

# MANUALE TECNICO SISTEMA EKU 50 GLASS

EDIZIONE 04/2015



# TECHNICAL MANUAL EKU 50 GLASS SYSTEM

EDITION 04/2015

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# **INFORMAZIONI TECNICO COMMERCIALI**



## **TECHNICAL INFORMATION BUSINNES**

## Descrizione tecnica

### CARATTERISTICHE PRINCIPALI

Il sistema è composto da profilati in lega d'alluminio EN AW-6060 estrusi nel rispetto delle norme EN 573-3 ed EN 755-2 nello stato di fornitura EN 515, adatti all'ossidazione anodica ed alla verniciatura superficiale, in barre di lunghezza commerciale di metri 6,5 con tolleranze dimensionali e spessori secondo quanto previsto dalle norme UNI EN 755-9 ed EN 12020-2.

La struttura della facciata è costituita da un reticolo a montanti e traversi tubolari, con sezione in vista interna ed esterna di mm. 50.

La conformazione dei montanti e dei traversi ed il relativo accoppiamento sono prefigurati in modo tale da formare un'incanalatura che raccoglie e scarica l'eventuale acqua d'infiltrazione anche grazie ad appositi accessori adibiti al drenaggio e posizionati in corrispondenza dell'incrocio tra montanti e traversi.

**I traversi, che concorrono al contenimento degli elementi di tamponamento sia opachi sia trasparenti, si collegano in senso orizzontale ai montanti mediante fissaggio per mezzo di specifici cavallotti con pulsante a scatto e viti in acciaio inox; per consentire una corretta dilatazione termica esente da scricchiolii, è previsto l'inserimento di un apposito elemento di contorno stampato in gomma termoplastica posto tra montante e traverso.**

L'inserimento negli appositi alloggiamenti di vetri, pannelli ed elementi apribili avviene dall'esterno, con successivo bloccaggio tramite profilo pressore fissato al montante con viti autofilettanti in acciaio inox e rondelle in nylon interposte per evitare l'innesco di un processo galvanico.

**Tra pressore e montante è inserito un distanziale rigido in materiale isolante che interrompe il ponte termico e permette di evitare i rumori di attrito causati dalle dilatazioni conseguenti agli sbalzi di temperatura che si verificano tra i profili.**

Il reticolo di facciata è finito e completato esternamente mediante coprifili di mm. 50 di larghezza, applicati a scatto sul profilo pressore per coprire alla vista le viti di fissaggio.

### DIMENSIONAMENTO DI MONTANTI E TRAVERSI

**La dimensione dei montanti e dei traversi deve essere scelta in base ai calcoli statici eseguiti per soddisfare le prescrizioni previste dalla normativa in vigore pertinente al sito d'installazione.**

### ATTACCHI ALLA STRUTTURA

Gli attacchi alla struttura sono realizzati mediante staffe di ancoraggio, predisposte per la regolazione nella direzione dei tre assi cartesiani al fine di compensare le imprecisioni costruttive sia della struttura dell'edificio sia della facciata, prodotte in lega di alluminio 6060 EN 515, corredate di bullone di collegamento in acciaio inox e di materiale antifrizione in elastomero SBR per evitare, nel rispetto di quanto stabilito dalla norma UNI 3952/88, la formazione di coppia galvanica con il profilo montante.

Funzionalmente alle dimensioni del modulo di facciata stabilito, in modo analogo a quello messo in atto per montanti e traversi, anche per le staffe di ancoraggio occorre effettuare il calcolo di verifica.

### GIUNTI DI DILATAZIONE

Sono previsti:

negli accoppiamenti tra montanti e traversi, con l'interposizione dei fondelli in materiale elastico precedentemente descritti;

nella zona di ancoraggio staffe tra montante e montante, con canotto in lega di alluminio 6060 EN 515.

Per consentire il movimento tra i montanti in rapporto all'escursione termica occorre determinare la distanza D (in mm.) da lasciare tra di loro calcolandola con la formula:  $D = L \times DT \times 0.000024$  dove L è la lunghezza del montante (in mm.), DT è la differenza di temperatura (in °C), 0.000024 è il coefficiente di dilatazione lineare dell'alluminio (ad esempio, con una differenza di temperatura di 60 °C la dilatazione del profilo è di mm. 1,5 al metro).

## Descrizione tecnica

### GIUNTI DI TENUTA

È prevista l'effettuazione di sigillature tra i montanti ed i traversi, nelle giunzioni tra i montanti, nelle unioni delle guarnizioni sul pressore, sulle copertine esterne ed in tutte le soluzioni terminali di facciata.

Appositi cannotti in alluminio collaborano all'ancoraggio dei montanti alla struttura portante, consentendo il perfetto allineamento tra di loro e permettendo la continuità statica nei giunti di dilatazione.

Sono presenti vari accessori per garantire la tenuta all'acqua: angoli stampati in EPDM per le guarnizioni di vetratura interne, croci stampate in EPDM da utilizzare con le guarnizioni di vetratura esterne nella zona di incrocio tra montanti e traversi, elementi stampati in EPDM per garantire la tenuta nella zona di fissaggio del traverso sul montante, giunti di tenuta per garantire la continuità dei canali di scarico acqua tra due montanti consecutivi.

Eventuali infiltrazioni d'acqua sono evacuate all'esterno attraverso le incanalature di raccolta e scarico situate nei montanti, dove sono convogliate anche quelle provenienti dai traversi, attraverso appositi accessori plastici adibiti al drenaggio; opportune asole praticate sui pressori e sulle copertine esterne assicurano la ventilazione del vetro. È perciò necessario eseguire in maniera precisa ed accurata le giunzioni delle guarnizioni, tutte in EPDM, utilizzando mastice butilico.

### FINITURA SUPERFICIALE

La finitura superficiale dei profili deve essere eseguita osservando i criteri previsti dalle direttive per l'ottenimento dei Marchio Qualanod, per l'anodizzazione e Qualicoat, per la verniciatura. Nel trattamento dei profili a taglio termico le barre devono essere opportunamente sostenute per mantenere la rettilineità iniziale senza subire deformazioni e, al fine di non pregiudicare le caratteristiche meccaniche e dimensionali, non deve essere superata la temperatura max. di 180° per 20 minuti.

### VETRAZIONE E PANNELLATURA

È possibile inserire nei moduli di facciata vetri, a scelta dal committente o della direzione lavori, con spessore complessivo compreso tra un minimo di mm. 22 ed un massimo di mm. 41. In relazione alla funzione richiesta, occorre attenersi scrupolosamente a quanto previsto dal produttore dei vetri riguardo all'impiego di guarnizioni, tasselli di spessoramento, sigillature e asole di ventilazione. In particolare, lo spessoramento del vetro dovrà sempre essere fatto con materiale plastico, insensibile all'umidità, lasciando la possibilità di scorrimento ai materiali.

I pannelli opachi devono essere di natura e formato conforme alle caratteristiche estetiche e di isolamento richieste.

### NOTE TECNICHE

Il peso dei profilati è quello teorico e potrà variare in funzione delle tolleranze dimensionali e di spessore previste dalla norma UNI EN 12020-2; le dimensioni di taglio indicate nelle apposite distinte inserite nel catalogo, sono calcolate in base alle dimensioni nominali: nella pratica potranno essere influenzate dalle tolleranze di estrusione, pertanto dovranno essere arrotondate secondo la precisione ed il tipo di impostazione delle misure nelle macchine impiegate.

Gli schemi, le sezioni e gli attacchi a muro riportati sul catalogo, non hanno valore limitativo, ma solo di esemplificazione di alcune delle situazioni che più comunemente si trovano nella realtà e di soluzione consigliabile.

La posa del serramento va eseguita rispettando la normativa, le prescrizioni e le raccomandazioni specifiche esistenti in Italia.

Il Sistema di profilati riportato in questo catalogo è brevettato; tutti i dati riportati nel presente catalogo sono indicativi e non impegnano la Profilati S.p.A. e la Trafilerie Emiliane Sud S.p.A. che si riservano di apportare in qualsiasi momento quelle modifiche che riterranno opportune al fine di migliorare i prodotti.

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## Descrizione tecnica

### **RICHIESTE E NORMATIVE DI CARATTERE GENERALE PER LA REALIZZAZIONE DI FACCIATE CONTINUE:**

#### **Indicazioni che l'utilizzatore deve fornire al committente:**

1. tipo di costruzione e suo utilizzo;
2. altezza totale dell' edificio;
3. zona di ubicazione della facciata;
4. resistenza al carico del vento;
5. disegno in sezione del fabbricato con indicati gli interassi delle solette, gli spessori delle stesse e se già predisposto di ferri per l'ancoraggio della facciata;
6. interassi dei montanti;
7. disegno architettonico e sviluppo in mq. della superficie da rivestire;
8. tipo di vetri previsti;
9. peso al mq. degli elementi fissi e apribili;
10. tipo e materiali di copertura davanzaie;
11. lamiere tagliafuoco (raccordo solai);
12. copertura inferiore e superiore della facciata;
13. angoli interni ed esterni;
14. tipo di finitura dei prodotti.

#### **Richieste e prescrizioni per le finestre con vetro tenuto da silicone:**

15. n° 3 spezzoni di profilo a superficie finita da sottoporre alla ditta fornitrice di sigillante (da richiedere al servizio tecnicocommerciale);
16. n° 3 campioni del vetro da utilizzare, da sottoporre alla ditta fornitrice di sigillante (se vetro float non occorre certificazione, richiedere al fornitore);
17. utilizzo esclusivo della guarnizione siliconica art. 526-7026;
18. pianta piano tipo;
19. particolare costruttivo e dimensioni della sigillatura;
20. veduta d'insieme (prospetti);
21. dimensioni, composizione e tipo delle lastre di vetro;
22. temperatura minima e massima in funzione dell'esposizione del fabbricato.

#### **Offerta preventiva:**

- disegno di presentazione prodotto;
- computo preventivo;
- descrizione tecnica.

#### **Ordine:**

- relazione tecnica e calcoli statici;
- rilievi in cantiere;
- tavole definitive: pianta, prospetti e sezioni (da far controfirmare al committente);
- tavole costruttive: particolari di copertura e di ancoraggio (da far firmare al committente);
- tavole di lavorazione;
- distinte materiale: profili, accessori, vetri, pannelli;
- montaggi in cantiere.

Si raccomanda in ogni caso di fare riferimento a quanto indicato nei documenti "UX9 - GUIDA ALLA CORRETTA SCELTA E MESSA IN OPERA DEGLI ELEMENTI VETRARI PER SERRAMENTI E FACCIATE CONTINUE" e "UX50 - SICUREZZA NELLE VETRAZIONI" editi dalla UNCSAAL.

**Profilati S.p.A. e Trafilerie Emiliane Sud S.p.A., invitando a rispettare la tecnologia costruttiva ed a usare la componentistica indicata, si ritengono sollevate da ogni responsabilità per difetti dovuti all'inosservanza di quanto prescritto ed illustrato nel presente catalogo.**

**PROFILATI S.p.A.**

## Technical description

### MAIN CHARACTERISTICS

The system is made of extruded aluminium profiles, alloy EN AW-6060, in line with the European norms EN 573-3 and EN 755-2, supply type T5, EN515.

The bars have a commercial length of 6.5 metres, with dimensional tollerances and thicknesses respecting the norms UNI EN 755-9 and EN12020-2.

The surface is suitable for an anodized or painted finishing.

The structure of the curtain walling system is a grid system made of posts and transoms with visible internal and external sections of 50mm.

The post and transom grid and the relative couplings are positioned to form a water channelling mechanism. This mechanism collects and discharges possible infiltrations of water through specifically-designed drainage outlets that are located at the joints between the posts and transoms.

**The transoms, necessary to contain both opaque and transparent panelling, are fixed horizontally to the posts by specific connecting bolts and stainless steel screws. To permit a correct thermal dilation without creaking noises, an appropriate thermoplastic rubber accessory is inserted between the posts and transoms.**

The insertion of panels of glass or of other materials in the respective seating, is carried out from the outside. The panels are then blocked by a presser profile which is fastened to the post by stainless steel self-tapping screws, nylon washers are positioned to avoid the setting-in of a galvanic process that could cause a deterioration of the parts in contact.

**A rigid spacer in insulating material is inserted between the presser profile and the post and transom. This material breaks the thermal transmission and so avoids noises due to thermal dilatation caused by temperature variations between the profiles.**

The grid is finished and completed externally by snap-on coverings of 50mm in length, applied to the pressure plate profile to conceal the fixings.

### DIMENSIONS OF POSTS AND TRANSOMS

**The dimensions of the posts and transoms have to be chosen on the basis of the static calculations necessary to respect the norms in force for the installation site.**

### MOUNTING

The fastening of the structure is carried out by wall-connection brackets, with a three-axis direction adjustment mechanism to compensate possible imprecisions in the building where the walling is to be mounted. This ensures the perfect alignment of the walling as required.

The brackets are in aluminium alloy 6060, EN 515, with stainless steel bolts and the positioning of an anti-friction material, SBR elastomer, in line with the norm UNI 3952/88., to avoid the creation of a galvanic process between the mounted parts.

Depending on the dimensions of the walling, as for the posts and transoms, the necessary calculations have to be also carried out for the wall-connection brackets to respect the norms relative to the installation site.

### EXPANSION JOINTS

Are located:

- in the coupling between the posts and transoms, by inserting a thermoplastic rubber accessory as previously described.
- in the wall-connection bracket, where the posts are joined together by aluminium tubes in alloy 6060, EN515.

## Technical description

To allow movement between the posts for thermal dilation, it is necessary to calculate the distance D (in mm.) to leave between them, by using the formula:

$$D = L \times \Delta T \times 0.000024,$$

where L is the length of the post,  $\Delta T$  is the temperature difference (in °C), 0.000024 is the co-efficient of linear dilation of the aluminium (for example, with a difference of temperature of 60°C, the dilation of the profile is 1.5mm per metre).

### SEALING JOINTS

Sealing is carried out between the posts and transoms, in the joints between the posts, in the bonding of gaskets to the presser, on the outer covering and in all the end parts of the walling.

Specific aluminium tubes are used to aid the wall-connection mounting, thus allowing a perfect alignment and guaranteeing stability in the sealing joints.

Various accessories ensure the non-infiltration of water, corner pieces in EPDM to seal internal glass panelling, cross pieces in EPDM to use to seal external glass panels where the posts and transoms intersect, parts in EPDM for the fixage zone between the transom and post, and sealing joints to guarantee the continuity of channels to collect water between two consecutive posts.

Possible infiltrations of water are discharged externally by channels of collection and drainage outlets in the posts, water from the transoms is also channelled here by the use of specific plastic accessories for drainage. Ventilation outlets in the pressers and the external snap-on coverings ensure an adequate circulation of air on the glass. It is necessary therefore to seal all joints in a precise and accurate way, all in EPDM, by the use of butyl rubber.

### SURFACE FINISHING

Surface finishing has to be carried out respecting the standards necessary to obtain the Qualanod Mark for anodizing and the Qualicoat Mark for painting. When treating thermal break profiles, a max. temperature of 180°C should not be exceeded for more than 20 minutes to not compromise the mechanical and dimensional characteristics of the bar.

### GLASS AND PANEL INSTALLATION

It is possible to insert in the walling grid, glass panels as required by its function, with overall thicknesses from a min. of 22mm to a max. of 41mm. The indications of the manufacturer should be strictly respected with regards to the gaskets, the beading, supporting plugs, the ventilation outlets and sealing. In particular, the supporting plugs should always be of a plastic material, insensible to humidity, leaving the possibility to slide the materials.

Opaque panels have to be of the nature and form to obtain the aesthetic characteristics and insulation required.

### GENERAL NOTES

The weight of the profile sections is theoretical and may vary according to the dimensional and thickness tolerances

set out in the UNI EN 12020-2 norms. The diagrams, sections and wall anchorages shown in the catalogue should not be considered as a limitation, they illustrate some of the most commonly found real-life situations and the recommended solutions.

Profilati S.p.A and Trafilerie Emiliane Sud S.p.A recommend that the construction process be respected and that the components indicated herein are used, accordingly they do not consider themselves responsible for defects due to the non-observance of the indications and illustrations in the present catalogue.

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## Technical description

### GENERAL REQUIREMENTS AND NORMS TO MAKE CURTAIN WALLING:

#### Indications the user should supply to the customer :

1. type of building and its use;
2. total height of the building;
3. position of the walling;
4. resistance to the wind load;
5. sectional drawing of the building with the slab centre distances and thicknesses and if it is already equipped with rods for the mounting of the walling;
6. slab centre distances;
7. architectural drawing and development in sq.m. of the surface to be walled;
8. type of glass required;
9. weight per sq.m. of fixed and openable elements;
10. type and materials covering the window-sill;
11. fire-stop plates (floor connection);
12. lower and upper covering of the walling;
13. internal and external angles;
14. type of product finishing

#### Requirements and norms for windows with glass panes fastened by silicone:

15. n° 3 segments of profile with finished surfaces to forward to the company supplying the sealant (request it from the technical-commercial dept.);
16. n° 3 samples of the glass to be used, to forward to the company supplying the sealant (if it is float glass the certification is not necessary, request to the supplier);
17. Exclusive use of the silicone gasket item 526-7026;
18. Standard floor plan;
19. Construction detail and sealing dimensions;
20. Global view ( drawings);
21. Dimensions, composition and type of glass panes;
22. Minimum and maximum temperature according to the exposure of the building.

#### Preliminary offer :

- introductory drawing of the product;
- estimate;
- technical description.

#### Order :

- technical report and statistical calculations;
- surveys on building sites;
- definitive drawings : plan views and sections (to be countersigned by customer);
- construction drawings: covering and fastening parts (to be signed by customer);
- tooling drawings;
- material lists: profiles, accessories, glass, panels;
- assembly on building site.

**Profilati S.p.A. and Trafilerie Emiliane Sud S.p.A. recommend that the construction process be respected and that the components herein indicated are used, considering themselves not responsible for defects due to the non-observance of what is indicated and illustrated in this catalogue.**

**PROFILATI S.p.A.**

## Calcoli termici

### **CALCOLO DELLA TRASMITTANZA TERMICA – METODO DI VALUTAZIONE PER COMPONENTE EN 13947:2006**

La trasmittanza termica di un singolo elemento di una facciata continua,  $U_{cw}$ , andrà calcolata utilizzando la seguente equazione:

$$U_{cw} = \frac{A_g U_g + A_p U_p + A_f U_f + A_m U_m + A_t U_t + l_{f,g} \gamma_{f,g} + l_{m,g} \gamma_{m,g} + l_{t,g} \gamma_{t,g} + l_p \gamma_p + l_{m,f} \gamma_{m,f} + l_{t,f} \gamma_{t,f}}{A_{cw}}$$

dove:

|                                                      |                                                                                                                                                                 |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $A_g, A_p$                                           | sono le aree dei vetri e dei pannelli;                                                                                                                          |
| $U_g, U_p$                                           | sono le trasmittanze termiche dei vetri e dei pannelli;                                                                                                         |
| $A_f, A_m, A_t$                                      | sono le aree dei telai apribili, dei montanti e dei traversi;                                                                                                   |
| $U_f, U_m, U_t$                                      | sono le trasmittanze termiche dei telai apribili, dei montanti e dei traversi;                                                                                  |
| $l_{f,g}, l_{m,g}, l_{t,g}, l_p$                     | sono le lunghezze perimetrali delle parti apribili, delle parti fisse e delle parti pannellate;                                                                 |
| $\gamma_{f,g}, \gamma_{m,g}, \gamma_{t,g}, \gamma_p$ | sono le trasmittanze termiche lineari dovute alla combinazione degli effetti termici tra parti vetrate o pannellate e tra telai apribili o montanti o traversi; |
| $l_{m,f}, l_{t,f}$                                   | sono le lunghezze perimetrali delle giunzioni tra montanti e traversi con i telai apribili;                                                                     |
| $\gamma_{m,f}, \gamma_{t,f}$                         | sono le trasmittanze termiche lineari dovute alla combinazione degli effetti termici tra telai apribili e montanti e tra telai apribili e traversi.             |

L' area della facciata continua sarà calcolata utilizzando la seguente equazione:

$$A_{cw} = A_g + A_p + A_f + A_m + A_t$$

dove:

|          |                                          |
|----------|------------------------------------------|
| $A_{cw}$ | è l' area della facciata continua;       |
| $A_g$    | è l' area totale delle parti vetrate;    |
| $A_p$    | è l' area totale delle parti pannellate; |
| $A_f$    | è l' area totale delle parti apribili;   |
| $A_m$    | è l' area totale dei montanti;           |
| $A_t$    | è l' area totale dei traversi.           |

I valori di trasmittanza termica lineari delle parti vetrate,  $\gamma_{f,g}, \gamma_{m,g}, \gamma_{t,g}$  sono ricavabili dall' Annex B, Tabella B.1, Tabella B.2, Tabella B.3, Tabella B.4 della Norma EN 13947:2006, oppure possono essere calcolati utilizzando la Norma EN ISO 10077-2. In caso di vetrate singole, questi valori saranno pari a zero poiché non c'è l' effetto del distanziale del vetro.

I valori di trasmittanza termica lineare delle parti pannellate  $\gamma_p$  sono ricavabili dalla Tabella B.5 della Norma EN 13947:2006, oppure possono essere calcolati utilizzando la Norma EN ISO 10077-2.

I valori di trasmittanza termica lineare  $\gamma_{m,f}$  e  $\gamma_{t,f}$  rappresentano i flussi di calore termico dovuti all' installazione di una parte apribile nella facciata e sono ricavabili dalla Tabella B.6 o Tabella B.7 della Norma EN 13947:2006, oppure possono essere calcolati utilizzando la Norma EN ISO 10077-2:

## Calcoli termici

$$\gamma_{m,f} = L_{\gamma}^{2D} U_m A_m - U_f A_f - U_{p1} A_{p1} - U_{p2} A_{p2}$$

$$\gamma_{t,f} = L_{\gamma}^{2D} U_t A_t - U_f A_f - U_{p1} A_{p1} - U_{p2} A_{p2}$$

dove:

$L_{\gamma}^{2D}$  è la conduttività termica della sezione, in W(m.k), calcolata utilizzando EN ISO 10077-2;

$U_f$  è la trasmittanza termica del telaio della parte apribile, in W(m2.k), calcolata utilizzando EN ISO 10077-2;

$U_m$  è la trasmittanza termica del montante, in W(m2.k), calcolata utilizzando EN ISO 10077-2;

$U_t$  è la trasmittanza termica del traverso, in W(m2.k), calcolata utilizzando EN ISO 10077-2;

$U_{p1}$  è la trasmittanza termica del pannello 1, in W(m2.k);

$U_{p2}$  è la trasmittanza termica del pannello 2, in W(m2.k);

Il calcolo complessivo del valore  $U_{cw,tot}$  di una facciata continua costruita con differenti dimensioni e/o differenti elementi dovrà essere calcolata con una media ponderata dell' area della trasmittanza termica di tutti i moduli secondo la seguente equazione:

$$U_{cw,tot} = \frac{\sum (U_{cw,j} A_{cw,j})}{\sum A_{cw,j}}$$

dove:

$\sum U_{cw,j} A_{cw,j}$  è la somma dei prodotti delle trasmittanze termiche con le corrispondenti aree dei differenti moduli;

$\sum A_{cw,j}$  è la somma delle aree dei differenti moduli.

I dati delle proprietà termiche richiesti per valutare la trasmittanza termica della facciata continua, utilizzando le procedure contenute nella EN 13947:2006, saranno ricavabili dai seguenti riferimenti normativi.

| Valori di trasmittanza termica                          | Riferimenti normativi                      |
|---------------------------------------------------------|--------------------------------------------|
| $U_g$                                                   | EN 673, EN 674, EN 675                     |
| $U_f$                                                   | EN 12412-2, EN ISO 10077-1, EN ISO 10077-2 |
| $U_m, U_t$                                              | EN 12412-2, EN ISO 10077-2 (e Annex C)     |
| $\gamma_g$ e $\gamma_p$ e $\gamma_{m,f} / \gamma_{t,f}$ | Annex B EN ISO 10077-2                     |
| $U_p$                                                   | prEN ISO 6946                              |

I valori numerici utilizzati dovranno essere esattamente relazionati con le aree come definito dalla Clause 4 della Norma EN 13947:2006.

I valori di resistenza termica superficiale sono ricavabili dalla Norma EN ISO 10077-1:2006, Annex A.

## Thermic calculations

### CALCULATION OF THERMAL TRANSMITTANCE – COMPONENT ASSESSMENT METHOD EN 13947:2006

The thermal transmittance of a single element of a curtain walling,  $U_{cw}$ , shall be calculated using the following equation:

$$U_{cw} = \frac{A_g U_g + A_p U_p + A_f U_f + A_m U_m + A_t U_t + l_{f,g} \tau_{f,g} + l_{m,g} \tau_{m,g} + l_{t,g} \tau_{t,g} + l_p \tau_p + l_{m,f} \tau_{m,f} + l_{t,f} \tau_{t,f}}{A_{cw}}$$

where:

|                                              |                                                                                                                                     |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| $A_g, A_p$                                   | are the areas of glazing and panels;                                                                                                |
| $U_g, U_p$                                   | are the thermal transmittances of glazing and panels;                                                                               |
| $A_f, A_m, A_t$                              | are the areas of frames, mullions and transoms;                                                                                     |
| $U_f, U_m, U_t$                              | are the thermal transmittances of frames, mullions and transoms;                                                                    |
| $l_{f,g}, l_{m,g}, l_{t,g}, l_p$             | are the perimeter length of movable parts, of fixed parts and of panels;                                                            |
| $\tau_{f,g}, \tau_{m,g}, \tau_{t,g}, \tau_p$ | are the linear thermal transmittances due to the combined thermal effects of glazing unit or panel and frame or mullion or transom; |
| $l_{m,f}, l_{t,f}$                           | are the perimeter length of mullion/transom-frame junctions;                                                                        |
| $\tau_{m,f}, \tau_{t,f}$                     | are the linear thermal transmittances due to the combined thermal effects of framemullion and frame-transom.                        |

The area of the curtain walling shall be calculated according to using the following equation:

$$A_{cw} = A_g + A_p + A_f + A_m + A_t$$

where:

|          |                                 |
|----------|---------------------------------|
| $A_{cw}$ | is the area of curtain walling; |
| $A_g$    | is the total area of glazing;   |
| $A_p$    | is the total area of panels;    |
| $A_f$    | is the total area of frames;    |
| $A_m$    | is the total area of mullions;  |
| $A_t$    | is the total area of transoms.  |

Values for the linear thermal transmittance of glazing units,  $\tau_{f,g}, \tau_{m,g}, \tau_{t,g}$  are given in Annex B, Table B.1, Table B.2, Table B.3, Table B.4 of EN 13947:2006, or can be calculated using EN ISO 10077-2. In the case of single glazing, these shall be taken as zero (no spacer effect) because any correction is negligible.

Values for the linear thermal transmittance  $\tau_p$  of panels are given in Table B.5 of EN 13947:2006, or can be calculated using EN ISO 10077-2.

Values for the linear thermal transmittances  $\tau_{m,f}$  and  $\tau_{t,f}$  describing the thermal heat flow due to the installation of an openable window in the façade are given in Table B.6 or Table B.7 of EN 13947:2006, or can be calculated using EN ISO 10077-2:

## Thermic calculations

$$\gamma_{m,f} = L_{\gamma}^{2D} U_m A_m - U_f A_f - U_{p1} A_{p1} - U_{p2} A_{p2}$$

$$\gamma_{t,f} = L_{\gamma}^{2D} U_t A_t - U_f A_f - U_{p1} A_{p1} - U_{p2} A_{p2}$$

where:

$L_{\gamma}^{2D}$  is the thermal conductance of the section, in W(m.k), calculated using EN ISO 10077-2;

$U_f$  is the thermal transmittance of the frame, in W(m<sup>2</sup>.k), calculated using EN ISO 10077-2;

$U_m$  is the thermal transmittance of the mullion, in W(m<sup>2</sup>.k), calculated using EN ISO 10077-2;

$U_t$  is the thermal transmittance of the transom, in W(m<sup>2</sup>.k), calculated using EN ISO 10077-2;

$U_{p1}$  is the thermal transmittance of panel 1, in W(m<sup>2</sup>.k);

$U_{p2}$  is the thermal transmittance of panel 2, in W(m<sup>2</sup>.k);

The calculation  $U_{cw,tot}$  of the overall curtain wall built with different sizes or design of elements shall be calculated as the area-weighted average thermal transmittance of all modules according the following equation:

$$U_{cw,tot} = \frac{\sum (U_{cw,j} A_{cw,j})}{\sum A_{cw,j}}$$

where:

$\sum U_{cw,j} A_{cw,j}$  is the sum of the products of thermal transmittances and corresponding areas of the different modules;

$\sum A_{cw,j}$  is the sum of the areas of the different modules.

The thermal property data required to evaluate the thermal transmittance of curtain walling, using the procedures contained in EN 13947:2006, shall be obtained from the following table.

| Values of thermal transmittance                         | Source                                     |
|---------------------------------------------------------|--------------------------------------------|
| $U_g$                                                   | EN 673, EN 674, EN 675                     |
| $U_f$                                                   | EN 12412-2, EN ISO 10077-1, EN ISO 10077-2 |
| $U_m, U_t$                                              | EN 12412-2, EN ISO 10077-2 (e Annex C)     |
| $\gamma_g$ e $\gamma_p$ e $\gamma_{m,f} / \gamma_{t,f}$ | Annex B EN ISO 10077-2                     |
| $U_p$                                                   | prEN ISO 6946                              |

Numerical values used shall be related exactly to the areas as defined in Clause 4 of EN 13947:2006. Values for the surface thermal resistance can be obtained from EN ISO 10077-1:2006, Annex A.

## DILATAZIONE TERMICA LINEARE

Qualunque corpo solido di qualsivoglia materiale, sottoposto ad una variazione di temperatura subisce una variazione di volume. Un aumento della temperatura del corpo solido comporta un corrispondente incremento di volume e viceversa una riduzione della temperatura genera un decremento di volume.

Normalmente le suddette variazioni di volume avvengono isotropicamente, ovvero il corpo solido subisce la stessa variazione percentuale di volume nelle tre dimensioni dello spazio.

Esistono comunque moltissimi casi in cui una dimensione del corpo solido prevale in maniera così evidente sulle rimanenti da rendere trascurabili, su queste ultime, gli effetti delle deformazioni conseguenti a variazioni della temperatura.

Questo è proprio il caso dei profili estrusi in alluminio dove la lunghezza del profilato è notevolmente superiore alle dimensioni della sezione ortogonale alla lunghezza stessa.

In tal caso si può parlare di dilatazione termica lineare.

Il coefficiente di dilatazione termica lineare, indicato con il simbolo  $\lambda$ , in prima approssimazione può essere considerato una costante dipendente dal materiale ed esprime la variazione di lunghezza subita da una barra di un metro in seguito ad una variazione di temperatura di un grado centigrado.

L'entità della deformazione subita viene calcolata confrontando le dimensioni spaziali del corpo prima e dopo la variazione della temperatura.

L'allungamento  $\Delta L$  è proporzionale all'aumento di temperatura ed alla lunghezza iniziale della barra e si calcola con la seguente equazione:

$$\Delta L = L_t - L_o = \lambda L_o (t - t_o)$$

ovvero:

$$L_t = L_o + \lambda L_o (t - t_o) = L_o [1 + \lambda (t - t_o)]$$

dove:

$t_o$  = temperatura iniziale ;

$t$  = temperatura finale ;

$L_t$  = lunghezza alla temperatura  $t$  ;

$L_o$  = lunghezza alla temperatura  $t_o$  ;

$\lambda$  = coefficiente di dilatazione termica (vedi tabella seguente) ;

Tabella coefficienti di dilatazione lineare: la tabella indica per alcuni tipi di materiale, in rapporto al proprio coefficiente di dilatazione lineare, di quanti mm si allunga una sbarra lunga 1 metro in seguito all'aumento di 1°C di temperatura.

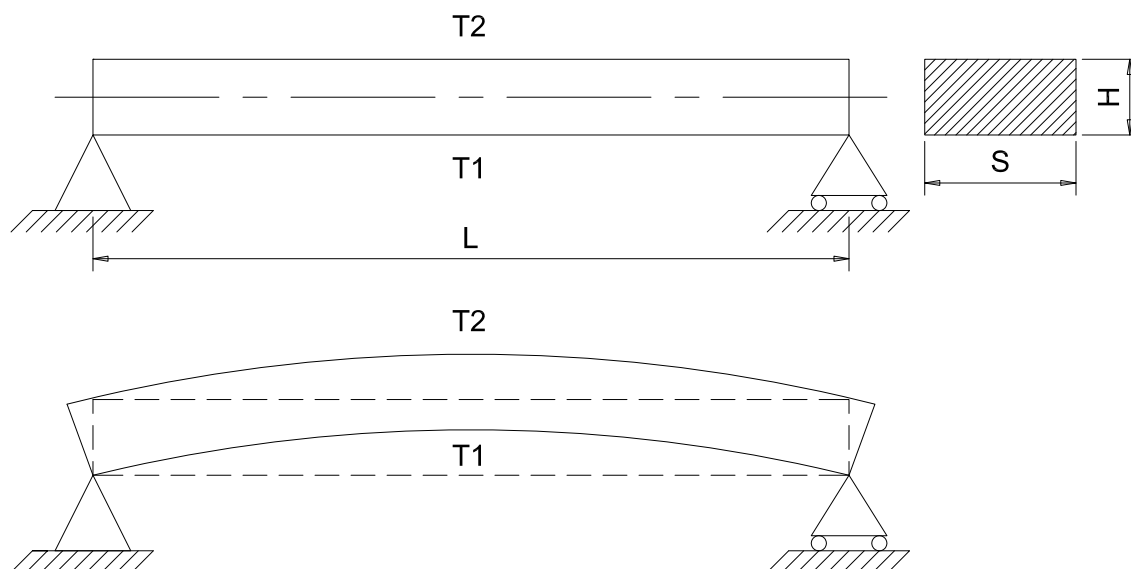
| Materiale | $\lambda (^{\circ}\text{C}^{-1})$ | Allungamento per aumento di 1°C per 1m di lunghezza (mm) |
|-----------|-----------------------------------|----------------------------------------------------------|
| Acciaio   | $11 \cdot 10^{-6}$                | 0,011                                                    |
| Alluminio | $24 \cdot 10^{-6}$                | 0,024                                                    |
| Ferro     | $12 \cdot 10^{-6}$                | 0,012                                                    |
| P.V.C.    | $70 \cdot 10^{-6}$                | 0,070                                                    |
| Vetro     | $9 \cdot 10^{-6}$                 | 0,009                                                    |

## DISTORSIONE TERMICA

I serramenti e le facciate continue tra le varie funzioni hanno anche quella, ben nota per il risparmio energetico, di separare ambienti aventi condizioni climatiche differenti. I profili estrusi in alluminio, siano essi a taglio termico o meno, sono quindi sottoposti a variazioni termiche notevoli. Queste variazioni sono particolarmente elevate nel periodo estivo quando la superficie esterna dei profilati è soggetta ad una elevata esposizione solare che, per il fenomeno dell'irraggiamento, genera un incremento di temperatura superficiale.

A causa di questo maggiore riscaldamento la parte esterna del profilo si dilata maggiormente rispetto a quella interna, generando una inflessione della barra, con estradosso rivolto verso l'esterno, che aumenta all'aumentare della differenza di temperatura tra le due superfici interna ed esterna del profilo stesso.

La situazione è illustrata nelle figure 1 e 2 dove il profilo è appoggiato alle estremità, è sottoposto ad una variazione termica lineare  $\Delta T$  tra la superficie esterna, a temperatura  $T_2$  esposta all'irraggiamento solare, e quella interna non esposta, a temperatura  $T_1 < T_2$ , e, a causa delle tensioni generate, subisce una inflessione con estradosso rivolto verso la superficie con temperatura più elevata.



Questo fenomeno, particolarmente visibile nelle aperture a nei profilati molto lunghi, è noto come distorsione termica e questa deformazione, nei casi peggiori e durante le ore di maggiore irraggiamento solare, può causare difficoltà di apertura e chiusura di finestre e porte o generare altri tipi di malfunzionamento.

Il presente documento è da considerarsi di natura informativa ed ha l'unico scopo di informare i nostri clienti del fenomeno sopra descritto. La distorsione termica è sempre presente, in misura maggiore o minore, e non è completamente

risolvibile con i materiali e le tecnologie attualmente disponibili per la costruzione di profilati per il settore edilizio.

La distorsione termica è ancor più evidente nei profili dotati di taglio termico che sono dotati di maggiori capacità isolanti e di conseguenza portano ad una maggiore differenza di temperatura tra le superfici interna ed esterna.

Esistono comunque alcune semplici procedure che, quando applicabili, possono considerevolmente ridurre gli effetti della deformazione termica:

- 1) La riduzione dell'esposizione diretta ai raggi solari
- 2) La riduzione della dimensione S della superficie esposta del profilo
- 3) L'utilizzo di finiture chiare del profilo
- 4) La riduzione della lunghezza L del profilo
- 5) L'utilizzo di profili aventi sezione di altezza H maggiore lungo il flusso di calore

**Per ogni altra informazione o consulenza sulla correttezza di utilizzo dei profili, preghiamo di contattare l'Ufficio Tecnico di Profilati S.p.A.**

## THERMAL LINEAR EXPANSION

Every solid body, irrespective of the material, when exposed to temperature variations, undergoes a change in volume. An increase in temperature of the solid body means a corresponding increase in volume, whereas a decrease in temperature creates a reduction in volume.

Normally, the variations in volume are uniformly distributed, in other words the solid body has an equal change of volume in all three dimensions.

However, many cases exist where one dimension of the solid body is particularly affected thus rendering the deformations caused by temperature variations of the other dimensions almost negligible. This is exactly the case with extruded aluminium profiles where the length of the profiles is much greater compared to the orthogonal section of the same profile. In this situation, the change in volume is referred to as **thermal linear expansion**

The coefficient of thermal linear expansion, indicated by the symbol  $\lambda$ , in general terms, can be considered a constant that depends on the material and represents the variation in length of a bar of one metre having undergone a temperature change of one degree.

The size of the deformation is calculated by comparing the dimensions of the bar before and after the temperature variation.

The increase in length  $\Delta L$  is proportional to the increase in temperature and the initial length of the bar, it is calculated by using the following equation:

$$\Delta L = L_t - L_o = \lambda L_o (t - t_o)$$

or:

$$L_t = L_o + \lambda L_o (t - t_o) = L_o [1 + \lambda (t - t_o)]$$

where:

$t_o$  = initial temperature ;

$t$  = final temperature ;

$L_t$  = length at temperature  $t$  ;

$L_o$  = length at temperature  $t_o$  ;

$\lambda$  = coefficient of thermal expansion (see following table) ;

The table below indicates for five materials the coefficient of thermal linear expansion, how many millimetres a one metre length bar expands having undergone a temperature increase of one degree.

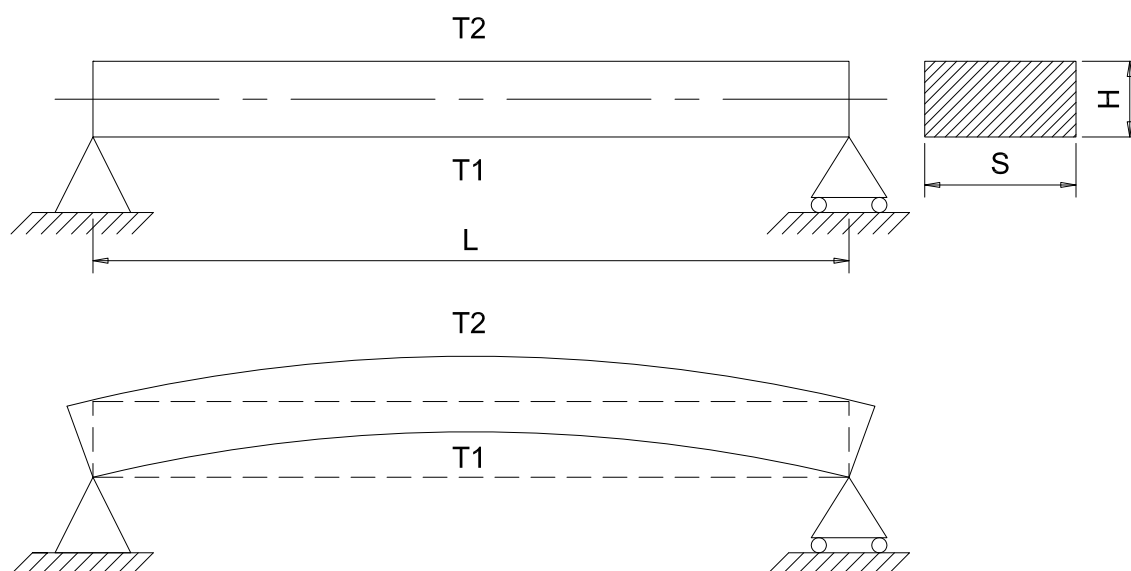
| Material  | $\lambda (^{\circ}\text{C}^{-1})$ | Material length increase, 1 degree per 1m (mm) |
|-----------|-----------------------------------|------------------------------------------------|
| Steel     | $11 \cdot 10^{-6}$                | 0,011                                          |
| Aluminium | $24 \cdot 10^{-6}$                | 0,024                                          |
| Iron      | $12 \cdot 10^{-6}$                | 0,012                                          |
| P.V.C.    | $70 \cdot 10^{-6}$                | 0,070                                          |
| Glass     | $9 \cdot 10^{-6}$                 | 0,009                                          |

## THERMAL DISTORTION

Window and door frames as well as curtain walling, among their many functions, well known for their energy-saving properties, to separate completely different environmental conditions. Extruded aluminium profiles that are used for window and door frames, either thermal break or not, are therefore exposed to large thermal variations. These variations are normally particularly extreme in the summer period, when the surface of the frames is subjected to strong sunlight that causes a substantial increase in temperature.

As a consequence of this heating, the surface exposed to the sun expands more compared to the side not exposed, thus causing an inflexion of the bar outward towards the external exposed surface, that increase with the difference of temperature between the internal and external surfaces of the profile.

The situation is illustrated in figure 1, where the profile is anchored at the ends, undergoes a temperature variation  $\Delta T$  between the external exposed surface, at temperature  $T_2$ , and the internal non-exposed surface, at temperature  $T_1 < T_2$ , and, because of the stress generated, an inflexion of the bar is caused, outward towards the more higher temperature surface.



This phenomenon, which is particularly visible on wing-opening and on very long transom, is known as thermal distortion and is the deformation that, in the worst cases and during the hours of max sunlight, can cause difficulty in opening and closing windows and doors or generate other types of malfunctioning.

### **The present document is intended to be only informative**

phenomenon described herein. The thermal distortion is always present, the purpose of this document is to inform the user of the completely resolvable with the materials and technology currently available for the construction of profiles in the building sector.

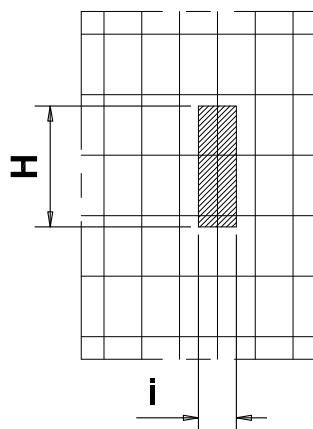
The thermal distortion is even more evident in thermal break profiles as they have a larger insulating capacity, and as a consequence a greater difference in temperature between the exposed and non-exposed surfaces. Nevertheless, there are some simple procedures, where it is possible to apply them, that can considerably reduce the effects of the thermal distortion:

- 1) The reduction of the exposure to direct sunlight
- 2) The reduction in size S of the exposed surfaces of the profile
- 3) The use of light colour finishing on the profile
- 4) The reduction of the length L of the profile
- 5) The use of a higher profile width H where there is the heat flow

**For any further information or advice on the correctness of specific building systems, please contact the Technical Office of Profilati S.p.A.**

## Note tecniche / Technical notes

### DIAGRAMMA STATICO STATIC DIAGRAM



Prospetto  
Table

Formule di calcolo  
Calculation formulas

$$J_x = 0,013 \frac{Q \cdot H^4}{E \cdot f}$$

$$Q = q \cdot i$$

$J_x$  = Momento d' inerzia = cm<sup>4</sup>  
Moment of inertia

$Q$  = Carico = N/cm  
Load

$q$  = Carico del vento = N/cm<sup>2</sup>  
Wind load

$i$  = Interasse = cm  
Centre distance

$E$  = Modulo di elasticità = N/cm<sup>2</sup>  
Young's modulus

$f$  = Freccia = cm  
Deflection

$H$  = Lunghezza montante = cm  
Mullion length

$W$  = Modulo di resistenza montante = cm<sup>3</sup>  
Mullion resistance modulus

Esempio di calcolo  
Calculation example

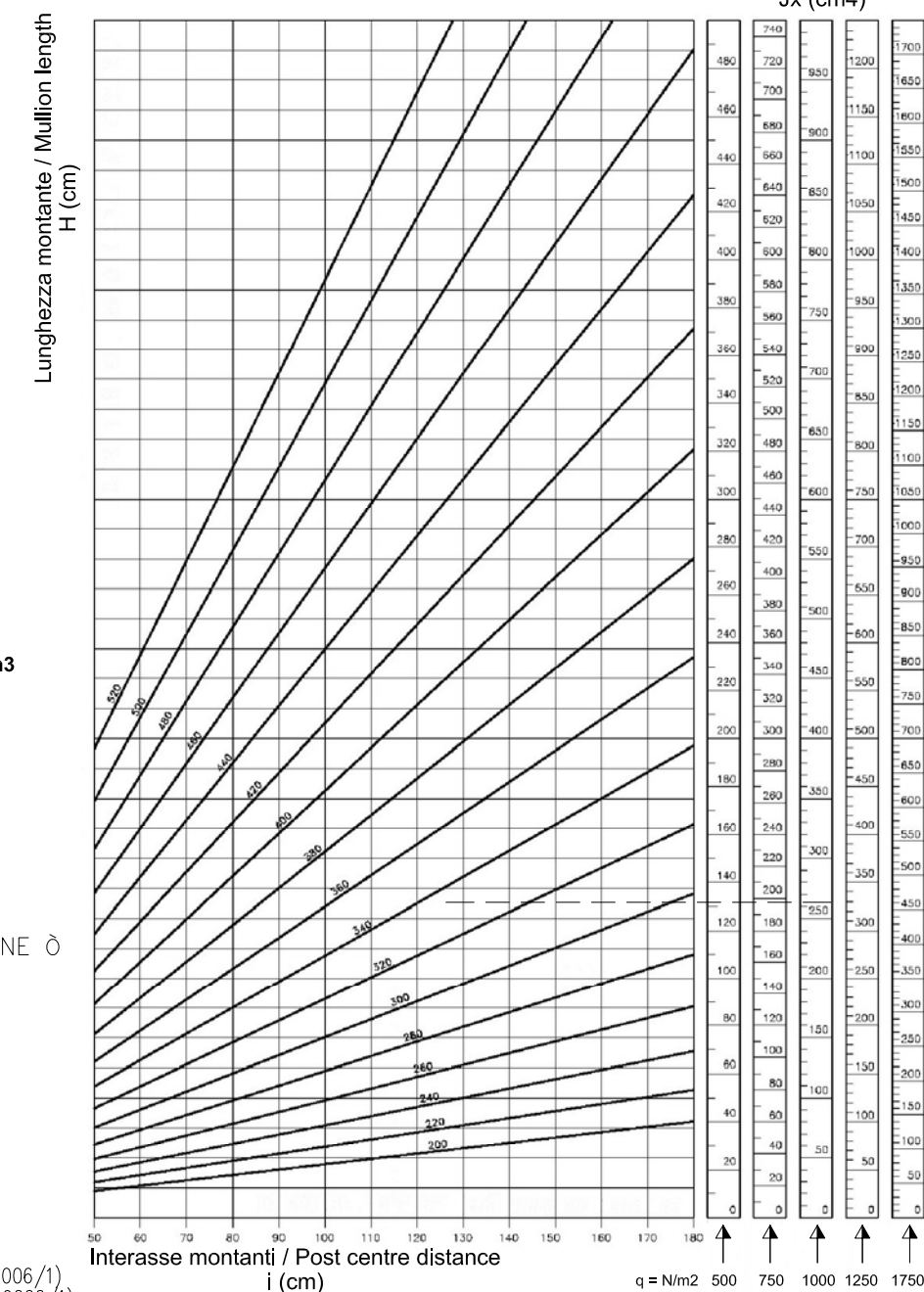
$i = 120$  cm

$H = 340$  cm

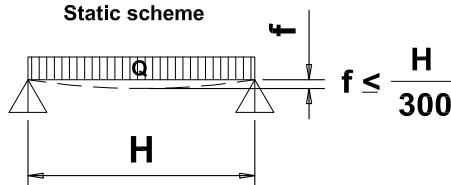
$q = 1000$  N/cm<sup>2</sup>

$J_x = 263$  cm<sup>4</sup>

Lunghezza montante / Mullion length  
 $H$  (cm)



Schema statico  
Static scheme



Momento d' inerzia  
Moment of inertia  
 $J_x$  (cm<sup>4</sup>)

VERIFICA DELLO STATO DI TENSIONE ò  
TENSION ò CHECKING

$$M_{max} = \frac{Q \cdot H^2}{8}$$

$$\sigma = \frac{M_{max}}{W}$$

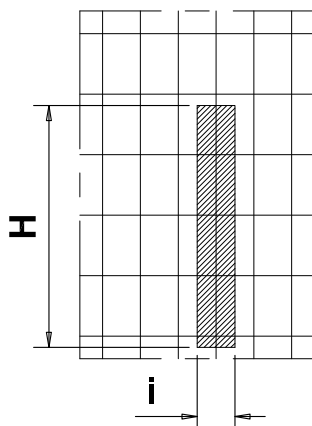
$\sigma < 8000$  N/cm<sup>2</sup>

( $\sigma$  adm per lega alluminio 6060 UNI 9006/1)

( $\sigma$  adm for aluminium alloy 6060 UNI 9006/1)

## Note tecniche / Technical notes

### DIAGRAMMA STATICO STATIC DIAGRAM



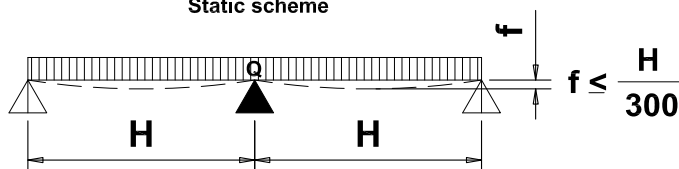
Prospetto  
Table

### LIMITI D' IMPIEGO DEL MONTANTE: MULLIONS LIMITS OF USE:

vedere diagramma statico e indicazioni per il calcolo della pressione del vento che si riferiscono al D.M. 14 gennaio 2008 "Norme Tecniche per le Costruzioni" (valido per il territorio italiano)

see static diagram and indications to calculate the wind pressure referred to Ministerial Decree of 14th january 2008 (valid for the italian territory)

Schema statico  
Static scheme



$$f \leq \frac{H}{300}$$

Momento d' inerzia  
Moment of inertia  
 $J_x$  (cm<sup>4</sup>)

Formule di calcolo  
Calculation formulas

$$J_x = 0,00542 \frac{Q \cdot H^4}{E \cdot f}$$

$$Q = q \cdot i$$

$J_x$  = Momento d' inerzia = cm<sup>4</sup>  
Moment of inertia

$Q$  = Carico = N/cm  
Load

$q$  = Carico del vento = N/cm<sup>2</sup>  
Wind load

$i$  = Interasse = cm  
Centre distance

$E$  = Modulo di elasticità = N/cm<sup>2</sup>  
Young's modulus

$f$  = Freccia = cm  
Deflection

$H$  = Lunghezza montante = cm  
Mullion length

$W$  = Modulo di resistenza montante = cm<sup>3</sup>  
Mullion resistance modulus

Esempio di calcolo  
Calculation example

$i = 120$  cm

$H = 340$  cm

$q = 1000$  N/cm<sup>2</sup>

$J_x = 109,5$  cm<sup>4</sup>

VERIFICA DELLO STATO DI TENSIONE ò  
TENSION ò CHECKING

$$M_{max} = \frac{Q \cdot H^2}{8}$$

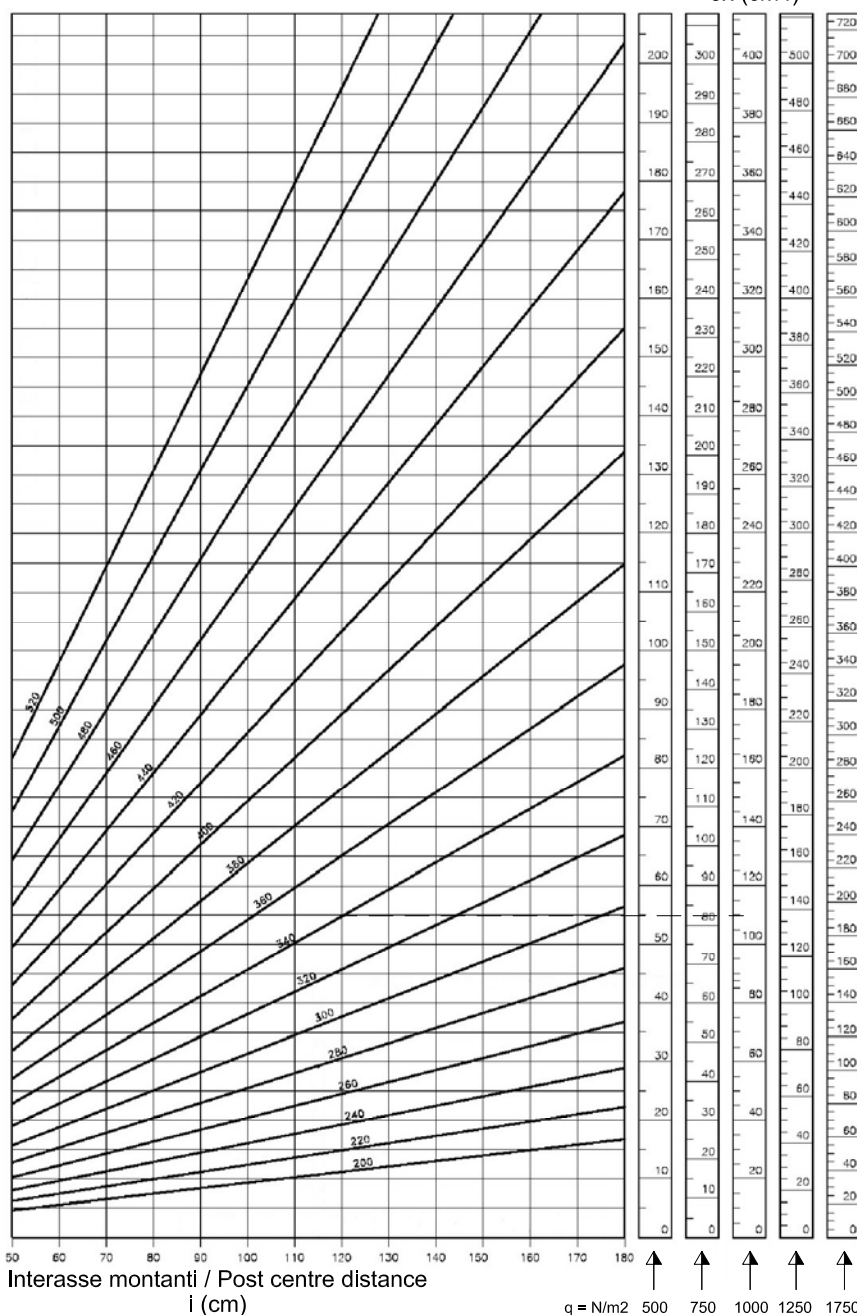
$$\sigma = \frac{M_{max}}{W}$$

$\sigma < 8000$  N/cm<sup>2</sup>

(ò adm per lega alluminio 6060 UNI 9006/1)

(ò adm for aluminium alloy 6060 UNI 9006/1)

Lunghezza montante / Mullion length  
 $H$  (cm)

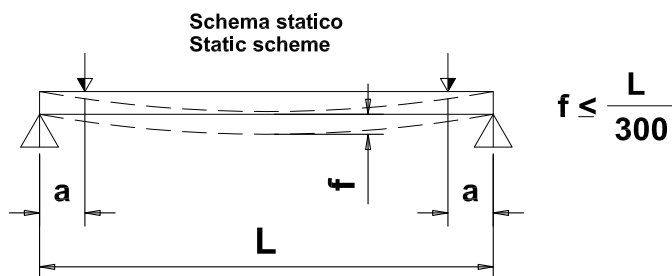
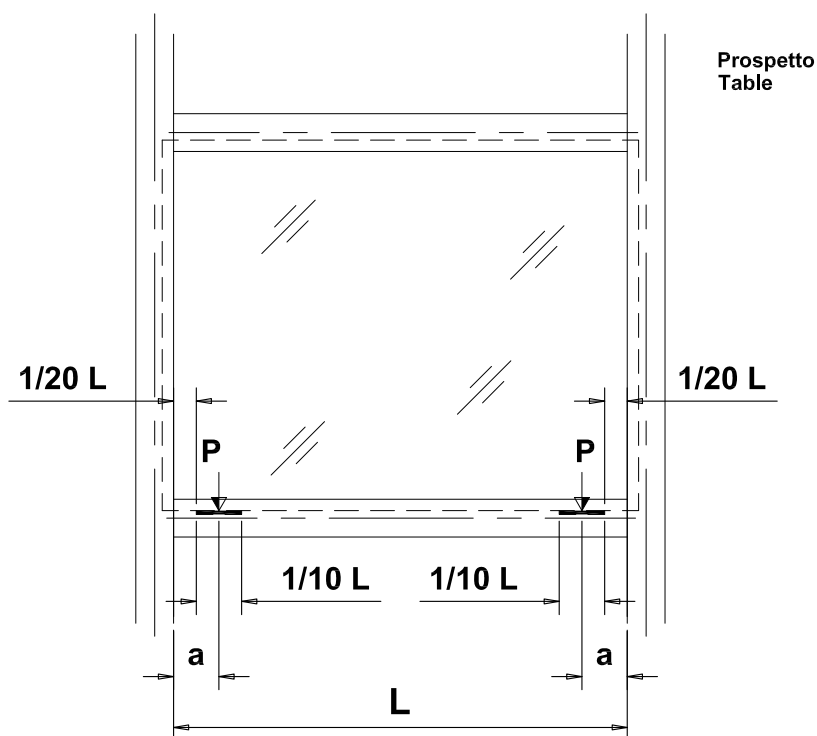


Interasse montanti / Post centre distance  
 $i$  (cm)

$q = \text{N/m}^2$  500 750 1000 1250 1750

**Note tecniche / Technical notes**

**VERIFICA DEL TRAVERSO (peso dei tamponamenti)  
CALCULATION ON TRANSOM (glass and panels load)**



Formule di calcolo  
Calculation formulas

$$f = \frac{P \cdot a}{24 \cdot E \cdot J_y} (3L^2 - 4a^2)$$

**L = Lunghezza del traverso = cm**  
Transom length

**f = Freccia = cm**  
Deflection

**P = Mezzo peso del tamponamento = N**  
glass / panel half weight

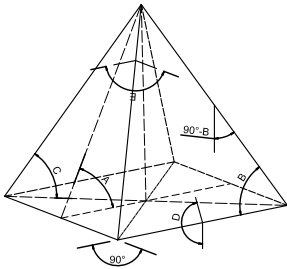
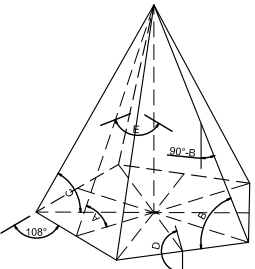
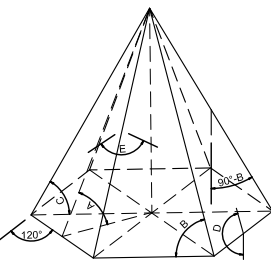
**a = Distanza degli appoggi = cm**  
Supports distance

**Jy = Momento d' inerzia = cm<sup>4</sup>**  
Moment of inertia

**E = Modulo di elasticità = N/cm<sup>2</sup>**  
Young's modulus

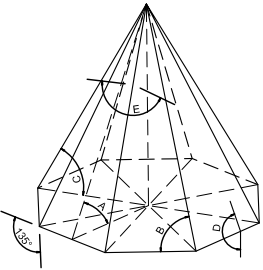
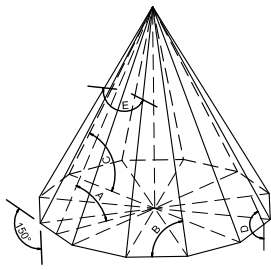
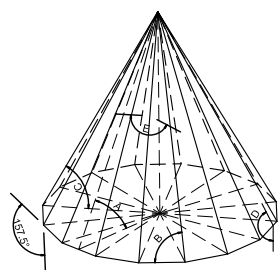
**Note tecniche / Technical notes**

**CALCOLO ANGOLI PIRAMIDI  
CALCULATION PYRAMID CORNERS**

| Piramide a 4 lati                                                                 |       |       |        |        | Piramide a 5 lati                                                                 |       |        |        |  | Piramide a 6 lati                                                                   |       |        |        |  |
|-----------------------------------------------------------------------------------|-------|-------|--------|--------|-----------------------------------------------------------------------------------|-------|--------|--------|--|-------------------------------------------------------------------------------------|-------|--------|--------|--|
|  |       |       |        |        |  |       |        |        |  |  |       |        |        |  |
| A                                                                                 | B     | C     | D      | E      | B                                                                                 | C     | D      | E      |  | B                                                                                   | C     | D      | E      |  |
| 10°                                                                               | 45.44 | 7.11  | 100.00 | 165.89 | 54.42                                                                             | 8.12  | 100.00 | 168.28 |  | 60.38                                                                               | 8.68  | 100.00 | 170.04 |  |
| 11                                                                                | 45.53 | 7.83  | 101.00 | 164.49 | 54.50                                                                             | 8.94  | 101.00 | 167.12 |  | 60.46                                                                               | 9.56  | 101.00 | 169.05 |  |
| 12                                                                                | 45.63 | 8.55  | 102.00 | 163.09 | 54.60                                                                             | 9.76  | 102.00 | 165.96 |  | 60.55                                                                               | 10.43 | 102.00 | 168.07 |  |
| 13                                                                                | 45.74 | 9.27  | 103.00 | 161.69 | 54.70                                                                             | 10.58 | 103.00 | 164.80 |  | 60.64                                                                               | 11.31 | 103.00 | 167.08 |  |
| 14                                                                                | 45.86 | 10.00 | 104.00 | 160.30 | 54.82                                                                             | 11.40 | 104.00 | 163.65 |  | 60.74                                                                               | 12.18 | 104.00 | 166.11 |  |
| 15°                                                                               | 45.99 | 10.73 | 105.00 | 158.91 | 54.94                                                                             | 12.23 | 105.00 | 162.50 |  | 60.85                                                                               | 13.06 | 105.00 | 165.13 |  |
| 16                                                                                | 46.13 | 11.46 | 106.00 | 157.52 | 55.07                                                                             | 13.06 | 106.00 | 161.35 |  | 60.97                                                                               | 13.95 | 106.00 | 164.16 |  |
| 17                                                                                | 46.28 | 12.20 | 107.00 | 156.14 | 55.21                                                                             | 13.89 | 107.00 | 160.21 |  | 61.10                                                                               | 14.83 | 107.00 | 163.19 |  |
| 18                                                                                | 46.44 | 12.94 | 108.00 | 154.76 | 55.36                                                                             | 14.73 | 108.00 | 159.07 |  | 61.23                                                                               | 15.72 | 108.00 | 162.22 |  |
| 19                                                                                | 46.60 | 13.68 | 109.00 | 153.38 | 55.51                                                                             | 15.57 | 109.00 | 157.94 |  | 61.37                                                                               | 16.60 | 109.00 | 161.26 |  |
| 20°                                                                               | 46.78 | 14.43 | 110.00 | 152.01 | 55.68                                                                             | 16.41 | 110.00 | 156.81 |  | 61.52                                                                               | 17.50 | 110.00 | 160.31 |  |
| 21                                                                                | 46.97 | 15.19 | 111.00 | 150.64 | 55.85                                                                             | 17.25 | 111.00 | 155.68 |  | 61.68                                                                               | 18.39 | 111.00 | 159.36 |  |
| 22                                                                                | 47.16 | 15.94 | 112.00 | 149.28 | 56.03                                                                             | 18.10 | 112.00 | 154.56 |  | 61.84                                                                               | 19.28 | 112.00 | 158.41 |  |
| 23                                                                                | 47.37 | 16.71 | 113.00 | 147.92 | 56.23                                                                             | 18.95 | 113.00 | 153.45 |  | 62.01                                                                               | 20.18 | 113.00 | 157.47 |  |
| 24                                                                                | 47.59 | 17.48 | 114.00 | 146.57 | 56.43                                                                             | 19.81 | 114.00 | 152.34 |  | 62.19                                                                               | 21.09 | 114.00 | 156.53 |  |
| 25°                                                                               | 47.81 | 18.25 | 115.00 | 145.22 | 56.64                                                                             | 20.67 | 115.00 | 151.23 |  | 62.38                                                                               | 21.99 | 115.00 | 155.60 |  |
| 26                                                                                | 48.05 | 19.03 | 116.00 | 143.88 | 56.85                                                                             | 21.53 | 116.00 | 150.14 |  | 62.57                                                                               | 22.90 | 116.00 | 154.68 |  |
| 27                                                                                | 48.30 | 19.81 | 117.00 | 142.55 | 57.08                                                                             | 22.40 | 117.00 | 149.05 |  | 62.78                                                                               | 23.81 | 117.00 | 153.76 |  |
| 28                                                                                | 48.56 | 20.61 | 118.00 | 141.22 | 57.32                                                                             | 23.28 | 118.00 | 147.96 |  | 62.99                                                                               | 24.72 | 118.00 | 152.85 |  |
| 29                                                                                | 48.83 | 21.40 | 119.00 | 139.90 | 57.57                                                                             | 24.15 | 119.00 | 146.89 |  | 63.21                                                                               | 25.64 | 119.00 | 151.94 |  |
| 30°                                                                               | 49.11 | 22.21 | 120.00 | 138.59 | 57.82                                                                             | 25.04 | 120.00 | 145.82 |  | 63.43                                                                               | 26.57 | 120.00 | 151.05 |  |
| 31                                                                                | 49.40 | 23.02 | 121.00 | 137.29 | 58.09                                                                             | 25.92 | 121.00 | 144.76 |  | 63.67                                                                               | 27.49 | 121.00 | 150.15 |  |
| 32                                                                                | 49.70 | 23.84 | 122.00 | 135.99 | 58.36                                                                             | 26.82 | 122.00 | 143.70 |  | 63.91                                                                               | 28.42 | 122.00 | 149.27 |  |
| 33                                                                                | 50.01 | 24.66 | 123.00 | 134.70 | 58.64                                                                             | 27.72 | 123.00 | 142.66 |  | 64.16                                                                               | 29.35 | 123.00 | 148.40 |  |
| 34                                                                                | 50.34 | 25.50 | 124.00 | 133.42 | 58.94                                                                             | 28.62 | 124.00 | 141.62 |  | 64.42                                                                               | 30.29 | 124.00 | 147.53 |  |
| 35°                                                                               | 50.68 | 26.34 | 125.00 | 132.15 | 59.24                                                                             | 29.53 | 125.00 | 140.59 |  | 64.69                                                                               | 31.23 | 125.00 | 146.67 |  |
| 36                                                                                | 51.03 | 27.19 | 126.00 | 130.88 | 59.55                                                                             | 30.45 | 126.00 | 139.58 |  | 64.96                                                                               | 32.18 | 126.00 | 145.82 |  |
| 37                                                                                | 51.39 | 28.05 | 127.00 | 129.63 | 59.88                                                                             | 31.37 | 127.00 | 138.57 |  | 65.25                                                                               | 33.13 | 127.00 | 144.98 |  |
| 38                                                                                | 51.76 | 28.92 | 128.00 | 128.39 | 60.21                                                                             | 32.30 | 128.00 | 137.57 |  | 65.54                                                                               | 34.08 | 128.00 | 144.14 |  |
| 39                                                                                | 52.15 | 29.80 | 129.00 | 127.15 | 60.55                                                                             | 33.23 | 129.00 | 136.58 |  | 65.83                                                                               | 35.04 | 129.00 | 143.32 |  |
| 40°                                                                               | 52.55 | 30.68 | 130.00 | 125.93 | 60.90                                                                             | 34.17 | 130.00 | 135.60 |  | 66.14                                                                               | 36.01 | 130.00 | 142.51 |  |
| 41                                                                                | 52.96 | 31.58 | 131.00 | 124.72 | 61.26                                                                             | 35.12 | 131.00 | 134.64 |  | 66.46                                                                               | 36.97 | 131.00 | 141.70 |  |
| 42                                                                                | 53.38 | 32.48 | 132.00 | 123.52 | 61.63                                                                             | 36.07 | 132.00 | 133.68 |  | 66.78                                                                               | 37.95 | 132.00 | 140.91 |  |
| 43                                                                                | 53.82 | 33.40 | 133.00 | 122.34 | 62.02                                                                             | 37.03 | 133.00 | 132.74 |  | 67.11                                                                               | 38.92 | 133.00 | 140.12 |  |
| 44                                                                                | 54.27 | 34.33 | 134.00 | 121.16 | 62.41                                                                             | 38.00 | 134.00 | 131.80 |  | 67.45                                                                               | 39.91 | 134.00 | 139.35 |  |
| 45°                                                                               | 54.74 | 35.26 | 135.00 | 120.00 | 62.81                                                                             | 38.97 | 135.00 | 130.88 |  | 67.79                                                                               | 40.89 | 135.00 | 138.59 |  |
| 46                                                                                | 55.21 | 36.21 | 136.00 | 118.85 | 63.22                                                                             | 39.95 | 136.00 | 129.98 |  | 68.15                                                                               | 41.89 | 136.00 | 137.84 |  |
| 47                                                                                | 55.71 | 37.17 | 137.00 | 117.72 | 63.64                                                                             | 40.94 | 137.00 | 129.08 |  | 68.51                                                                               | 42.88 | 137.00 | 137.10 |  |
| 48                                                                                | 56.21 | 38.14 | 138.00 | 116.60 | 64.07                                                                             | 41.94 | 138.00 | 128.20 |  | 68.88                                                                               | 43.89 | 138.00 | 136.37 |  |
| 49                                                                                | 56.73 | 39.13 | 139.00 | 115.49 | 64.51                                                                             | 42.94 | 139.00 | 127.33 |  | 69.25                                                                               | 44.89 | 139.00 | 135.66 |  |
| 50°                                                                               | 57.27 | 40.12 | 140.00 | 114.40 | 64.97                                                                             | 43.95 | 140.00 | 126.48 |  | 69.64                                                                               | 45.90 | 140.00 | 134.96 |  |
| 51                                                                                | 57.82 | 41.13 | 141.00 | 113.33 | 65.43                                                                             | 44.97 | 141.00 | 125.64 |  | 70.03                                                                               | 46.92 | 141.00 | 134.27 |  |
| 52                                                                                | 58.38 | 42.15 | 142.00 | 112.27 | 65.90                                                                             | 46.00 | 142.00 | 124.82 |  | 70.43                                                                               | 47.94 | 142.00 | 133.59 |  |
| 53                                                                                | 58.96 | 43.18 | 143.00 | 111.23 | 66.38                                                                             | 47.03 | 143.00 | 124.01 |  | 70.84                                                                               | 48.97 | 143.00 | 132.93 |  |
| 54                                                                                | 59.55 | 44.22 | 144.00 | 110.21 | 66.88                                                                             | 48.07 | 144.00 | 123.21 |  | 71.25                                                                               | 50.01 | 144.00 | 132.28 |  |
| 55°                                                                               | 60.16 | 45.28 | 145.00 | 109.21 | 67.38                                                                             | 49.12 | 145.00 | 122.44 |  | 71.68                                                                               | 51.04 | 145.00 | 131.64 |  |
| 56                                                                                | 60.79 | 46.35 | 146.00 | 108.22 | 67.89                                                                             | 50.18 | 146.00 | 121.67 |  | 72.11                                                                               | 52.09 | 146.00 | 131.02 |  |
| 57                                                                                | 61.43 | 47.44 | 147.00 | 107.26 | 68.41                                                                             | 51.25 | 147.00 | 120.93 |  | 72.54                                                                               | 53.13 | 147.00 | 130.41 |  |
| 58                                                                                | 62.08 | 48.53 | 148.00 | 106.31 | 68.94                                                                             | 52.32 | 148.00 | 120.20 |  | 72.99                                                                               | 54.19 | 148.00 | 129.82 |  |
| 59                                                                                | 62.75 | 49.64 | 149.00 | 105.38 | 69.48                                                                             | 53.40 | 149.00 | 119.49 |  | 73.44                                                                               | 55.25 | 149.00 | 129.24 |  |
| 60°                                                                               | 63.43 | 50.77 | 150.00 | 104.48 | 70.04                                                                             | 54.49 | 150.00 | 118.80 |  | 73.90                                                                               | 56.31 | 150.00 | 128.68 |  |

**Note tecniche / Technical notes**

**CALCOLO ANGOLI PIRAMIDI  
CALCULATION PYRAMID CORNERS**

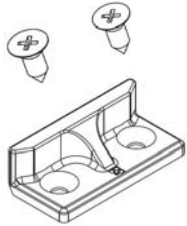
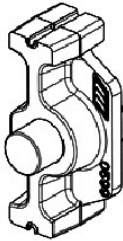
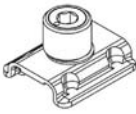
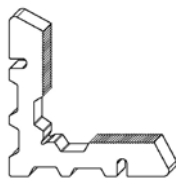
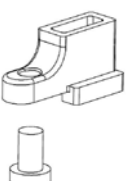
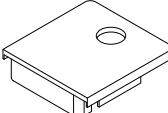
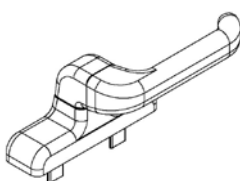
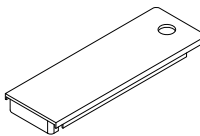
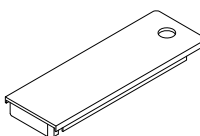
| Piramide a 8 lati                                                                 |       |       |        |        | Piramide a 12 lati                                                                |       |        |        |  | Piramide a 16 lati                                                                  |       |        |        |  |
|-----------------------------------------------------------------------------------|-------|-------|--------|--------|-----------------------------------------------------------------------------------|-------|--------|--------|--|-------------------------------------------------------------------------------------|-------|--------|--------|--|
|  |       |       |        |        |  |       |        |        |  |  |       |        |        |  |
| A                                                                                 | B     | C     | D      | E      | B                                                                                 | C     | D      | E      |  | B                                                                                   | C     | D      | E      |  |
| 10°                                                                               | 67.81 | 9.25  | 100.00 | 172.38 | 75.22                                                                             | 9.67  | 100.00 | 174.85 |  | 78.92                                                                               | 9.81  | 100.00 | 176.12 |  |
| 11                                                                                | 67.87 | 10.18 | 101.00 | 171.63 | 75.26                                                                             | 10.63 | 101.00 | 174.34 |  | 78.95                                                                               | 10.79 | 101.00 | 175.73 |  |
| 12                                                                                | 67.94 | 11.11 | 102.00 | 170.87 | 75.31                                                                             | 11.60 | 102.00 | 173.83 |  | 78.99                                                                               | 11.78 | 102.00 | 175.35 |  |
| 13                                                                                | 68.02 | 12.04 | 103.00 | 170.12 | 75.37                                                                             | 12.57 | 103.00 | 173.32 |  | 79.03                                                                               | 12.76 | 103.00 | 174.97 |  |
| 14                                                                                | 68.10 | 12.97 | 104.00 | 169.38 | 75.43                                                                             | 13.54 | 104.00 | 172.82 |  | 79.08                                                                               | 13.74 | 104.00 | 174.59 |  |
| 15°                                                                               | 68.19 | 13.90 | 105.00 | 168.63 | 75.49                                                                             | 14.51 | 105.00 | 172.32 |  | 79.12                                                                               | 14.72 | 105.00 | 174.21 |  |
| 16                                                                                | 68.29 | 14.84 | 106.00 | 167.89 | 75.56                                                                             | 15.48 | 106.00 | 171.82 |  | 79.18                                                                               | 15.71 | 106.00 | 173.84 |  |
| 17                                                                                | 68.39 | 15.77 | 107.00 | 167.15 | 75.63                                                                             | 16.45 | 107.00 | 171.32 |  | 79.23                                                                               | 16.69 | 107.00 | 173.46 |  |
| 18                                                                                | 68.50 | 16.71 | 108.00 | 166.42 | 75.70                                                                             | 17.42 | 108.00 | 170.83 |  | 79.29                                                                               | 17.68 | 108.00 | 173.09 |  |
| 19                                                                                | 68.61 | 17.65 | 109.00 | 165.69 | 75.78                                                                             | 18.40 | 109.00 | 170.33 |  | 79.35                                                                               | 18.66 | 109.00 | 172.72 |  |
| 20°                                                                               | 68.73 | 18.59 | 110.00 | 164.96 | 75.87                                                                             | 19.37 | 110.00 | 169.84 |  | 79.41                                                                               | 19.65 | 110.00 | 172.35 |  |
| 21                                                                                | 68.86 | 19.53 | 111.00 | 164.24 | 75.96                                                                             | 20.34 | 111.00 | 169.36 |  | 79.48                                                                               | 20.63 | 111.00 | 171.98 |  |
| 22                                                                                | 68.99 | 20.47 | 112.00 | 163.52 | 76.05                                                                             | 21.32 | 112.00 | 168.87 |  | 79.55                                                                               | 21.62 | 112.00 | 171.62 |  |
| 23                                                                                | 69.13 | 21.41 | 113.00 | 162.80 | 76.14                                                                             | 22.29 | 113.00 | 168.39 |  | 79.62                                                                               | 22.60 | 113.00 | 171.26 |  |
| 24                                                                                | 69.27 | 22.36 | 114.00 | 162.09 | 76.25                                                                             | 23.27 | 114.00 | 167.91 |  | 79.70                                                                               | 23.59 | 114.00 | 170.90 |  |
| 25°                                                                               | 69.42 | 23.31 | 115.00 | 161.39 | 76.35                                                                             | 24.25 | 115.00 | 167.44 |  | 79.78                                                                               | 24.58 | 115.00 | 170.54 |  |
| 26                                                                                | 69.58 | 24.26 | 116.00 | 160.69 | 76.46                                                                             | 25.23 | 116.00 | 166.97 |  | 79.86                                                                               | 25.56 | 116.00 | 170.19 |  |
| 27                                                                                | 69.74 | 25.21 | 117.00 | 159.99 | 76.57                                                                             | 26.20 | 117.00 | 166.50 |  | 79.95                                                                               | 26.55 | 117.00 | 169.84 |  |
| 28                                                                                | 69.91 | 26.16 | 118.00 | 159.30 | 76.69                                                                             | 27.18 | 118.00 | 166.04 |  | 80.04                                                                               | 27.54 | 118.00 | 169.49 |  |
| 29                                                                                | 70.09 | 27.12 | 119.00 | 158.62 | 76.81                                                                             | 28.17 | 119.00 | 165.58 |  | 80.13                                                                               | 28.53 | 119.00 | 169.15 |  |
| 30°                                                                               | 70.27 | 28.08 | 120.00 | 157.94 | 76.94                                                                             | 29.15 | 120.00 | 165.13 |  | 80.23                                                                               | 29.52 | 120.00 | 168.80 |  |
| 31                                                                                | 70.45 | 29.04 | 121.00 | 157.27 | 77.06                                                                             | 30.13 | 121.00 | 164.68 |  | 80.32                                                                               | 30.51 | 121.00 | 168.47 |  |
| 32                                                                                | 70.65 | 30.00 | 122.00 | 156.60 | 77.20                                                                             | 31.11 | 122.00 | 164.23 |  | 80.43                                                                               | 31.50 | 122.00 | 168.13 |  |
| 33                                                                                | 70.84 | 30.96 | 123.00 | 155.94 | 77.33                                                                             | 32.10 | 123.00 | 163.79 |  | 80.53                                                                               | 32.49 | 123.00 | 167.80 |  |
| 34                                                                                | 71.05 | 31.93 | 124.00 | 155.29 | 77.48                                                                             | 33.09 | 124.00 | 163.36 |  | 80.64                                                                               | 33.49 | 124.00 | 167.47 |  |
| 35°                                                                               | 71.26 | 32.90 | 125.00 | 154.64 | 77.62                                                                             | 34.07 | 125.00 | 162.93 |  | 80.75                                                                               | 34.48 | 125.00 | 167.15 |  |
| 36                                                                                | 71.47 | 33.87 | 126.00 | 154.00 | 77.77                                                                             | 35.06 | 126.00 | 162.50 |  | 80.86                                                                               | 35.47 | 126.00 | 166.83 |  |
| 37                                                                                | 71.70 | 34.85 | 127.00 | 153.37 | 77.92                                                                             | 36.05 | 127.00 | 162.08 |  | 80.97                                                                               | 36.47 | 127.00 | 166.52 |  |
| 38                                                                                | 71.92 | 35.82 | 128.00 | 152.75 | 78.08                                                                             | 37.04 | 128.00 | 161.66 |  | 81.09                                                                               | 37.46 | 128.00 | 166.20 |  |
| 39                                                                                | 72.16 | 36.80 | 129.00 | 152.13 | 78.24                                                                             | 38.03 | 129.00 | 161.25 |  | 81.21                                                                               | 38.46 | 129.00 | 165.90 |  |
| 40°                                                                               | 72.40 | 37.78 | 130.00 | 151.52 | 78.40                                                                             | 39.03 | 130.00 | 160.85 |  | 81.34                                                                               | 39.45 | 130.00 | 165.59 |  |
| 41                                                                                | 72.64 | 38.77 | 131.00 | 150.92 | 78.57                                                                             | 40.02 | 131.00 | 160.45 |  | 81.46                                                                               | 40.45 | 131.00 | 165.29 |  |
| 42                                                                                | 72.89 | 39.76 | 132.00 | 150.33 | 78.74                                                                             | 41.01 | 132.00 | 160.05 |  | 81.59                                                                               | 41.45 | 132.00 | 165.00 |  |
| 43                                                                                | 73.15 | 40.75 | 133.00 | 149.74 | 78.91                                                                             | 42.01 | 133.00 | 159.67 |  | 81.72                                                                               | 42.45 | 133.00 | 164.71 |  |
| 44                                                                                | 73.41 | 41.74 | 134.00 | 149.17 | 79.09                                                                             | 43.01 | 134.00 | 159.29 |  | 81.86                                                                               | 43.44 | 134.00 | 164.42 |  |
| 45°                                                                               | 73.68 | 42.73 | 135.00 | 148.60 | 79.27                                                                             | 44.01 | 135.00 | 158.91 |  | 81.99                                                                               | 44.44 | 135.00 | 164.14 |  |
| 46                                                                                | 73.95 | 43.73 | 136.00 | 148.04 | 79.46                                                                             | 45.01 | 136.00 | 158.54 |  | 82.13                                                                               | 45.44 | 136.00 | 163.87 |  |
| 47                                                                                | 74.23 | 44.73 | 137.00 | 147.49 | 79.64                                                                             | 46.01 | 137.00 | 158.18 |  | 82.27                                                                               | 46.45 | 137.00 | 163.59 |  |
| 48                                                                                | 74.51 | 45.74 | 138.00 | 146.96 | 79.84                                                                             | 47.01 | 138.00 | 157.82 |  | 82.42                                                                               | 47.45 | 138.00 | 163.33 |  |
| 49                                                                                | 74.80 | 46.74 | 139.00 | 146.43 | 80.03                                                                             | 48.01 | 139.00 | 157.47 |  | 82.57                                                                               | 48.45 | 139.00 | 163.07 |  |
| 50°                                                                               | 75.09 | 47.75 | 140.00 | 145.91 | 80.23                                                                             | 49.02 | 140.00 | 157.13 |  | 82.71                                                                               | 49.45 | 140.00 | 162.81 |  |
| 51                                                                                | 75.39 | 48.77 | 141.00 | 145.40 | 80.43                                                                             | 50.03 | 141.00 | 156.79 |  | 82.86                                                                               | 50.46 | 141.00 | 162.56 |  |
| 52                                                                                | 75.69 | 49.78 | 142.00 | 144.90 | 80.63                                                                             | 51.03 | 142.00 | 156.46 |  | 83.02                                                                               | 51.46 | 142.00 | 162.31 |  |
| 53                                                                                | 76.00 | 50.80 | 143.00 | 144.41 | 80.84                                                                             | 52.04 | 143.00 | 156.14 |  | 83.17                                                                               | 52.46 | 143.00 | 162.07 |  |
| 54                                                                                | 76.32 | 51.82 | 144.00 | 143.93 | 81.05                                                                             | 53.05 | 144.00 | 155.83 |  | 83.33                                                                               | 53.47 | 144.00 | 161.84 |  |
| 55°                                                                               | 76.64 | 52.84 | 145.00 | 143.46 | 81.26                                                                             | 54.06 | 145.00 | 155.52 |  | 83.49                                                                               | 54.48 | 145.00 | 161.61 |  |
| 56                                                                                | 76.96 | 53.87 | 146.00 | 143.01 | 81.48                                                                             | 55.07 | 146.00 | 155.22 |  | 83.65                                                                               | 55.48 | 146.00 | 161.38 |  |
| 57                                                                                | 77.29 | 54.90 | 147.00 | 142.56 | 81.70                                                                             | 56.09 | 147.00 | 154.93 |  | 83.82                                                                               | 56.49 | 147.00 | 161.17 |  |
| 58                                                                                | 77.62 | 55.93 | 148.00 | 142.13 | 81.92                                                                             | 57.10 | 148.00 | 154.64 |  | 83.98                                                                               | 57.50 | 148.00 | 160.95 |  |
| 59                                                                                | 77.96 | 56.96 | 149.00 | 141.70 | 82.14                                                                             | 58.12 | 149.00 | 154.36 |  | 84.15                                                                               | 58.51 | 149.00 | 160.75 |  |
| 60°                                                                               | 78.30 | 58.00 | 150.00 | 141.29 | 82.37                                                                             | 59.13 | 150.00 | 154.10 |  | 84.32                                                                               | 59.52 | 150.00 | 160.55 |  |

# ELENCO ACCESSORI E GUARNIZIONI



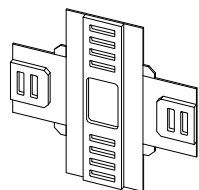
## ACCESSORIES AND GASKETS LIST

**Accessori - Accessory**

|                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>art. 100-1213</b></p> <p>INCONTRO CHIUSURA<br/>PER APERTURE A SPORGERE</p> <p><i>CLOSING REST PLATE FOR<br/>AWNING WINDOWS</i></p>                          |  <p><b>art. 505-0599</b></p> <p>CAVALLOTTO PER TRAVERSI</p> <p><i>TRANSOM "T-JOINT"</i></p>                                                                                                                                     |
|  <p><b>art. 100-1394</b></p> <p>NOTTOLINO DI CHIUSURA<br/>REGISTRABILE</p> <p><i>ADJUSTABLE CLOSING PIN</i></p>                                                    |  <p><b>art. 153-0022G</b></p> <p>SQUADRETTA DI ALLINEAMENTO<br/>TUBOLARITA' ESTERNA ANTE<br/>A SPORGERE</p> <p><i>ALIGNING CORNER JOINT<br/>AWNING WINDOWS</i></p>                                                              |
|  <p><b>art. 100-2236</b></p> <p>BLOCCHETTO DI COLLEGAMENTO<br/>ASTA ALLA CREMONESE</p> <p><i>CREMONE CONNECTION<br/>BLOCK</i></p>                                 |  <p><b>art. 535-090.19</b></p> <p>GRANO CAVA ESAGONALE<br/>M4 x 8 INOX A2 PER<br/>SQUADRETTA 153-0022G</p> <p><i>HEXAGON SOCKET SET SCREW<br/>M4 x 8 INOX A2 FOR CORNER<br/>JOINT 153-0022G</i></p>                            |
|  <p><b>art. 100-4020</b></p> <p>RINVIO D'ANGOLO<br/>PER CHIUSURE PERIMETRALI</p> <p><i>ANGLE TRANSMISSION FOR<br/>PERIMETRAL CLOSURES</i></p>                    |  <p><b>art. 526-4338</b></p> <p>TAPPO TERMINALE IN GOMMA<br/>TERMOPLASTICA PER TRAVERSO<br/>19827</p> <p><i>END TRANSOM 19827 PLUG<br/>MADE BY: THERMOPLASTIC<br/>RUBBER</i></p>                                              |
|  <p><b>art. 100-5007</b></p> <p>CREMONESE "EURO" PER<br/>ANTA SPORGERE</p> <p><i>"EURO" CREMONE-BOLT<br/>AWNING WINDOWS</i></p>                                  |  <p><b>art. 526-4367</b></p> <p>TAPPO TERMINALE IN GOMMA<br/>TERMOPLASTICA PER TRAVERSI<br/>22628 - 22629</p> <p><i>END TRANSOM 22628 - 22629<br/>PLUG MADE BY: THERMOPLASTIC<br/>RUBBER</i></p>                              |
|  <p><b>art. 505-0335DX</b></p> <p>SQUADRETTA ALLUMINIO<br/>PRESSOFUSO PER ANTA<br/>SPORGERE</p> <p><i>DIE-CAST ALUMINIUM CORNER<br/>JOINT AWNING WINDOWS</i></p> |  <p><b>art. EA-0307</b></p> <p>TAPPO TERMINALE IN GOMMA<br/>TERMOPLASTICA PER TRAVERSI<br/>22628 - 22629 - 24583 - 24495</p> <p><i>END TRANSOM 22628 - 22629<br/>24583 - 24495 PLUG MADE<br/>BY: THERMOPLASTIC RUBBER</i></p> |

**N.B. PER GLI ACCESSORI DELLE APERTURE A BATTENTE VEDERE IL RELATIVO CATALOGO**  
**SEE THE PERTAINING CATALOGUE FOR ALL THE ACCESSORIES OF ONE LEAF OPENING**

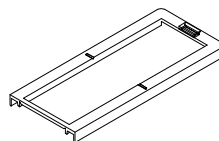
**Accessori - Accessory**



art. 526-4392

CROCE DI TENUTA  
IN EPDM

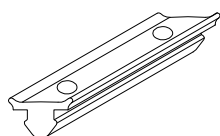
*EPDM TIGHTNESS  
CROSS*



art. EA-0308

FONDELLO DI FINITURA  
TRAVERSI 24583 - 24495

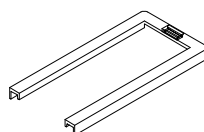
*FINISHING ELEMENT  
FOR TRANSOM 24583 - 24495*



art. 526-4405

ELEMENTO DI TENUTA TRA  
MONTANTI E TRAVERSI

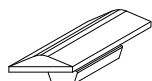
*MULLIONS / TRANSOMS  
CONNECTION*



art. 526-6454

FONDELLO DI FINITURA  
TRAVERSO 22628

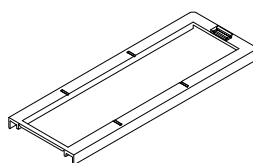
*FINISHING ELEMENT  
FOR TRANSOM 22628*



art. 526-6205

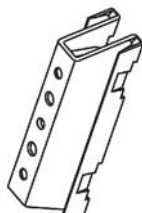
FRIZIONE IN PVC PER PROFILI  
CANNOTTO

*PVC FRICTION FOR TELESCOPIC  
TUBE*



art. 526-6450

FONDELLO DI FINITURA  
TRAVERSO 22629



art. 526-6390

ELEMENTO DI GIUNZIONE  
TRA MONTANTI

*MULLIONS CONNECTION*

VITE AUTOF. TE INOX A2  
PER FISSAGGIO PRESSORE  
*ST. STEEL A2 HEXAGON HEAD  
TAPPING SCREW FOR PRESSURE FAST.*

art. 535-090.20  
5,5 x 40 mm

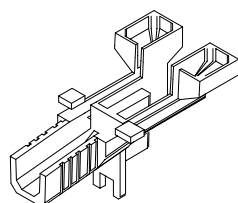
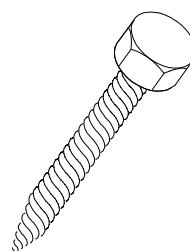
art. 535-090.21  
5,5 x 44 mm

art. 535-090.22  
5,5 x 47 mm

art. 535-090.23  
5,5 x 52 mm

art. 535-090.24  
5,5 x 54 mm

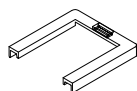
art. 535-090.25  
5,5 x 57 mm



art. 526-6391

TAPPO DRENAGGIO  
MONTANTI

*FINISHING DRAINAGE  
FOR TRANSOM 22629*



art. 526-6455

FONDELLO DI FINITURA  
TRAVERSO 19827

*FINISHING ELEMENT  
FOR TRANSOM 19827*



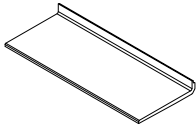
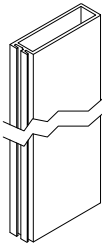
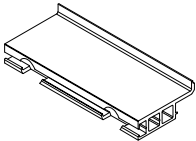
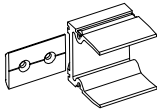
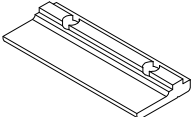
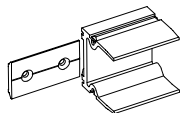
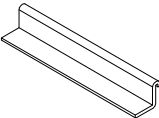
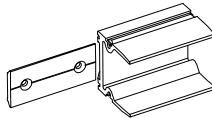
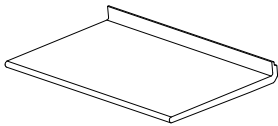
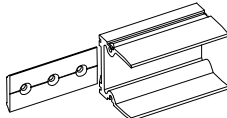
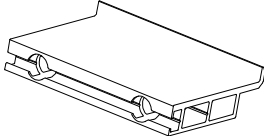
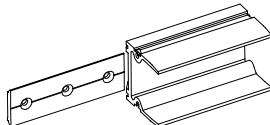
art. 535-090.27

VITE AUTOF. TE INOX A2 PER  
FISSAGGIO TRAVERSO

*ST. STEEL A2 SCREW FOR  
TRANSOM FIXING*

**N.B. PER GLI ACCESSORI DELLE APERTURE A BATTENTE VEDERE IL RELATIVO CATALOGO  
SEE THE PERTAINING CATALOGUE FOR ALL THE ACCESSORIES OF ONE LEAF OPENING**

**Accessori - Accessory**

|                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>art. 553-0032</p> <p>SUPPORTO VETRO</p> <p><i>GLASS SUPPORT</i></p>                                                                                |  <p>art. 553-0048</p> <p>CANNOTTO DI FISSAGGIO<br/>MONTANTI INCLINATI (L=3000)</p> <p><i>TELESCOPIC TUBE FOR<br/>SLOPED MULLIONS (L=3000)</i></p> |
|  <p>art. 553-0033</p> <p>SUPPORTO VETRO<br/>RINFORZATO</p> <p><i>REINFORCED<br/>GLASS SUPPORT</i></p>                                                  |  <p>art. 553-0052</p> <p>CAVALLOTTO A SLITTA<br/>PER TRAVERSO 19827</p> <p><i>SLIDING SUPPORT FOR<br/>TRANSOM 19827</i></p>                       |
|  <p>art. 553-0034</p> <p>SUPPORTO VETRO ESTERNO<br/>PER ANTA SPORGERE</p> <p><i>EXTERNAL GLASS SUPPORT<br/>AWNING WINDOWS</i></p>                     |  <p>art. EA-0309</p> <p>CAVALLOTTO A SLITTA<br/>PER TRAVERSO 24583</p> <p><i>SLIDING SUPPORT FOR<br/>TRANSOM 224583</i></p>                      |
|  <p>art. 553-0035</p> <p>SUPPORTO VETRO INTERNO<br/>PER ANTA SPORGERE</p> <p><i>INTERNAL GLASS SUPPORT<br/>AWNING WINDOWS</i></p>                    |  <p>art. 553-0053</p> <p>CAVALLOTTO A SLITTA<br/>PER TRAVERSO 22628</p> <p><i>SLIDING SUPPORT FOR<br/>TRANSOM 22628</i></p>                     |
|  <p>art. 553-0076</p> <p>SUPPORTO VETRO PER<br/>VETRI 48/50 mm</p> <p><i>GLASS SUPPORT FOR 48/50 mm<br/>THICKNESS GLASS</i></p>                       |  <p>art. EA-0310</p> <p>CAVALLOTTO A SLITTA<br/>PER TRAVERSO 24495</p> <p><i>SLIDING SUPPORT FOR<br/>TRANSOM 24495</i></p>                      |
|  <p>art. 553-0077</p> <p>SUPPORTO VETRO RINFORZATO<br/>PER VETRI 48/50 mm</p> <p><i>REINFORCED GLASS SUPPORT<br/>FOR 48/50 mm THICKNESS GLASS</i></p> |  <p>art. 553-0054</p> <p>CAVALLOTTO A SLITTA<br/>PER TRAVERSO 22629</p> <p><i>SLIDING SUPPORT FOR<br/>TRANSOM 22629</i></p>                     |

**N.B. PER GLI ACCESSORI DELLE APERTURE A BATTENTE VEDERE IL RELATIVO CATALOGO**  
**SEE THE PERTAINING CATALOGUE FOR ALL THE ACCESSORIES OF ONE LEAF OPENING**

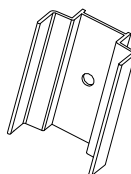
**Accessori - Accessory**



**art. EA-0199**

CANNOTTO TELESCOPICO PER  
UNIONE MONTANTI 24582

*TELESCOPIC TUBE FOR  
MULLIONS 24582 JUNCTION*



**art. 553-0047**

SUPPORTO PROFILO  
OGIVA 19822 E 24488

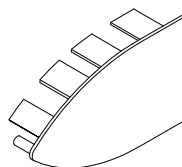
*SUPPORT OGIVE  
PROFILE 19822 AND  
24488*



**art. 553-0050**

CANNOTTO TELESCOPICO  
PER UNIONE MONTANTI 19813

*TELESCOPIC TUBE FOR  
MULLIONS 19813 JUNCTION*



**art. 580-121279**

TAPPO PER OGIVA 19822  
COLORE NERO (PA6)

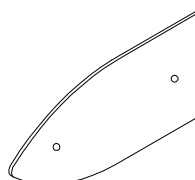
*PLUG FOR OGIVE PROFILE  
19822 BLACK COLOR (PA6)*



**art. EA-0194**

CANNOTTO TELESCOPICO PER  
UNIONE MONTANTI 24496

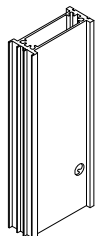
*TELESCOPIC TUBE FOR  
MULLIONS 24496 JUNCTION*



**art. EA-0130**

TAPPO PER OGIVA DA 24488  
(ALLUMINIO)

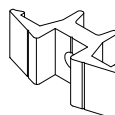
*PLUG FOR OGIVE PROFILE  
24488 (ALUMINIUM)*



