com pleto: 32 (-1;-5) dB*

Modelos que están incluidos en el ensayo:



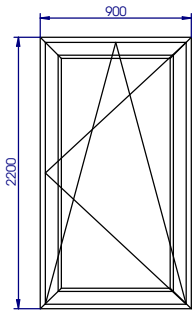
Perfiles y refuerzos que están incluidos en el ensayo:

| CERCOS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10105 | D11451<br>D11452<br>D11453<br>D11454 |

| HOJAS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10115<br>D10116 | D11453<br>D11454 |
| D10119<br>D10118 | D13080<br>D11455 |

| PILASTRAS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10124 | D11451<br>D11452 |

# Ensayo nº2 - Informe 102 36750/17

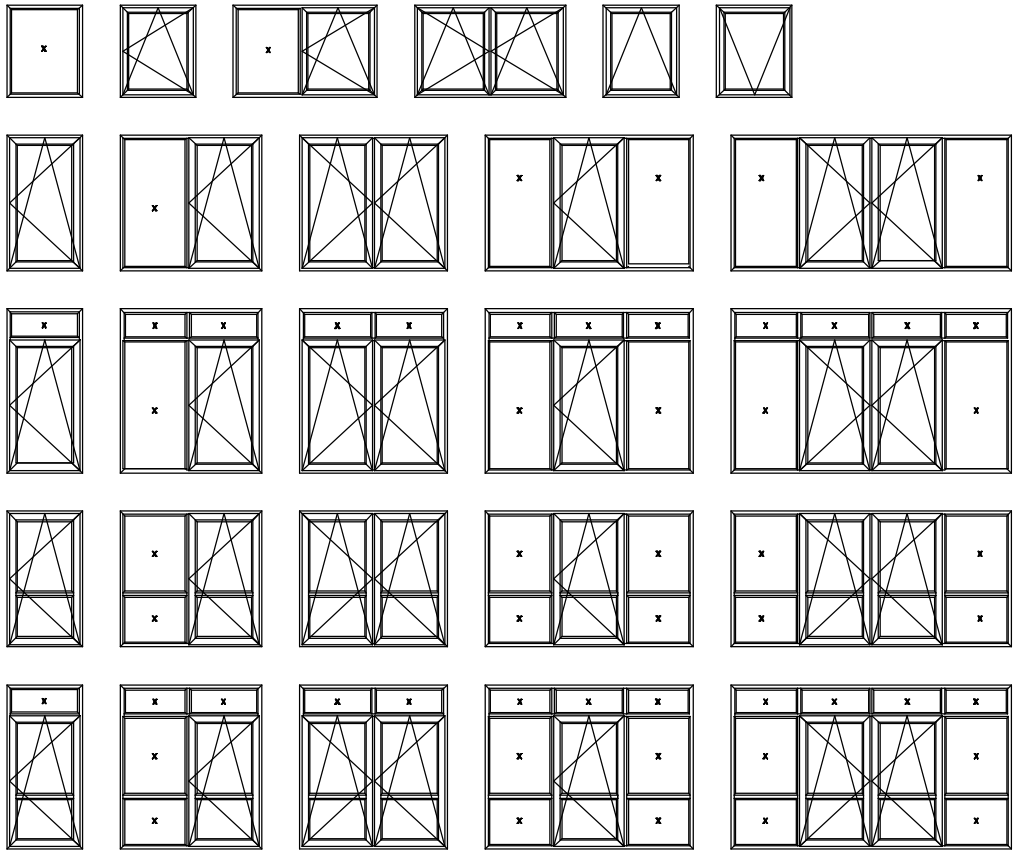



| AIRE | AGUA | VIENTO | ACÚSTICO | TÉRMICO |
|---|---|---|---|---|
| 4 | E1050 | C4 | 32dB | * |

| AIRE | AGUA | VIENTO | ACÚSTICO | TÉRMICO |
|---|---|---|---|---|
| 4 | E1050 | B4 | 32dB | * |

*(*) Ver en las siguientes páginas la sección "Tablas Térmicas UNE EN ISO 10077-1"*
*Valor de atenuación acústica com pleto: 32 (-1;-5) dB*

Modelos que están incluidos en el ensayo:



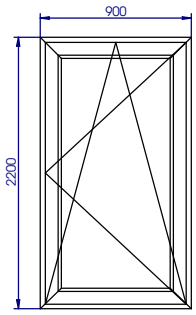
Perfiles y refuerzos que están incluidos en el ensayo:

| CERCOS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10105 | D11451<br>D11452<br>D11453<br>D11454 |

| HOJAS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10115<br>D10116 | D11453<br>D11454 |
| D10119<br>D10118 | D13080<br>D11455 |

| PILASTRAS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10124 | D11451<br>D11452 |