**art. 553-0051**

CANNOTTO TELESCOPICO PER  
UNIONE MONTANTI 19801-19814

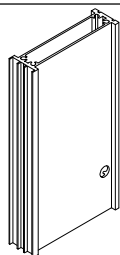
*TELESCOPIC TUBE FOR  
MULLIONS 19801 - 19814 JUNCT.*



**art. 553-0064**

ELEMENTO PER FISSAGGIO  
MONTANTE 19816 ALLA  
SOTTOSTRUTTURA

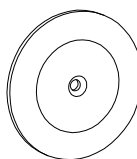
*ELEMENT FOR FIXING  
MULLION 19816 TO  
BEARING STRUCTURE*



**art. 553-0066**

CANNOTTO TELESCOPICO PER  
UNIONE MONTANTI 22670

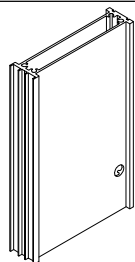
*TELESCOPIC TUBE FOR  
MULLIONS 22670 JUNCTION*



**art. 553-0065**

BORCHIA SUPPORTO  
VETRO

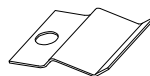
*GLASS SUPPORT  
STUD*



**art. EA-0189**

CANNOTTO TELESCOPICO PER  
UNIONE MONTANTI 24481

*TELESCOPIC TUBE FOR  
MULLIONS 24481 JUNCTION*



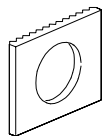
**art. EA-0107**

MOLLETTA PER FISSAGGIO  
LAMIERE DI RACCORDO

*CLIP FOR FIXING CONNECTING  
SHEET*

**N.B. PER GLI ACCESSORI DELLE APERTURE A BATTENTE VEDERE IL RELATIVO CATALOGO  
SEE THE PERTAINING CATALOGUE FOR ALL THE ACCESSORIES OF ONE LEAF OPENING**

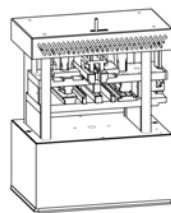
**Accessori - Accessory**



**art. EA-0197**

**ELEMENTO PER FISSAGGIO**

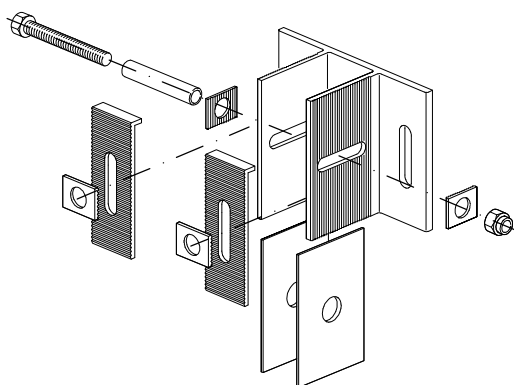
**FASTENING ELEMENT**



**art. 520-3160712**

**PUNZONATRICE LAVORAZIONE TRAVERSI**

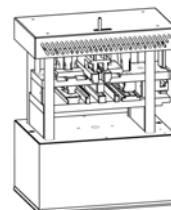
**TRANSOMES TOOLING  
PUNCHING MACHINE**



**art. EA-0171**

**STAFFA AGGANZIO  
STRUTTURA**

**WALL CONNECTION BRACKET**



**art. 520-3160761**

**PUNZONATRICE LAVORAZIONI VARIE**

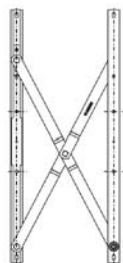
**VARIOUS TOOLING  
PUNCHING MACHINE**



**art. EU-0008**

**DIMA FORATURA  
CAVALLOTTI**

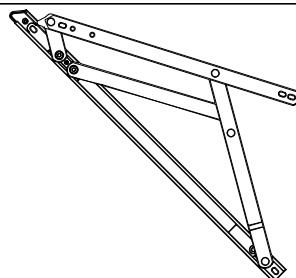
**DRILLING TEMPLATE FOR  
TRANSOM T-JOINT**



**art. 500-1990**

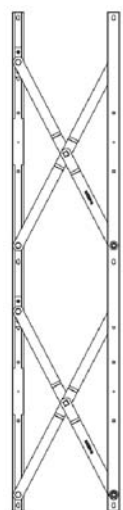
**COPPIA BRACCI PER  
APERTURA PARALLELO**

**ARM COUPLE FOR  
PARALLEL WINDOWS**



**COPPIA BRACCI PER  
APERTURA A SPORGERE**

**ARM COUPLE FOR  
AWNING WINDOWS**

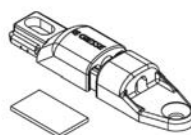


**art. 500-1991**

**COPPIA DOPPI BRACCI PER  
APERTURA PARALLELO**

**DOUBLE ARM COUPLE FOR  
PARALLEL WINDOWS**

| Codice braccio<br>Arm code | Lunghezza braccio<br>Arm length | Altezza massima<br>Max height | Larghezza massima<br>Max width | Peso massimo<br>Max weight |
|----------------------------|---------------------------------|-------------------------------|--------------------------------|----------------------------|
| 500-8537000N               | 414,5 mm.                       | 1200 mm.                      | 1400 mm.                       | 88,5 Kg.                   |
| 500-8538000N               | 458,5 mm.                       | 1400 mm.                      | 1400 mm.                       | 102 Kg.                    |
| 500-8541000N               | 602,5 mm.                       | 1800 mm.                      | 1500 mm.                       | 139 Kg.                    |
| 500-8542000N               | 707,5 mm.                       | 2000 mm.                      | 1500 mm.                       | 155 Kg.                    |

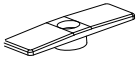
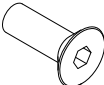
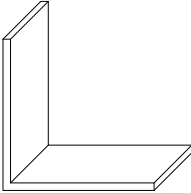
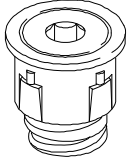


**art. 500-2006K**

**COPPIA REGOLATORE  
DI ALTEZZA BRACCI**

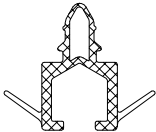
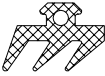
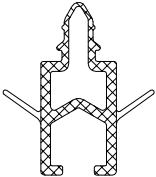
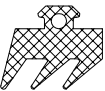
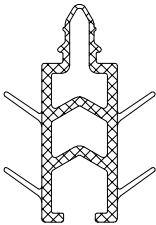
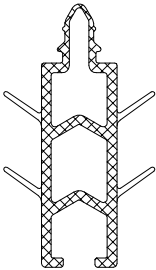
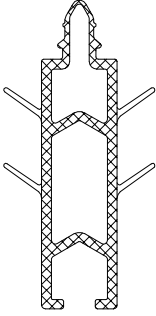
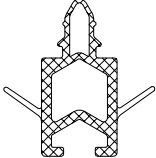
**COUPLE FOR ARMS HEIGHT  
ADJUSTMENT DEVICE**

**Accessori - Accessory**

|                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>art. 580-121280</p> <p>RONDELLA PER DILATAZIONE<br/>PRESSORE</p> <p><i>PRESSURE PLATE<br/>DILATATION WASHER</i></p>                                        |  <p>art. 581-BGA2A204</p> <p>VITE INOX M8x16 PER<br/>FISSAGGIO ART. 553-0048</p> <p><i>SCREW M8x16 INOX FOR<br/>FIXING ITEM 553-0048</i></p>          |
|  <p>art. 576-EF048</p> <p>SQUADRETTA ALLINEAMENTO<br/>PROFILO TTE 163 - 165 - 166</p> <p><i>ALIGNEMENT CORNER<br/>JOINT PROFILE<br/>TTE163 - 165 - 166</i></p> |  <p>art. 581-AC0010</p> <p>RONDELLA SAGOMATA IN ACCIAIO<br/>INOX PER VITE 581-BGA2A204</p> <p><i>SHAPED WASHER INOX FOR<br/>SCREW 581-BGA2A204</i></p> |
|  <p>art. EA-0311</p> <p>ESPANSORE PER FISSAGGIO<br/>TELAJ SPORGERE</p> <p><i>ADJUSTING EXPANDER<br/>AWNING FRAMES</i></p>                                     |                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                         |
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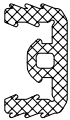
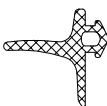
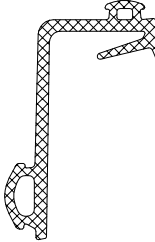
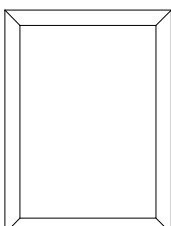
**N.B. PER GLI ACCESSORI DELLE APERTURE A BATTENTE VEDERE IL RELATIVO CATALOGO  
SEE THE PERTAINING CATALOGUE FOR ALL THE ACCESSORIES OF ONE LEAF OPENING**

**Guarnizioni - Gaskets**

|                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>art. EG-0009</b><br/>GUARNIZ. DISTANZIALE DA mm.9<br/>MATERIALE: PVC - BARRE DA 3,0 m<br/><br/><i>SPACING GASKET 9 mm.</i><br/><i>MATERIAL: PVC - 3,0 mt BARS</i></p>     |  <p><b>art. 526-811.4</b><br/>GUARNIZIONE ESTERNA DA mm.4<br/>MATERIALE: E.P.D.M.<br/><br/><i>EXTERNAL GASKET 4 mm.</i><br/><i>MATERIAL: E.P.D.M.</i></p>                                            |
|  <p><b>art. EG-0005</b><br/>GUARNIZ. DISTANZIALE DA mm.15<br/>MATERIALE: PVC - BARRE DA 3,0 m<br/><br/><i>SPACING GASKET 15 mm.</i><br/><i>MATERIAL: PVC - 3,0 mt BARS</i></p>   |  <p><b>art. 526-812.4</b><br/>GUARNIZIONE ESTERNA DA mm.6<br/>MATERIALE: E.P.D.M.<br/><br/><i>EXTERNAL GASKET 6 mm.</i><br/><i>MATERIAL: E.P.D.M.</i></p>                                            |
|  <p><b>art. EG-0006</b><br/>GUARNIZ. DISTANZIALE DA mm.21<br/>MATERIALE: PVC - BARRE DA 3,0 m<br/><br/><i>SPACING GASKET 21 mm.</i><br/><i>MATERIAL: PVC - 3,0 mt BARS</i></p>  |  <p><b>art. 126-1164</b><br/>GUARNIZ. APPOGGIO VETRO DA mm.2<br/>MATERIALE: COPLANE COESTRUSO<br/><br/><i>GLASS SUPPORTING GASKET 2 mm.</i><br/><i>MATERIAL: CO-EXTRUDED</i></p>                    |
|  <p><b>art. EG-0007</b><br/>GUARNIZ. DISTANZIALE DA mm.27<br/>MATERIALE: PVC - BARRE DA 3,0 m<br/><br/><i>SPACING GASKET 27 mm.</i><br/><i>MATERIAL: PVC - 3,0 mt BARS</i></p> |  <p><b>art. 126-1006</b><br/>GUARNIZ. APPOGGIO VETRO DA mm.3<br/>MATERIALE: COPLANE COESTRUSO<br/><br/><i>GLASS SUPPORTING GASKET 3 mm.</i><br/><i>MATERIAL: CO-EXTRUDED</i></p>                   |
|  <p><b>art. EG-0008</b><br/>GUARNIZ. DISTANZIALE DA mm.33<br/>MATERIALE: PVC - BARRE DA 3,0 m<br/><br/><i>SPACING GASKET 33 mm.</i><br/><i>MATERIAL: PVC - 3,0 mt BARS</i></p> |  <p><b>art. 126-1205</b><br/>GUARNIZ. APPOGGIO VETRO DA mm.4<br/>MATERIALE: COPLANE COESTRUSO<br/><br/><i>GLASS SUPPORTING GASKET 4 mm.</i><br/><i>MATERIAL: CO-EXTRUDED</i></p>                   |
|  <p><b>art. EG-0035</b><br/>GUARNIZ. DISTANZIALE DA mm.13<br/>MATERIALE: PVC - BARRE DA 3,0 m<br/><br/><i>SPACING GASKET 13 mm.</i><br/><i>MATERIAL: PVC - 3,0 mt BARS</i></p> |  <p><b>art. 126-2800</b><br/>GUARNIZ. ESTERNA DI<br/>APPOGGIO VETRO DA mm.2<br/>MATERIALE: E.P.D.M.<br/><br/><i>WATERTIGHTNESS GASKET<br/>FOR AWNING WINDOWS</i><br/><i>MATERIAL: E.P.D.M.</i></p> |

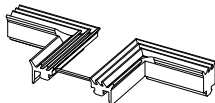
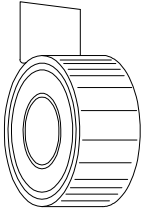
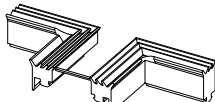
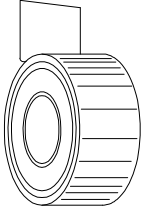
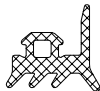
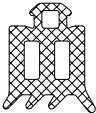
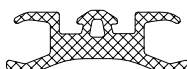
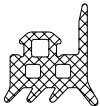
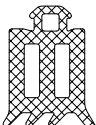
**N.B. PER LE GUARNIZIONI DELLE APERTURE A BATTENTE VEDERE IL RELATIVO CATALOGO  
SEE THE PERTAINING CATALOGUE FOR ALL THE GASKETS OF ONE LEAF OPENING**

**Guarnizioni - Gaskets**

|                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>art. 126-2194</b><br/>GUARNIZ. ESTERNA DI<br/>APPOGGIO VETRO DA mm.3-4<br/>MATERIALE: E.P.D.M.<br/><i>WATERTIGHTNESS GASKET<br/>FOR AWNING WINDOWS<br/>MATERIAL: E.P.D.M.</i></p> |  <p><b>art. 526-7026</b><br/>GUARNIZIONE IN GOMMA SILICONICA<br/>PER APPOGGIO VETRI IN ANTE<br/>CON APERTURA A SPORGERE<br/>N.B.: utilizzare solo sigillanti<br/>compatibili con questa miscela</p> <p><i>SILICONE RUBBER GASKET FOR<br/>PLACING GLASSES IN LEAVES<br/>FOR AWNING WINDOWS<br/>Note: use only sealant compatible<br/>with this type of mixture</i></p> |
|  <p><b>art. 126-2195</b><br/>GUARNIZ. ESTERNA DI<br/>APPOGGIO VETRO DA mm.5-6<br/>MATERIALE: E.P.D.M.<br/><i>WATERTIGHTNESS GASKET<br/>FOR AWNING WINDOWS<br/>MATERIAL: E.P.D.M.</i></p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|  <p><b>art. 126-2197</b><br/>GUARNIZ. ESTERNA DI<br/>APPOGGIO VETRO DA mm.7-8<br/>MATERIALE: E.P.D.M.<br/><i>WATERTIGHTNESS GASKET<br/>FOR AWNING WINDOWS<br/>MATERIAL: E.P.D.M.</i></p> |  <p><b>art. 526-20370</b><br/>GUARNIZIONE DI APPOGGIO PER<br/>SIGILLATURA ESTERNA<br/>MATERIALE: E.P.D.M. COMPATIBILE<br/>CON SILICONE STRUTTURALE<br/><i>EXTERNAL SEALANT<br/>SUPPORT GASKET<br/>MATERIAL: E.P.D.M. COMPATIBLE<br/>WITH STRUCTURAL SILICONE</i></p>                                                                                                  |
|  <p><b>art. 126-2284</b><br/>GUARNIZ. DI APPOGGIO<br/>PER TELAI APERTURE<br/>MATERIALE: E.P.D.M.<br/><i>SUPPORTING GASKET<br/>FOR FRAME OPENING<br/>MATERIAL: E.P.D.M.</i></p>         |  <p><b>art. 545-DU903</b><br/>GUARNIZIONE DI TENUTA<br/>ANTE A SPORGERE<br/>MATERIALE: E.P.D.M.<br/><i>WATERTIGHTNESS GASKET<br/>FOR AWNING WINDOWS<br/>MATERIAL: E.P.D.M.</i></p>                                                                                                                                                                                  |
|  <p><b>art. 126-2666</b><br/>GUARN. DI BATTUTA PER APERTURA<br/>MATERIALE: E.P.D.M.<br/><i>RABBIT GASKET FOR OPENING<br/>MATERIAL: E.P.D.M.</i></p>                                    |  <p><b>art. 545-DU904</b><br/>GUARNIZIONE DI CONTRASTO<br/>SU TENUTA ANTE A SPORGERE<br/>MATERIALE: E.P.D.M.<br/><i>OPPOSING WATERTIGHTNESS<br/>GASKET FOR AWNING WINDOWS<br/>MATERIAL: E.P.D.M.</i></p>                                                                                                                                                            |
|  <p><b>art. 526-20366</b><br/>GUARNIZIONE DI GIUNZIONE<br/>SEMI MONTANTE<br/>MATERIALE: E.P.D.M.<br/><i>PARTLY MULLION<br/>JUNCTION GASKET<br/>MATERIAL: E.P.D.M.</i></p>              |  <p><b>art. 545-T904</b><br/>COSTO VULCANIZZAZIONE<br/>TELAIO GUARNIZIONE 545-DU904<br/><br/><i>VULCANIZED FRAME COST<br/>GASKET 545-DU904</i></p>                                                                                                                                                                                                                 |

**N.B. PER LE GUARNIZIONI DELLE APERTURE A BATTENTE VEDERE IL RELATIVO CATALOGO  
SEE THE PERTAINING CATALOGUE FOR ALL THE GASKETS OF ONE LEAF OPENING**

**Guarnizioni - Gaskets**

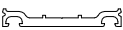
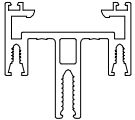
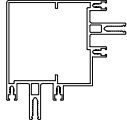
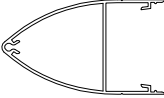
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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>art. 545-DU2300</b><br/>COPPIA ANGOLI VULCANIZZATI<br/>GUARNIZIONI INTERNE<br/>545-DU911+545-DU912<br/><i>VULCANIZED CORNER COUPLE<br/>INTERNAL GASKETS<br/>545-DU911+545-DU912</i></p> |  <p><b>art. 112-EKOBIT</b><br/>NASTRO AUTOADESIVO A FREDDO<br/>PER SIGILLATURA PRESSORE<br/>MATERIALE: GOMMA BITUMINOSA<br/>CON FOGLIO DI ALLUMINIO<br/>PRODOTTO: ALU-BITUTAPE<br/>Dim. mm 44 x 10 ml Sp. 1,5 mm<br/><br/><i>COLD PRESSURE SENSITIVE<br/>ADHESIVE TAPE FOR PRESSER<br/>SEALING MATERIAL: BITUMINOUS<br/>RUBBER<br/>WITH ALUMINIUM SHEET<br/>PRODUCT: ALU-BITUTAPE<br/>Dim. mm 44 x 10 ml Thk. 1,5 mm</i></p>          |
|  <p><b>art. 545-DU2301</b><br/>COPPIA ANGOLI VULCANIZZATI<br/>GUARNIZIONI INTERNE<br/>545-DU913+545-DU914<br/><i>VULCANIZED CORNER COUPLE<br/>INTERNAL GASKETS<br/>545-DU913+545-DU914</i></p> |  <p><b>art. 112-EKOBIT200</b><br/>NASTRO AUTOADESIVO A FREDDO<br/>PER RACCORDI E SIGILLATURE.<br/>MATERIALE: GOMMA BITUMINOSA<br/>CON FOGLIO DI ALLUMINIO<br/>PRODOTTO: ALU-BITUTAPE<br/>Dim. mm 200 x 10 ml Sp. 1,5 mm<br/><br/><i>COLD PRESSURE SENSITIVE<br/>ADHESIVE TAPE FOR PRESSER<br/>SEALING MATERIAL: BITUMINOUS<br/>RUBBER<br/>WITH ALUMINIUM SHEET<br/>PRODUCT: ALU-BITUTAPE<br/>Dim. mm 200 x 10 ml Thk. 1,5 mm</i></p> |
|  <p><b>art. 545-DU911</b><br/>GUARNIZIONE INTERNA<br/>TRAVERSO DA mm.3,5<br/>MATERIALE: E.P.D.M.<br/><i>TRANSOM INTERNAL<br/>GASKET 3,5 mm.<br/>MATERIAL: E.P.D.M.</i></p>                   |  <p><b>art. EG-0004</b><br/>GUARNIZIONE DI VETRAZIONE<br/>ADESIVA DA 2,5 mm<br/><br/><i>GLAZING ADHESIVE<br/>GASKET 2,5 mm.</i></p>                                                                                                                                                                                                                                                                                                 |
|  <p><b>art. 545-DU912</b><br/>GUARNIZIONE INTERNA<br/>MONTANTE DA mm.10<br/>MATERIALE: E.P.D.M.<br/><i>MULLION INTERNAL<br/>GASKET 10 mm.<br/>MATERIAL: E.P.D.M.</i></p>                    |  <p><b>art. EG-0048</b><br/>GUARNIZIONE COPRIFUGA<br/>ESTERNA<br/><br/><i>EXTERNAL JOINT COVER<br/>GASKET</i></p>                                                                                                                                                                                                                                                                                                                  |
|  <p><b>art. 545-DU913</b><br/>GUARNIZIONE INTERNA<br/>TRAVERSO DA mm.5,5<br/>MATERIALE: E.P.D.M.<br/><i>TRANSOM INTERNAL<br/>GASKET 5,5 mm.<br/>MATERIAL: E.P.D.M.</i></p>                  | <p><b>N.B. PER LE GUARNIZIONI DELLE APERTURE A BATTENTE VEDERE IL RELATIVO CATALOGO<br/>SEE THE PERTAINING CATALOGUE FOR ALL THE GASKETS OF ONE LEAF OPENING</b></p>                                                                                                                                                                                                                                                                                                                                                   |
|  <p><b>art. 545-DU914</b><br/>GUARNIZIONE INTERNA<br/>MONTANTE DA mm.12<br/>MATERIALE: E.P.D.M.<br/><i>MULLION INTERNAL<br/>GASKET 12 mm.<br/>MATERIAL: E.P.D.M.</i></p>                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

# ELENCO PROFILI

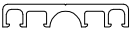
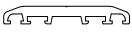
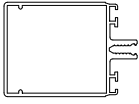
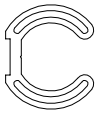
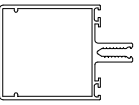
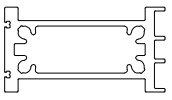
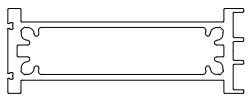
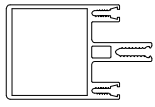
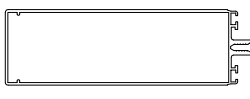
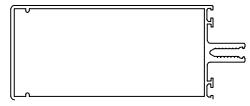


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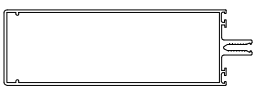
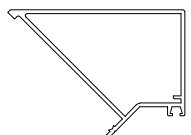
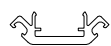
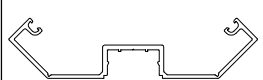
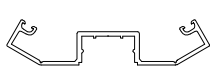
**Elenco Profili - Profiles List**

| <b>SIGLA<br/>CODE</b> | <b>PROFILO<br/>PROFILE</b>                                                          | <b>PESO Kg/m<br/>WEIGHT Kg/m</b> | <b>IMPIEGO<br/>USE</b>                                                                             | <b>PAGINA<br/>PAGE</b> |
|-----------------------|-------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------|------------------------|
| 4162                  |    | 0.308                            | Copertina a scatto altezza mm.16<br><i>Snap cover - height 16 mm.</i>                              | 4-13                   |
| 6086                  |    | 0.348                            | Copertina a scatto altezza mm.19<br><i>Snap cover - height 19 mm.</i>                              | 4-14                   |
| 6405                  |    | 0.159                            | Asta di comando chiusure<br><i>Closing rod</i>                                                     | 4-28                   |
| 9107                  |    | 0.428                            | Profilo per battiscopa<br><i>Profile for skirting</i>                                              | 4-15                   |
| 9108                  |   | 0.470                            | Copertina a scatto per facciate inclinate<br><i>Snap cover for sloped curtain walling</i>          | 4-14                   |
| 19801                 |  | 3.376                            | Montante da mm.150<br><i>150 mm. mullion</i>                                                       | 4-05                   |
| 19803                 |  | 0.452                            | Pressore<br><i>Pressure plate</i>                                                                  | 4-13                   |
| 19813                 |  | 2.940                            | Montante da mm.110<br><i>110 mm. mullion</i>                                                       | 4-03                   |
| 19814                 |  | 4.669                            | Montante da mm.175<br><i>175 mm. mullion</i>                                                       | 4-06                   |
| 19816                 |  | 1.517                            | Montante per sottostruttura ECU 50 GLASS R<br><i>Mullion with bearing structure ECU 50 GLASS R</i> | 4-23                   |
| 19818                 |  | 3.470                            | Montante d'angolo a 90°<br><i>Corner mullion 90°</i>                                               | 4-22                   |
| 19822                 |  | 1.022                            | Copertina a scatto ad ogiva da 86 mm<br><i>Snap cover - ogive shaped</i>                           | 4-15                   |

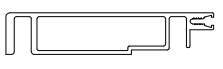
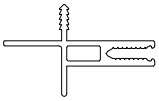
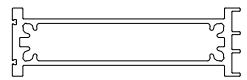
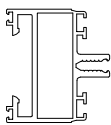
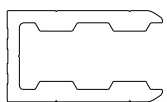
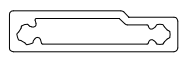
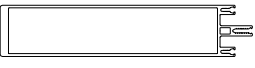
**Elenco Profili - Profiles List**

| <b>SIGLA<br/>CODE</b> | <b>PROFILO<br/>PROFILE</b>                                                          | <b>PESO Kg/m<br/>WEIGHT Kg/m</b> | <b>IMPIEGO<br/>USE</b>                                                          | <b>PAGINA<br/>PAGE</b> |
|-----------------------|-------------------------------------------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------|------------------------|
| 19824                 |    | 0.558                            | Pressore per coperture<br><i>Covering pressure plate</i>                        | 4-17                   |
| 19825                 |    | 0.548                            | Pressore per coperture<br><i>Covering pressure plate</i>                        | 4-17                   |
| 19826                 |    | 0.462                            | Copertina a scatto altezza mm. 30<br><i>Snap cover - height 30 mm.</i>          | 4-14                   |
| 19827                 |    | 1.308                            | Traverso da 60 mm.<br><i>60 mm. transom</i>                                     | 4-09                   |
| 19828                 |   | 1.415                            | Cavallotto per angoli variabili<br><i>Adjustable corner T-joint</i>             | 4-26                   |
| 22611                 |  | 1.318                            | Traverso da 60 mm. di secondo livello<br><i>60 mm. transom (second level)</i>   | 4-11                   |
| 22613                 |  | 2.907                            | Profilo per canotto da 85 mm<br><i>85 mm. insert profile</i>                    | 4-27                   |
| 22614                 |  | 3.555                            | Profilo per canotto da 125 mm<br><i>125 mm. insert profile</i>                  | 4-29                   |
| 22615                 |  | 2.090                            | Montante da mm.60<br><i>60 mm. mullion</i>                                      | 4-01                   |
| 22628                 |  | 1.827                            | Traverso da 114 mm.<br><i>114 mm. transom</i>                                   | 4-10                   |
| 22629                 |  | 2.216                            | Traverso da 154 mm.<br><i>154 mm. transom</i>                                   | 4-11                   |
| 22630                 |  | 1.838                            | Traverso da 107 mm. di secondo livello<br><i>107 mm. transom (second level)</i> | 4-12                   |

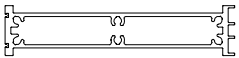
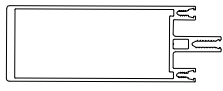
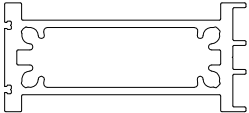
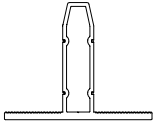
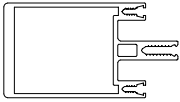
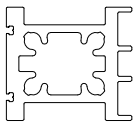
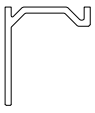
**Elenco Profili - Profiles List**

| <b>SIGLA<br/>CODE</b> | <b>PROFILO<br/>PROFILE</b>                                                          | <b>PESO Kg/m<br/>WEIGHT Kg/m</b> | <b>IMPIEGO<br/>USE</b>                                                                                | <b>PAGINA<br/>PAGE</b> |
|-----------------------|-------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------|------------------------|
| 22631                 |    | 2.226                            | Traverso da 147 mm. di secondo livello<br><i>147 mm. transom (second level)</i>                       | 4-12                   |
| 22632                 |    | 1.528                            | Profilo supplementare per angoli negativi a 90°<br><i>Supplementary profile for inner 90° corner</i>  | 4-21                   |
| 22633                 |    | 0.547                            | Pressore per angoli negativi a 90°<br><i>Pressure plate for inner 90° corner</i>                      | 4-21                   |
| 22634                 |    | 0.302                            | Copertina a scatto per angoli negativi a 90°<br><i>Snap cover for inner 90° corner</i>                | 4-22                   |
| 22636                 |    | 0.279                            | Copertina a scatto altezza mm. 13<br><i>Snap cover - height 13 mm.</i>                                | 4-13                   |
| 22637                 |  | 0.109                            | Porta guarnizione per facciate inclinate a 45°<br><i>Gasket carrier for 45° inclined curtain wall</i> | 4-20                   |
| 22649                 |  | 0.636                            | Traverso da 6 mm.<br><i>6 mm. transom</i>                                                             | 4-09                   |
| 22662                 |  | 1.285                            | Pressore montante per angoli a 45°<br><i>Mullion pressure plate 45° corner</i>                        | 4-19                   |
| 22663                 |  | 0.167                            | Copertina a scatto per facciate inclinate<br><i>Snap cover for inclined curtain wall</i>              | 4-18                   |
| 22664                 |  | 0.106                            | Porta guarnizione per facciate inclinate a 30°<br><i>Gasket carrier for 30° inclined curtain wall</i> | 4-19                   |
| 22665                 |  | 1.094                            | Pressore montante per angoli a 30°<br><i>Mullion pressure plate 30° corner</i>                        | 4-18                   |
| 22666                 |  | 0.104                            | Porta guarnizione per facciate inclinate a 15°<br><i>Gasket carrier for 15° inclined curtain wall</i> | 4-19                   |

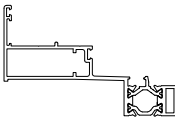
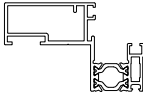
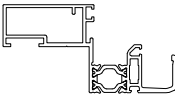
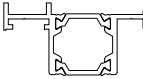
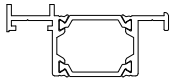
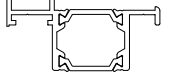
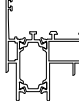
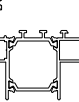
**Elenco Profili - Profiles List**

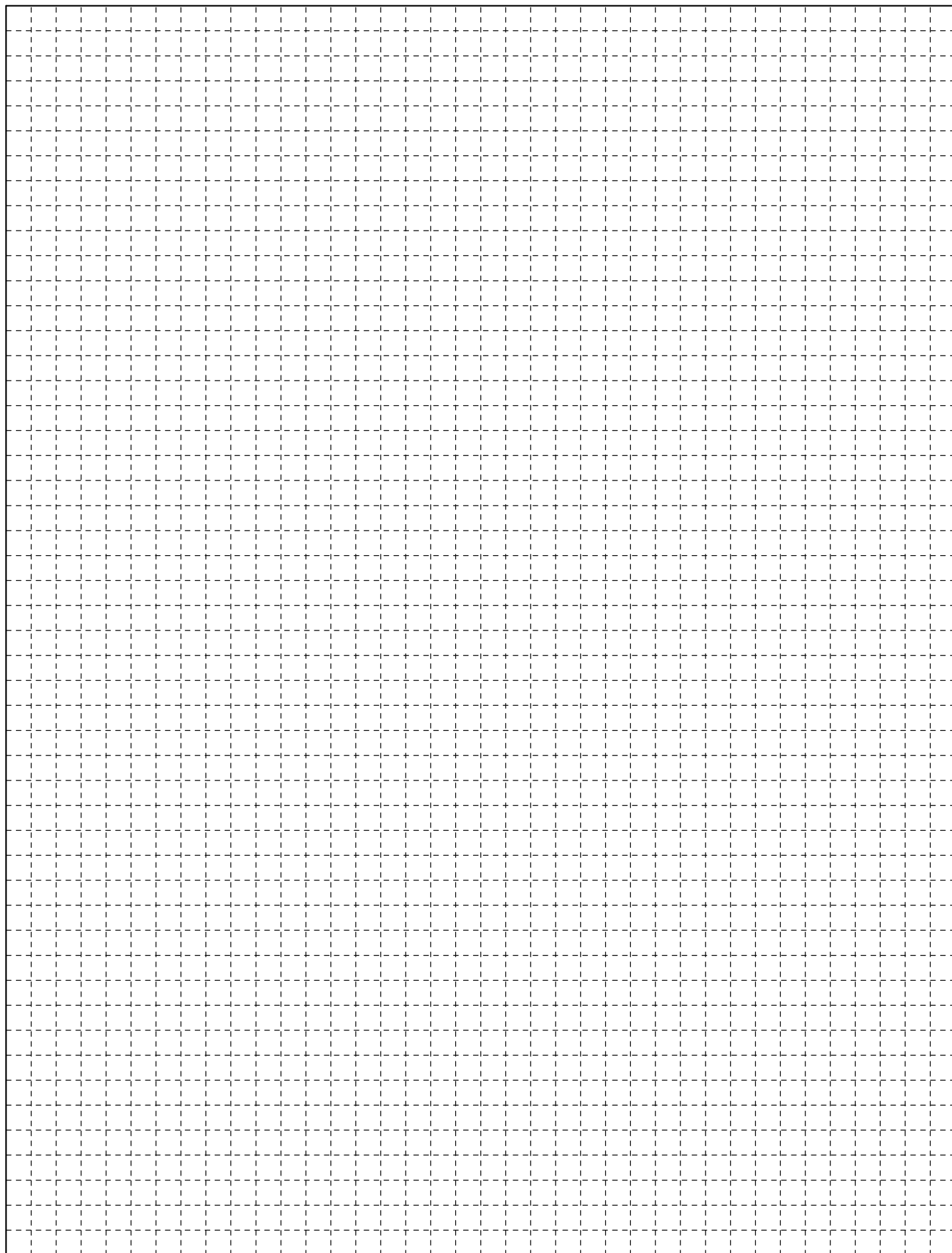
| <b>SIGLA<br/>CODE</b> | <b>PROFILO<br/>PROFILE</b>                                                          | <b>PESO Kg/m<br/>WEIGHT Kg/m</b> | <b>IMPIEGO<br/>USE</b>                                                                                 | <b>PAGINA<br/>PAGE</b> |
|-----------------------|-------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------|------------------------|
| 22667                 |    | 0.917                            | Pressore montante per angoli a 15°<br><i>Mullion pressure plate 15° corner</i>                         | 4-18                   |
| 22670                 |    | 4.356                            | Montante da mm.200<br><i>200 mm. mullion</i>                                                           | 4-07                   |
| 22671                 |    | 1.676                            | Semi montante per angolo variabile<br><i>Partly mullion for variable angle</i>                         | 4-24                   |
| 22672                 |    | 0.856                            | Semi montante per angolo variabile<br><i>Partly mullion for variable angle</i>                         | 4-26                   |
| 22673                 |   | 4.633                            | Profilo per canotto da 176 mm<br><i>176 mm. insert profile</i>                                         | 4-30                   |
| 22674                 |  | 1.318                            | Traverso per sottostruttura (EKU 50 GLASS R)<br><i>Transom with bearing structure (EKU 50 GLASS R)</i> | 4-23                   |
| 22697                 |  | 3.709                            | Cannotto per aggancio montante piramide<br><i>Insert profile for pyramid mullion</i>                   | 4-32                   |
| 22698                 |  | 0.688                            | Profilo compensatore per canotto 22697<br><i>Compensating profile for insert 22697</i>                 | 4-32                   |
| 22699                 |  | 1.351                            | Cannotto per montante angolo variabile 22671<br><i>Insert profile for variable angle mullion 22671</i> | 4-25                   |
| 22700                 |  | 0.205                            | Profilo riduttore vetro<br><i>Reducer glass profile</i>                                                | 4-20                   |
| 24480                 |  | 0.481                            | Pressore ribassato per coperture<br><i>Reduced covering pressure plate</i>                             | 4-17                   |
| 24481                 |  | 5.213                            | Montante da mm.230<br><i>230 mm. mullion</i>                                                           | 4-08                   |

**Elenco Profili - Profiles List**

| <b>SIGLA<br/>CODE</b> | <b>PROFILO<br/>PROFILE</b>                                                          | <b>PESO Kg/m<br/>WEIGHT Kg/m</b> | <b>IMPIEGO<br/>USE</b>                                                                       | <b>PAGINA<br/>PAGE</b> |
|-----------------------|-------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------------------|------------------------|
| 24482                 |    | 5.028                            | Profilo per canotto da 202 mm<br><i>202 mm Insert profile</i>                                | 4-31                   |
| 24488                 |    | 2.126                            | Copertina a scatto ad ogiva da 180 mm<br><i>180 mm Snap cover - ogive shaped</i>             | 4-16                   |
| 24495                 |    | 1.976                            | Traverso da 129 mm<br><i>129 mm transom</i>                                                  | 4-10                   |
| 24496                 |    | 3.110                            | Montante da 125 mm<br><i>125 mm mullion</i>                                                  | 4-04                   |
| 24497                 |   | 3.151                            | Profilo per canotto da 100 mm<br><i>100 mm insert profile</i>                                | 4-28                   |
| 24581                 |  | 9.431                            | Canotto per fissaggio superiore/inferiore<br><i>Insert profile for lower/upper anchoring</i> | 4-33                   |
| 24582                 |  | 2.543                            | Montante da 75 mm<br><i>75 mm mullion</i>                                                    | 4-02                   |
| 24583                 |  | 1.490                            | Traverso da 79 mm<br><i>79mm transom</i>                                                     | 4-09                   |
| 24584                 |  | 2.341                            | Profilo per canotto da 50 mm<br><i>50 mm insert profile</i>                                  | 4-27                   |
| 24585                 |  | 0.230                            | Profilo per raccordo inferiore<br><i>Profile building lower connection</i>                   | 4-34                   |
|                       |                                                                                     |                                  |                                                                                              |                        |
|                       |                                                                                     |                                  |                                                                                              |                        |

**Elenco Profili - Profiles List**

| <b>SIGLA<br/>CODE</b> | <b>PROFILO<br/>PROFILE</b>                                                          | <b>PESO Kg/m<br/>WEIGHT Kg/m</b> | <b>IMPIEGO<br/>USE</b>                                                                                                   | <b>PAGINA<br/>PAGE</b> |
|-----------------------|-------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------|
| TTE156                |    | 1.031                            | Distanziatore a muro a taglio termico<br><i>Thermal break wall spacer</i>                                                | 4-34                   |
| TTE160                |    | 1.356                            | Telaio fisso per aperture a sporgere<br><i>Fixed frame for awning windows</i>                                            | 4-34                   |
| TTE161                |    | 1.298                            | Telaio apribile strutturale per aperture a sporgere<br><i>Structural leaf frame for awning window</i>                    | 4-35                   |
| TTE162                |    | 1.515                            | Telaio apribile per aperture a sporgere<br><i>Leaf frame for awning window</i>                                           | 4-35                   |
| TTE163                |   | 0.999                            | Telaio per inserimento porte serie<br>EKU 66 TT PORTE<br><i>Frame for door leaf insertion series ECU 66 TT PORTE</i>     | 4-37                   |
| TTE165                |  | 1.049                            | Telaio per inserimento porte serie<br>EKU 78 TT<br><i>Frame for door leaf insertion series ECU 78 TT</i>                 | 4-37                   |
| TTE166                |  | 1.015                            | Telaio per inserimento porte serie<br>EKU 62 TT<br><i>Frame for door leaf insertion series ECU 62 TT</i>                 | 4-38                   |
| TTE556                |  | 1.357                            | Telaio per inserimento anta apribile<br>serie ECU 52 TT<br><i>Frame for openable leaf insertion<br/>series ECU 52 TT</i> | 4-36                   |
| TTE756                |  | 1.453                            | Telaio per inserimento anta apribile<br>serie ECU 66 TT<br><i>Frame for openable leaf insertion<br/>series ECU 66 TT</i> | 4-36                   |
|                       |                                                                                     |                                  |                                                                                                                          |                        |
|                       |                                                                                     |                                  |                                                                                                                          |                        |
|                       |                                                                                     |                                  |                                                                                                                          |                        |

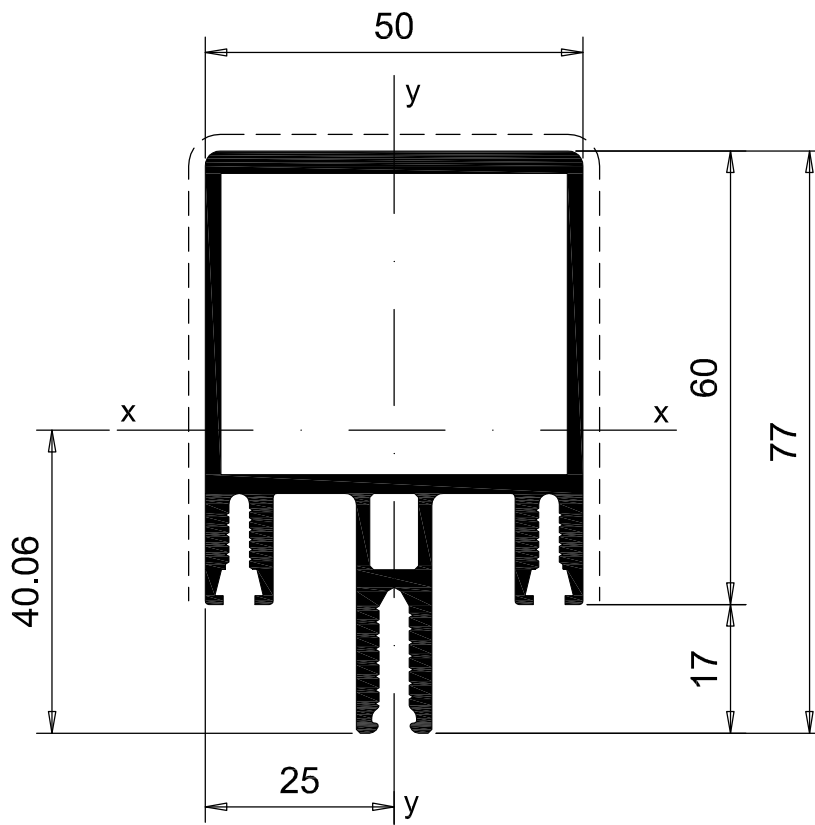


# PROFILI IN SCALA 1:1



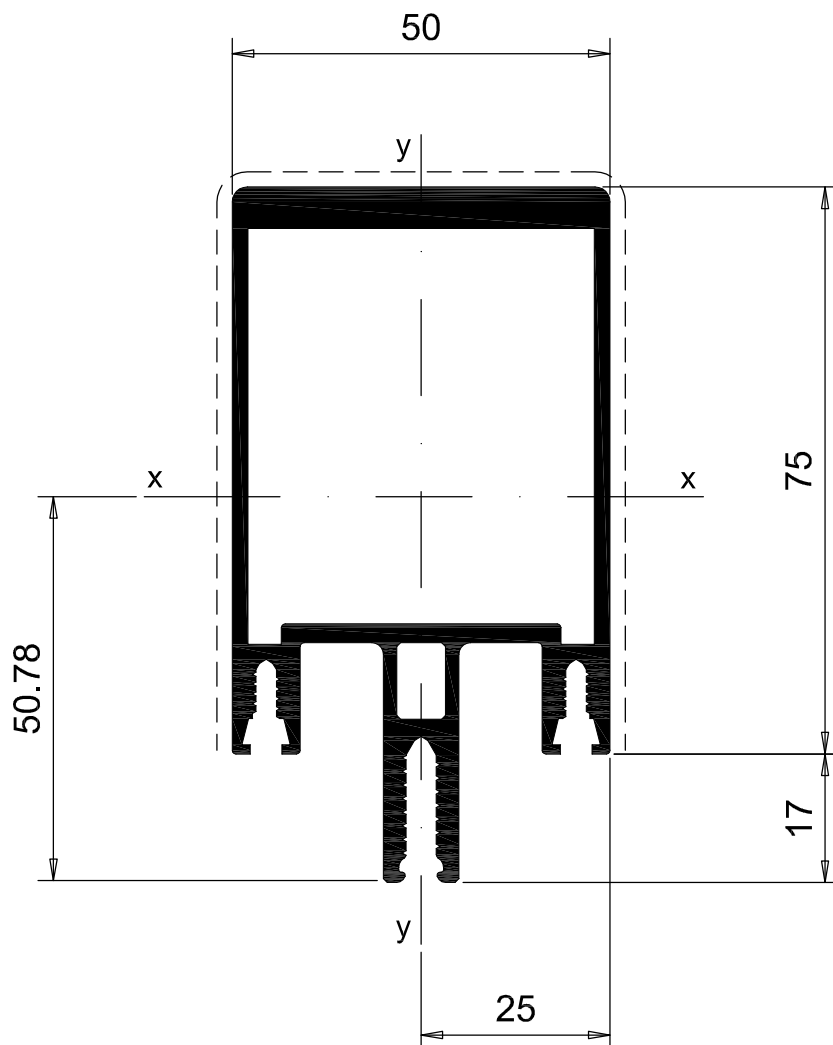
## PROFILE 1:1

**Profili 1:1 - Profiles 1:1**



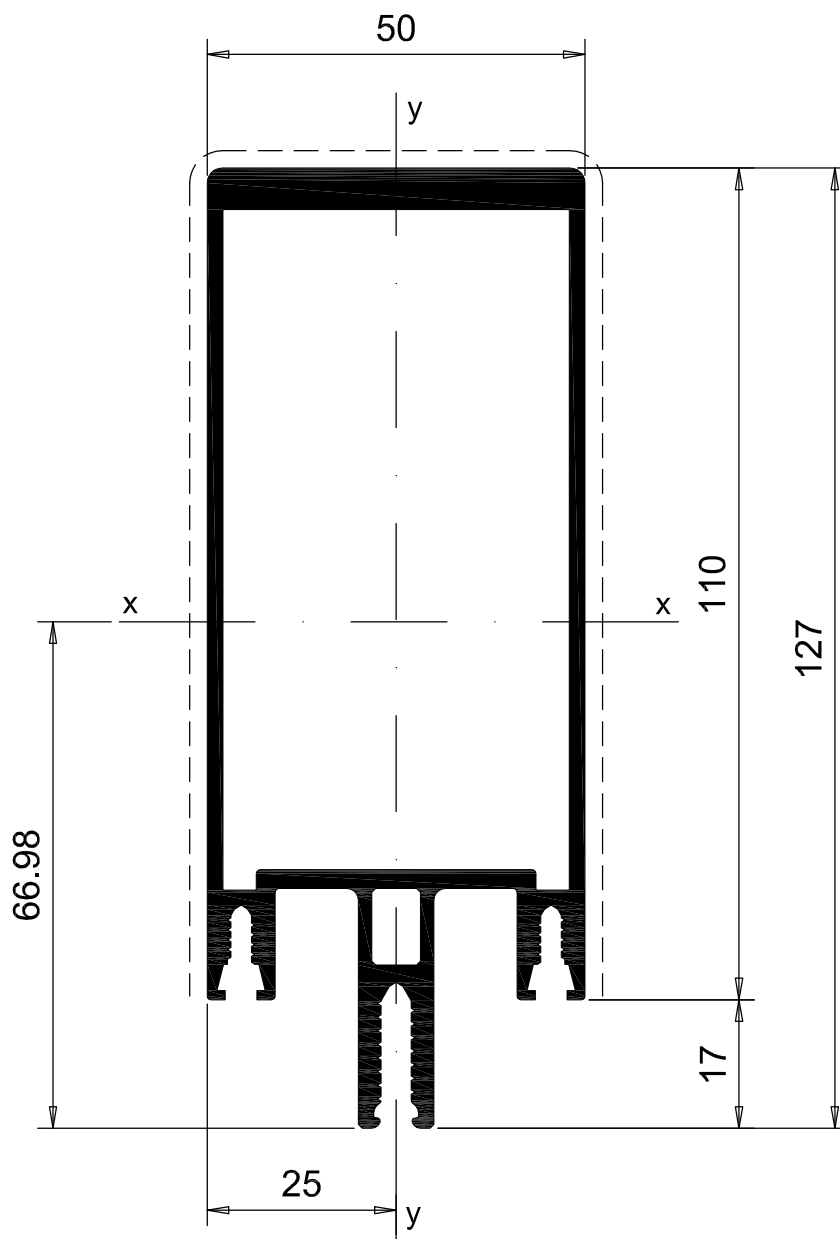
|       |                                     |                        |                                                                                      |                 |                 |                 |                 |
|-------|-------------------------------------|------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22615 | Montante da mm.60<br>60 mm. mullion |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                      | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                            | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                | mm                     | mm                                                                                   | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 2.090 | 426                                 | 167                    | 40.57                                                                                | 10.13           | 22.33           | 8.932           |                 |

**Profili 1:1 - Profiles 1:1**



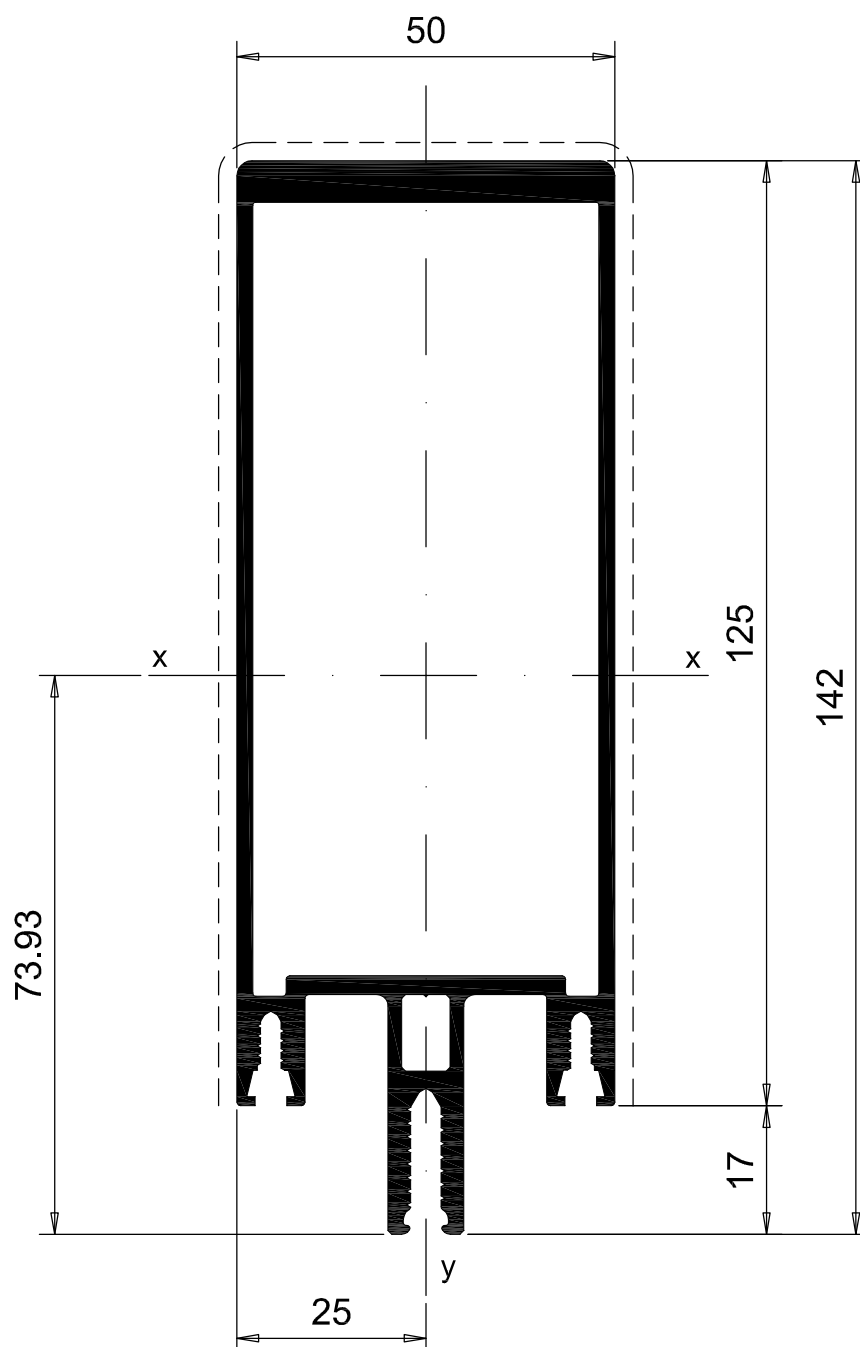
|       |                                     |                        |                                                   |                 |                 |                 |                 |
|-------|-------------------------------------|------------------------|---------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 24582 | Montante da mm.75<br>75 mm. mullion |                        | <div><div>Y</div><div>X—X</div><div>Y</div></div> |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                      | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                         | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                | mm                     | mm                                                | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 2.543 | 444                                 | 197                    | 85.37                                             | 16.81           | 27.50           | 11.00           |                 |

**Profili 1:1 - Profiles 1:1**



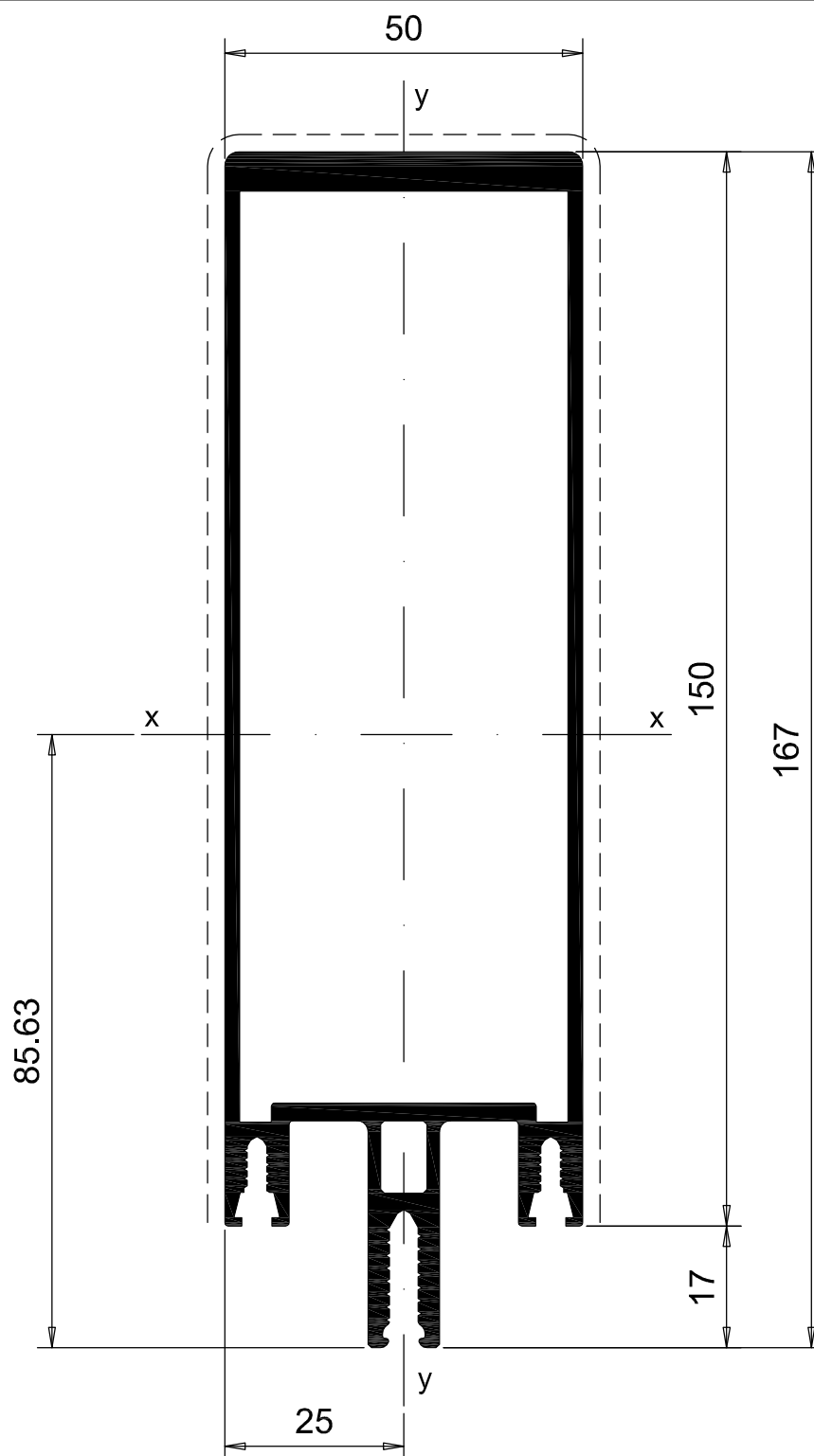
| <b>19813</b> | Montante da mm.110<br>110 mm. mullion |                        |  |                 |                 |                 |
|--------------|---------------------------------------|------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
|              | PESO<br>WEIGHT                        | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                            | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  |
|              | Kg/m                                  | mm                     | mm                                                                                   | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> |
|              | 2.940                                 | 514                    | 267                                                                                  | 206.90          | 30.89           | 35.93           |
|              |                                       |                        |                                                                                      |                 |                 | 14.37           |

**Profili 1:1 - Profiles 1:1**



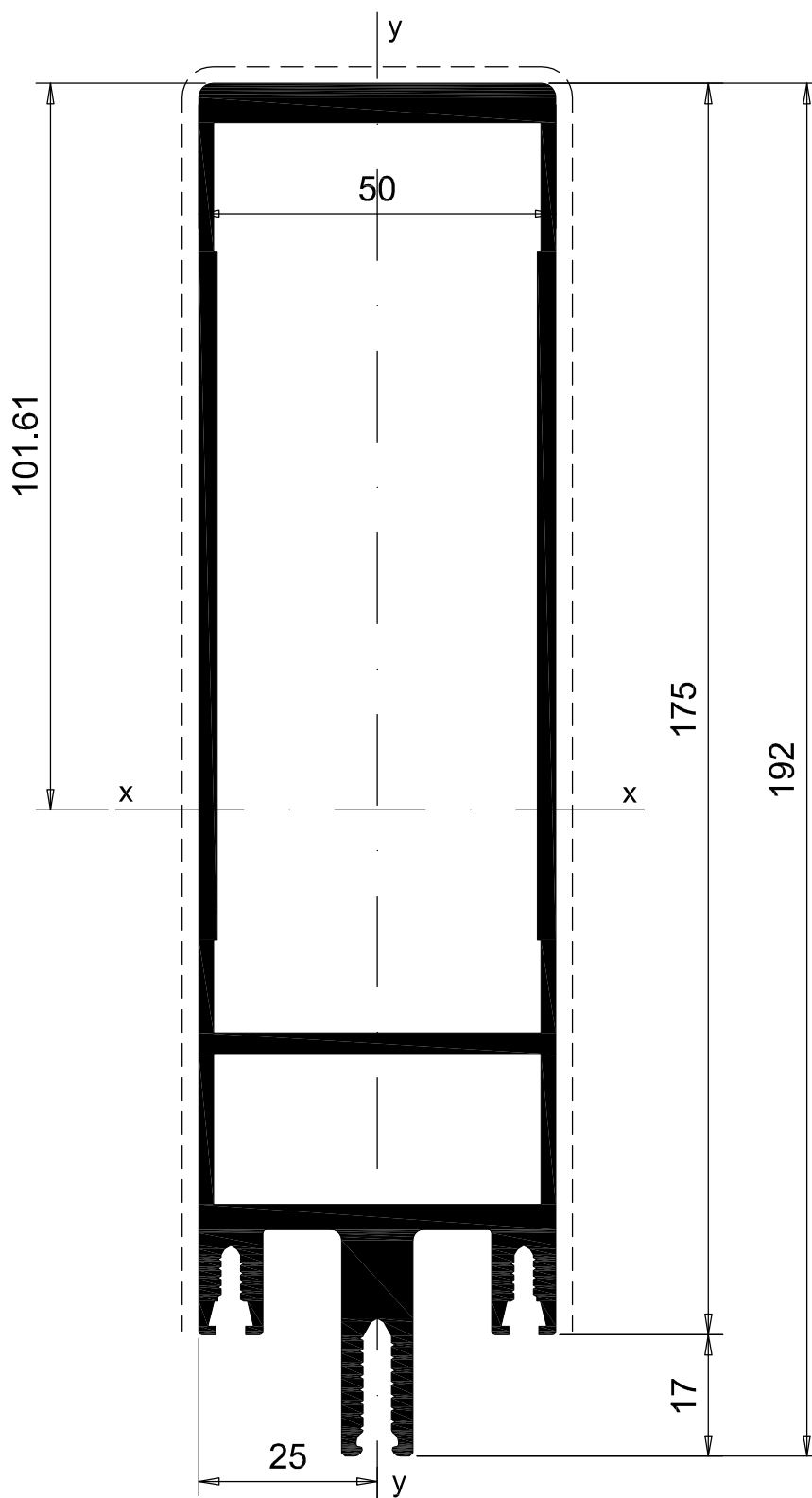
|       |                                       |                        |                                                                                      |                 |                 |                 |                 |
|-------|---------------------------------------|------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 24496 | Montante da mm.125<br>125 mm. mullion |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                        | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                            | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                  | mm                     | mm                                                                                   | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 3.110 | 544                                   | 294                    | 278.90                                                                               | 37.72           | 39.56           | 15.24           |                 |

**Profili 1:1 - Profiles 1:1**



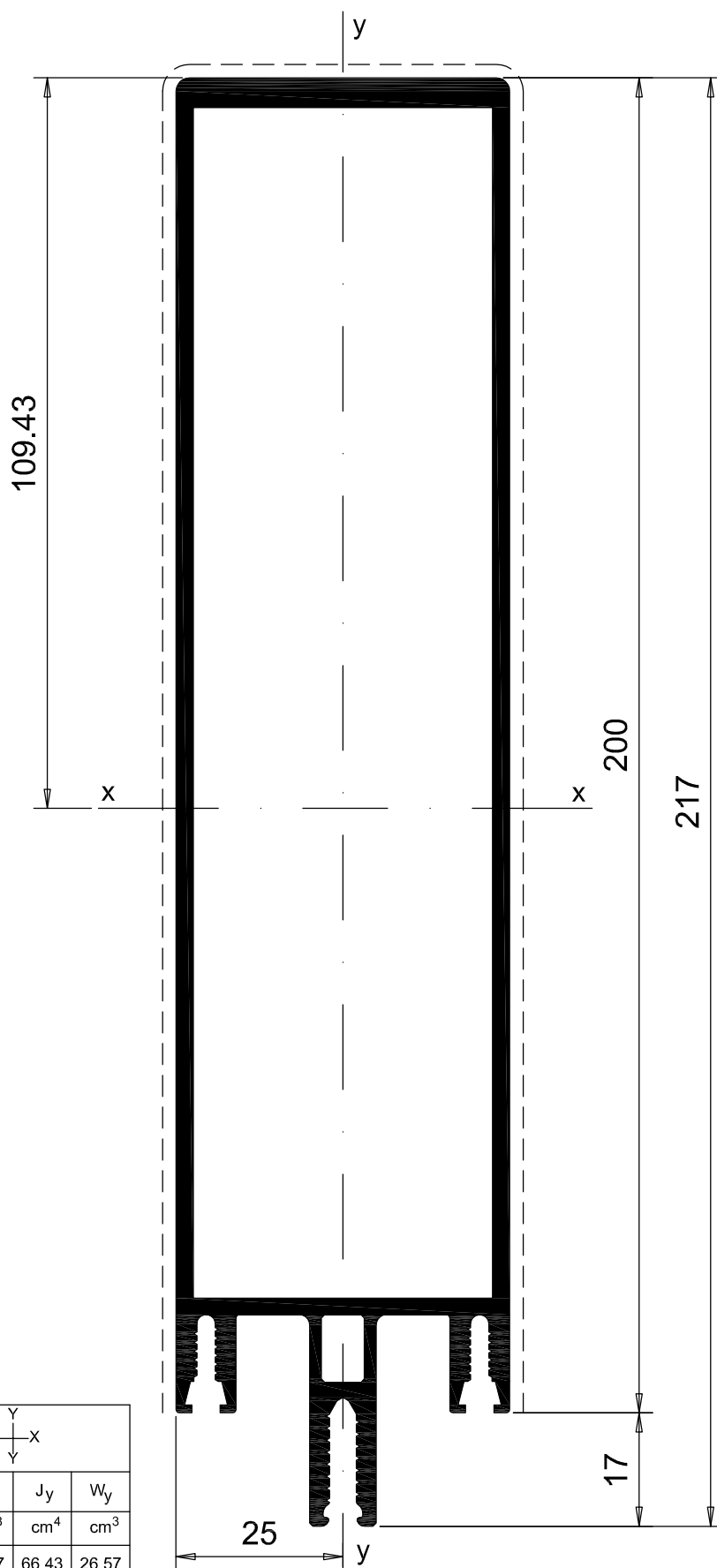
|       |                                       |                        |                                                                                      |                 |                 |                 |                 |
|-------|---------------------------------------|------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 19801 | Montante da mm.150<br>150 mm. mullion |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                        | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                            | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                  | mm                     | mm                                                                                   | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 3.376 | 594                                   | 347                    | 427.76                                                                               | 49.95           | 45.58           | 18.23           |                 |

**Profili 1:1 - Profiles 1:1**



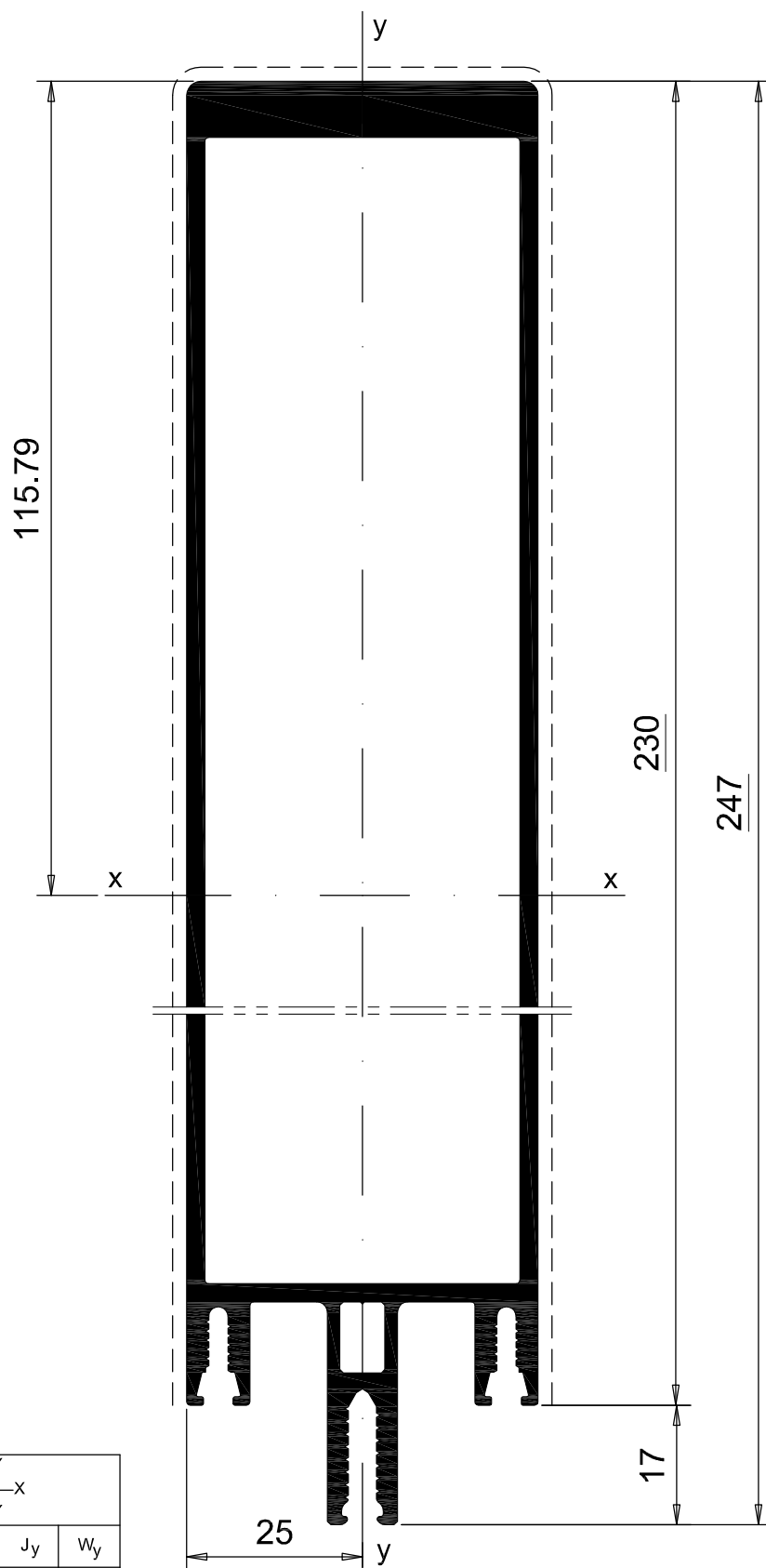
| <b>19814</b>   |                        |                           | Montante da mm.175 rinforzato<br>175 mm. reinforced mullion |                 |                 |                 |
|----------------|------------------------|---------------------------|-------------------------------------------------------------|-----------------|-----------------|-----------------|
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF. | J <sub>x</sub>                                              | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m           | mm                     | mm                        | cm <sup>4</sup>                                             | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 4.669          | 644                    | 397                       | 701.54                                                      | 69.04           | 70.69           | 28.28           |

**Profili 1:1 - Profiles 1:1**



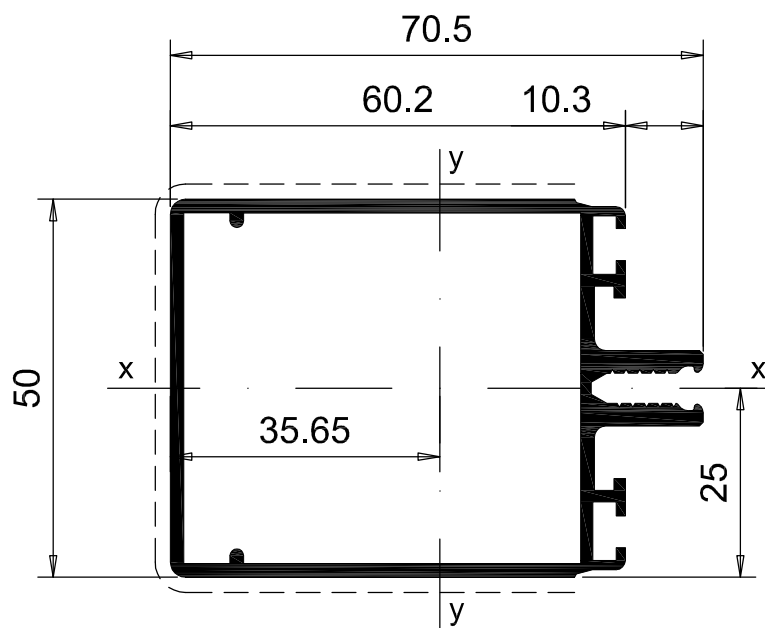
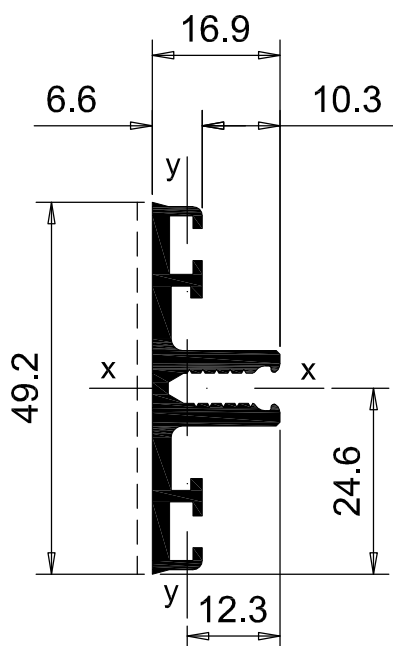
|       |                                       |                        |                                                                                     |                 |                 |                 |                 |
|-------|---------------------------------------|------------------------|-------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22670 | Montante da mm.200<br>200 mm. mullion |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                        | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                           | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                  | mm                     | mm                                                                                  | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 4.356 | 701                                   | 447                    | 853.28                                                                              | 77.97           | 66.43           | 26.57           |                 |

**Profili 1:1 - Profiles 1:1**



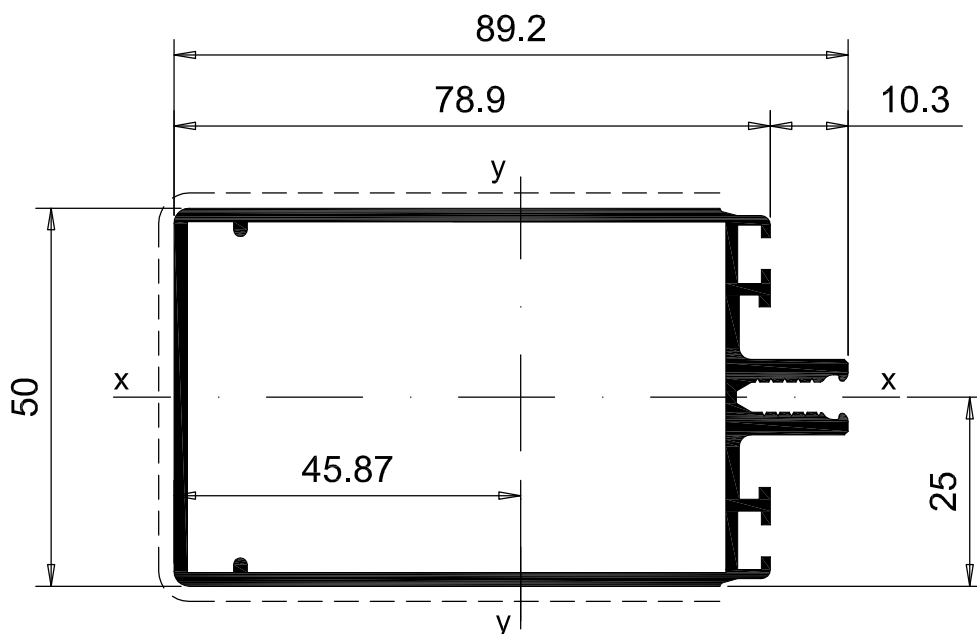
| 24481 | Montante da mm.230<br>230 mm. mullion |                        | <div><div><div>Y</div><div>X</div><div>X</div><div>Y</div></div></div> |                 |                 |                 |                 |
|-------|---------------------------------------|------------------------|------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
|       | PESO<br>WEIGHT                        | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                              | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                  | mm                     | mm                                                                     | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 5.213 | 761                                   | 507                    | 1417.72                                                                | 122.24          | 78.07           | 31.23           |                 |

**Profili 1:1 - Profiles 1:1**



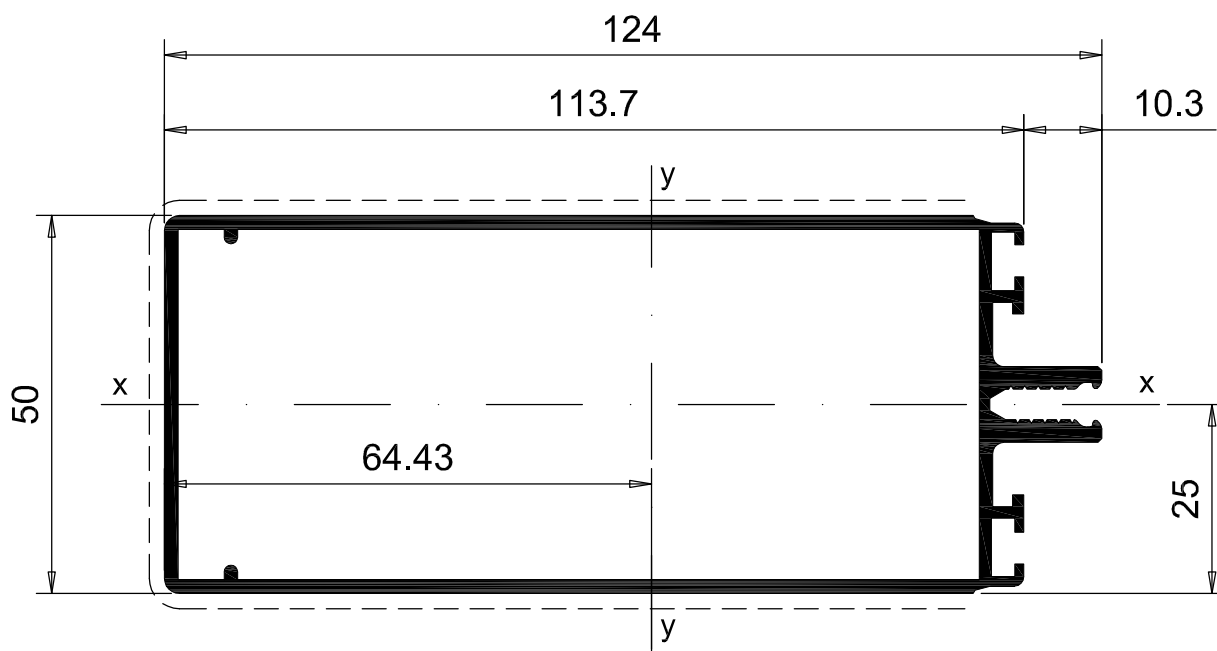
| <b>22649</b>   | Traverso da mm.6<br>6 mm. transom |                           |  |                 |                 |                 |
|----------------|-----------------------------------|---------------------------|------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER            | SUP. VISTA<br>SHOWN SURF. | J <sub>x</sub>                                                                     | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m           | mm                                | mm                        | cm <sup>4</sup>                                                                    | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.636          | 189                               | 55                        | 3.532                                                                              | 1.436           | 0.467           | 0.380           |

| <b>19827</b>   | Traverso da mm.60<br>60 mm. transom |                           |  |                 |                 |                 |
|----------------|-------------------------------------|---------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER              | SUP. VISTA<br>SHOWN SURF. | J <sub>x</sub>                                                                       | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m           | mm                                  | mm                        | cm <sup>4</sup>                                                                      | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.308          | 323                                 | 155                       | 15.87                                                                                | 4.45            | 27.83           | 11.13           |

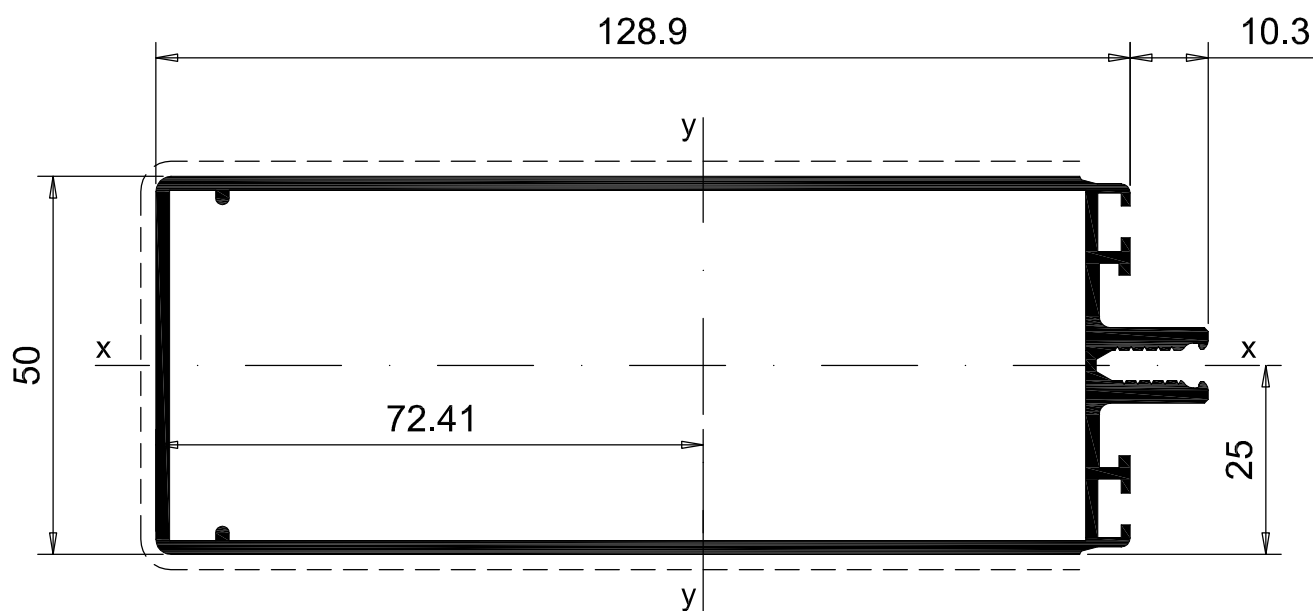


| <b>24583</b>   | Traverso da mm.79<br>79 mm. transom |                           |  |                 |                 |                 |
|----------------|-------------------------------------|---------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER              | SUP. VISTA<br>SHOWN SURF. | J <sub>x</sub>                                                                       | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m           | mm                                  | mm                        | cm <sup>4</sup>                                                                      | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.490          | 361                                 | 193                       | 19.79                                                                                | 7.92            | 52.03           | 11.34           |

**Profili 1:1 - Profiles 1:1**

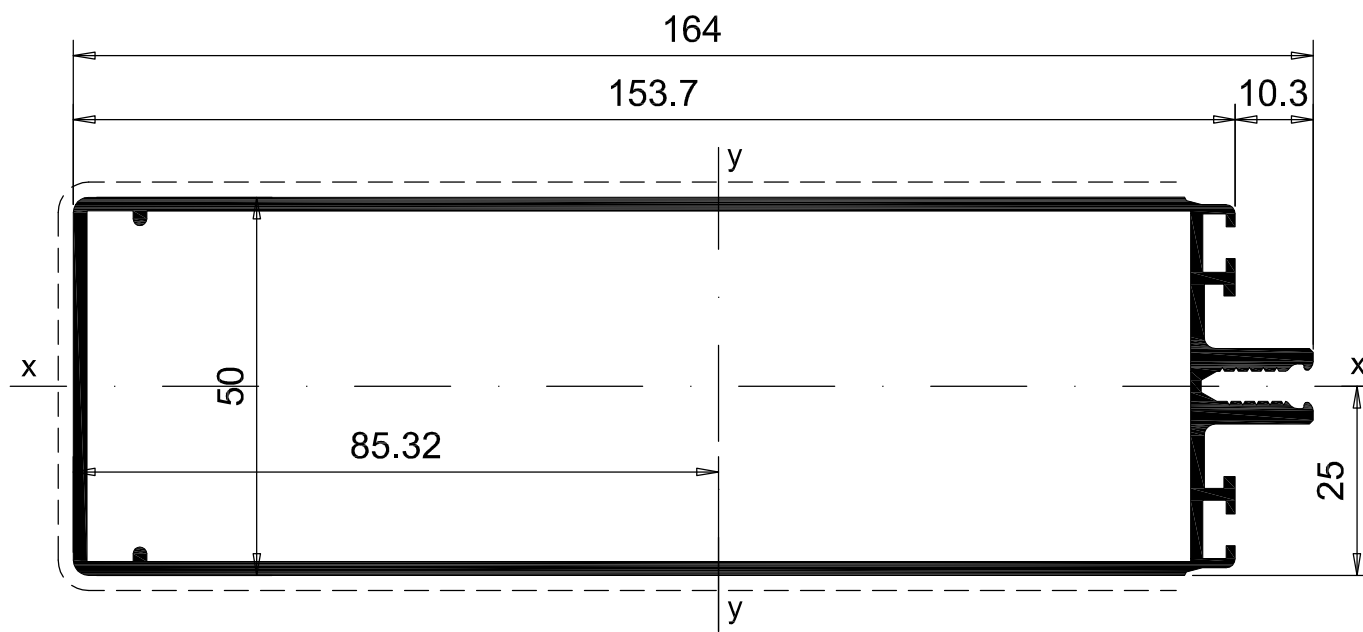


|       |                                       |                        |                                                                                     |                 |                 |                 |                 |
|-------|---------------------------------------|------------------------|-------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22628 | Traverso da mm.114<br>114 mm. transom |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                        | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                           | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                  | mm                     | mm                                                                                  | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.827 | 430                                   | 262                    | 27.06                                                                               | 10.82           | 123.50          | 19.17           |                 |

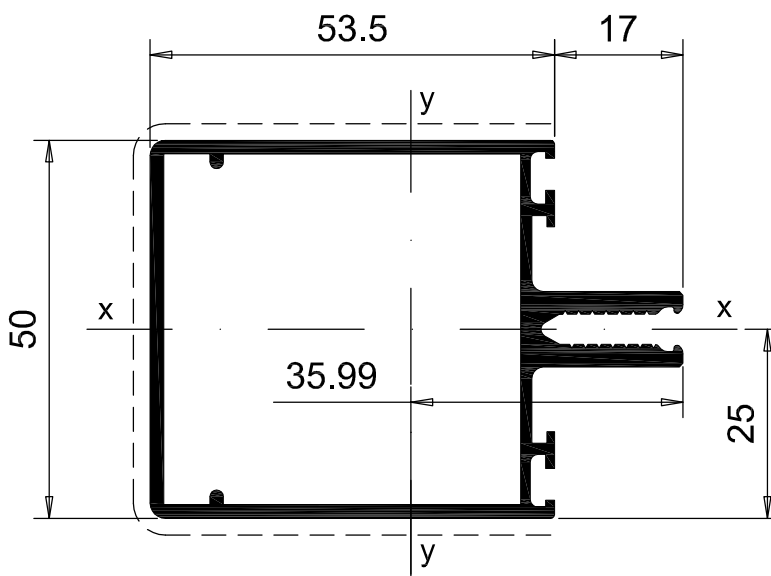


|       |                                       |                        |                                                                                     |                 |                 |                 |                 |
|-------|---------------------------------------|------------------------|-------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 24495 | Traverso da mm.129<br>129 mm. transom |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                        | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                           | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                  | mm                     | mm                                                                                  | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.976 | 461                                   | 293                    | 30.24                                                                               | 12.09           | 167.08          | 23.07           |                 |

**Profili 1:1 - Profiles 1:1**

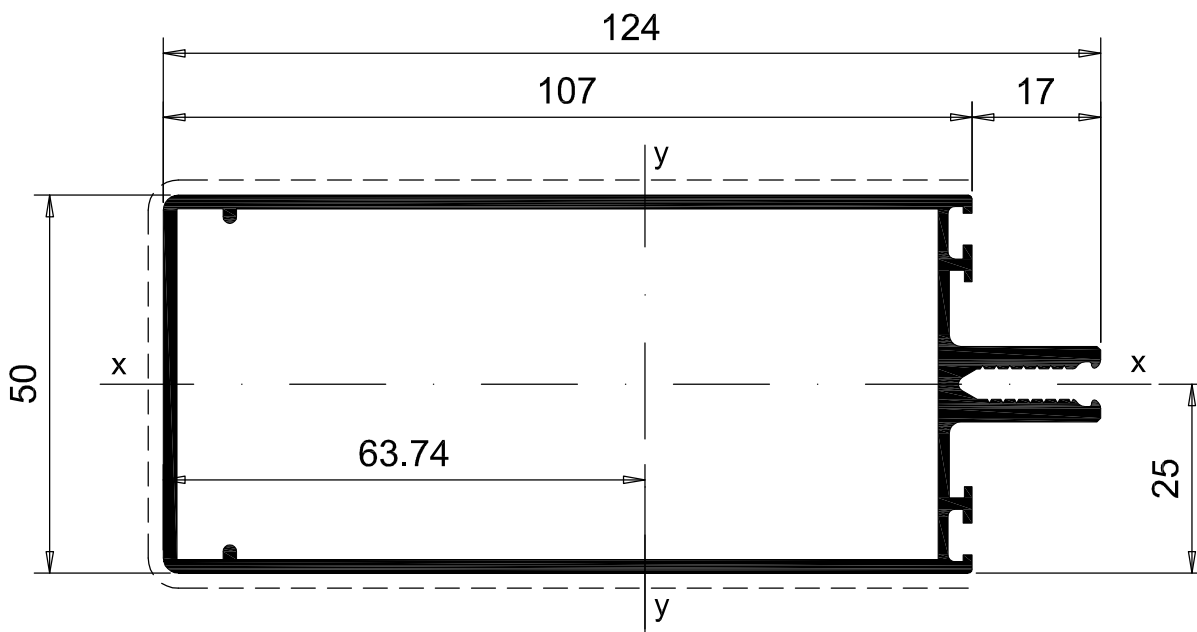


|       |                                       |                        |                                                                                   |                 |                 |                 |                 |
|-------|---------------------------------------|------------------------|-----------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22629 | Traverso da mm.154<br>154 mm. transom |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                        | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                         | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                  | mm                     | mm                                                                                | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
|       | 2.216                                 | 510                    | 353                                                                               | 35.43           | 14.17           | 256.59          | 30.07           |

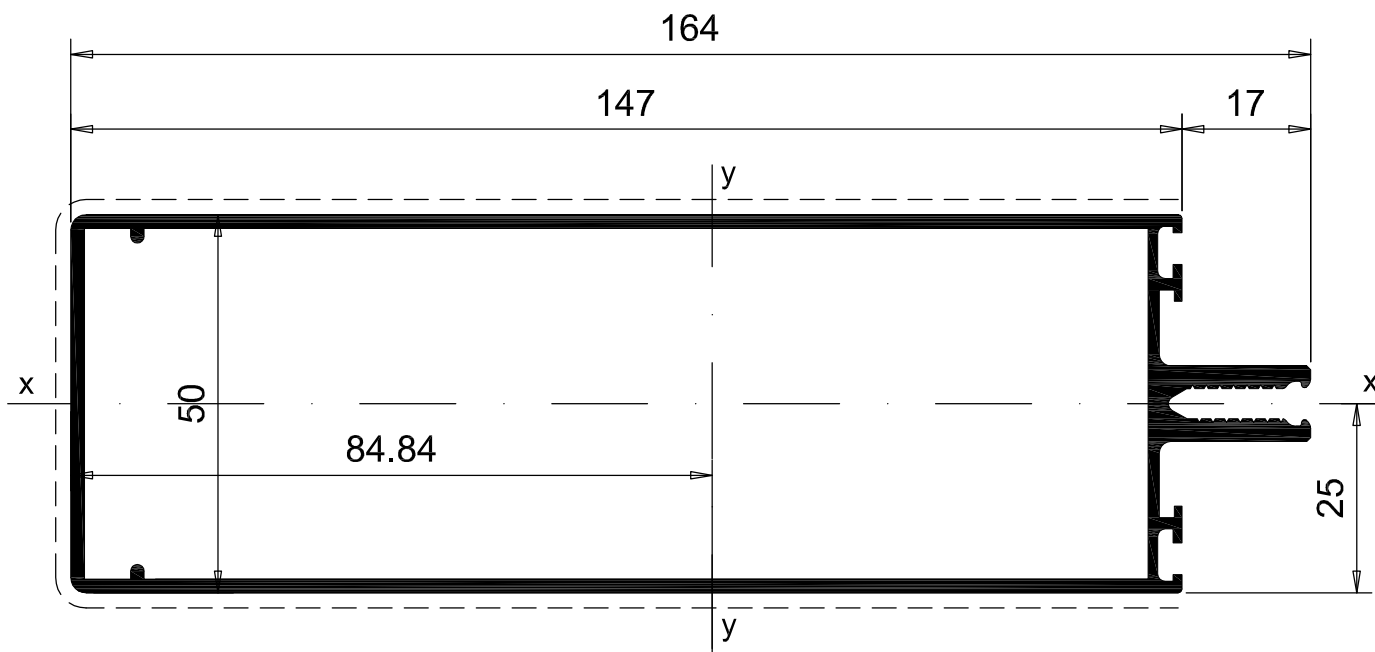


|       |                                                                        |                        |                                                                                      |                 |                 |                 |                 |
|-------|------------------------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22611 | Traverso da 53 mm. di secondo livello<br>53 mm. transom (second level) |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                                                         | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                            | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                                   | mm                     | mm                                                                                   | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.318 | 321                                                                    | 154                    | 14.66                                                                                | 5.86            | 25.63           | 7.12            |                 |

**Profili 1:1 - Profiles 1:1**

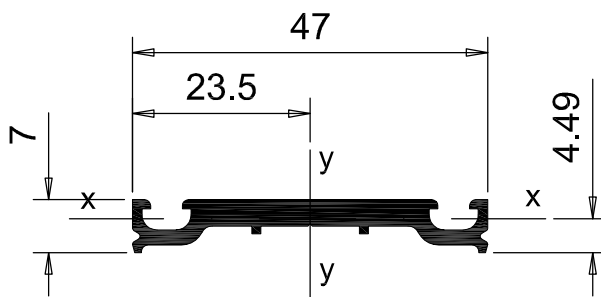


|       |                                                                          |                        |                                                                                    |                 |                 |                 |                 |
|-------|--------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22630 | Traverso da 107 mm. di secondo livello<br>107 mm. transom (second level) |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                                                           | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                          | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                                     | mm                     | mm                                                                                 | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.838 | 428                                                                      | 261                    | 25.85                                                                              | 10.34           | 118.80          | 18.64           |                 |

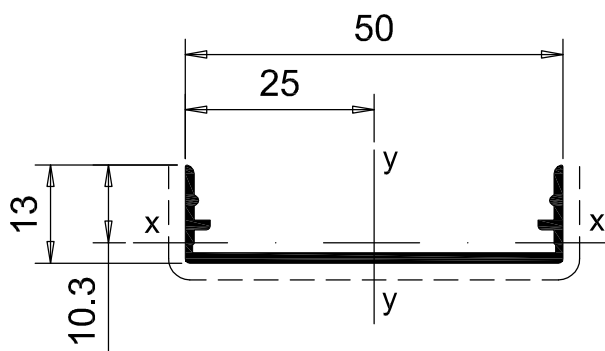


|       |                                                                          |                        |                                                                                     |                 |                 |                 |                 |
|-------|--------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22631 | Traverso da 147 mm. di secondo livello<br>147 mm. transom (second level) |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                                                           | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                           | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                                     | mm                     | mm                                                                                  | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 2.226 | 508                                                                      | 343                    | 34.22                                                                               | 13.69           | 250.26          | 29.50           |                 |

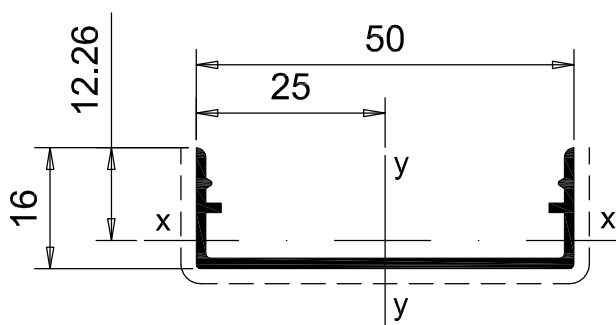
**Profili 1:1 - Profiles 1:1**



|       |                            |                        |                                                                                    |                 |                 |                 |                 |
|-------|----------------------------|------------------------|------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 19803 | Pressore<br>Pressure plate |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT             | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                          | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                       | mm                     | mm                                                                                 | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.452 | 137                        | 0                      | 0.046                                                                              | 0.102           | 3.088           | 1.314           |                 |

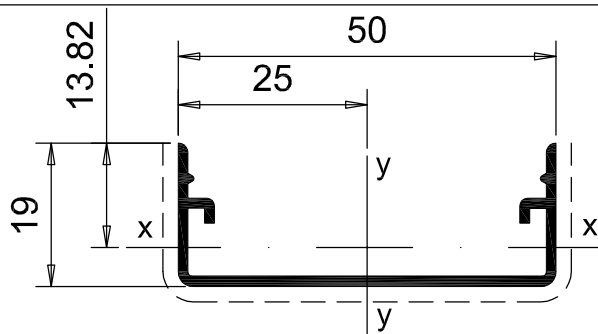


|       |                                                                |                        |                                                                                      |                 |                 |                 |                 |
|-------|----------------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22636 | Copertina a scatto altezza mm.13<br>Snap cover - height 13 mm. |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                                                 | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                            | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                           | mm                     | mm                                                                                   | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.279 | 157                                                            | 75                     | 0.117                                                                                | 0.113           | 3.393           | 1.357           |                 |

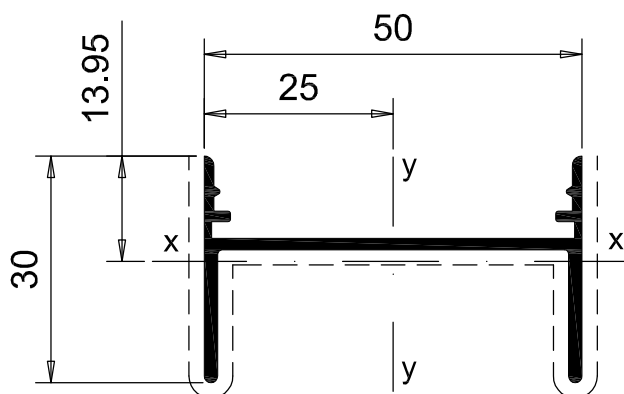


|                |                                                                |                           |                                                                                      |                 |                 |                 |
|----------------|----------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| <b>4162</b>    | Copertina a scatto altezza mm.16<br>Snap cover - height 16 mm. |                           |  |                 |                 |                 |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                         | SUP. VISTA<br>SHOWN SURF. | J <sub>x</sub>                                                                       | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m           | mm                                                             | mm                        | cm <sup>4</sup>                                                                      | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.308          | 169                                                            | 81                        | 0.234                                                                                | 0.191           | 4.014           | 1.605           |

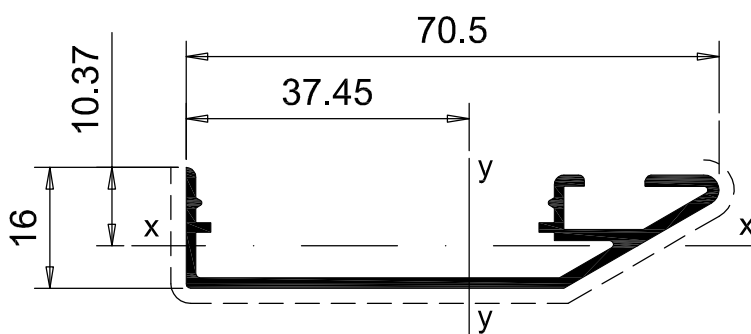
**Profili 1:1 - Profiles 1:1**



| <b>6086</b>    | Copertina a scatto altezza mm.19<br><i>Snap cover - height 19 mm.</i> |                           |  |                 |                 |                 |
|----------------|-----------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                                | SUP. VISTA<br>SHOWN SURF. | J <sub>x</sub>                                                                     | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m           | mm                                                                    | mm                        | cm <sup>4</sup>                                                                    | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.348          | 193                                                                   | 86                        | 0.409                                                                              | 0.296           | 4.759           | 1.904           |

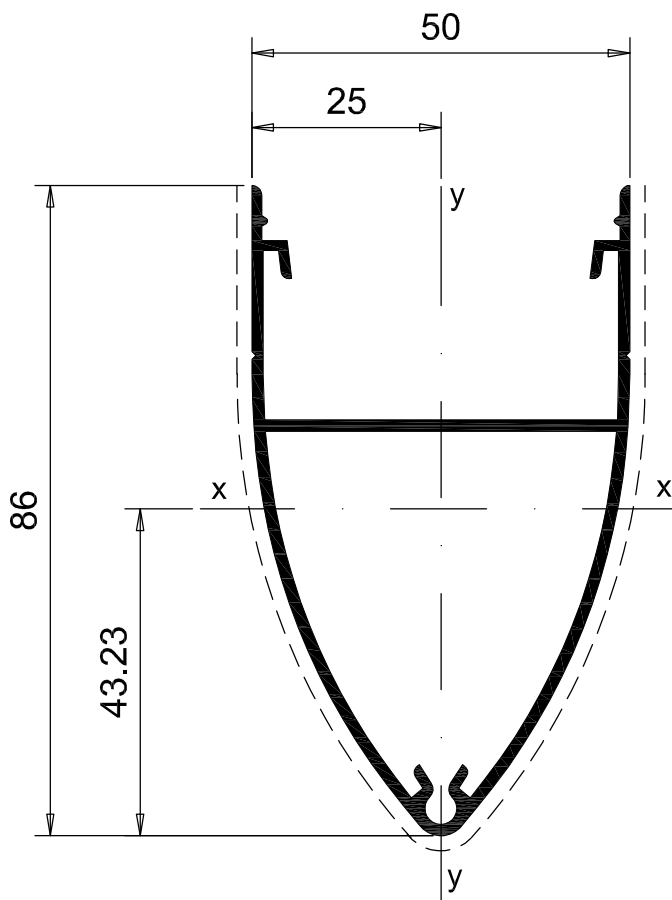


| <b>19826</b>   | Copertina a scatto altezza mm.30<br><i>Snap cover - height 30 mm.</i> |                           |  |                 |                 |                 |
|----------------|-----------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                                | SUP. VISTA<br>SHOWN SURF. | J <sub>x</sub>                                                                       | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m           | mm                                                                    | mm                        | cm <sup>4</sup>                                                                      | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.462          | 225                                                                   | 143                       | 0.771                                                                                | 0.553           | 7.162           | 2.865           |

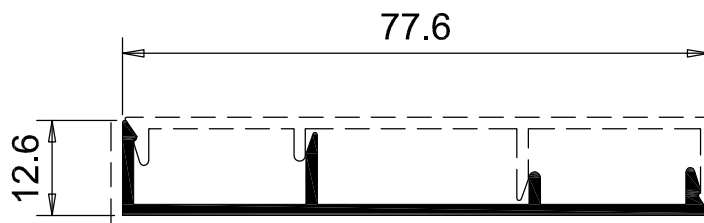


| <b>9108</b>    | Copertina a scatto per facciate<br>incline<br><i>Snap cover for sloped curtain wall</i> |                           |  |                 |                 |                 |
|----------------|-----------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                                                  | SUP. VISTA<br>SHOWN SURF. | J <sub>x</sub>                                                                       | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m           | mm                                                                                      | mm                        | cm <sup>4</sup>                                                                      | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.470          | 243                                                                                     | 94                        | 0.443                                                                                | 0.427           | 9.273           | 2.476           |

**Profili 1:1 - Profiles 1:1**

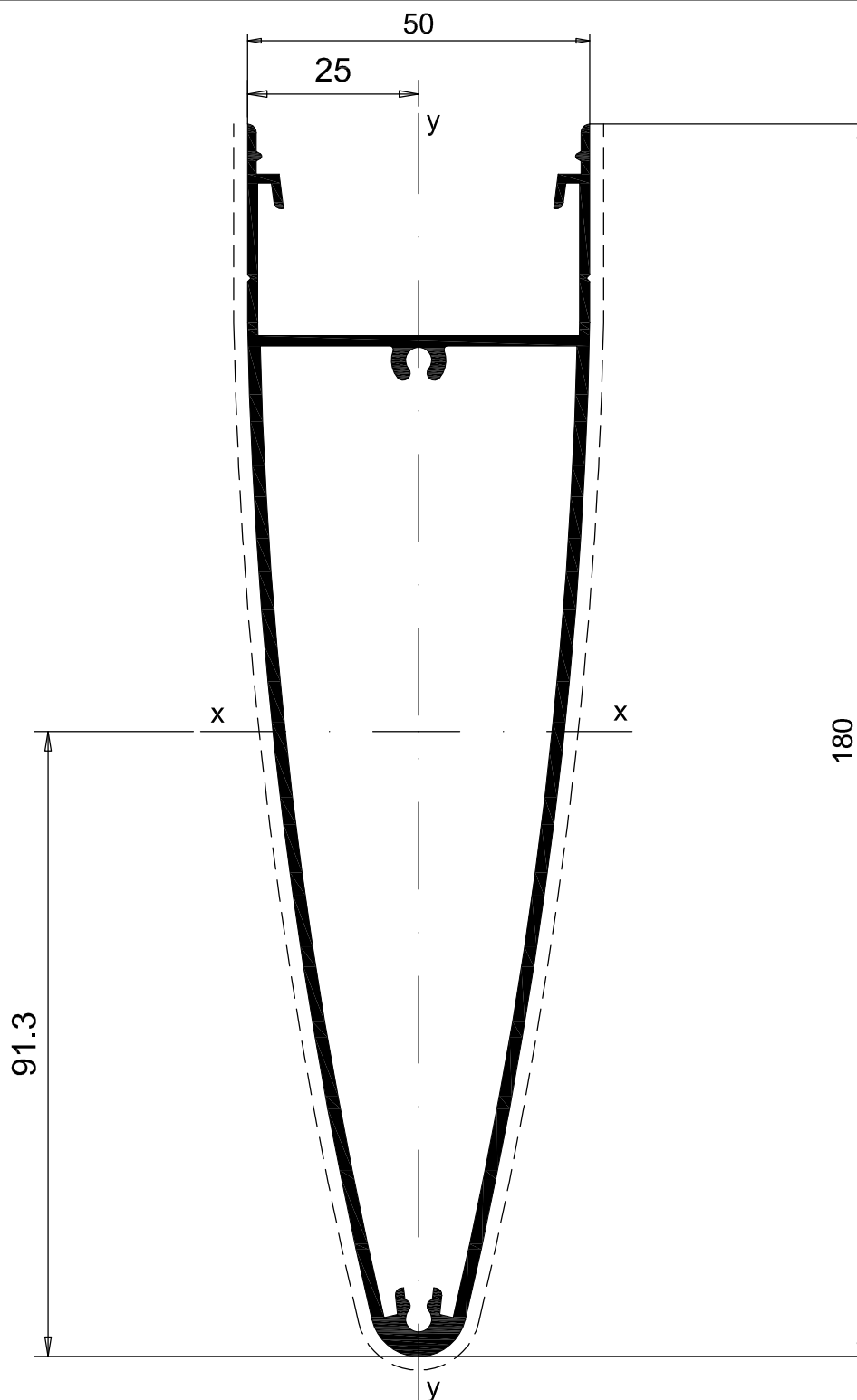


| 19822          | Copertina a scatto altezza mm.86<br>Snap cover - height 86 mm. |                           |  |                 |                 |                 |
|----------------|----------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
|                |                                                                |                           | J <sub>x</sub>                                                                       | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                         | SUP. VISTA<br>SHOWN SURF. | cm <sup>4</sup>                                                                      | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| Kg/m           | mm                                                             | mm                        | cm <sup>4</sup>                                                                      | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.022          | 327                                                            | 185                       | 22.59                                                                                | 5.225           | 12.69           | 5.076           |



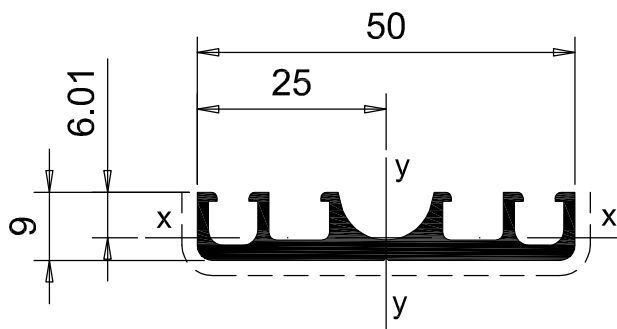
| 9107           | Profilo per battiscopa<br>Profile for skirting |                           |  |                 |                 |                 |
|----------------|------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
|                |                                                |                           | J <sub>x</sub>                                                                       | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                         | SUP. VISTA<br>SHOWN SURF. | cm <sup>4</sup>                                                                      | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| Kg/m           | mm                                             | mm                        |                                                                                      |                 |                 |                 |
| 0.428          | 213                                            | 90                        |                                                                                      |                 |                 |                 |

**Profili 1:1 - Profiles 1:1**

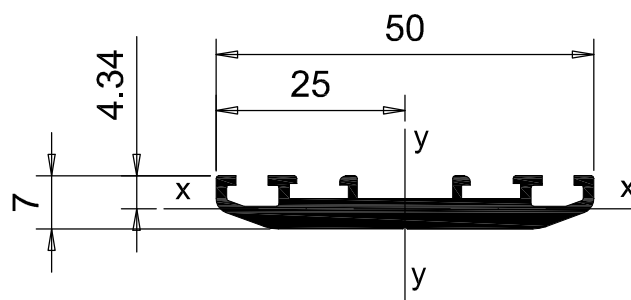


|       |                                                                  |                        |                                                                                      |                 |                 |                 |                 |
|-------|------------------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 24488 | Copertina a scatto altezza mm.180<br>Snap cover - height 180 mm. |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                                                   | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                            | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                             | mm                     | mm                                                                                   | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 2.126 | 510                                                              | 372                    | 239.26                                                                               | 26.206          | 24.87           | 9.948           |                 |

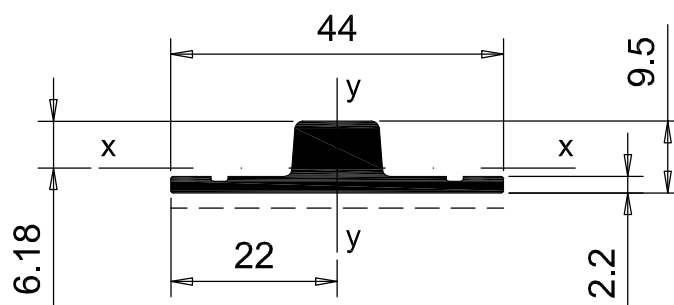
**Profili 1:1 - Profiles 1:1**



|       |                                                   |                        |                                                                                    |                 |                 |                 |                 |
|-------|---------------------------------------------------|------------------------|------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 19824 | Pressore per coperture<br>Covering pressure plate |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                                    | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                          | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                              | mm                     | mm                                                                                 | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
|       | 0.558                                             | 183                    | 67                                                                                 | 0.131           | 0.218           | 4.441           | 1.776           |

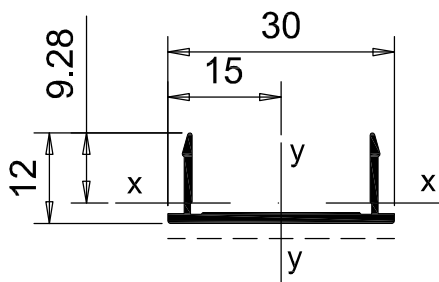


|                |                                                   |                           |                                                                                      |                 |                 |                 |
|----------------|---------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| <b>19825</b>   | Pressore per coperture<br>Covering pressure plate |                           |  |                 |                 |                 |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                            | SUP. VISTA<br>SHOWN SURF. | J <sub>x</sub>                                                                       | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m           | mm                                                | mm                        | cm <sup>4</sup>                                                                      | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.548          | 159                                               | 57                        | 0.064                                                                                | 0.147           | 3.755           | 1.502           |

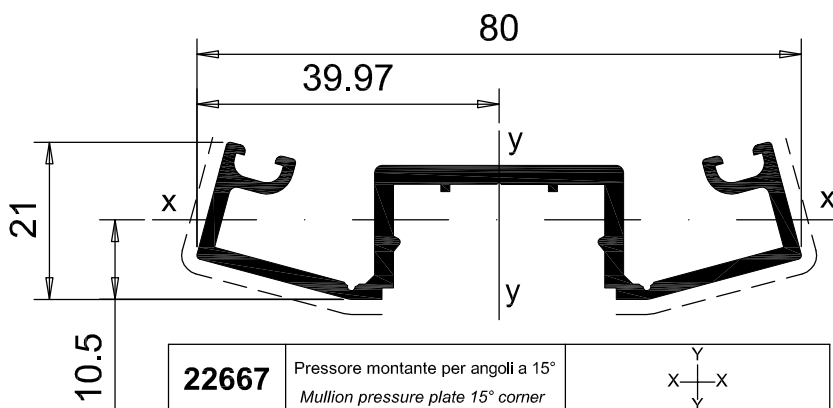


|                |                                                                            |                           |                                                                                      |                 |                 |                 |
|----------------|----------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| <b>24480</b>   | Pressore ribassato per coperture<br><i>Reduced covering pressure plate</i> |                           |  |                 |                 |                 |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                                     | SUP. VISTA<br>SHOWN SURF. | J <sub>x</sub>                                                                       | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m           | mm                                                                         | mm                        | cm <sup>4</sup>                                                                      | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.481          | 107                                                                        | 48                        | 0.139                                                                                | 0.225           | 1.584           | 0.720           |

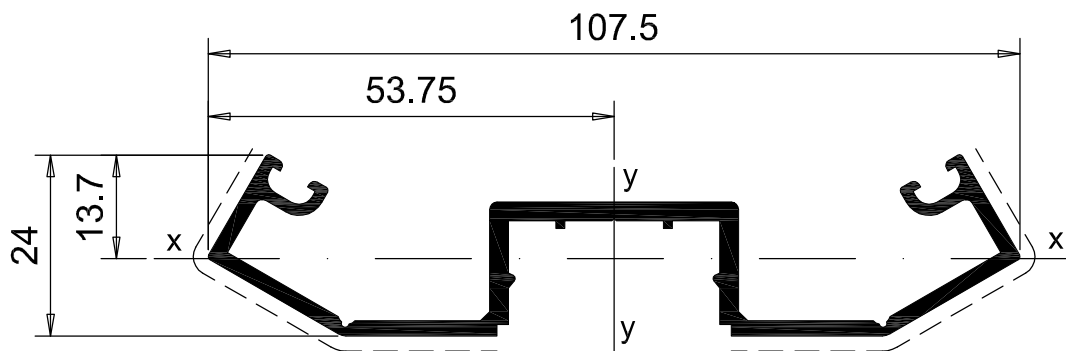
**Profili 1:1 - Profiles 1:1**



|       |                                                                                           |                        |                                                                        |                 |                 |                 |                 |
|-------|-------------------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22663 | Copertina a scatto per facciate<br>incline<br><i>Snap cover for inclined curtain wall</i> |                        | <div><div><div>Y</div><div>X</div><div>X</div><div>Y</div></div></div> |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                                                                            | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                              | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                                                      | mm                     | mm                                                                     | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.167 | 105                                                                                       | 30                     | 0.067                                                                  | 0.072           | 0.617           | 0.411           |                 |

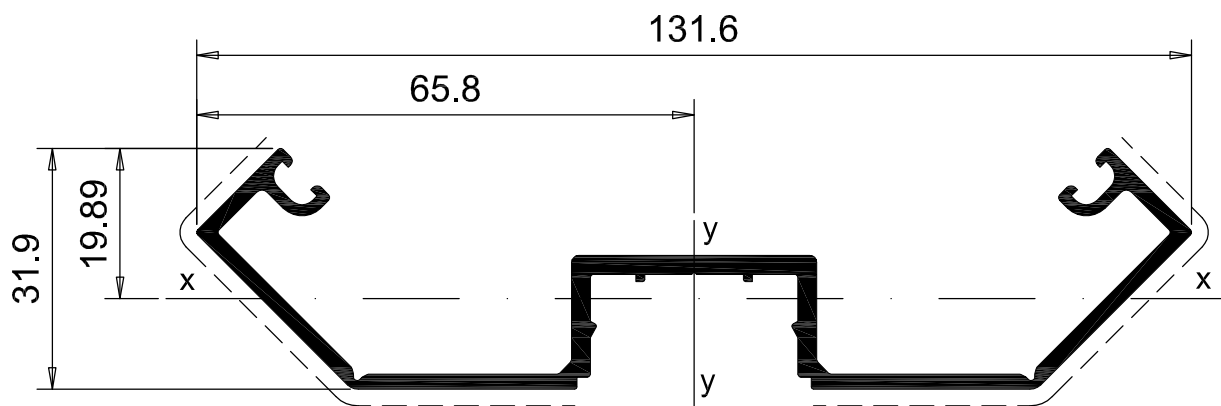


|       |                                                                         |                        |                                                             |                 |                 |                 |                 |
|-------|-------------------------------------------------------------------------|------------------------|-------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22667 | Pressore montante per angoli a 15°<br>Mullion pressure plate 15° corner |                        | <div><div>Y</div><div>X</div><div>X</div><div>Y</div></div> |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                                                          | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                   | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                                    | mm                     | mm                                                          | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.917 | 330                                                                     | 81                     | 1.242                                                       | 1.182           | 21.28           | 5.320           |                 |

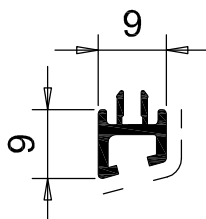


|       |                                                                                |                        |                                                                        |                 |                 |                 |
|-------|--------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| 22665 | Pressore montante per angoli a 30°<br><i>Mullion pressure plate 30° corner</i> |                        | <div><div><div>Y</div><div>X</div><div>X</div><div>Y</div></div></div> |                 |                 |                 |
|       | PESO<br>WEIGHT                                                                 | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                              | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  |
| Kg/m  | mm                                                                             | mm                     | cm <sup>4</sup>                                                        | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.094 | 395                                                                            | 114                    | 1.931                                                                  | 1.409           | 43.22           | 8.041           |

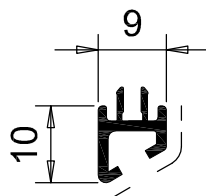
**Profili 1:1 - Profiles 1:1**



| 22662          | Pressore montante per angoli a 45°<br><i>Mullion pressure plate 45° corner</i> |                           |  |                 |                 |                 |
|----------------|--------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
|                |                                                                                |                           | J <sub>x</sub>                                                                     | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                                         | SUP. VISTA<br>SHOWN SURF. | cm <sup>4</sup>                                                                    | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.285          | 466                                                                            | 148                       | 3.984                                                                              | 2.003           | 77.74           | 11.81           |

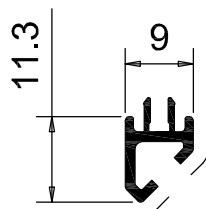


| 22666          | Porta guarnizione per facciate inclinate a 15°<br><i>Gasket carrier for 15° inclined curtain wall</i> |                           |  |                 |                 |                 |
|----------------|-------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
|                |                                                                                                       |                           | J <sub>x</sub>                                                                       | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                                                                | SUP. VISTA<br>SHOWN SURF. | cm <sup>4</sup>                                                                      | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.104          | 68                                                                                                    | 12                        |                                                                                      |                 |                 |                 |

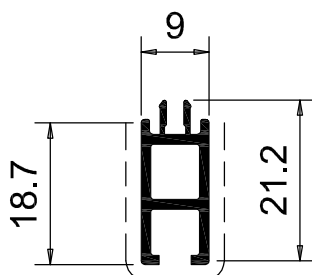


| 22664          | Porta guarnizione per facciate inclinate a 30°<br><i>Gasket carrier for 30° inclined curtain wall</i> |                           |  |                 |                 |                 |
|----------------|-------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
|                |                                                                                                       |                           | J <sub>x</sub>                                                                       | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                                                                | SUP. VISTA<br>SHOWN SURF. | cm <sup>4</sup>                                                                      | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.106          | 69                                                                                                    | 12                        |                                                                                      |                 |                 |                 |

**Profili 1:1 - Profiles 1:1**

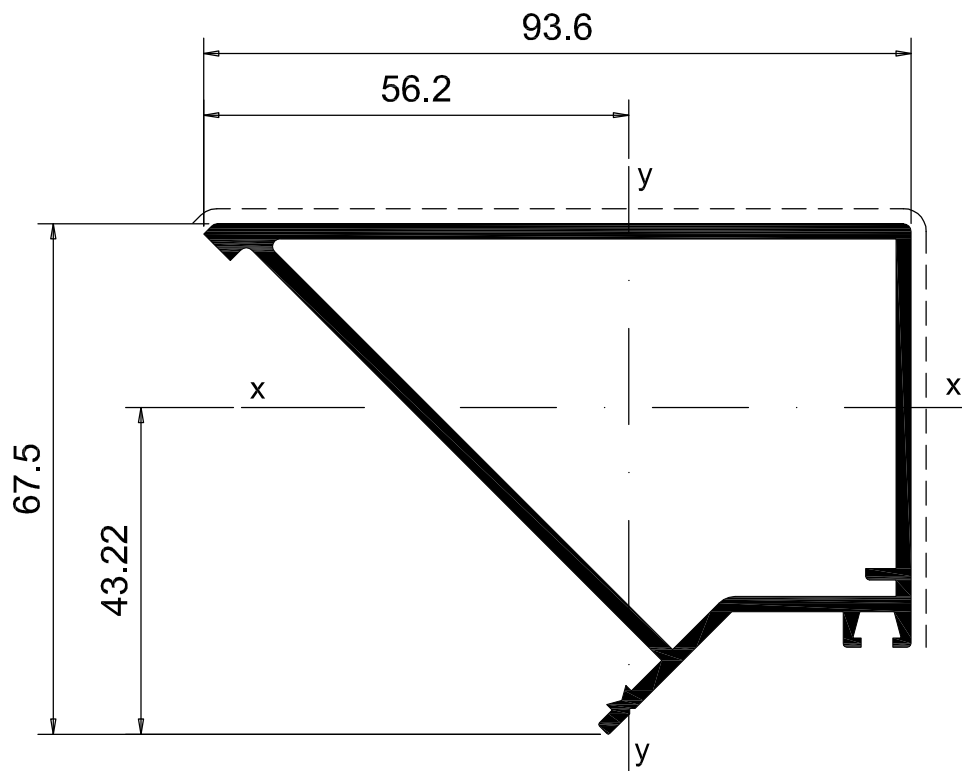


|                |                                                                                                       |                           |                                                                                    |                 |                 |                 |
|----------------|-------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| <b>22637</b>   | Porta guarnizione per facciate inclinate a 45°<br><i>Gasket carrier for 45° inclined curtain wall</i> |                           |  |                 |                 |                 |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                                                                | SUP. VISTA<br>SHOWN SURF. | J <sub>x</sub>                                                                     | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m           | mm                                                                                                    | mm                        | cm <sup>4</sup>                                                                    | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.109          | 72                                                                                                    | 11                        |                                                                                    |                 |                 |                 |

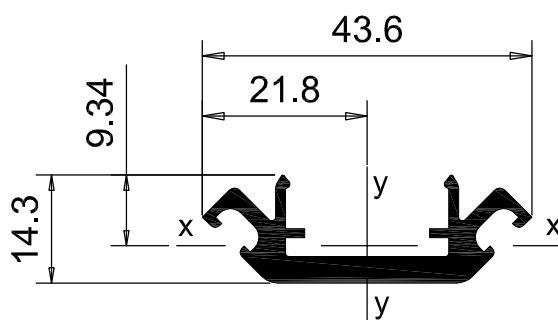


|                |                                                         |                           |                                                                                      |                 |                 |                 |
|----------------|---------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| <b>22700</b>   | Profilo riduttore vetro<br><i>Reducer glass profile</i> |                           |  |                 |                 |                 |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                  | SUP. VISTA<br>SHOWN SURF. | J <sub>x</sub>                                                                       | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m           | mm                                                      | mm                        | cm <sup>4</sup>                                                                      | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.205          | 95                                                      | 43                        |                                                                                      |                 |                 |                 |

**Profili 1:1 - Profiles 1:1**

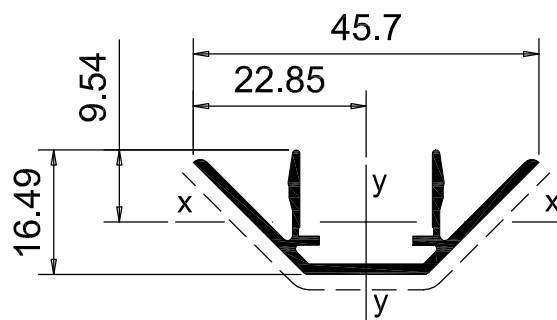


| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF. |  |                |                |                |
|----------------|------------------------|---------------------------|--------------------------------------------------------------------------------------|----------------|----------------|----------------|
|                |                        |                           | J <sub>x</sub>                                                                       | W <sub>x</sub> | J <sub>y</sub> | W <sub>y</sub> |
| 1.528          | 388                    | 147                       | 27.61                                                                                | 6.391          | 47.89          | 8.521          |

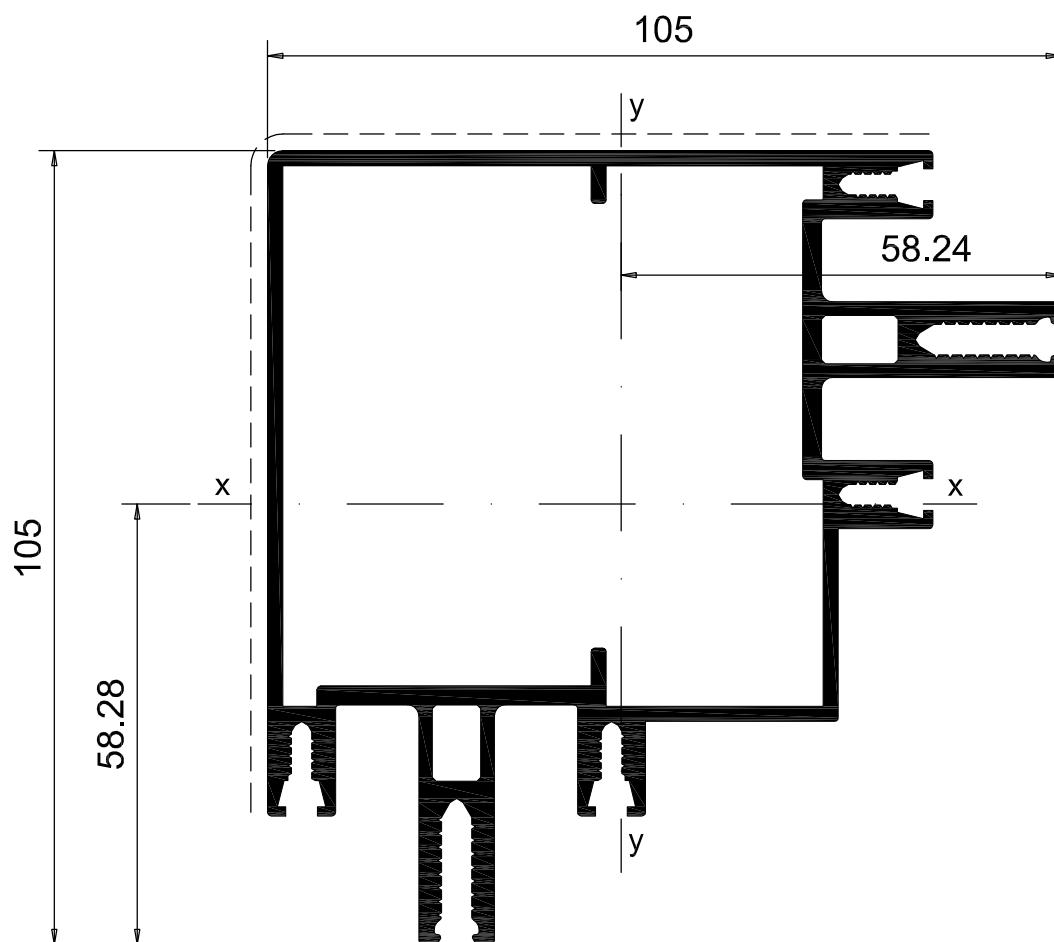


| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF. |  |                |                |                |
|----------------|------------------------|---------------------------|--------------------------------------------------------------------------------------|----------------|----------------|----------------|
|                |                        |                           | J <sub>x</sub>                                                                       | W <sub>x</sub> | J <sub>y</sub> | W <sub>y</sub> |
| 0.547          | 163                    | 0                         | 0.285                                                                                | 0.305          | 2.867          | 1.315          |

**Profili 1:1 - Profiles 1:1**



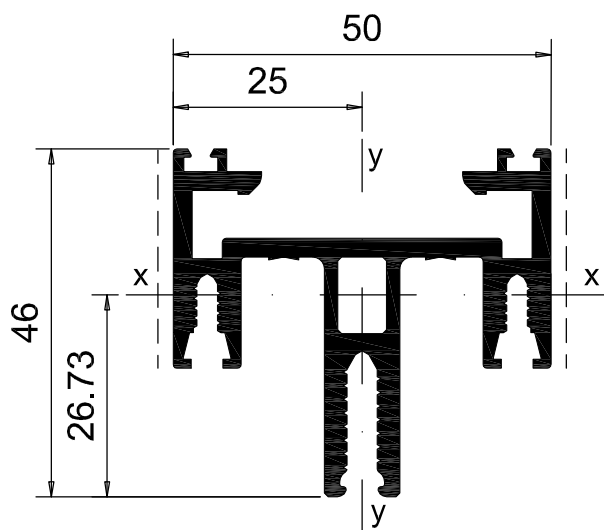
|       |                                                                                        |                        |                                                                                    |                 |                 |                 |                 |
|-------|----------------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22634 | Copertina a scatto per angoli negativi a 90°<br><i>Snap cover for inner 90° corner</i> |                        |  |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                                                                         | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                          | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                                                   | mm                     | mm                                                                                 | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
|       | 0.302                                                                                  | 176                    | 58                                                                                 | 0.259           | 0.271           | 1.636           | 0.716           |



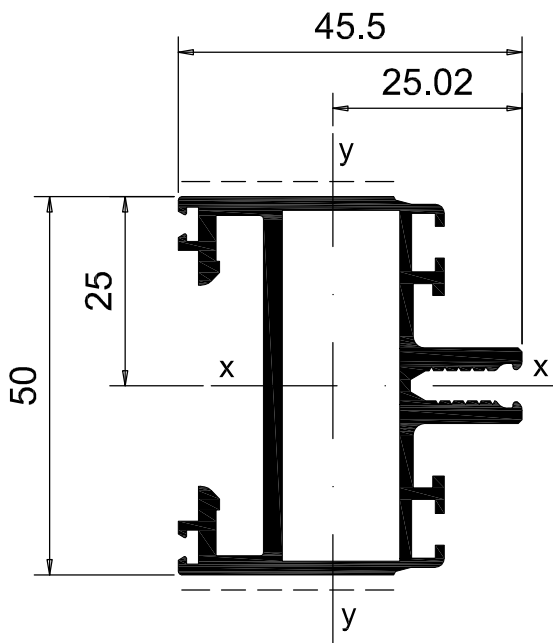
|       |                                                      |                               |                                                                                      |                 |                 |                 |                 |
|-------|------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 19818 | Montante d' angolo a 90°<br><i>Corner mullion 90</i> |                               |  |                 |                 |                 |                 |
|       | PESO<br><i>WEIGHT</i>                                | PERIMETRO<br><i>PERIMETER</i> | SUP. VISTA<br><i>SHOWN SURF.</i>                                                     | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                 | mm                            | mm                                                                                   | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
|       | 3.470                                                | 742                           | 174                                                                                  | 132.94          | 22.81           | 130.50          | 22.41           |

**Profili 1:1 - Profiles 1:1**

**EKU 50 GLASS R**

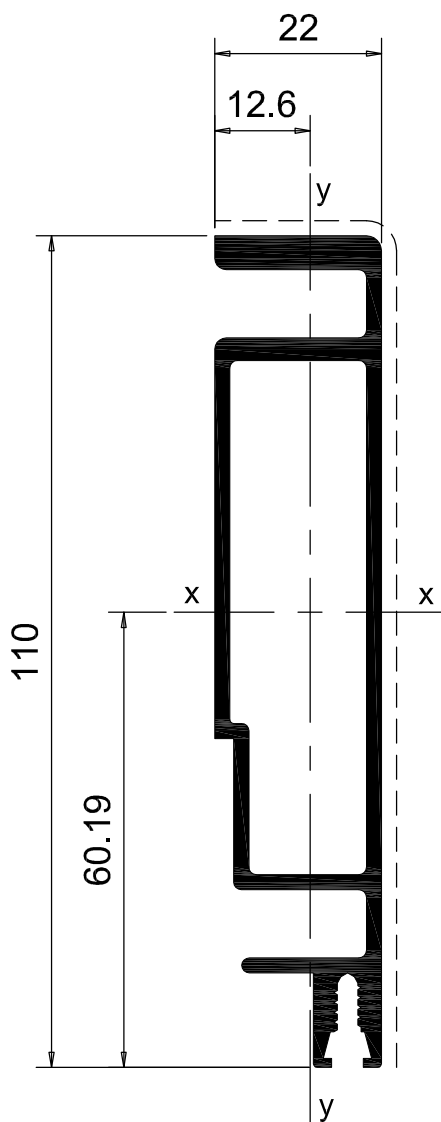


|       |                                                                      |                               |                                                                                     |                 |                 |                 |                 |
|-------|----------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 19816 | Montante per sottostruttura<br><i>Mullion with bearing structure</i> |                               |  |                 |                 |                 |                 |
|       | PESO<br><i>WEIGHT</i>                                                | PERIMETRO<br><i>PERIMETER</i> | SUP. VISTA<br><i>SHOWN SURF.</i>                                                    | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                                 | mm                            | mm                                                                                  | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.517 | 444                                                                  | 58                            | 6.579                                                                               | 2.461           | 14.30           | 5.720           |                 |



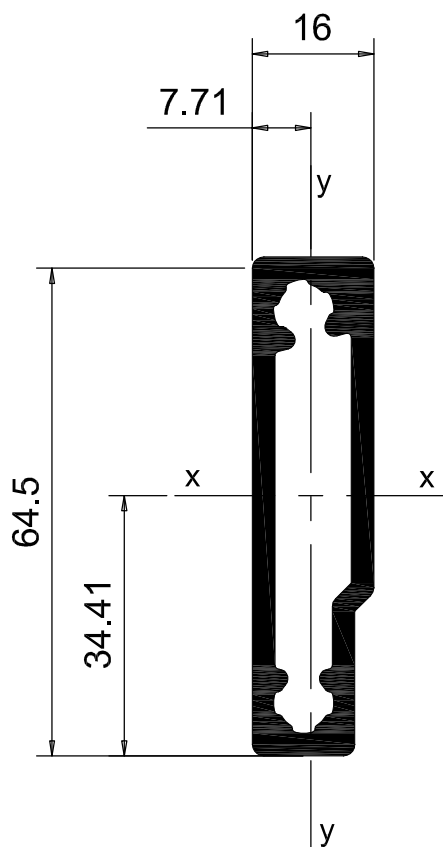
|       |                                                                      |                               |                                                                                     |                 |                 |                 |                 |
|-------|----------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22674 | Traverso per sottostruttura<br><i>Transom with bearing structure</i> |                               |  |                 |                 |                 |                 |
|       | PESO<br><i>WEIGHT</i>                                                | PERIMETRO<br><i>PERIMETER</i> | SUP. VISTA<br><i>SHOWN SURF.</i>                                                    | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                                 | mm                            | mm                                                                                  | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.318 | 350                                                                  | 56                            | 13.30                                                                               | 5.320           | 7.567           | 3.024           |                 |

**Profili 1:1 - Profiles 1:1**



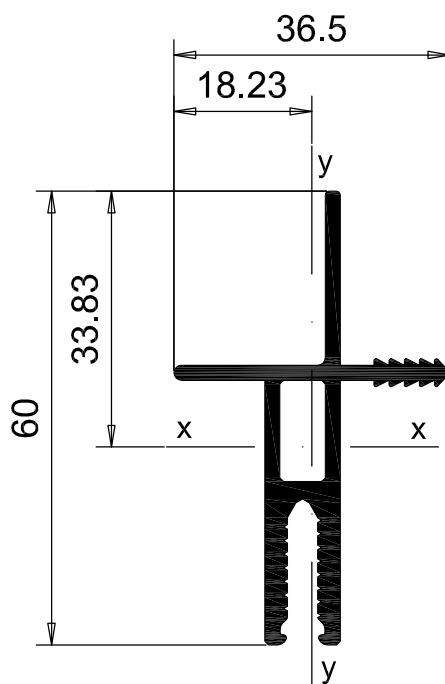
|       |                                                                                |                               |                                                                                      |                 |                 |                 |                 |
|-------|--------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22671 | Semi montante per angolo variabile<br><i>Partly mullion for variable angle</i> |                               |  |                 |                 |                 |                 |
|       | PESO<br><i>WEIGHT</i>                                                          | PERIMETRO<br><i>PERIMETER</i> | SUP. VISTA<br><i>SHOWN SURF.</i>                                                     | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                                           | mm                            | mm                                                                                   | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.676 | 362                                                                            | 134                           | 79.05                                                                                | 13.13           | 4.083           | 3.240           |                 |

**Profili 1:1 - Profiles 1:1**

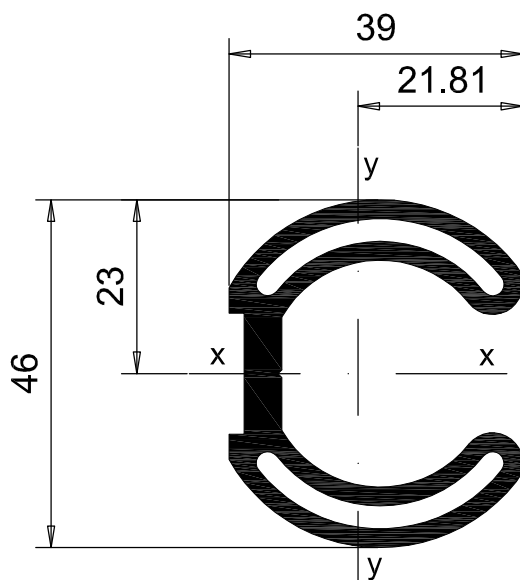


|       |                                                                                                   |                               |                                                                |                 |                 |                 |                 |
|-------|---------------------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22699 | Cannotto per montante<br>angolo variabile<br><i>Insert profile for angle variable<br/>mullion</i> |                               | <div><div><div>Y</div><div>X— —X</div><div>Y</div></div></div> |                 |                 |                 |                 |
|       | PESO<br><i>WEIGHT</i>                                                                             | PERIMETRO<br><i>PERIMETER</i> | SUP. VISTA<br><i>SHOWN SURF.</i>                               | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                                                              | mm                            | mm                                                             | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
|       | 1.351                                                                                             | 160                           | 0                                                              | 22.92           | 6.66            | 1.647           | 2.136           |

**Profili 1:1 - Profiles 1:1**

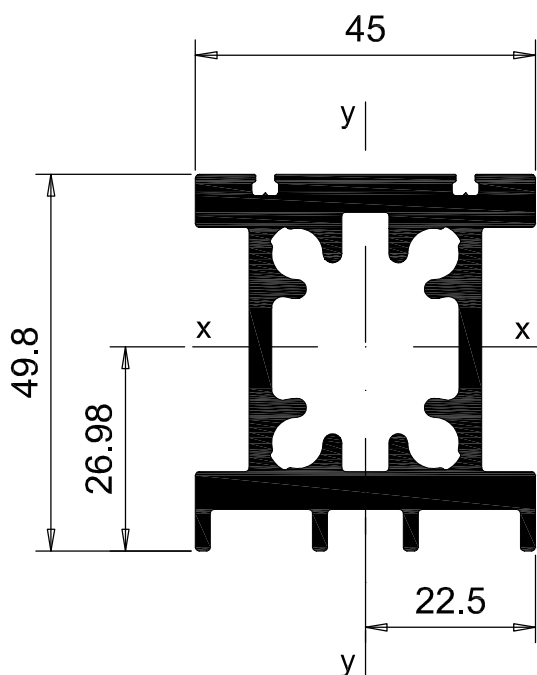


|       |                                                                                |                               |                                                                                     |                 |                 |                 |                 |
|-------|--------------------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22672 | Semi montante per angolo variabile<br><i>Partly mullion for variable angle</i> |                               |  |                 |                 |                 |                 |
|       | PESO<br><i>WEIGHT</i>                                                          | PERIMETRO<br><i>PERIMETER</i> | SUP. VISTA<br><i>SHOWN SURF.</i>                                                    | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                                           | mm                            | mm                                                                                  | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.856 | 245                                                                            | 0                             | 6.683                                                                               | 1.975           | 1.238           | 0.679           |                 |

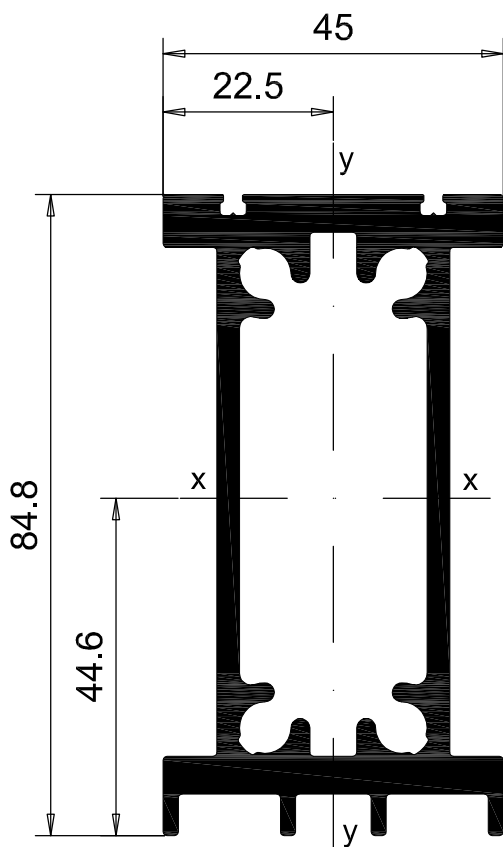


|       |                                                                     |                               |                                                                                      |                 |                 |                 |                 |
|-------|---------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 19828 | Cavallotto per angoli variabili<br><i>Adjustable corner T-joint</i> |                               |  |                 |                 |                 |                 |
|       | PESO<br><i>WEIGHT</i>                                               | PERIMETRO<br><i>PERIMETER</i> | SUP. VISTA<br><i>SHOWN SURF.</i>                                                     | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                                | mm                            | mm                                                                                   | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.415 | 212                                                                 | 0                             | 11.42                                                                                | 4.965           | 7.314           | 3.353           |                 |

**Profili 1:1 - Profiles 1:1**

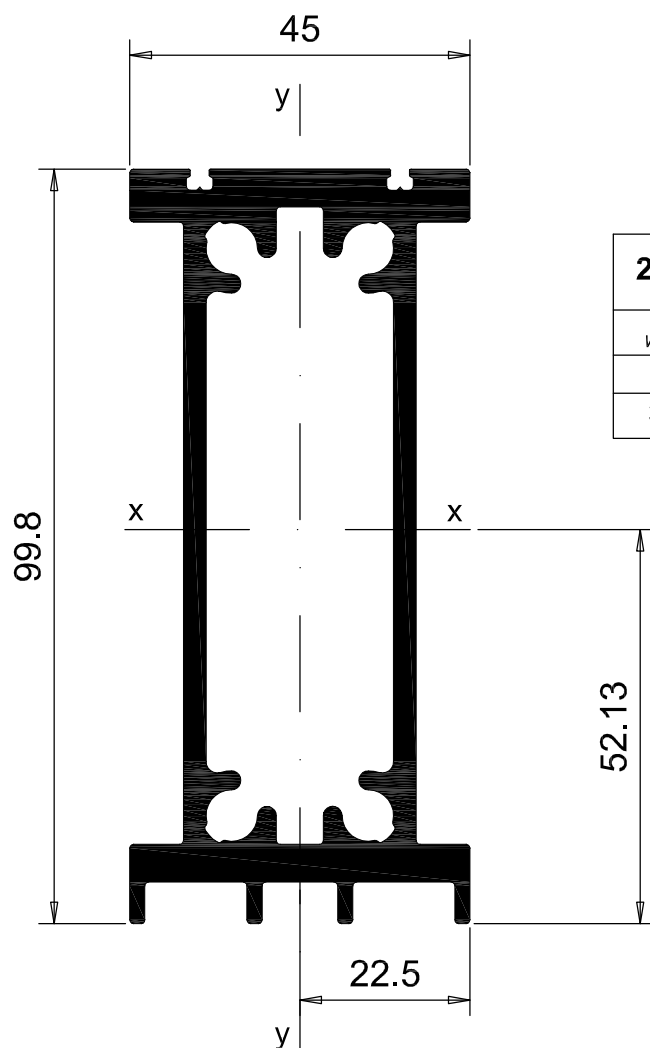


| <b>24584</b>   | Profilo per canotto da 50 mm.<br>50 mm. insert profile |                           |  |                 |                 |                 |
|----------------|--------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                 | SUP. VISTA<br>SHOWN SURF. | J <sub>x</sub>                                                                      | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m           | mm                                                     | mm                        | cm <sup>4</sup>                                                                     | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 2.341          | 260                                                    | 0                         | 24.90                                                                               | 9.23            | 14.47           | 6.43            |

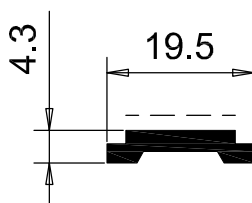


| <b>22613</b>   | Profilo per canotto da 85 mm<br>85 mm. insert profile |                           |  |                 |                 |                 |
|----------------|-------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                | SUP. VISTA<br>SHOWN SURF. | J <sub>x</sub>                                                                        | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m           | mm                                                    | mm                        | cm <sup>4</sup>                                                                       | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 2.907          | 330                                                   | 0                         | 101.84                                                                                | 22.82           | 18.54           | 8.240           |

**Profili 1:1 - Profiles 1:1**

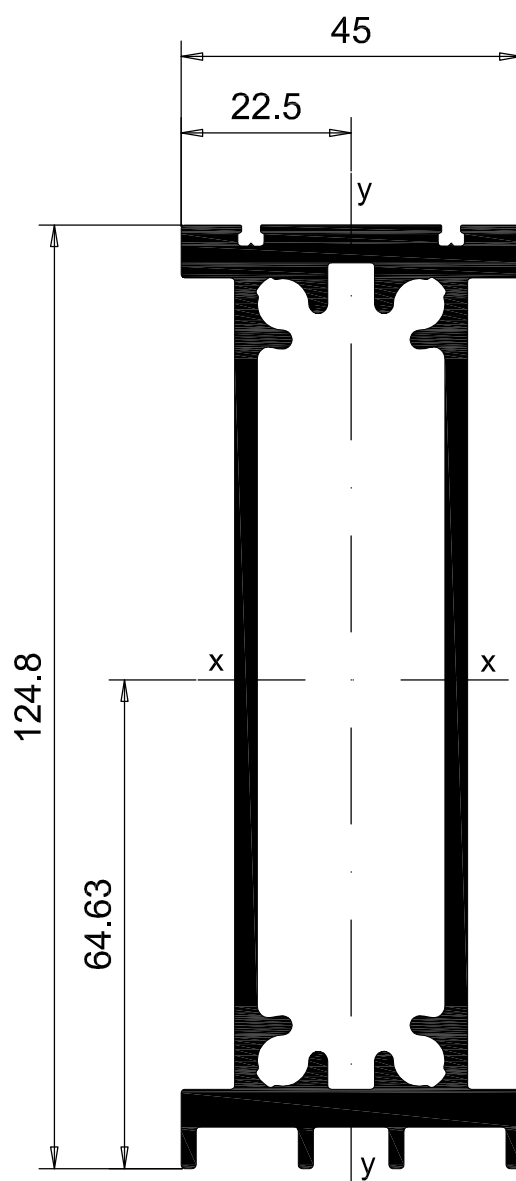


|                |                                                          |                           |                                                              |                 |                 |                 |
|----------------|----------------------------------------------------------|---------------------------|--------------------------------------------------------------|-----------------|-----------------|-----------------|
| 24497          | Profilo per canotto da 100 mm.<br>100 mm. insert profile |                           | <div><div><div>Y</div><div>X—X</div><div>Y</div></div></div> |                 |                 |                 |
|                |                                                          |                           | J <sub>x</sub>                                               | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                   | SUP. VISTA<br>SHOWN SURF. |                                                              |                 |                 |                 |
| Kg/m           | mm                                                       | mm                        | cm <sup>4</sup>                                              | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 3.151          | 360                                                      | 0                         | 167.08                                                       | 32.05           | 16.71           | 7.43            |



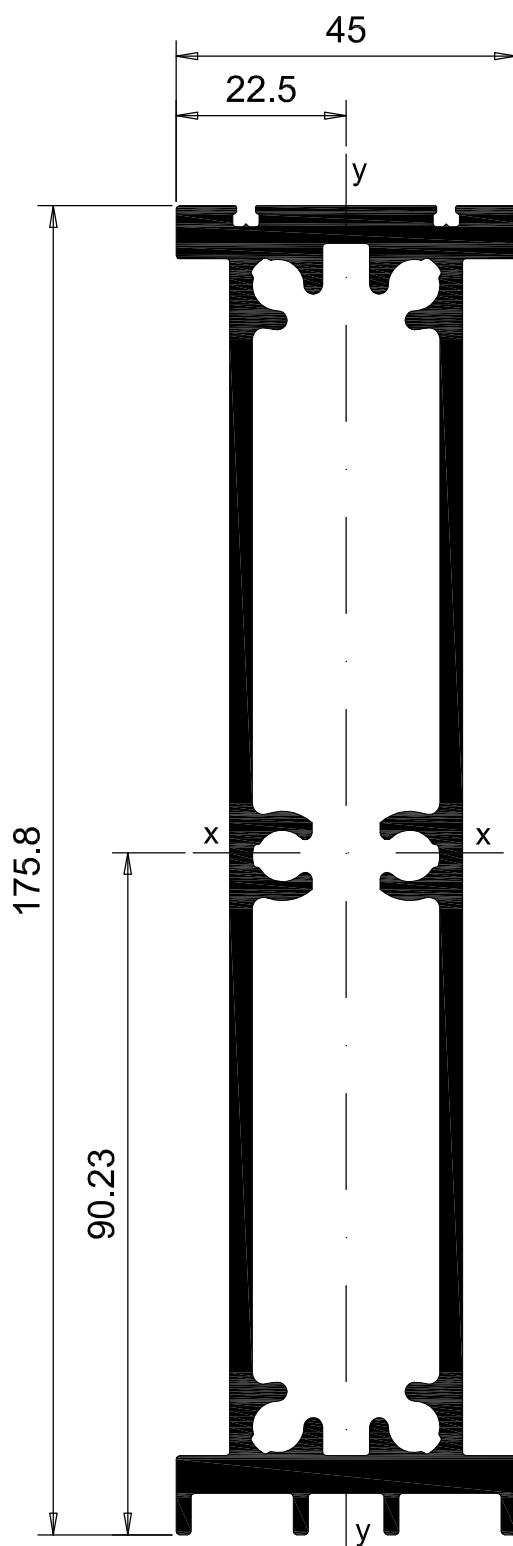
|                       |                                                |                                  |                                                              |                 |                 |                 |
|-----------------------|------------------------------------------------|----------------------------------|--------------------------------------------------------------|-----------------|-----------------|-----------------|
| <b>6405</b>           | Asta di comando chiusure<br><i>Closing rod</i> |                                  | <div><div><div>Y</div><div>X—X</div><div>Y</div></div></div> |                 |                 |                 |
| PESO<br><i>WEIGHT</i> | PERIMETRO<br><i>PERIMETER</i>                  | SUP. VISTA<br><i>SHOWN SURF.</i> | J <sub>x</sub>                                               | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| Kg/m                  | mm                                             | mm                               | cm <sup>4</sup>                                              | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.159                 | 49                                             | 15                               |                                                              |                 |                 |                 |

**Profili 1:1 - Profiles 1:1**



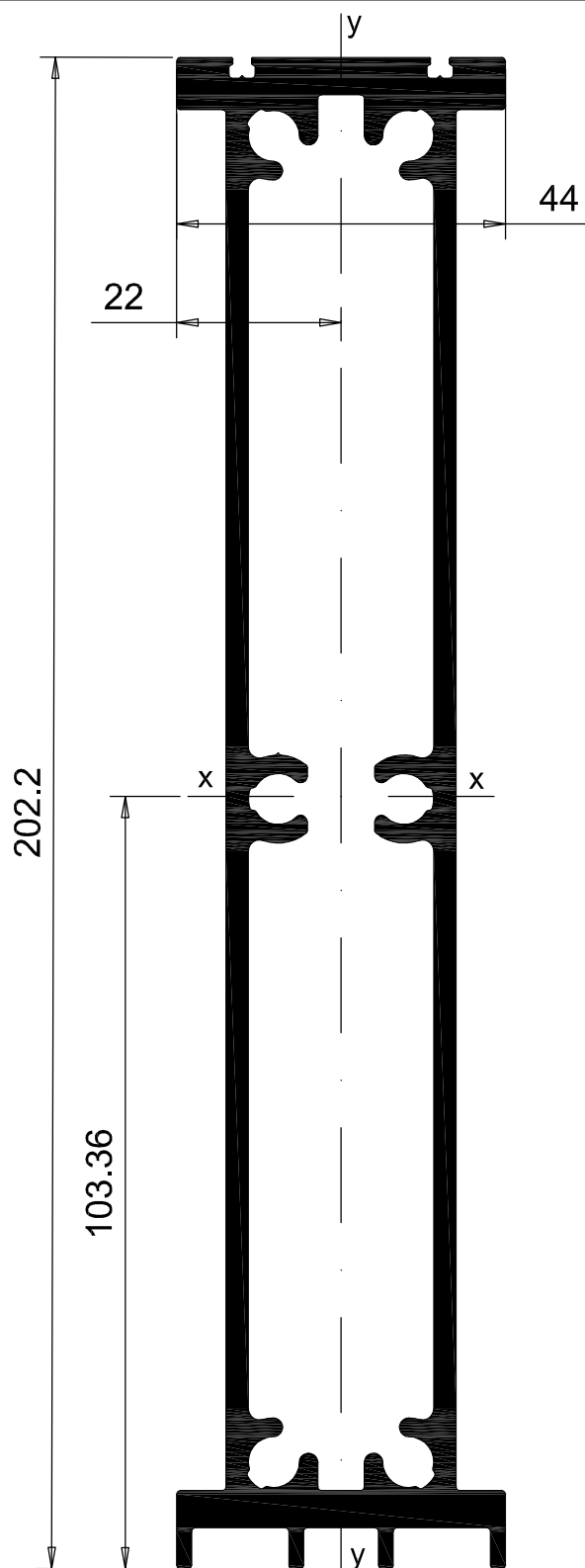
|       |                                                                |                               |                                                                                      |                 |                 |                 |                 |
|-------|----------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22614 | Profilo per canotto da 125 mm<br><i>125 mm. insert profile</i> |                               |  |                 |                 |                 |                 |
|       | PESO<br><i>WEIGHT</i>                                          | PERIMETRO<br><i>PERIMETER</i> | SUP. VISTA<br><i>SHOWN SURF.</i>                                                     | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                           | mm                            | mm                                                                                   | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 3.555 | 410                                                            | 0                             | 271.25                                                                               | 41.97           | 23.20           | 10.31           |                 |

**Profili 1:1 - Profiles 1:1**



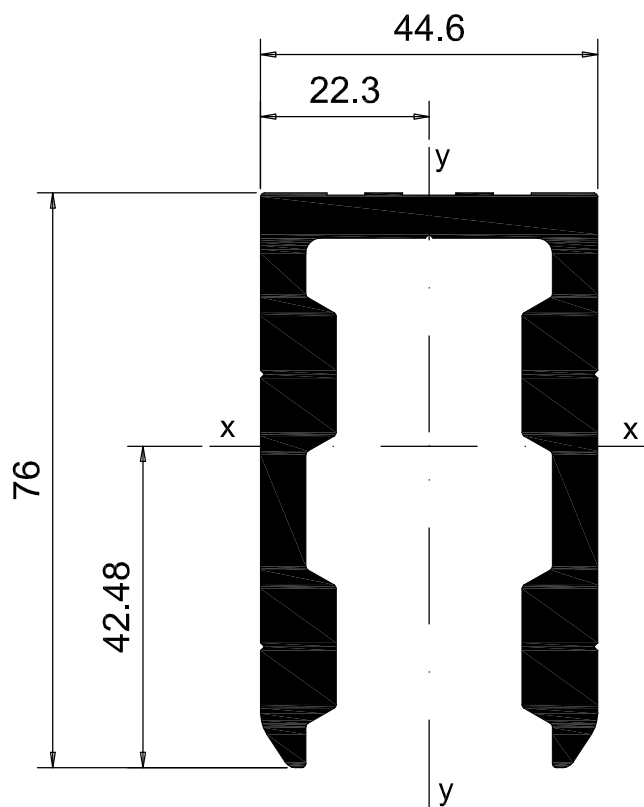
|       |                                                          |                        |                                                                |                 |                 |                 |                 |
|-------|----------------------------------------------------------|------------------------|----------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 22673 | Profilo per cannotto da 176 mm<br>176 mm. insert profile |                        | <div><div><div>Y</div><div>X— —X</div><div>Y</div></div></div> |                 |                 |                 |                 |
|       | PESO<br>WEIGHT                                           | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                      | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                     | mm                     | mm                                                             | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 4.633 | 512                                                      | 0                      | 642.78                                                         | 71.24           | 29.91           | 13.29           |                 |

**Profili 1:1 - Profiles 1:1**

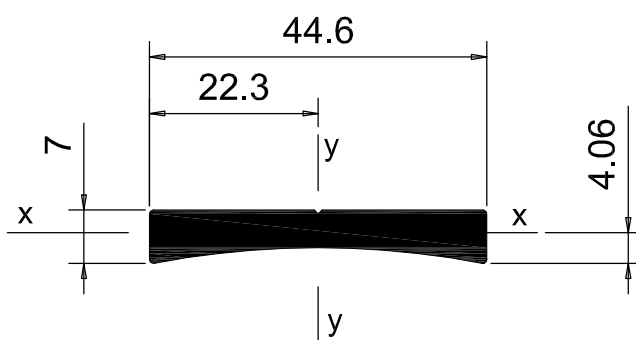


| 24482 | Profilo per canotto da 202 mm<br>202 mm. insert profile |                        |  |                 |                 |                 |
|-------|---------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
|       | PESO<br>WEIGHT                                          | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                                            | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  |
|       | Kg/m                                                    | mm                     | mm                                                                                   | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> |
|       | 5.028                                                   | 560                    | 0                                                                                    | 904.46          | 87.51           | 32.34           |
|       |                                                         |                        |                                                                                      |                 |                 | 14.70           |

**Profili 1:1 - Profiles 1:1**



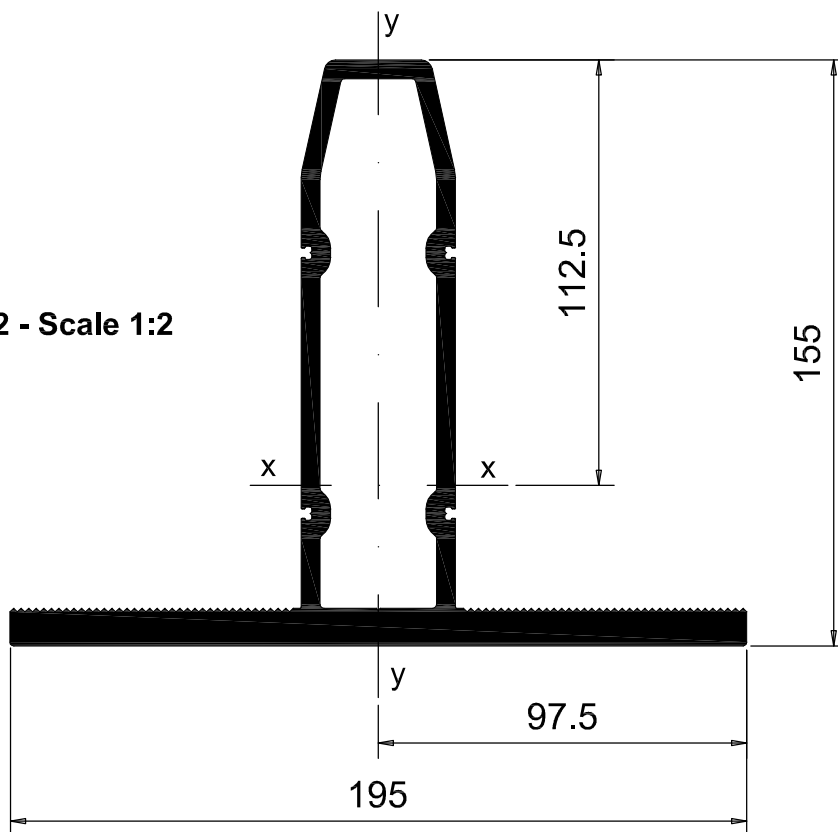
|                |                                                                                         |                           |                 |                 |                 |                 |
|----------------|-----------------------------------------------------------------------------------------|---------------------------|-----------------|-----------------|-----------------|-----------------|
| <b>22697</b>   | Cannotto per aggancio montante<br>piramide<br><i>Insert profile for pyramid mullion</i> |                           |                 |                 |                 |                 |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                                                  | SUP. VISTA<br>SHOWN SURF. | $J_x$           | $W_x$           | $J_y$           | $W_y$           |
| Kg/m           | mm                                                                                      | mm                        | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 3.709          | 395                                                                                     | 0                         | 72.31           | 17.022          | 41.06           | 18.413          |



|                |                                                                                                |                           |                 |                 |                 |                 |
|----------------|------------------------------------------------------------------------------------------------|---------------------------|-----------------|-----------------|-----------------|-----------------|
| <b>22698</b>   | Profilo compensatore per<br>cannotto 22697<br><i>Compensating profile for<br/>insert 22697</i> |                           |                 |                 |                 |                 |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                                                         | SUP. VISTA<br>SHOWN SURF. | $J_x$           | $W_x$           | $J_y$           | $W_y$           |
| Kg/m           | mm                                                                                             | mm                        | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.688          | 103                                                                                            | 0                         | 0.748           | 1.842           | 4.649           | 2.085           |

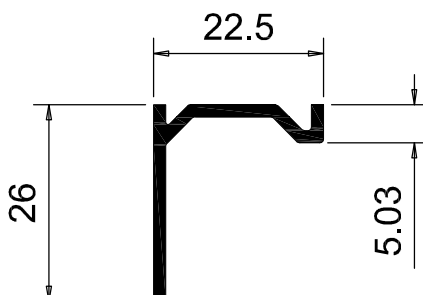
**Profili - Profiles**

**Scala 1:2 - Scale 1:2**



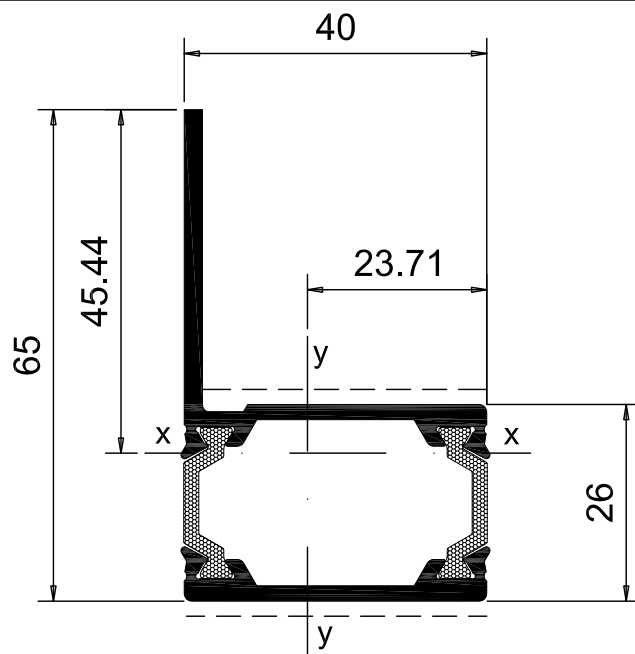
|       |                                                                                                      |                               |                                                                |                 |                 |                 |                 |
|-------|------------------------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 24581 | Cannotto per fissaggio<br>superiore/inferiore<br><i>Insert profile for lower/upper<br/>anchoring</i> |                               | <div><div><div>Y</div><div>X— —X</div><div>Y</div></div></div> |                 |                 |                 |                 |
|       | PESO<br><i>WEIGHT</i>                                                                                | PERIMETRO<br><i>PERIMETER</i> | SUP. VISTA<br><i>SHOWN SURF.</i>                               | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                                                                 | mm                            | mm                                                             | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
|       | 9.431                                                                                                | 773                           | 0                                                              | 882.88          | 78.48           | 631.85          | 64.80           |

**Scala 1:1 - Scale 1:1**

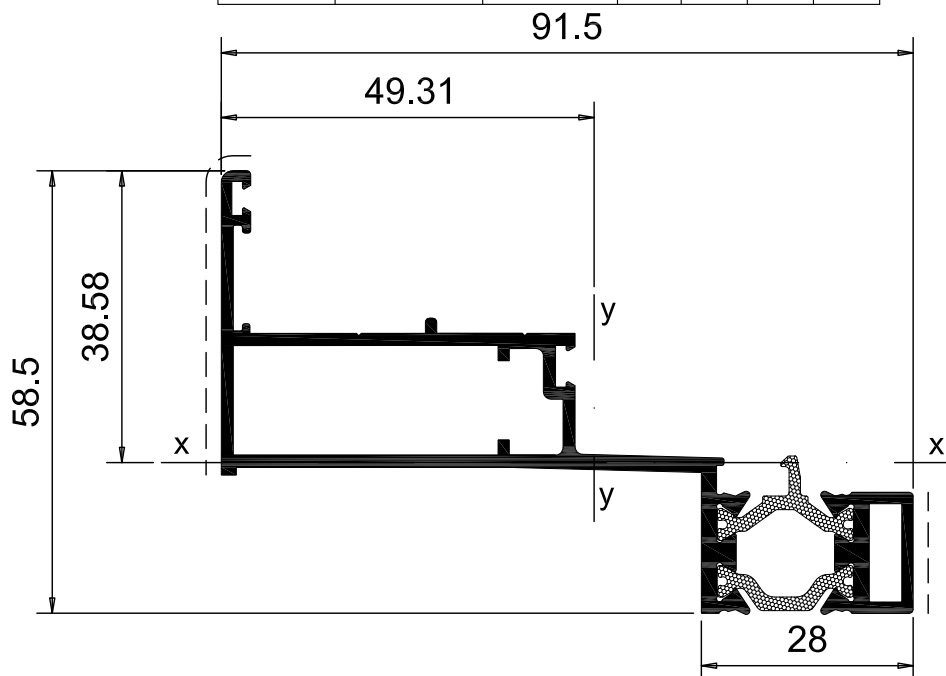


|       |                                                                            |                               |                                                                                     |                 |                 |                 |                 |
|-------|----------------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| 24585 | Profilo per raccordo inferiore<br><i>Profile building lower connection</i> |                               |  |                 |                 |                 |                 |
|       | PESO<br><i>WEIGHT</i>                                                      | PERIMETRO<br><i>PERIMETER</i> | SUP. VISTA<br><i>SHOWN SURF.</i>                                                    | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|       | Kg/m                                                                       | mm                            | mm                                                                                  | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 0.230 | 107                                                                        | 0                             |                                                                                     |                 |                 |                 |                 |

**Profili 1:1 - Profiles 1:1**

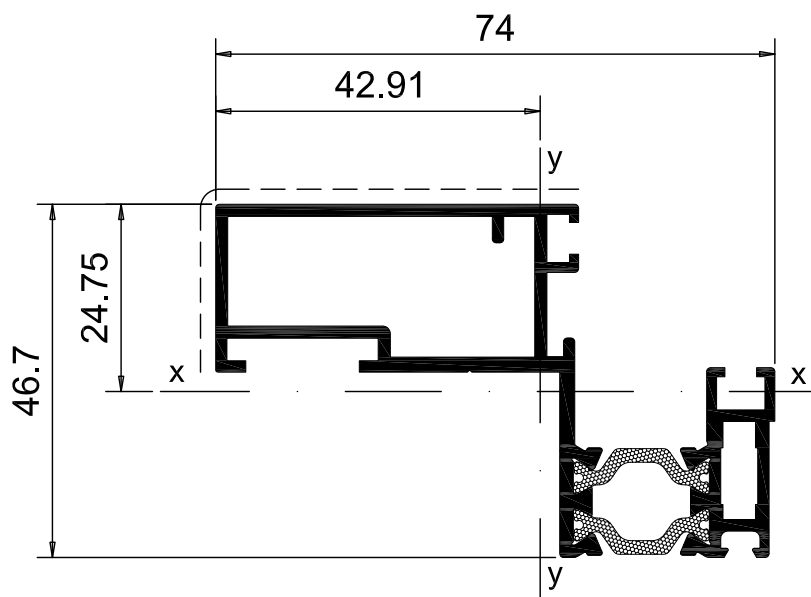


|        |                                                                           |                               |                                                                                    |                 |                 |                 |                 |
|--------|---------------------------------------------------------------------------|-------------------------------|------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| TTE156 | Distanziatore a muro a taglio termico<br><i>Thermal break wall spacer</i> |                               |  |                 |                 |                 |                 |
|        | PESO<br><i>WEIGHT</i>                                                     | PERIMETRO<br><i>PERIMETER</i> | SUP. VISTA<br><i>SHOWN SURF.</i>                                                   | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|        | Kg/m                                                                      | mm                            | mm                                                                                 | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
|        | 1.031                                                                     | 232                           | 78                                                                                 | 11.48           | 2.526           | 7.008           | 2.956           |

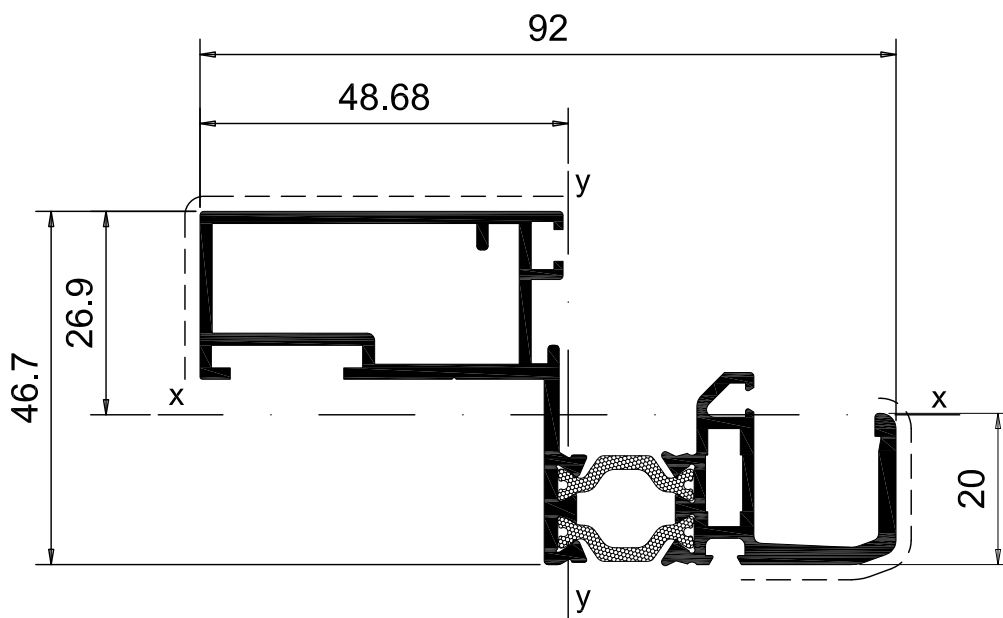


|        |                                                                               |                               |                                                                                      |                 |                 |                 |                 |
|--------|-------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| TTE160 | Telaio fisso per aperture a sporgere<br><i>Fixed frame for awning windows</i> |                               |  |                 |                 |                 |                 |
|        | PESO<br><i>WEIGHT</i>                                                         | PERIMETRO<br><i>PERIMETER</i> | SUP. VISTA<br><i>SHOWN SURF.</i>                                                     | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|        | Kg/m                                                                          | mm                            | mm                                                                                   | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
|        | 1.356                                                                         | 367                           | 60                                                                                   | 8.750           | 2.268           | 42.81           | 8.682           |

**Profili 1:1 - Profiles 1:1**

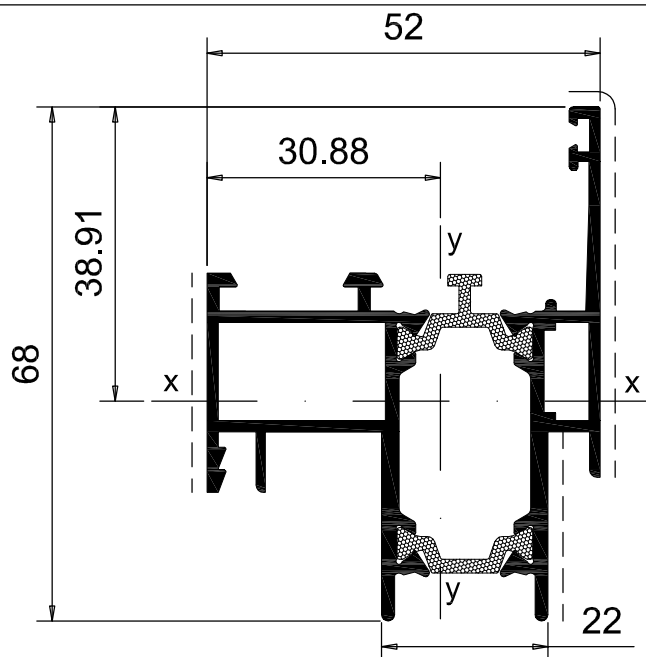


| <b>TTE161</b>  | Telaio apribile strutturale per aperture a sporgere<br><i>Structural leaf frame for awning window</i> |                           |  |                 |                 |                 |
|----------------|-------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
|                |                                                                                                       |                           | J <sub>x</sub>                                                                     | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                                                                | SUP. VISTA<br>SHOWN SURF. | cm <sup>4</sup>                                                                    | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.298          | 360                                                                                                   | 69                        | 9.164                                                                              | 3.702           | 22.57           | 5.260           |

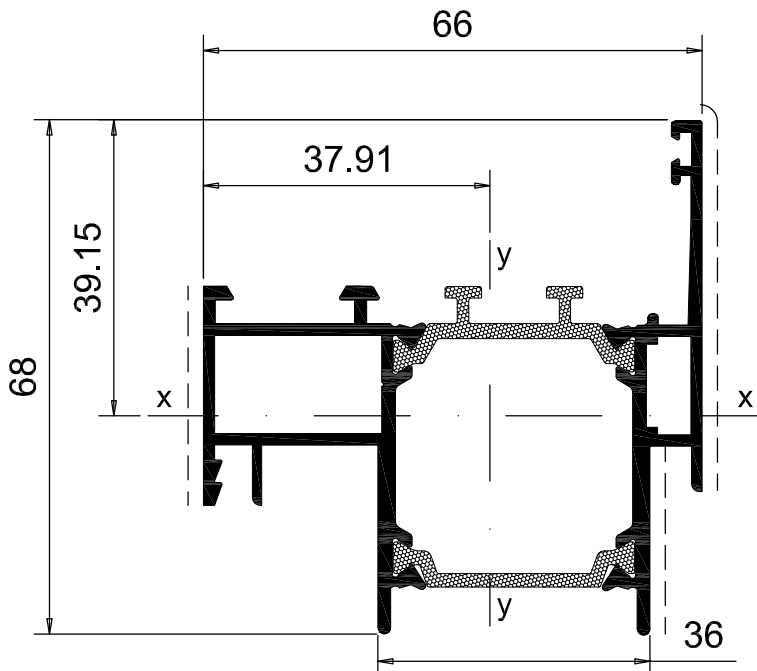


| <b>TTE162</b>  | Telaio apribile per aperture a sporgere<br><i>Leaf frame for awning windows</i> |                           |  |                 |                 |                 |
|----------------|---------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
|                |                                                                                 |                           | J <sub>x</sub>                                                                       | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
| PESO<br>WEIGHT | PERIMETRO<br>PERIMETER                                                          | SUP. VISTA<br>SHOWN SURF. | cm <sup>4</sup>                                                                      | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
| 1.515          | 424                                                                             | 109                       | 12.03                                                                                | 4.472           | 37.71           | 7.746           |

**Profili 1:1 - Profiles 1:1**

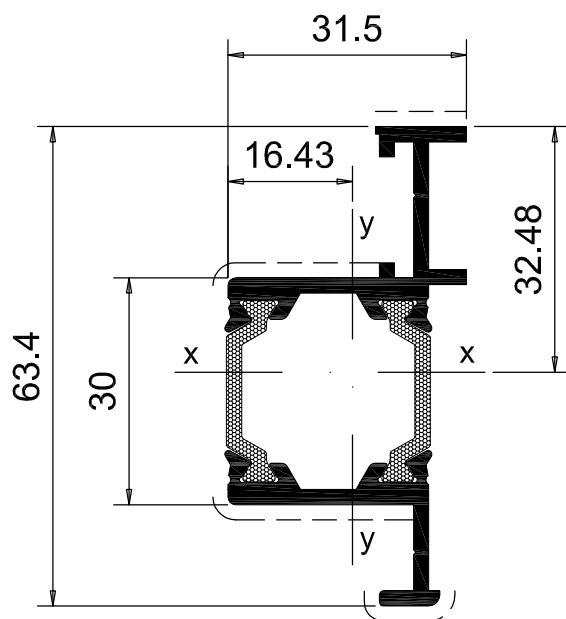


|        |                                                                                                                |                        |                                                                        |                 |                 |                 |                 |
|--------|----------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| TTE556 | Telaio per inserimento anta<br>apribileserie EKU 52 TT<br>Frame for openable leaf<br>insertionseries EKU 52 TT |                        | <div><div><div>Y</div><div>X</div><div>X</div><div>Y</div></div></div> |                 |                 |                 |                 |
|        | PESO<br>WEIGHT                                                                                                 | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                              | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|        | Kg/m                                                                                                           | mm                     | mm                                                                     | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
|        | 1.357                                                                                                          | 390                    | 106                                                                    | 10.09           | 2.593           | 13.71           | 4.440           |

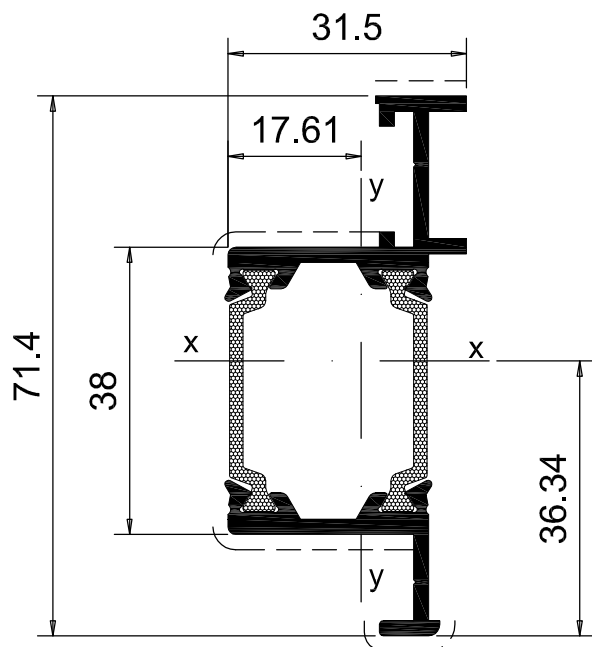


|        |                                                                                                                |                        |                                                                |                 |                 |                 |                 |
|--------|----------------------------------------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| TTE756 | Telaio per inserimento anta<br>apribileserie EKU 66 TT<br>Frame for openable leaf<br>insertionseries EKU 66 TT |                        | <div><div><div>Y</div><div>X—+—X</div><div>Y</div></div></div> |                 |                 |                 |                 |
|        | PESO<br>WEIGHT                                                                                                 | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                                      | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|        | Kg/m                                                                                                           | mm                     | mm                                                             | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
|        | 1.453                                                                                                          | 433                    | 106                                                            | 10.11           | 2.582           | 25.78           | 6.800           |

**Profili 1:1 - Profiles 1:1**

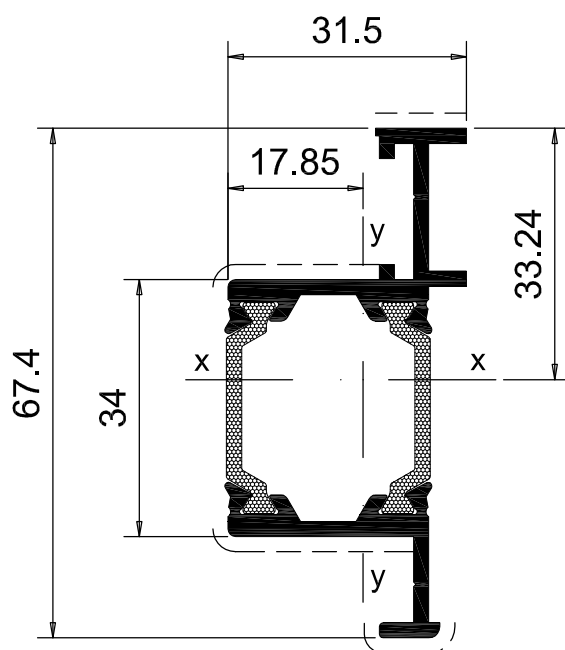


|        |                                                                                                                         |                        |                                                     |                 |                 |                 |                 |
|--------|-------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| TTE163 | Telaio per inserimento porte serie<br>EKU 66 TT PORTE<br><i>Frame for door leaf insertion series</i><br>EKU 66 TT PORTE |                        | <div><div>Y</div><div>X—+—X</div><div>Y</div></div> |                 |                 |                 |                 |
|        | PESO<br>WEIGHT                                                                                                          | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                           | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|        | Kg/m                                                                                                                    | mm                     | mm                                                  | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
|        | 0.999                                                                                                                   | 258                    | 69                                                  | 10.62           | 3.270           | 2.607           | 1.586           |



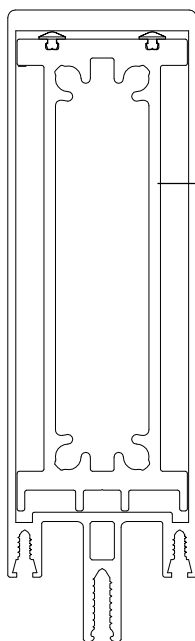
|        |                                                                                                      |                        |                                                     |                 |                 |                 |                 |
|--------|------------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| TTE165 | Telaio per inserimento porte serie<br>EKU 78 TT<br>Frame for door leaf insertion series<br>EKU 78 TT |                        | <div><div>Y</div><div>X—+—X</div><div>Y</div></div> |                 |                 |                 |                 |
|        | PESO<br>WEIGHT                                                                                       | PERIMETRO<br>PERIMETER | SUP. VISTA<br>SHOWN SURF.                           | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|        | Kg/m                                                                                                 | mm                     | mm                                                  | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
|        | 1.049                                                                                                | 274                    | 69                                                  | 15.36           | 4.227           | 2.79            | 1.584           |

**Profili 1:1 - Profiles 1:1**



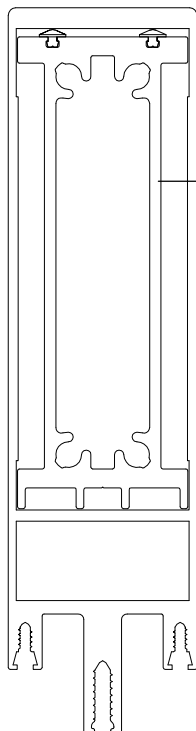
|               |                                                                                                              |                               |                                                   |                 |                 |                 |                 |
|---------------|--------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| <b>TTE166</b> | Telaio per inserimento porte serie<br>EKU 62 TT<br><i>Frame for door leaf insertion series<br/>EKU 62 TT</i> |                               | <div><div>Y</div><div>X—X</div><div>Y</div></div> |                 |                 |                 |                 |
|               | PESO<br><i>WEIGHT</i>                                                                                        | PERIMETRO<br><i>PERIMETER</i> | SUP. VISTA<br><i>SHOWN SURF.</i>                  | J <sub>x</sub>  | W <sub>x</sub>  | J <sub>y</sub>  | W <sub>y</sub>  |
|               | Kg/m                                                                                                         | mm                            | mm                                                | cm <sup>4</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> |
|               | 1.015                                                                                                        | 266                           | 69                                                | 12.85           | 3.865           | 2.624           | 1.470           |

**Profili 1:1 - Profiles 1:1**



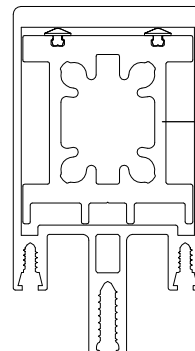
553-0051  
oppure profilo  
22614

Montante 19801



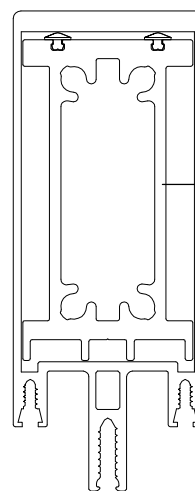
553-0051  
oppure profilo  
22614

Montante 19814



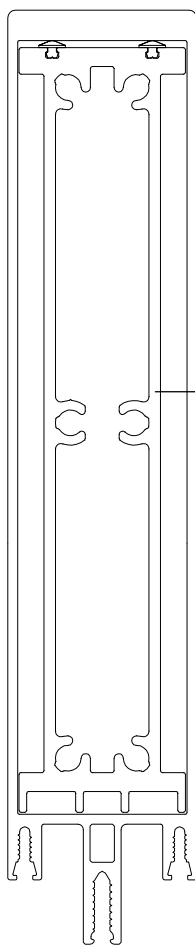
EA-0199  
oppure profilo  
24584

Montante 24582



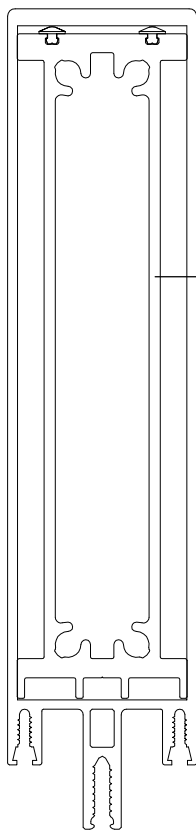
553-0050  
oppure profilo  
22613

Montante 19813



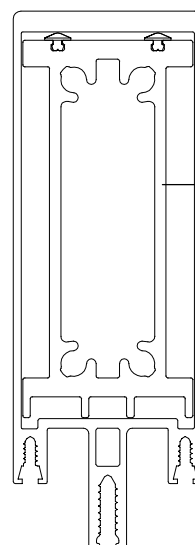
EA-0189  
oppure profilo  
24482

Montante 24481



553-0066  
oppure profilo  
22673

Montante 22670



EA-0194  
oppure profilo  
24497

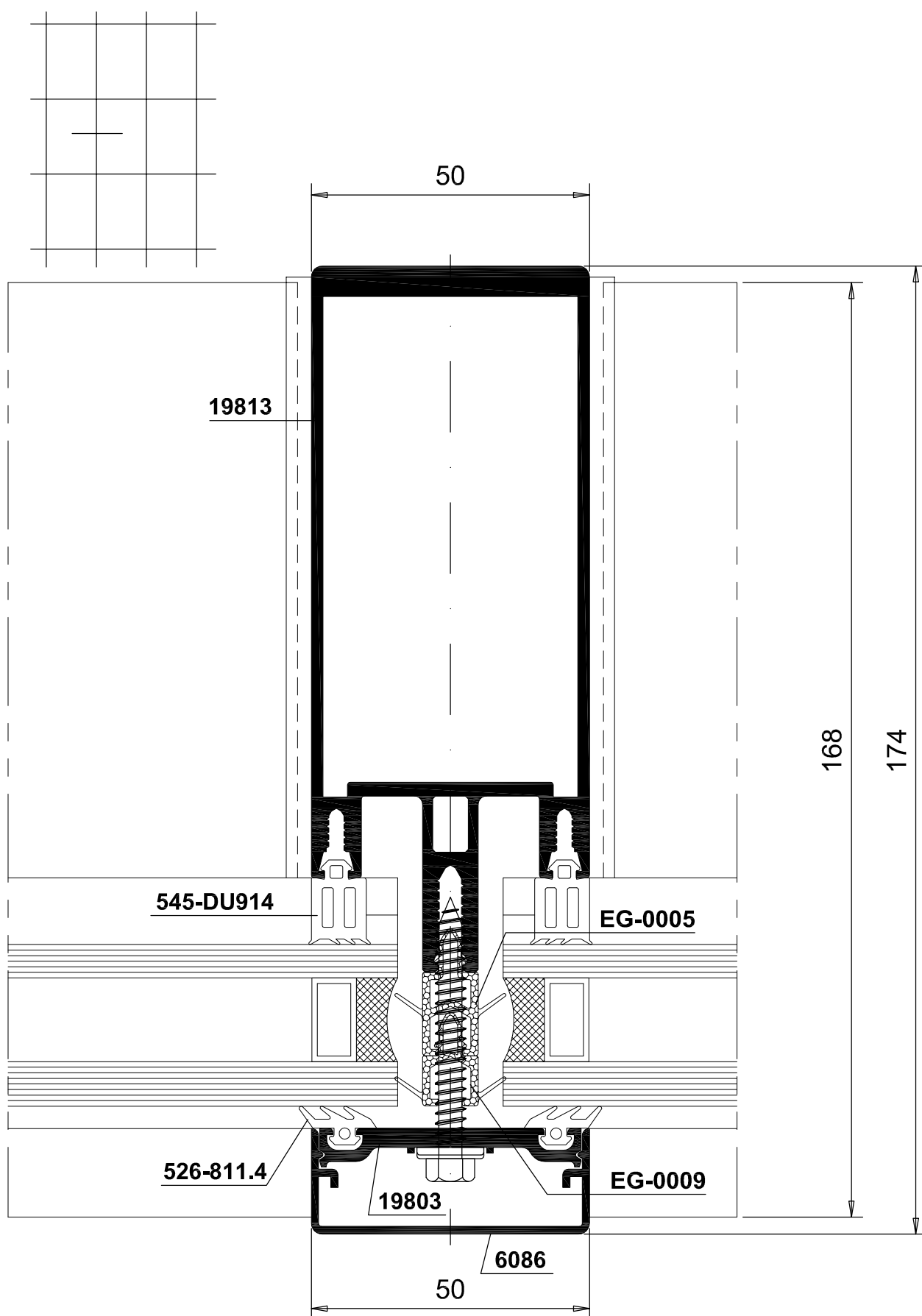
Montante 24496

# SEZIONI IN SCALA 1:1

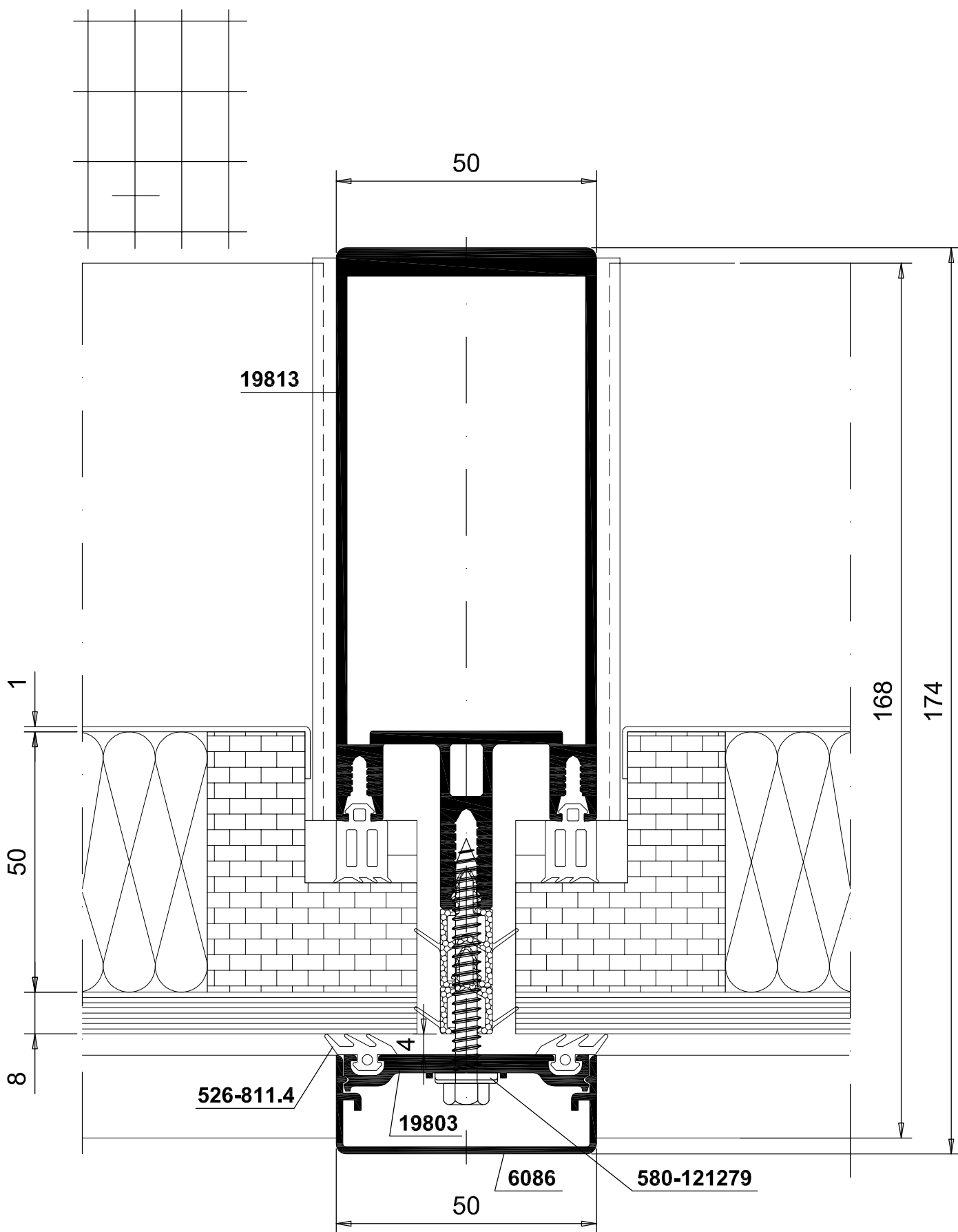


# CROSS SECTIONS 1:1

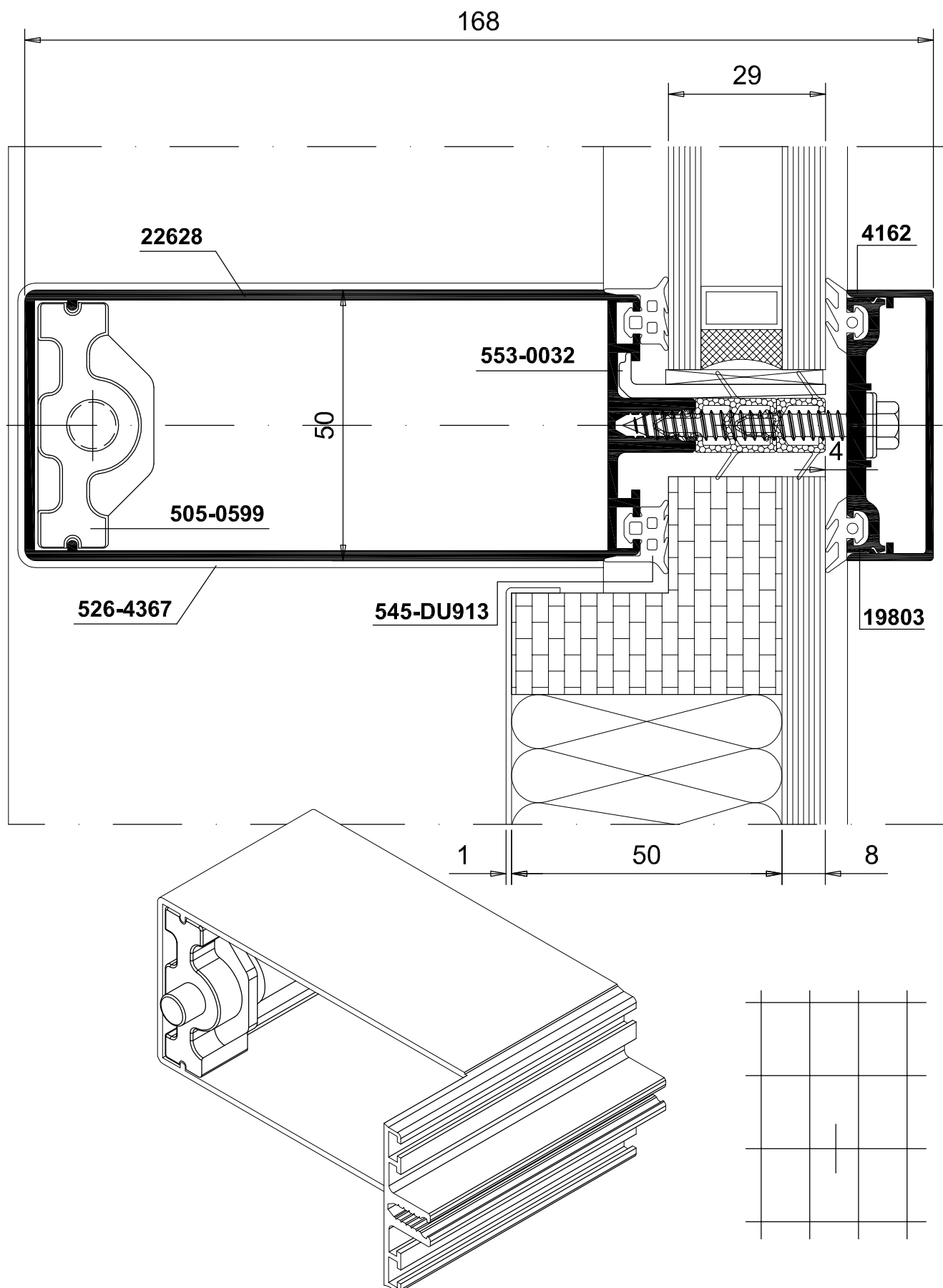
**Sezioni 1:1 - Cross sections 1:1**



## Sezioni 1:1 - Cross sections 1:1



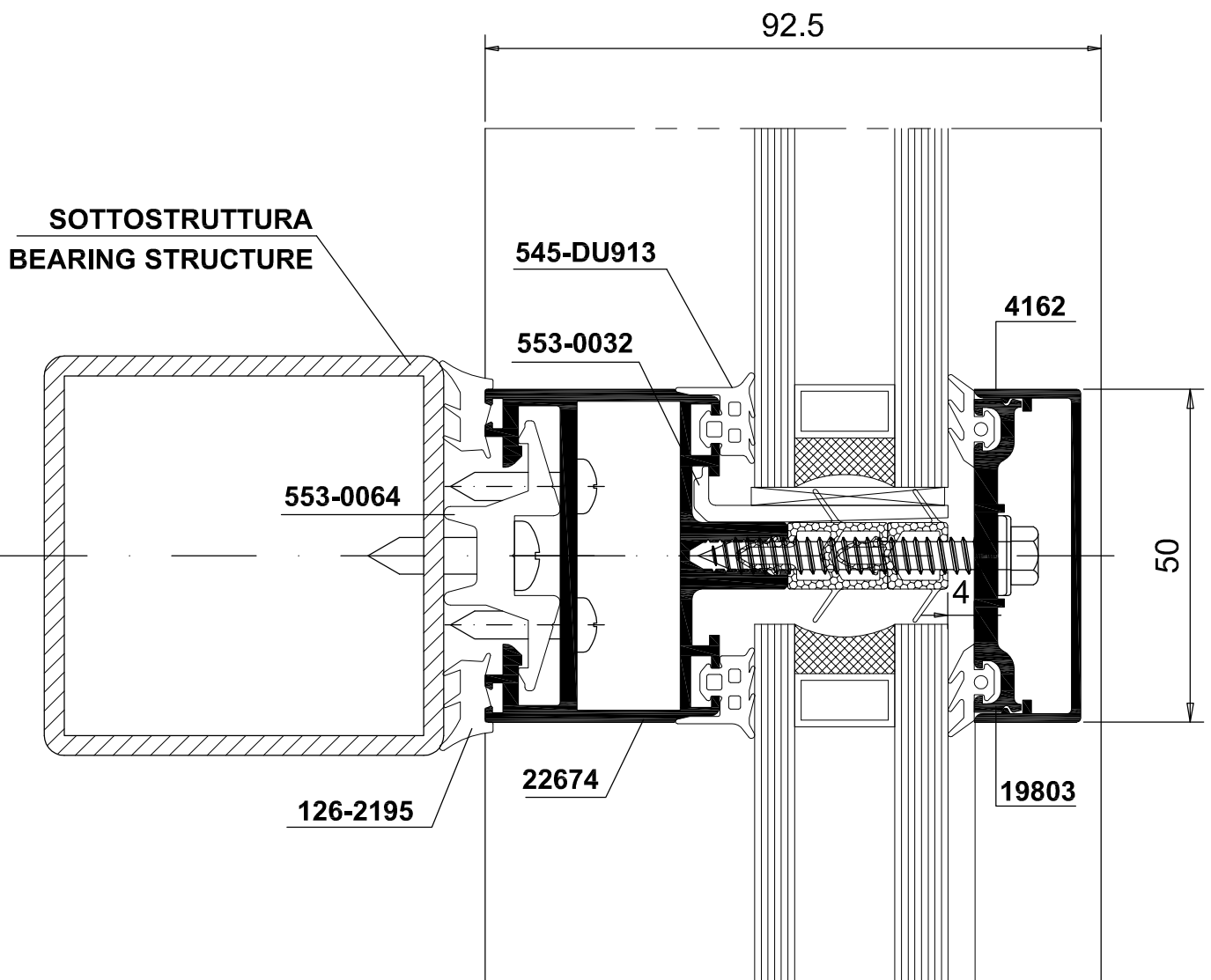
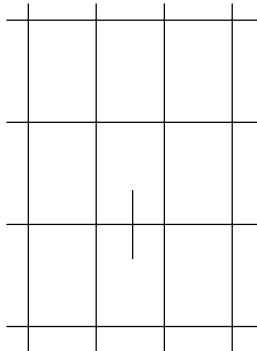
**Sezioni 1:1 - Cross sections 1:1**