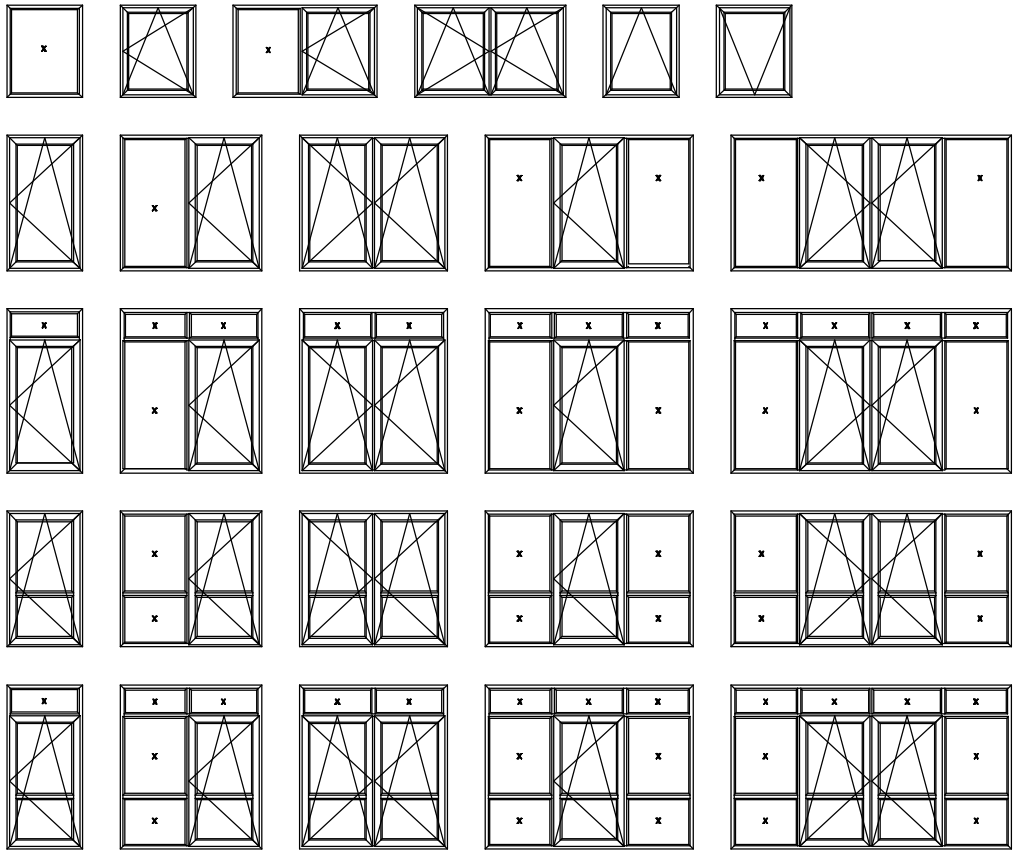
# Ensayo nº4 - Informe 08/11-A355-Z31




| AIRE | AGUA | VIENTO | ACÚSTICO | TÉRMICO |
|---|---|---|---|---|
| 4 | 9A | C5 | 32dB | * |

*(*) Ver en las siguientes páginas la sección "Tablas Térmicas UNE EN ISO 10077-1"*
*Valor de atenuación acústica com pleto: 32 (-1;-5) dB*

Modelos que están incluidos en el ensayo:



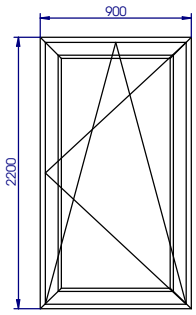
Perfiles y refuerzos que están incluidos en el ensayo:

| CERCOS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10105 | D11451<br>D11452<br>D11453<br>D11454 |

| HOJAS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10119<br>D10118 | D13080<br>D11455 |

| PILASTRAS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10124 | D11451<br>D11452 |

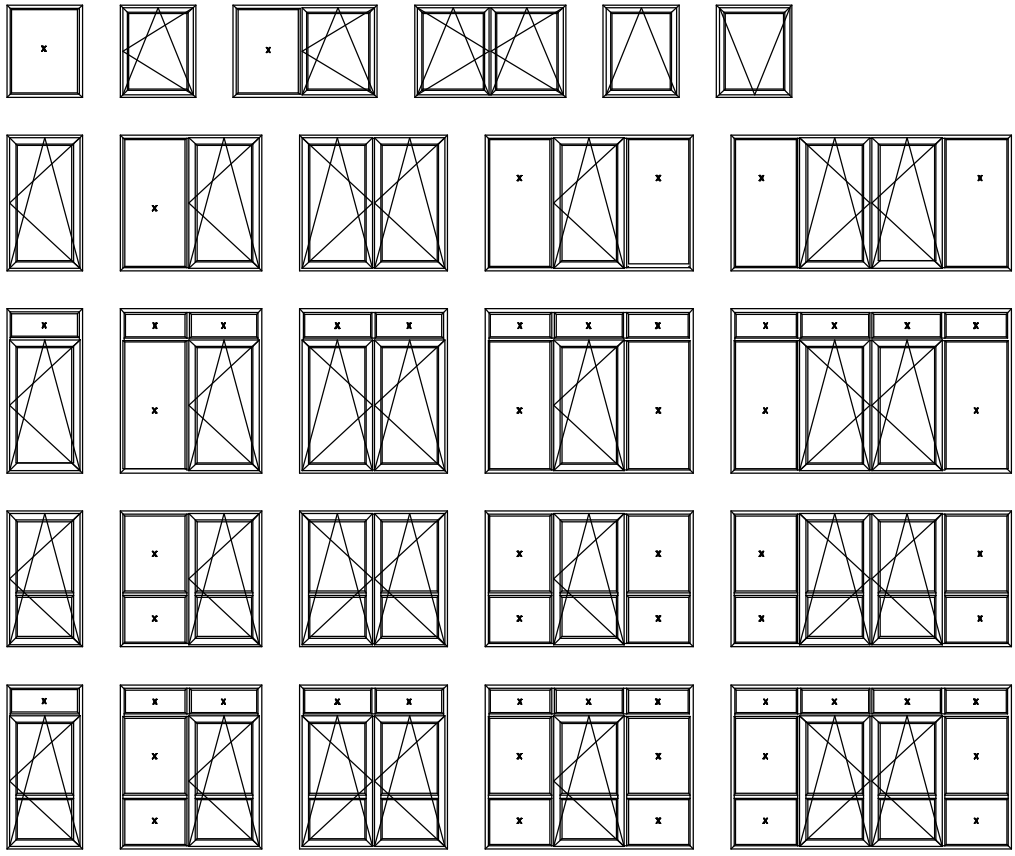
# Ensayo nº3 - Informe 08/11-A355-Z32




| AIRE | AGUA | VIENTO | ACÚSTICO | TÉRMICO |
|---|---|---|---|---|
| 4 | E1200 | C5 | 32dB | * |

*(*) Ver en las siguientes páginas la sección "Tablas Térmicas UNE EN ISO 10077-1"*
*Valor de atenuación acústica com pleto: 32 (-1;-5) dB*

Modelos que están incluidos en el ensayo:



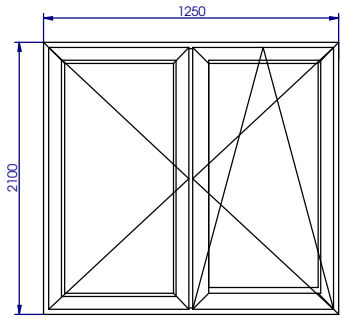
Perfiles y refuerzos que están incluidos en el ensayo:

| CERCOS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10105 | D11451<br>D11452<br>D11453<br>D11454 |

| HOJAS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10119<br>D10118 | D11455 |

| PILASTRAS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10124 | D11451<br>D11452 |

# Ensayo nº5 - Informe 102 37447/2

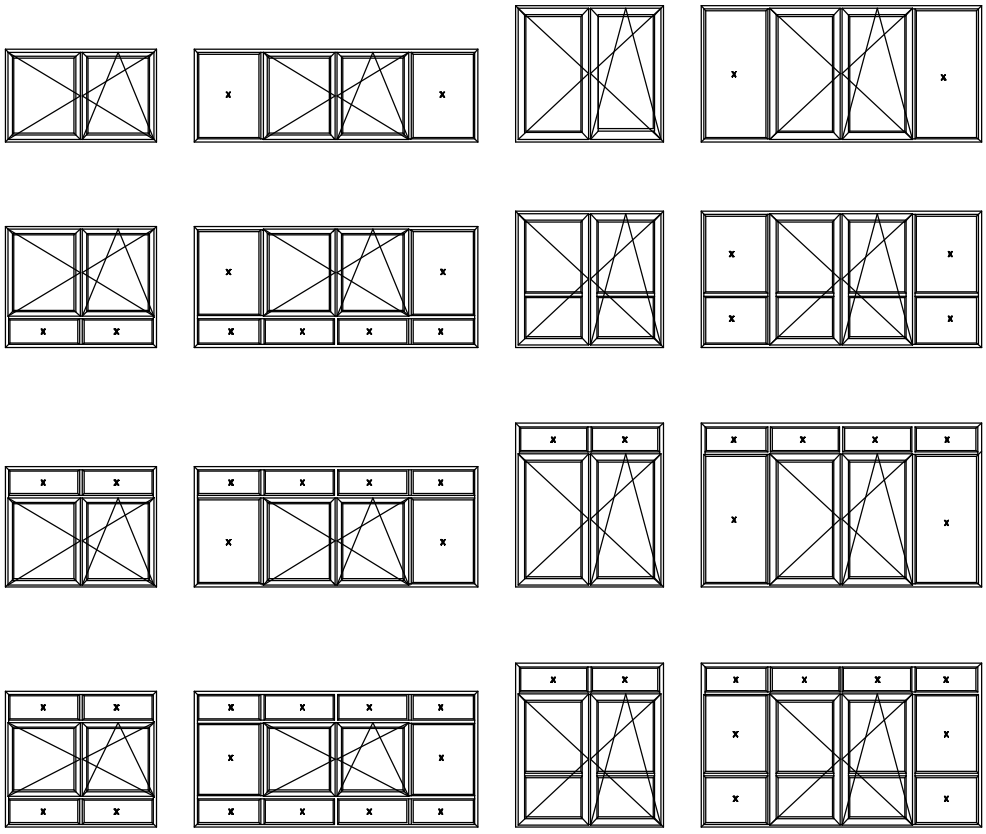



| AIRE | AGUA | VIENTO | ACÚSTICO | TÉRMICO |
|---|---|---|---|---|
| 4 | 9A | C2 | 32dB | * |

| AIRE | AGUA | VIENTO | ACÚSTICO | TÉRMICO |
|---|---|---|---|---|
| 4 | 9A | B4 | 32dB | * |

*(*) Ver en las siguientes páginas la sección "Tablas Térmicas UNE EN ISO 10077-1"*
*Valor de atenuación acústica com pleto: 32 (-1;-5) dB*

Modelos que están incluidos en el ensayo:



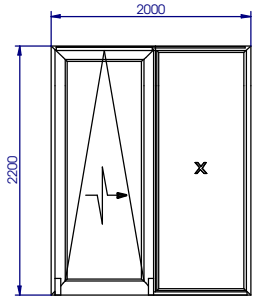
Perfiles y refuerzos que están incluidos en el ensayo:

| CERCOS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10105 | D11451<br>D11452<br>D11453<br>D11454 |

| HOJAS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10115<br>D10116 | D11453<br>D11454 |
| D10119<br>D10118 | D13080<br>D11455 |

| INVERSORA | |
|---|---|
| Perfiles PVC | Refuerzos |
| D12622 | D3221 |

# Ensayo nº5 - Informe 102 37447/12

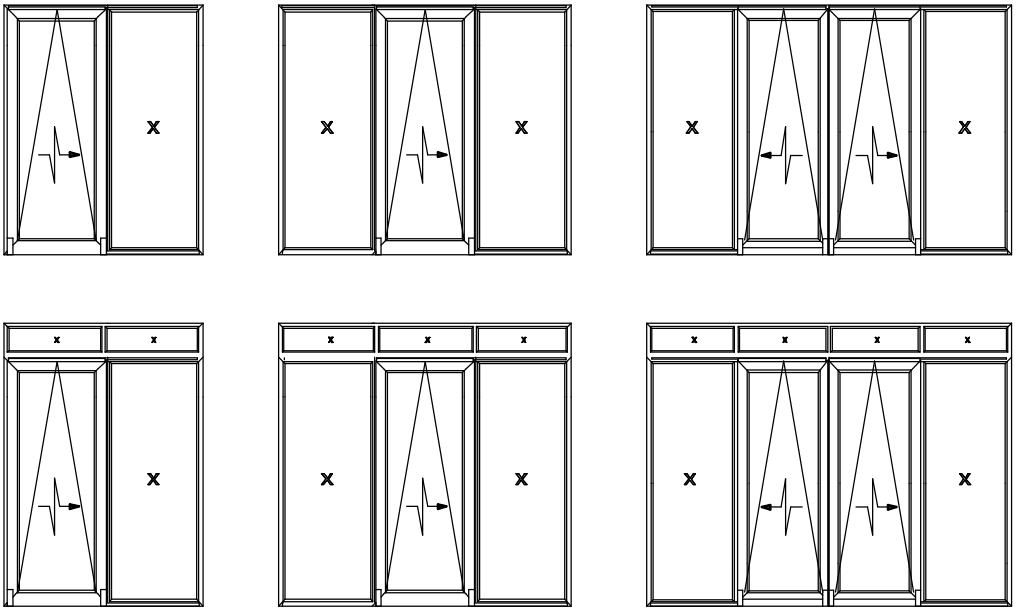



| AIRE | AGUA | VIENTO | ACÚSTICO | TÉRMICO |
|---|---|---|---|---|
| 4 | E750 | C1 | 32dB | * |

| AIRE | AGUA | VIENTO | ACÚSTICO | TÉRMICO |
|---|---|---|---|---|
| 4 | E750 | A2 | 32dB | * |

*(*) Ver en las siguientes páginas la sección "Tablas Térmicas UNE EN ISO 10077-1"*
*Valor de atenuación acústica com pleto: 32 (-1;-5) dB*