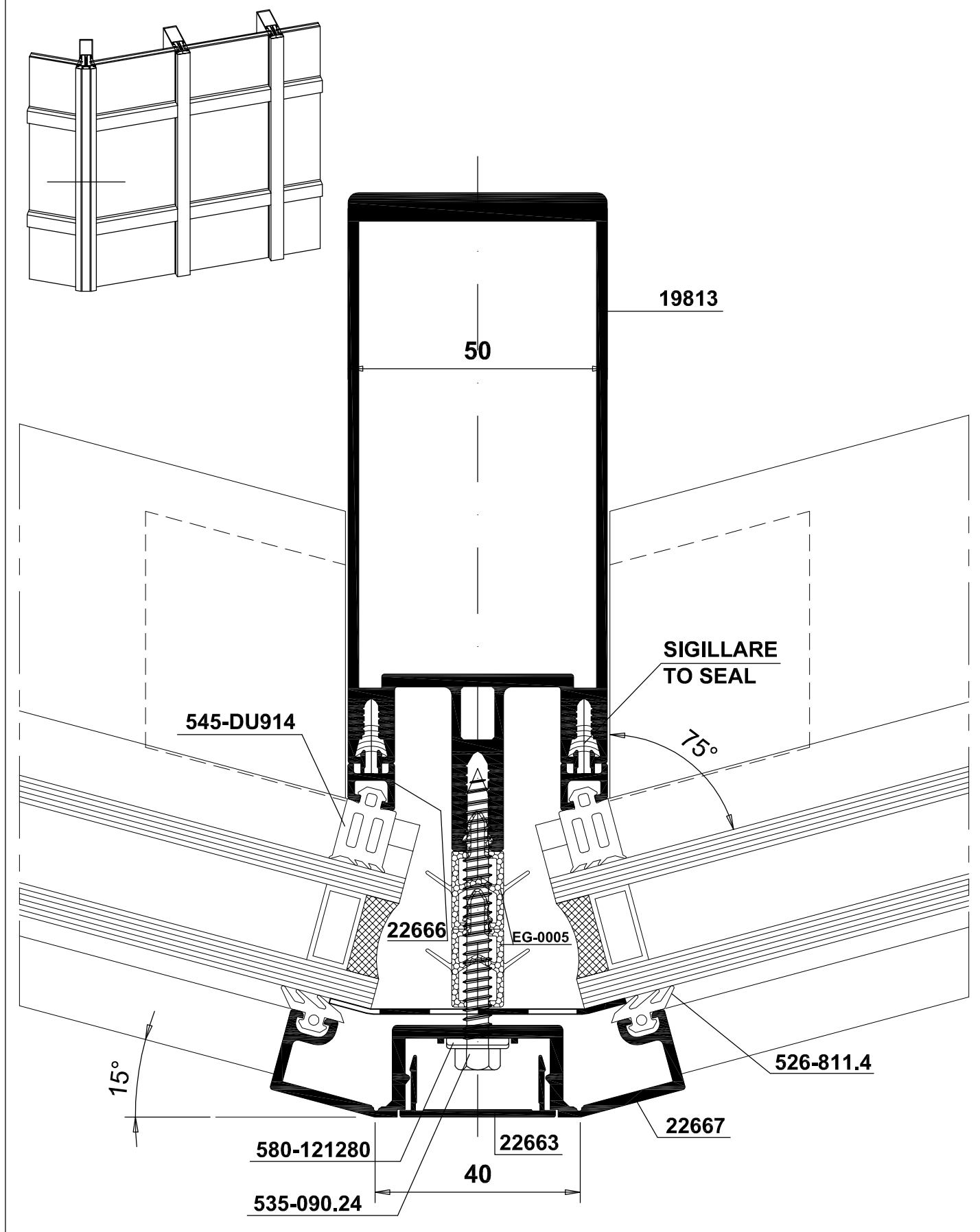


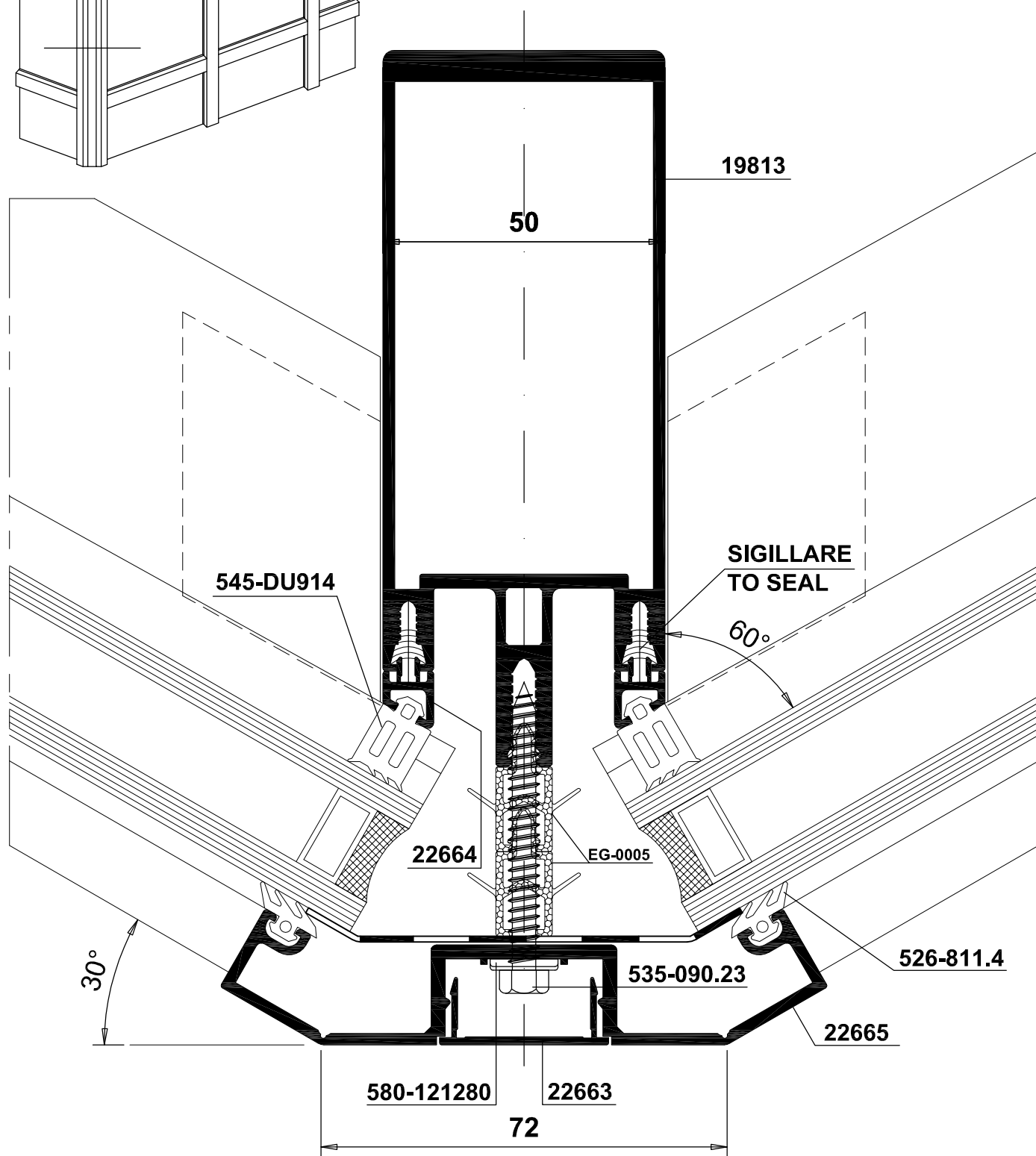
**Sezioni 1:1 - Cross sections 1:1**

**EKU 50 GLASS R**

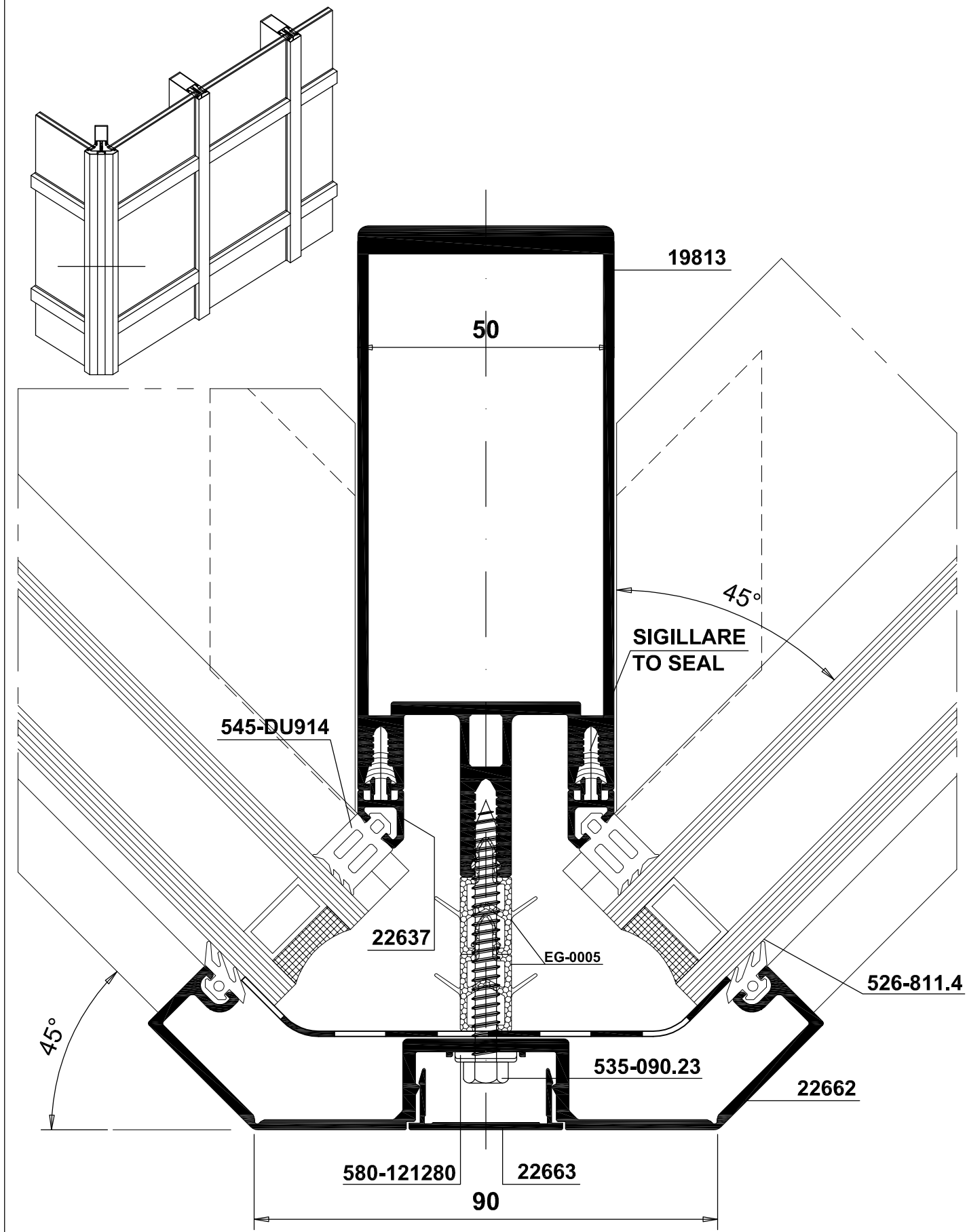


**Sezioni 1:1 - Cross sections 1:1**

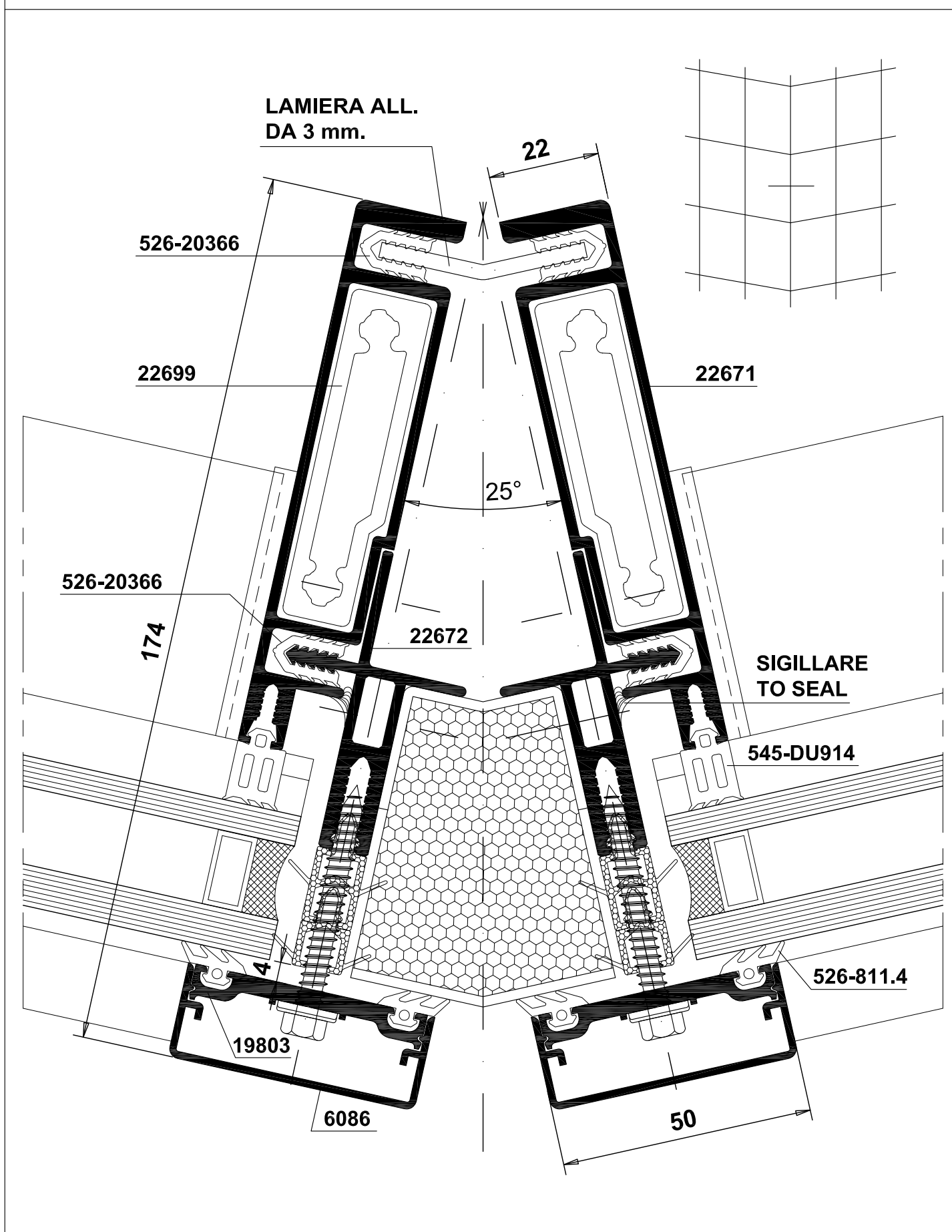




### Sezioni 1:1 - Cross sections 1:1



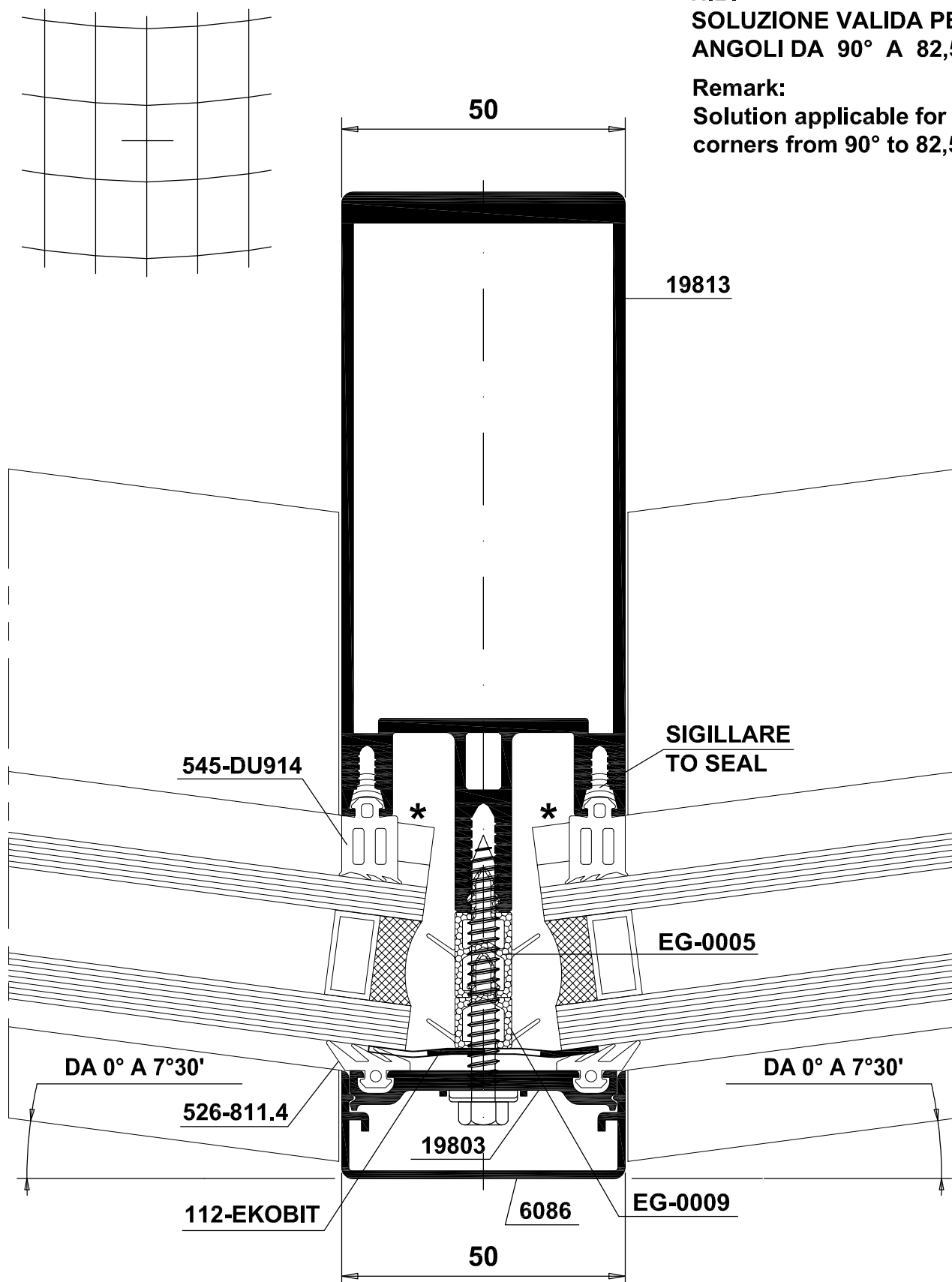
**Sezioni 1:1 - Cross sections 1:1**



**Sezioni 1:1 - Cross sections 1:1**

**N.B.**  
**SOLUZIONE VALIDA PER**  
**ANGOLI DA 90° A 82,5°**

**Remark:**  
**Solution applicable for**  
**corners from 90° to 82,5°**



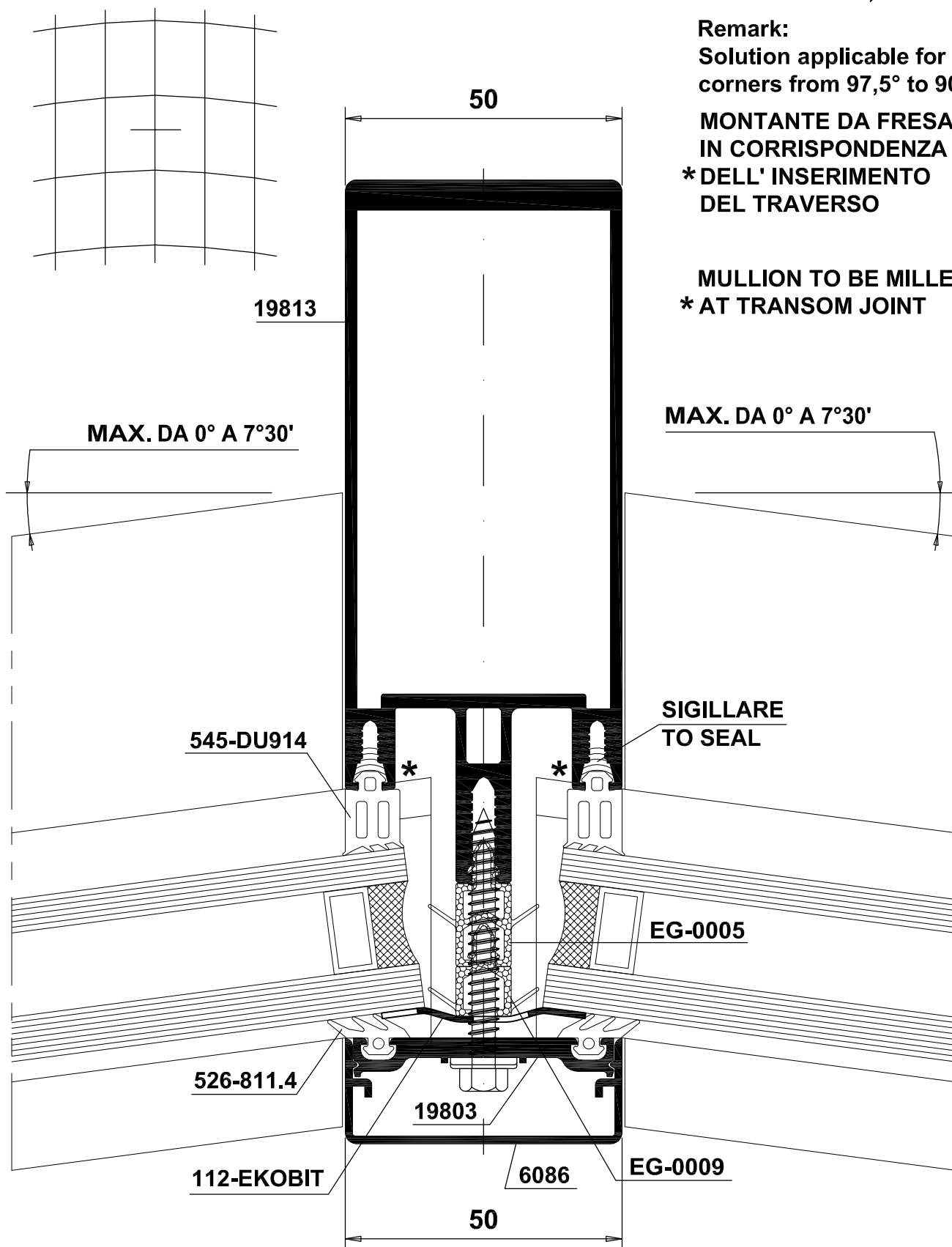
**Sezioni 1:1 - Cross sections 1:1**

**N.B.**  
**SOLUZIONE VALIDA PER**  
**ANGOLI DA 97,5° A 90°**

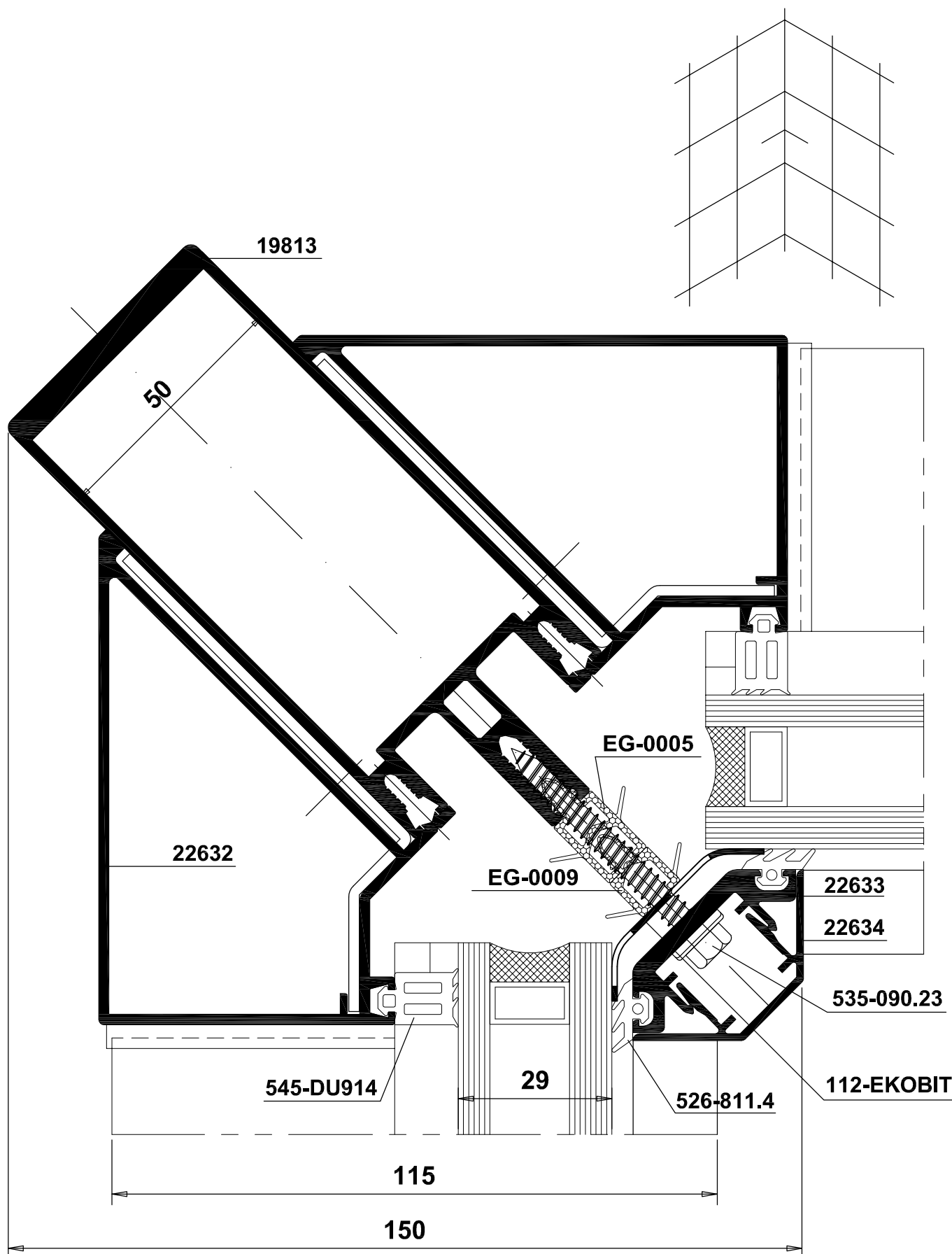
**Remark:**  
**Solution applicable for**  
**corners from 97,5° to 90°**

**MONTANTE DA FRESARE**  
**IN CORRISPONDENZA**  
**\* DELL' INSERIMENTO**  
**DEL TRAVERSO**

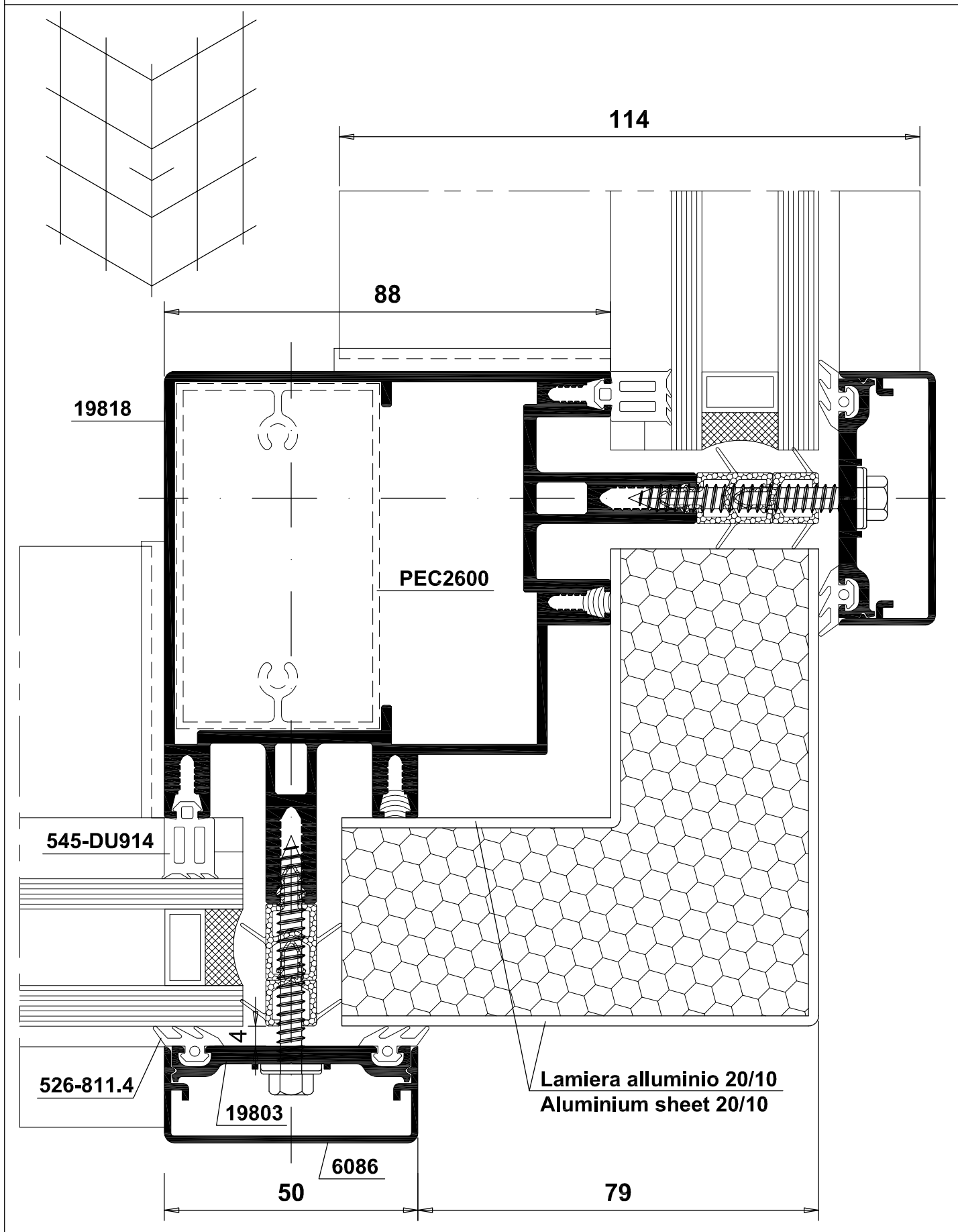
**MULLION TO BE MILLED**  
**\* AT TRANSOM JOINT**



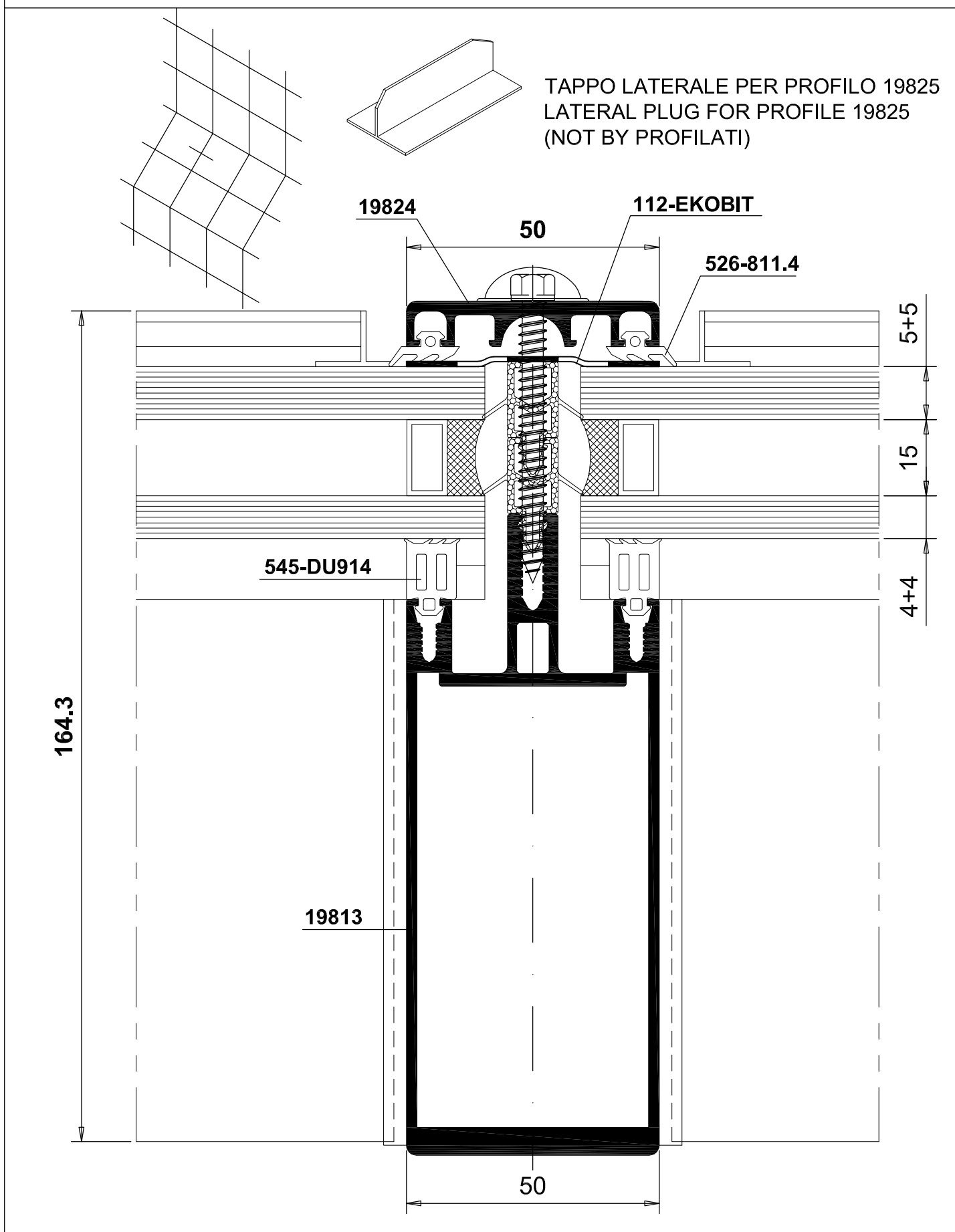
**Sezioni 1:1 - Cross sections 1:1**



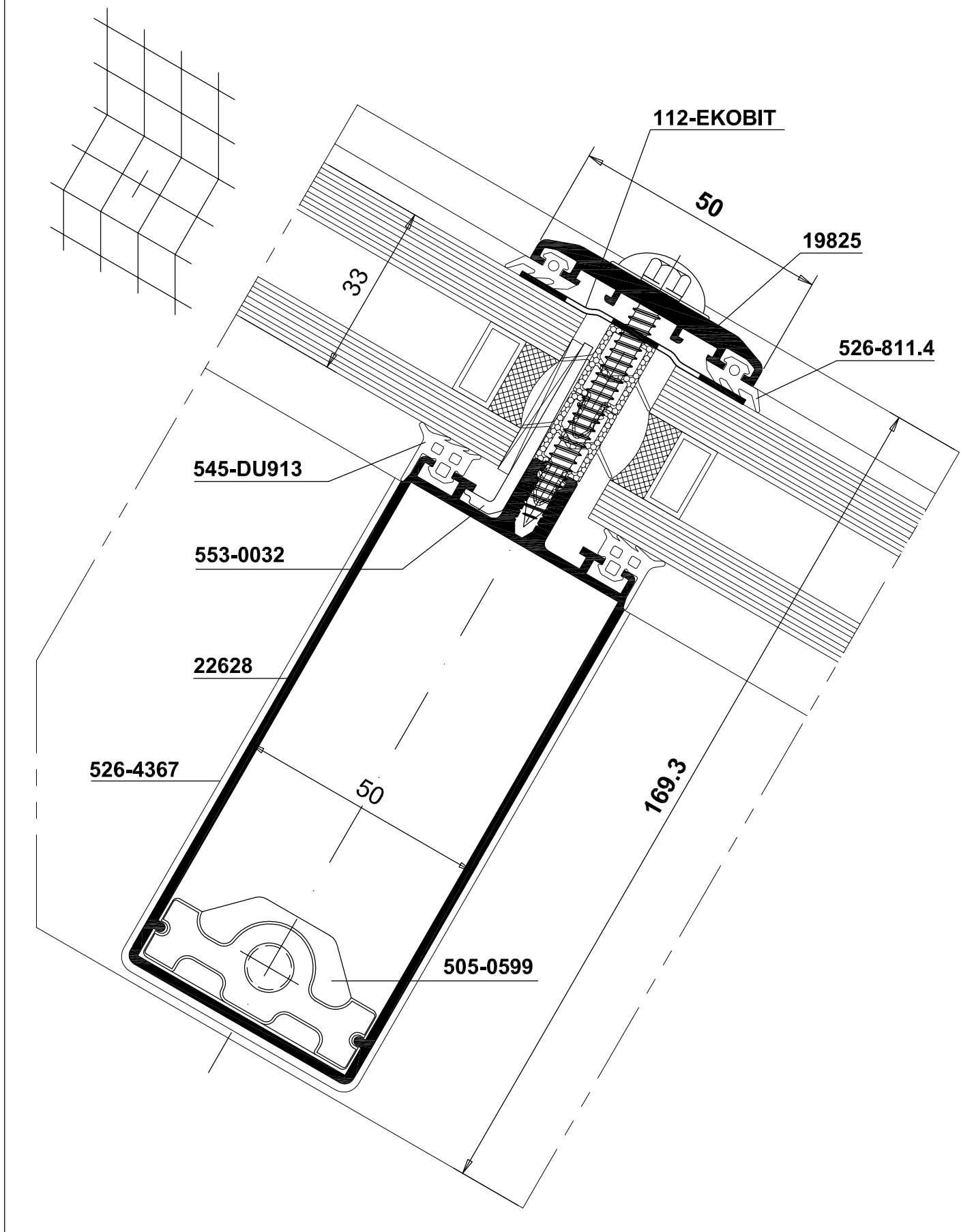
**Sezioni 1:1 - Cross sections 1:1**



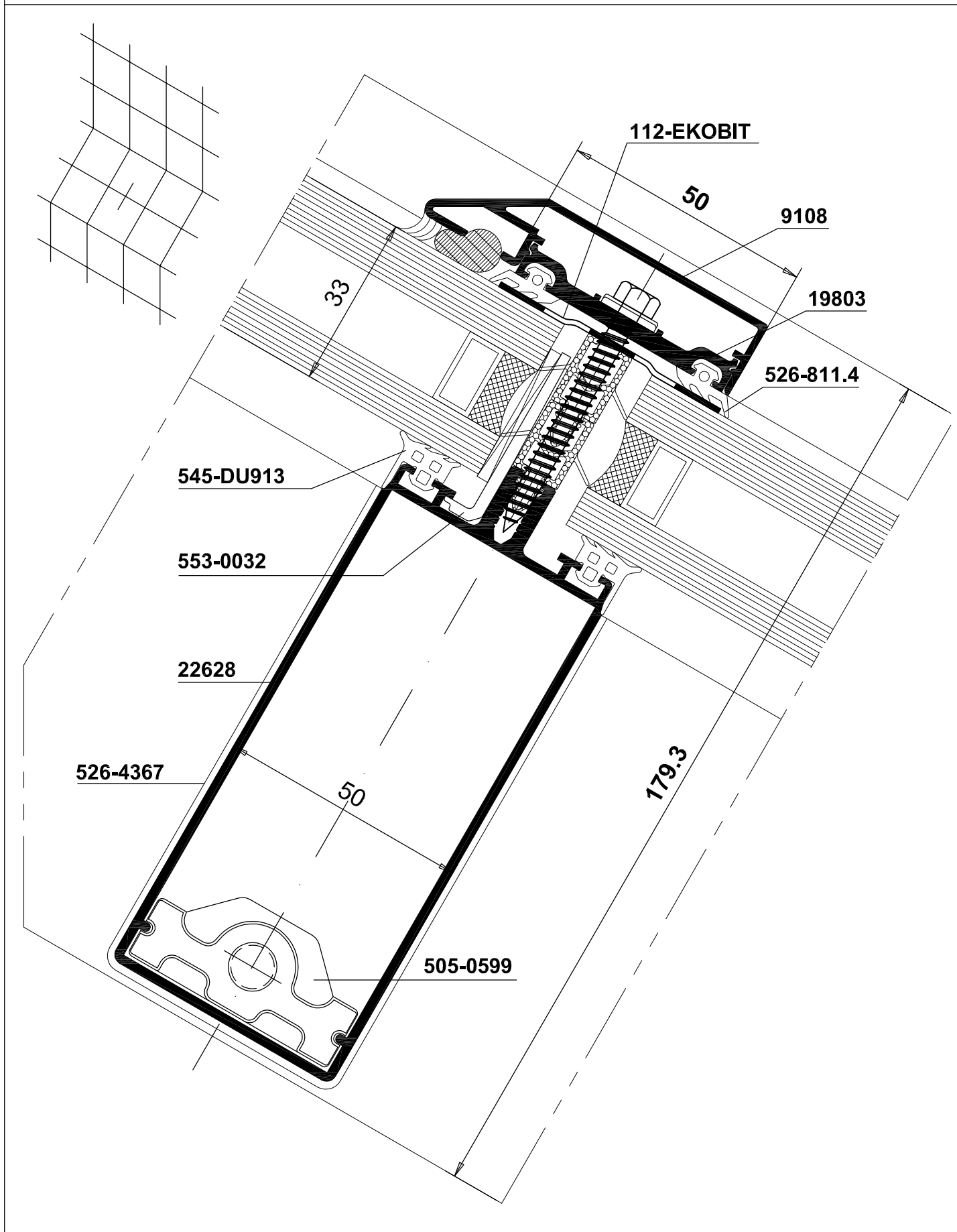
**Sezioni 1:1 - Cross sections 1:1**



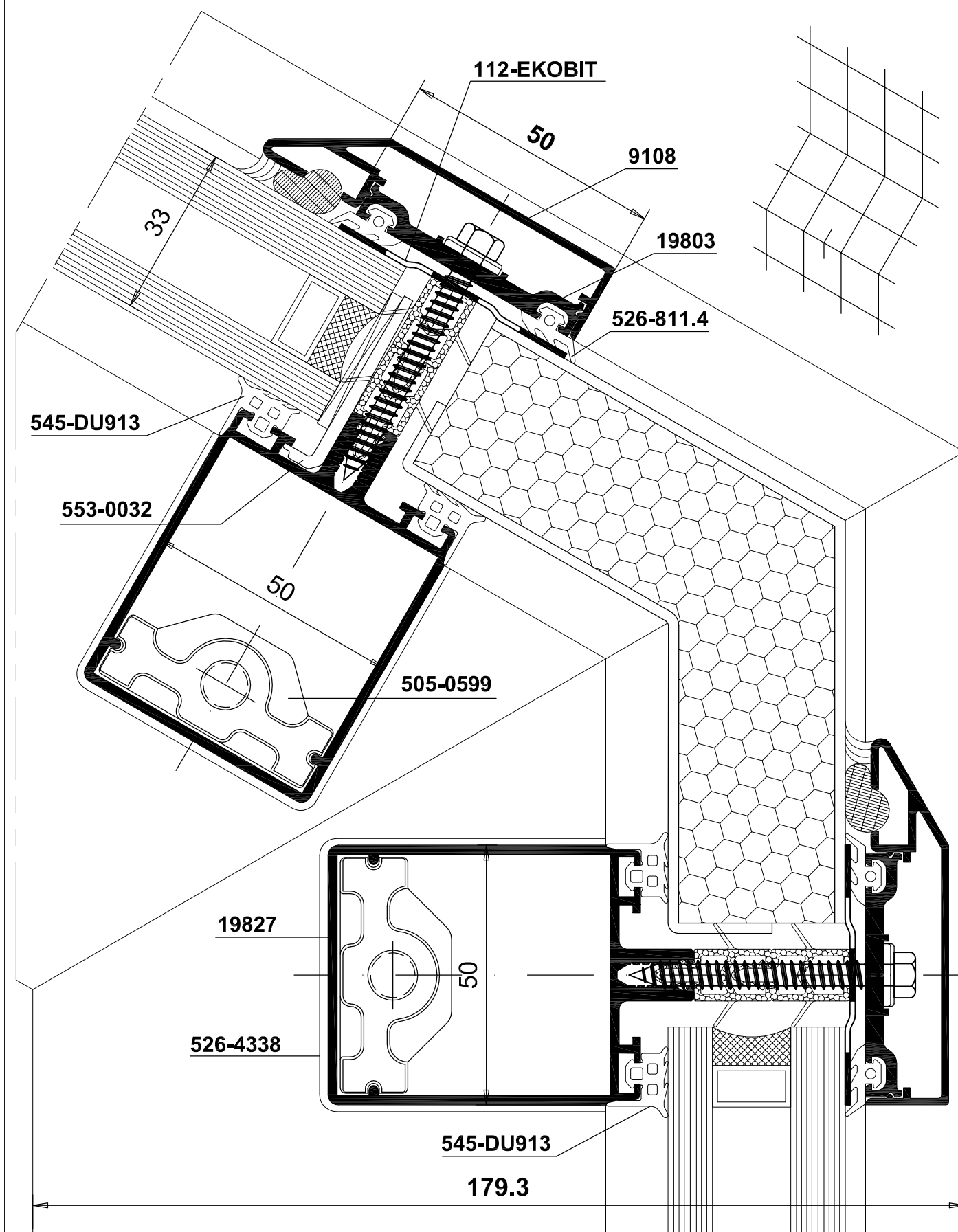
**Sezioni 1:1 - Cross sections 1:1**



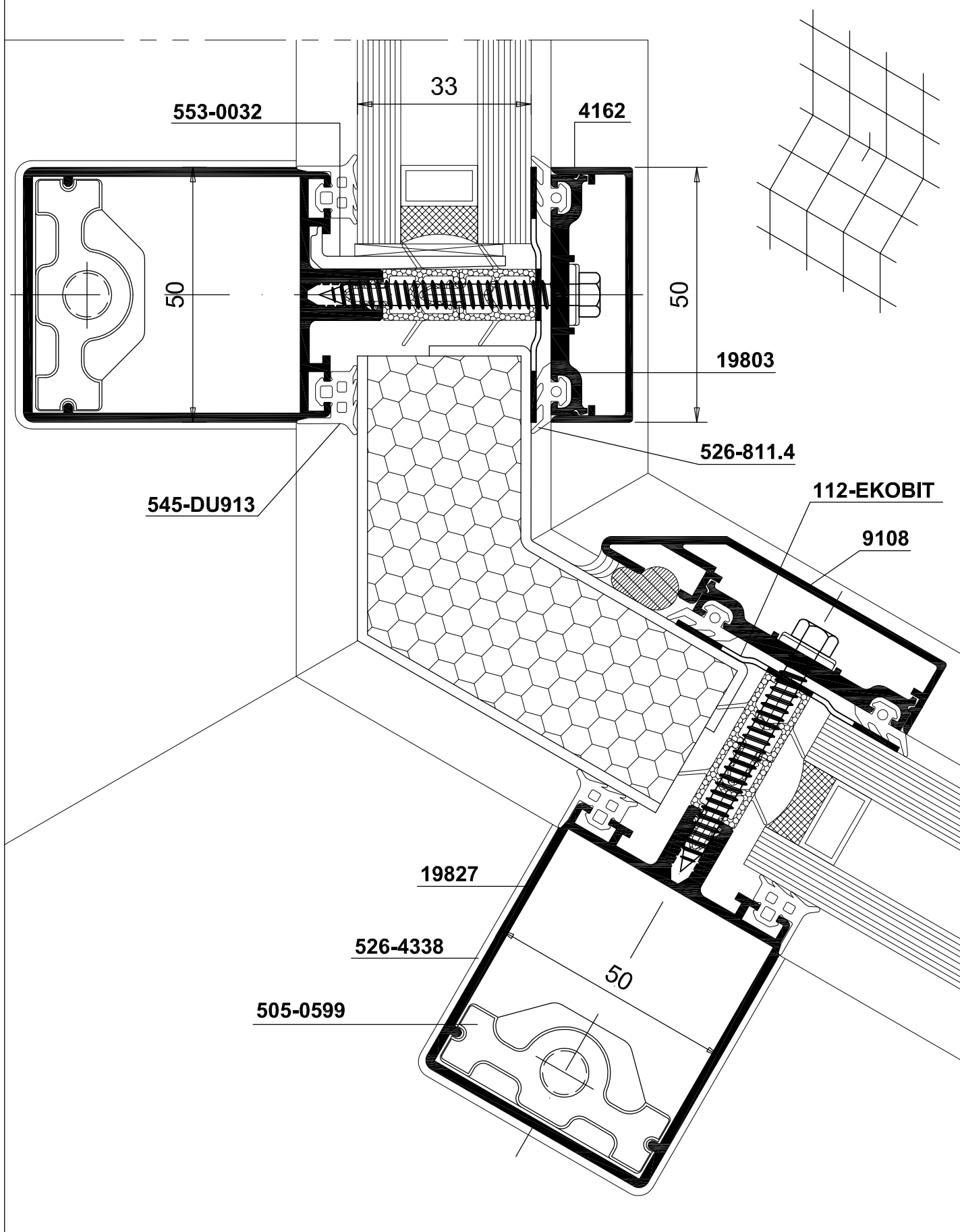
**Sezioni 1:1 - Cross sections 1:1**



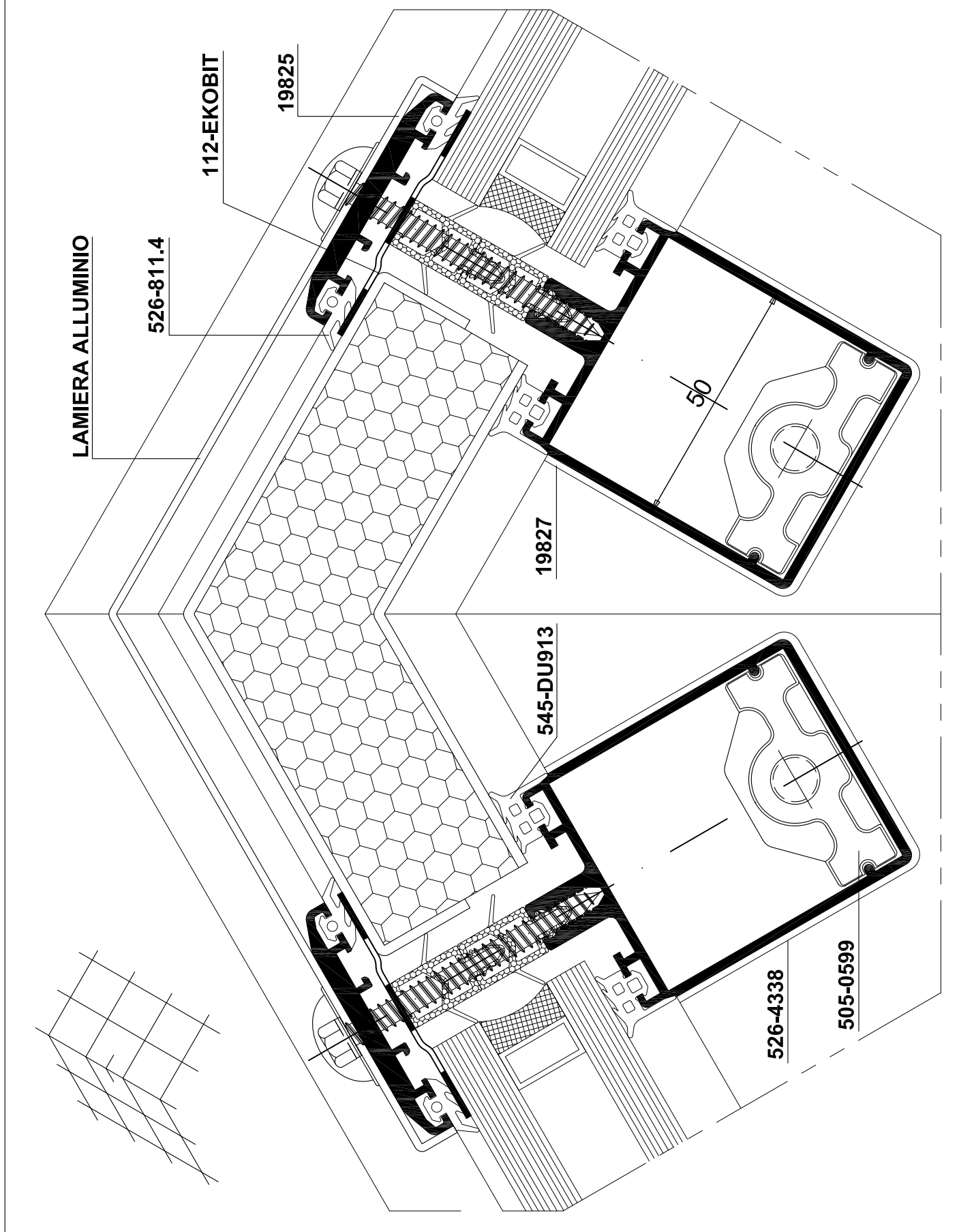
**Sezioni 1:1 - Cross sections 1:1**



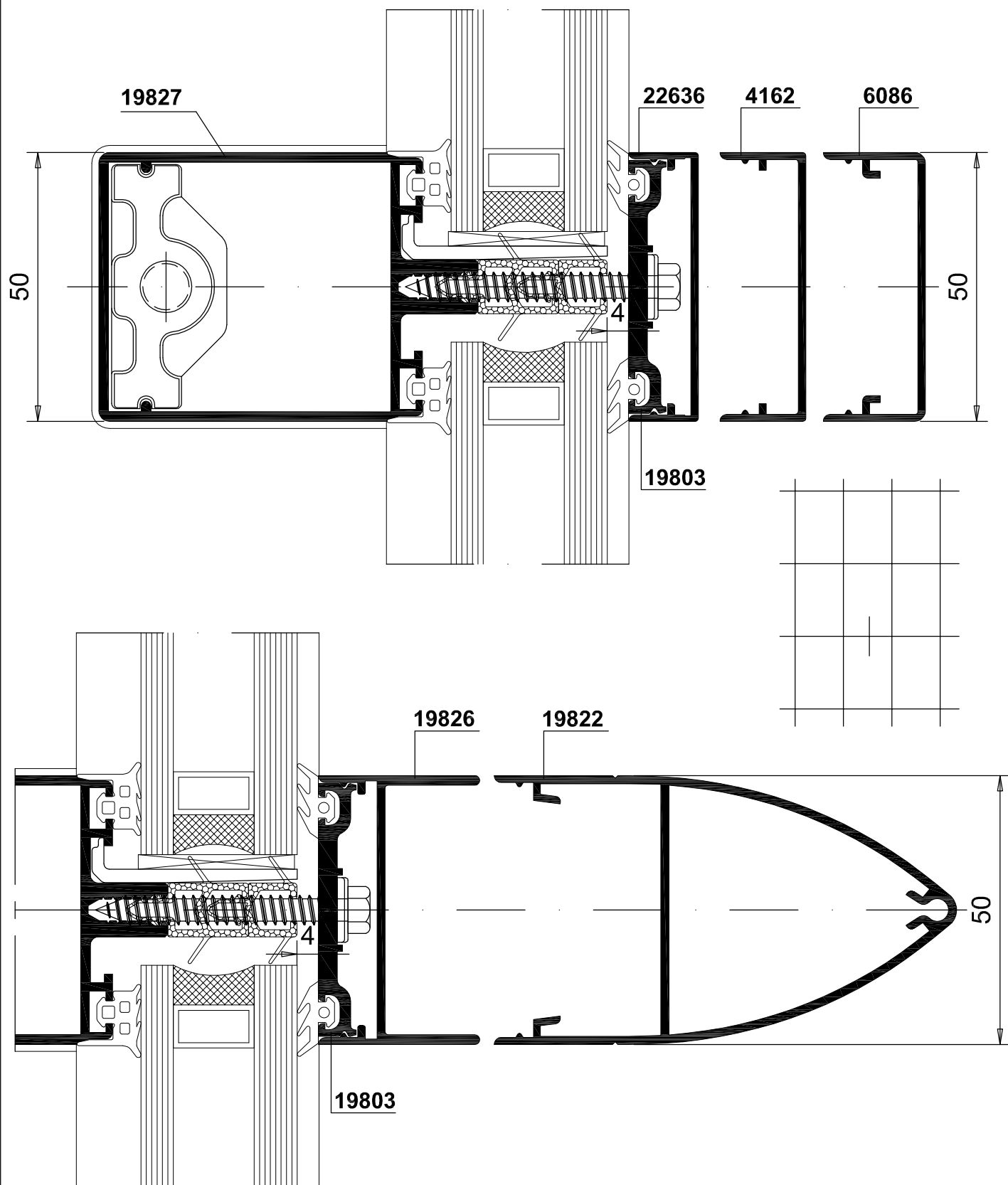
**Sezioni 1:1 - Cross sections 1:1**



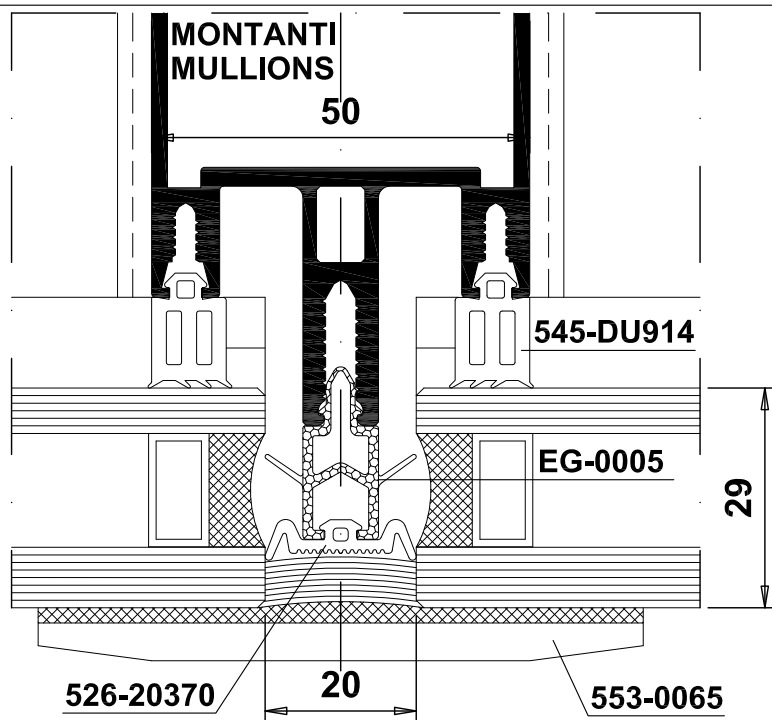
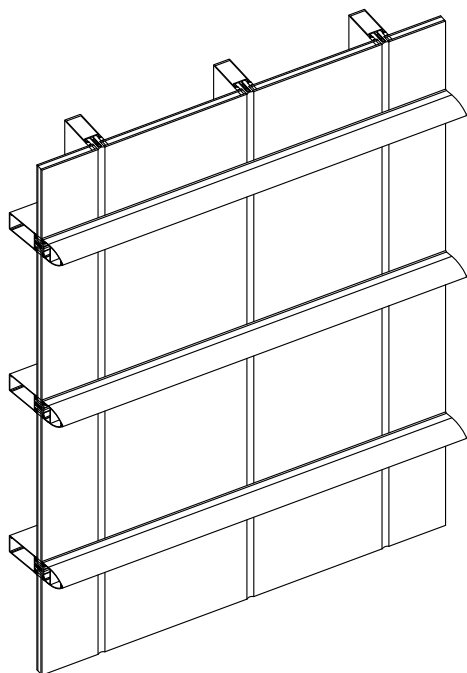
**Sezioni 1:1 - Cross sections 1:1**



**Sezioni 1:1 - Cross sections 1:1**



**Sezioni 1:1 - Cross sections 1:1**

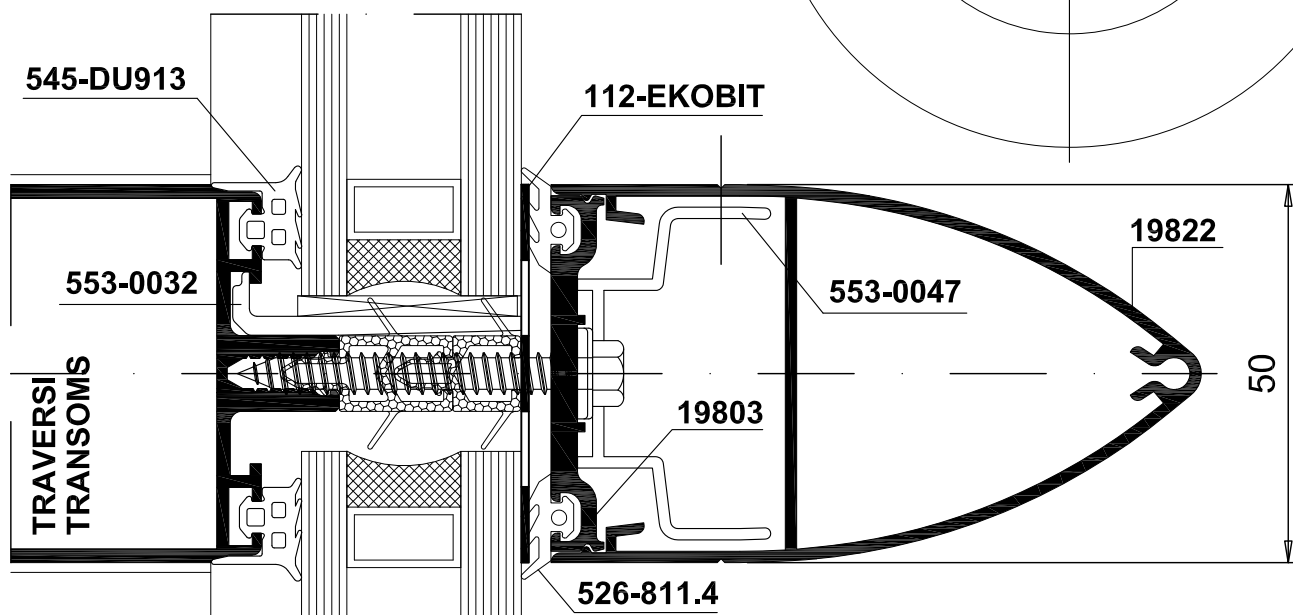
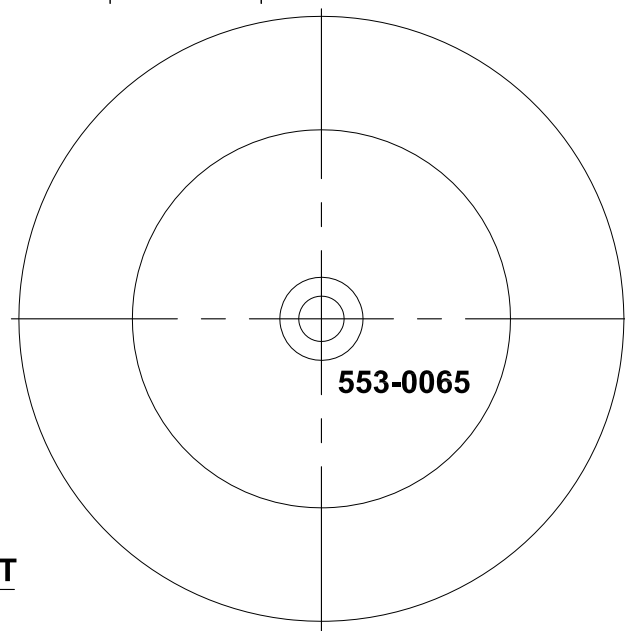


**Note:**

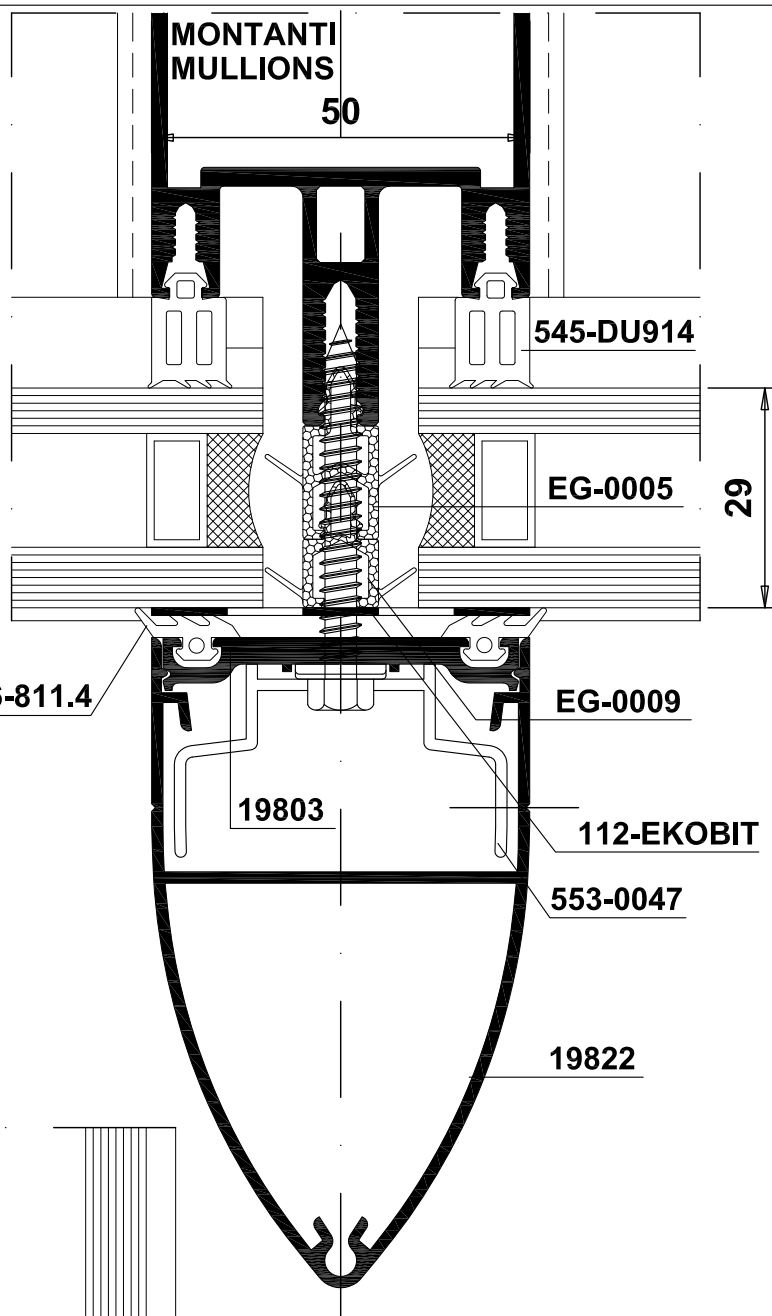
- Utilizzare sigillante resistente ai raggi U.V. e compatibile con la guarnizione 526-20370
- Vetri molati a filo lucido

**Remarks:**

- Use sealant U.V. resistant and compatible with 526-20370 gasket
- Glasses edges are to be grinded and smoothed

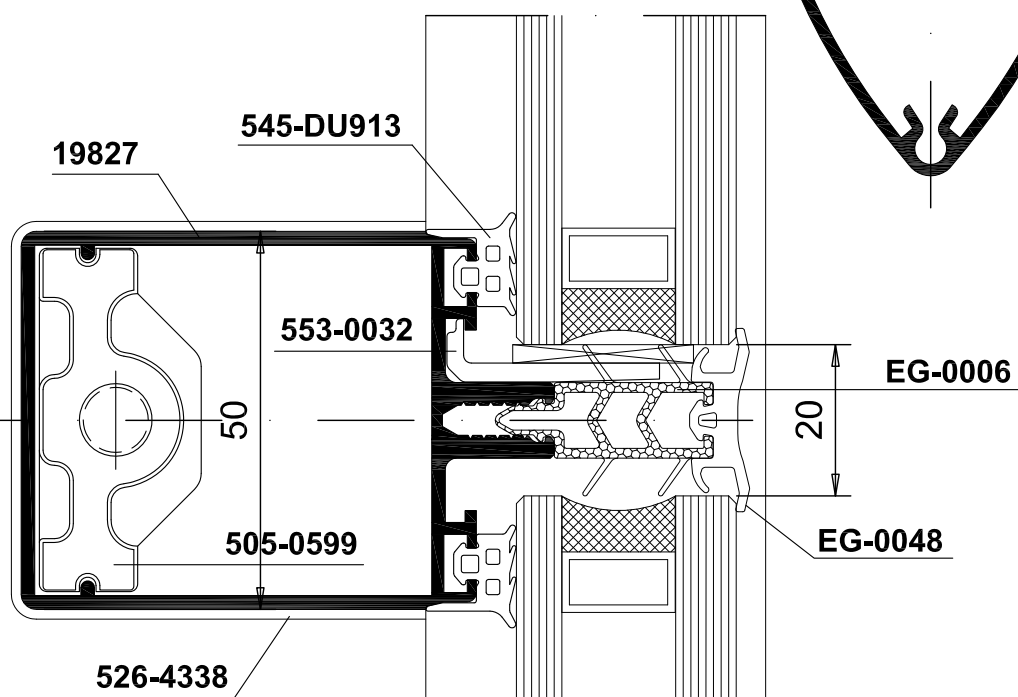


## Sezioni 1:1 - Cross sections 1:1

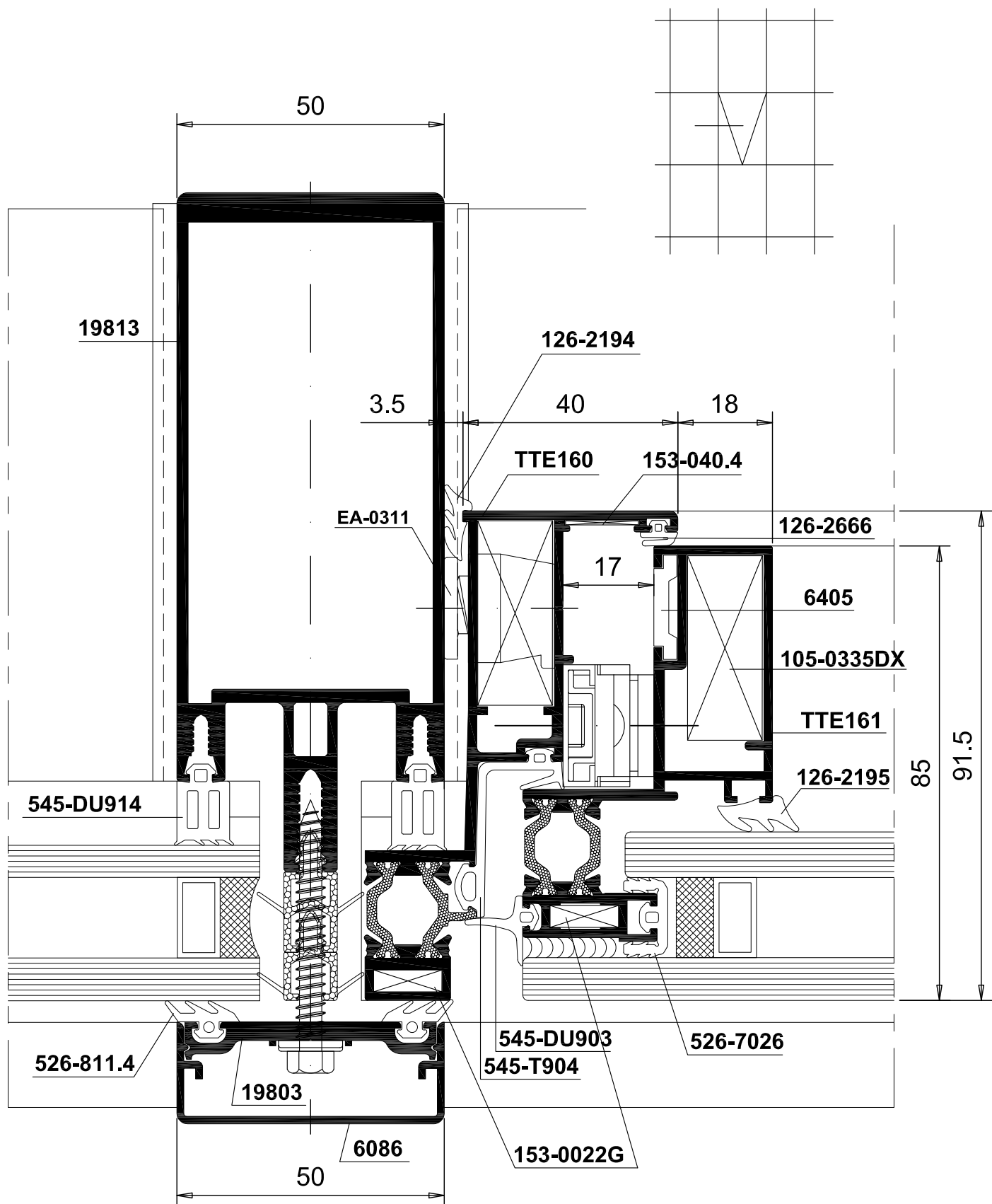


- Utilizzare sigillante resistente ai raggi U.V. e compatibile con la guarnizione 526-20370
- Vetri molati a filo lucido

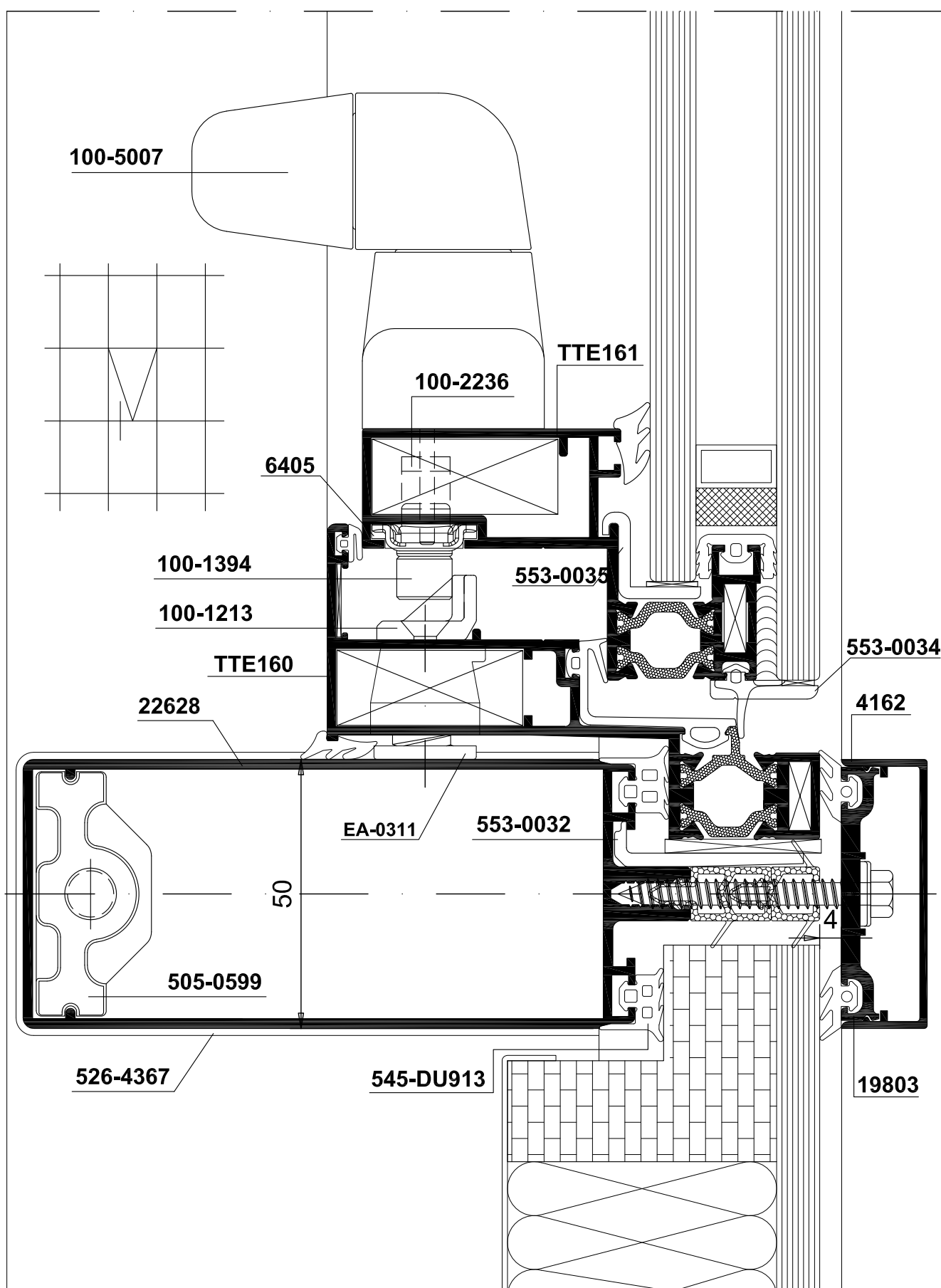
- Use sealant U.V. resistant and compatible with 526-20370 gasket
- Glasses edges are to be grinded and smoothed