Modelos que están incluidos en el ensayo:



Perfiles y refuerzos que están incluidos en el ensayo:

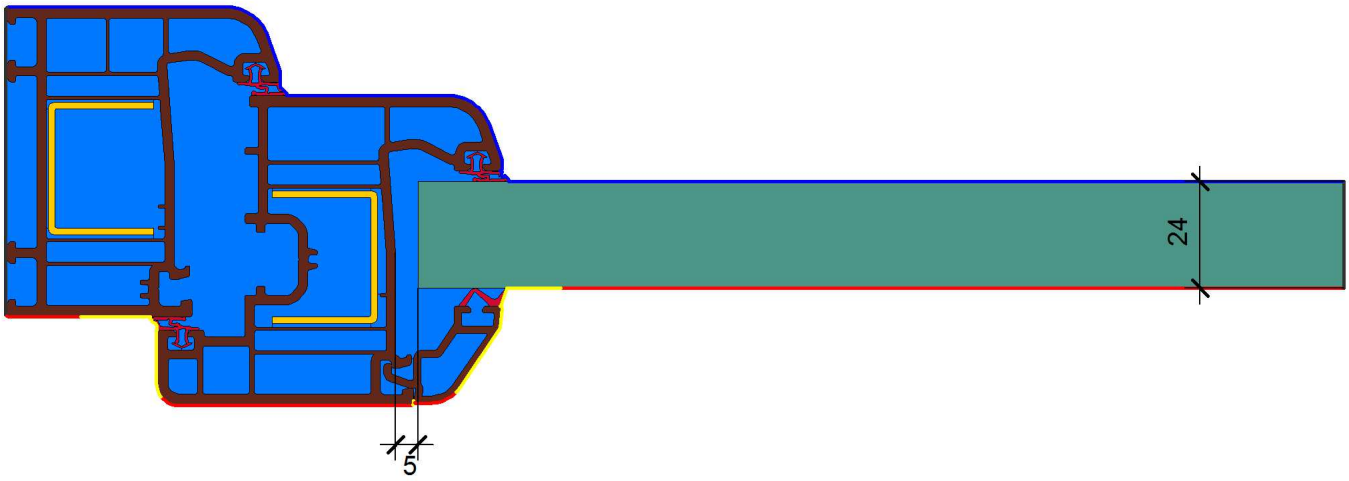
| CERCOS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10105 | D11451<br>D11452<br>D11453<br>D11454 |

| HOJAS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10119<br>D10118 | D13080<br>D11455 |

| PILASTRAS | |
|---|---|
| Perfiles PVC | Refuerzos |
| D10124 | D11451<br>D11452 |

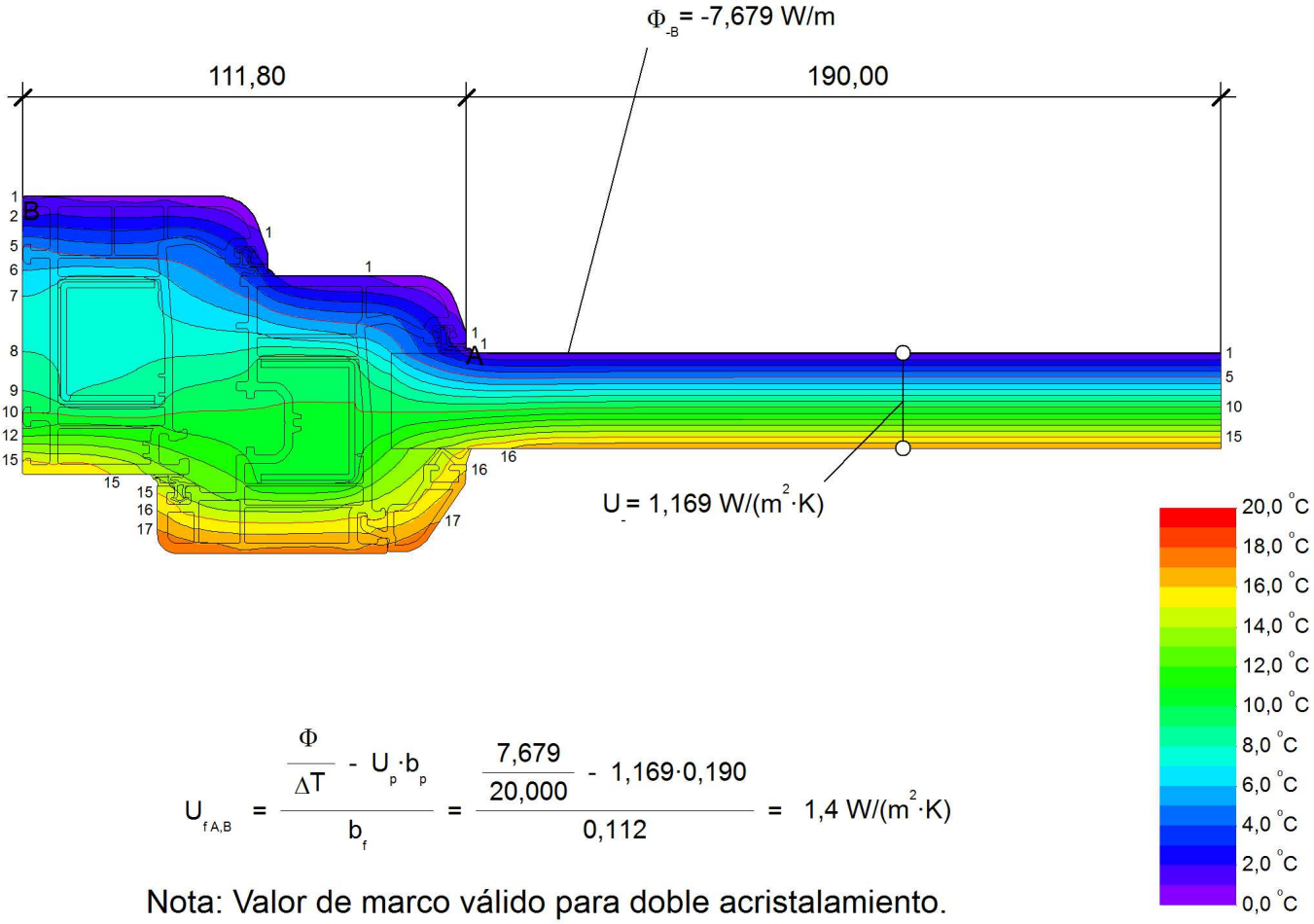
| SUPLEMENTOS DE CERCO | |
|---|---|
| Perfiles PVC | Refuerzos |
| D3300<br>D3301<br>D3302 | D3238<br>D3202 |