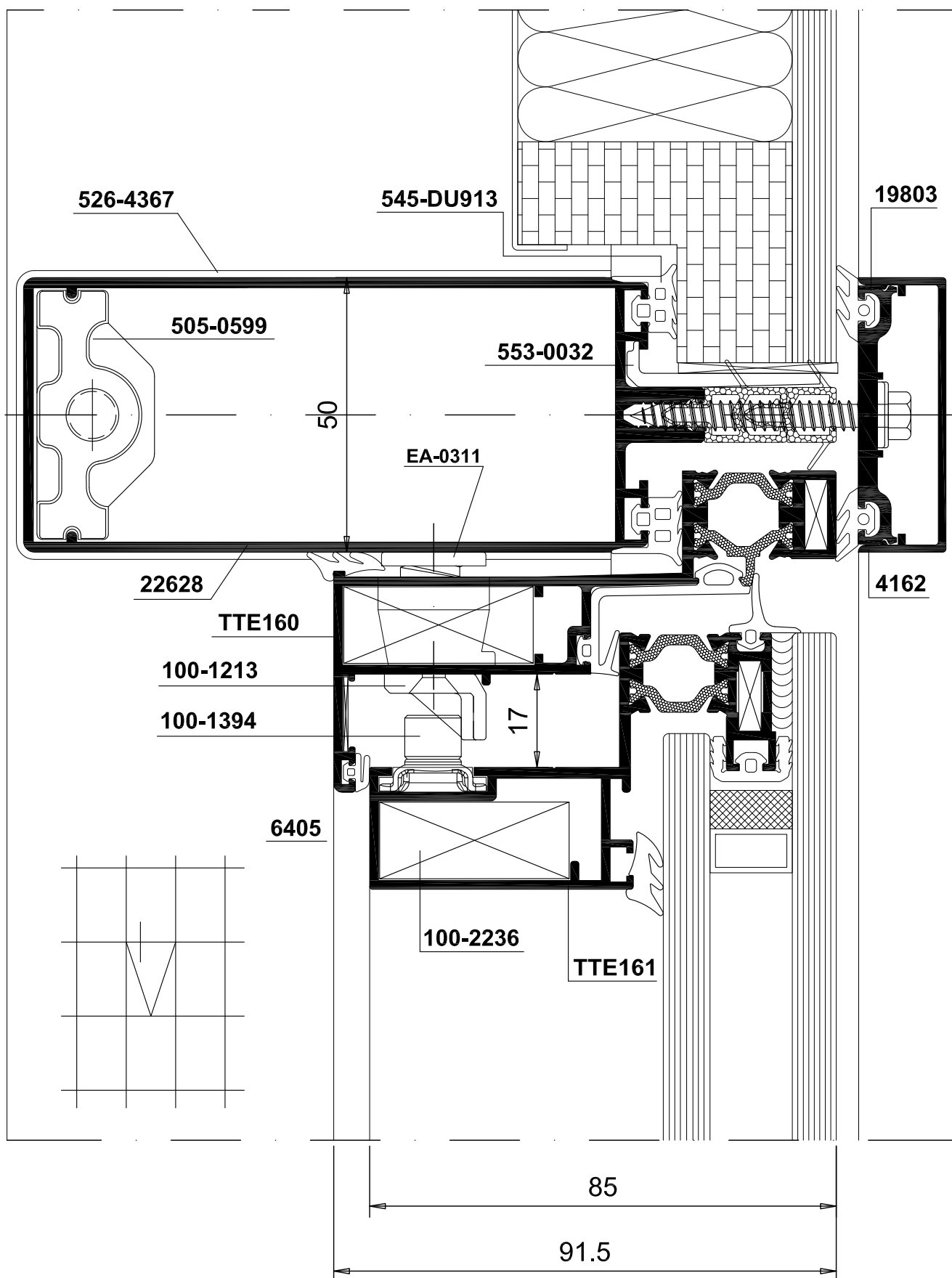
**Sezioni 1:1 - Cross sections 1:1**



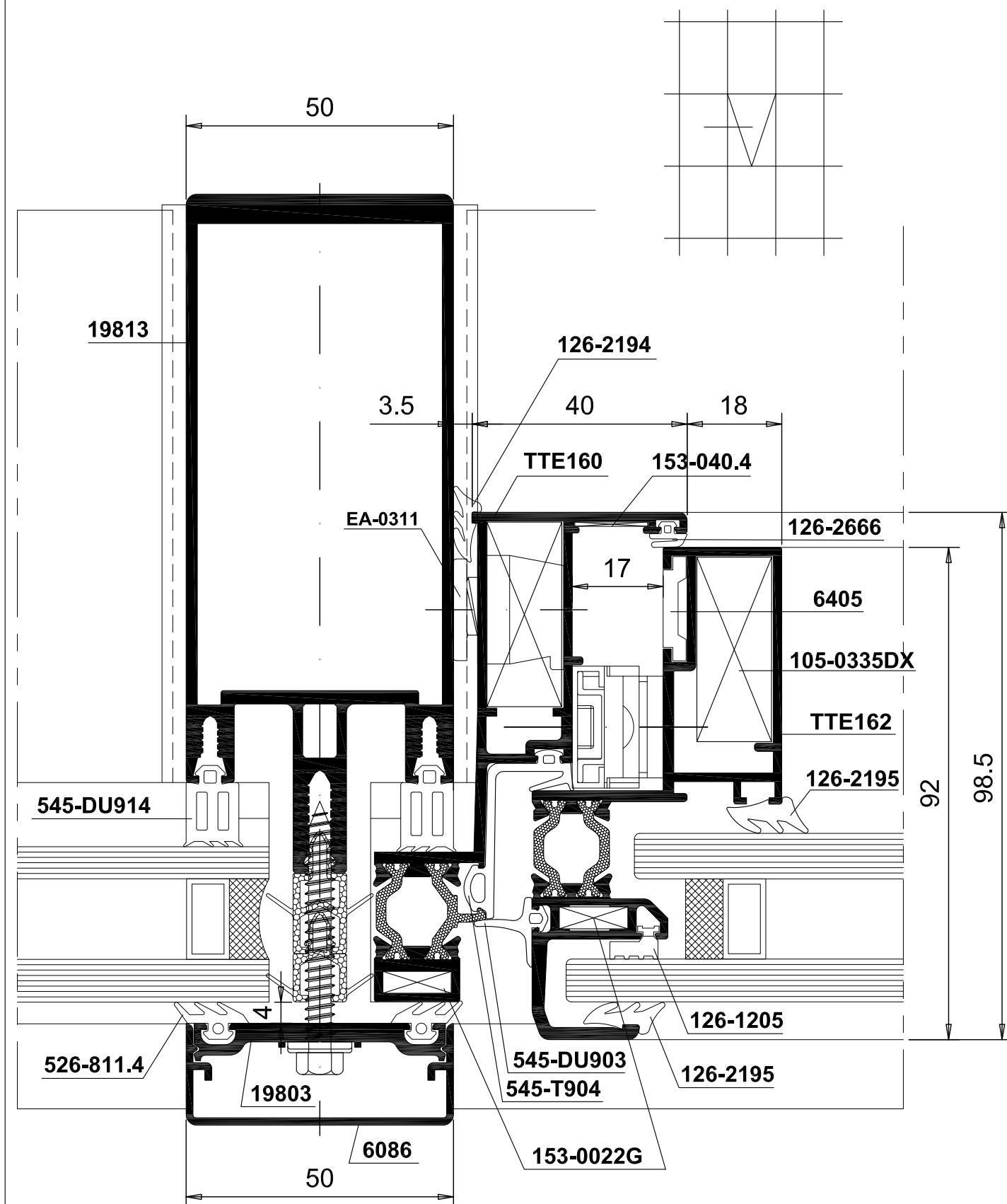
**Sezioni 1:1 - Cross sections 1:1**



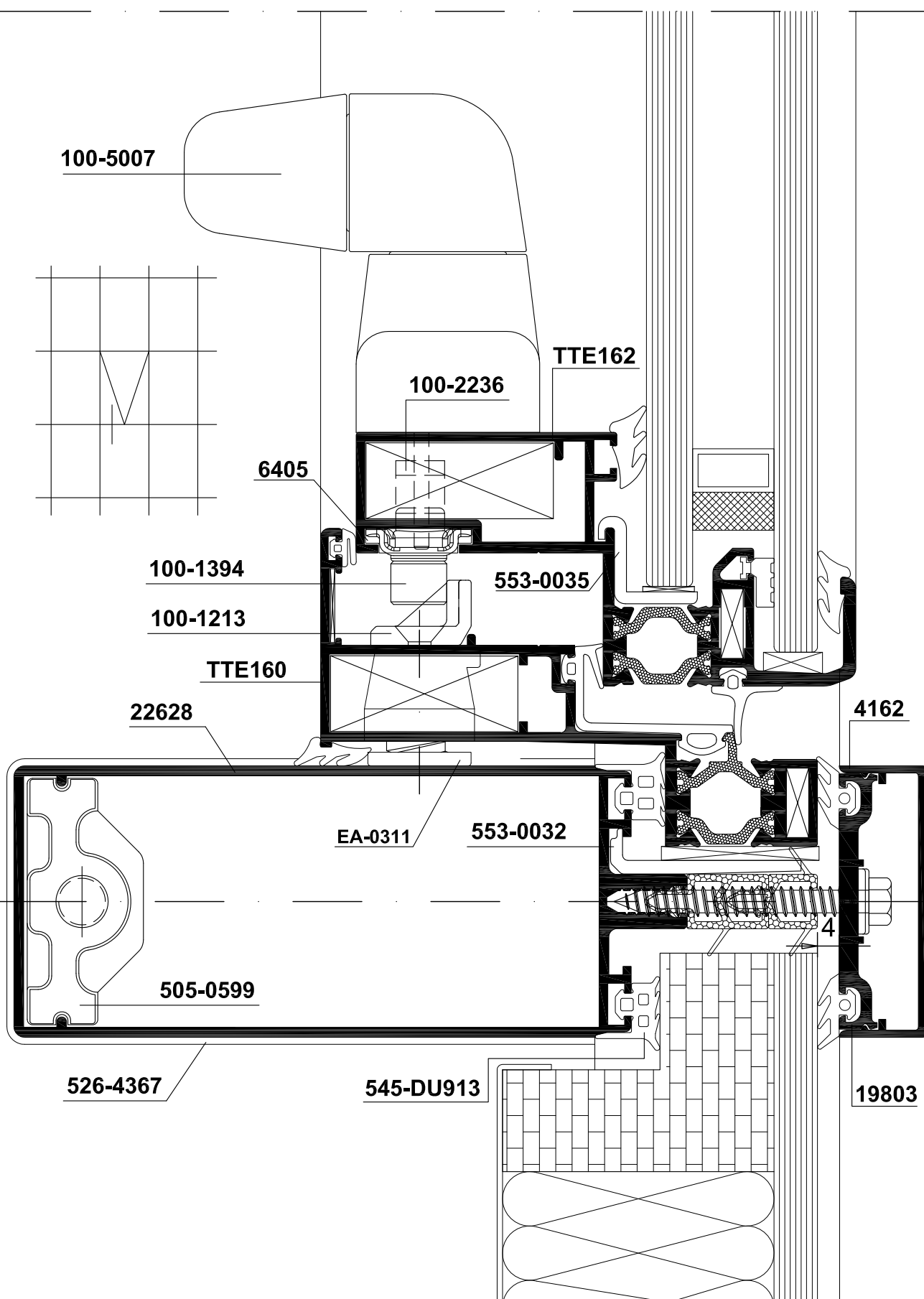
**Sezioni 1:1 - Cross sections 1:1**



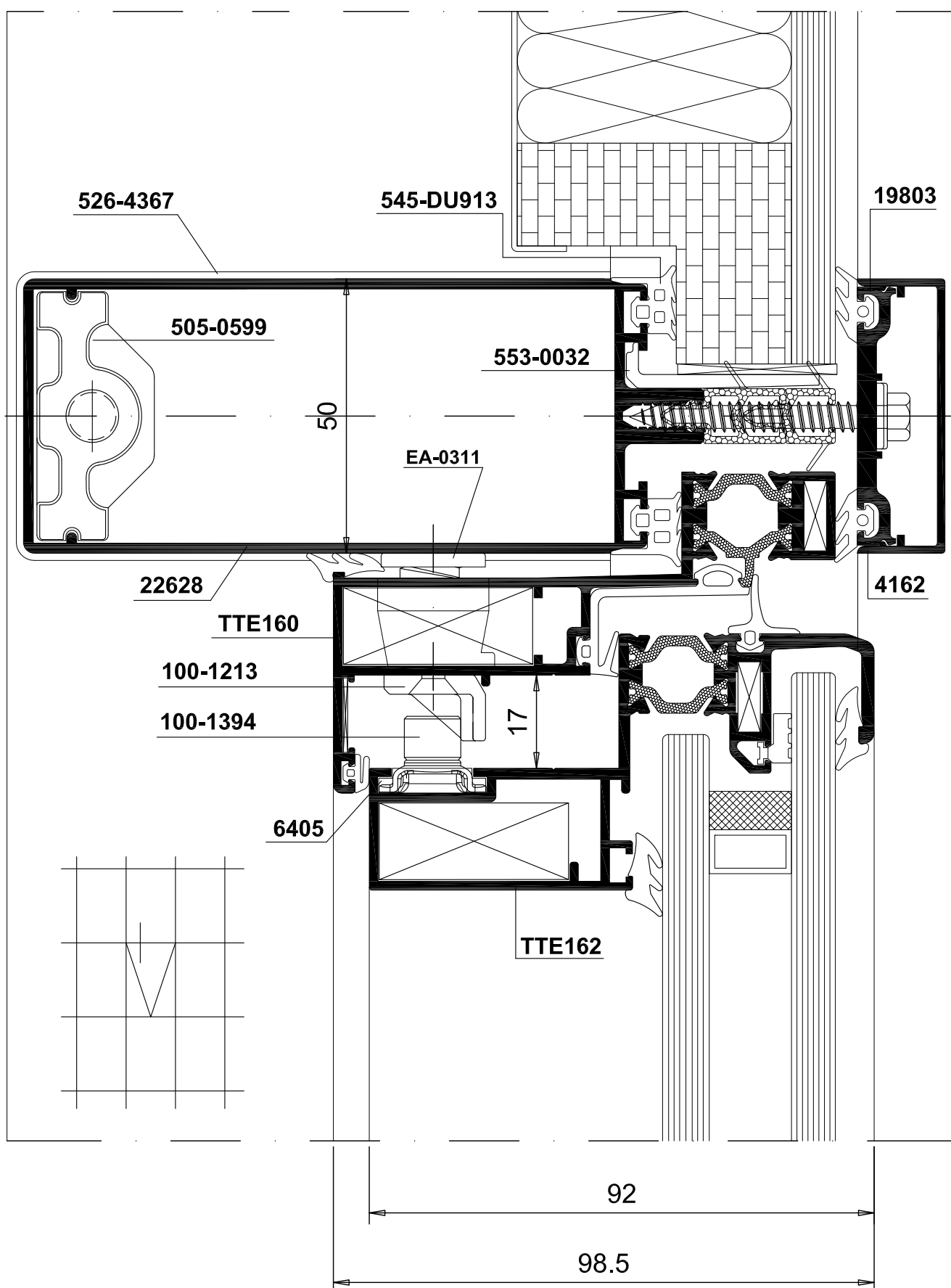
**Sezioni 1:1 - Cross sections 1:1**



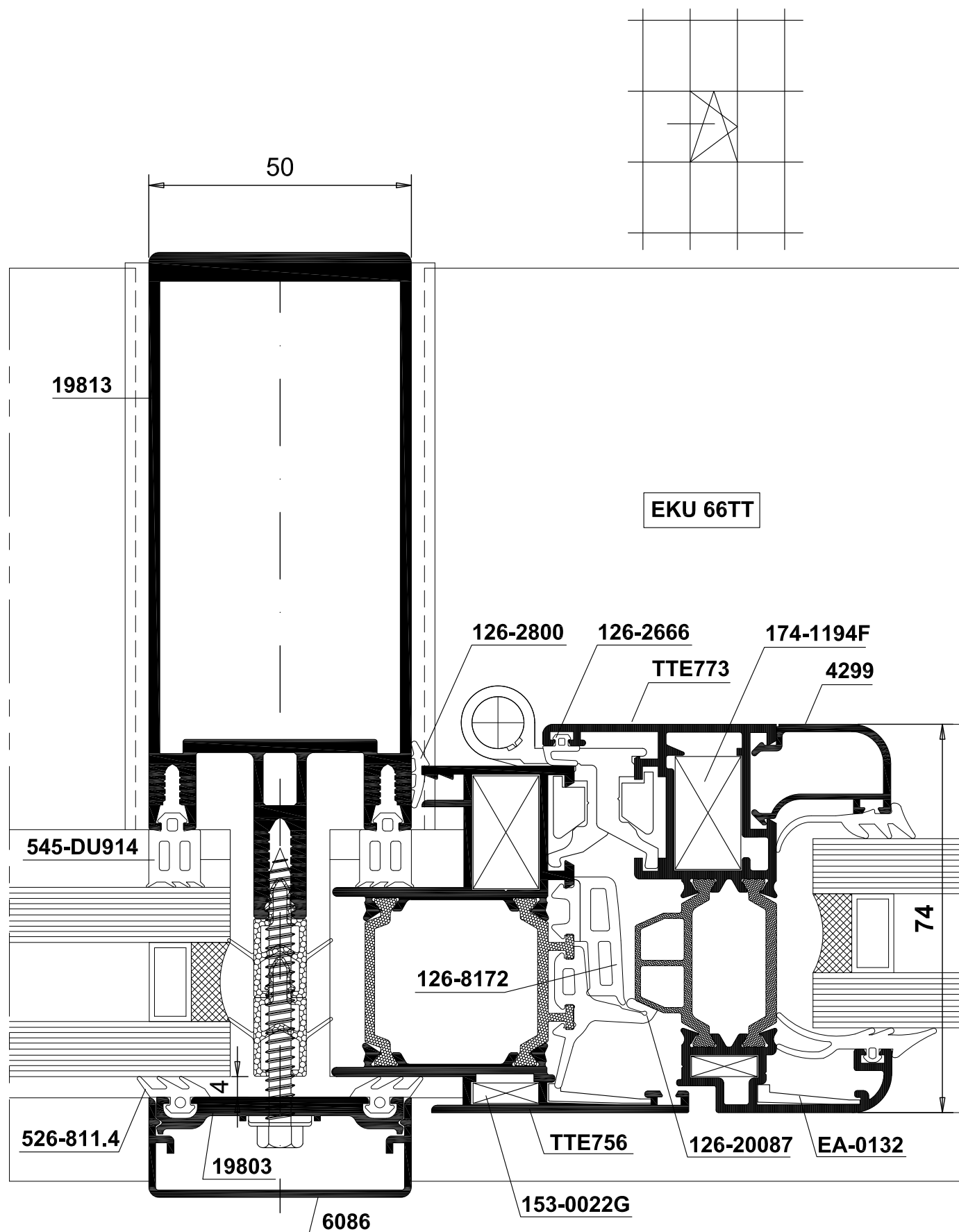
**Sezioni 1:1 - Cross sections 1:1**



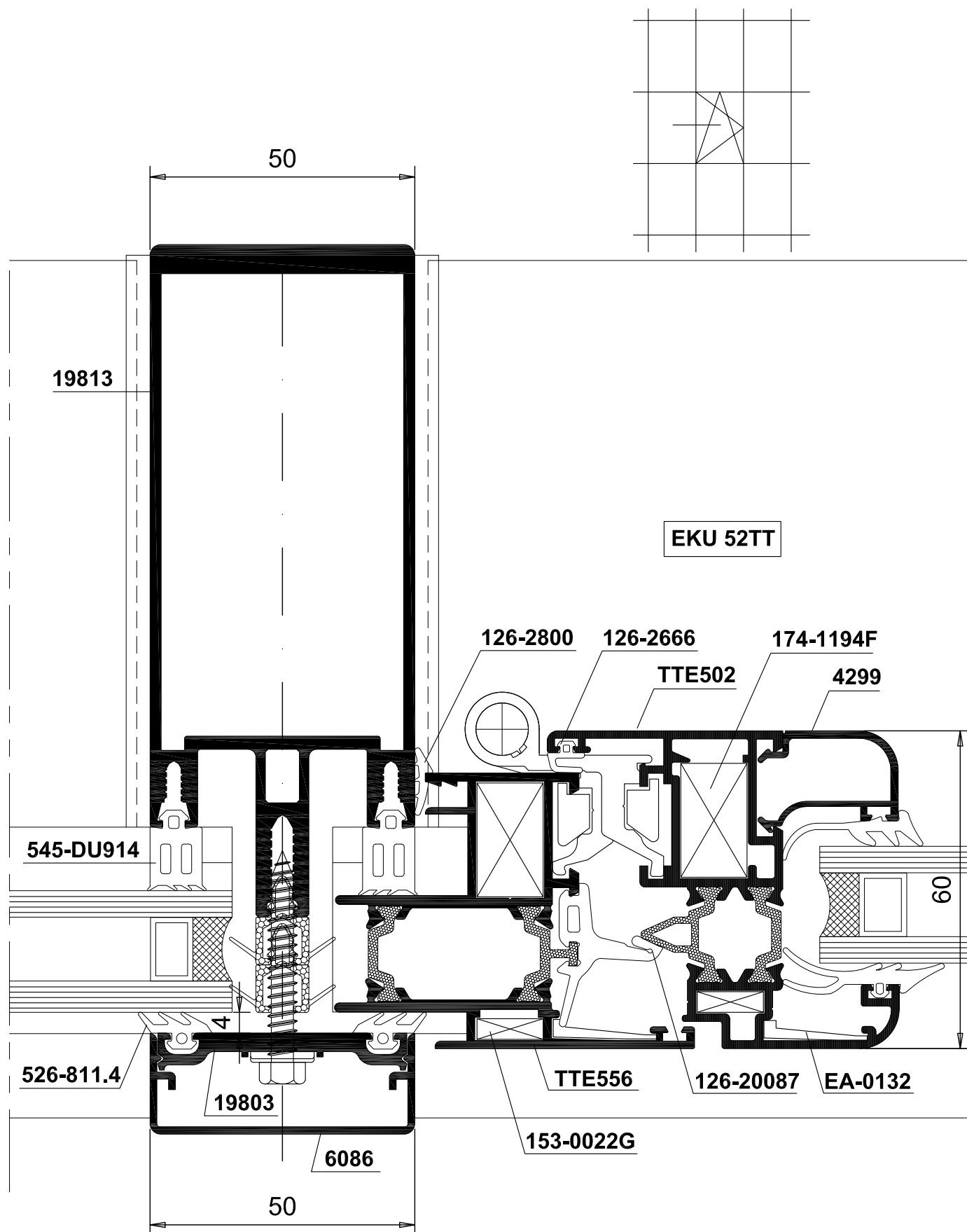
**Sezioni 1:1 - Cross sections 1:1**



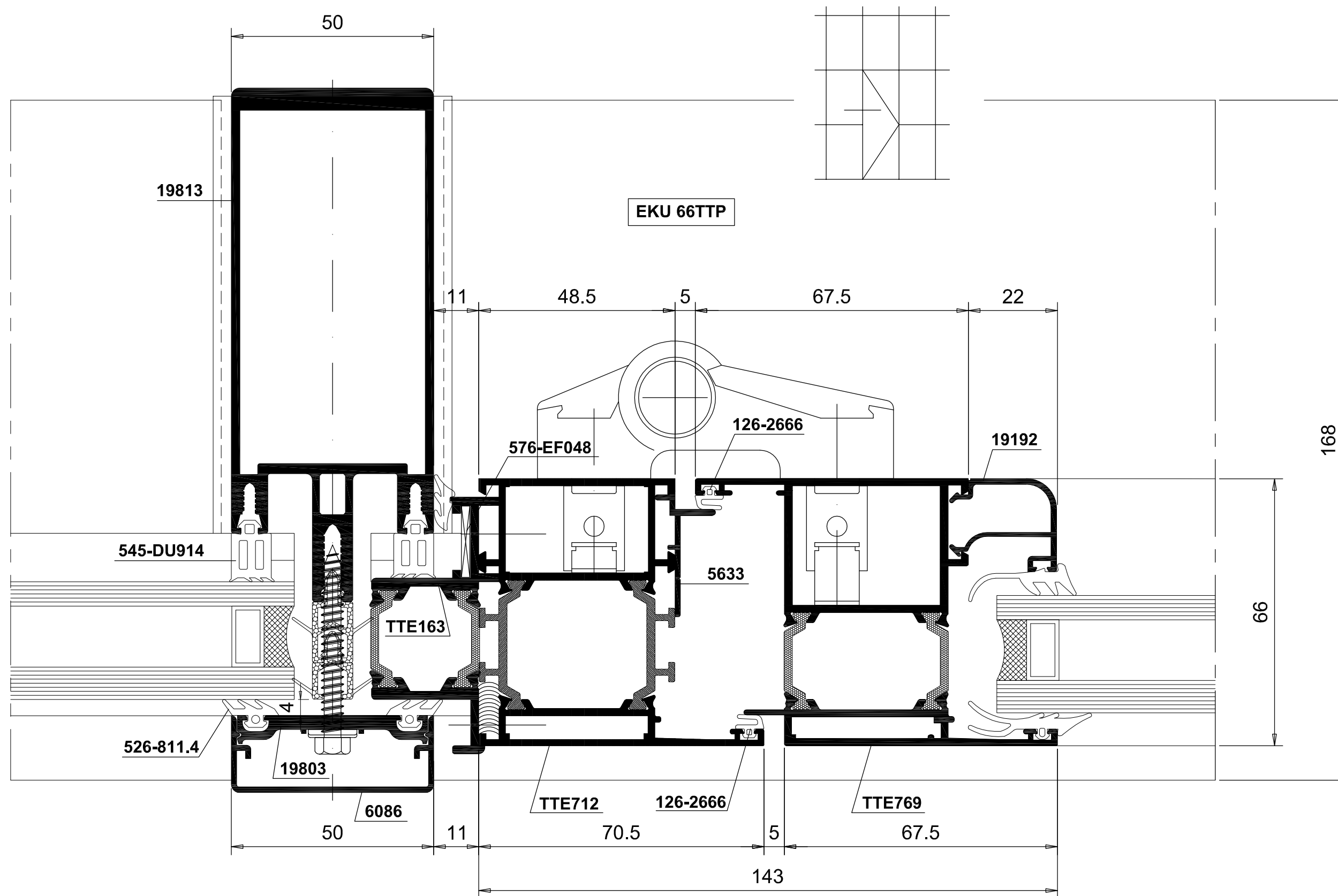
**Sezioni 1:1 - Cross sections 1:1**



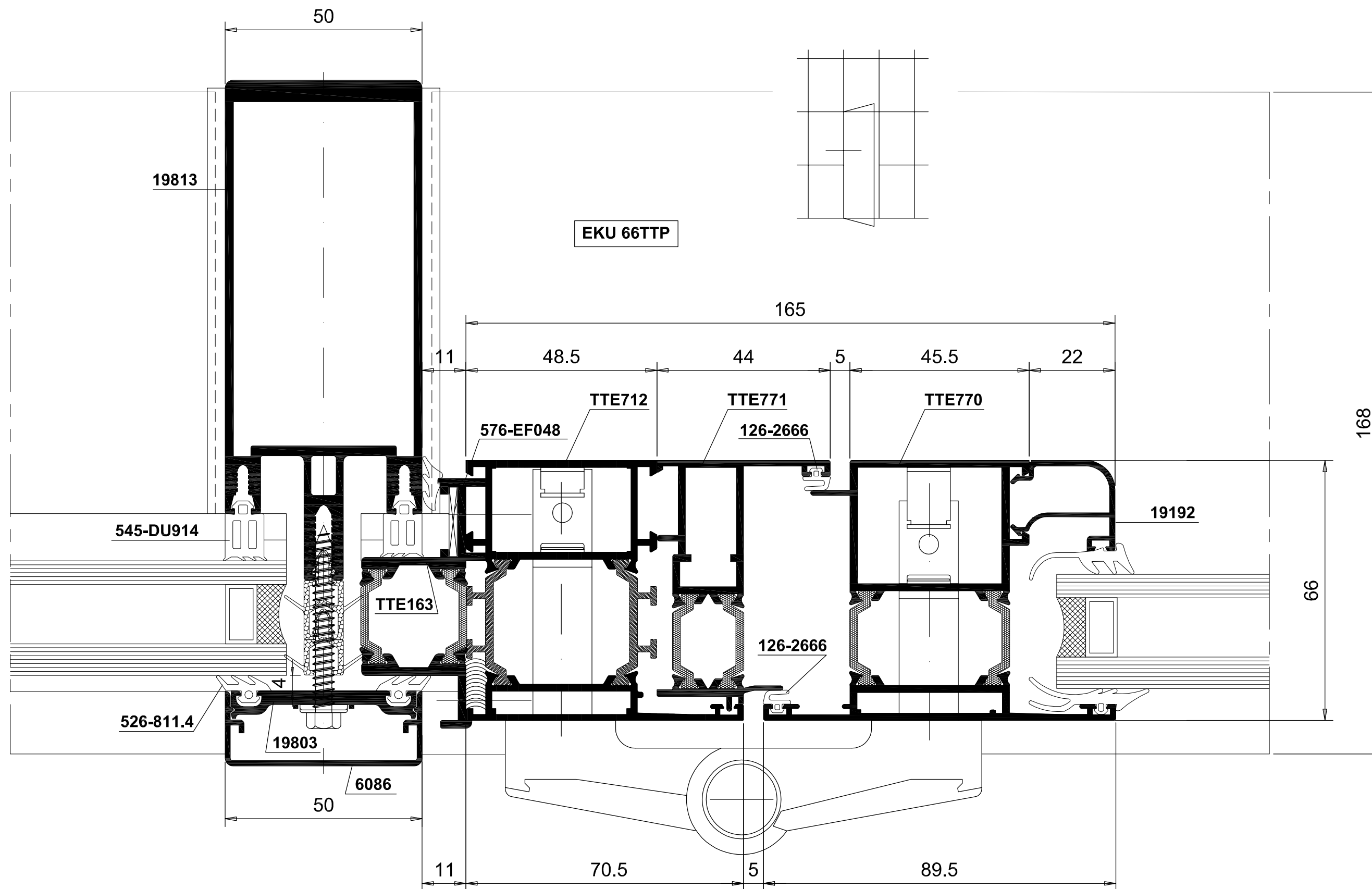
**Sezioni 1:1 - Cross sections 1:1**



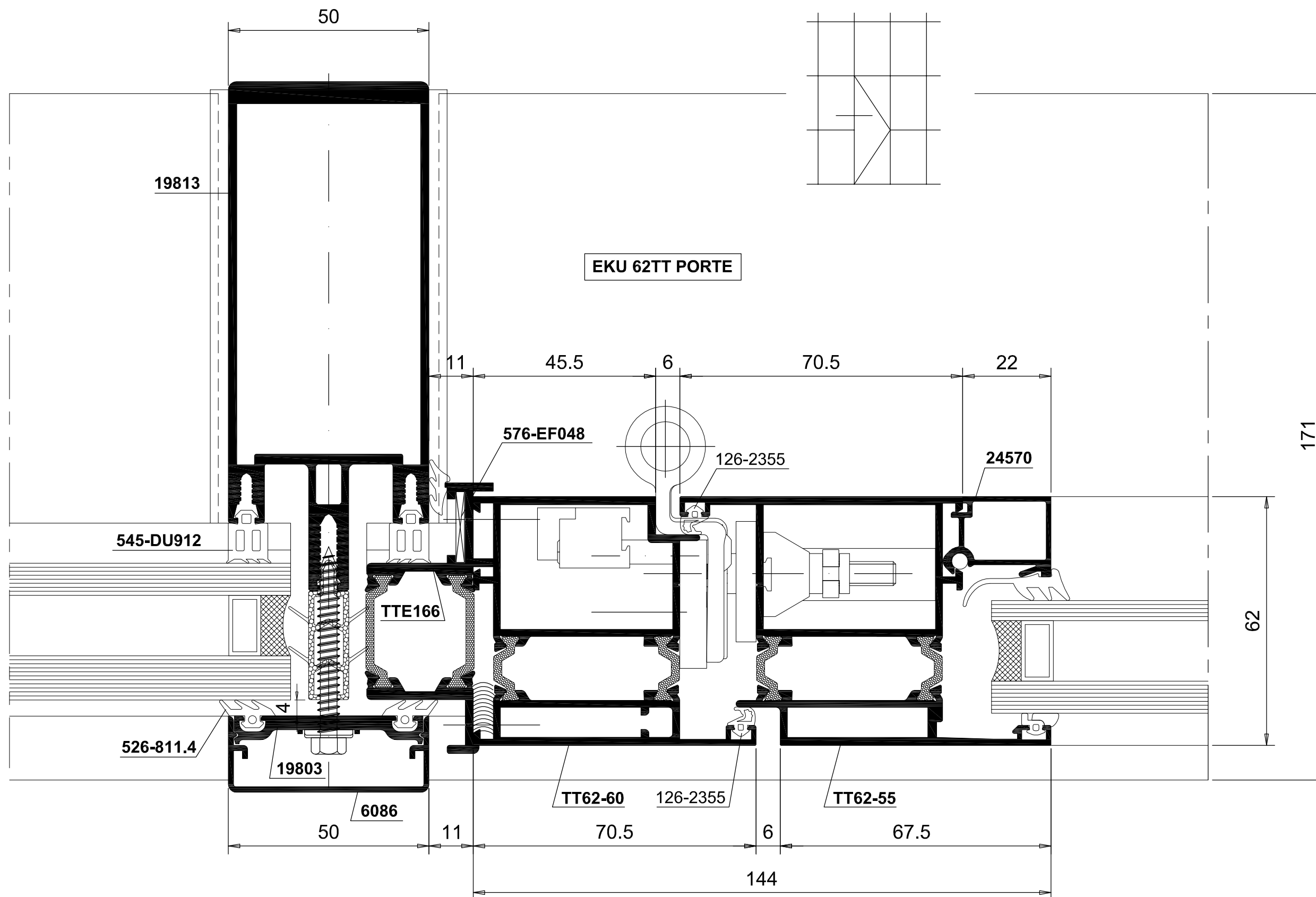
Sezioni 1:1 - Cross sections 1:1



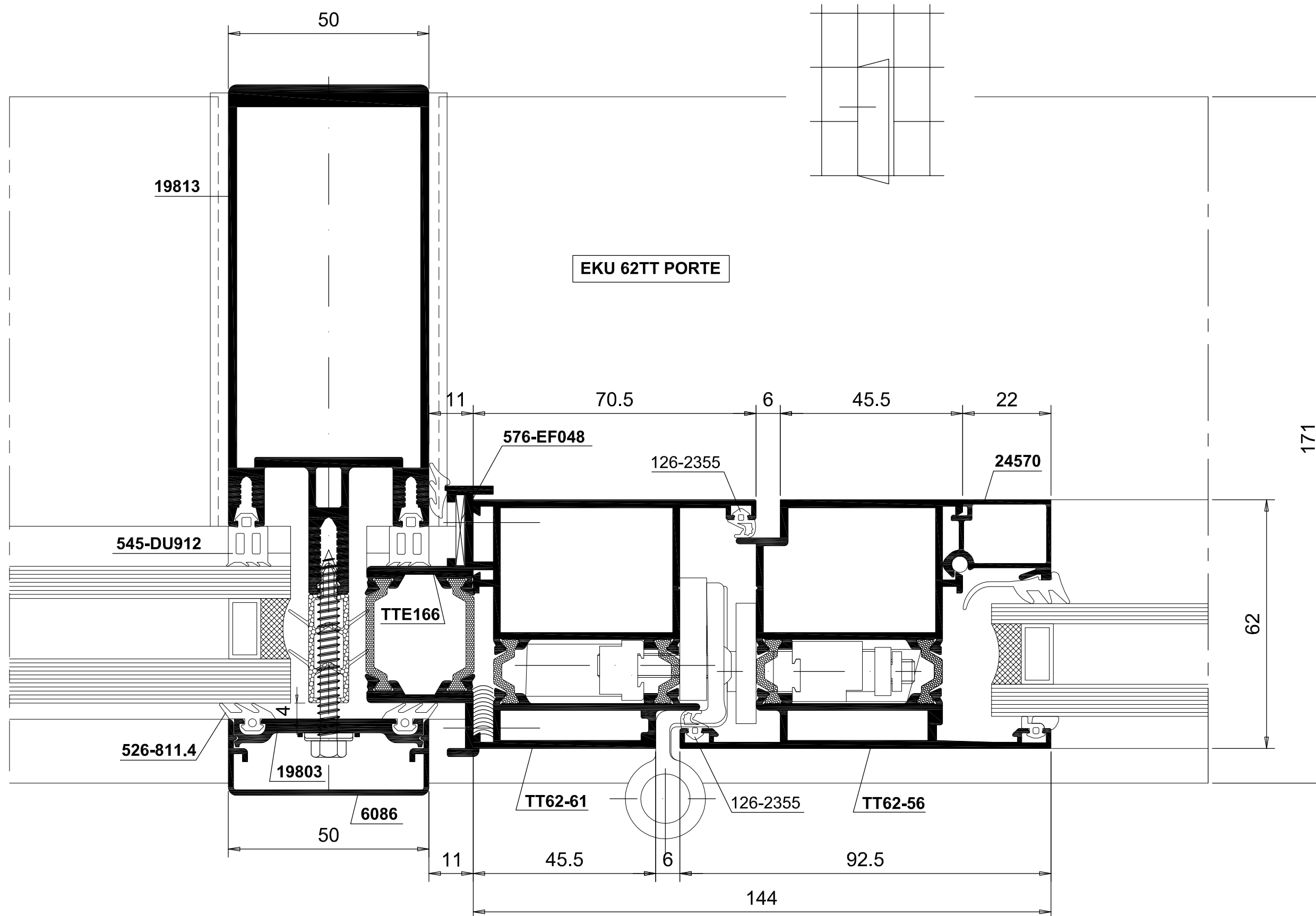
**Sezioni 1:1 - Cross sections 1:1**



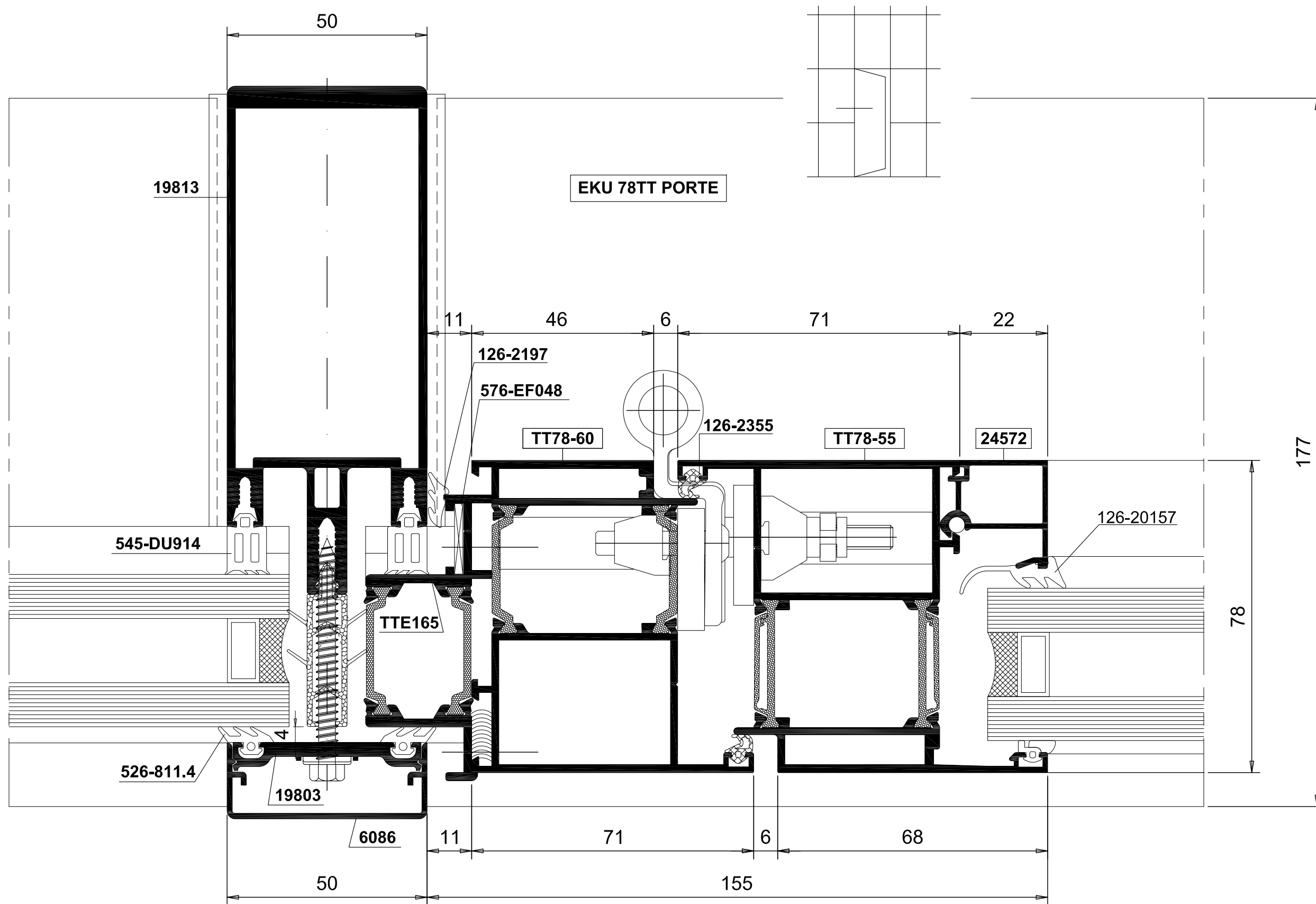
**Sezioni 1:1 - Cross sections 1:1**



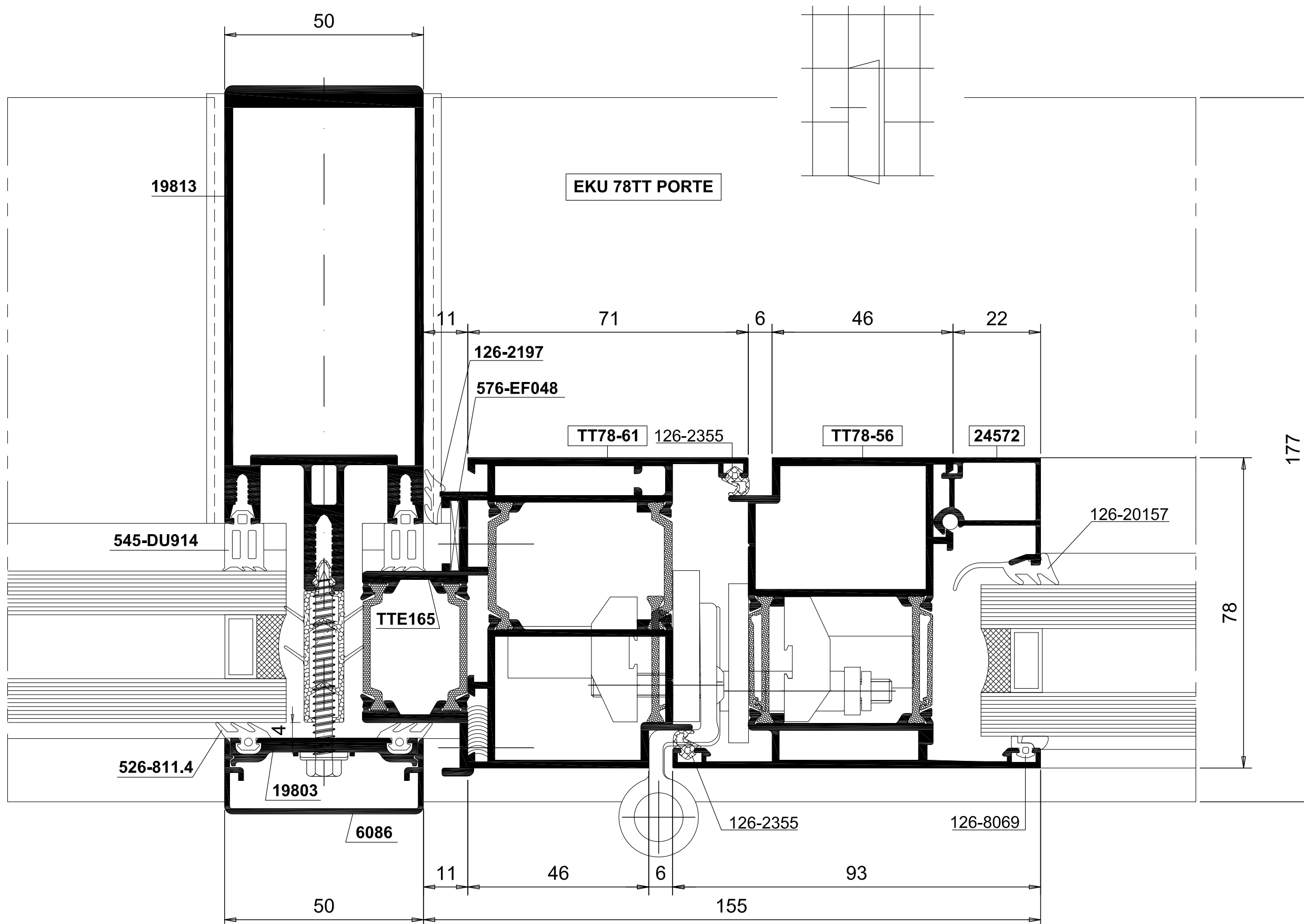
**Sezioni 1:1 - Cross sections 1:1**



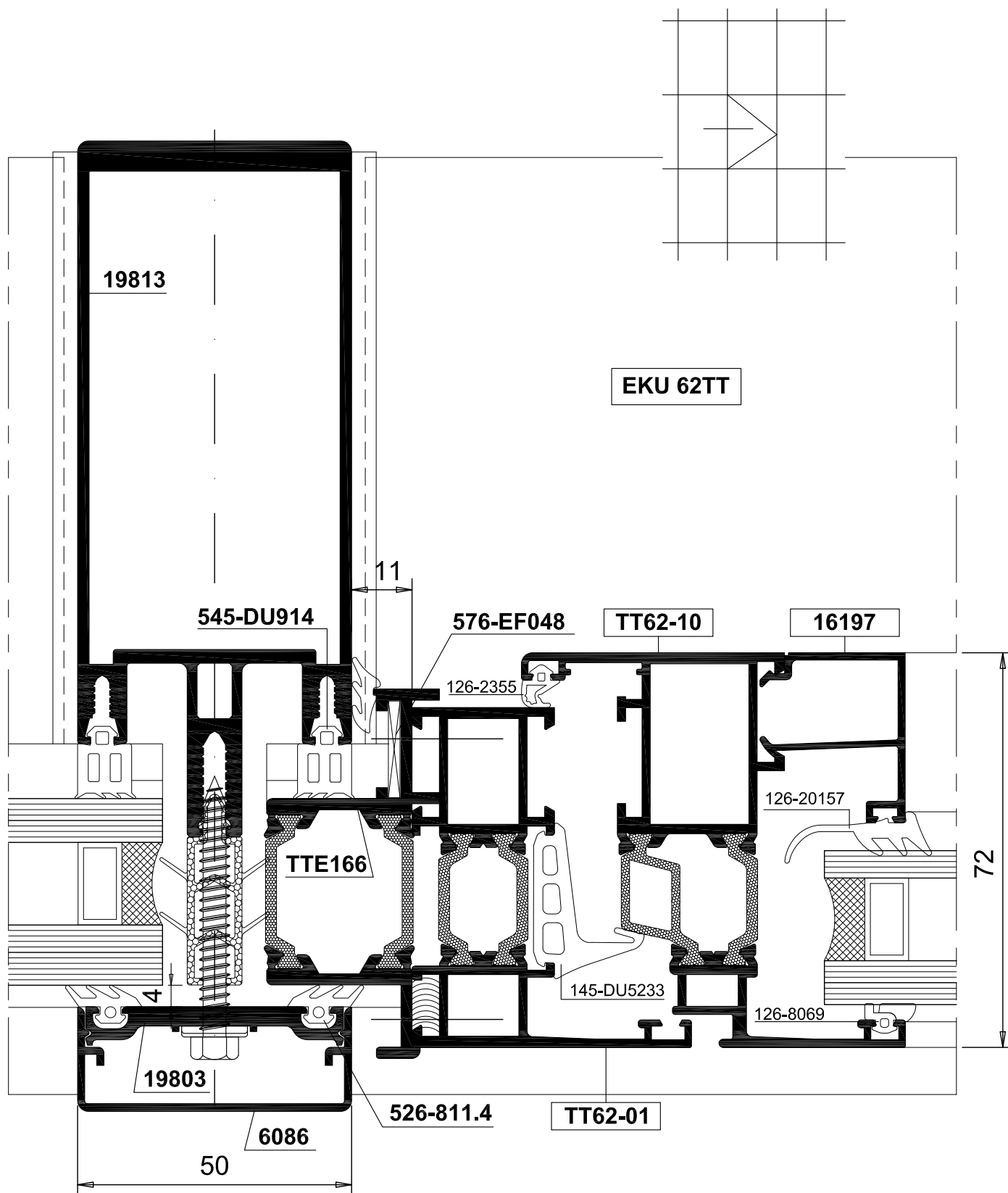
**Sezioni 1:1 - Cross sections 1:1**



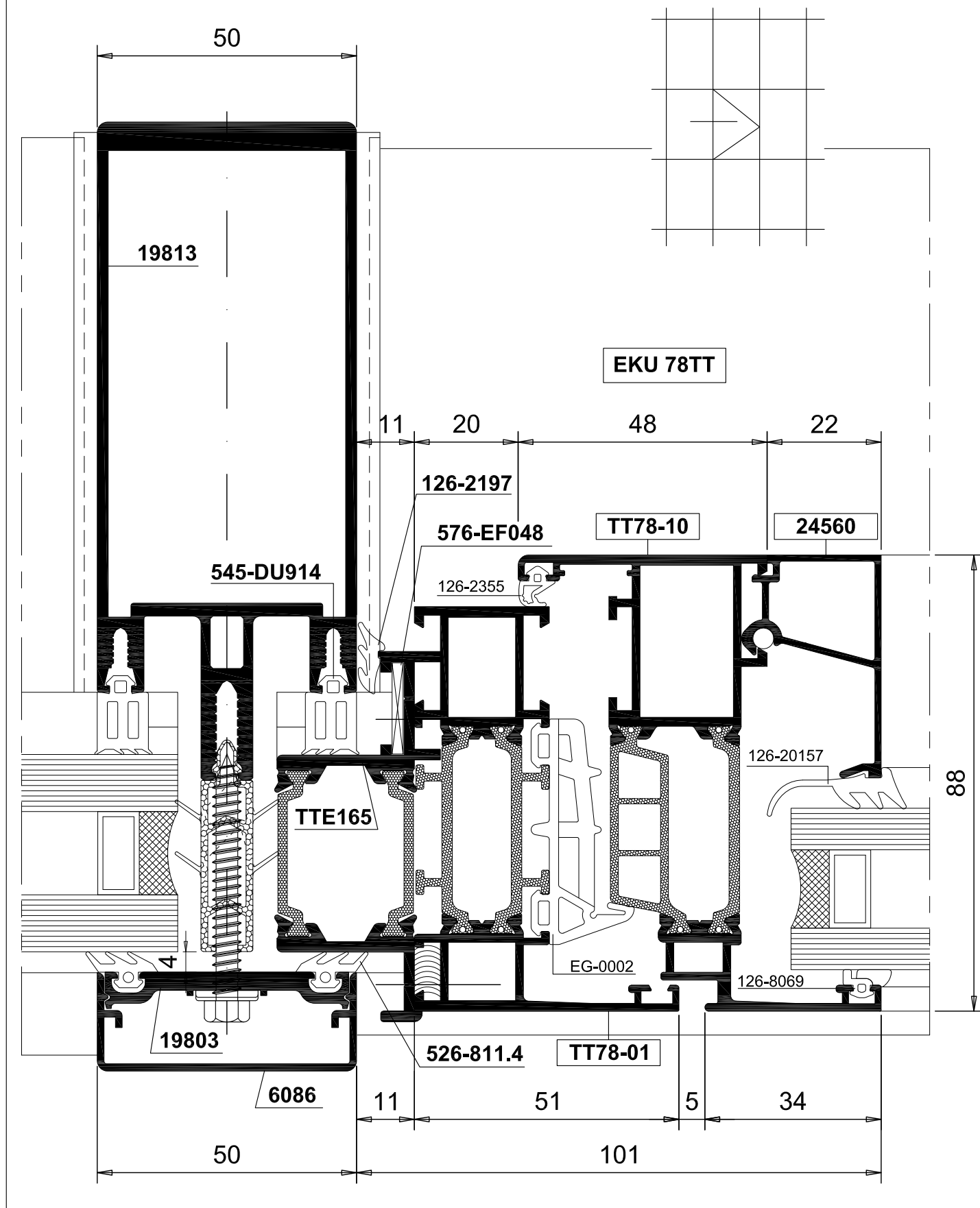
**Sezioni 1:1 - Cross sections 1:1**



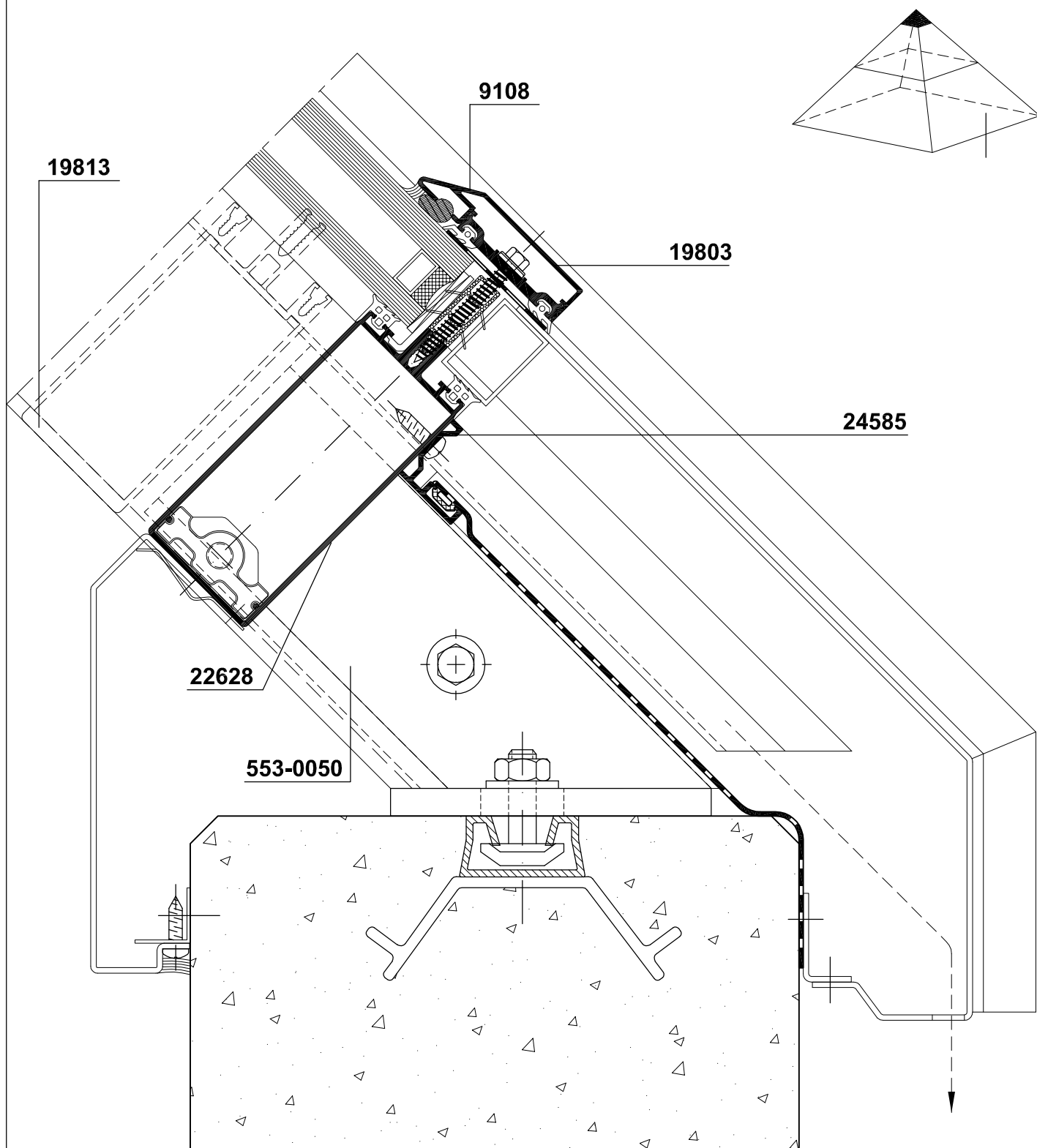
**Sezioni 1:1 - Cross sections 1:1**



**Sezioni 1:1 - Cross sections 1:1**

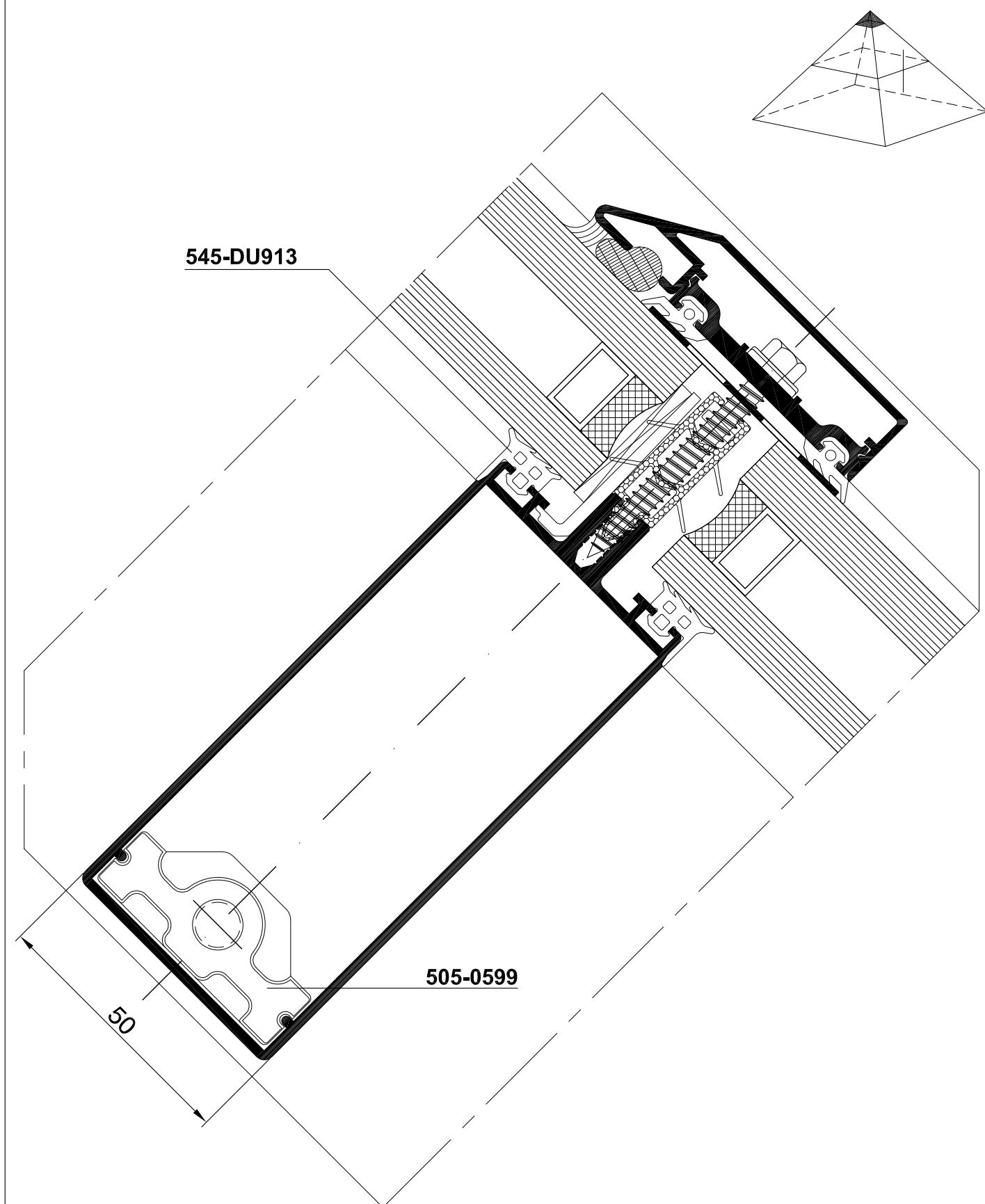


Sezioni 1:2 - Cross sections 1:2

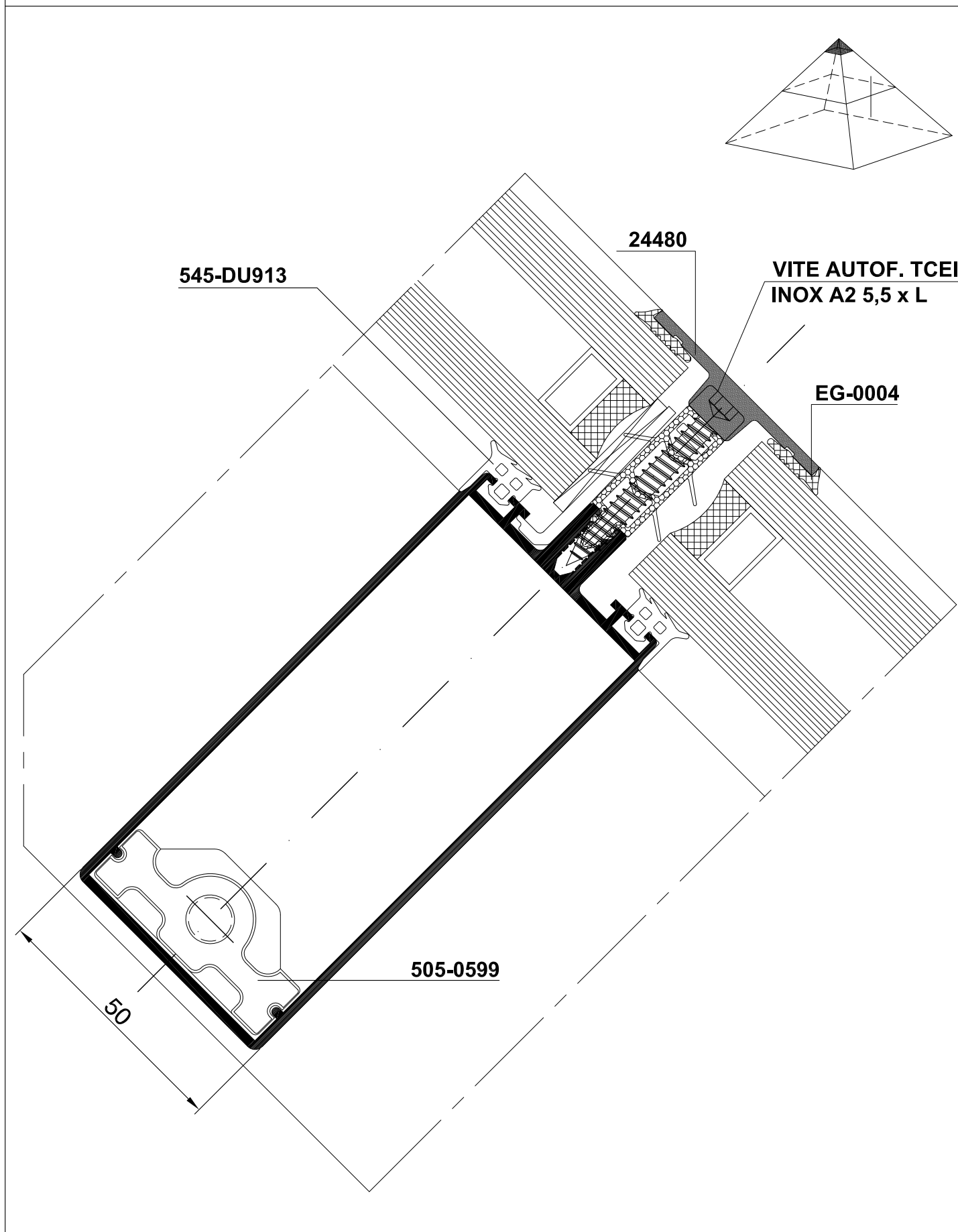


**N.B. Per le lamiere è consigliabile utilizzare trattamento anti-rombo**  
**REMARK: For plates it is advisable to use anti-turbot**

Sezioni 1:1 - Cross sections 1:1

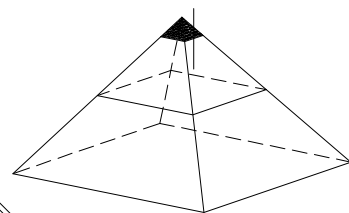


Sezioni 1:1 - Cross sections 1:1



Sezioni 1:3 - Cross sections 1:3

**Guaina butilica  
(esclusa nostra fornitura)**  
**Bituminous rubber  
(excluded our supply)**



**A**

**A**

6086

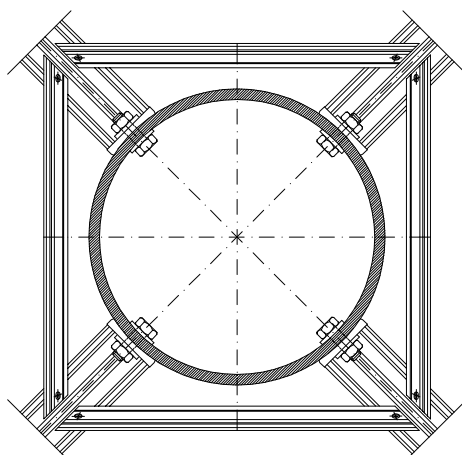
22649

22698

270

22697

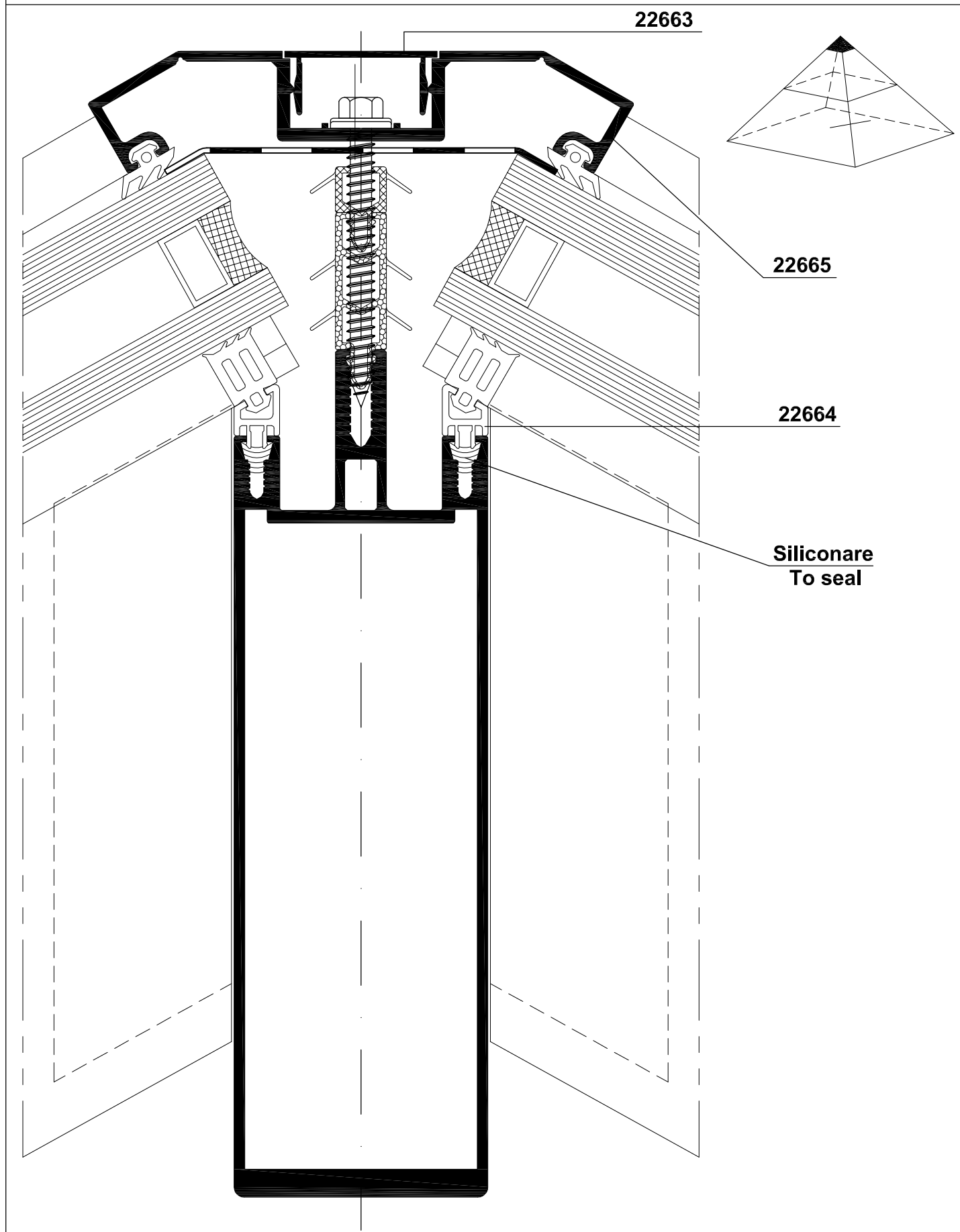
**Giunto cilindrico (escluso ns. fornitura)**  
**Cylindrical joint (excluded our supply)**



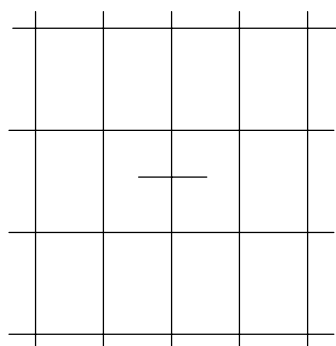
**Sezione A-A (non in scala)**  
**A-A Section (not to scale)**

**N.B. Per le lamiere è consigliabile utilizzare trattamento anti-rombo**  
**REMARK: For plates it is advisable to use anti-turbot**

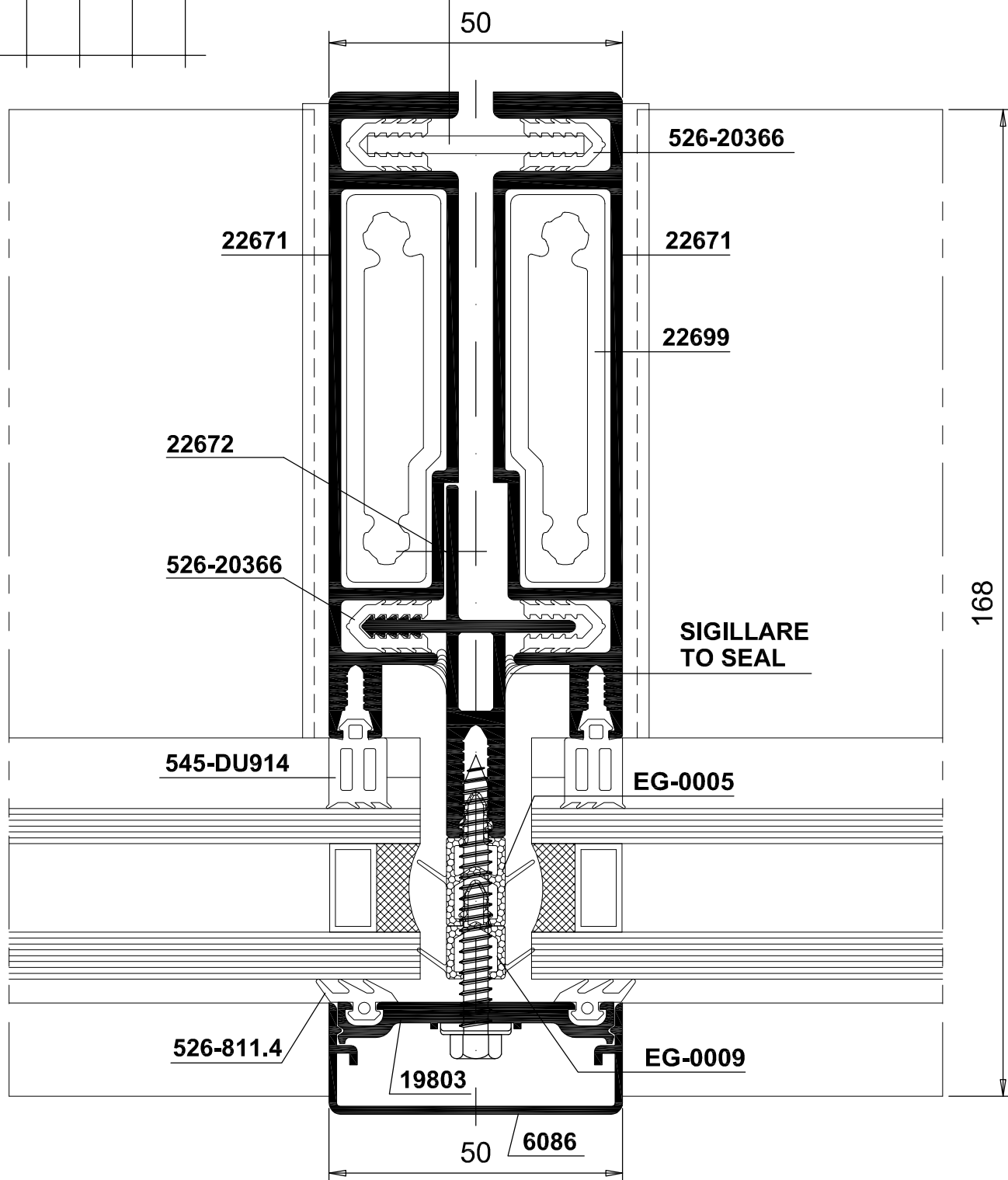
Sezioni 1:1 - Cross sections 1:1



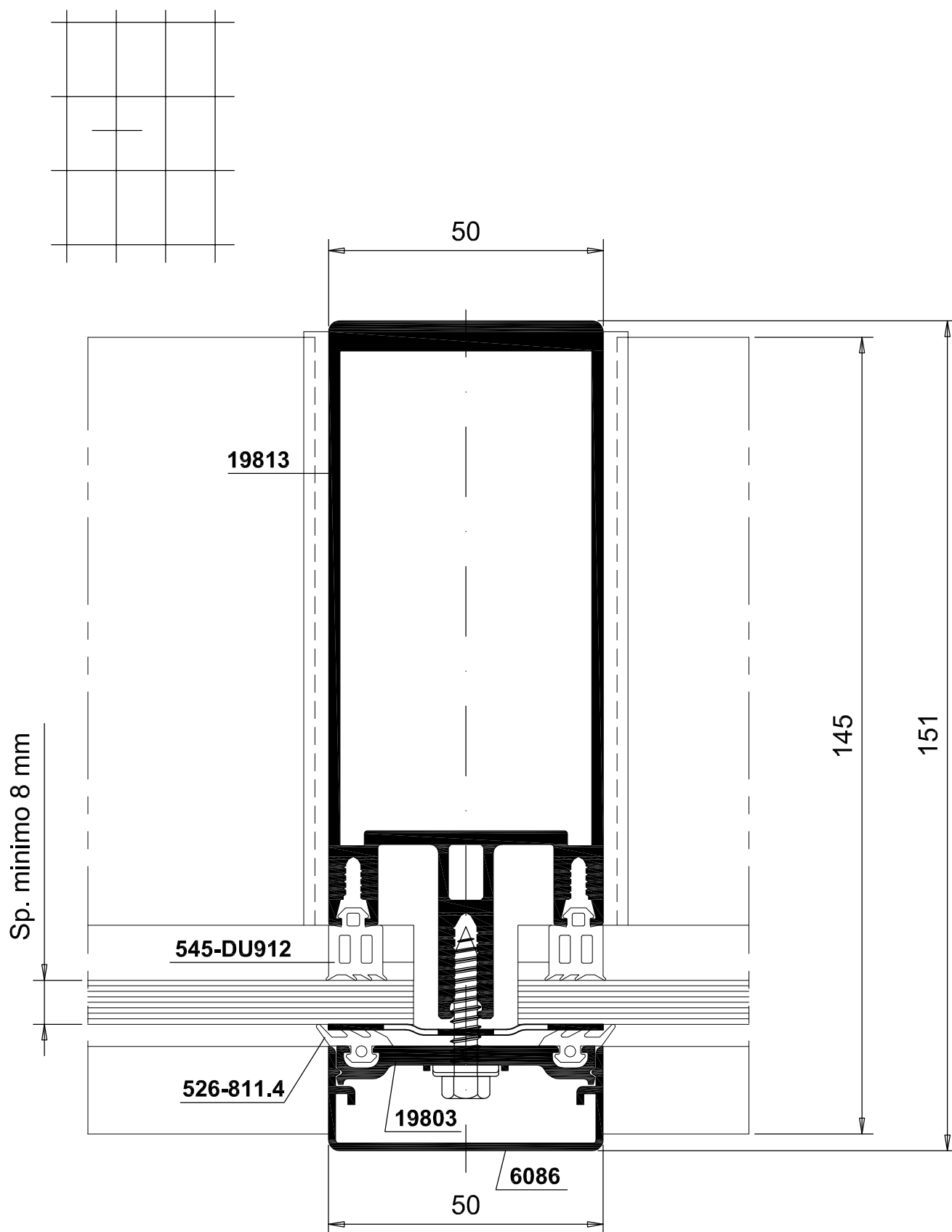
**Sezioni 1:1 - Cross sections 1:1**



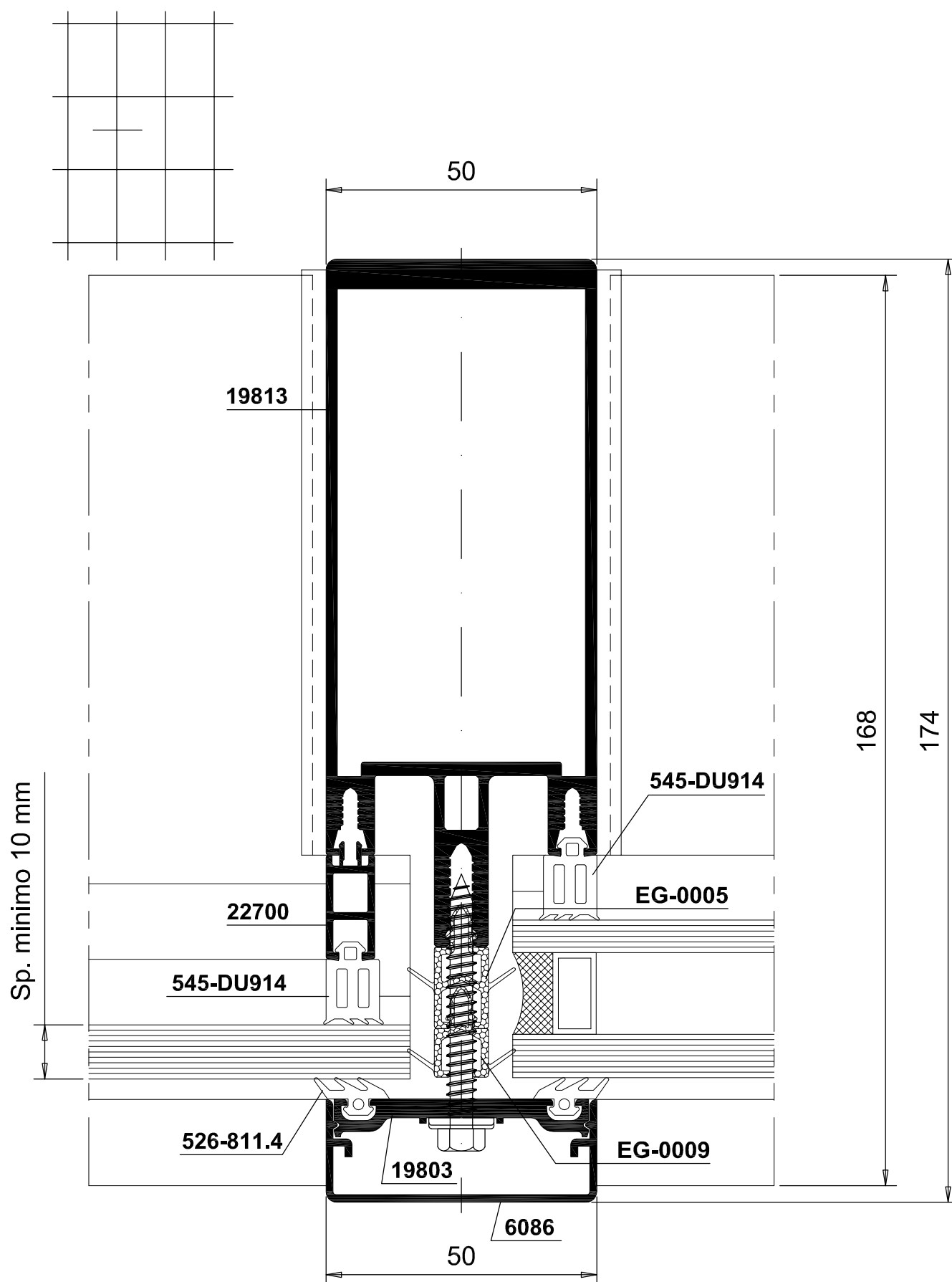
**LAMIERA ALL.  
DA 3 mm.  
(esclusa ns. fornitura)**



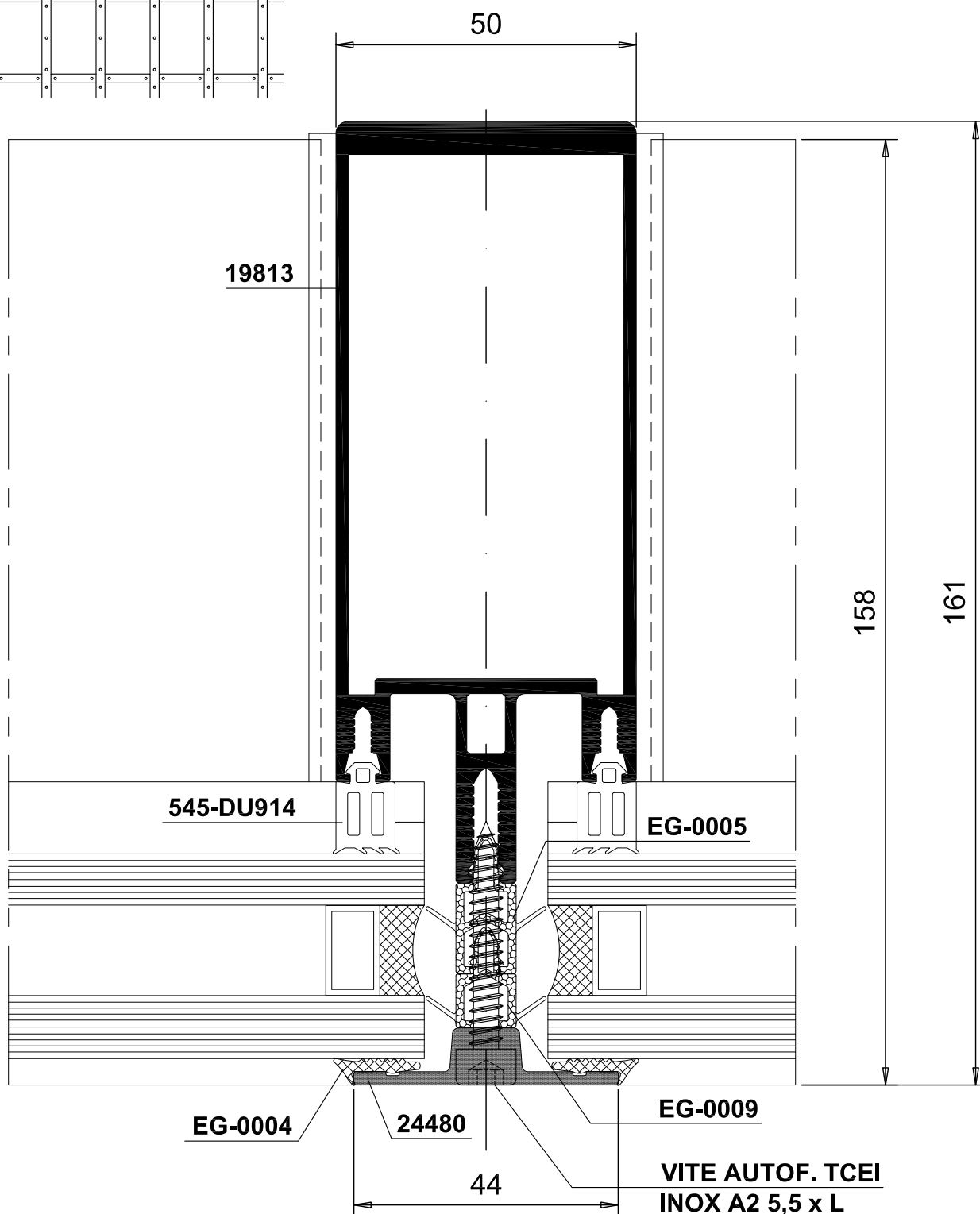
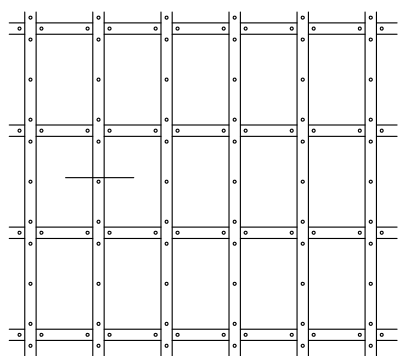
**Sezioni 1:1 - Cross sections 1:1**



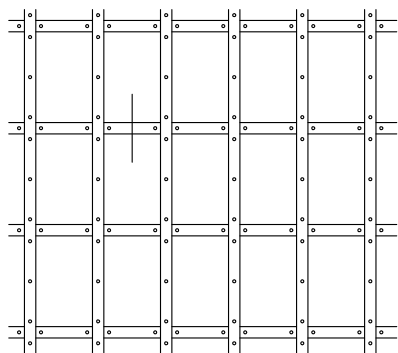
**Sezioni 1:1 - Cross sections 1:1**



**Sezioni 1:1 - Cross sections 1:1**



**Sezioni 1:1 - Cross sections 1:1**



161

158

22628

545-DU913

VITE AUTOF. TCEI  
INOX A2 5,5 x L

50

505-0599

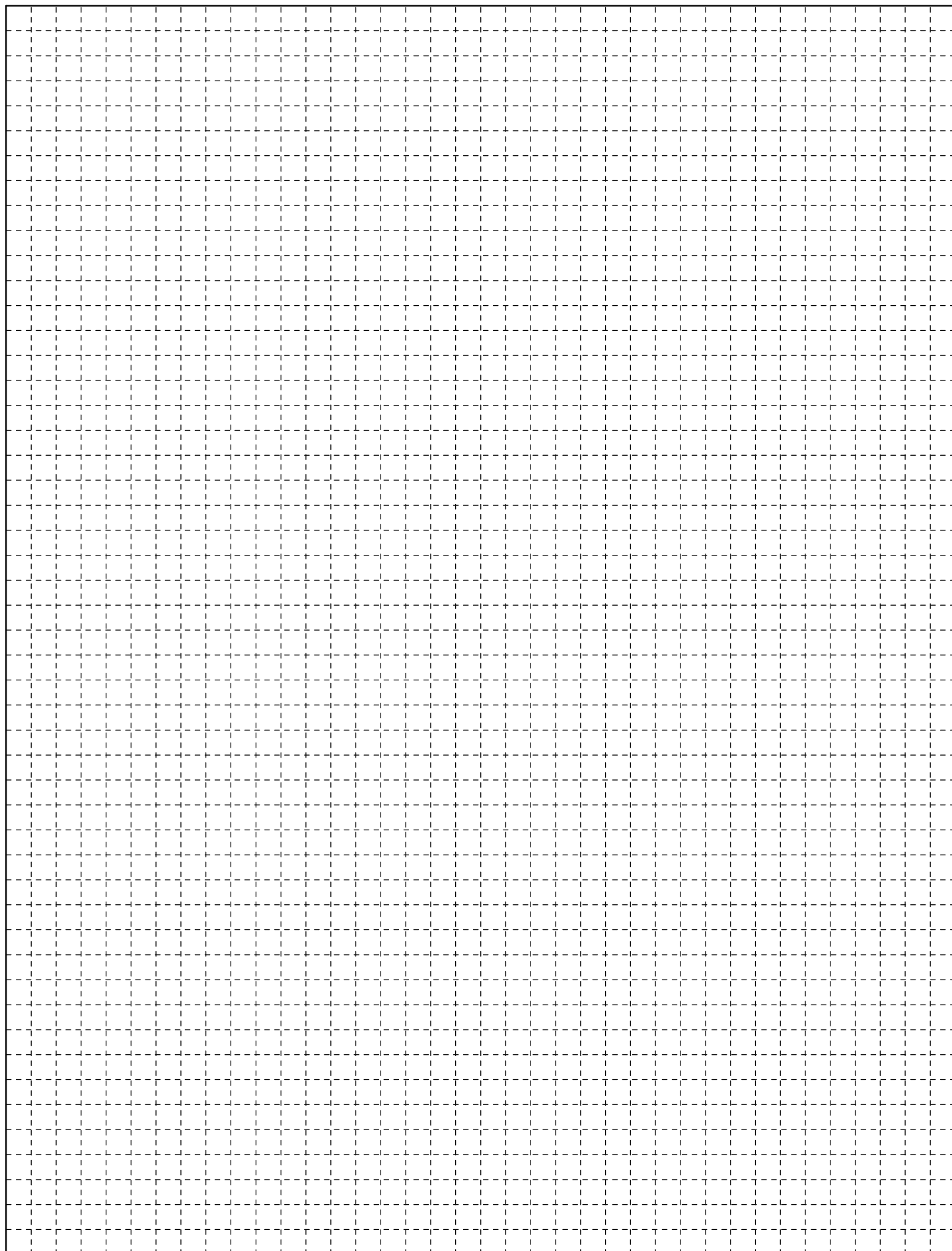
24480

EG-0004

5.5

34

2.5

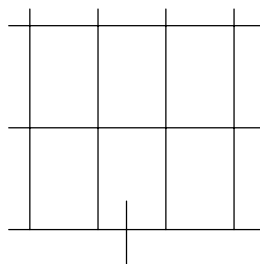


# **RACCORDI CON LE MURATURE**



## **FITTINGS TO THE WALLS**

**Esempi raccordi con le murature 1:1 - Examples of fittings to the walls 1:1**



Lamiera di alluminio  
esclusa ns. fornitura

**EA-0107**

**COIBENTARE**

80

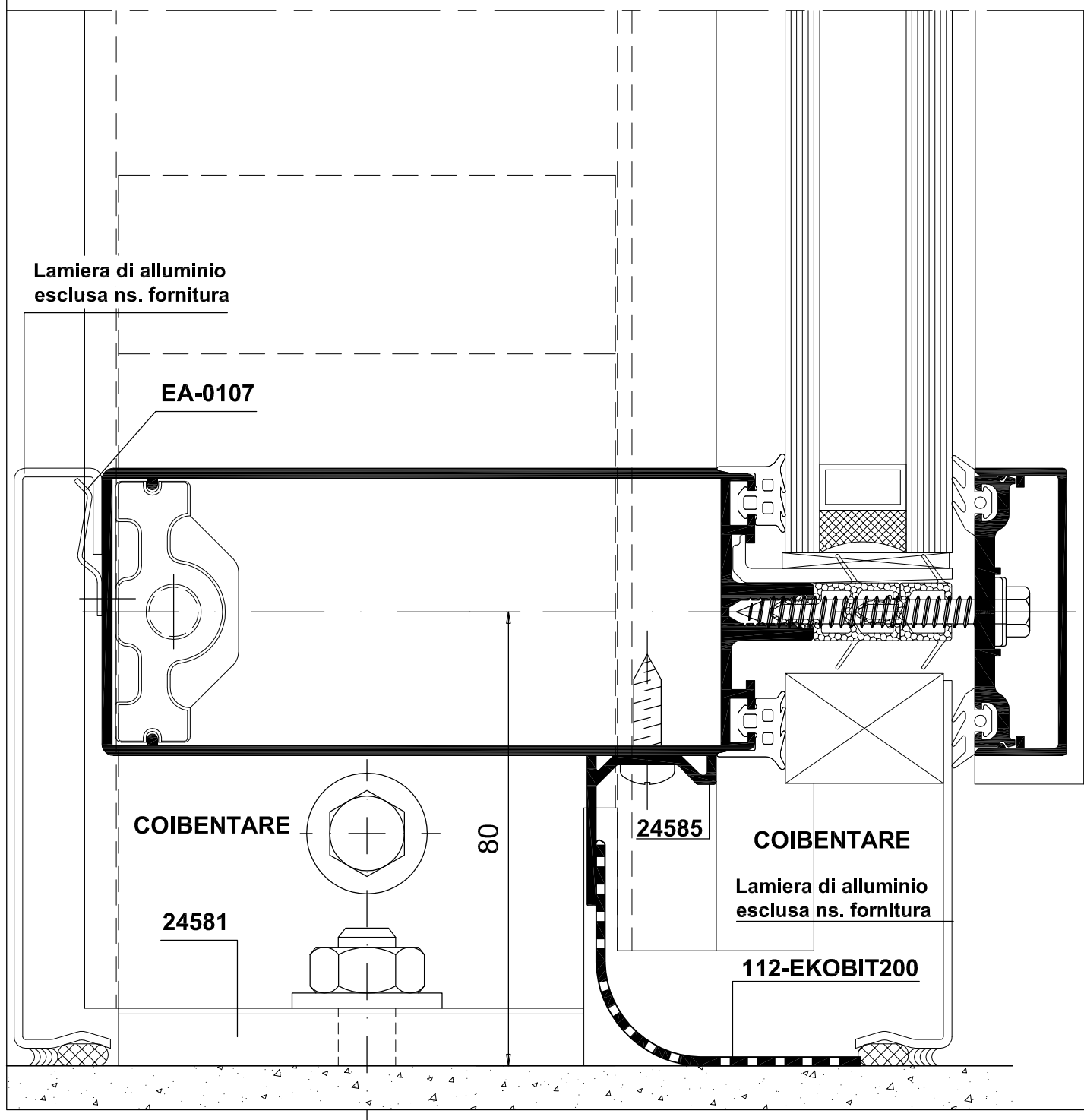
**24581**

**24585**

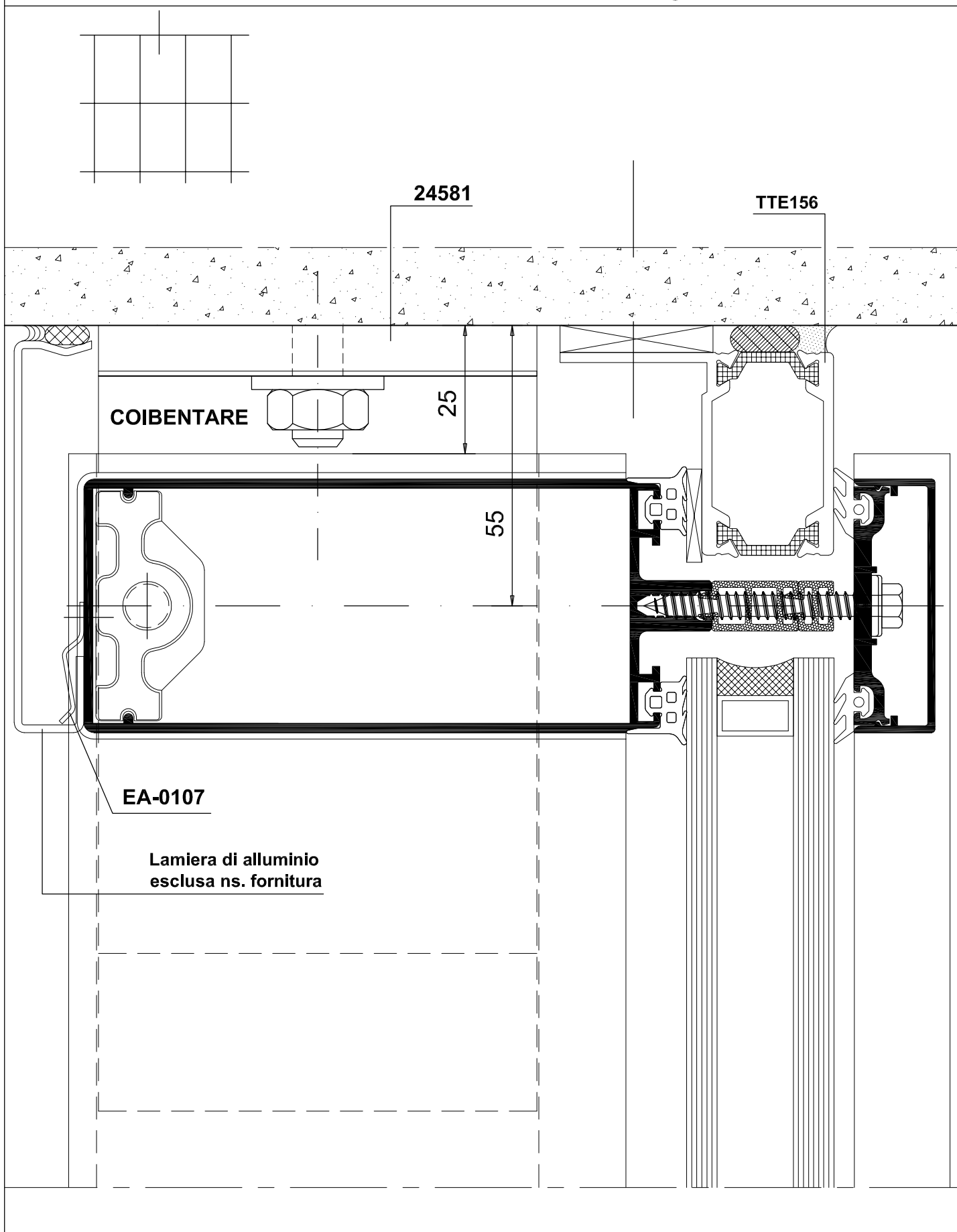
**COIBENTARE**

Lamiera di alluminio  
esclusa ns. fornitura

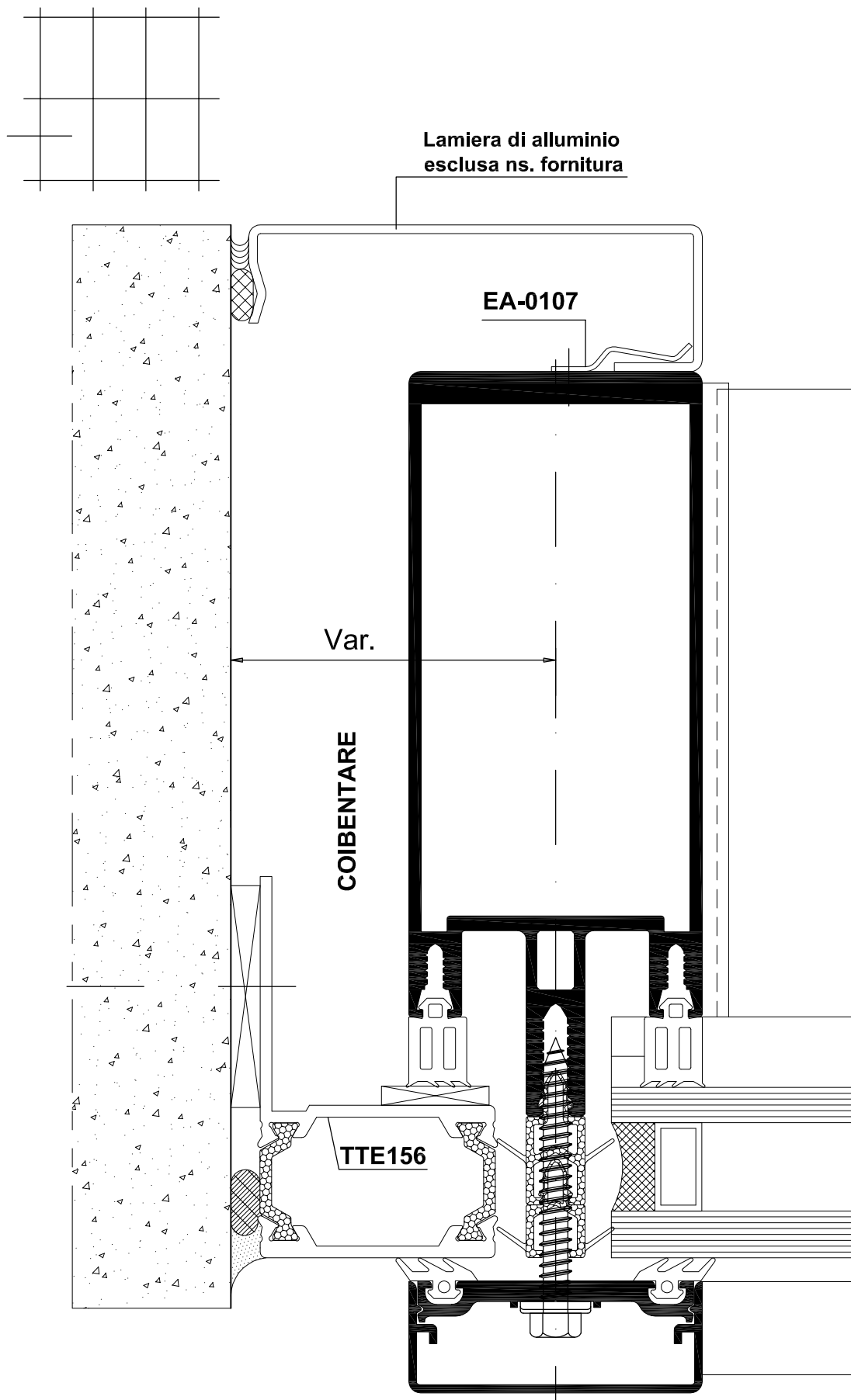
**112-EKOBIT200**



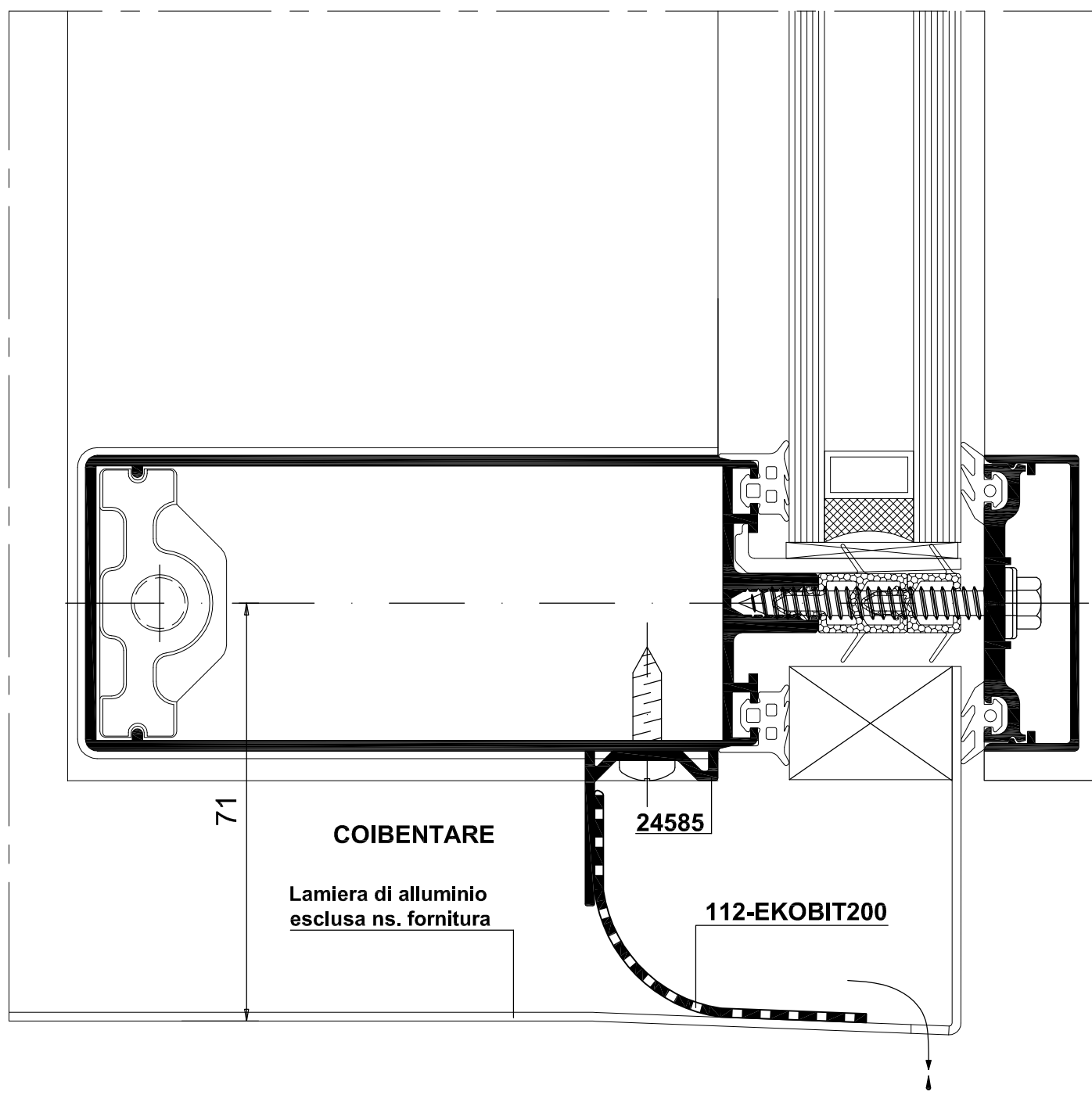
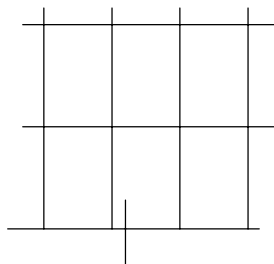
**Esempi raccordi con le murature 1:1 - Examples of fittings to the walls 1:1**



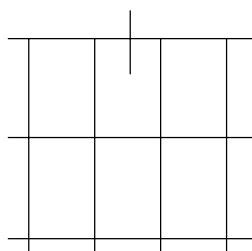
**Esempi raccordi con le murature 1:1 - Examples of fittings to the walls 1:1**



**Esempi raccordi con le murature 1:1 - Examples of fittings to the walls 1:1**

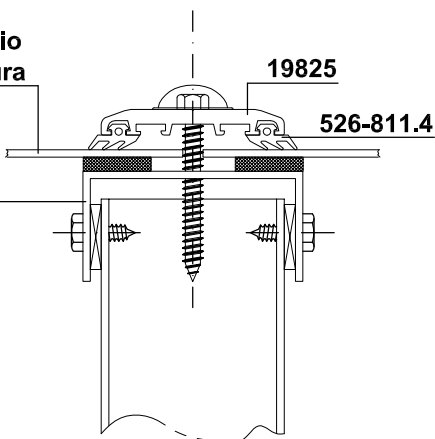


**Esempi raccordi con le murature 1:2 - Examples of fittings to the walls 1:2**



**Lamiera di alluminio  
esclusa ns. fornitura**

**Bandella tipo aerstop adesiva  
Esclusa ns. fornitura**

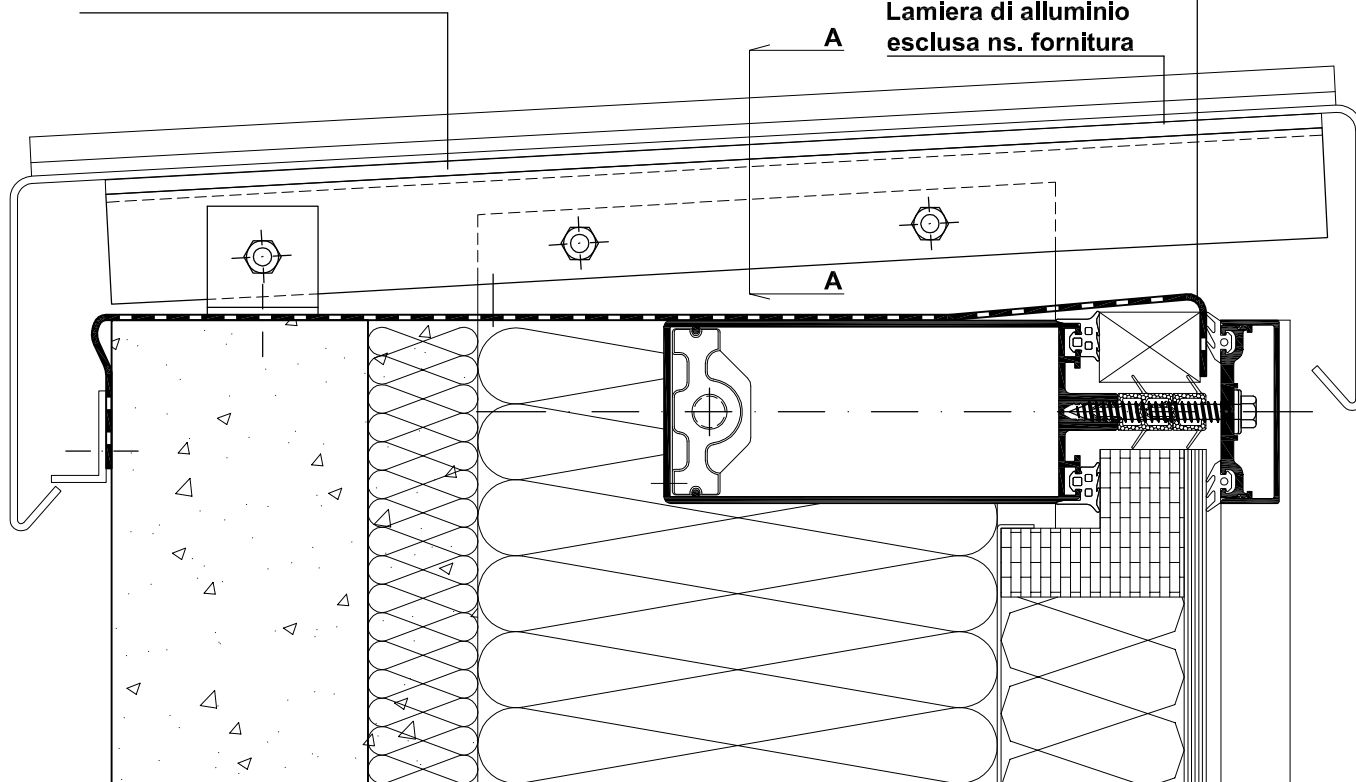


**Sezione A-A  
Scala 1:1**

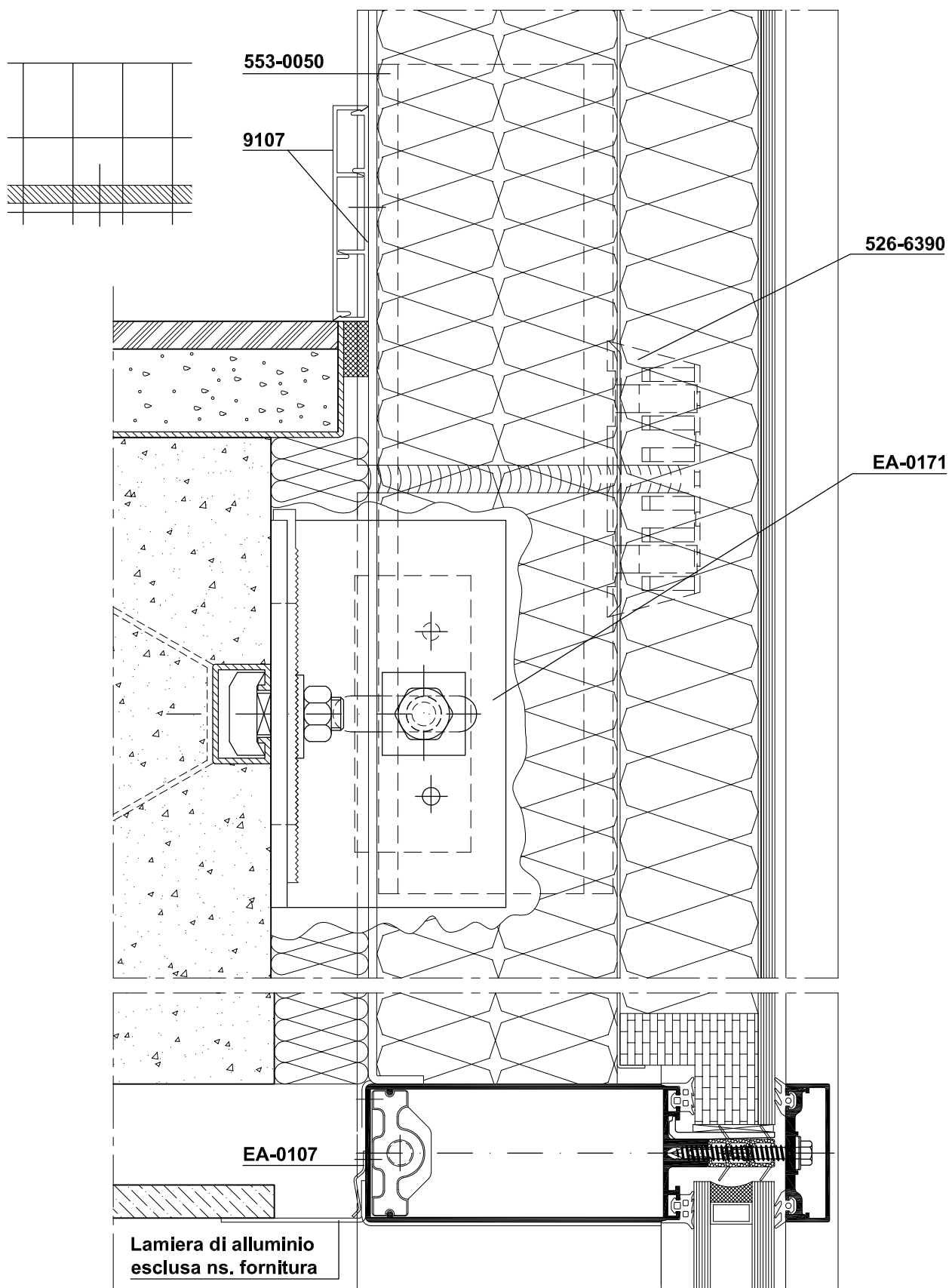
**Guaina impermeabile  
Esclusa ns. fornitura**

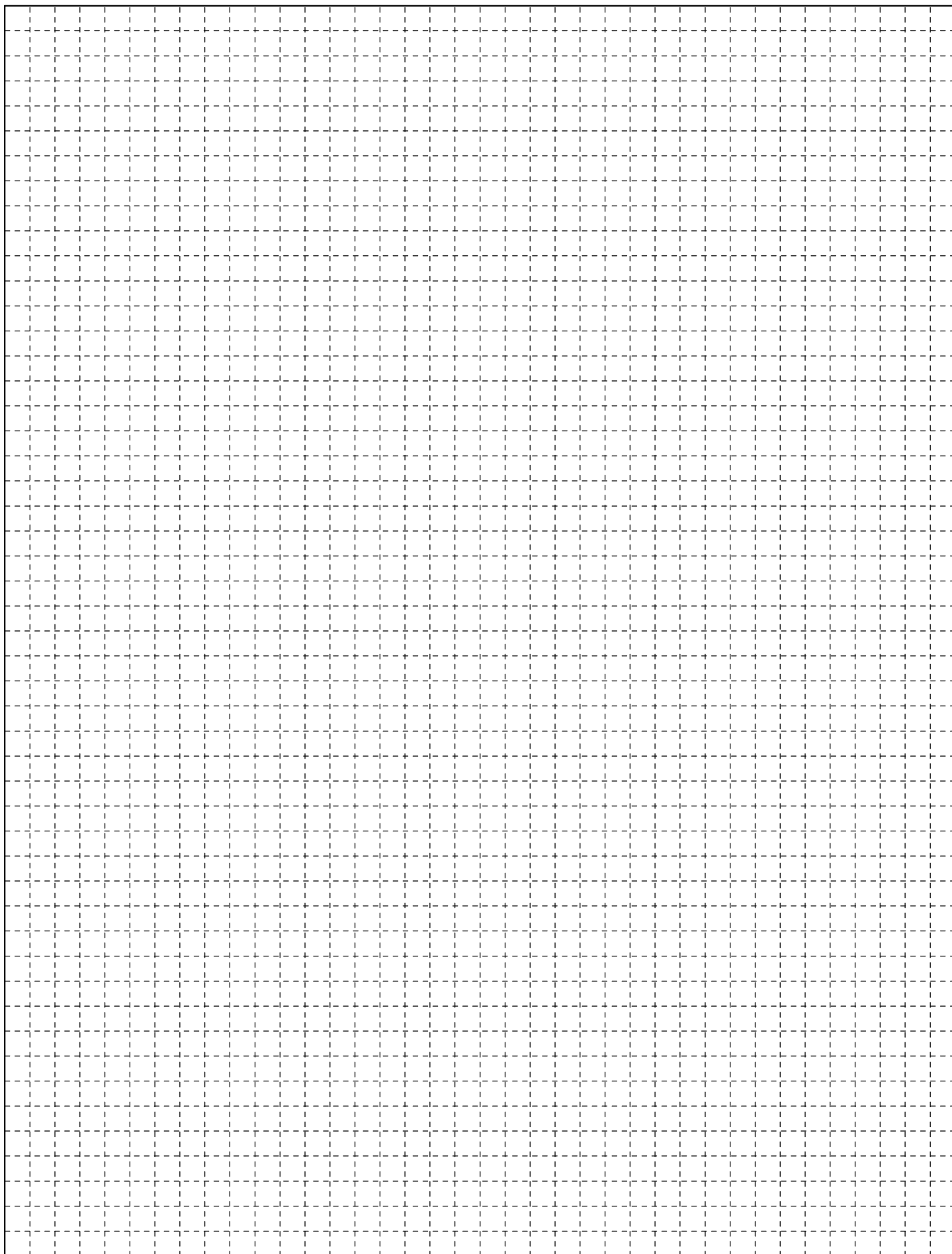
**Bandella tipo aerstop adesiva  
Esclusa ns. fornitura**