# Estudio Térmico - Perfiles Ventana - Vidrio Doble




| Material | λ[W/(m·K)] | ε |
|---|---|---|
| EPDM (ethylene propylene diene monomer) | 0,250 | 0,900 |
| PVC (polyvinylchloride), rigid | 0,170 | 0,900 |
| Panel | 0,035 | 0,900 |
| Steel (1) | 50,000 | 0,900 |
| Unventilated air cavity | | |

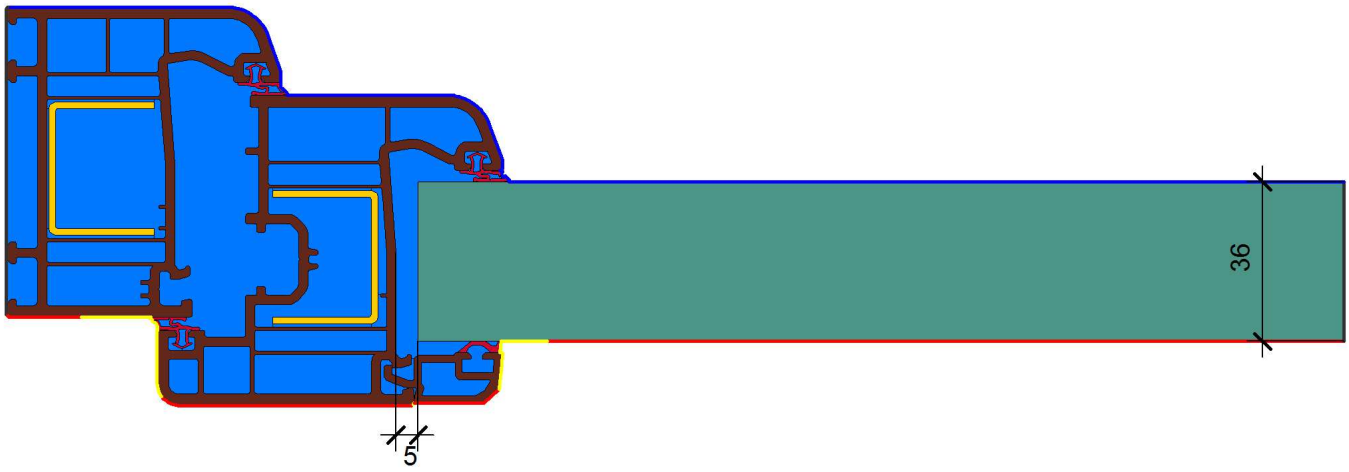
| Boundary Condition | q[W/m²] | θ[°C] | R[(m²·K)/W] | ε |
|---|---|---|---|---|
| Epsilon 0.9 | | | | 0,900 |
| Exterior, frame | | 0,000 | 0,040 | |
| Interior, frame, normal | | 20,000 | 0,130 | |
| Interior, frame, reduced | | 20,000 | 0,200 | |
| Symmetry/Model section | 0,000 | | | |




$$U_{f\,A,B} = \frac{\frac{\Phi}{\Delta T} - U_p \cdot b_p}{b_f} = \frac{\frac{7,679}{20,000} - 1,169 \cdot 0,190}{0,112} = 1,4\ W/(m^2 \cdot K)$$

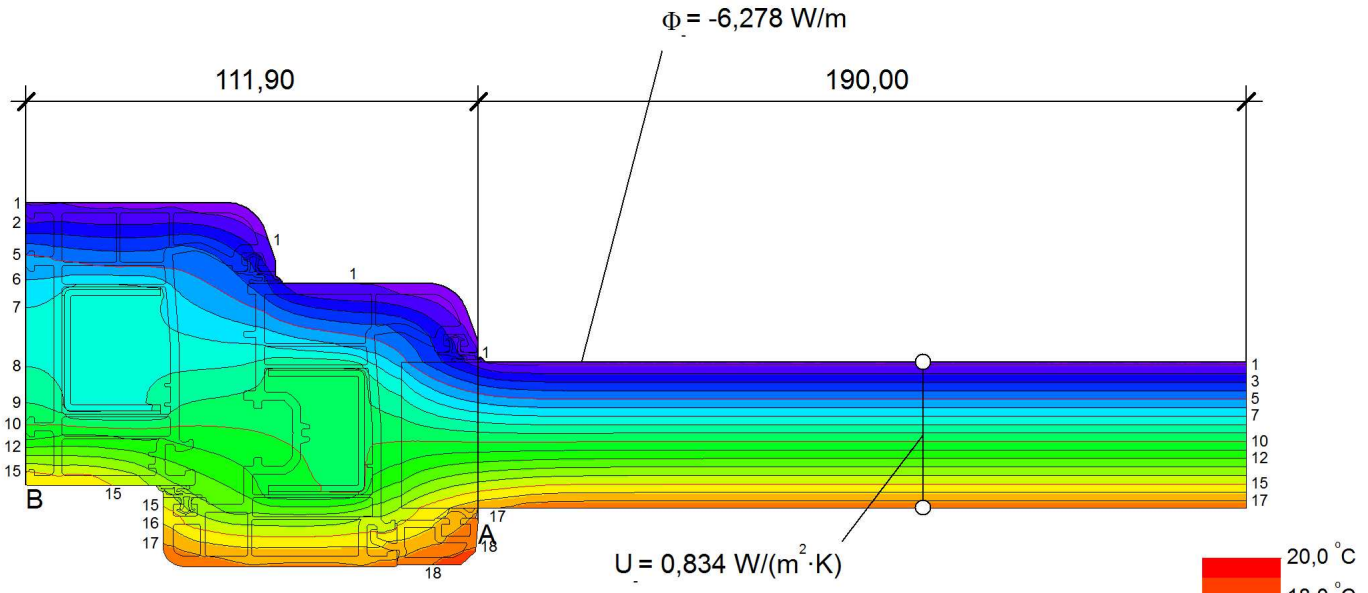
Nota: Valor de marco válido para doble acristalamiento.