**Lamiera di alluminio  
esclusa ns. fornitura**



**Esempi raccordi con le murature 1:2 - Examples of fittings to the walls 1:2**



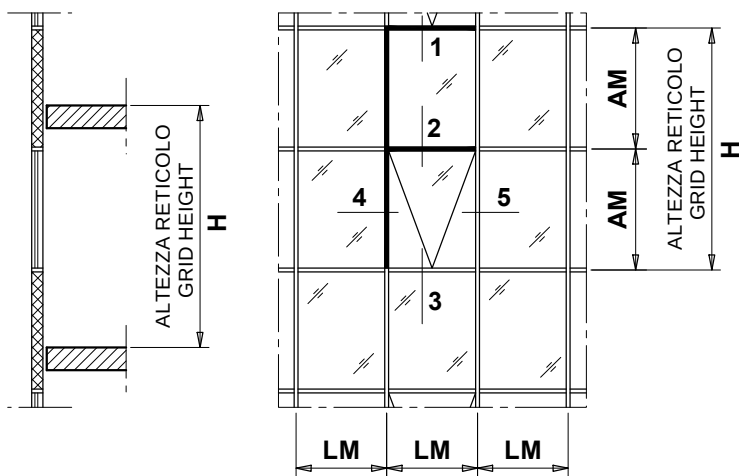


# **DISTINTE DI TAGLIO**



# **PREPARATIONS**

## Disegni d' assieme - Assembly drawings



### APERTURA A SPORGERE AWNING WINDOW

#### PROFILI / PROFILES

|        |                                 |           |
|--------|---------------------------------|-----------|
| TTE160 | TELAIO FISSO<br>FIXED FRAME     | 2LM + 2AM |
| TTE162 | ANTA APRIBILE<br>OPENABLE LEAF  | 2LM + 2AM |
| 6405   | ASTA DI CHIUSURA<br>CLOSING ROD | 2LM + 2AM |

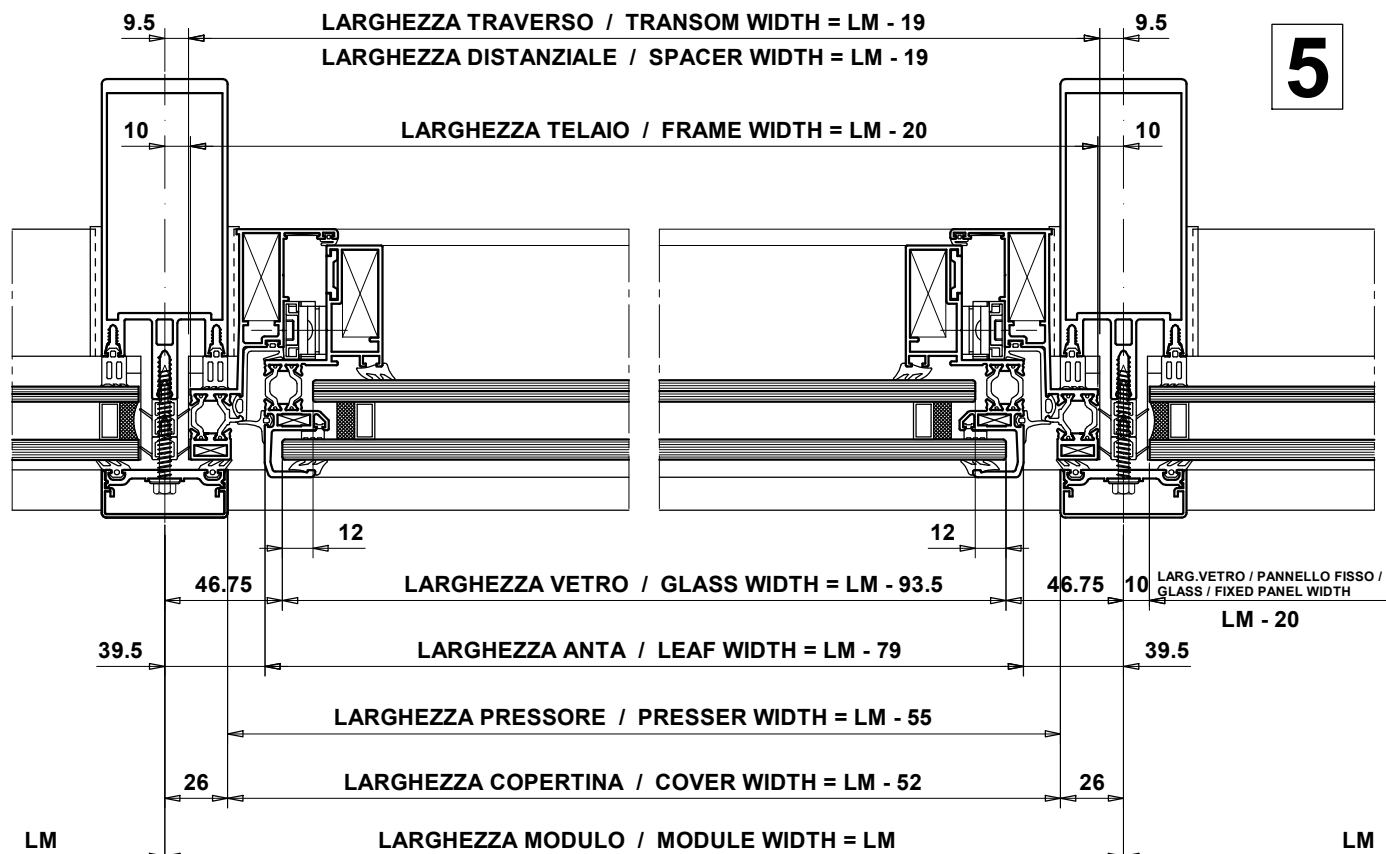
#### GUARNIZIONI / GASKETS

|           |                                              |           |
|-----------|----------------------------------------------|-----------|
| 126-2666  | DI BATTUTA INTERNA<br>INTERNAL RABBET        | 2LM + 2AM |
| 126-2195  | VETRAZIONE INTERNA<br>INTERNAL GLASS BEADING | 2LM + 2AM |
| 126-1205  | APOGGIO VETRO<br>GLASS SUPPORTING            | 2LM + 2AM |
| 126-2195  | VETRAZIONE ESTERNA<br>EXTERNAL GLASS BEADING | 2LM + 2AM |
| 545-DU903 | DI TENUTA<br>WATERTIGHTNESS                  | 2LM + 2AM |
| 545-T904  | TELAIO VULCANIZZATO<br>VULCANIZED FRAME      | N°1 Pz    |

#### ACCESSORI / ACCESSORIES

|            |                                                                    |         |
|------------|--------------------------------------------------------------------|---------|
| 505-0335DX | SQUADRETTA A SCATTO TELAIO-ANTA<br>LEAF-FRAME SNAP CORNER JOINT    | N°8 Pz  |
| 153-0022G  | SQUADRETTA ALLIN. TELAIO-ANTA<br>LEAF-FRAME ALIGNING CORNER JOINT  | N°8 Pz  |
| 653-040.4  | SQUADRETTA ALLINEAMENTO TELAIO<br>FRAME ALIGNING CORNER JOINT      | N°4 Pz  |
| ....       | COPPIA BRACCI<br>ARM COUPLE                                        | N°1 Pz  |
| 500-2006K  | COPPIA SUPPORTO BRACCI (OPZ.)<br>ARM SUPPORTING COUPLE (OPTIONAL)  | N°1 Pz  |
| 100-1213   | INCONTRO CHIUSURA<br>CLOSING REST PLATE                            | N°6 Pz  |
| 100-2236   | BLOCCETTO DI COLLEGAMENTO<br>CONNECTION BLOCK                      | N°2 Pz  |
| 100-4020   | RINVIO D' ANGOLO<br>ANGLE TRANSMISSION                             | N°3 Pz  |
| 100-1394   | NOTTOLINO DI CHIUSURA<br>CLOSING PIN                               | N°6 Pz  |
| 100-5007   | CREMONESE<br>CREMONE BOLT                                          | N°1 Pz  |
| 553-0035   | SUPPORTO VETRO<br>GLASS SUPPORT                                    | N°2 Pz  |
| 535-090.19 | GRANO PER SQUADRETTA 153-0022G<br>SCREW FOR CORNER JOINT 153-0022G | N°16 Pz |

4



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**Disegni d' assieme - Assembly drawings**

**RETICOLO DI FACCIATA  
WALL GRID**

PROFILI / PROFILES

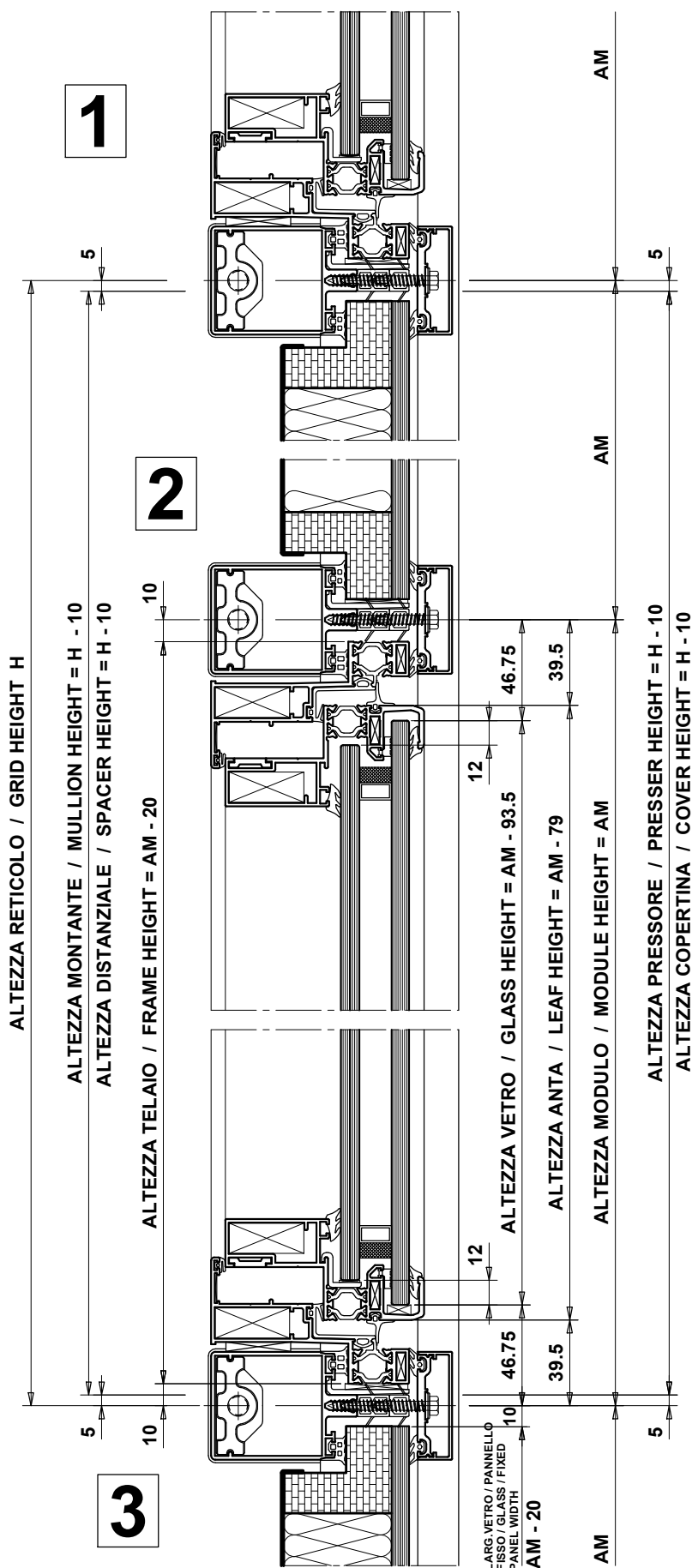
|       |                            |          |
|-------|----------------------------|----------|
| 19813 | MONTANTE<br>MULLION        | 1H       |
| 19827 | TRAVERSO<br>TRANSOM        | 2LM      |
| 19803 | PRESSORE<br>PRESSURE PLATE | 2LM + 1H |
| 4162  | COPERTINA<br>COVER         | 2LM      |
| 6086  | COPERTINA<br>COVER         | 1H       |

GUARNIZIONI / GASKETS

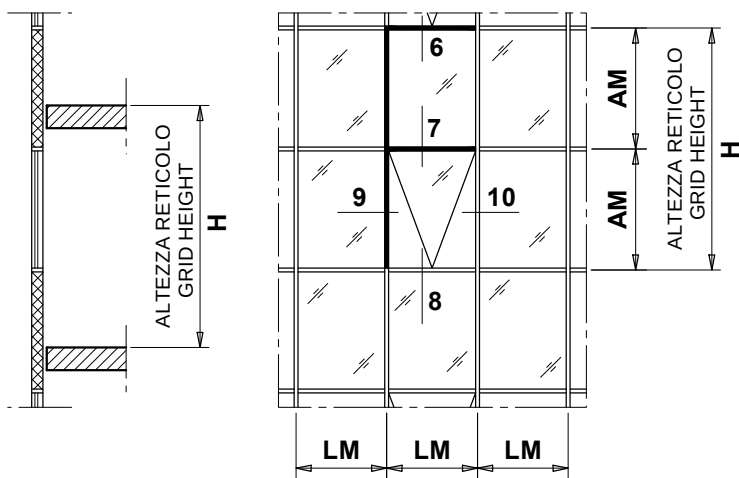
|           |                                                        |          |
|-----------|--------------------------------------------------------|----------|
| EG-0005   | DISTANZIALE MM.15<br>SPACING MM.15                     | 2LM + 1H |
| EG-0009   | DISTANZIALE MM.9<br>SPACING MM.9                       | 2LM + 1H |
| 545-DU914 | INTERNA MONTANTI<br>MULLION INTERNAL                   | 2H       |
| 545-DU913 | INTERNA TRAVERSI<br>TRANSOM INTERNAL                   | 4LM      |
| 526-811.4 | VETRAZIONE ESTERNA MM.4<br>EXTERNAL GLASS BEADING MM.4 | 4LM + 2H |

ACCESSORI / ACCESSORIES

|            |                                                             |        |
|------------|-------------------------------------------------------------|--------|
| 505-0599   | CAVALLOTTO PER TRAVERSI<br>TRANSOM "T-JOINT"                | N°4 Pz |
| 526-4338   | TAPPO TRAVERSI<br>TRANSOM PLUG                              | N°4 Pz |
| 526-4392   | CROCE DI TENUTA<br>TIGHTNESS CROSS                          | N°2 Pz |
| 545-DU2301 | ANGOLO VULCANIZZATO<br>VULCANIZED CORNER                    | N°8 Pz |
| 526-4405   | GIUNZIONE MONTANTI/TRAVERSI<br>MULLIONS/TRANSOMS CONNECTION | N°4 Pz |
| 526-6390   | GIUNZIONE MONTANTI<br>MULLIONS CONNECTION                   | N°1 Pz |
| 526-6391   | DRENAGGIO MONTANTI<br>MULLIONS DRAINAGE                     | N°2 Pz |
| 553-0050   | CANNOTTO MONTANTI<br>MULLION TELESCOPIC TUBE                | N°1 Pz |
| EA-0171    | STAFFA DI FISSAGGIO<br>FASTENING BRACKET                    | N°1 Pz |
| 580-121280 | RONDELLA IN NYLON<br>NYLON WASHER                           | N°X Pz |
| 535-090.22 | VITI DI FISSAGGIO<br>FASTENING SCREWS                       | N°X Pz |
| 553-0032   | SUPPORTO VETRO<br>GLASS SUPPORT                             | N°4 Pz |



## Disegni d' assieme - Assembly drawings



### APERTURA A SPORGERE AWNING WINDOW

#### PROFILI / PROFILES

|        |                                 |           |
|--------|---------------------------------|-----------|
| TTE160 | TELAIO FISSO<br>FIXED FRAME     | 2LM + 2AM |
| TTE161 | ANTA APRIBILE<br>OPENABLE LEAF  | 2LM + 2AM |
| 6405   | ASTA DI CHIUSURA<br>CLOSING ROD | 2LM + 2AM |

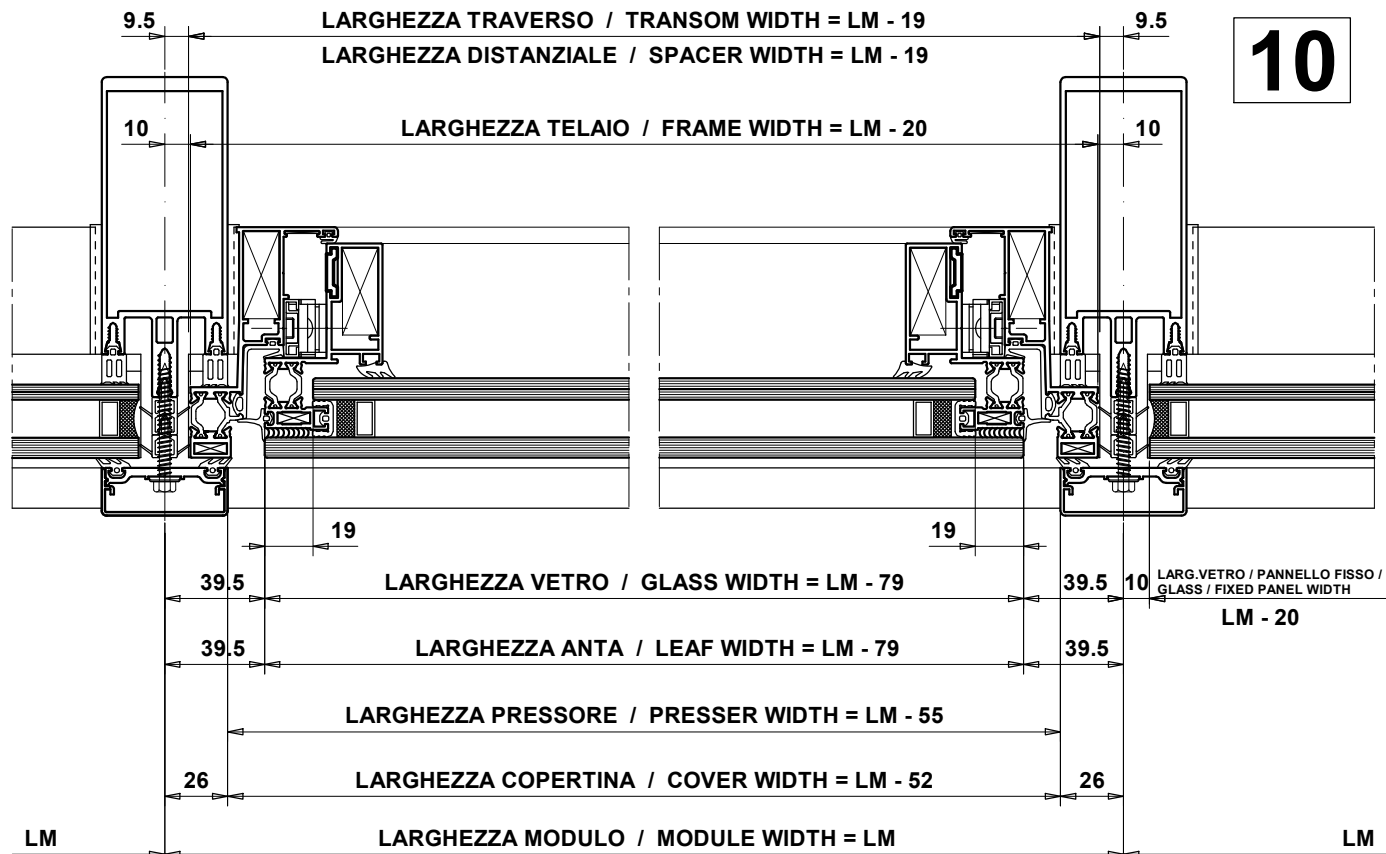
#### GUARNIZIONI / GASKETS

|           |                                              |           |
|-----------|----------------------------------------------|-----------|
| 126-2666  | DI BATTUTA INTERNA<br>INTERNAL RABBIT        | 2LM + 2AM |
| 126-2195  | VETRAZIONE INTERNA<br>INTERNAL GLASS BEADING | 2LM + 2AM |
| 526-7026  | APOGGIO VETRO<br>GLASS SUPPORTING            | 2LM + 2AM |
| 545-DU903 | DI TENUTA<br>WATERTIGHTNESS                  | 2LM + 2AM |
| 545-T904  | TELAIO VULCANIZZATO<br>VULCANIZED FRAME      | N°1 Pz    |

#### ACCESSORI / ACCESSORIES

|            |                                                                    |         |
|------------|--------------------------------------------------------------------|---------|
| 505-0335DX | SQUADRETTA A SCATTO TELAIIO-ANTA<br>LEAF-FRAME SNAP CORNER JOINT   | N°8 Pz  |
| 153-0022G  | SQUADRETTA ALLIN. TELAIIO-ANTA<br>LEAF-FRAME ALIGNING CORNER JOINT | N°8 Pz  |
| 653-040.4  | SQUADRETTA ALLINEAMENTO TELAIIO<br>FRAME ALIGNING CORNER JOINT     | N°4 Pz  |
| ....       | COPPIA BRACCI<br>ARM COUPLE                                        | N°1 Pz  |
| 500-2006K  | COPPIA SUPPORTO BRACCI (OPZ.)<br>ARM SUPPORTING COUPLE (OPTIONAL)  | N°1 Pz  |
| 100-1213   | INCONTRO CHIUSURA<br>CLOSING REST PLATE                            | N°6 Pz  |
| 100-2236   | BLOCCHETTO DI COLLEGAMENTO<br>CONNECTION BLOCK                     | N°2 Pz  |
| 100-4020   | RINVIO D' ANGOLO<br>ANGLE TRANSMISSION                             | N°3 Pz  |
| 100-1394   | NOTTOLINO DI CHIUSURA<br>CLOSING PIN                               | N°6 Pz  |
| 100-5007   | CREMONESE<br>CREMONE BOLT                                          | N°1 Pz  |
| 553-0034   | SUPPORTO VETRO<br>GLASS SUPPORT                                    | N°2 Pz  |
| 553-0035   | SUPPORTO VETRO<br>GLASS SUPPORT                                    | N°2 Pz  |
| 535-090.19 | GRANO PER SQUADRETTA 153-0022G<br>SCREW FOR CORNER JOINT 153-0022G | N°16 Pz |

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**Disegni d' assieme - Assembly drawings**

**RETICOLO DI FACCIATA  
WALL GRID**

PROFILI / PROFILES

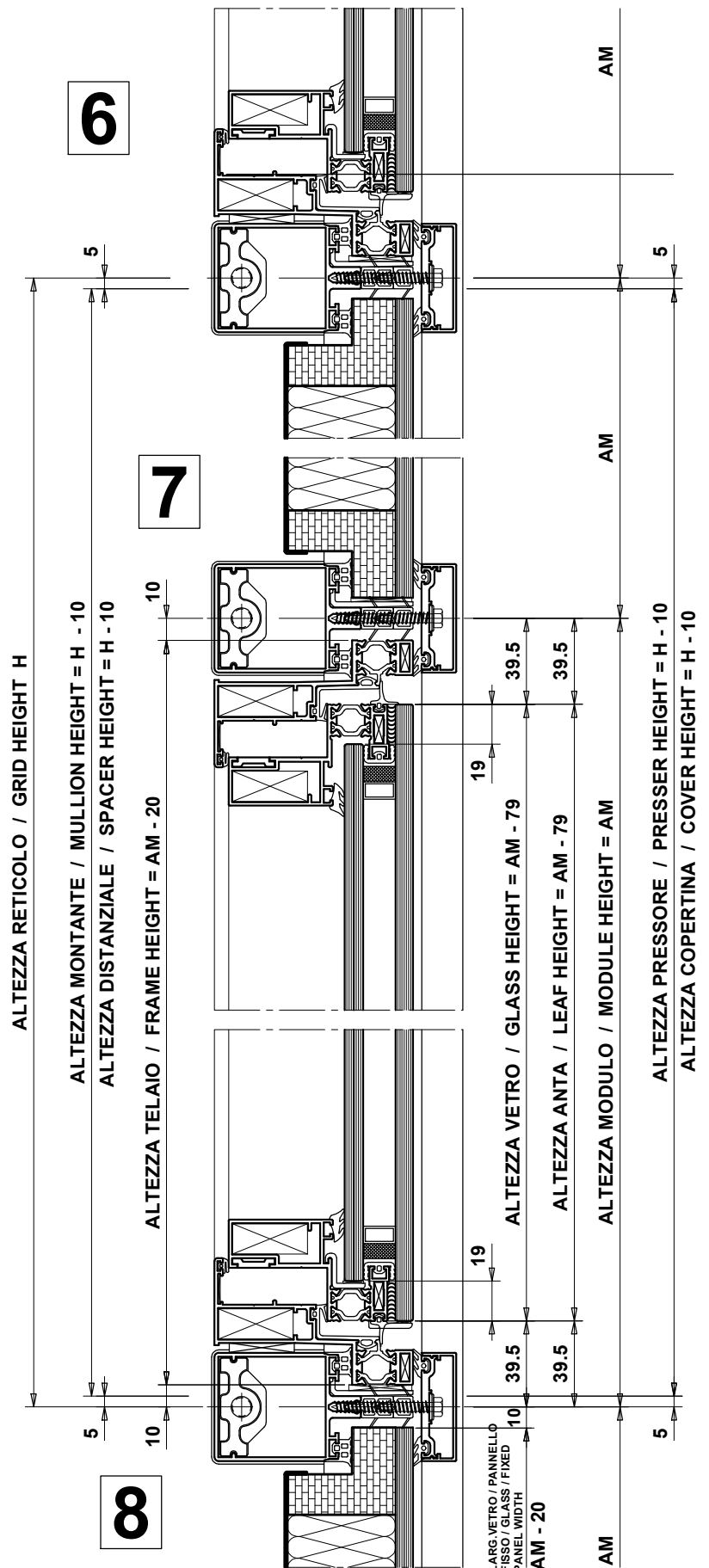
|       |                            |          |
|-------|----------------------------|----------|
| 19813 | MONTANTE<br>MULLION        | 1H       |
| 19827 | TRAVERSO<br>TRANSOM        | 2LM      |
| 19803 | PRESSORE<br>PRESSURE PLATE | 2LM + 1H |
| 4162  | COPERTINA<br>COVER         | 2LM      |
| 6086  | COPERTINA<br>COVER         | 1H       |

GUARNIZIONI / GASKETS

|           |                                                        |          |
|-----------|--------------------------------------------------------|----------|
| EG-0005   | DISTANZIALE MM.15<br>SPACING MM.15                     | 2LM + 1H |
| EG-0009   | DISTANZIALE MM.9<br>SPACING MM.9                       | 2LM + 1H |
| 545-DU914 | INTERNA MONTANTI<br>MULLION INTERNAL                   | 2H       |
| 545-DU913 | INTERNA TRAVERSI<br>TRANSOM INTERNAL                   | 4LM      |
| 526-811.4 | VETRAZIONE ESTERNA MM.4<br>EXTERNAL GLASS BEADING MM.4 | 4LM + 2H |

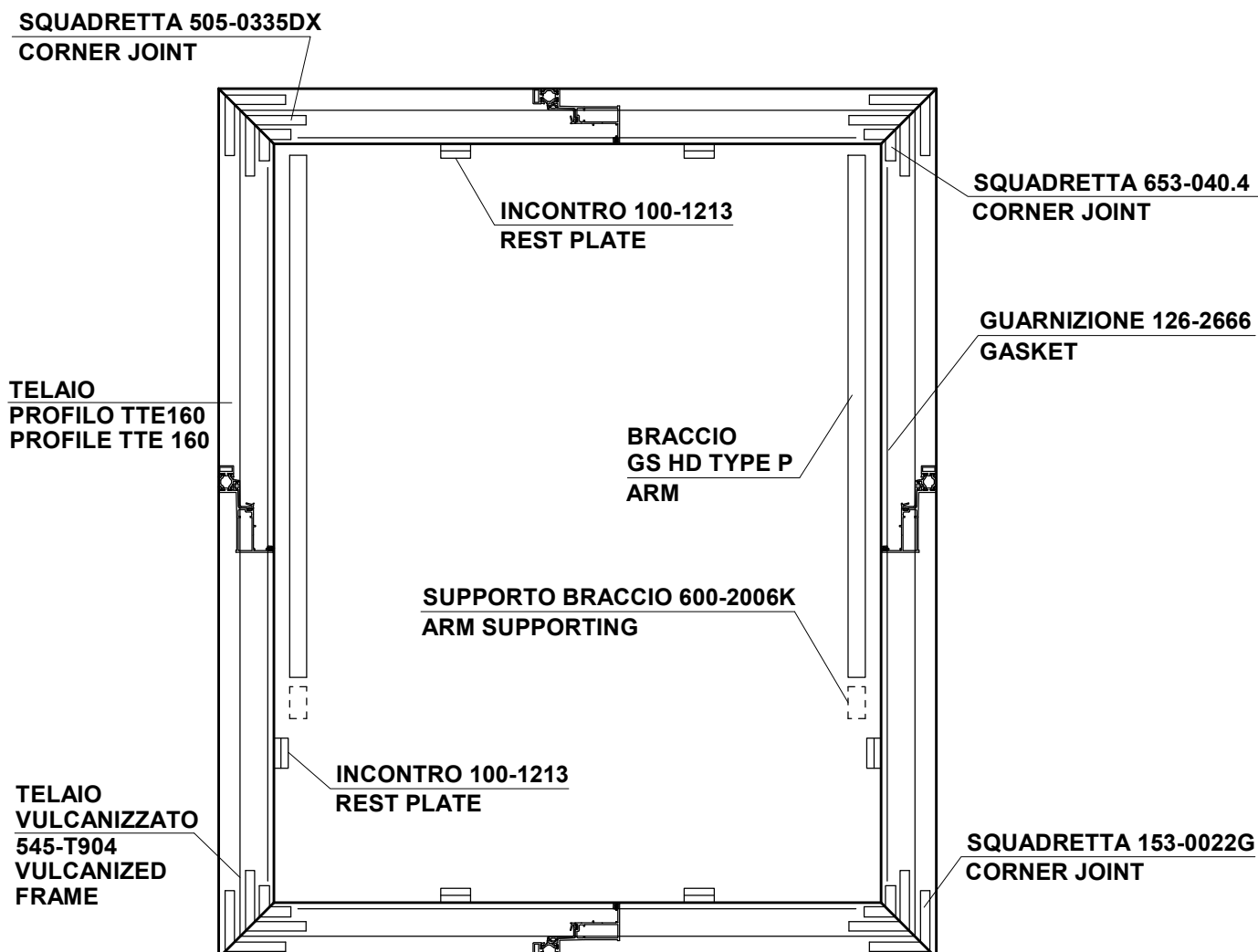
ACCESSORI / ACCESSORIES

|            |                                                             |        |
|------------|-------------------------------------------------------------|--------|
| 505-0599   | CAVALLOTTO PER TRAVERSI<br>TRANSOM "T-JOINT"                | N°4 Pz |
| 526-4338   | TAPPO TRAVERSI<br>TRANSOM PLUG                              | N°4 Pz |
| 526-4392   | CROCE DI TENUTA<br>TIGHTNESS CROSS                          | N°2 Pz |
| 545-DU2301 | ANGOLO VULCANIZZATO<br>VULCANIZED CORNER                    | N°8 Pz |
| 526-4405   | GIUNZIONE MONTANTI/TRAVERSI<br>MULLIONS/TRANSOMS CONNECTION | N°4 Pz |
| 526-6390   | GIUNZIONE MONTANTI<br>MULLIONS CONNECTION                   | N°1 Pz |
| 526-6391   | DRENAGGIO MONTANTI<br>MULLIONS DRAINAGE                     | N°2 Pz |
| 553-0050   | CANNOTTO MONTANTI<br>MULLION TELESCOPIC TUBE                | N°1 Pz |
| EA-0171    | STAFFA DI FISSAGGIO<br>FASTENING BRACKET                    | N°1 Pz |
| 580-121280 | RONDELLA IN NYLON<br>NYLON WASHER                           | N°X Pz |
| 535-090.22 | VITI DI FISSAGGIO<br>FASTENING SCREWS                       | N°X Pz |
| 553-0032   | SUPPORTO VETRO<br>GLASS SUPPORT                             | N°4 Pz |



**Disegni d' assieme - Assembly drawings**

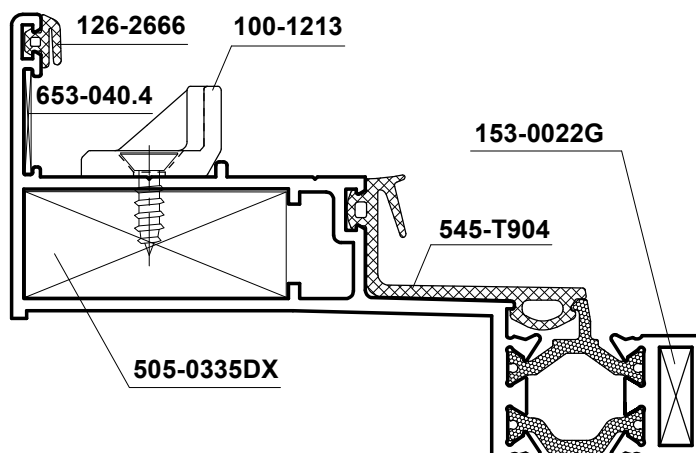
**SCHEMA APERTURA A SPORGERE - TELAIO TTE160: accessori e guarnizioni**  
**AWNING WINDOW - FRAME TTE160: accessories and gaskets**



**RIEPILOGO QUANTITA' / QUANTITY SUMMARY**

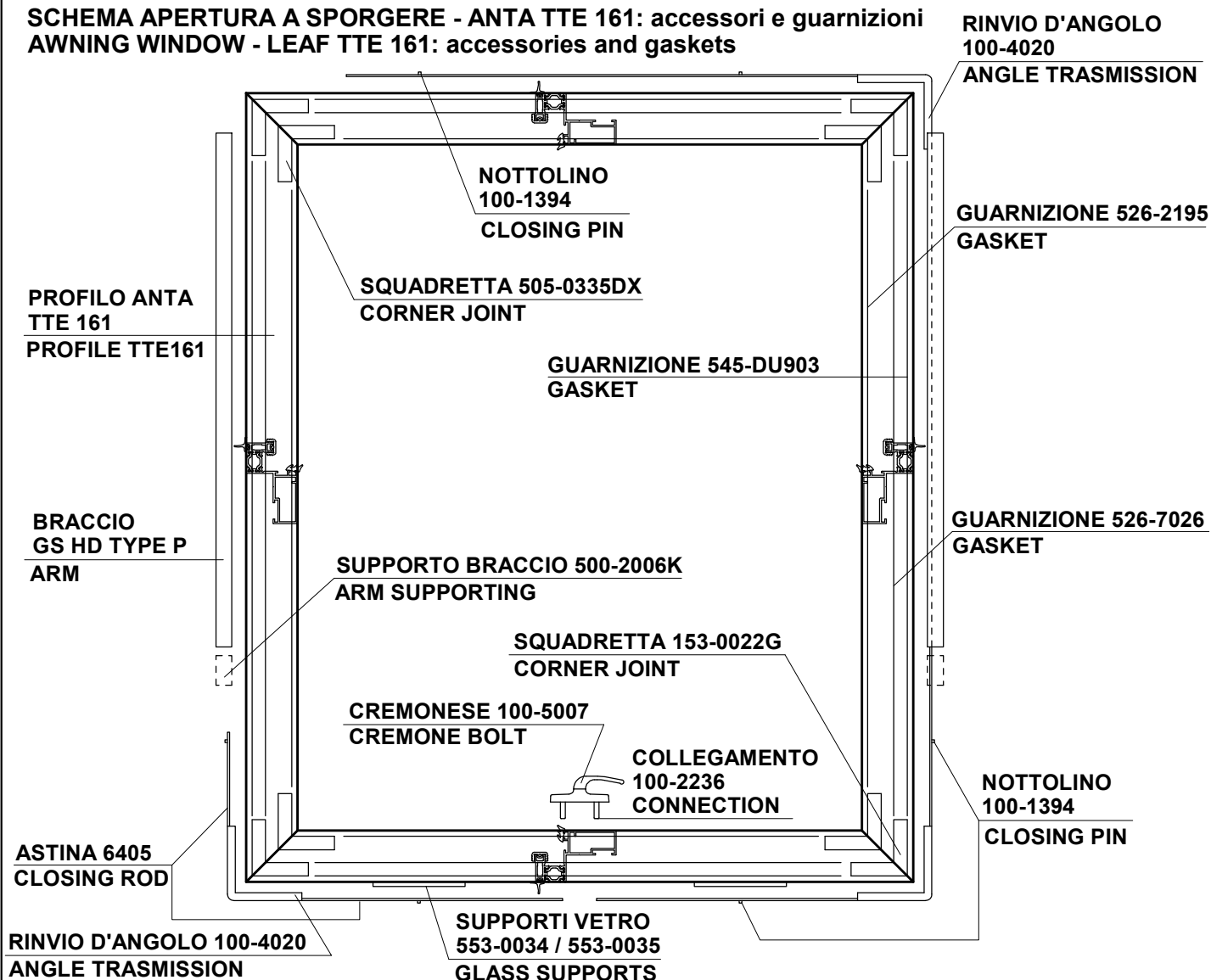
SQUADRETTA 505-0335DX -----> N° 4 Pz.  
CORNER JOINT  
SQUADRETTA 153-0022G -----> N° 4 Pz.  
CORNER JOINT  
SQUADRETTA 653-040.4 -----> N° 4 Pz.  
CORNER JOINT  
GUARNIZIONE 126-2666 -----> 2H + 2L  
GASKET  
TELAIO VULCANIZZATO 545-T904 -----> N° 1 Pz.  
VULCANIZED FRAME  
BRACCIO..... -----> N° 1 Cp.  
ARM  
SUPPORTO BRACCIO 500-2006K -----> N° 1 Cp.  
ARM SUPPORTING  
INCONTRO 100-1213 -----> N° 6 Pz.  
REST PLATE  
GRANO 535-090.19 -----> N° 8 Pz.  
SCREW

**TTE160**



**Disegni d' assieme - Assembly drawings**

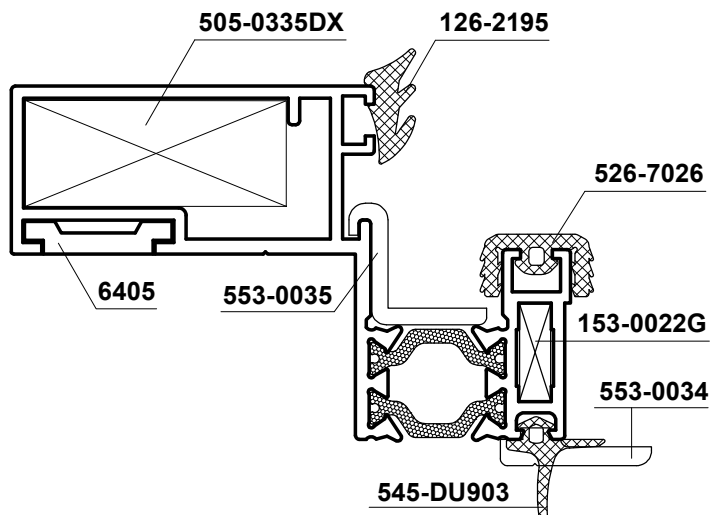
**SCHEMA APERTURA A SPORGERE - ANTA TTE 161: accessori e guarnizioni**  
**AWNING WINDOW - LEAF TTE 161: accessories and gaskets**



**RIEPILOGO QUANTITA' / QUANTITY SUMMARY**

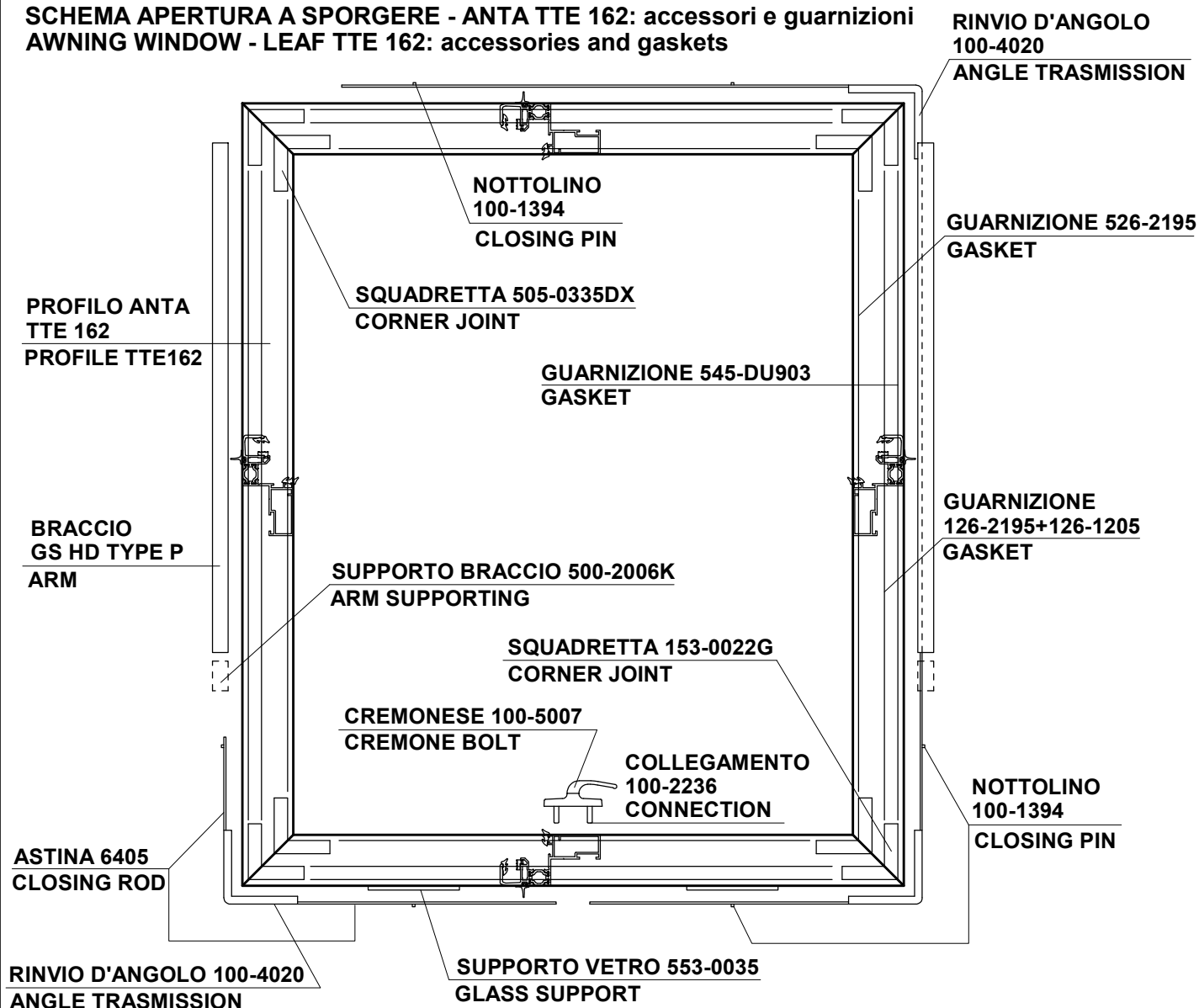
|                          |                 |
|--------------------------|-----------------|
| SQUADRETTA 505-0335DX    | -----> N° 4 Pz. |
| CORNER JOINT             |                 |
| SQUADRETTA 153-0022G     | -----> N° 4 Pz. |
| CORNER JOINT             |                 |
| GUARNIZIONE 126-2195     | -----> 2H + 2L  |
| GASKET                   |                 |
| GUARNIZIONE 545-DU903    | -----> 2H + 2L  |
| GASKET                   |                 |
| GUARNIZIONE 526-7026     | -----> 2H + 2L  |
| GASKET                   |                 |
| CREMONESE 100-5007       | -----> N° 1 Pz. |
| CREMONE BOLT             |                 |
| COLLEGAMENTO 100-2236    | -----> N° 2 Pz. |
| CONNECTION               |                 |
| RINVIO D'ANGOLO 100-4020 | -----> N° 3 Pz. |
| ANGLE TRASMISSION        |                 |
| NOTTOLINO 100-1394       | -----> N° 6 Pz. |
| CLOSING PIN              |                 |
| SUPPORTO VETRO 553-0034  | -----> N° 2 Pz. |
| GLASS SUPPORT            |                 |
| SUPPORTO VETRO 553-0035  | -----> N° 2 Pz. |
| GLASS SUPPORT            |                 |
| GRANO 535-090.19         | -----> N° 8 Pz. |
| SCREW                    |                 |

**TTE161**



**Disegni d' assieme - Assembly drawings**

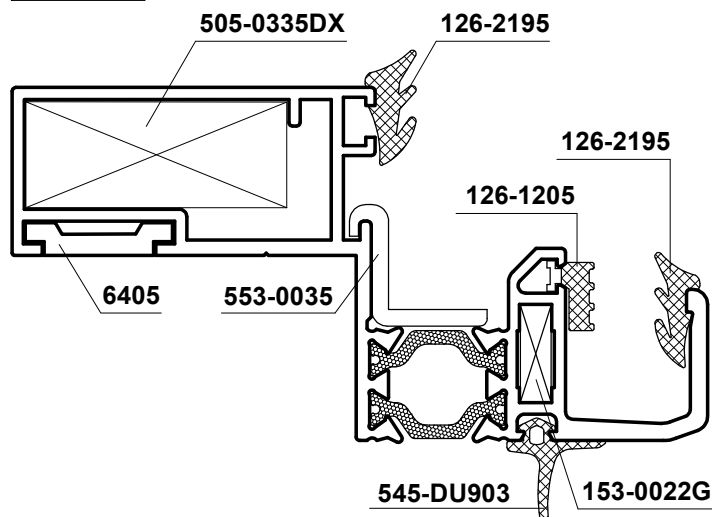
**SCHEMA APERTURA A SPORGERE - ANTA TTE 162: accessori e guarnizioni**  
**AWNING WINDOW - LEAF TTE 162: accessories and gaskets**



**RIEPILOGO QUANTITA' / QUANTITY SUMMARY**

SQUADRETTA 505-0335DX -----> N° 4 Pz.  
CORNER JOINT  
SQUADRETTA 153-0022G -----> N° 4 Pz.  
CORNER JOINT  
GUARNIZIONE 126-2195 -----> 4H + 4L  
GASKET  
GUARNIZIONE 545-DU903 -----> 2H + 2L  
GASKET  
GUARNIZIONE 126-1205 -----> 2H + 2L  
GASKET  
CREMONESE 100-5007 -----> N° 1 Pz.  
CREMONE BOLT  
COLLEGAMENTO 100-2236 -----> N° 2 Pz.  
CONNECTION  
RINVIO D'ANGOLO 100-4020 -----> N° 3 Pz.  
ANGLE TRASMISSION  
NOTTOLINO 100-1394 -----> N° 6 Pz.  
CLOSING PIN  
SUPPORTO VETRO 553-0035 -----> N° 2 Pz.  
GLASS SUPPORT  
GRANO 535-090.19 -----> N° 8 Pz.  
SCREW

**TTE162**



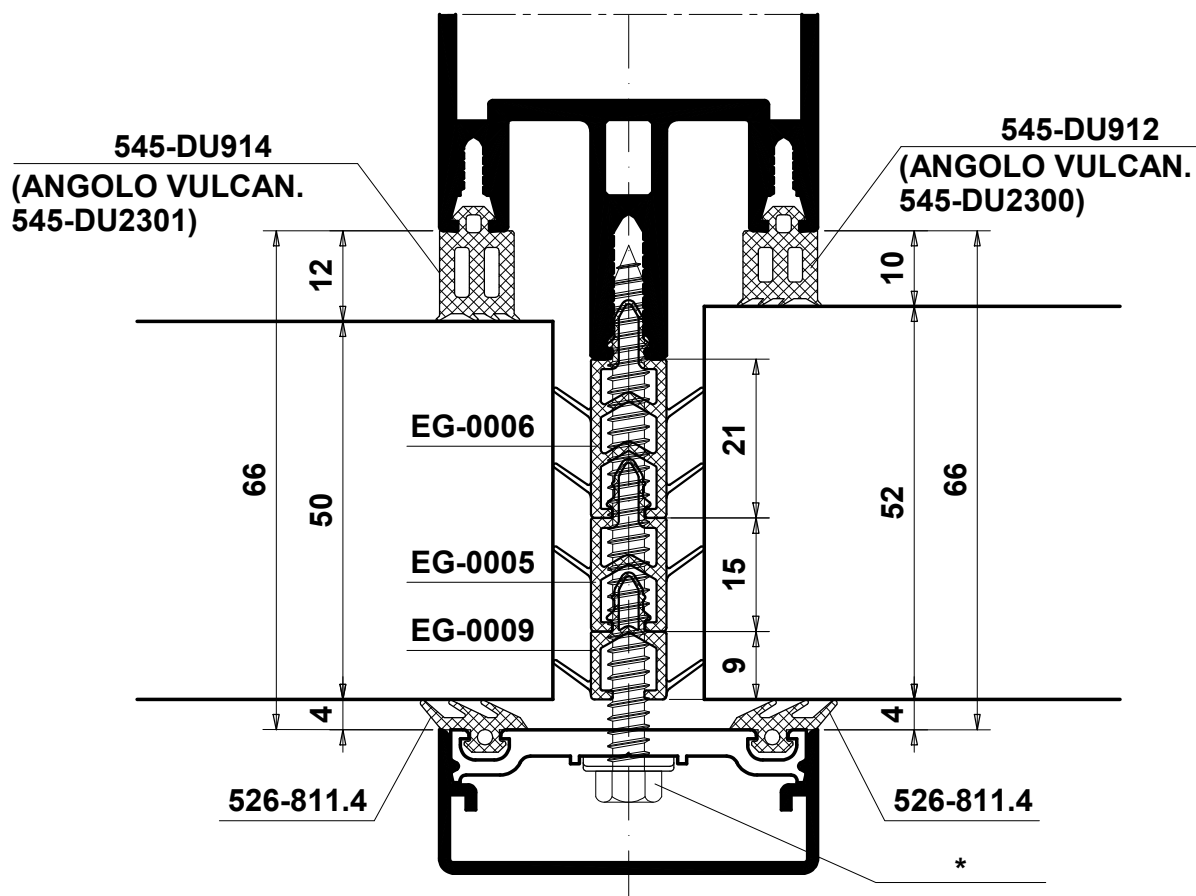
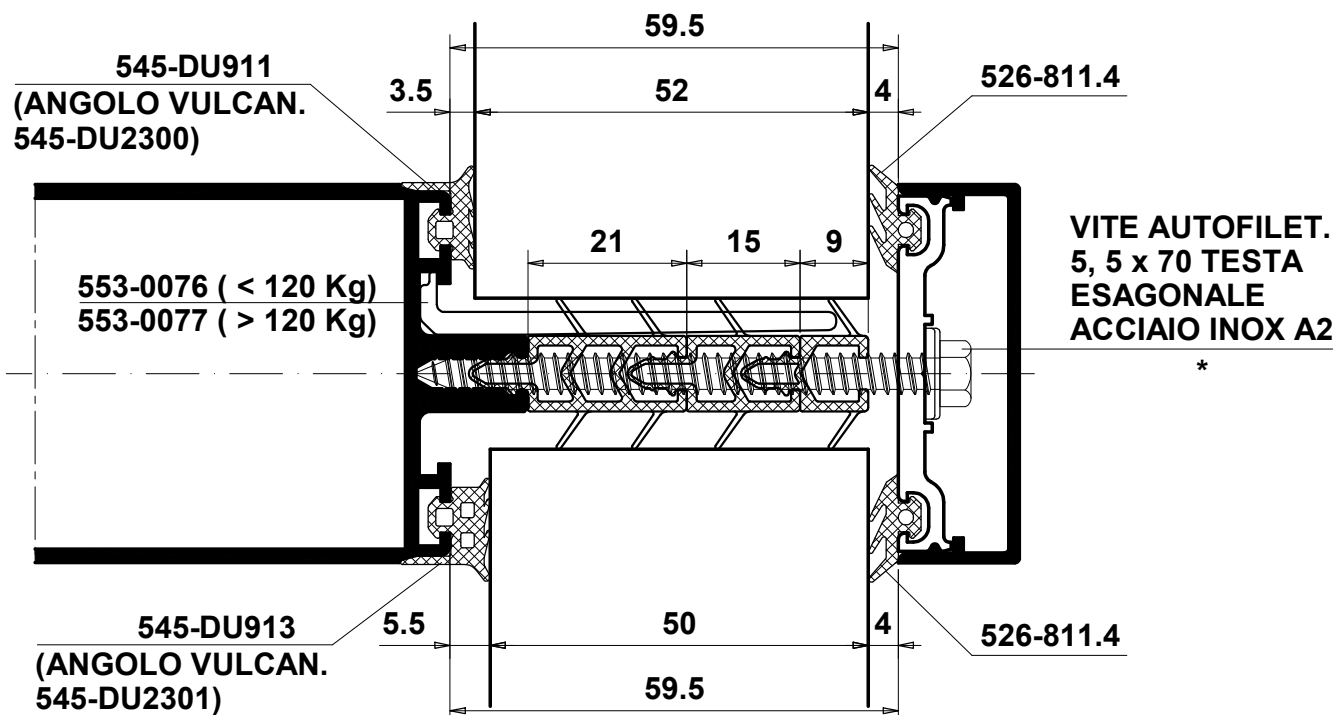
# VETRAZIONI



# GLAZING

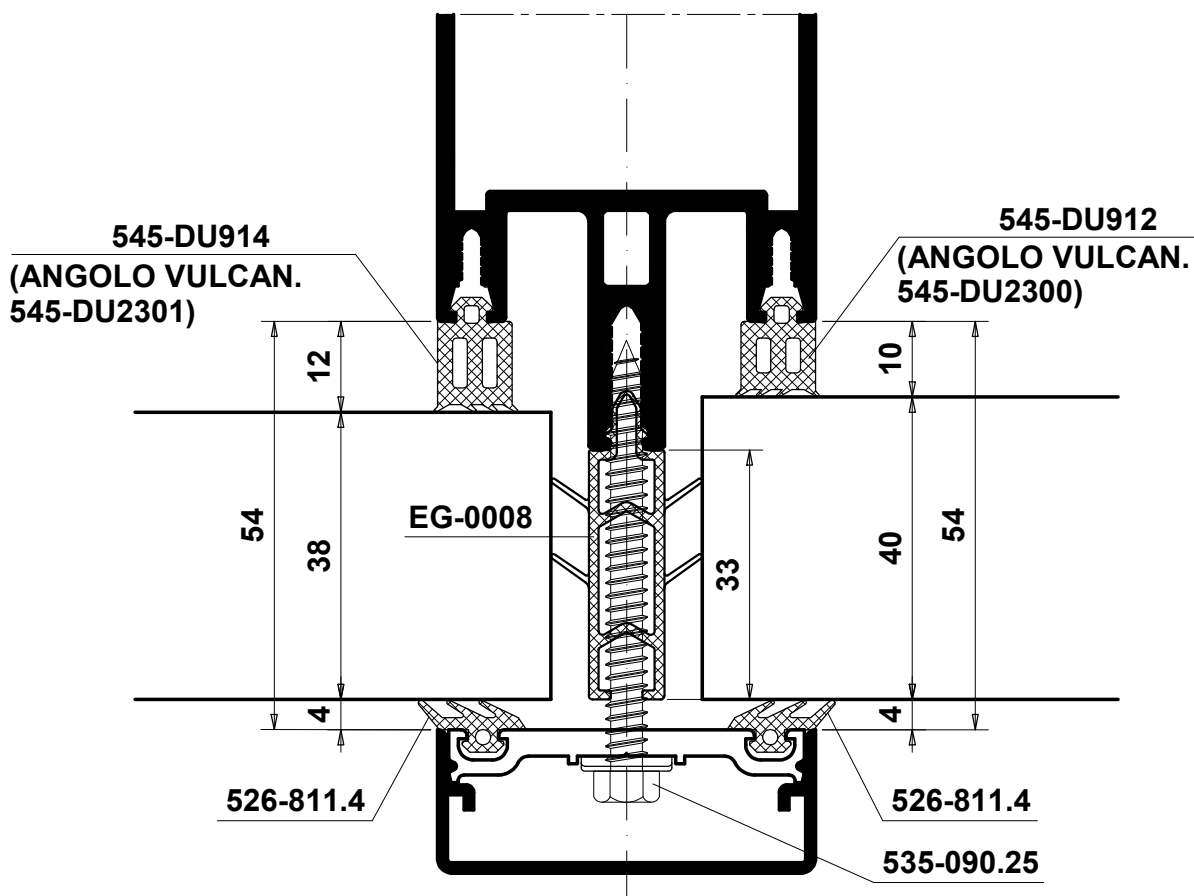
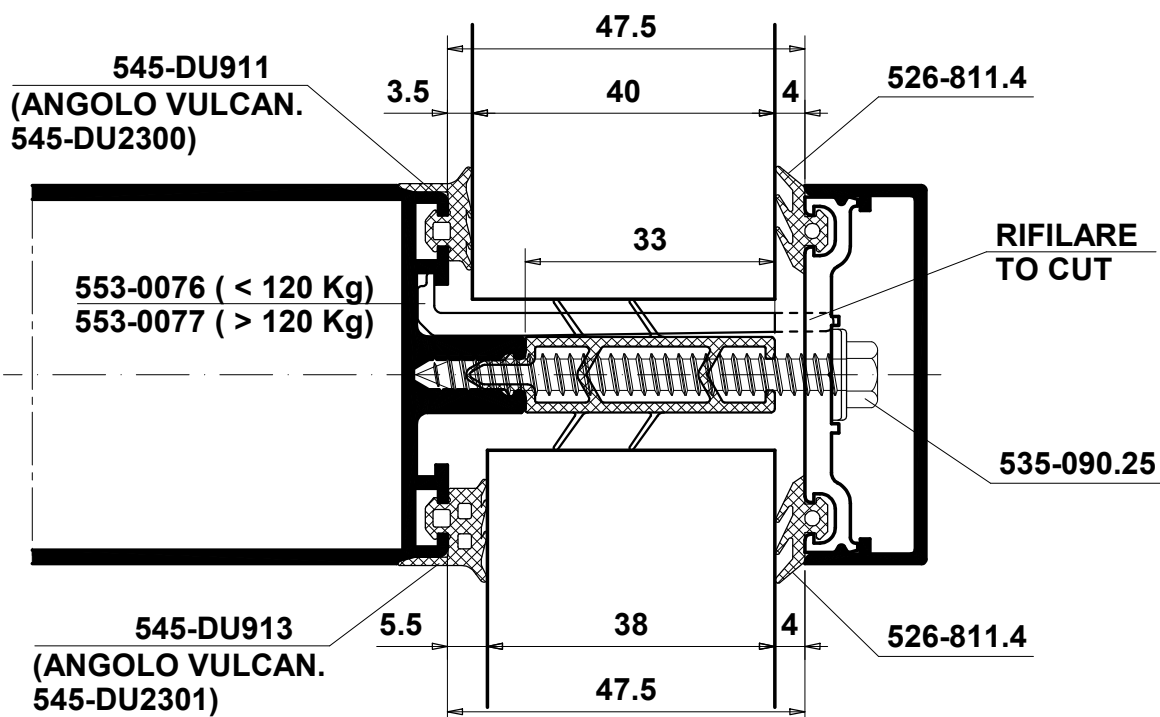
**Schema vetrazioni - Glazing diagram**

**SPAZI DI VETRAZIONE E PANNELLATURA  
GLASS BEADING AND PANELLING SPACES**



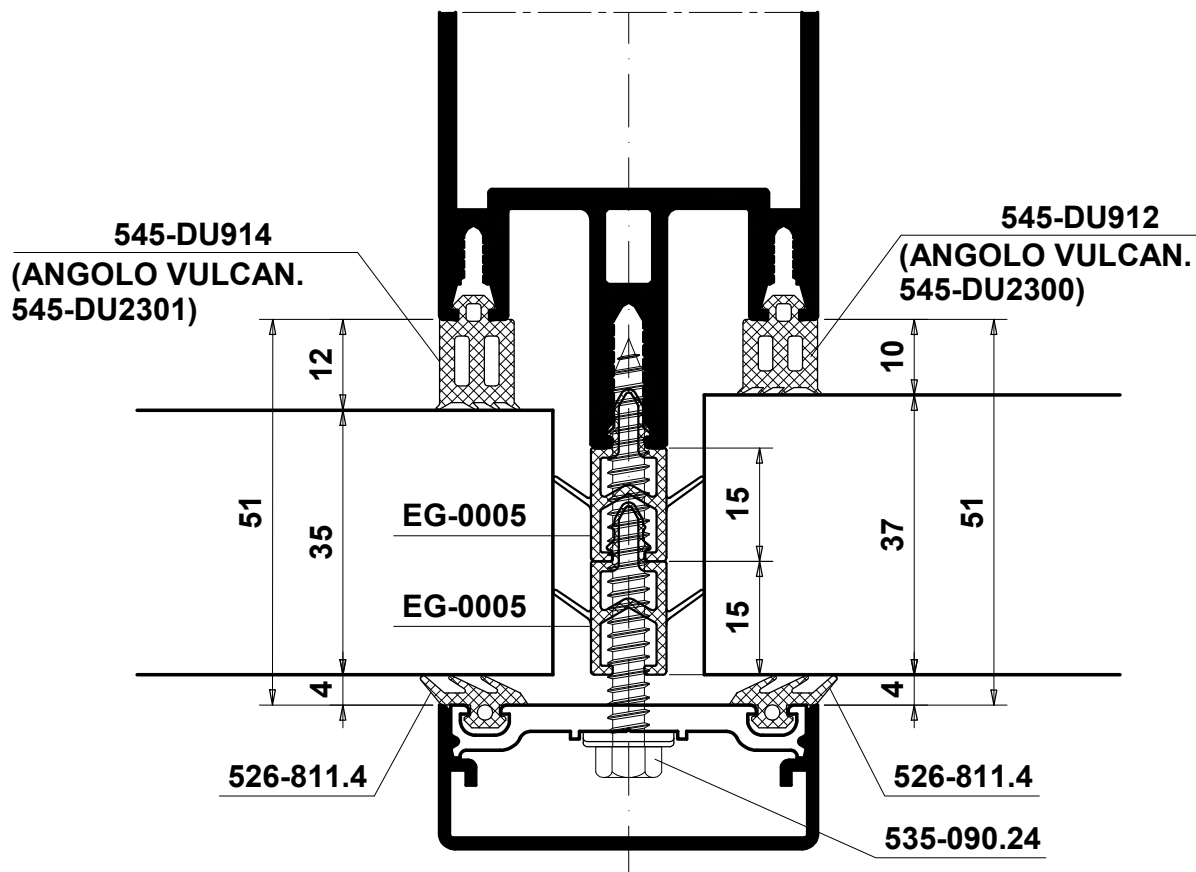
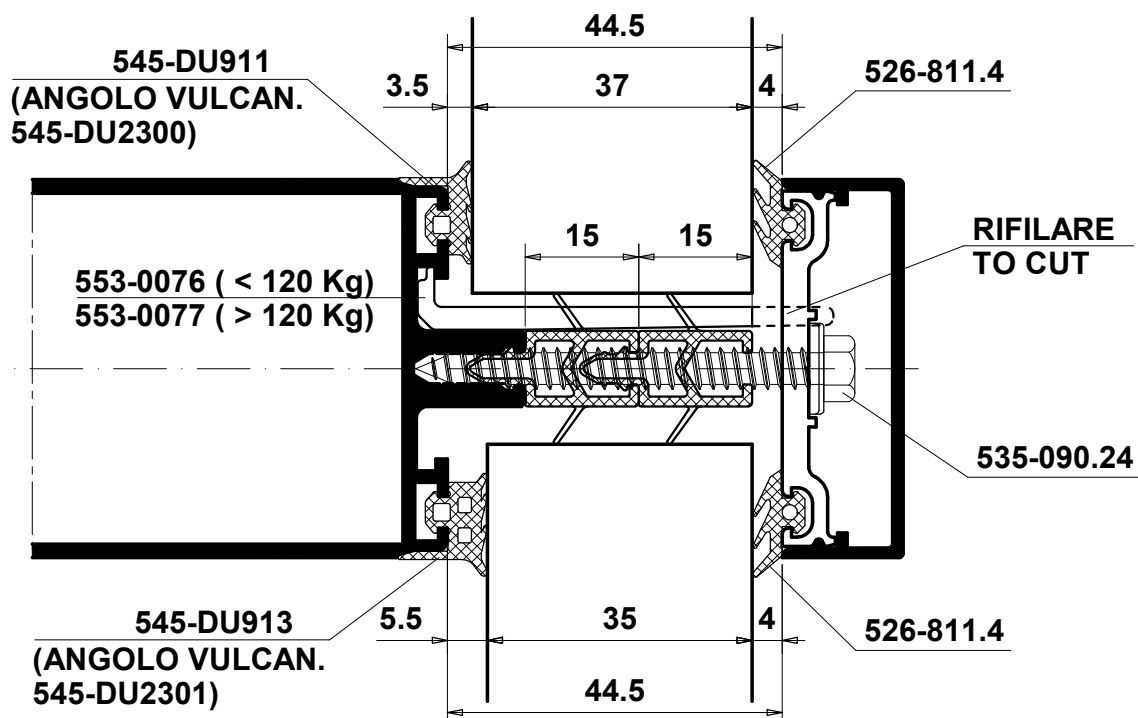
**Schema vetrazioni - Glazing diagram**

**SPAZI DI VETRAZIONE E PANNELLATURA  
GLASS BEADING AND PANELLING SPACES**



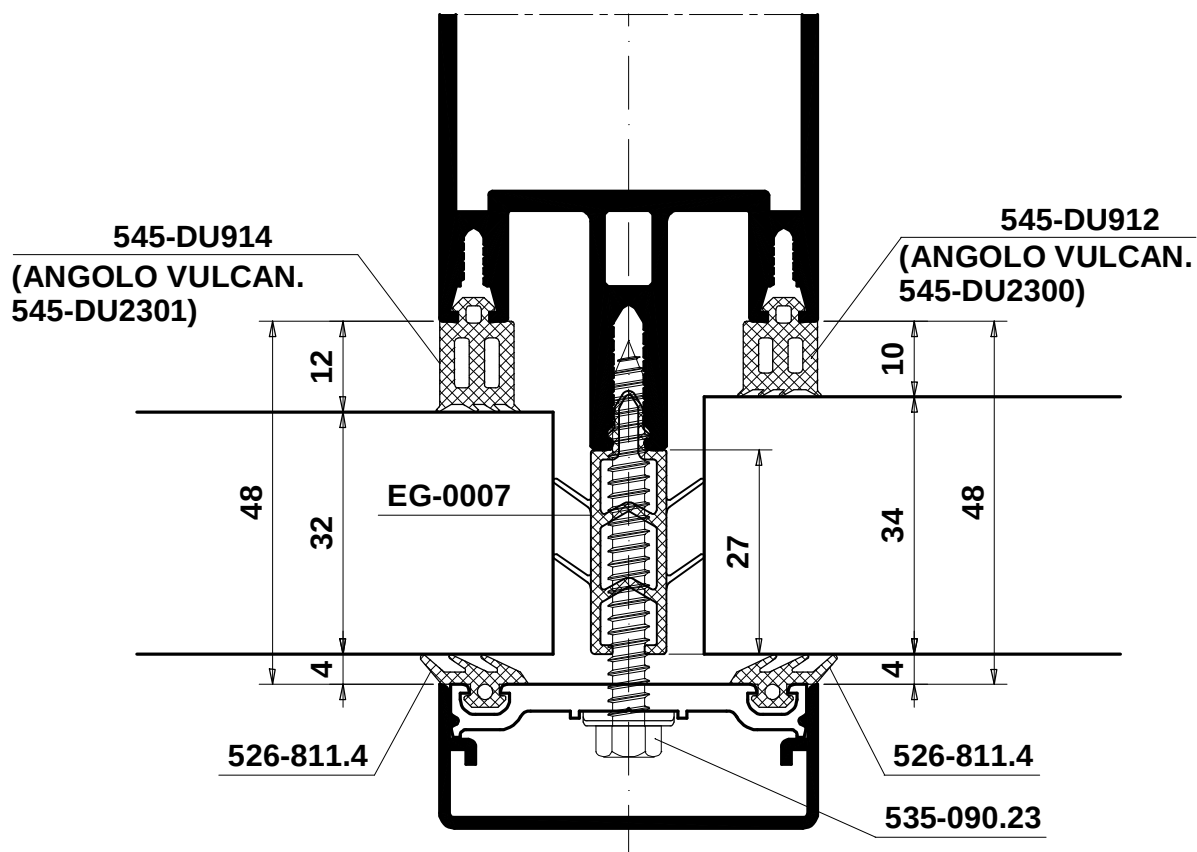
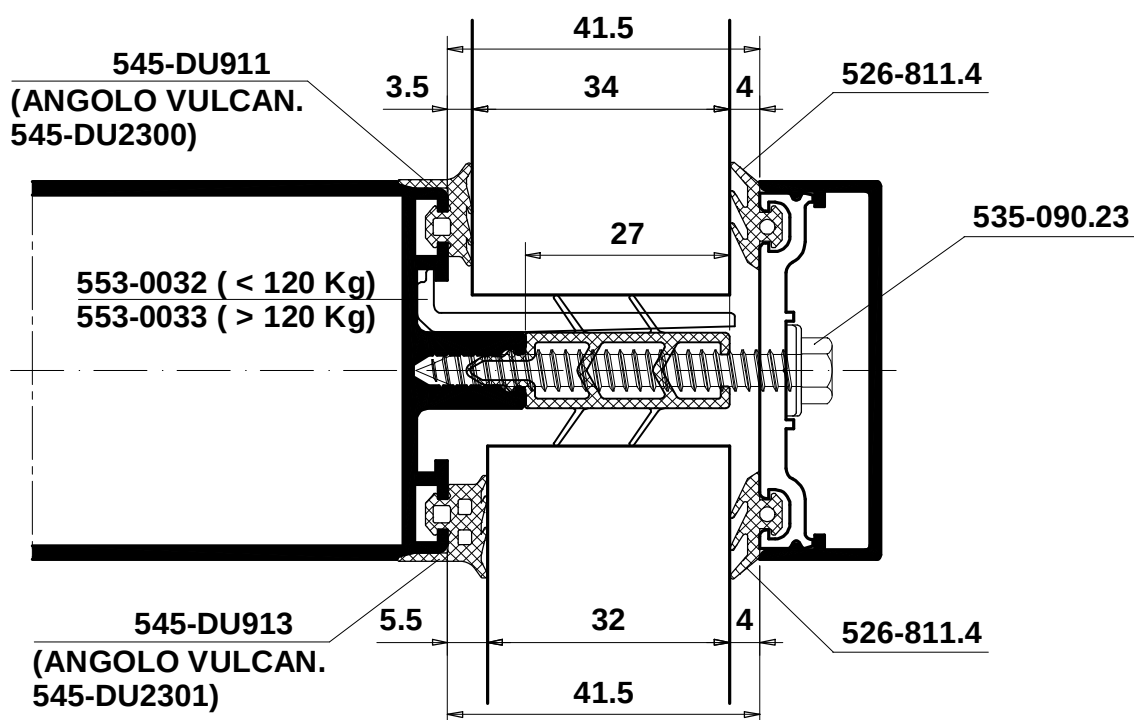
**Schema vetrazioni - Glazing diagram**

**SPAZI DI VETRAZIONE E PANNELLATURA  
GLASS BEADING AND PANELLING SPACES**



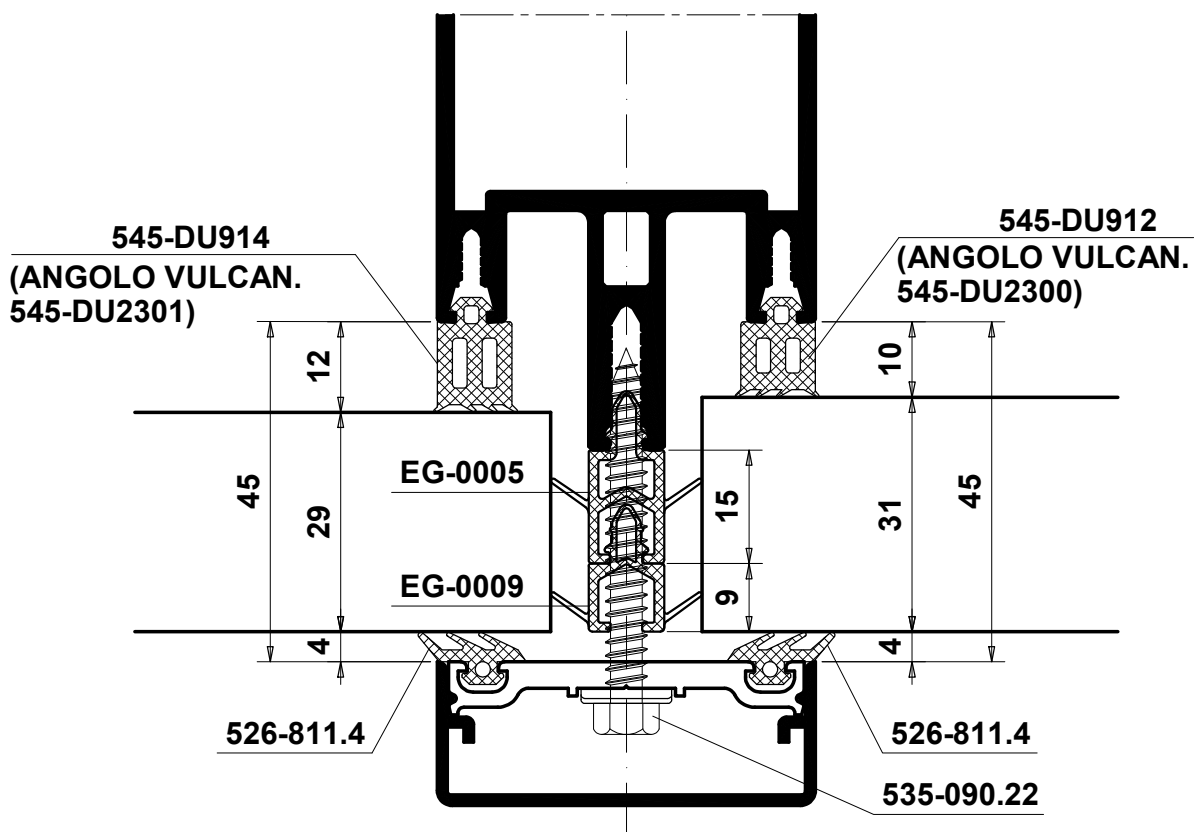
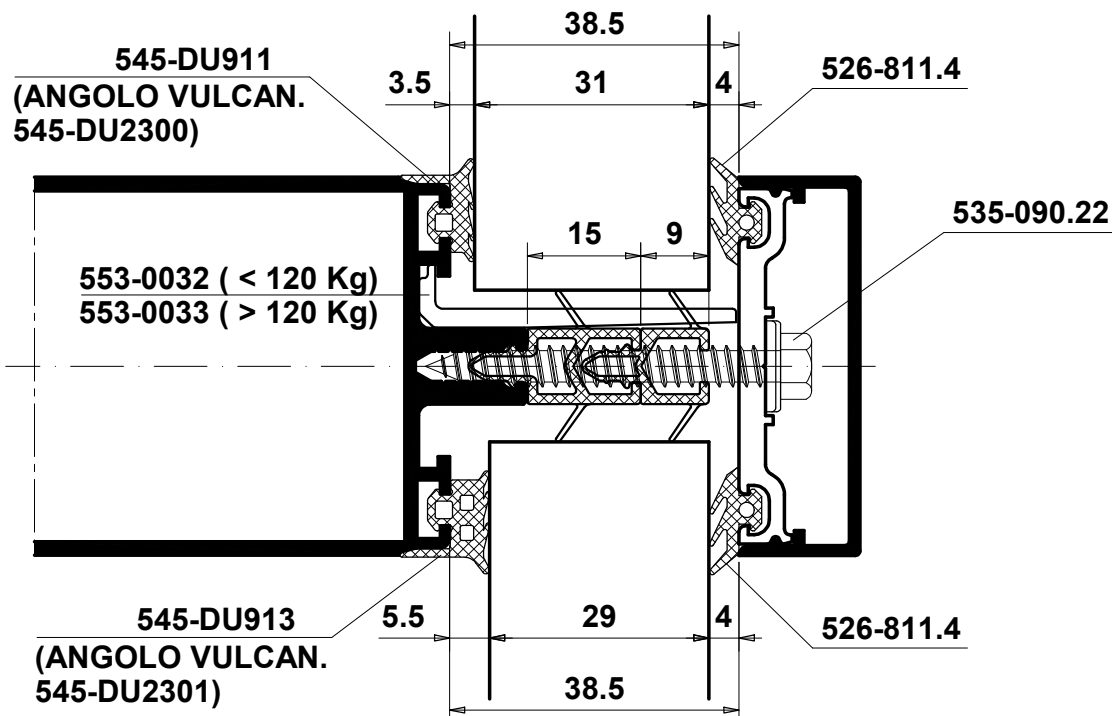
**Schema vetrazioni - Glazing diagram**

**SPAZI DI VETRAZIONE E PANNELLATURA**  
**GLASS BEADING AND PANELLING SPACES**



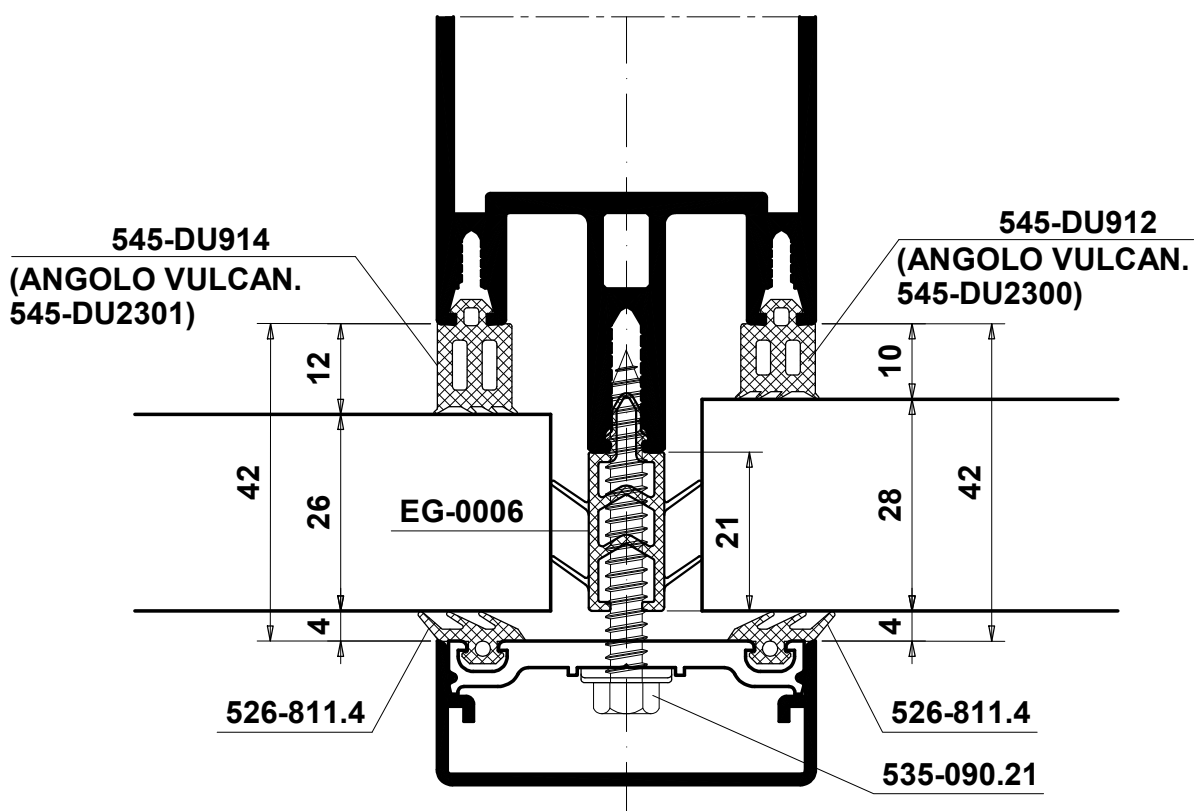
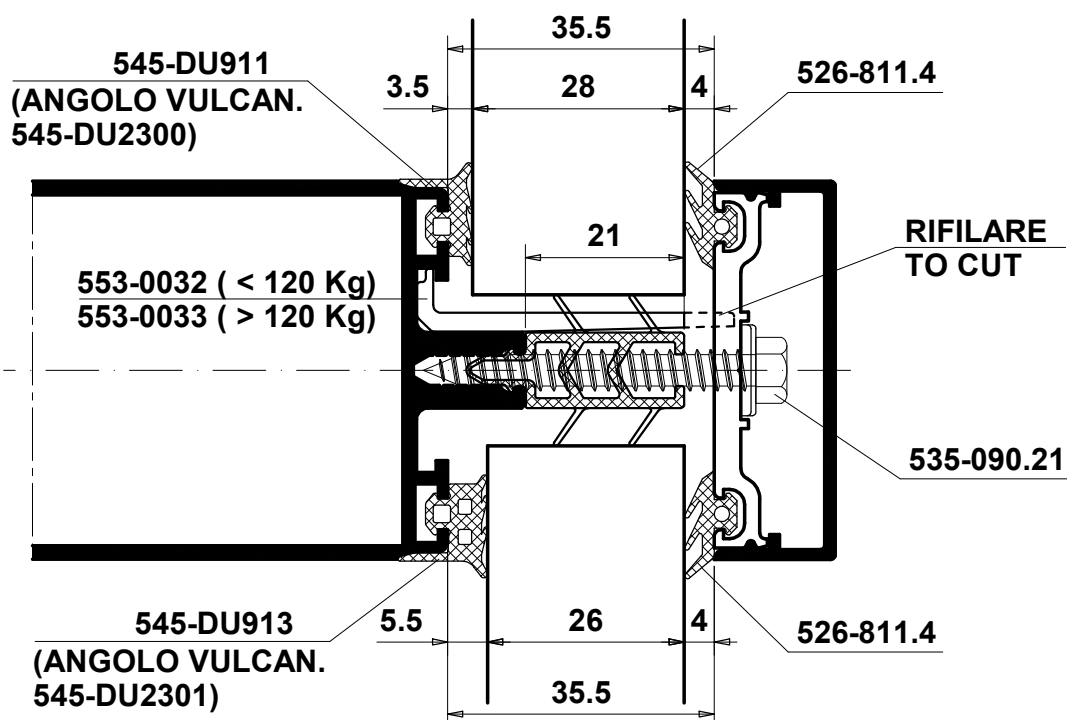
**Schema vetrazioni - Glazing diagram**

**SPAZI DI VETRAZIONE E PANNELLATURA  
GLASS BEADING AND PANELLING SPACES**



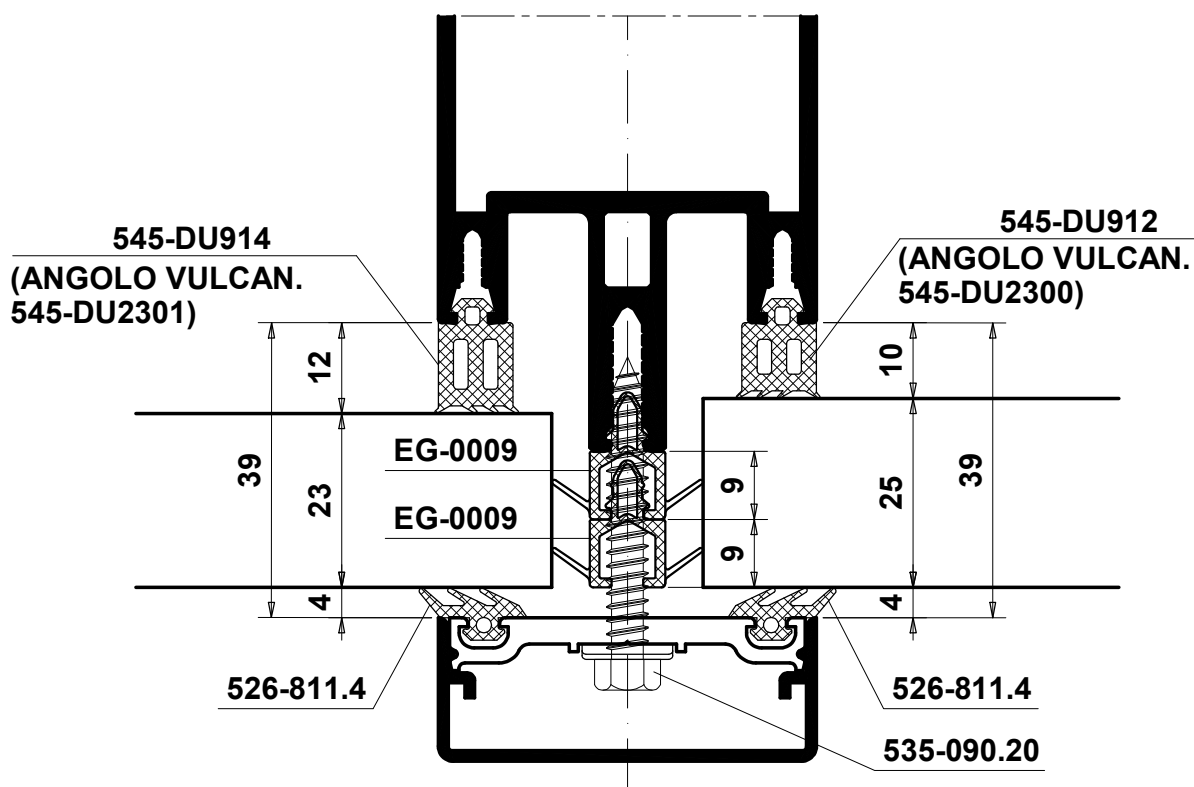
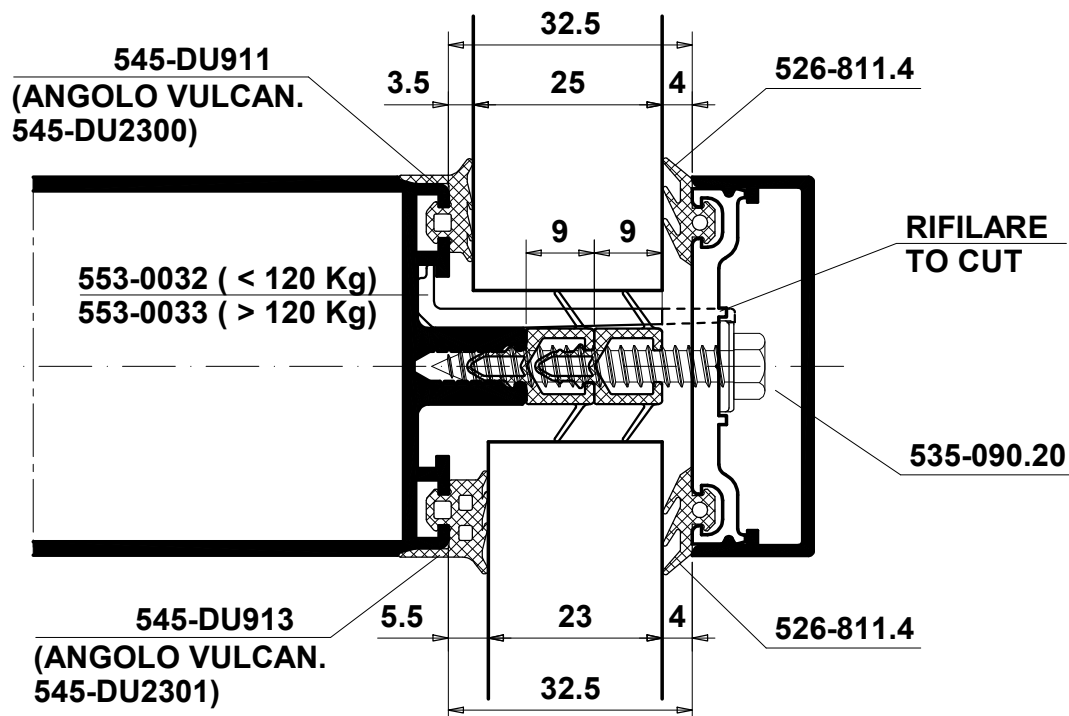
**Schema vetrazioni - Glazing diagram**

**SPAZI DI VETRAZIONE E PANNELLATURA  
GLASS BEADING AND PANELLING SPACES**



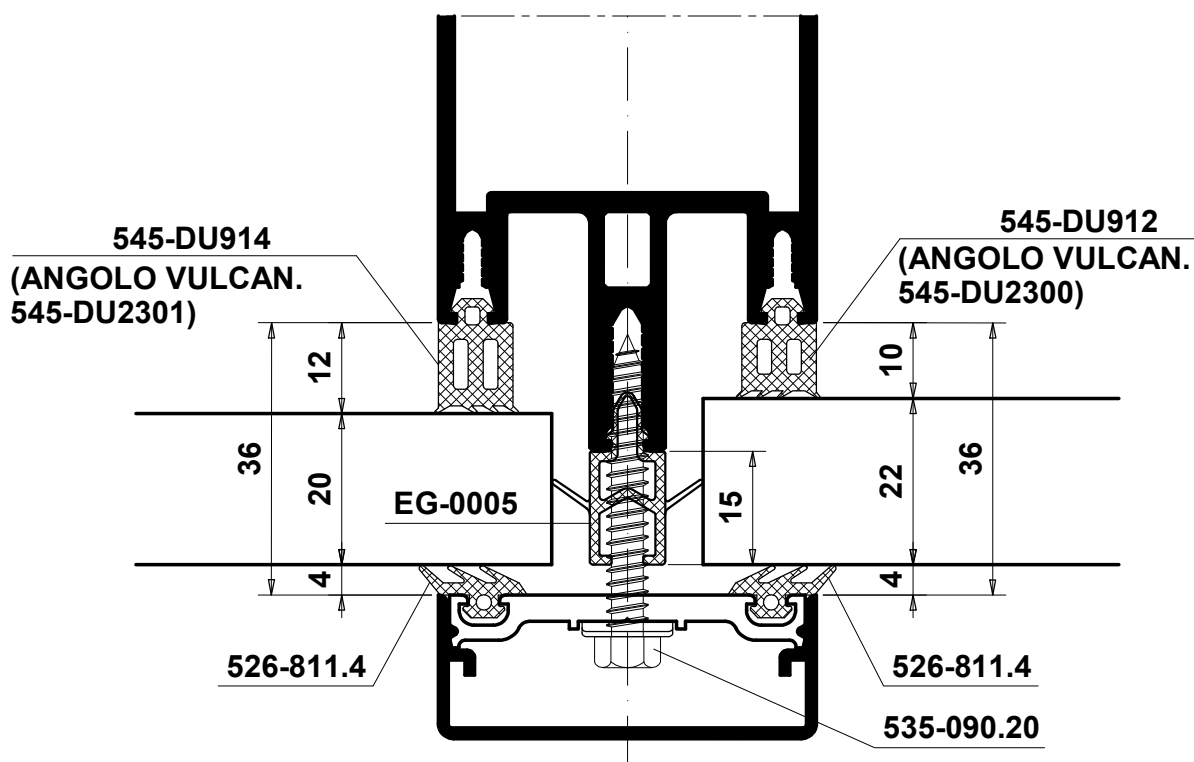
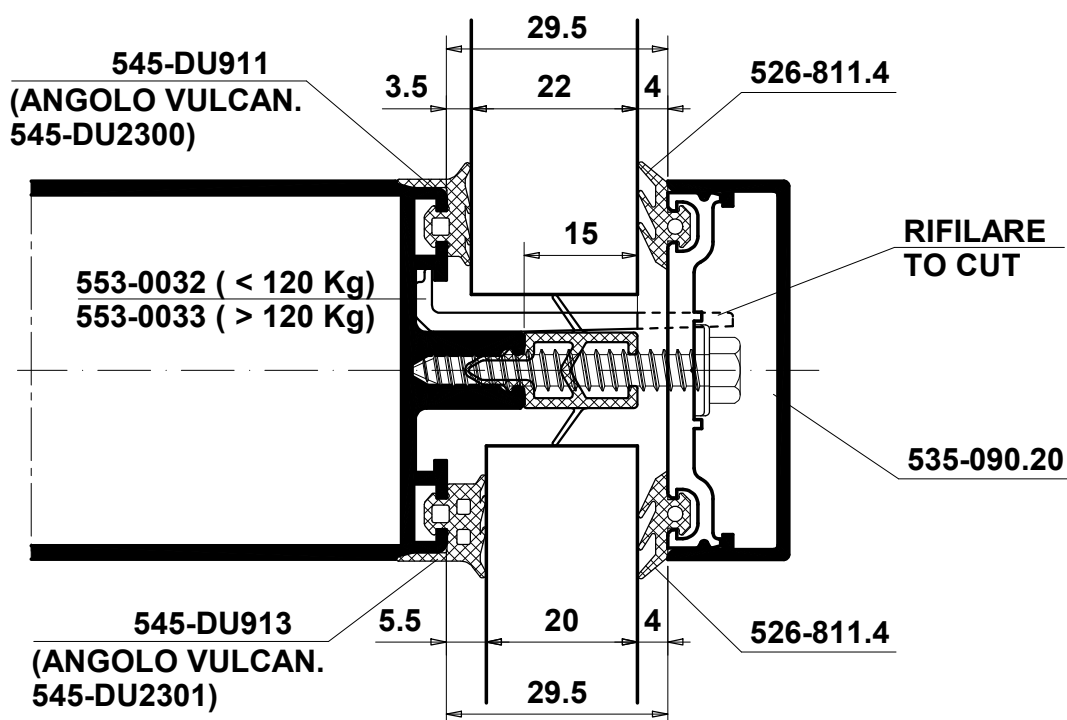
**Schema vetrazioni - Glazing diagram**

**SPAZI DI VETRAZIONE E PANNELLATURA  
GLASS BEADING AND PANELLING SPACES**



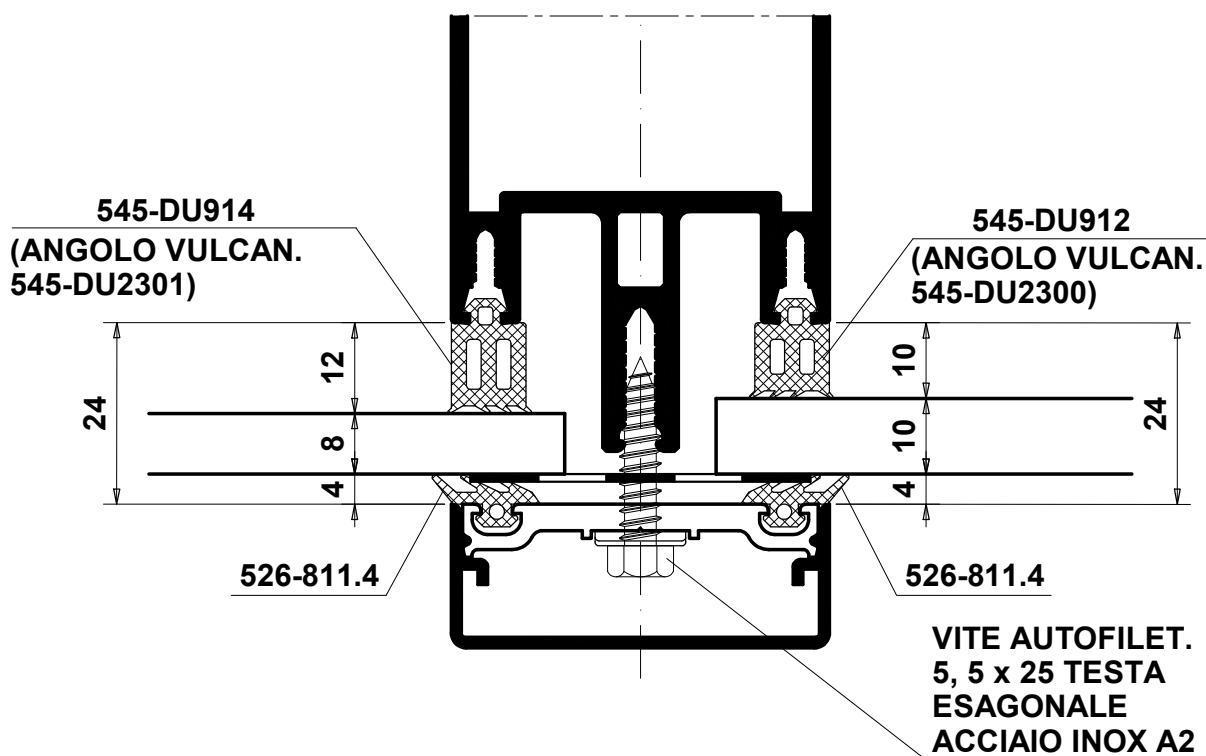
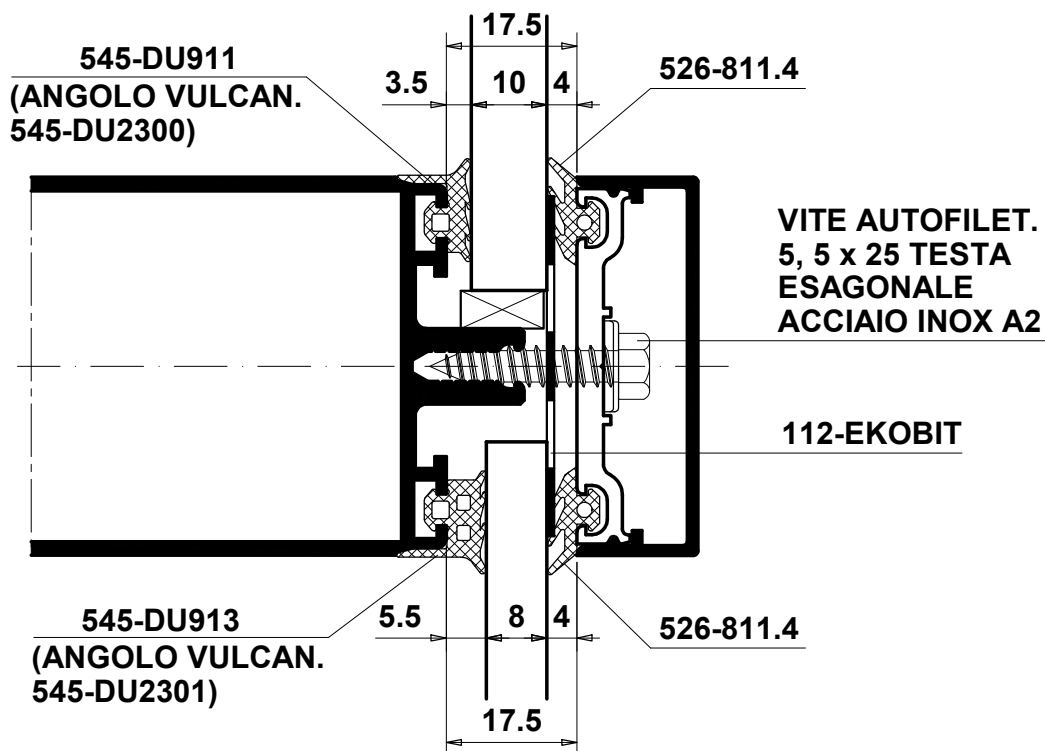
**Schema vetrazioni - Glazing diagram**