# Estudio Térmico - Perfiles Ventana - Vidrio Triple




| Material | λ[W/(m·K)] | ε |
|---|---|---|
| EPDM (ethylene propylene diene monomer) | 0,250 | 0,900 |
| PVC (polyvinylchloride), rigid | 0,170 | 0,900 |
| Panel | 0,035 | 0,900 |
| Steel (1) | 50,000 | 0,900 |
| Unventilated air cavity | | |

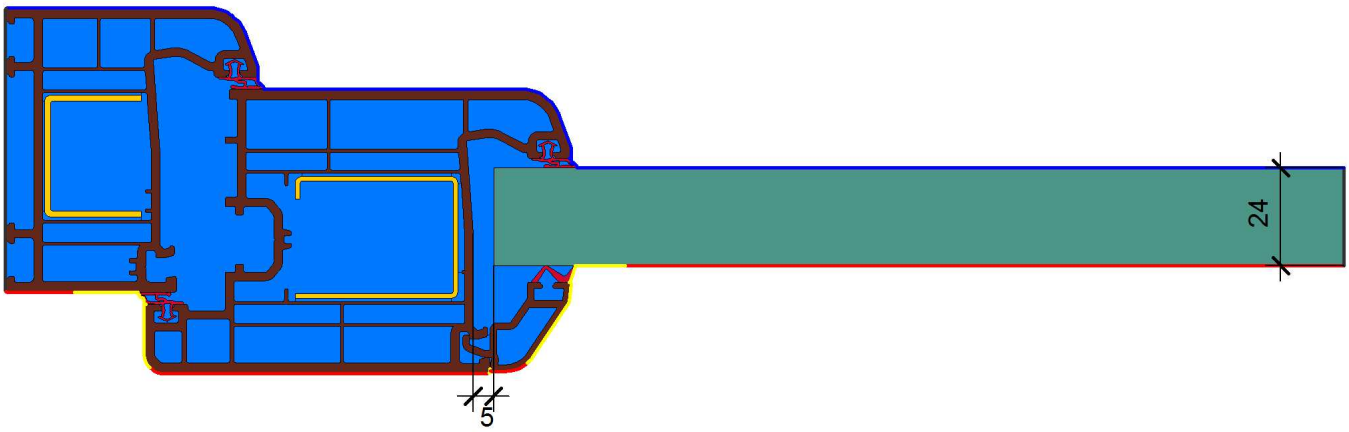
| Boundary Condition | q[W/m²] | θ[°C] | R[(m²·K)/W] | ε |
|---|---|---|---|---|
| Epsilon 0.9 | | | | 0,900 |
| Exterior, frame | | 0,000 | 0,040 | |
| Interior, frame, normal | | 20,000 | 0,130 | |
| Interior, frame, reduced | | 20,000 | 0,200 | |
| Symmetry/Model section | 0,000 | | | |




$$U_{f\,A,B} = \frac{\frac{\Phi}{\Delta T} - U_p \cdot b_p}{b_f} = \frac{\frac{6,278}{20,000} - 0,834 \cdot 0,190}{0,112} = 1,4\ W/(m^2 \cdot K)$$

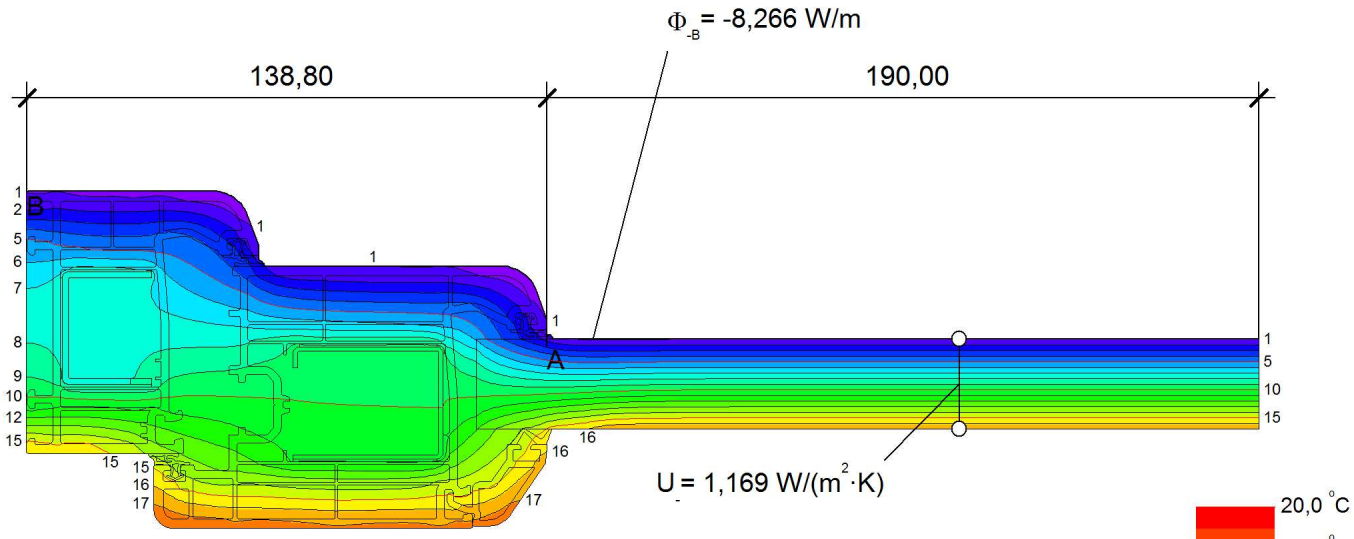
Nota: Valor de marco válido para triple acristalamiento.

# Estudio Térmico - Perfiles Balconera/Puerta - Vidrio Doble




| Material | λ[W/(m·K)] | ε |
|---|---|---|
| EPDM (ethylene propylene diene monomer) | 0,250 | 0,900 |
| PVC (polyvinylchloride), rigid | 0,170 | 0,900 |
| Panel | 0,035 | 0,900 |
| Steel (1) | 50,000 | 0,900 |
| Unventilated air cavity | | |

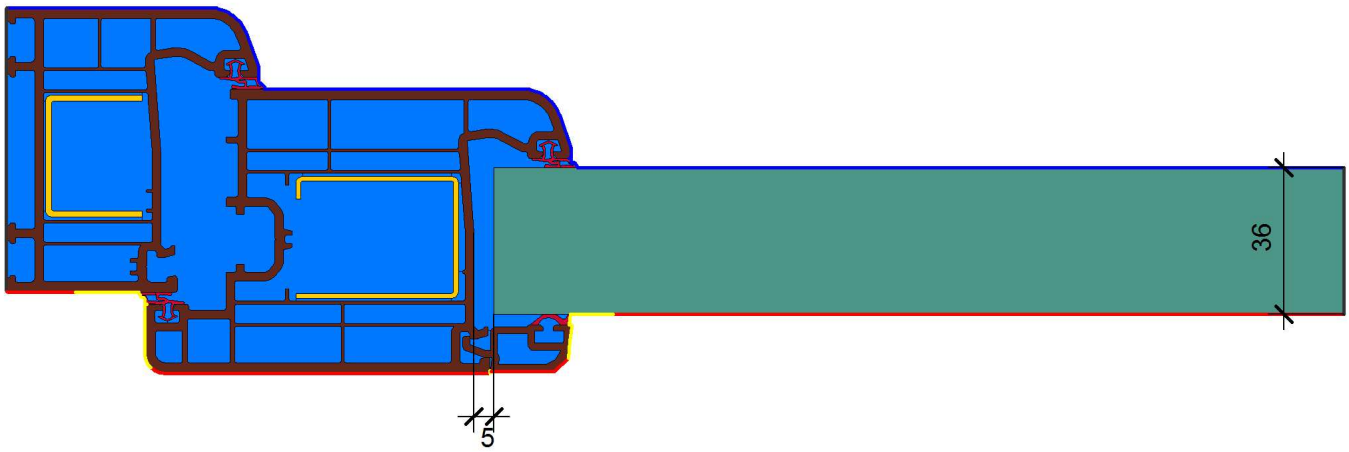
| Boundary Condition | q[W/m²] | θ[°C] | R[(m²·K)/W] | ε |
|---|---|---|---|---|
| Epsilon 0.9 | | | | 0,900 |
| Exterior, frame | | 0,000 | 0,040 | |
| Interior, frame, normal | | 20,000 | 0,130 | |
| Interior, frame, reduced | | 20,000 | 0,200 | |
| Symmetry/Model section | 0,000 | | | |




$$U_{f\,A,B} = \frac{\frac{\Phi}{\Delta T} - U_p \cdot b_p}{b_f} = \frac{\frac{8,266}{20,000} - 1,169 \cdot 0,190}{0,139} = 1,4\ W/(m^2 \cdot K)$$

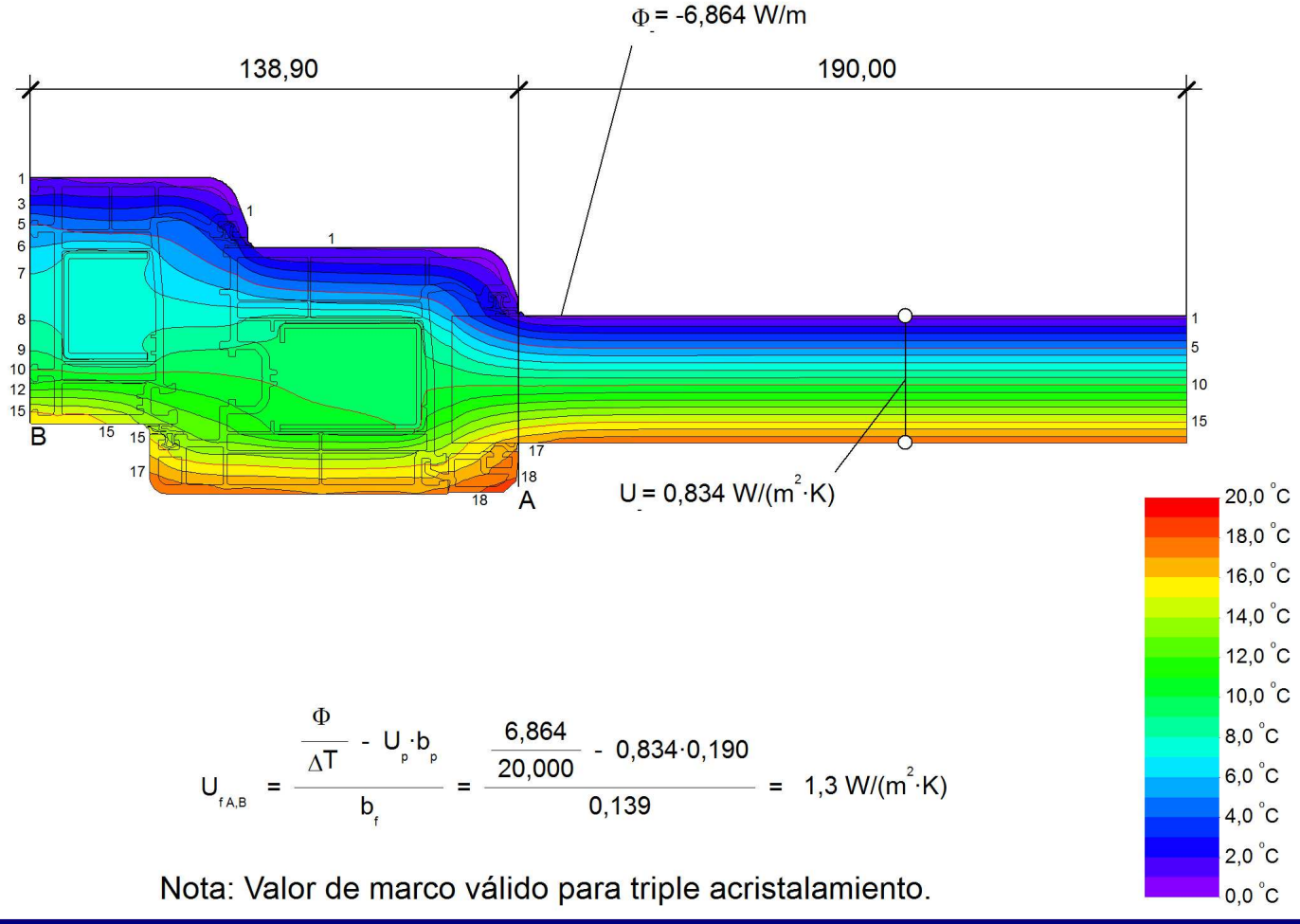
Nota: Valor de marco válido para doble acristalamiento.