**SPAZI DI VETRAZIONE E PANNELLATURA  
GLASS BEADING AND PANELLING SPACES**



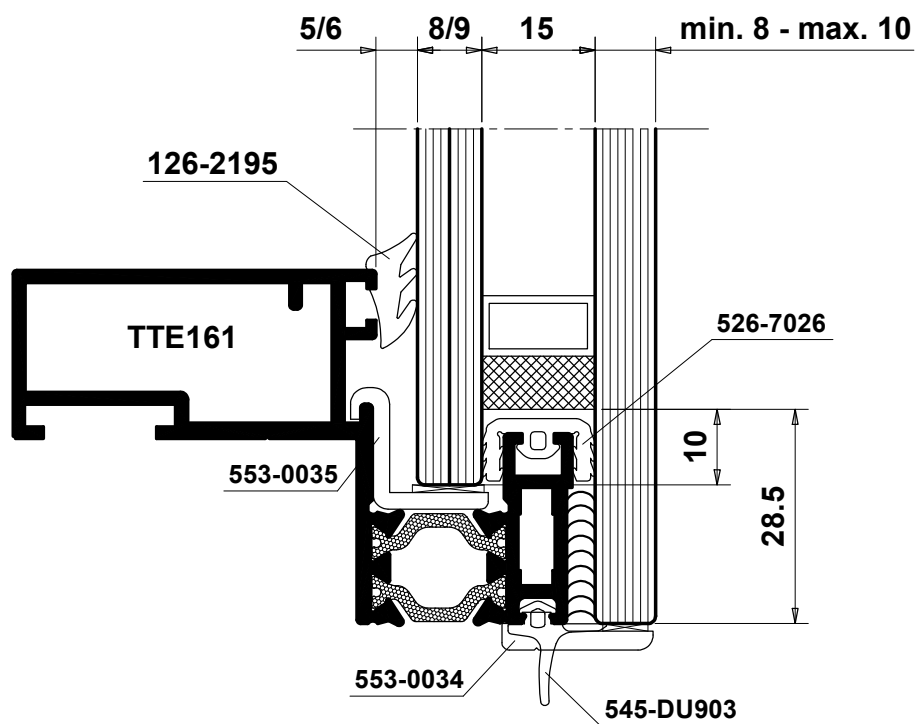
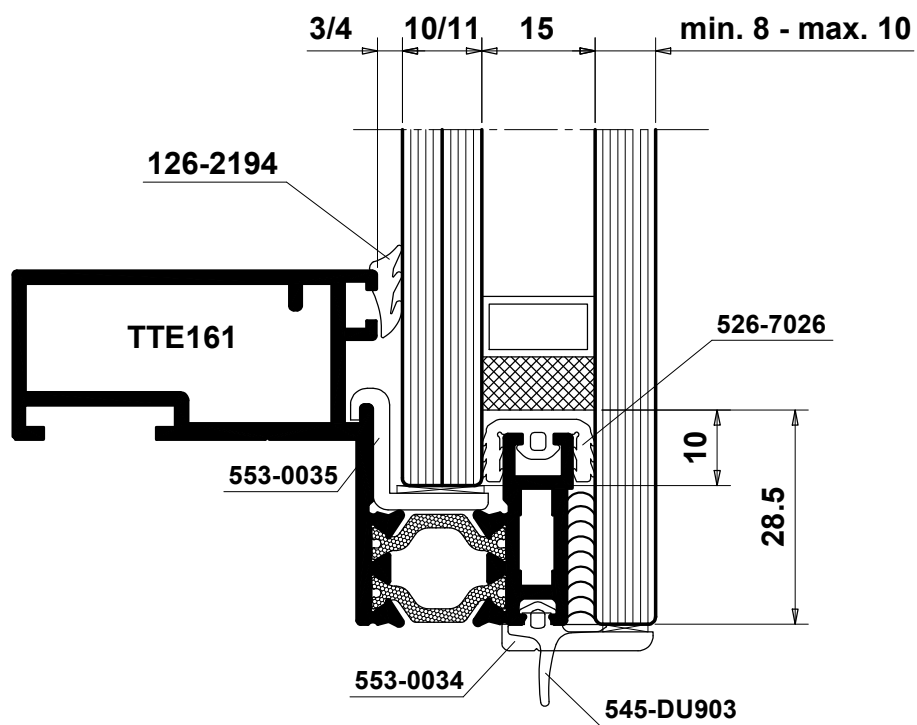
**Schema vetrazioni - Glazing diagram**

**SPAZI DI VETRAZIONE E PANNELLATURA  
GLASS BEADING AND PANELLING SPACES**



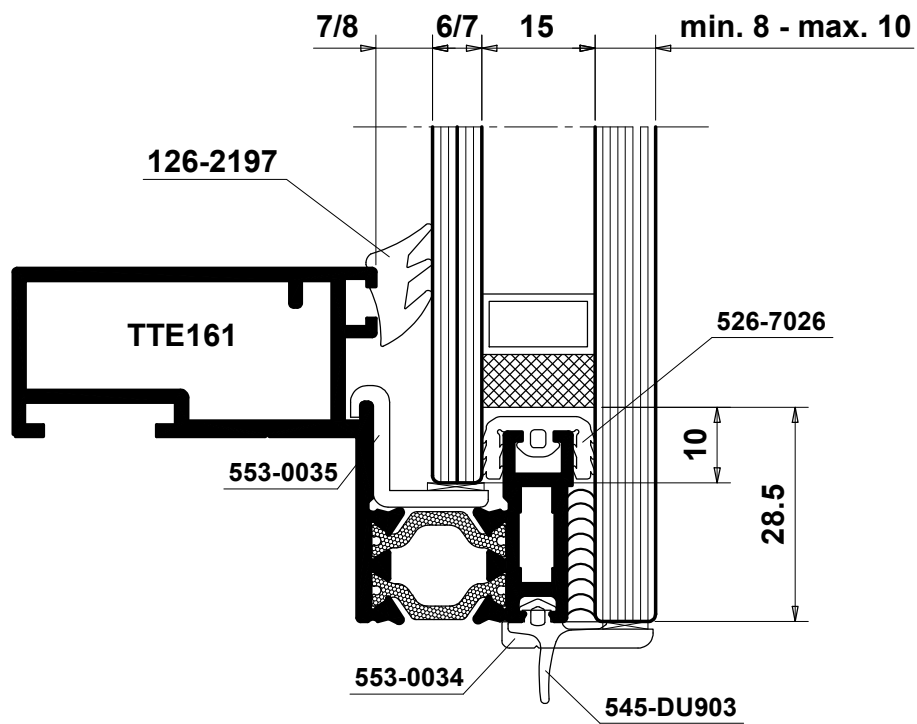
**Schema vetrazioni - Glazing diagram**

**SPAZI DI VETRAZIONE SPORGERE STRUTTURALE  
AWNING STRUCTURAL WINDOWS GLASS BEADING**



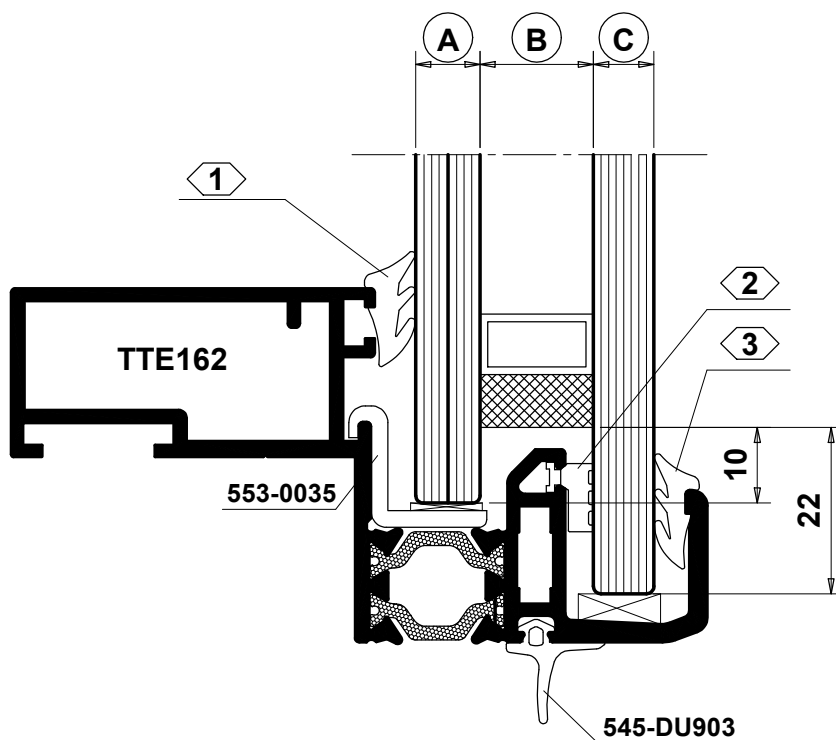
**Schema vetrazioni - Glazing diagram**

**SPAZI DI VETRAZIONE SPORGERE STRUTTURALE  
AWNING STRUCTURAL WINDOWS GLASS BEADING**

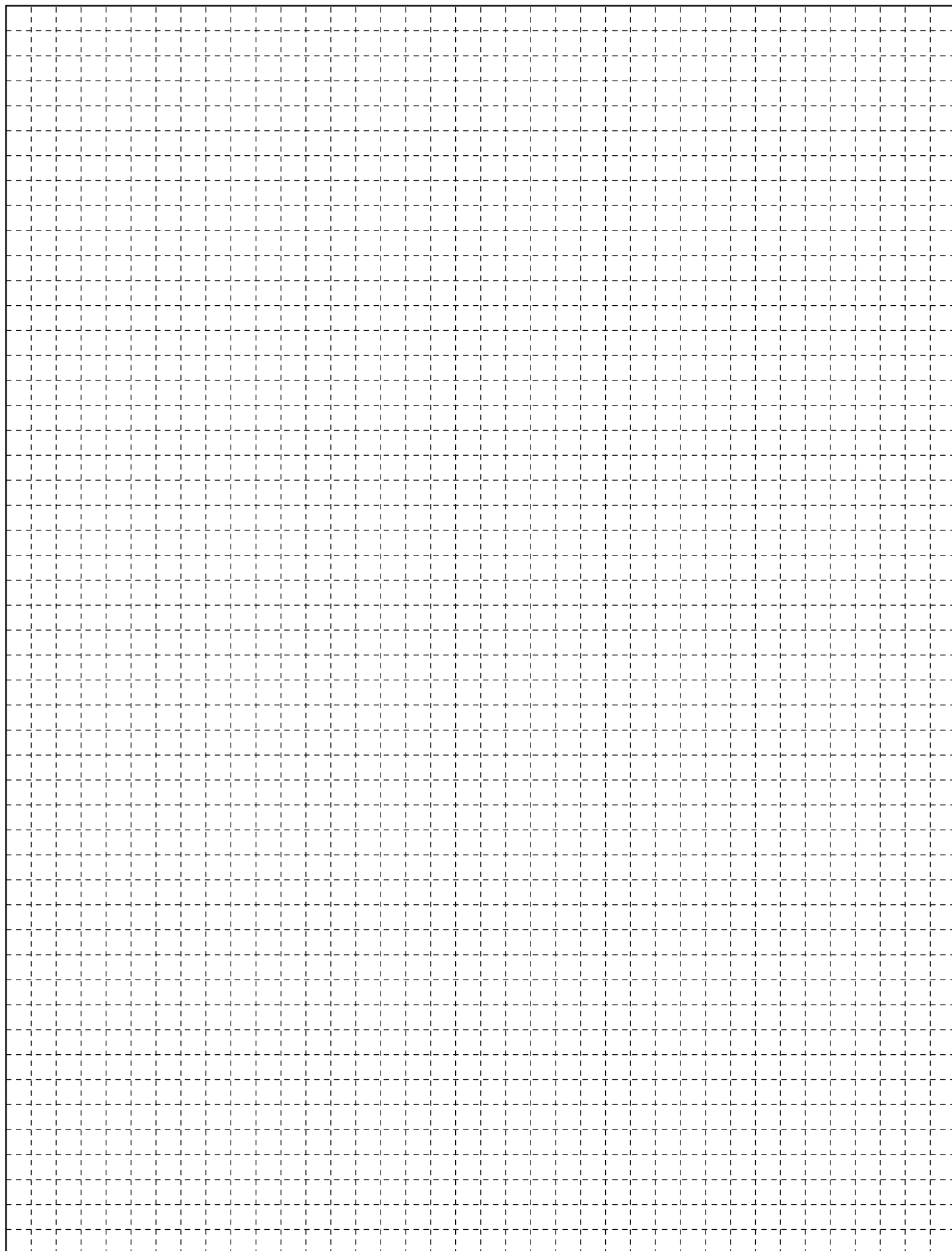


**Schema vetrazioni - Glazing diagram**

**SPAZI DI VETRAZIONE SPORGERE  
AWNING WINDOWS GLASS BEADING**



| A     | B  | C  | 1        | 2        | 3        |
|-------|----|----|----------|----------|----------|
| 10/11 | 15 | 8  | 126-2194 | 126-1205 | 126-2194 |
| 10/11 | 15 | 10 | 126-2194 | 126-1164 | 126-2194 |
| 8/9   | 15 | 8  | 126-2195 | 126-1205 | 126-2194 |
| 8/9   | 15 | 10 | 126-2195 | 126-1164 | 126-2194 |
| 6/7   | 15 | 8  | 126-2197 | 126-1205 | 126-2194 |
| 6/7   | 15 | 10 | 126-2197 | 126-1164 | 126-2194 |



# LAVORAZIONI

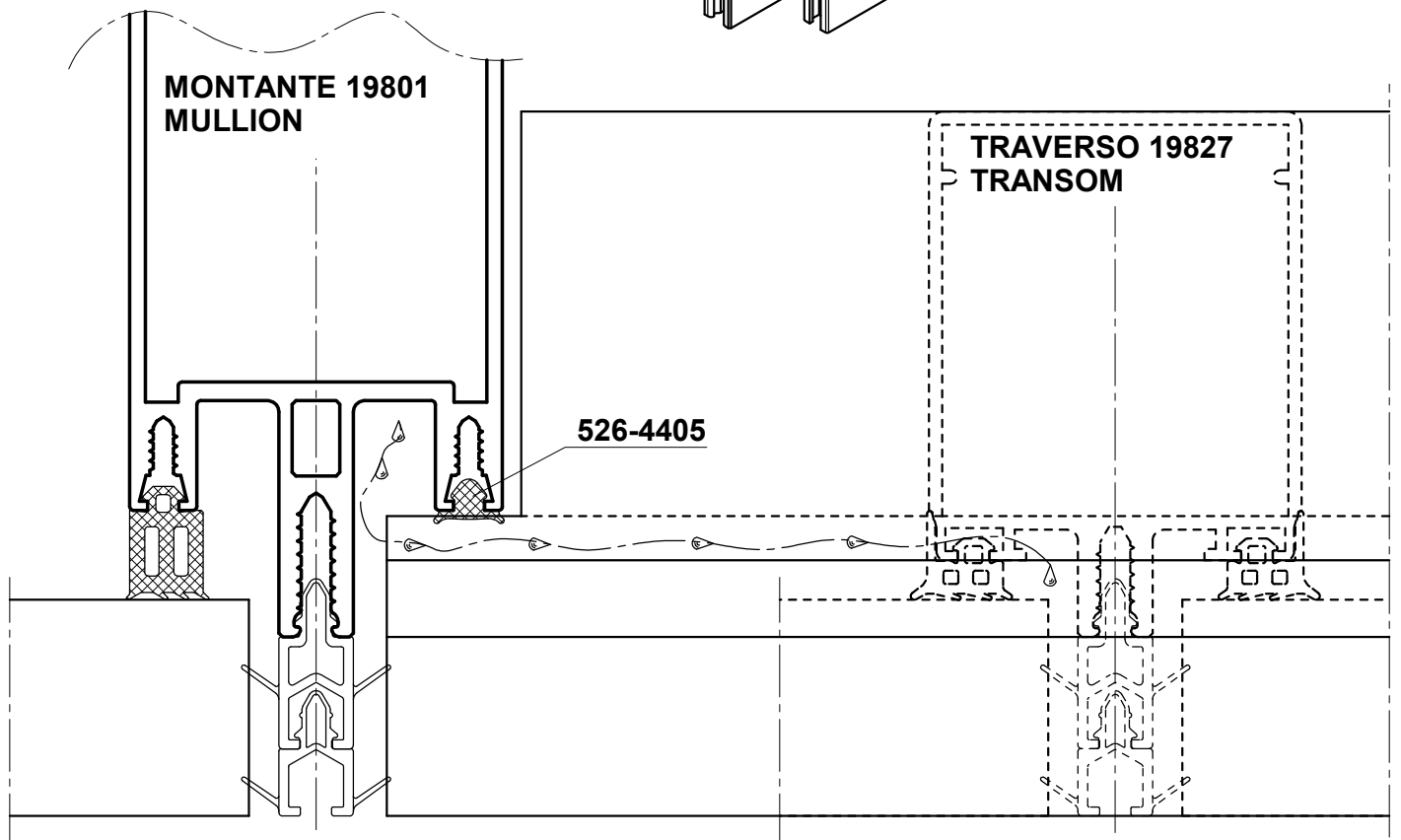
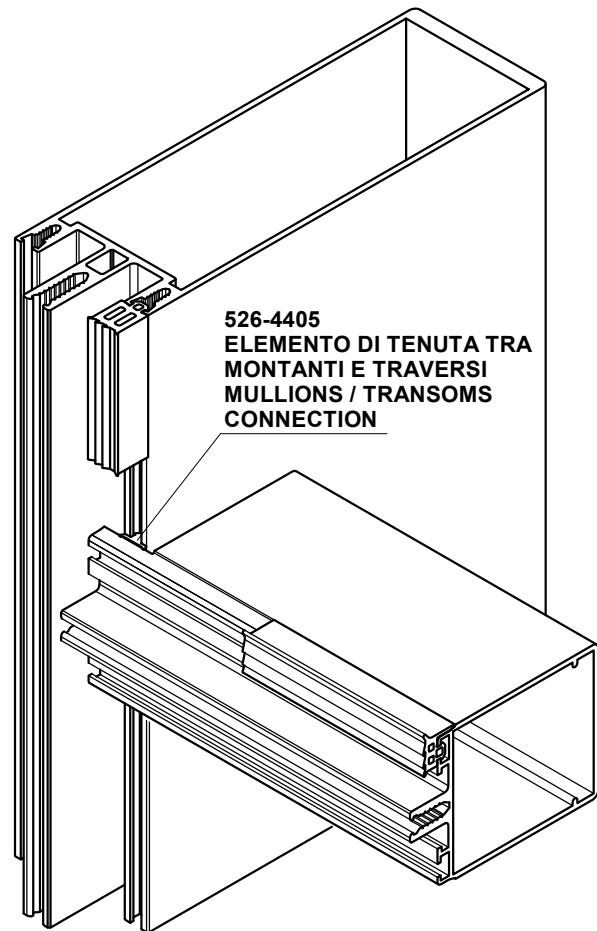


# TOOLING

## Lavorazioni - Tooling

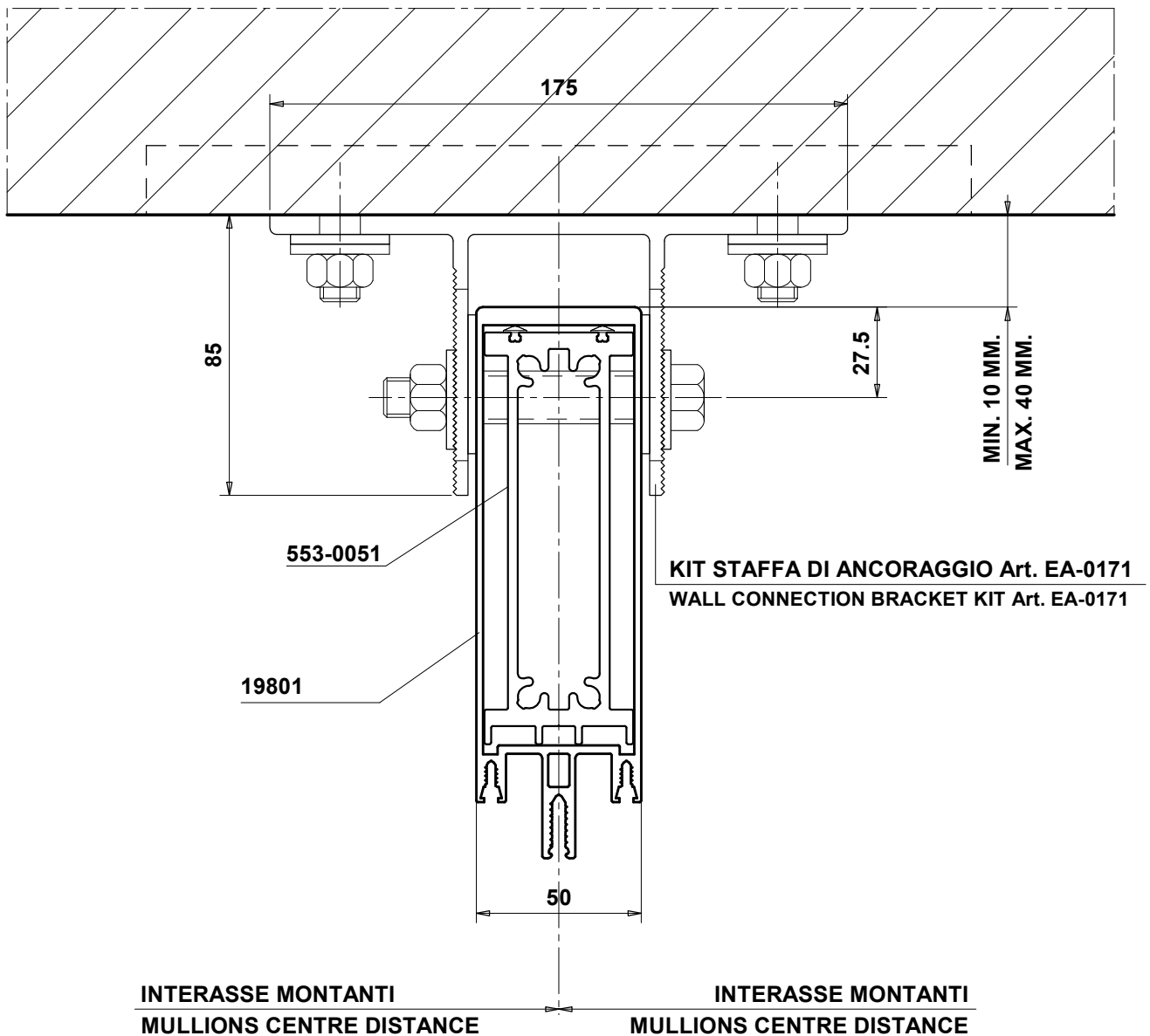
**Rappresentazione della giunzione  
tra montanti e traversi e sistema  
di drenaggio e ventilazione vetri**

**Principle of ventilation and  
drainage at the mullion and  
transom connection**



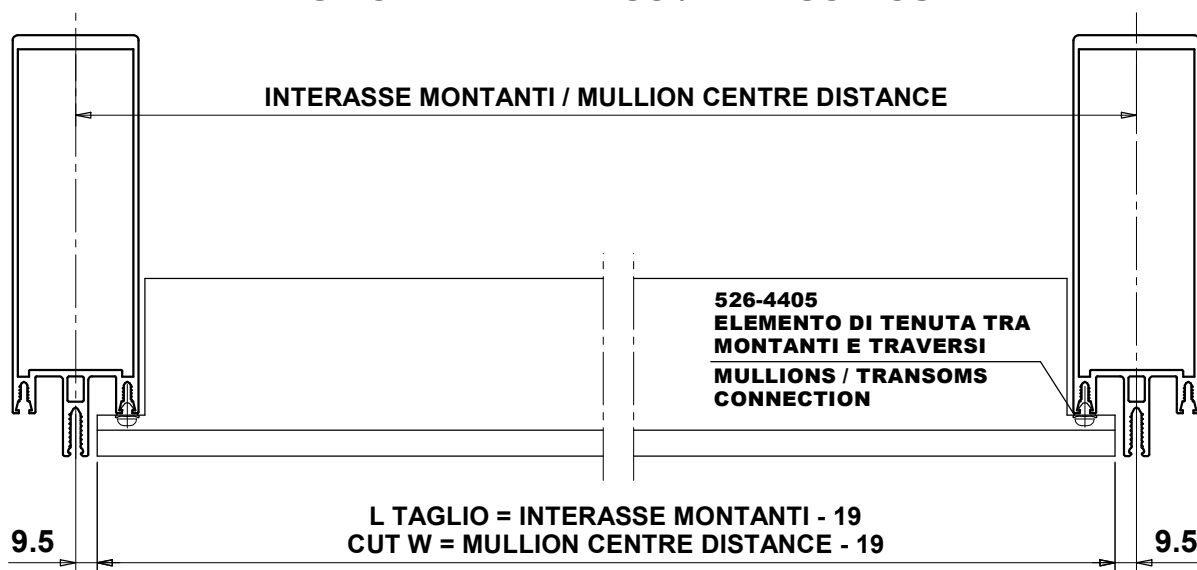
**Lavorazioni - Tooling**

**SEZIONE ORIZZONTALE ANCORAGGIO ALLA STRUTTURA MURARIA**  
**WALL CONNECTION HORIZONTAL SECTION**



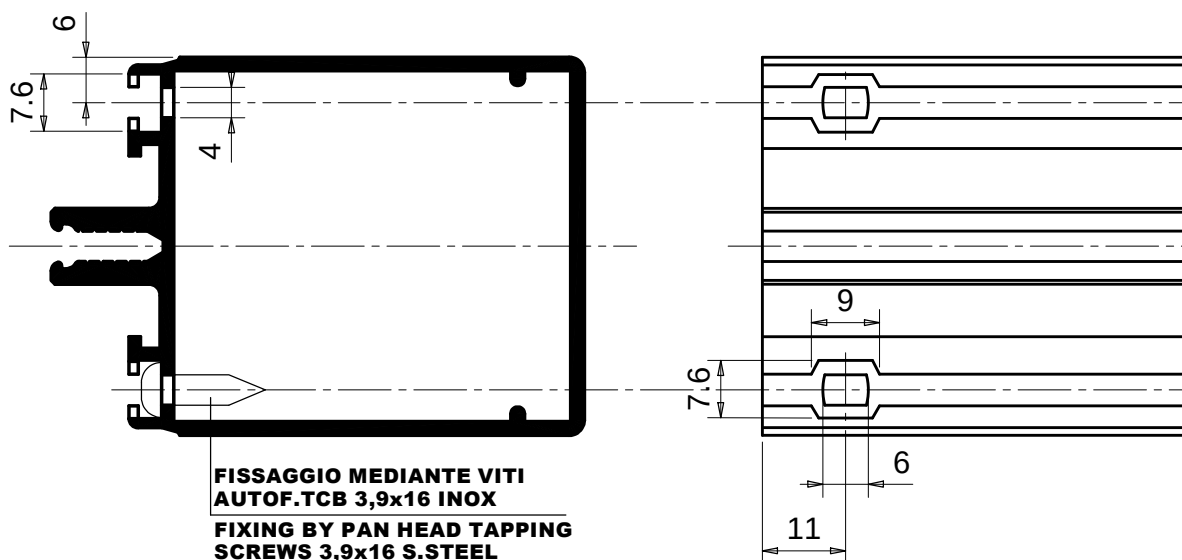
**Lavorazioni - Tooling**

**TAGLIO DEL TRAVERSO / TRANSOM CUT**



**LAVORAZIONE SUL TRAVERSO / TRANSOM TOOLING**

Eseguibile con punzonatrice 520-3160712  
Feasible with punching machine 520-3160712

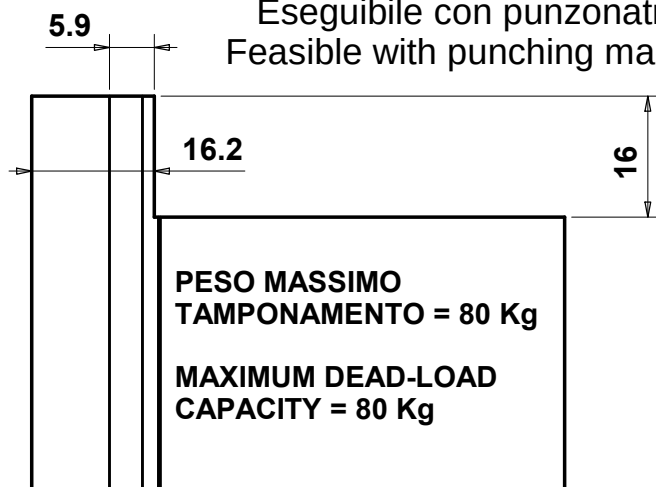


**ART/ITEM 535-090.27**

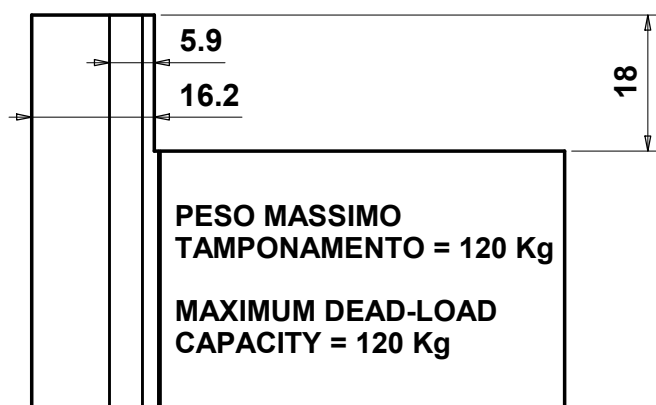
**Lavorazioni - Tooling**

**INTESTATURE E CARICHI TRAVERSI  
TRANSOMS END MILLINGS AND MAXIMUM DEAD-LOAD**

Eseguibile con punzonatrice 520-3160712  
Feasible with punching machine 520-3160712



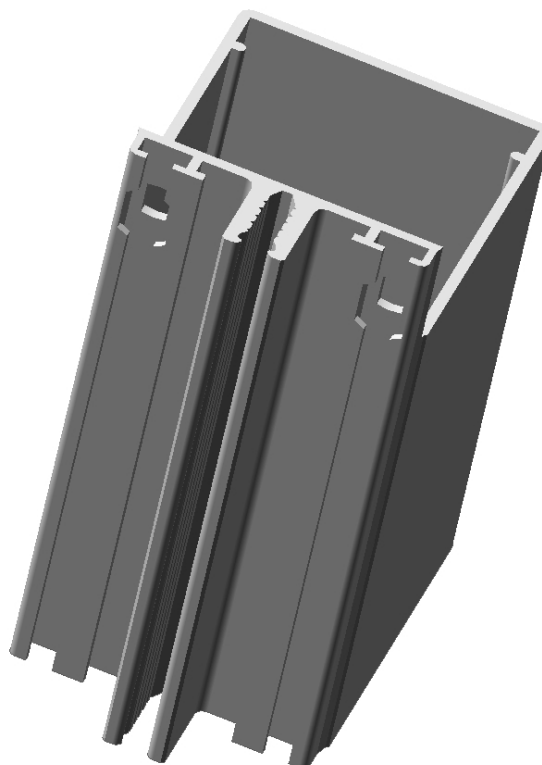
**SENZA NESSUN CAVALLOTTO E NESSUN FONDELLO (SOLO VITI)**  
**WITHOUT ANY SUPPORT AND ANY FINISHING ELEMENT (ONLY SCREWS)**



**CON CAVALLOTTO A PULSANTE**  
**WITH BUTTON SUPPORT**

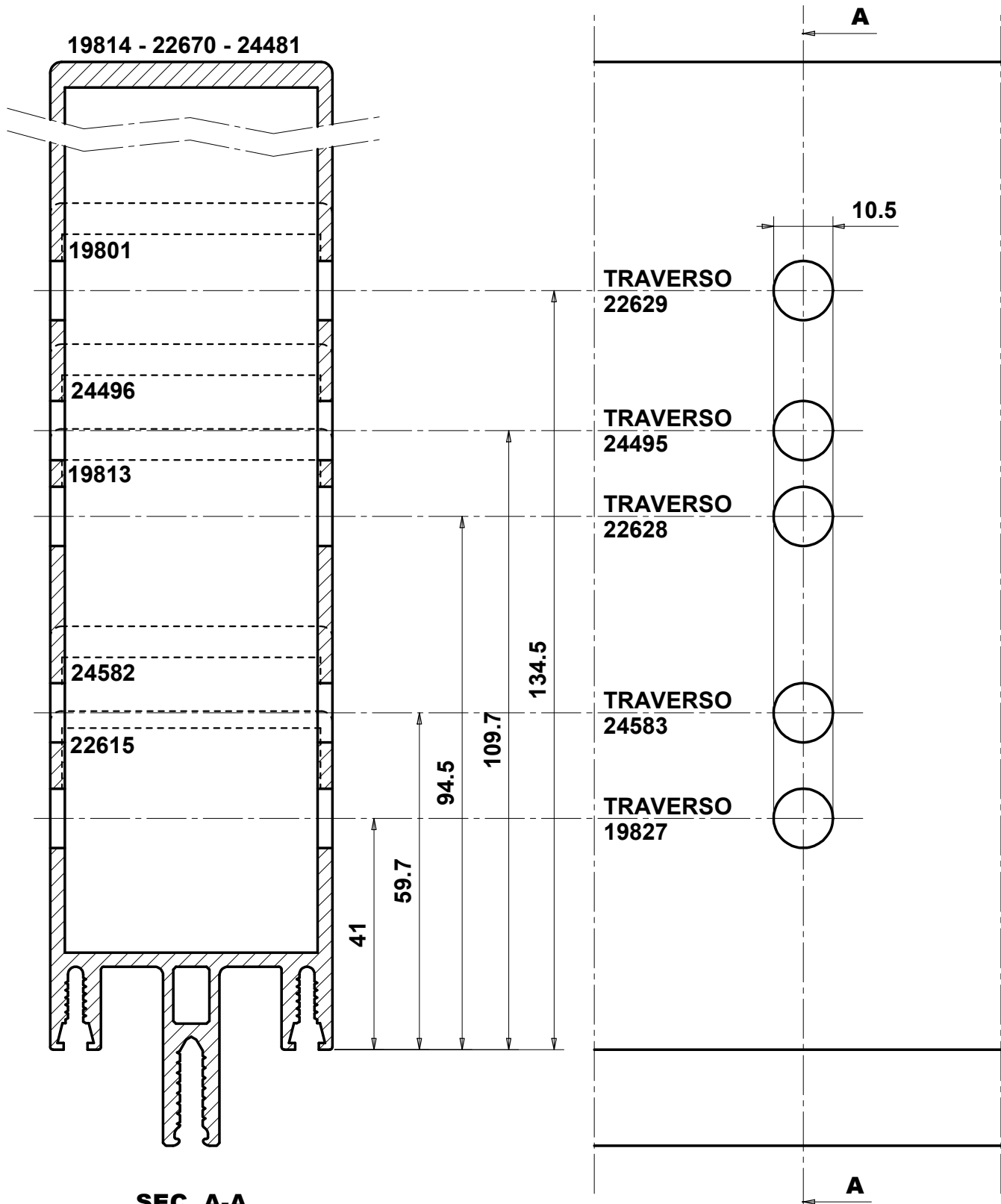


**CON CAVALLOTTO A SLITTA**  
**WITH SLIDING SUPPORT**



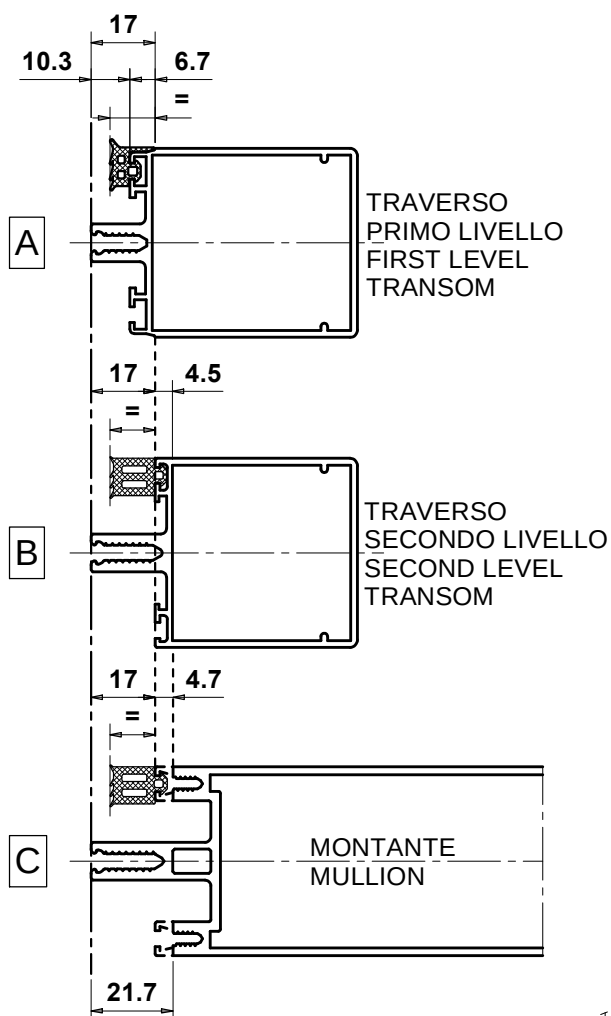
**Lavorazioni / Tooling**

**FORATURE MONTANTE PER FISSAGGIO  
TRAVERSI CON CAVALLOTTO A PULSANTE  
MULLION DRILLING FOR TRANSOM  
FIXING BY BUTTON SUPPORT**



## Lavorazioni - Tooling

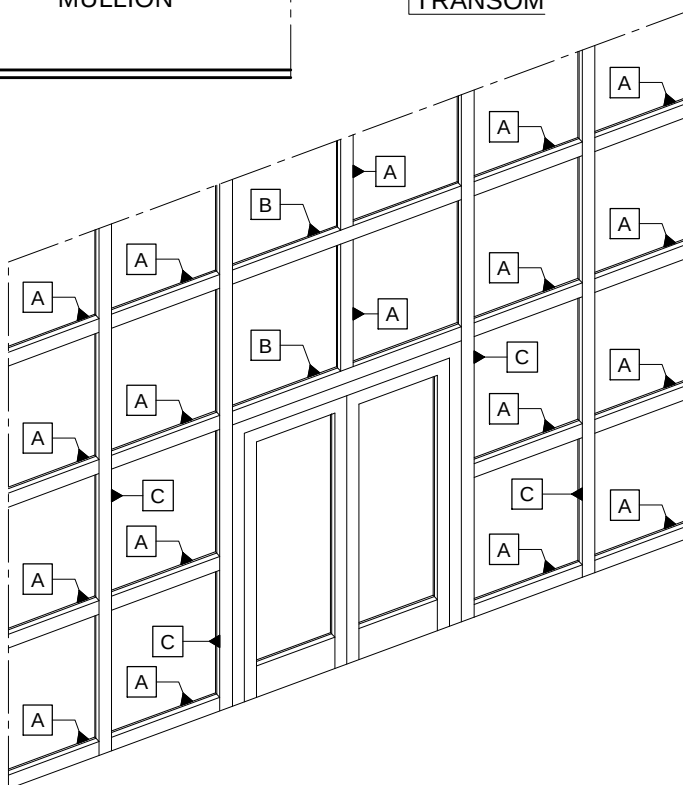
### LIVELLI DI DRENAGGIO DRAINAGE LEVELS



TRAVERSO  
PRIMO LIVELLO  
FIRST LEVEL  
TRANSOM

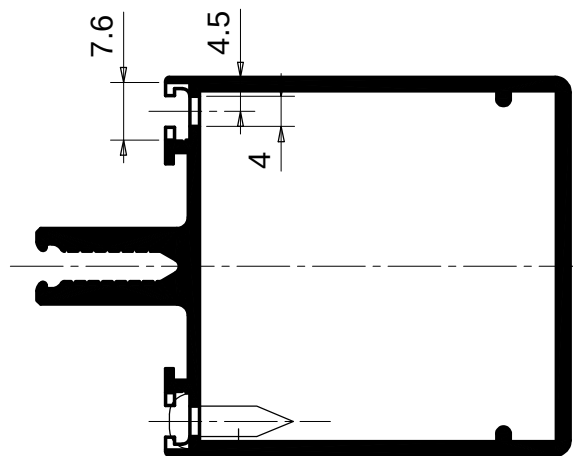
MONTANTE  
MULLION

TRAVERSO  
SECONDO LIVELLO  
SECOND LEVEL  
TRANSOM



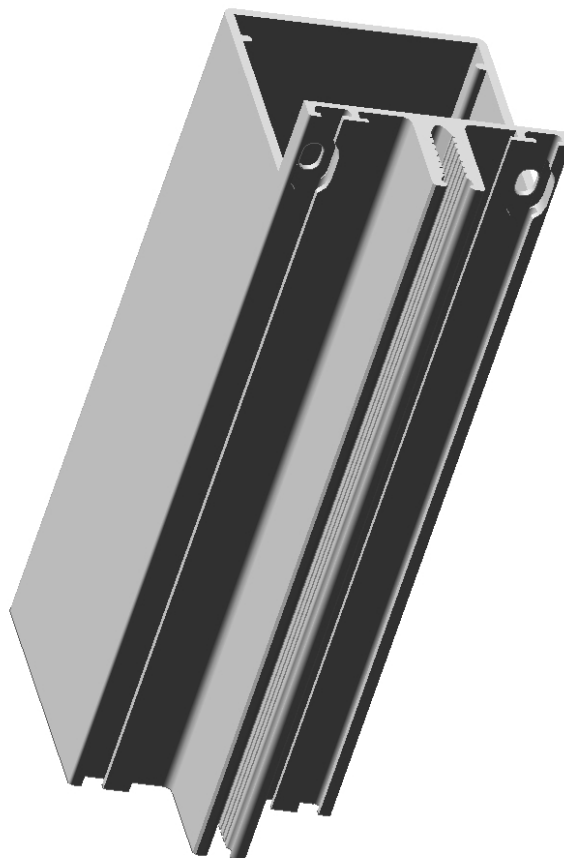
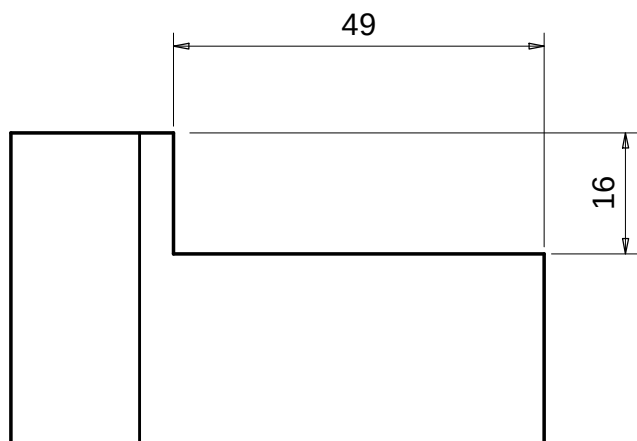
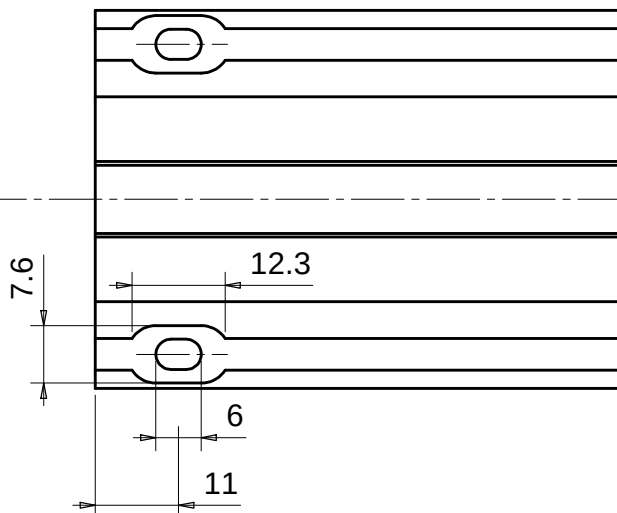
**Lavorazioni / Tooling**

**LAVORAZIONE SUI TRAVERSI DI 2° LIVELLO**  
**2nd LEVEL TRANSOM TOOLING**



**FISSAGGIO MEDIANTE VITI**  
**AUTOF.TCB 3,9x16 INOX**  
**FIXING BY PAN HEAD TAPPING**  
**SCREWS 3,9x16 S.STEEL**

**ART/ITEM 535-090.27**

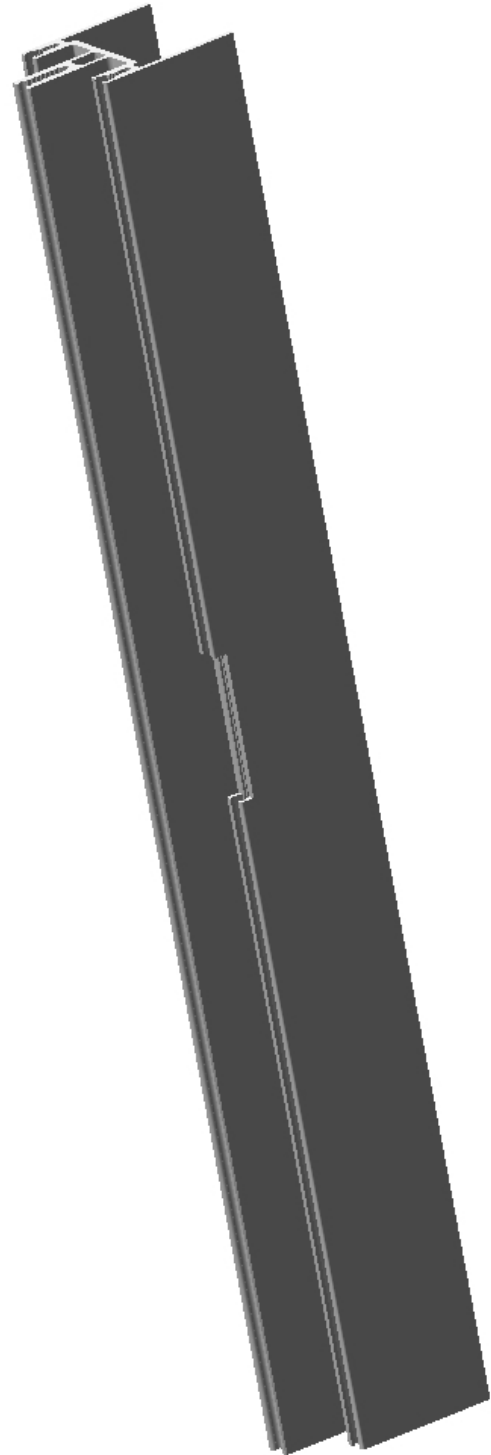
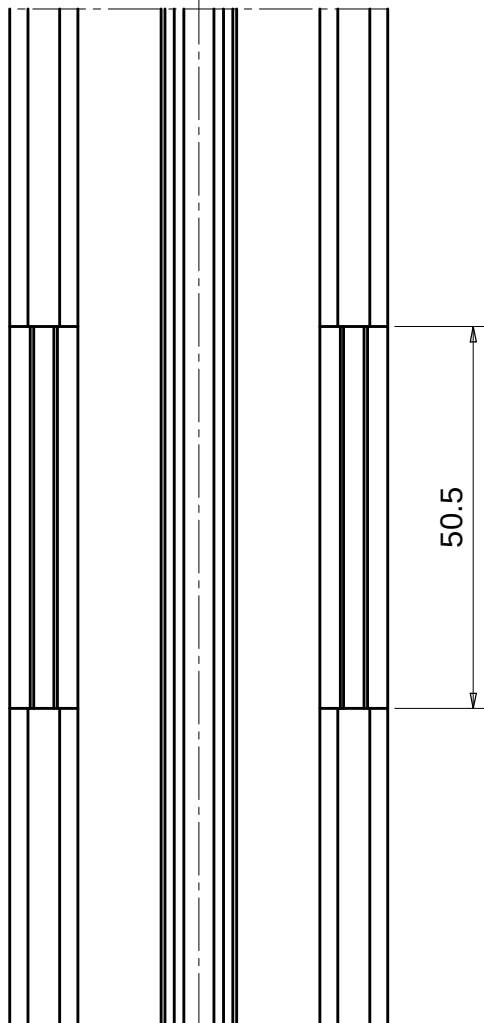
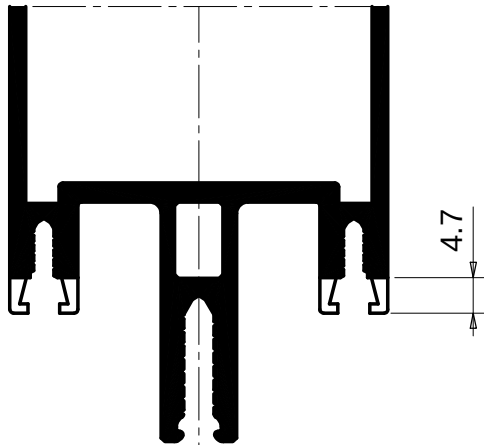


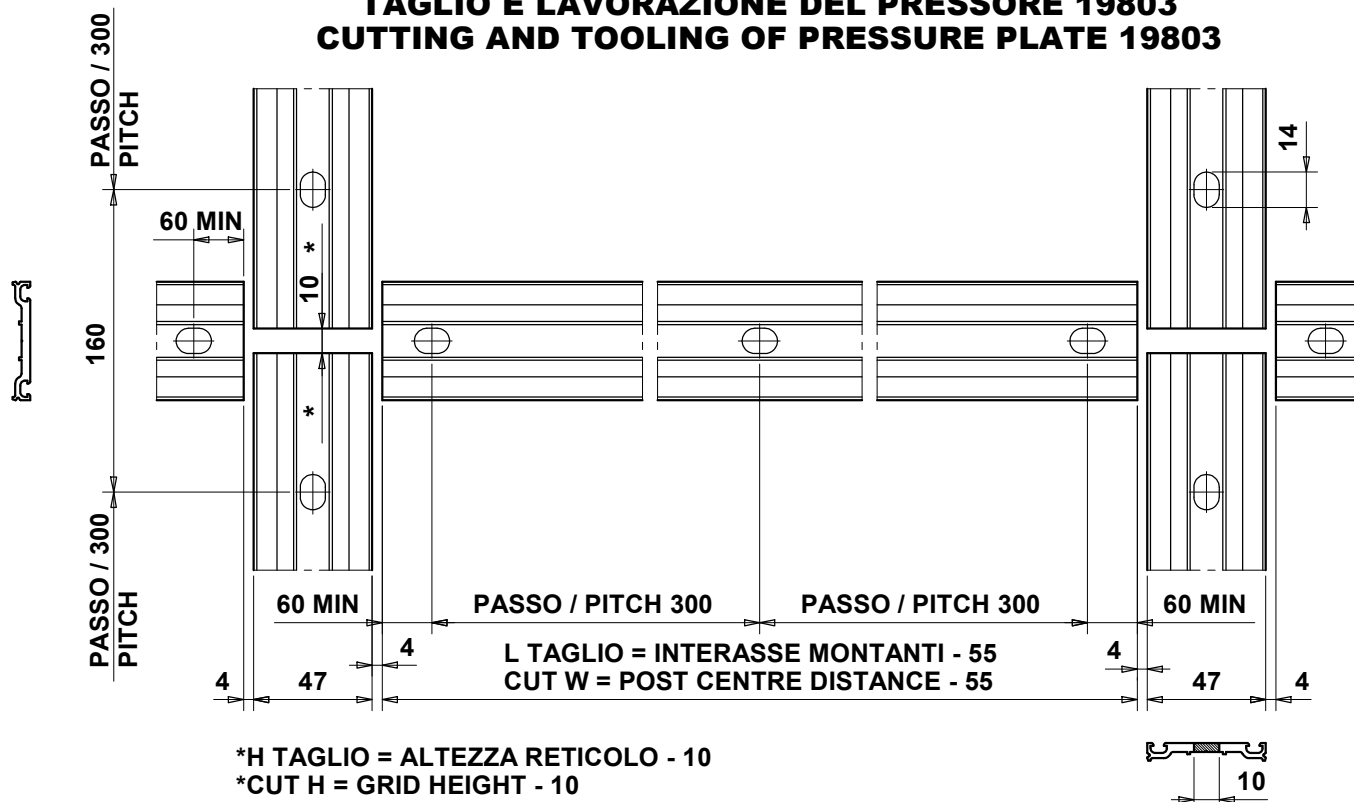
**Lavorazioni / Tooling**

**LAVORAZIONE MONTANTE PER INSERIMENTO TRAVERSI DI 2° LIVELLO  
MULLION TOOLING FOR 2nd LEVEL TRANSOM FIXING**

Eseguibile con punzonatrice 520-3160761

Feasible with punching machine 520-3160761

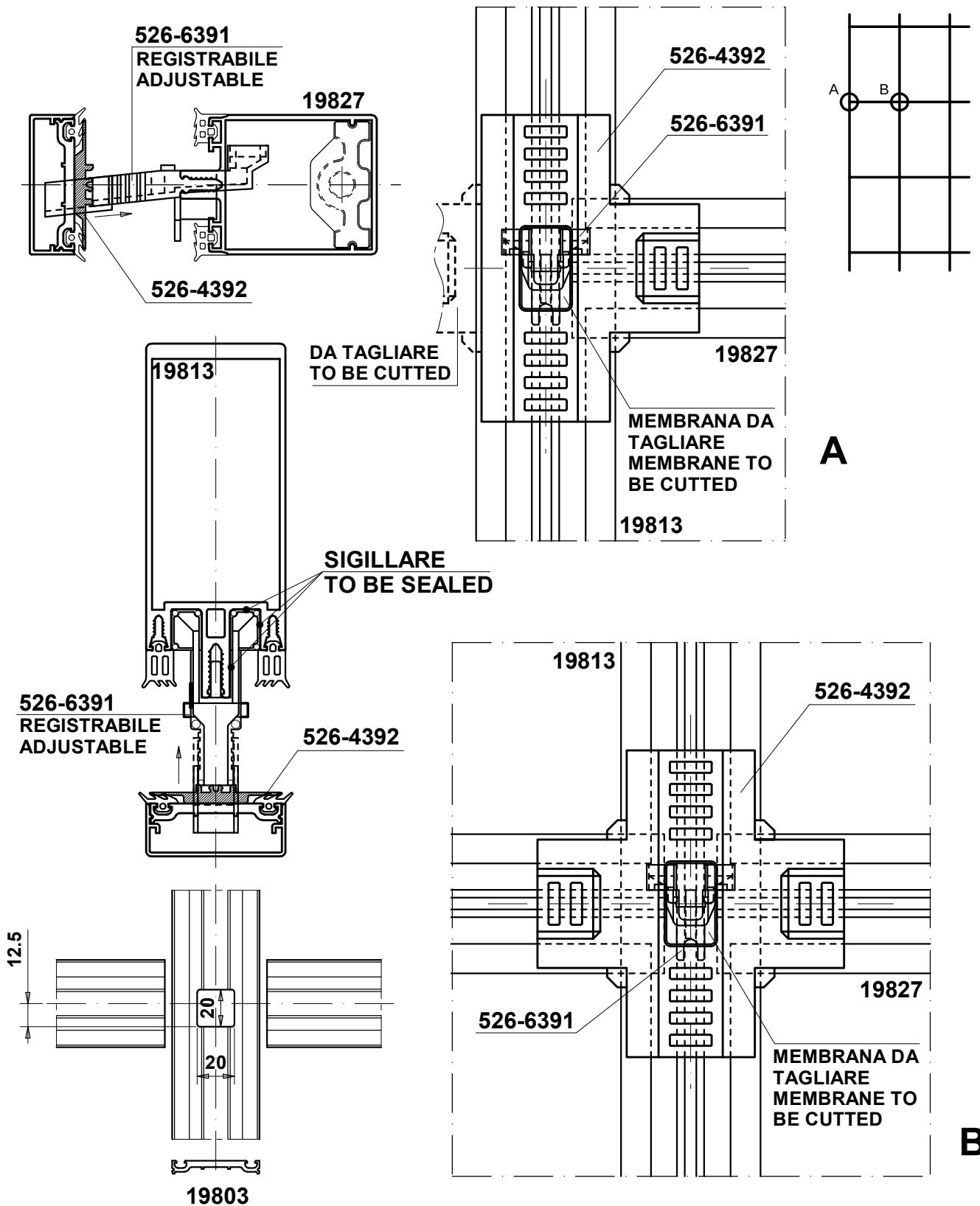




Lavorazioni / Tooling

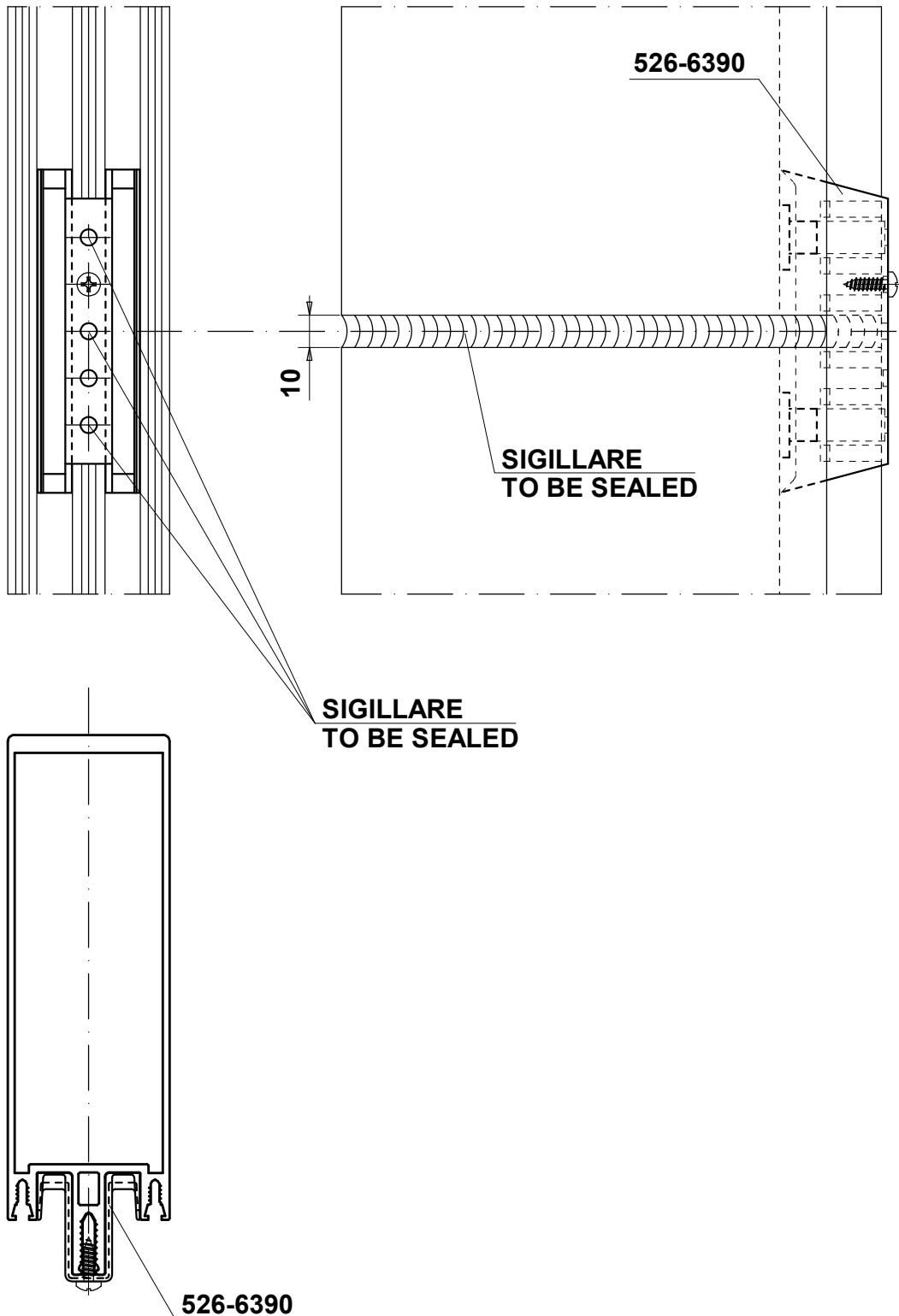
**MONTAGGIO TAPPO DI DRENAGGIO MONTANTI 526-6391  
E MONTAGGIO CROCE DI TENUTA 526-4392**

**MULLIONS DRAINAGE PLUG 526-6391 ASSEMBLY  
AND TIGHTNESS CROSS 526-4392 ASSEMBLY**



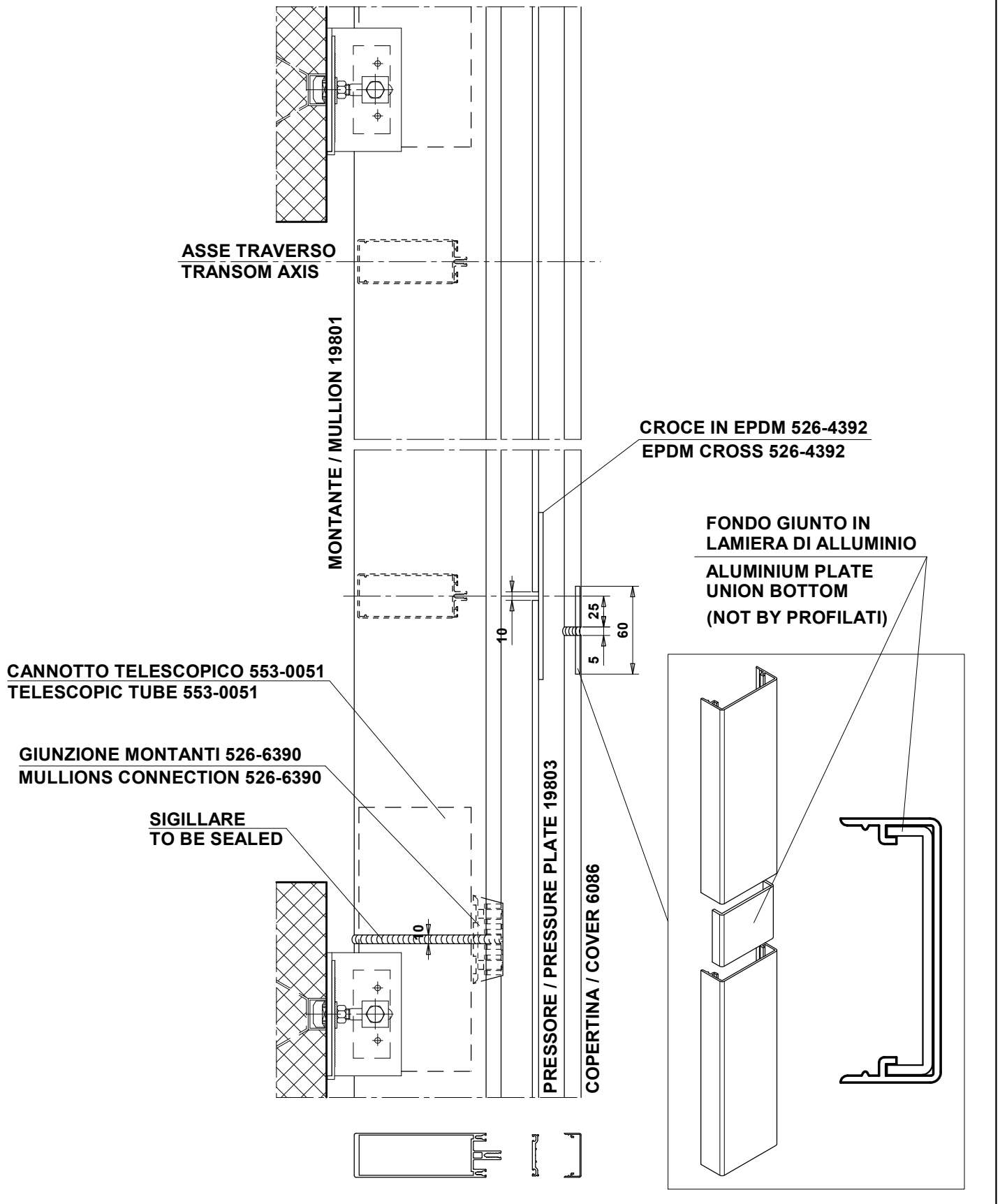
**Lavorazioni / Tooling**

**GIUNTO DI DILATAZIONE TRA I MONTANTI  
MULLIONS EXPANSION JOINT**



**Lavorazioni / Tooling**

**ESEMPI DI SCHEMI MONTAGGIO STAFFE  
EXAMPLES OF BRACKET ASSEMBLING SCHEMES**



**Lavorazioni / Tooling**

**MONTAGGIO PRESSORE 19803  
PRESSURE PLATE 19803 ASSEMBLING**

**APPLICAZIONE CON PRESSIONE  
CORRETTA IN CORRISPONDENZA  
DELLE VITI DI FISSAGGIO:**

Nessuna deformazione del pressore  
Nessuna deformazione della guarnizione esterna

**CORRECT CONTACT PRESSURE  
APPLICATION IN THE AREA OF  
FASTENING SCREWS:**

No deformation in the pressure plate  
No deformation in the outer gasket

**POSIZIONE CENTRALE  
TRA LE VITI DI FISSAGGIO**

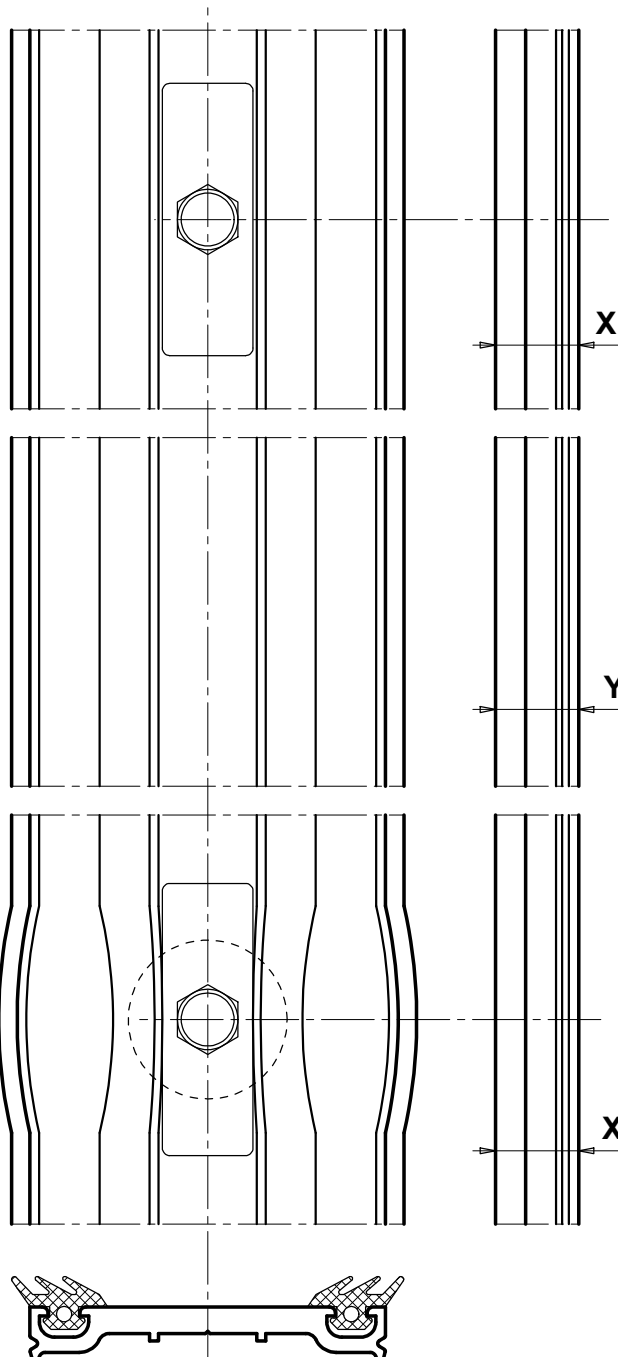
**CENTRALLY POSITION  
BETWEEN SCREWS  
FASTENING**

**APPLICAZIONE CON PRESSIONE  
NON CORRETTA IN CORRISPONDENZA  
DELLE VITI DI FISSAGGIO:**

Deformazione del pressore  
Deformazione della guarnizione esterna  
Sollevamento dei profili tra i fissaggi

**INCORRECT CONTACT PRESSURE  
APPLICATION IN THE AREA OF  
FASTENING SCREWS:**

Deformation in the pressure plate  
Deformation in the outer gasket  
Pressure plate lifts up between screws fastening



**NOTA:**

SERRARE LE VITI DI FISSAGGIO DEI PRESSORI CON AVVITATORE REGOLABILE TARATO A 4,5 Nm.  
LE GUARNIZIONI NON DEVONO SBORDARE E IL PRESSORE NON DEVE ESSERE DEFORMATO  
LA PRESSIONE E' CORRETTA QUANDO LA GUARNIZIONE ESTERNA E' ALLINEATA IN TUTTI I PUNTI  
E LA DIFFERENZA DI QUOTA RILEVATA TRA I PUNTI "X" E "Y" NON SUPERA 0,5 MM.

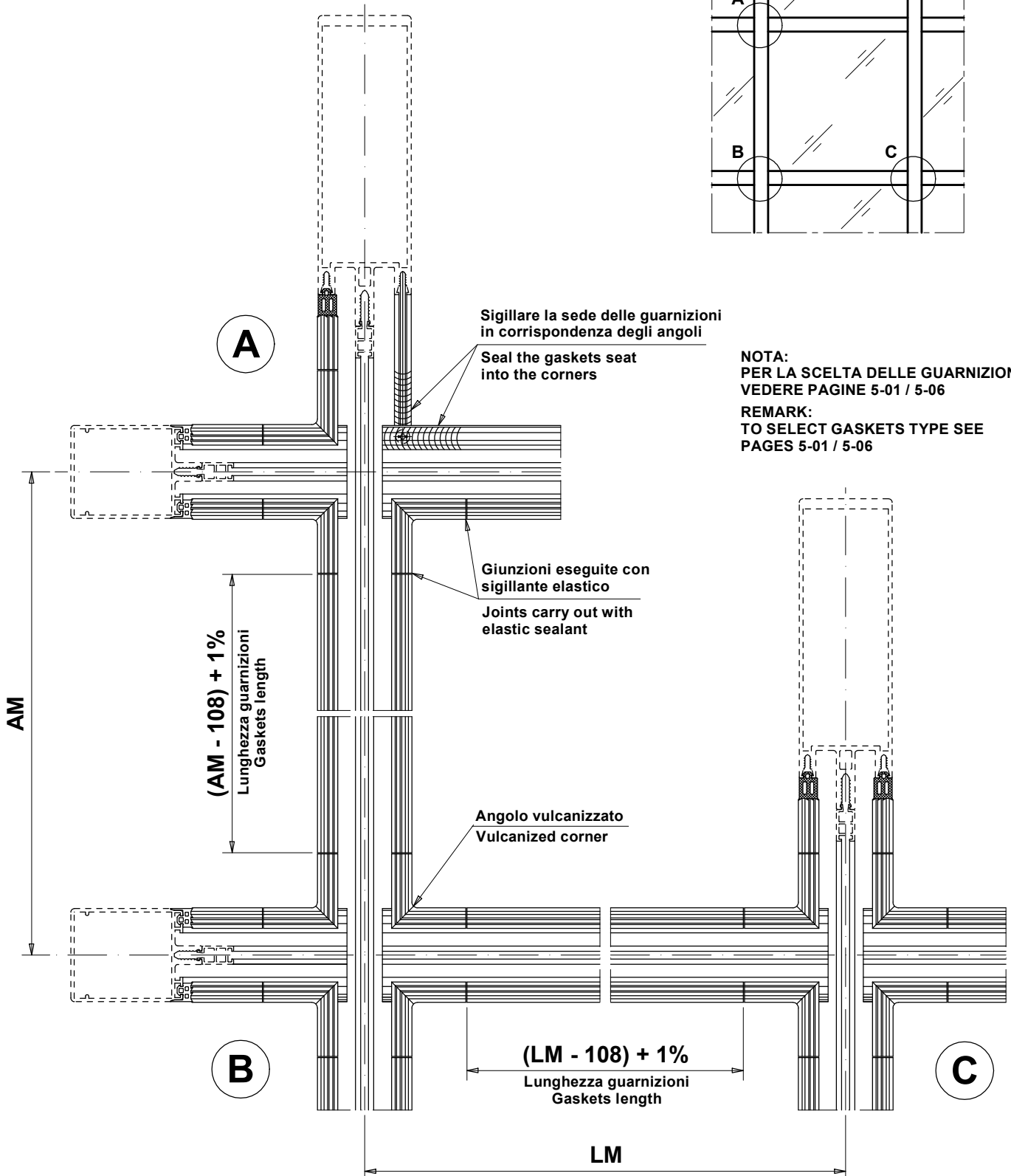
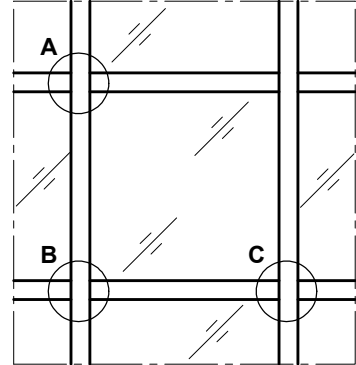
**REMARK:**

PRESSURE PLATE FASTENING SCREWS MUST BE TIGHTENED USING ADJUSTABLE SCREWDRIVER  
WITH CLOSING MOMENT AT 4,5 Nm.

THE GASKETS MUST NOT PROTRUDE AT THE SIDES AND THE PRESSURE PLATE MUST NOT BE DISTORTED  
THE CONTACT PRESSURE IS CORRECT WHEN THE OUTER GASKET MAKES PROPER CONTACT EVERYWHERE  
AND THE DIFFERENCE MEASURED BETWEEN POINTS "X" AND "Y" IS NO MORE THAN 0,5 MM.

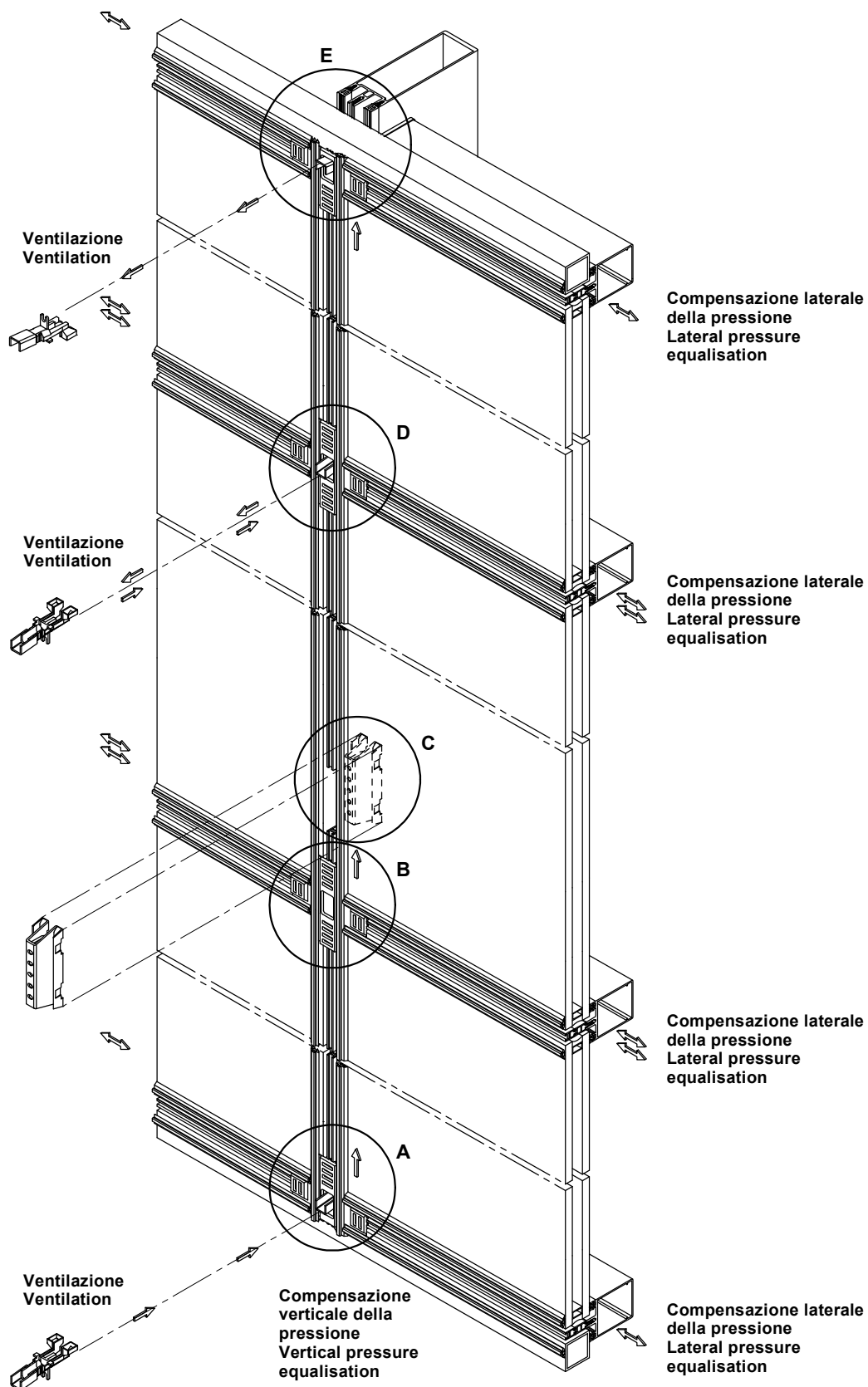
**Lavorazioni / Tooling**

**SCHEMA DI MONTAGGIO GUARNIZIONI  
GASKETS ASSEMBLING LAYOUT**



**Lavorazioni / Tooling**

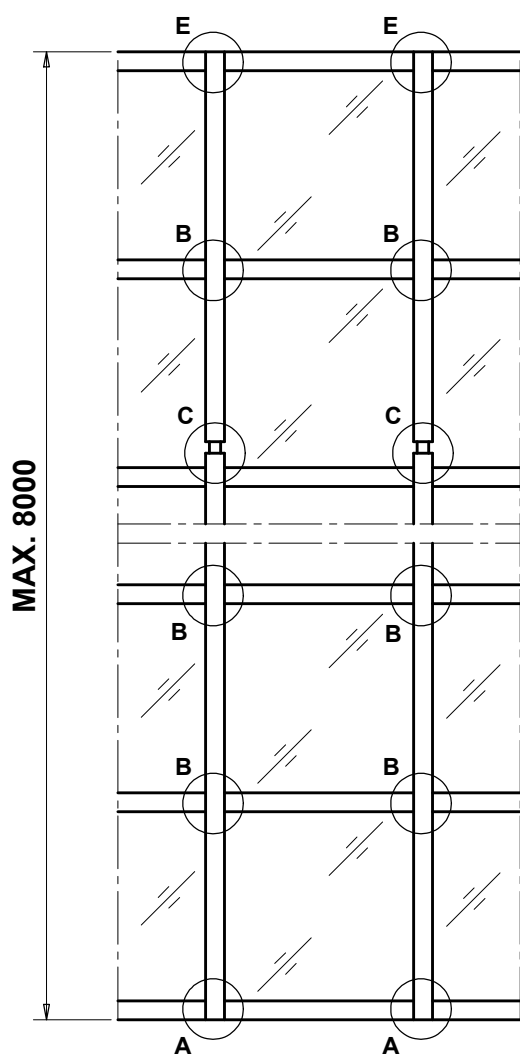
**SCHEMA DI MONTAGGIO FACCIATA  
CURTAIN WALL ASSEMBLING LAYOUT**



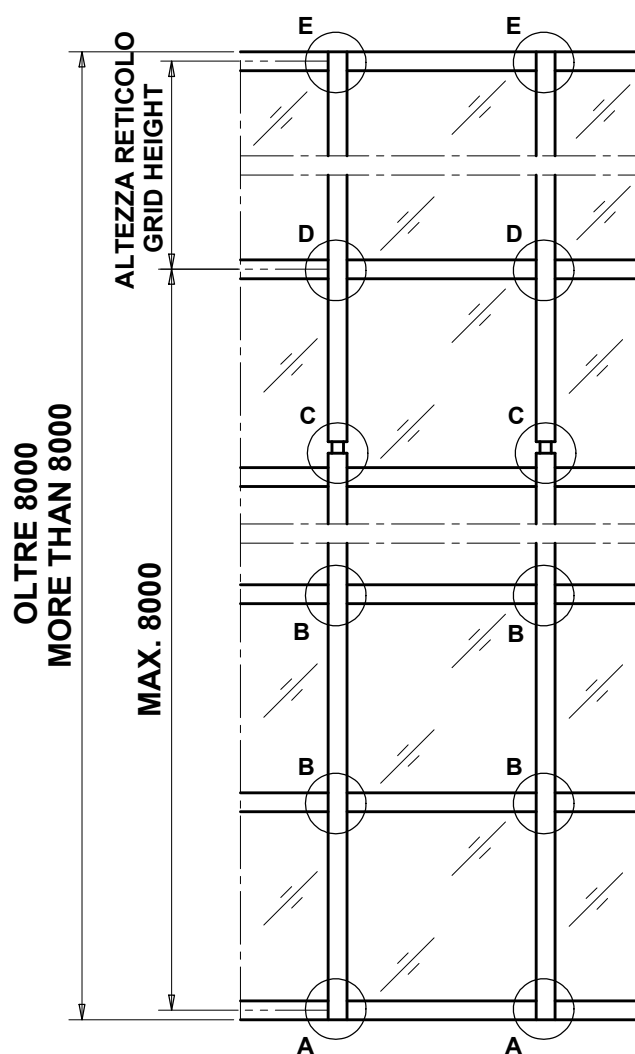
**Lavorazioni / Tooling**

**SCHEMA DI MONTAGGIO FACCIATA  
CURTAIN WALL ASSEMBLING LAYOUT**

**FACCIATE CON ALTEZZE FINO A 8 METRI  
CURTAIN WALL HEIGHT TILL 8 METERS**

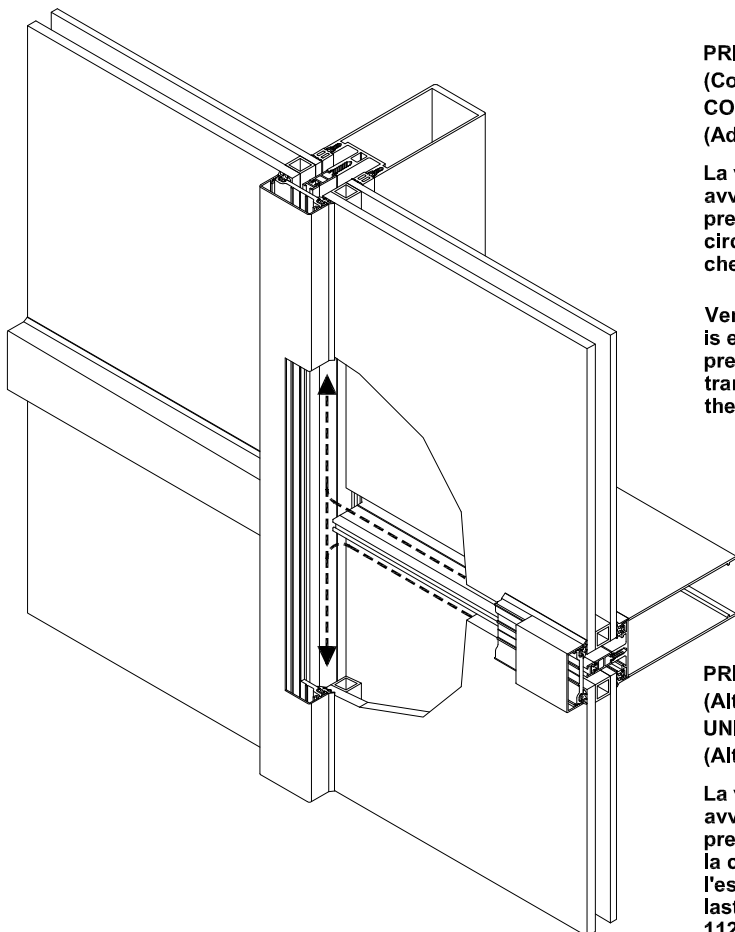


**FACCIATE CON ALTEZZE OLTRE 8 METRI  
CURTAIN WALL HEIGHT OVER 8 METERS**



Lavorazioni - Tooling

**PRINCIPIO DI VENTILAZIONE FACCIATA  
PRINCIPLE OF VENTILATION OF FACADE**



**PRINCIPIO DI VENTILAZIONE E DRENAGGIO COMPLETO  
(Consigliato)  
COMPLETE VENTILATION AND DRAINAGE PRINCIPLE  
(Advised)**

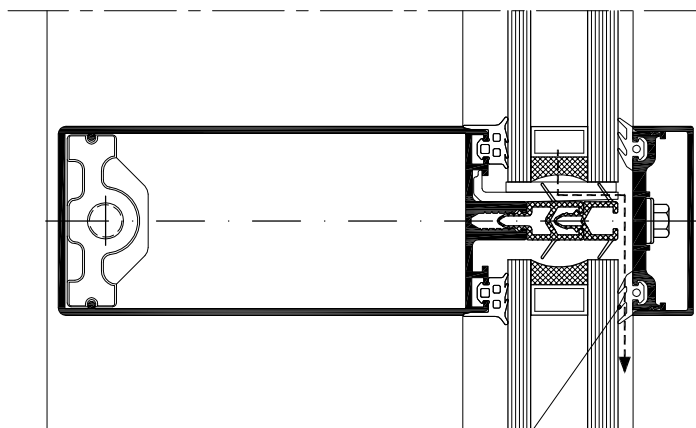
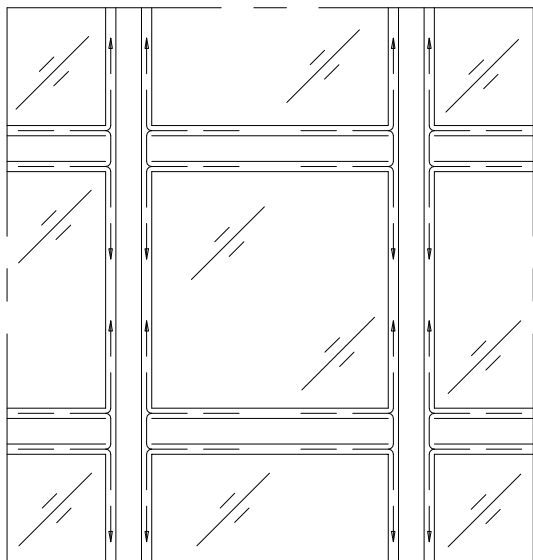
La ventilazione e lo scarico dell' acqua di condensa avvengono attraverso asole praticate sui pressori dei montanti e mantenendo libera la circolazione sui traversi, creando un moto convettivo che consente di areare la lastra vetrata per tutto il perimetro.

Ventilation and drainage of condensation is effected by recesses in the mullions pressure plates keeping free the movement in the transoms, creating a convective motion that keeps the glass ventilated in it's perimeter.

**PRINCIPIO DI VENTILAZIONE E DRENAGGIO UNITARIO  
(Alternativo)  
UNITARY VENTILATION AND DRAINAGE PRINCIPLE  
(Alternative)**

La ventilazione e lo scarico dell' acqua di condensa avvengono attraverso asole praticate sui pressori e sulle copertine dei traversi, interrompendo la circolazione sui montanti portando quindi lo sfato verso l'esterno dai suddetti fori, creando una ventilazione per singola lastra e non generale. In questa soluzione utilizzare la guaina 112-EKOBIT sia sui traversi che sui montanti.

The ventilation and drainage of condensation occur through slots in pressure plates and on the covers of the transoms, interrupting circulation on the mullions thus leading to the vent the outside by the said holes, creating a single ventilation for glass and not general. In this solution, use the sheath 112-EKOBIT is on the transoms than on the mullions.

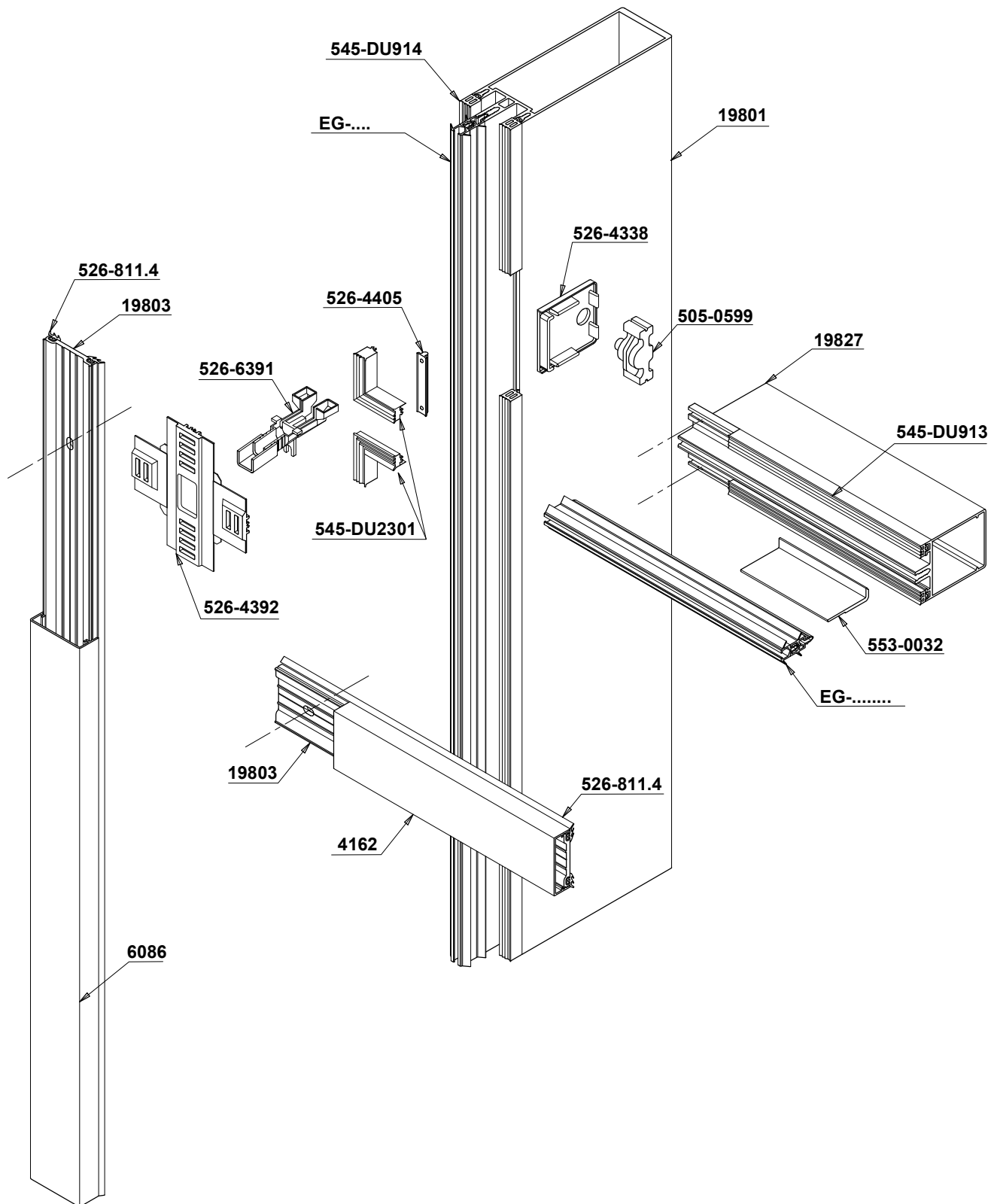


Interrompere la guarnizione per 10 mm

Gasket to be cutted for 10 mm

**Lavorazioni / Tooling**

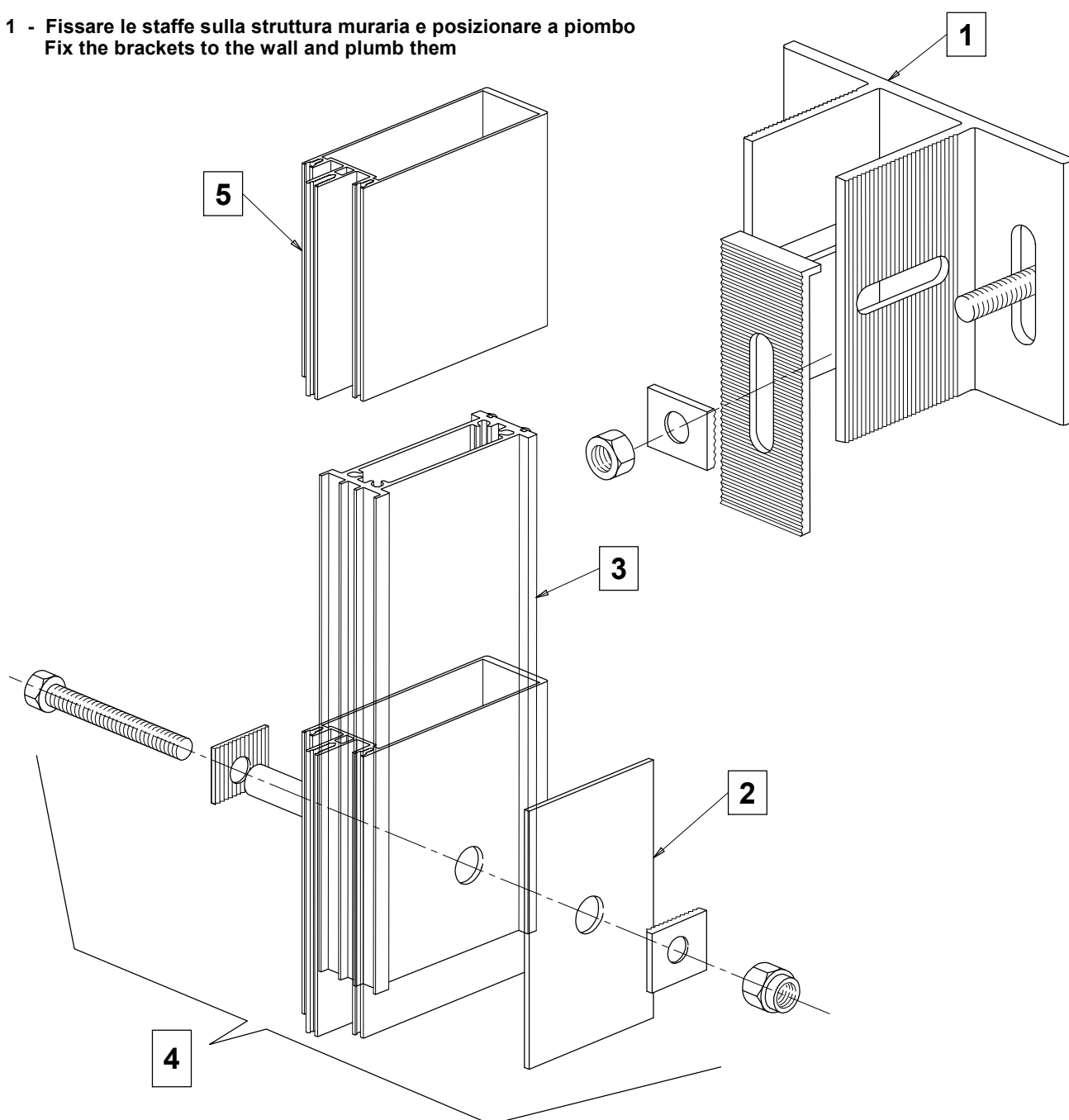
**ESPLOSO DEL SISTEMA  
SYSTEM EXPLODED**



**Lavorazioni / Tooling**

**MONTAGGIO STAFFE DI ANCORAGGIO (Art. EA-0171)  
FASTENING BRACKET ASSEMBLY (item EA-0171)**

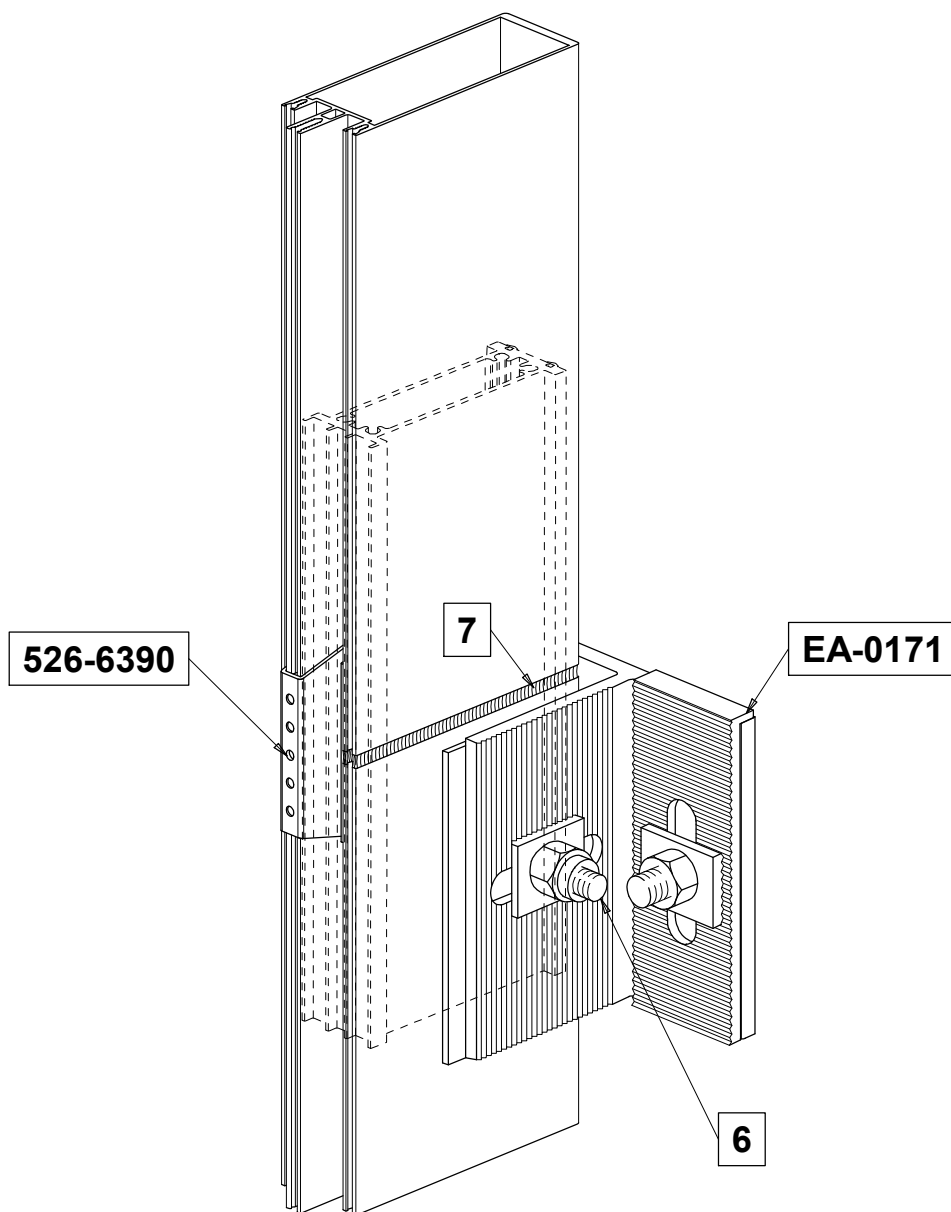
- 1 - Fissare le staffe sulla struttura muraria e posizionare a piombo  
Fix the brackets to the wall and plumb them
- 2 - Applicare le piastre autoadesive sul montante  
Put the pressure-sensitive adhesive plates on the mullion
- 3 - Inserire il canotto per giunto di dilatazione montante  
Place the tube for mullion expansion joint
- 4 - Inserire montante, distanziale e bullone nella staffa  
Place mullion, spacer and bolt in the bracket
- 1 - Fissare le staffe sulla struttura muraria e posizionare a piombo  
Fix the brackets to the wall and plumb them



**Lavorazioni / Tooling**

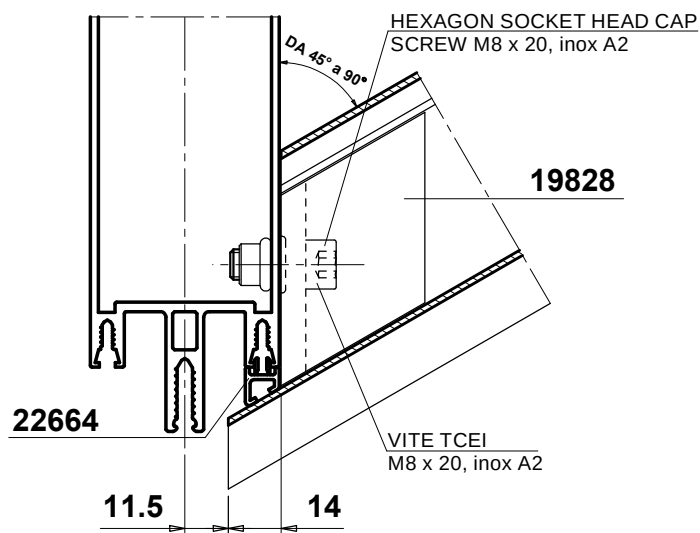
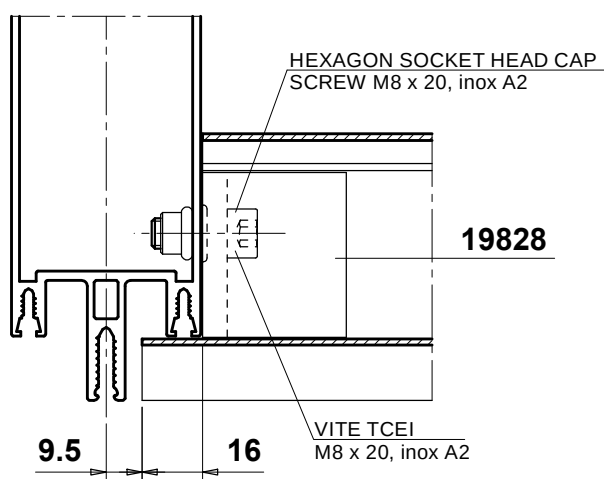
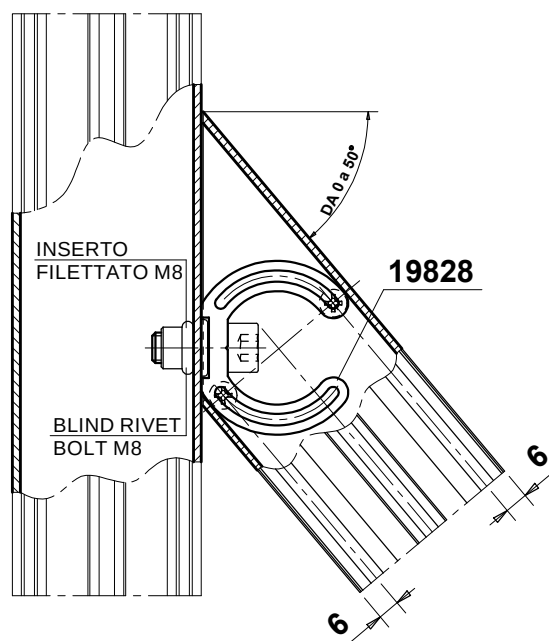
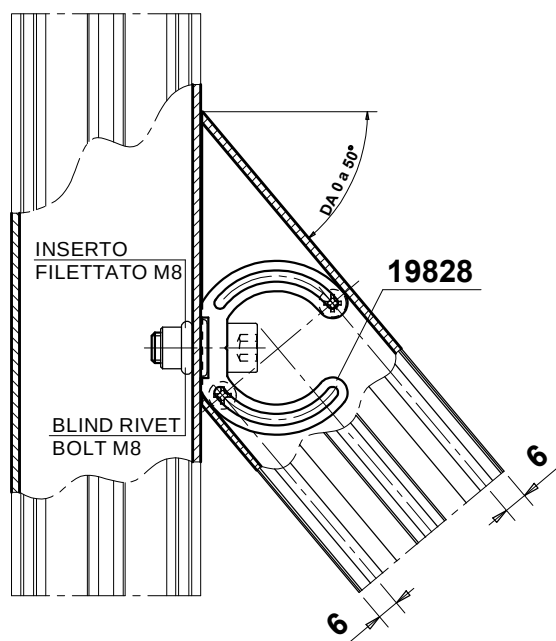
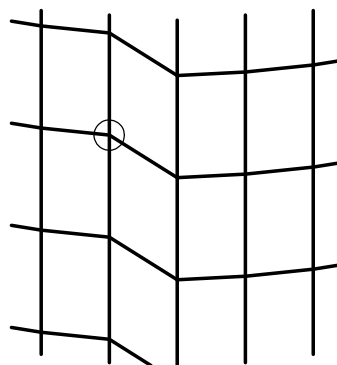
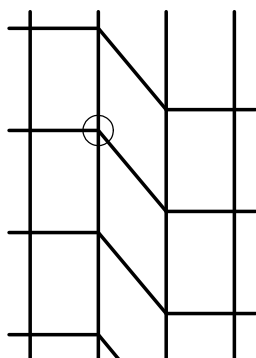
**MONTAGGIO STAFFE DI ANCORAGGIO (Art.EA-0171)  
FASTENING BRACKET ASSEMBLY (item EA-0171)**

- 6 - Bloccare il montante sulla staffa e posizionarlo a piombo**  
**Block the mullion on the bracket and plumb it**
- 7 - Sigillare la giunzione tra i montanti con sigillante siliconico**  
**Seal the union between the mullion with silicone sealant**



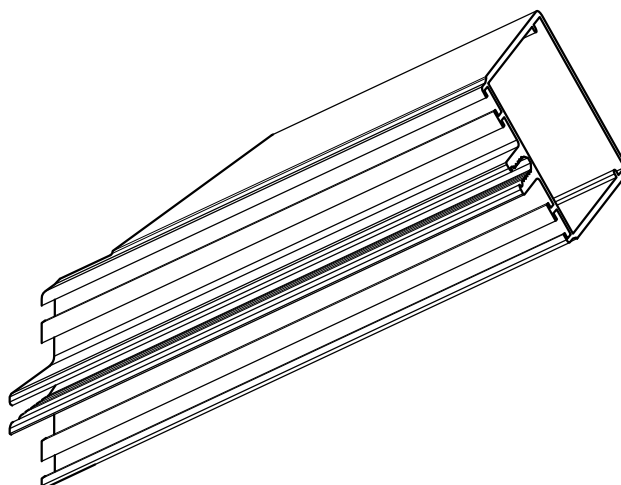
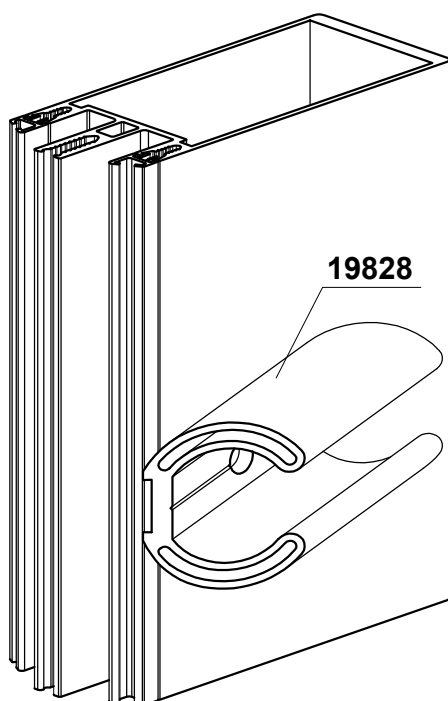
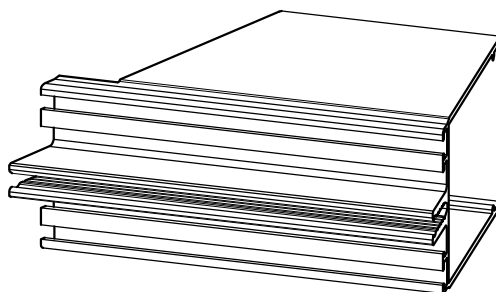
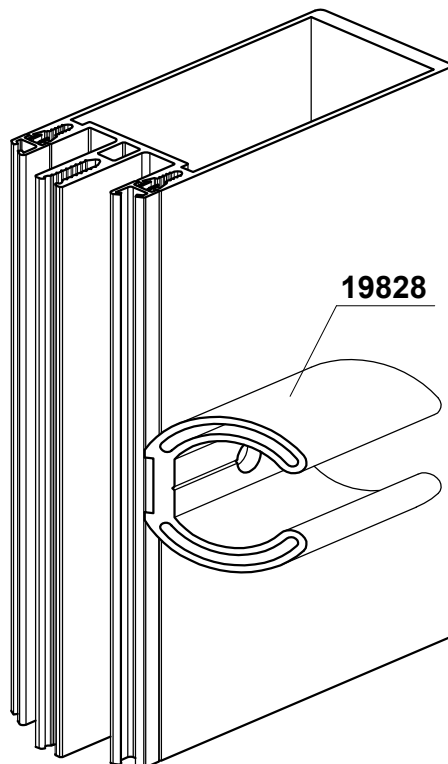
**Lavorazioni / Tooling**

**APPLICAZIONE CAVALLOTTI PER TRAVERSI INCLINATI  
SUPPORT APPLICATION FOR SLOPING TRANSOMS**



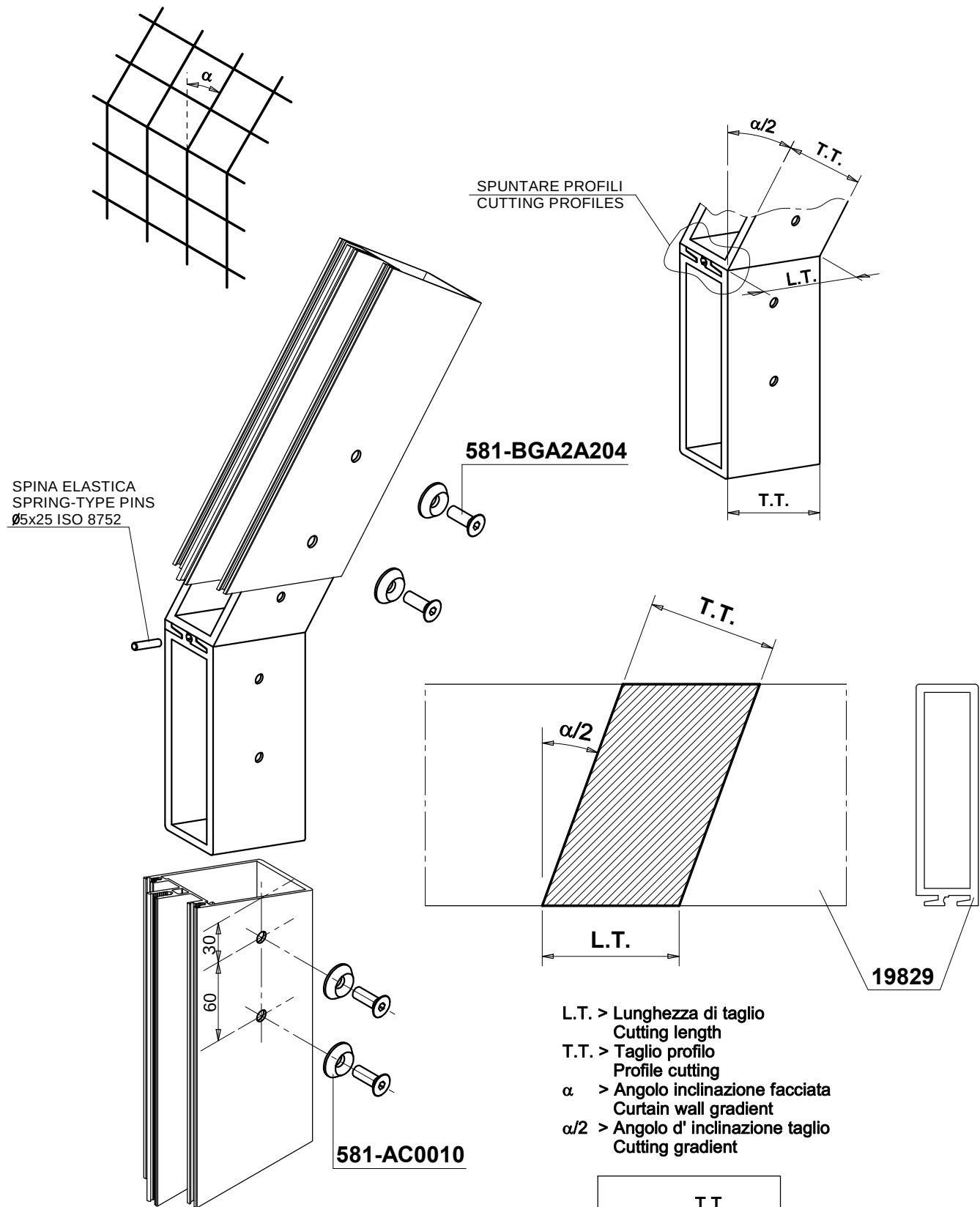
**Lavorazioni / Tooling**

**APPLICAZIONE CAVALLOTTI PER TRAVERSI INCLINATI  
SUPPORT APPLICATION FOR SLOPING TRANSOMS**



**Lavorazioni / Tooling**

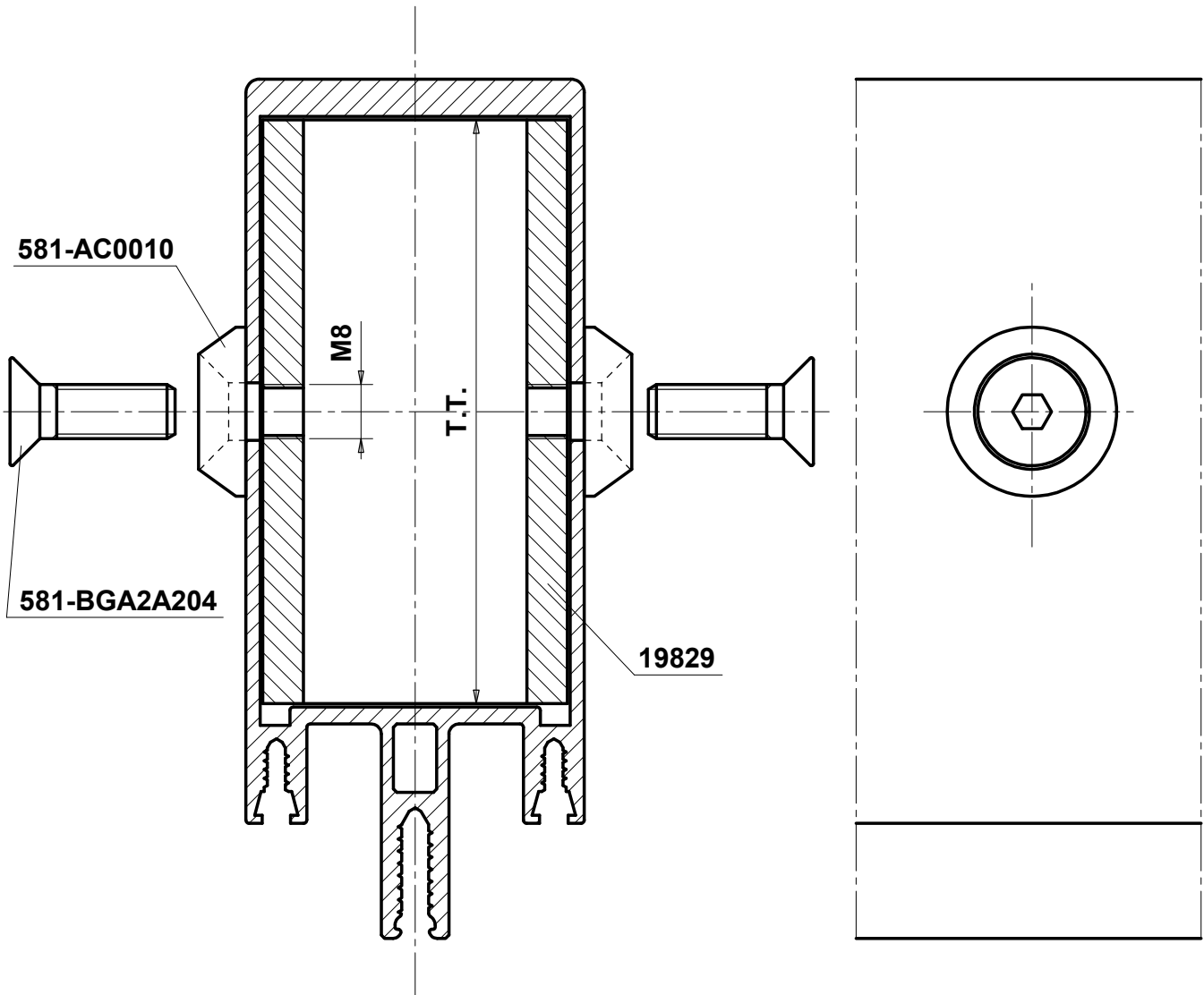
**MONTAGGIO MONTANTI INCLINATI  
SLOPED MULLIONS ASSEMBLY**



$$L.T. = \frac{T.T.}{\cos(\alpha/2)}$$

**Lavorazioni / Tooling**

**MONTAGGIO MONTANTI INCLINATI  
SLOPED MULLIONS ASSEMBLY**



| Montante/<br>Mullion | Quota T.T. mm/<br>Dimension T.T. mm |
|----------------------|-------------------------------------|
| 19813                | 86,5 <sup>±1</sup>                  |
| 19801                | 126,5 <sup>±1</sup>                 |
| 19814                | 126,5 <sup>±1</sup>                 |
| 22670                | 177,5 <sup>±1</sup>                 |
| 24481                | 204 <sup>±1</sup>                   |

**ESEMPIO/EXAMPLE:**

- ) Profilo Montante/Mullion profile: 19813
- ) Quota T.T./Dimension T.T.: 86,5 mm.
- ) Angolo/Angle  $\alpha$ : 45°
- ) Angolo/Angle  $\alpha/2$ : 22,5°

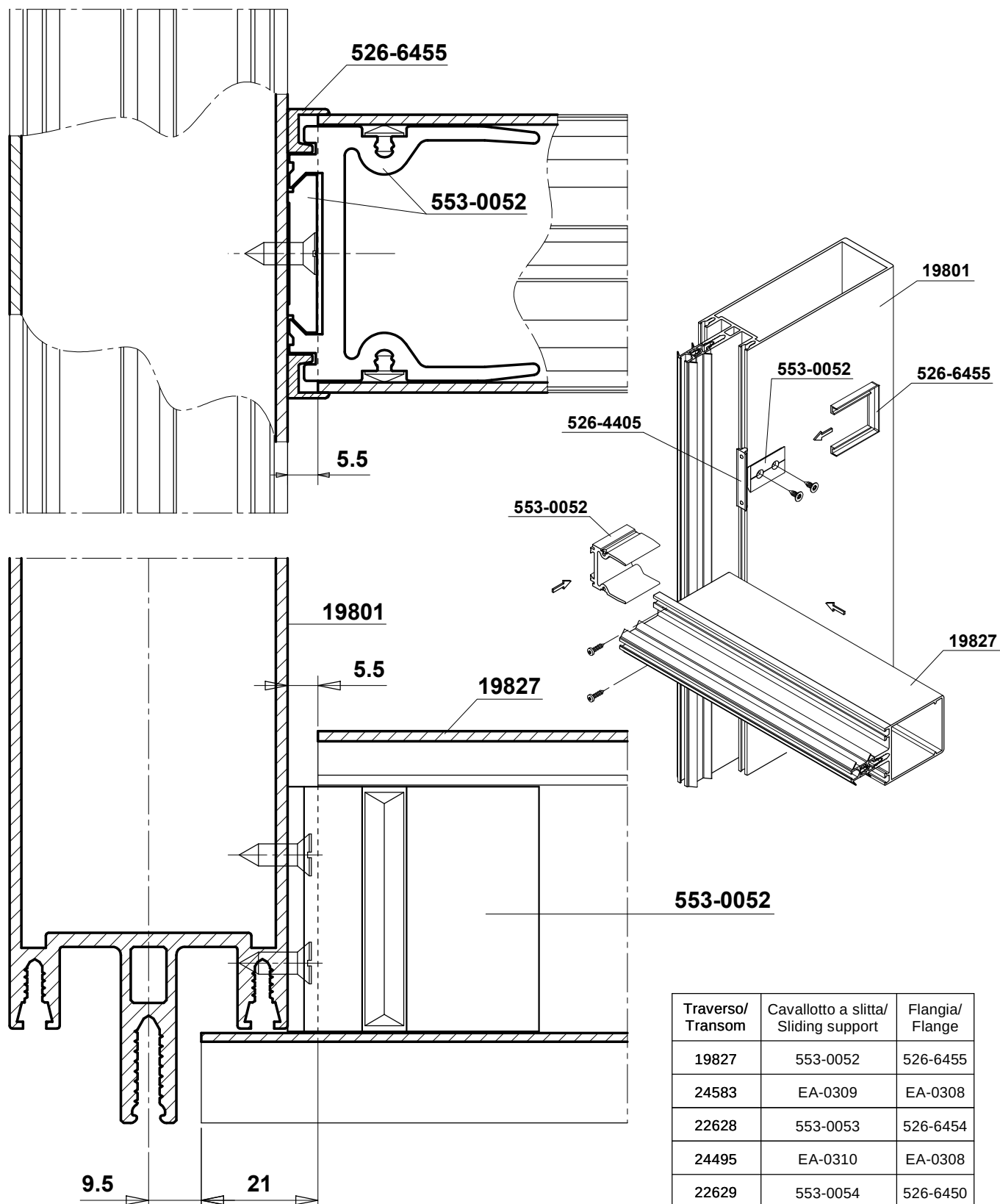
$$L.T. = \frac{T.T.}{\cos(\alpha/2)}$$

$$L.T. = \frac{86,5}{\cos 22,5^\circ}$$

$$L.T. = 93,63 \text{ mm}$$

Lavorazioni / Tooling

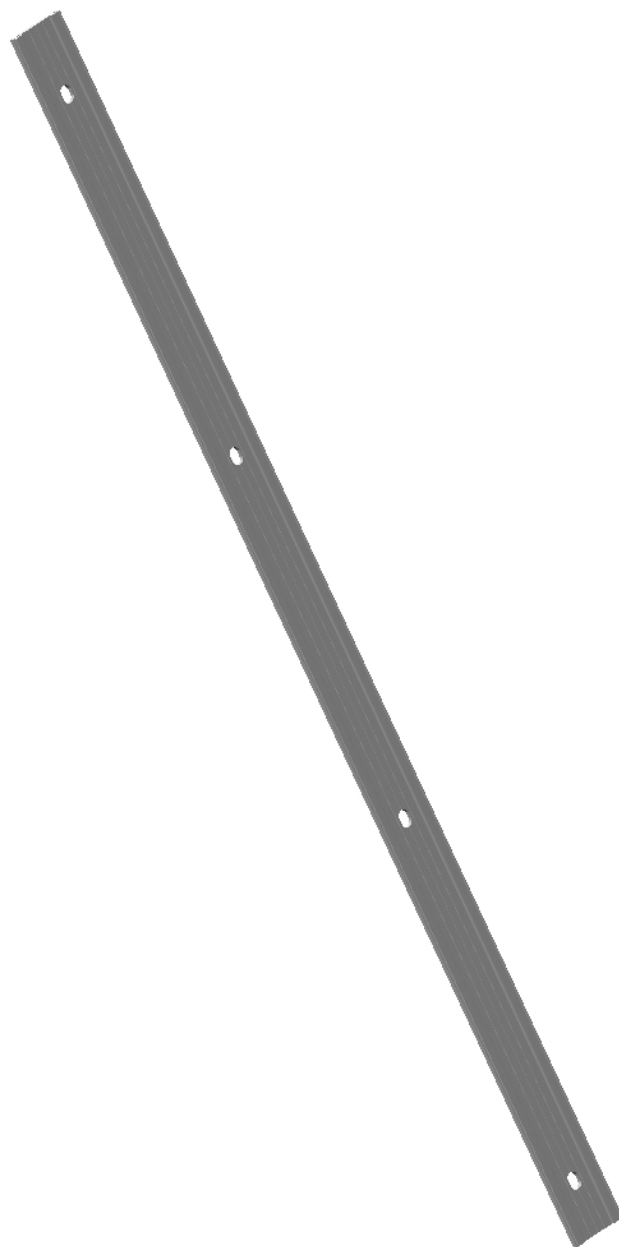
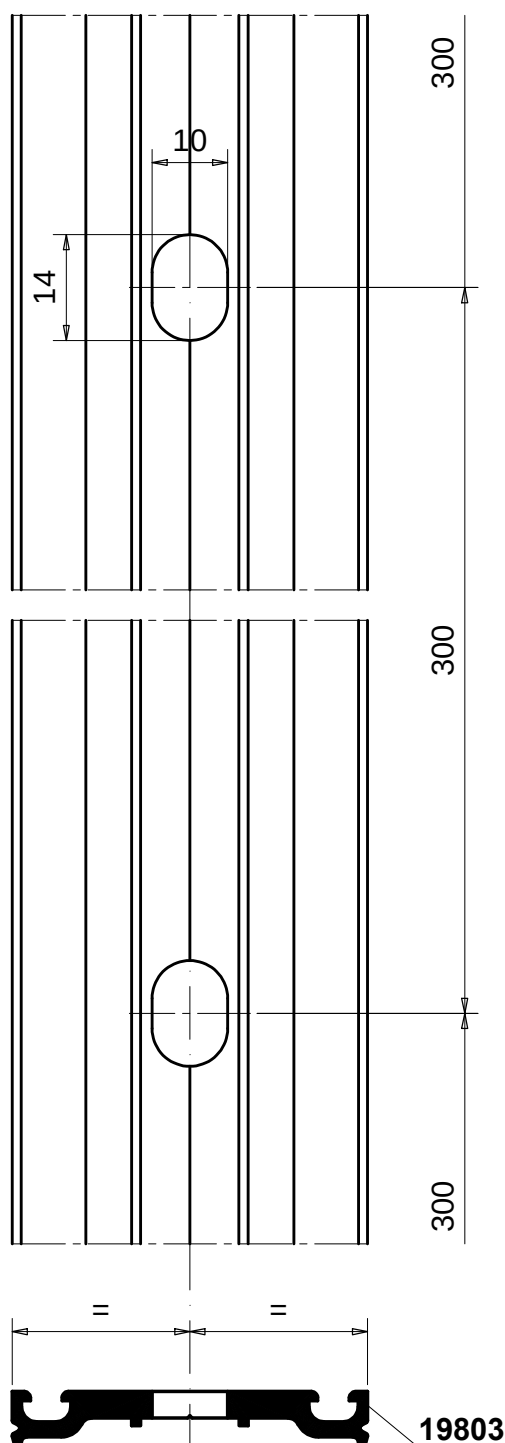
**MONTAGGIO CAVALLOTTO A SLITTA  
SLIDING SUPPORT ASSEMBLY**



| Traverso/<br>Transom | Cavallotto a slitta/<br>Sliding support | Flangia/<br>Flange |
|----------------------|-----------------------------------------|--------------------|
| 19827                | 553-0052                                | 526-6455           |
| 24583                | EA-0309                                 | EA-0308            |
| 22628                | 553-0053                                | 526-6454           |
| 24495                | EA-0310                                 | EA-0308            |
| 22629                | 553-0054                                | 526-6450           |

**Lavorazioni / Tooling**

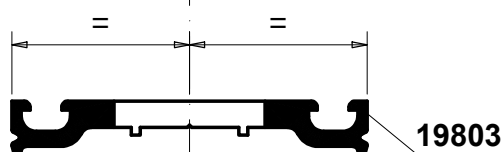
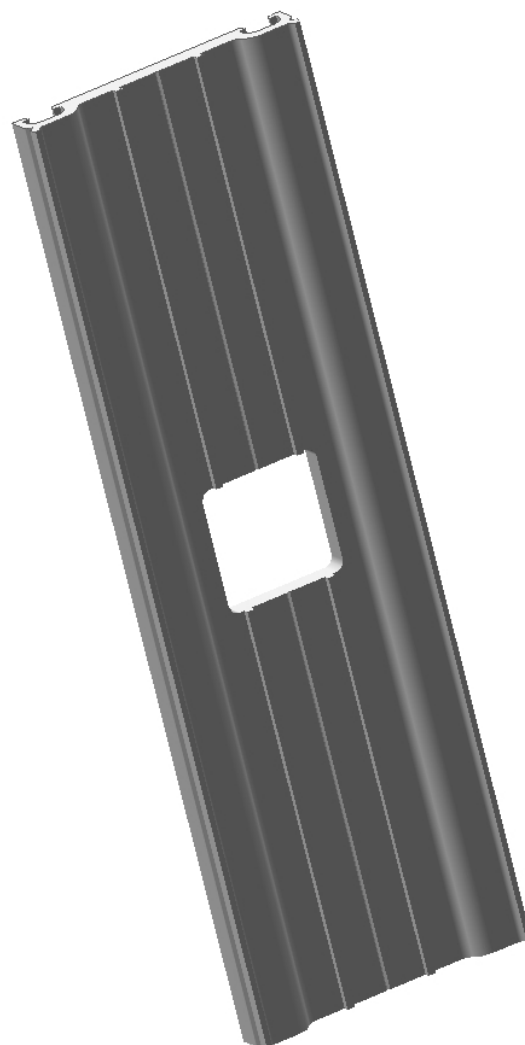
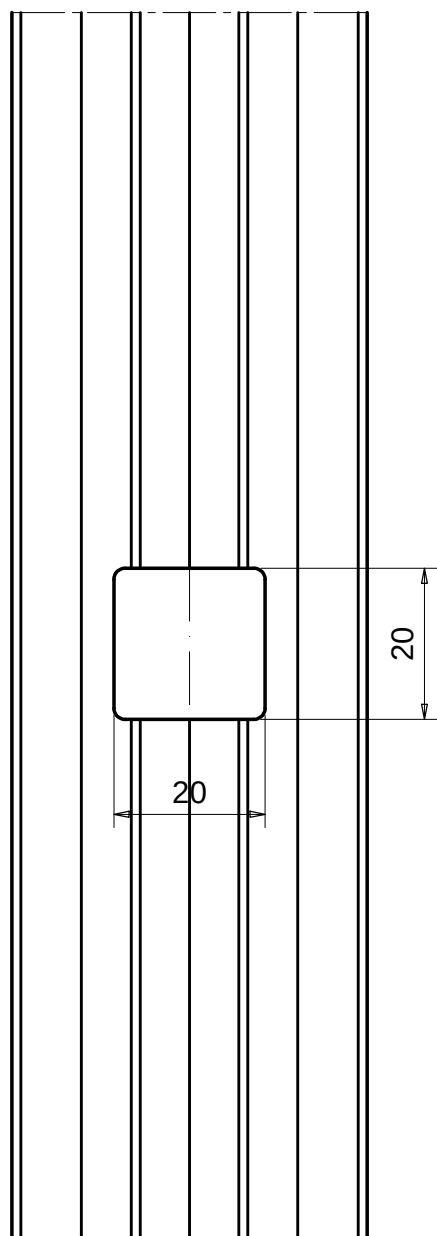
**LAVORAZIONE PER PASSAGGIO VITI  
DI FISSAGGIO SU PRESSORE 19803  
TOOLING OF PRESSURE PLATE 19083  
FOR INSTALLING FIXING SCREWS**



Eseguibile con punzonatrice 520-3160761  
Feasible with punching machine 520-3160761

**Lavorazioni / Tooling**

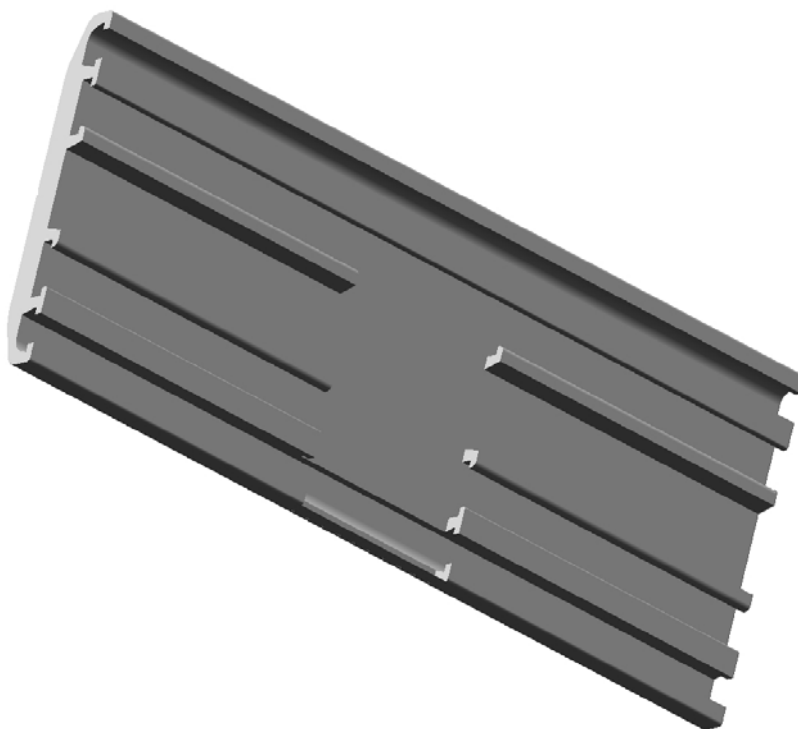
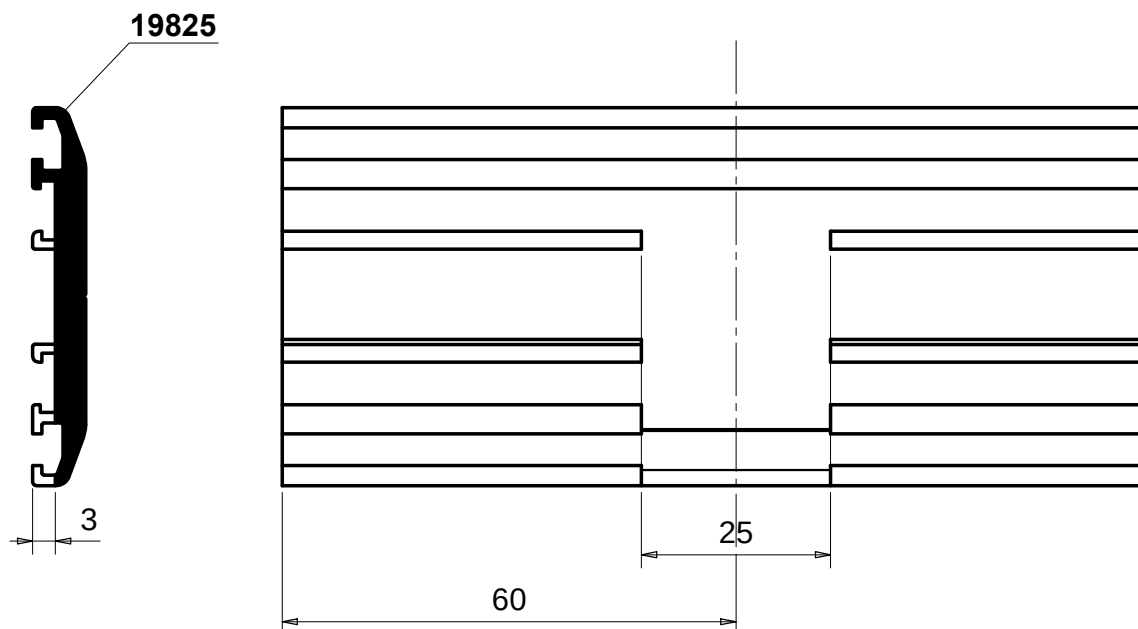
**LAVORAZIONE PER PASSAGGIO ARTICOLO 526-6391  
SU PRESSORE 19803  
TOOLING OF PRESSURE PLATE 19083  
FOR INSTALLING ITEM 526-6391**



**Lavorazioni / Tooling**

**LAVORAZIONE PER SCARICO ACQUA SU PRESSIONE 19825  
PRESSURE PLATE 19825 WATER DRAINAGE TOOLING**

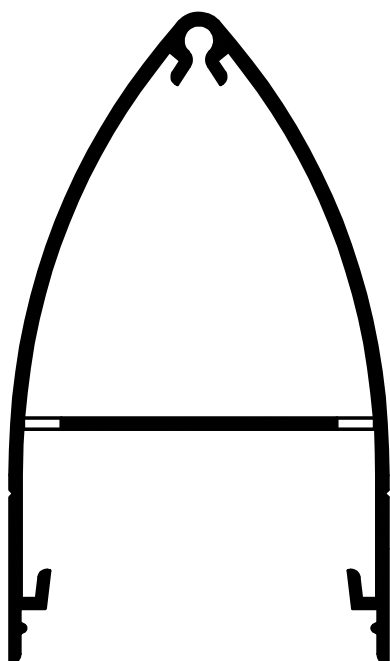
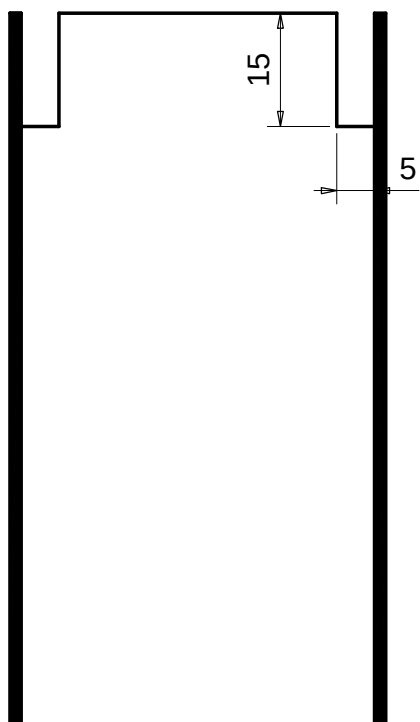
Eseguibile con punzonatrice 520-3160761  
Feasible with punching machine 520-3160761



**Lavorazioni / Tooling**

**LAVORAZIONE PER INNESTO GIUNZIONE  
SU COPERTINA A SCATTO 19822 E 24488  
SNAP COVER 19822 AND 24488 TOOLING FOR JUNCTION**

Eseguibile con punzonatrice 520-3160761  
Feasible with punching machine 520-3160761



19822

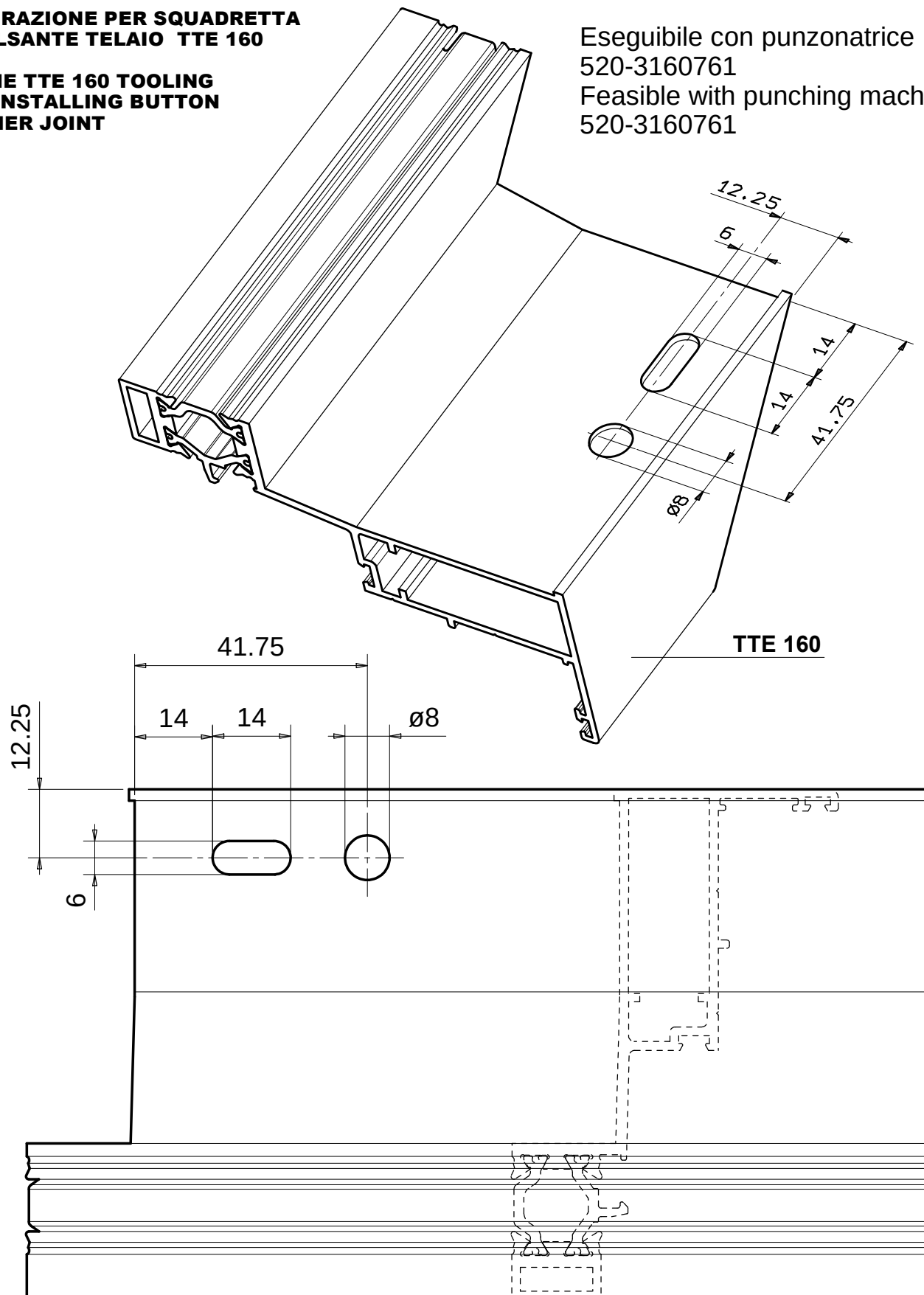


**Lavorazioni / Tooling**

**LAVORAZIONE PER SQUADRETTA  
A PULSANTE TELAIO TTE 160**

**FRAME TTE 160 TOOLING  
FOR INSTALLING BUTTON  
CORNER JOINT**

Eseguibile con punzonatrice  
520-3160761  
Feasible with punching machine  
520-3160761

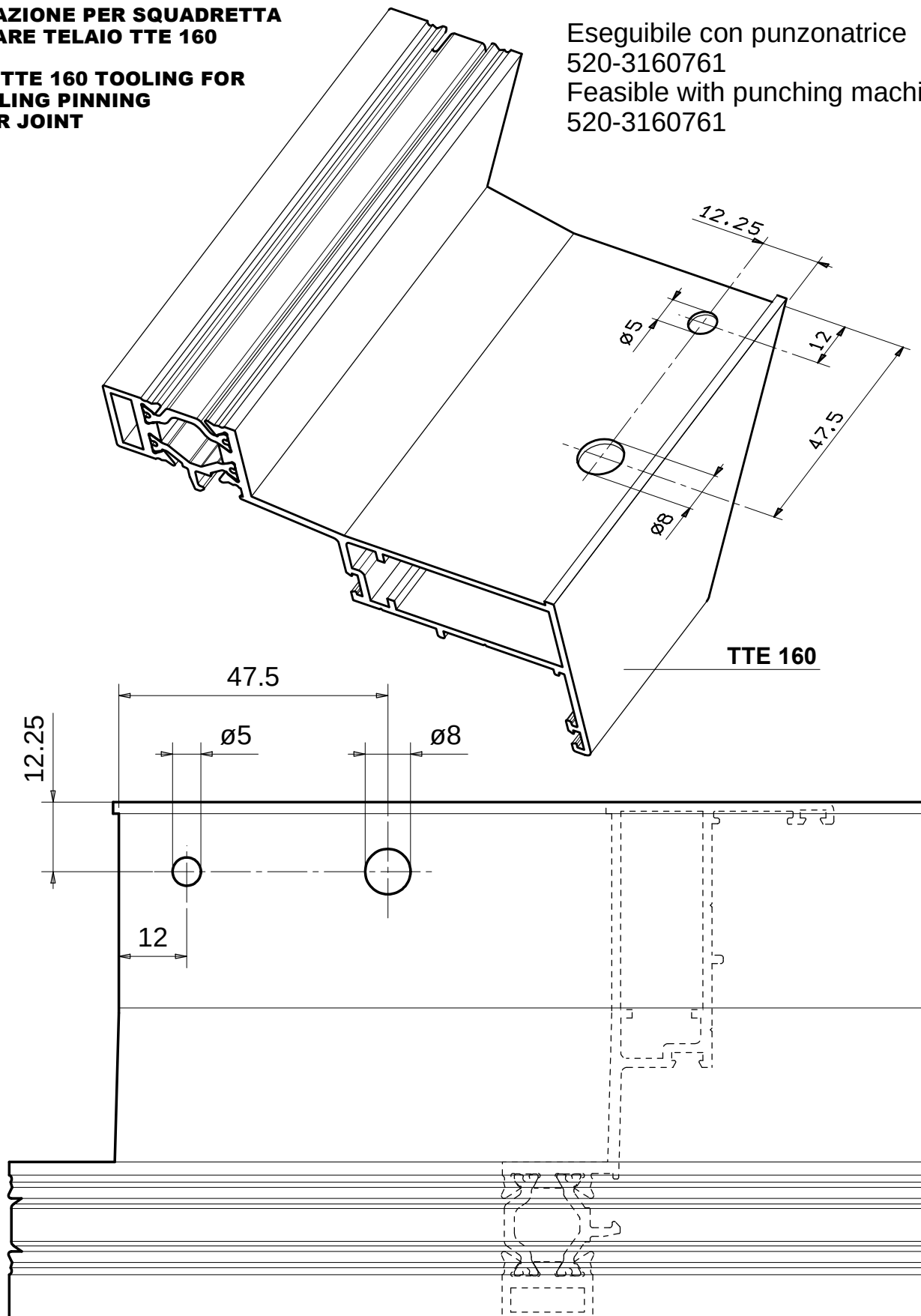


## Lavorazioni / Tooling

## LAVORAZIONE PER SQUADRETTA A SPINARE TELAIO TTE 160

## FRAME TTE 160 TOOLING FOR INSTALLING PINNING CORNER JOINT

Eseguibile con punzonatrice  
520-3160761  
Feasible with punching machine  
520-3160761

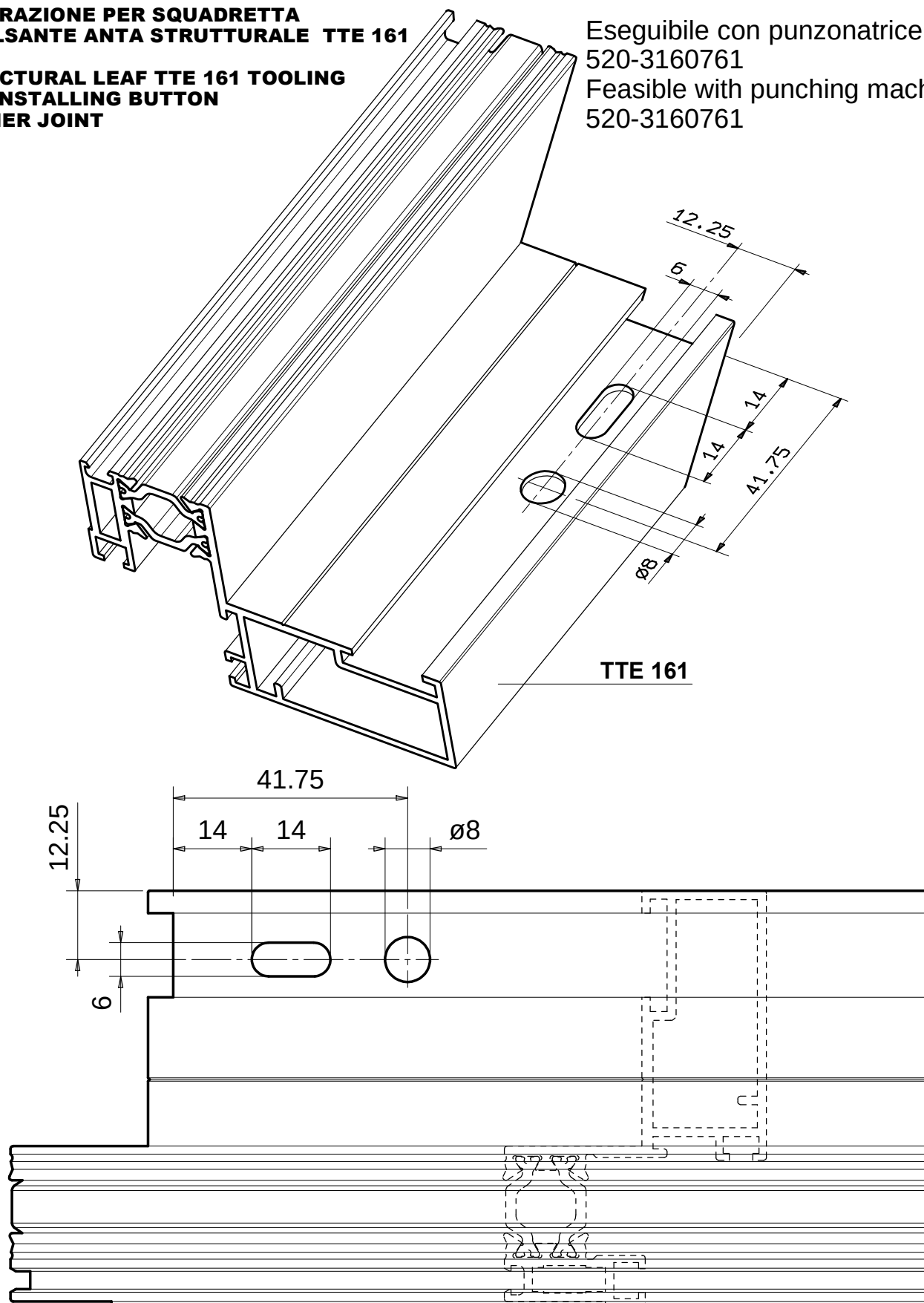


**Lavorazioni / Tooling**

**LAVORAZIONE PER SQUADRETTA  
A PULSANTE ANTA STRUTTURALE TTE 161**

**STRUCTURAL LEAF TTE 161 TOOLING  
FOR INSTALLING BUTTON  
CORNER JOINT**

Eseguibile con punzonatrice  
520-3160761  
Feasible with punching machine  
520-3160761

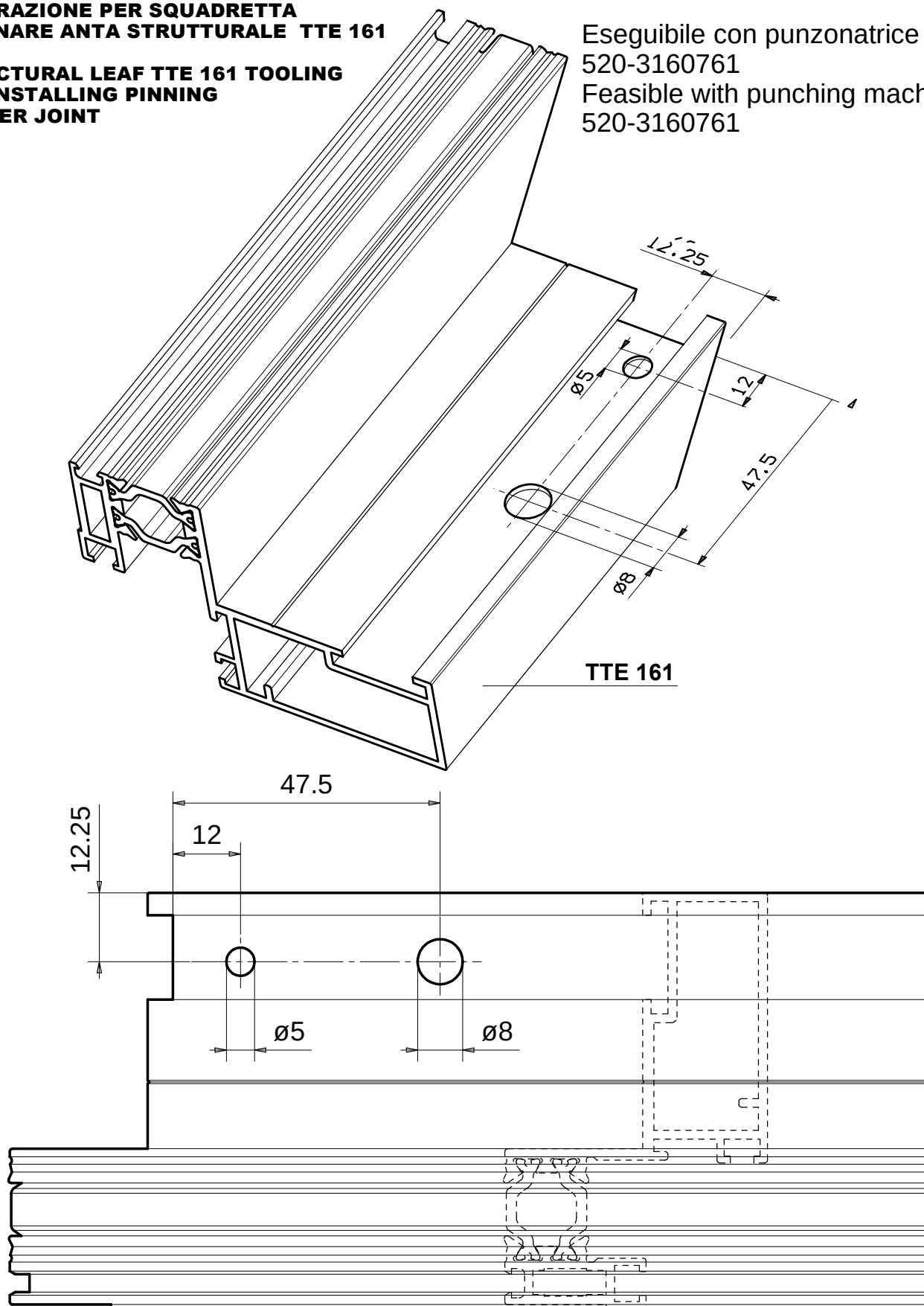


**Lavorazioni / Tooling**

**LAVORAZIONE PER SQUADRETTA  
A SPINARE ANTA STRUTTURALE TTE 161**

**STRUCTURAL LEAF TTE 161 TOOLING  
FOR INSTALLING PINNING  
CORNER JOINT**

Eseguibile con punzonatrice  
520-3160761  
Feasible with punching machine  
520-3160761

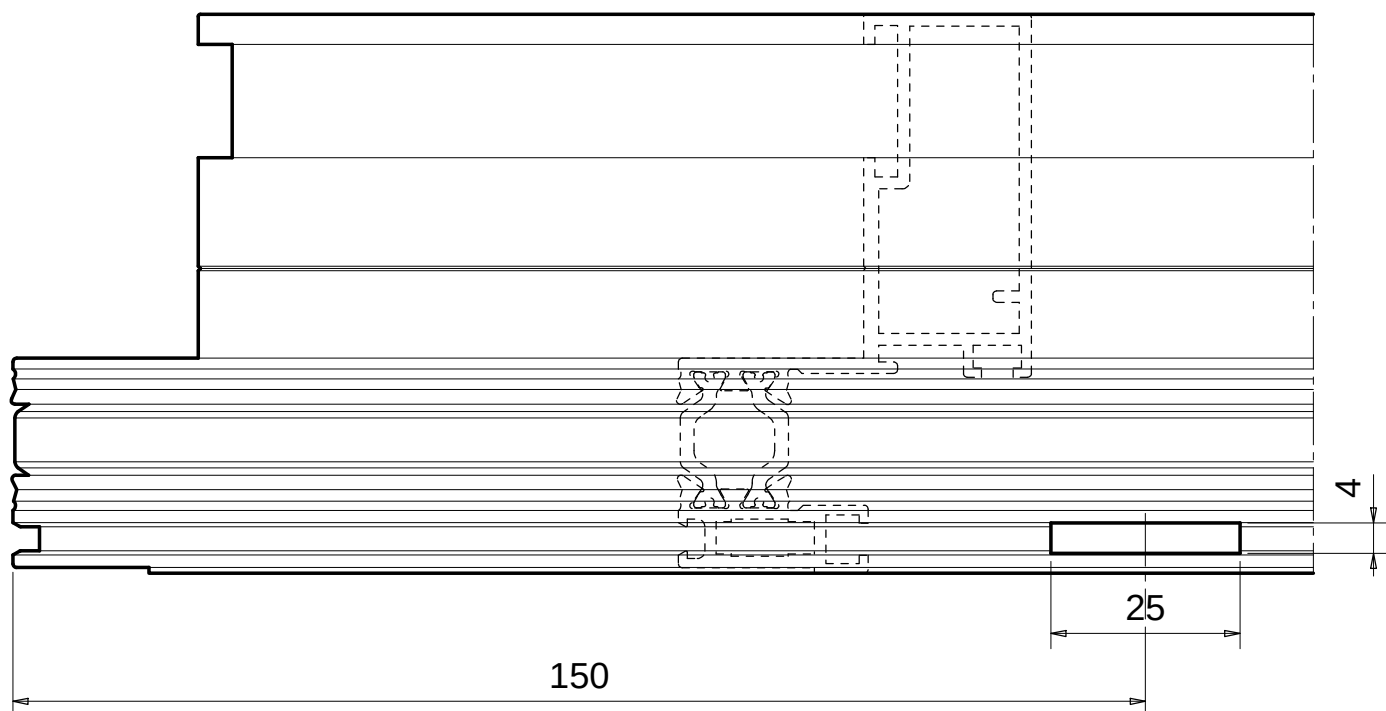
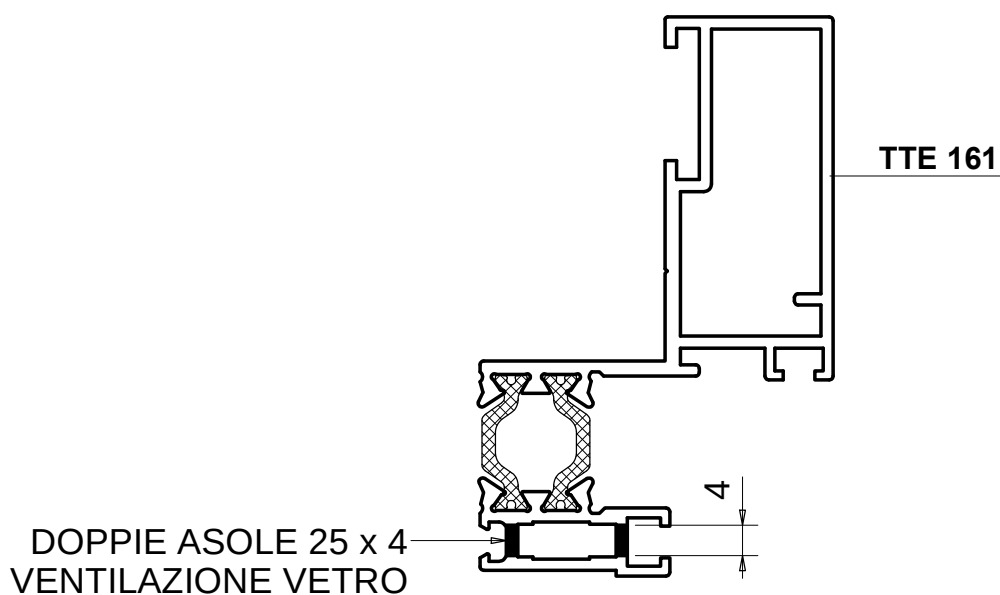


**Lavorazioni / Tooling**

**LAVORAZIONE PER SCARICO ACQUA  
ANTA STRUTTURALE TTE 161**

**STRUCTURAL LEAF TTE 161 WATER  
DRAINAGE TOOLING**

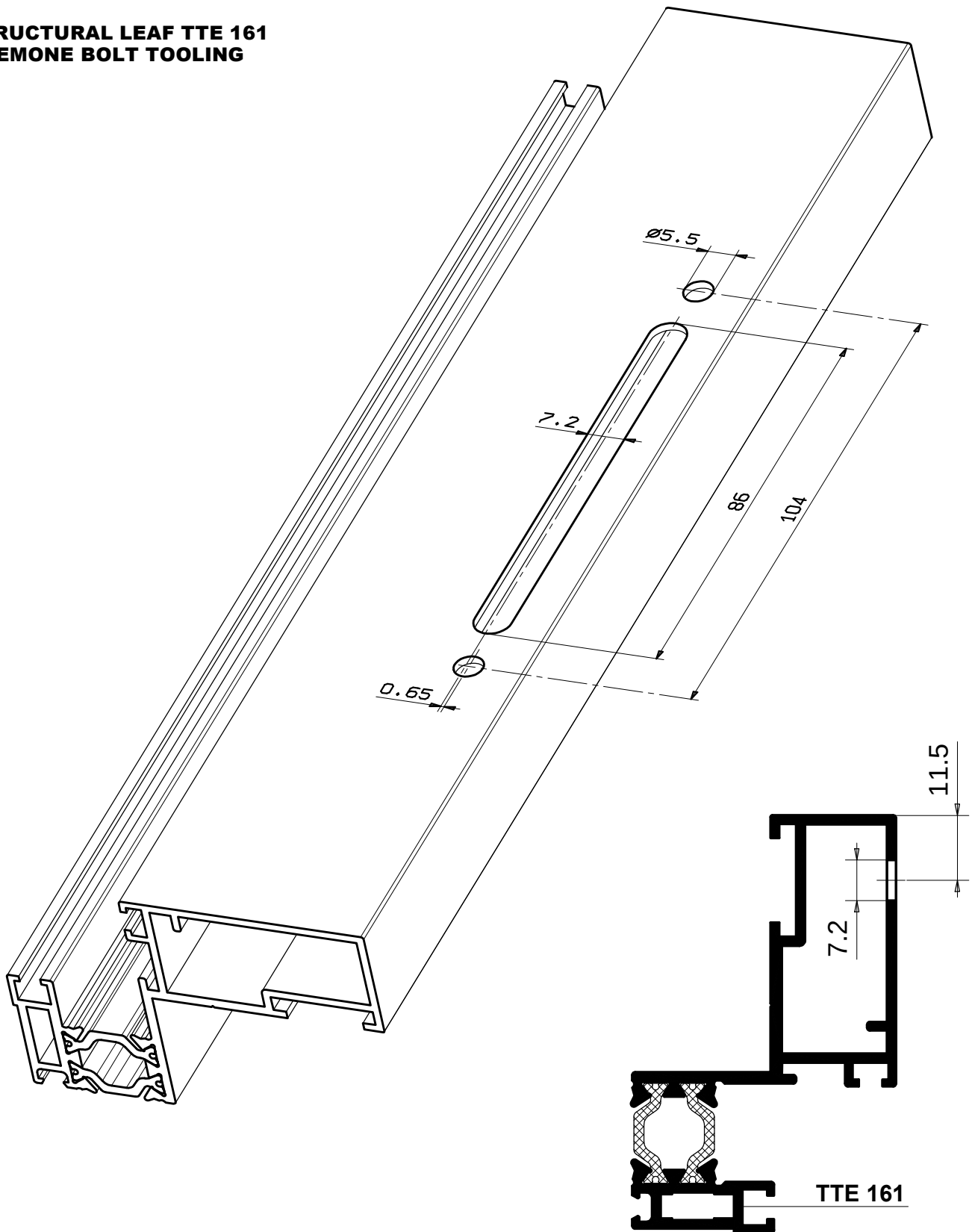
Eseguibile con punzonatrice 520-3160761  
Feasible with punching machine 520-3160761



**Lavorazioni / Tooling**

**LAVORAZIONE PER CREMONESE  
ANTA STRUTTURALE TTE 161**

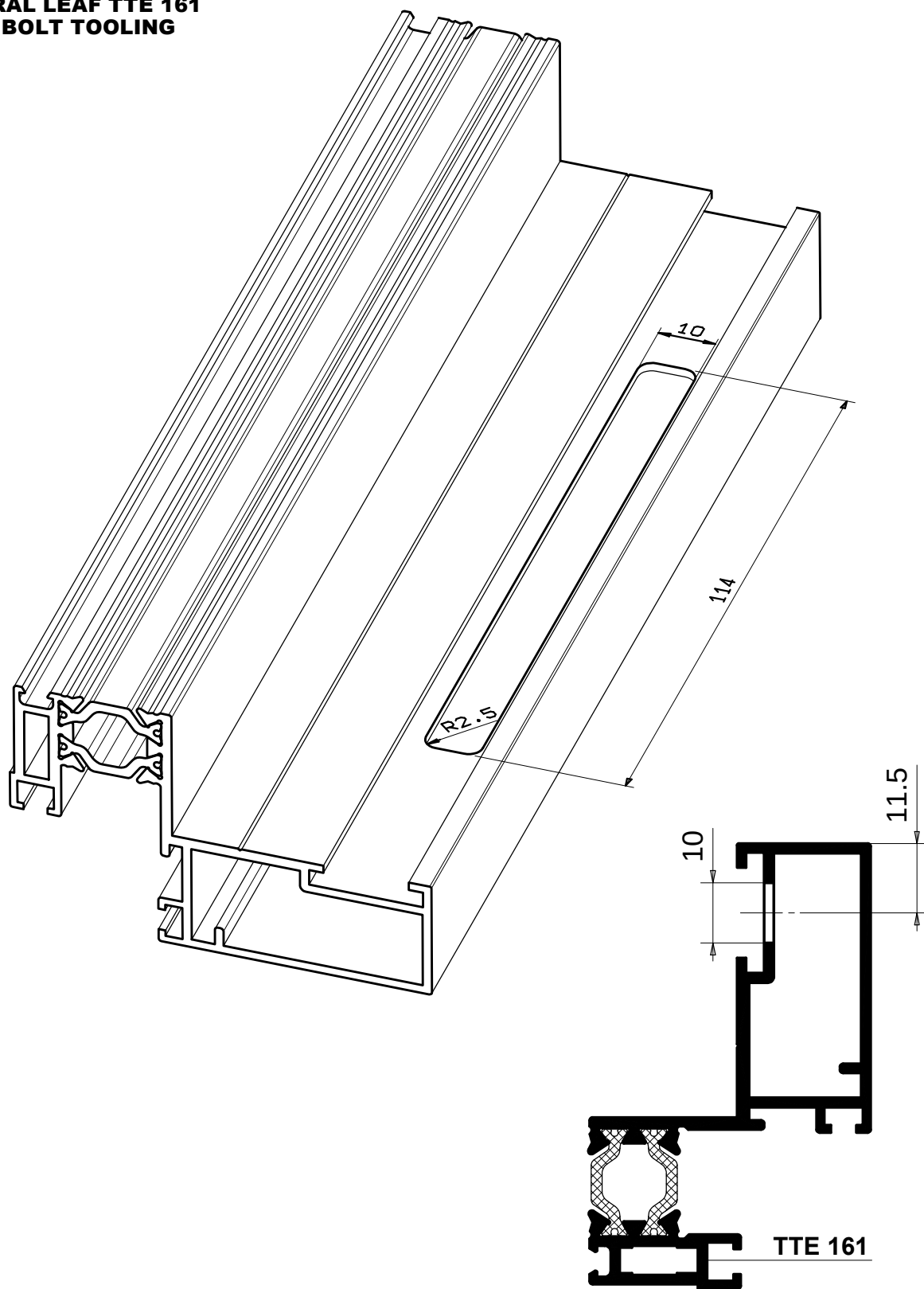
**STRUCTURAL LEAF TTE 161  
CREMONE BOLT TOOLING**



**Lavorazioni / Tooling**

**LAVORAZIONE PER CREMONESE  
ANTA STRUTTURALE TTE 161**

**STRUCTURAL LEAF TTE 161  
CREMONE BOLT TOOLING**

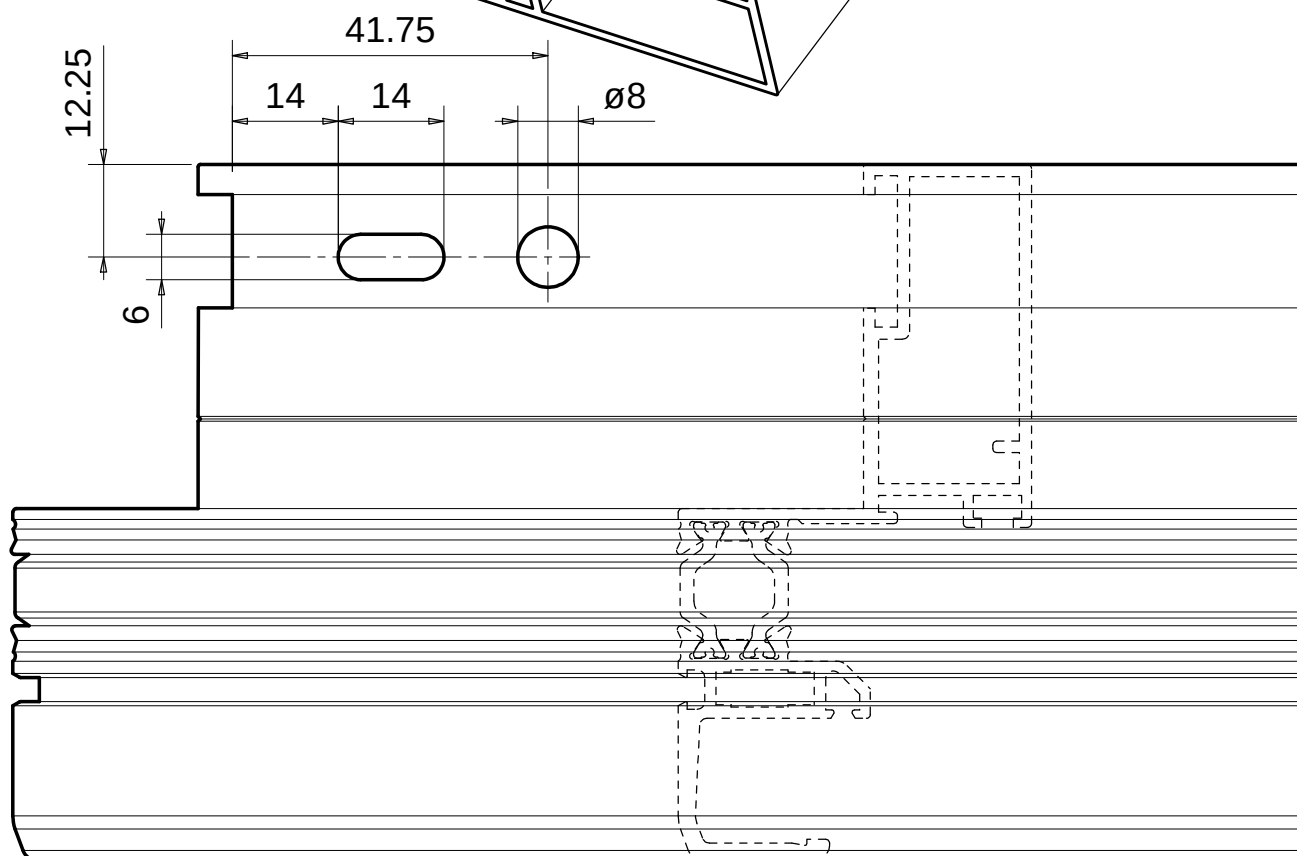
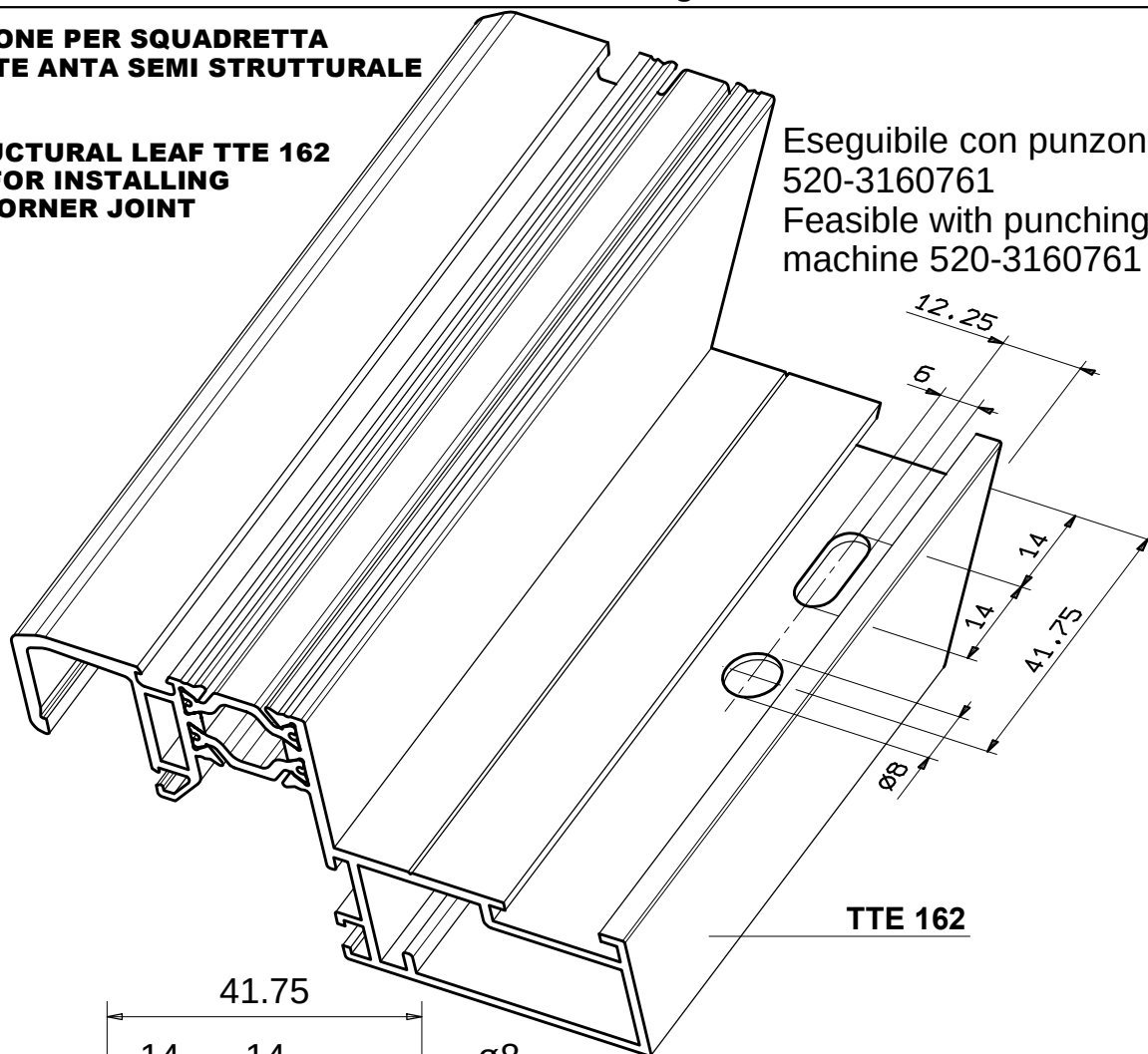


**Lavorazioni / Tooling**

**LAVORAZIONE PER SQUADRETTA  
A PULSANTE ANTA SEMI STRUTTURALE  
TTE 162**

**SEMI STRUCTURAL LEAF TTE 162  
TOOLING FOR INSTALLING  
BUTTON CORNER JOINT**

Eseguibile con punzonatrice  
520-3160761  
Feasible with punching  
machine 520-3160761

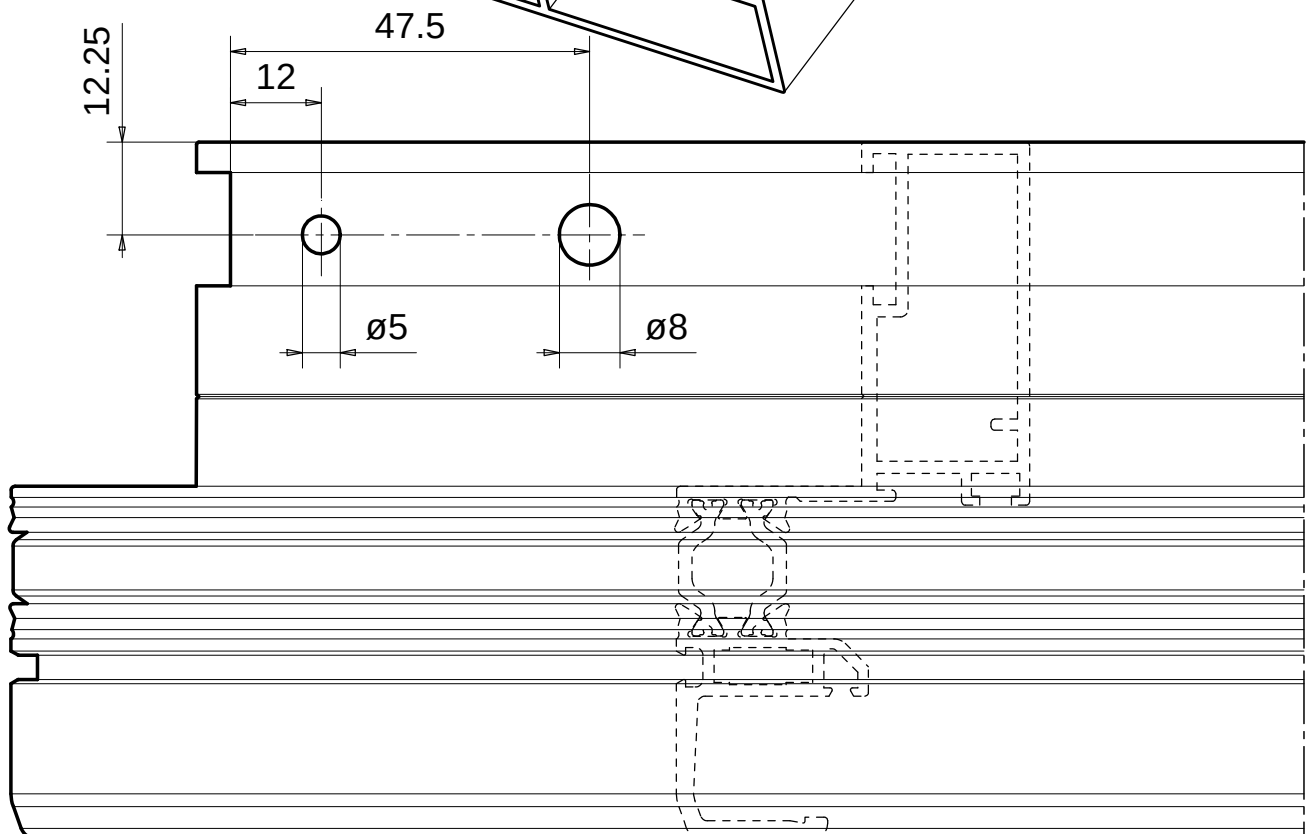
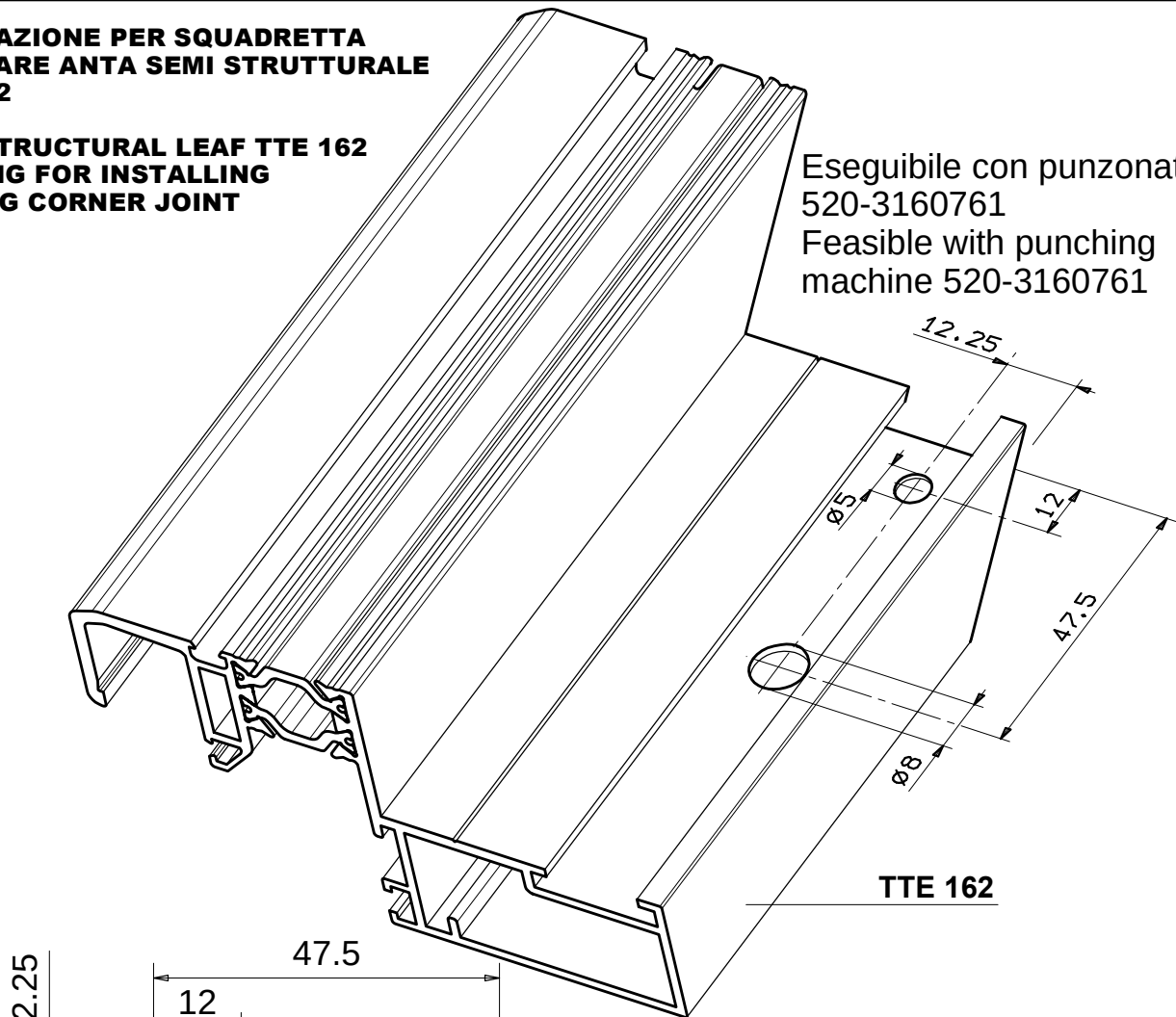


**Lavorazioni / Tooling**

**LAVORAZIONE PER SQUADRETTA  
A SPINARE ANTA SEMI STRUTTURALE  
TTE 162**

**SEMI STRUCTURAL LEAF TTE 162  
TOOLING FOR INSTALLING  
PINNING CORNER JOINT**

Eseguibile con punzonatrice  
520-3160761  
Feasible with punching  
machine 520-3160761

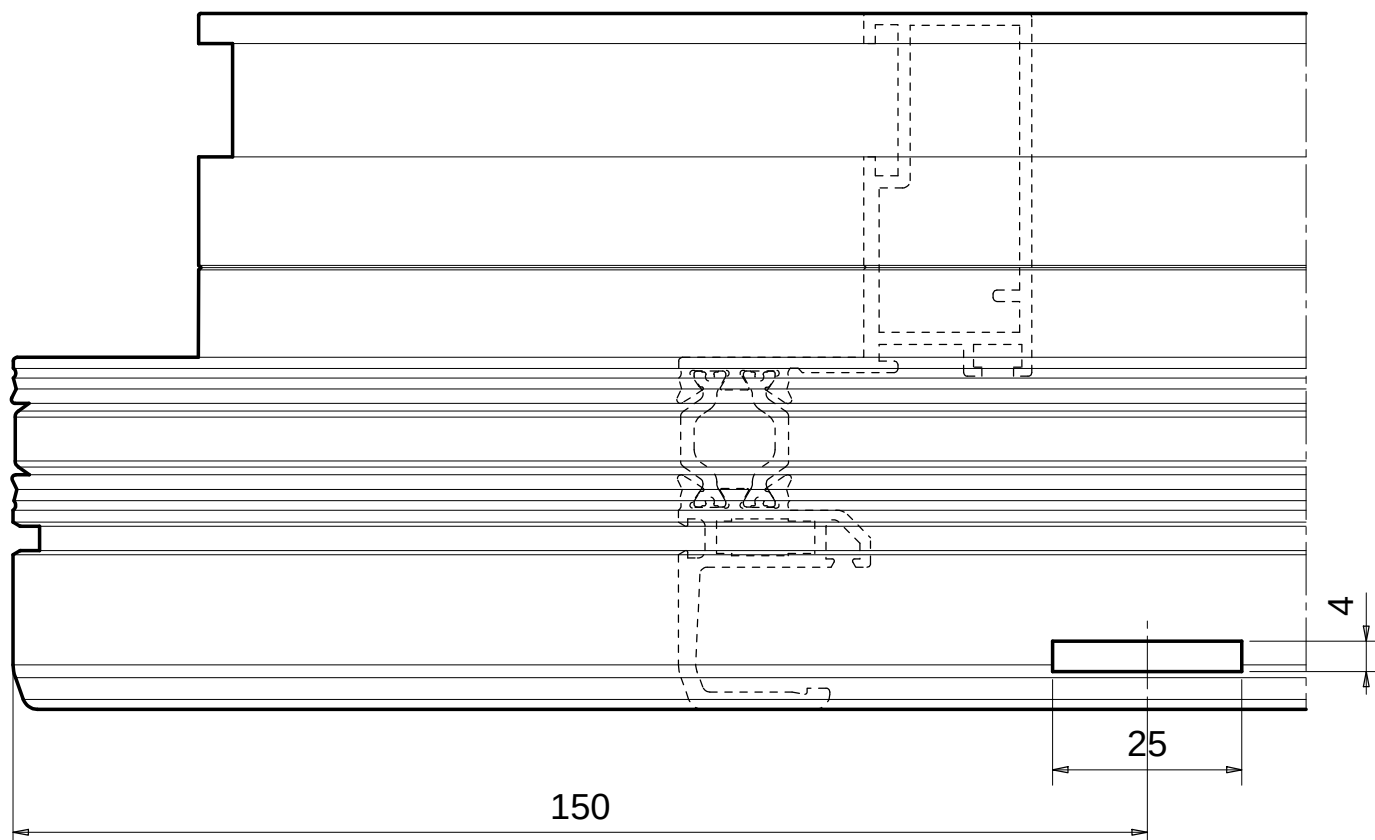
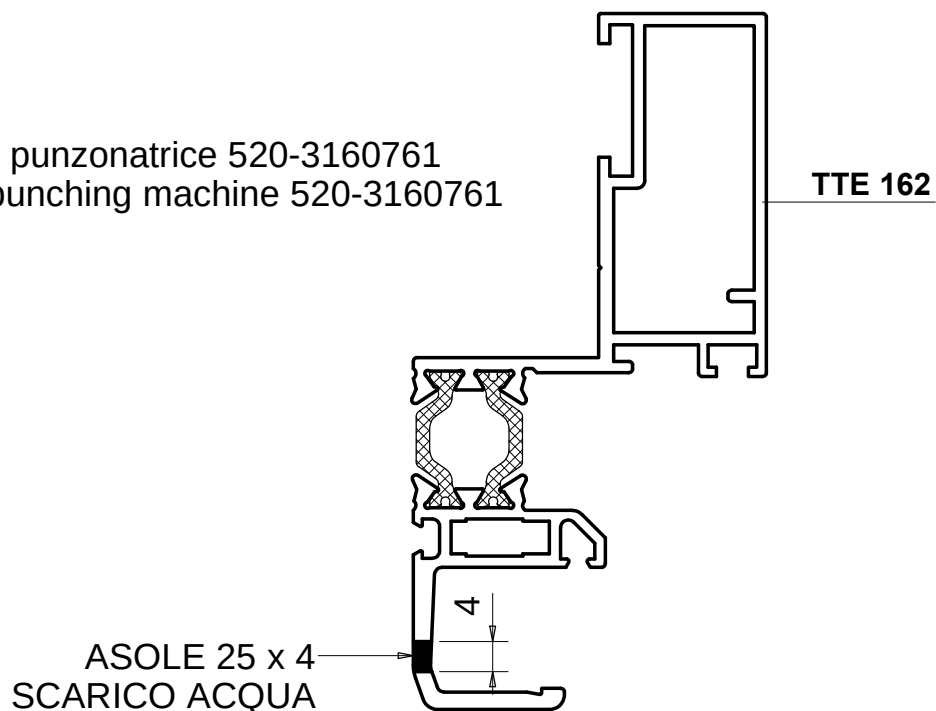


**Lavorazioni / Tooling**

**LAVORAZIONE PER SCARICO ACQUA  
ANTA SEMI STRUTTURALE TTE 162**

**SEMI STRUCTURAL LEAF TTE 162  
WATER DRAINAGE TOOLING**

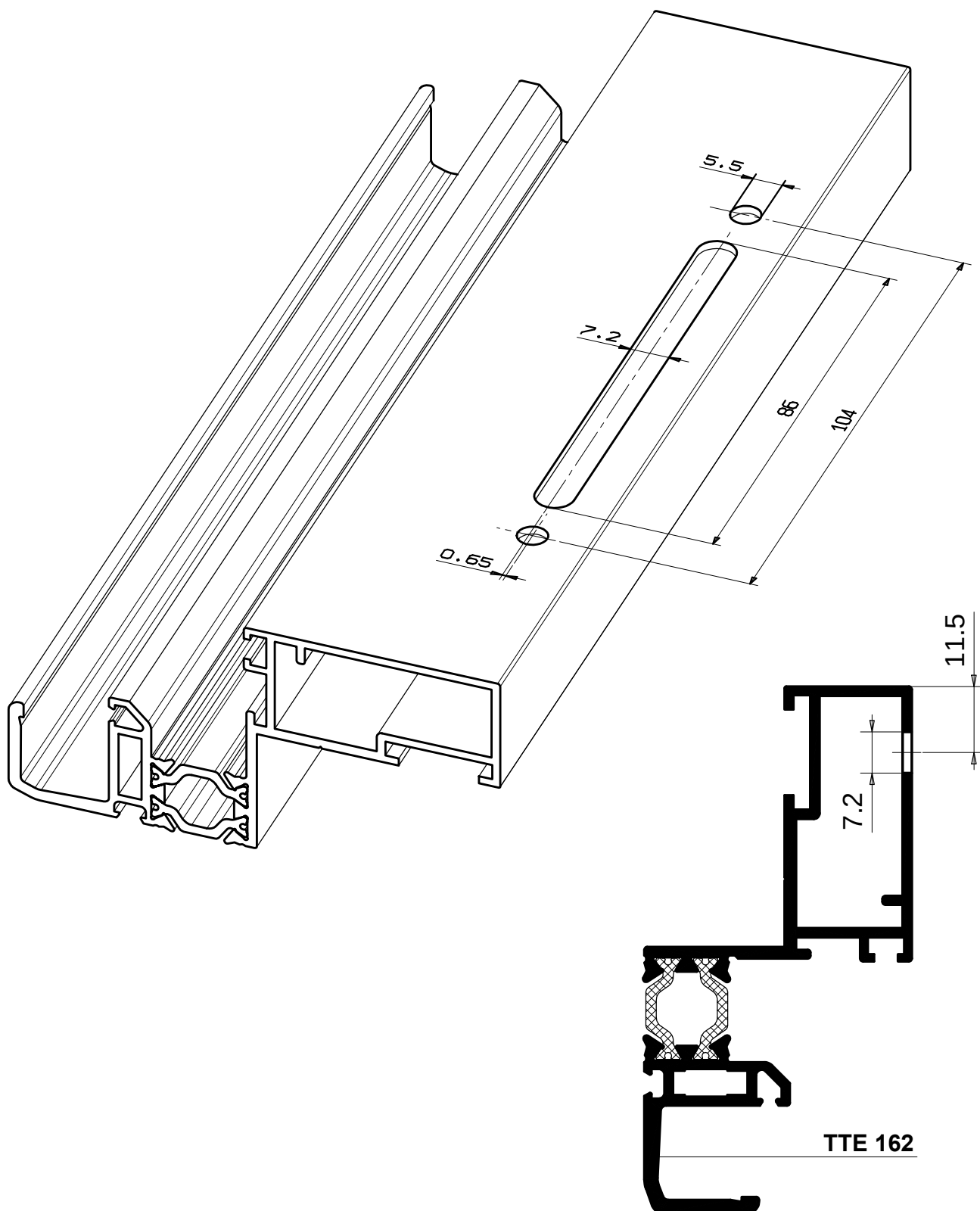
Eseguibile con punzonatrice 520-3160761  
Feasible with punching machine 520-3160761



**Lavorazioni / Tooling**

**LAVORAZIONE PER CREMONESE  
ANTA SEMISTRUTTURALE TTE 162**

**SEMI STRUCTURAL LEAF TTE 162  
CREMONE BOLT TOOLING**



Technical drawing of the TTE 162 profile showing a cross-section. The profile is a complex, multi-chambered extrusion. Key dimensions are indicated: a vertical dimension of 10 and a horizontal dimension of 11.5. The drawing includes a cross-hatched area representing a specific material or reinforcement. The label "TTE 162" is positioned below the profile.

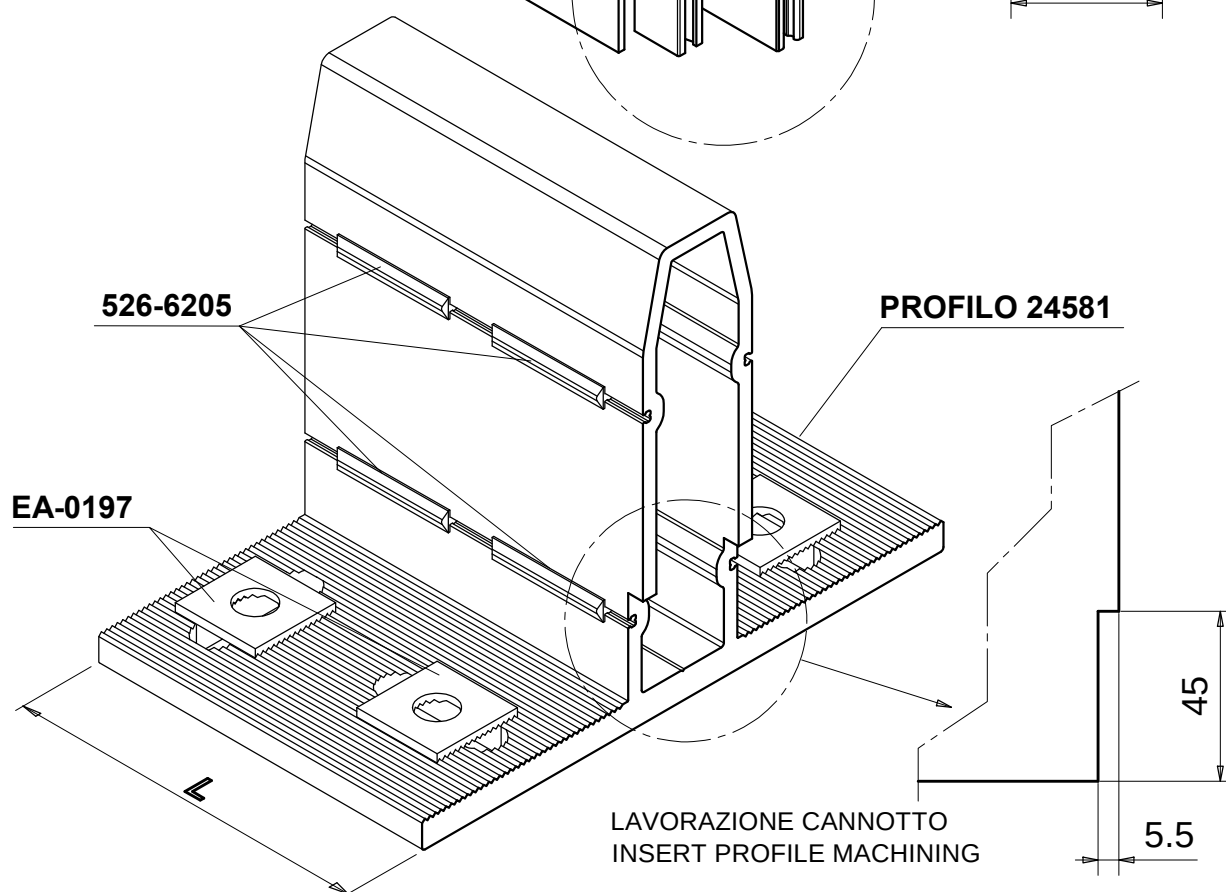
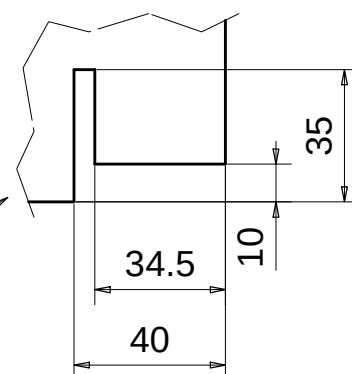
**TTE 162**

## Lavorazioni / Tooling

### FISSAGGIO DI BASE MONTATE MULLION BASE ANCHORING

| Montante/<br>Mullion | Quota taglio L<br>24581 mm/<br>L cut dimension<br>24581 mm | Quantità/<br>Quantity<br>EA-0197 | Quantità/<br>Quantity<br>526-6205 |
|----------------------|------------------------------------------------------------|----------------------------------|-----------------------------------|
| 22615                | 39 $\frac{1}{8}$                                           | 2                                | 4                                 |
| 24582                | 49,5 $\frac{1}{8}$                                         | 2                                | 4                                 |
| 19813                | 86,5 $\frac{1}{8}$                                         | 2                                | 4                                 |
| 24496                | 101,5 $\frac{1}{8}$                                        | 2                                | 8                                 |
| 19801                | 126,5 $\frac{1}{8}$                                        | 4                                | 8                                 |
| 19814                | 126,5 $\frac{1}{8}$                                        | 4                                | 8                                 |
| 22670                | 177,5 $\frac{1}{8}$                                        | 4                                | 8                                 |
| 24481                | 204 $\frac{1}{8}$                                          | 4                                | 8                                 |

### LAVORAZIONE MONTANTE MULLION MACHINING



**Lavorazioni / Tooling**

**EKU GLASS R**

**SOTTOSTRUTTURA  
BEARING STRUCTURE**

**553-0064**

**VITE AUTOF. TCB 5,5x22 INOX A2  
ST. STEEL A2 PAN HEAD  
TAPPING SCREW 5,5x22**

**15**

**SOTTOSTRUTTURA  
BEARING STRUCTURE**