# Estudio Térmico - Perfiles Balconera/Puerta - Vidrio Triple




| Material | λ[W/(m·K)] | ε |
|---|---|---|
| EPDM (ethylene propylene diene monomer) | 0,250 | 0,900 |
| PVC (polyvinylchloride), rigid | 0,170 | 0,900 |
| Panel | 0,035 | 0,900 |
| Steel (1) | 50,000 | 0,900 |
| Unventilated air cavity | | |

| Boundary Condition | q[W/m²] | θ[°C] | R[(m²·K)/W] | ε |
|---|---|---|---|---|
| Epsilon 0.9 | | | | 0,900 |
| Exterior, frame | | 0,000 | 0,040 | |
| Interior, frame, normal | | 20,000 | 0,130 | |
| Interior, frame, reduced | | 20,000 | 0,200 | |
| Symmetry/Model section | 0,000 | | | |




$$U_{f\,A,B} = \frac{\frac{\Phi}{\Delta T} - U_p \cdot b_p}{b_f} = \frac{\frac{6,864}{20,000} - 0,834 \cdot 0,190}{0,139} = 1,3\ W/(m^2 \cdot K)$$

Nota: Valor de marco válido para triple acristalamiento.

# Tabla Térmica (UNE EN ISO 10077-1)

Determinación de la transmitancia térmica mediante método numérico según UNE-EN ISO 10077-1:2010.

| | Ventana 1h + fijo (1400 x 2100) | Ventana 1 hoja (500 x 500) | Ventana 1 hoja (900 x 1000) | Ventana 1 hojas (900 x 2200) | Ventana 2 hojas (1230 x 1480) | Ventana 2 hojas (1500 x 1500) | Ventana 2 hojas (1500 x 2200) |
|---|---|---|---|---|---|---|---|
| **Ug (W/m^2K)** | **Uw (W/m^2K)** | **Uw (W/m^2K)** | **Uw (W/m^2K)** | **Uw (W/m^2K)** | **Uw (W/m^2K)** | **Uw (W/m^2K)** | **Uw (W/m^2K)** |
| **5,8** | 4,5 | 2,7 | 4,0 | 4.4 | 4,1 | 4,3 | 4,4 |
| **5,7** | 4,4 | 2,7 | 3,9 | 4,3 | 4,0 | 4,2 | 4,4 |
| **3,0** | 2,7 | 2,2 | 2,5 | 2,6 | 2,6 | 2,6 | 2,7 |
| **2,9** | 2,6 | 2,1 | 2,5 | 2,6 | 2,5 | 2,6 | 2,6 |
| **2,8** | 2,6 | 2,1 | 2,4 | 2,5 | 2,5 | 2,5 | 2,6 |
| **2,7** | 2,5 | 2,1 | 2,4 | 2,4 | 2,4 | 2,4 | 2,5 |
| **2,6** | 2,4 | 2,0 | 2,3 | 2,4 | 2,4 | 2,4 | 2,4 |
| **2,5** | 2,4 | 2,1 | 2,2 | 2,4 | 2,3 | 2,4 | 2,4 |
| **2,4** | 2,3 | 2,1 | 2,2 | 2,3 | 2,3 | 2,3 | 2,3 |
| **2,3** | 2,3 | 2,0 | 2,2 | 2,2 | 2,2 | 2,2 | 2,3 |
| **2,2** | 2,2 | 2,0 | 2,1 | 2,2 | 2,2 | 2,2 | 2,2 |
| **2,1** | 2,1 | 2,0 | 2,1 | 2,1 | 2,1 | 2,1 | 2,1 |
| **2,0** | 2,0 | 1,9 | 2,0 | 2,0 | 2,1 | 2,0 | 2,1 |
| **1,9** | 2,0 | 1,9 | 1,9 | 2,0 | 2,0 | 2,0 | 2,0 |
| **1,8** | 1,9 | 1,8 | 1,9 | 1,9 | 1,9 | 1,9 | 1,9 |
| **1,7** | 1,8 | 1,8 | 1,8 | 1,8 | 1,9 | 1,9 | 1,9 |
| **1,6** | 1,8 | 1,8 | 1,8 | 1,7 | 1,8 | 1,8 | 1,8 |
| **1,5** | 1,7 | 1,8 | 1,7 | 1,7 | 1,8 | 1,7 | 1,7 |
| **1,4** | 1,6 | 1,7 | 1,7 | 1,6 | 1,7 | 1,7 | 1,7 |
| **1,3** | 1,6 | 1,6 | 1,6 | 1,5 | 1,6 | 1,6 | 1,6 |
| **1,2** | 1,5 | 1,5 | 1,5 | 1,5 | 1,6 | 1,5 | 1,5 |
| **1,1** | 1,4 | 1,5 | 1,5 | 1,4 | 1,5 | 1,5 | 1,5 |
| **1,0** | 1,3 | 1,4 | 1,4 | 1,3 | 1,5 | 1,4 | 1,4 |
| **0,9** | 1,3 | 1,4 | 1,4 | 1,3 | 1,4 | 1,4 | 1,3 |
| **0,8** | 1,2 | 1,3 | 1,3 | 1,2 | 1,4 | 1,3 | 1,2 |
| **0,7** | 1,1 | 1,3 | 1,3 | 1,1 | 1,3 | 1,2 | 1,2 |
| **0,6** | 1,1 | 1,2 | 1,2 | 1,1 | 1,2 | 1,2 | 1,1 |

donde:
Ug = Valor de transmitancia térmica del vidrio (valor suministrado por el proveedor del vidrio)
Uw = Valor de transmitancia térmica de la ventana.

Resultados obtenidos a partir de un valor de marco Uf = 1,4 W/m²K

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