

MANUALE TECNICO SISTEMA EKU 50 GLASS

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TECHNICAL MANUAL EKU 50 GLASS SYSTEM

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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 rettilinearità 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:

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

where L is the length of the post, ΔT is the temperature difference (in °C), 0.000024 is the co-efficient of linear dilation α 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 γ_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

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

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

dove:

L_{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)
γ_g e γ_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 τ_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

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

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

where:

L_{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(m².k), calculated using EN ISO 10077-2;

U_m is the thermal transmittance of the mullion, in W(m².k), calculated using EN ISO 10077-2;

U_t is the thermal transmittance of the transom, in W(m².k), calculated using EN ISO 10077-2;

U_{p1} is the thermal transmittance of panel 1, in W(m².k);

U_{p2} is the thermal transmittance of panel 2, in W(m².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)
τ_g e τ_p e $\tau_{m,f} / \tau_{t,f}$	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 λ , 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 ΔL 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 ;

λ = 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.

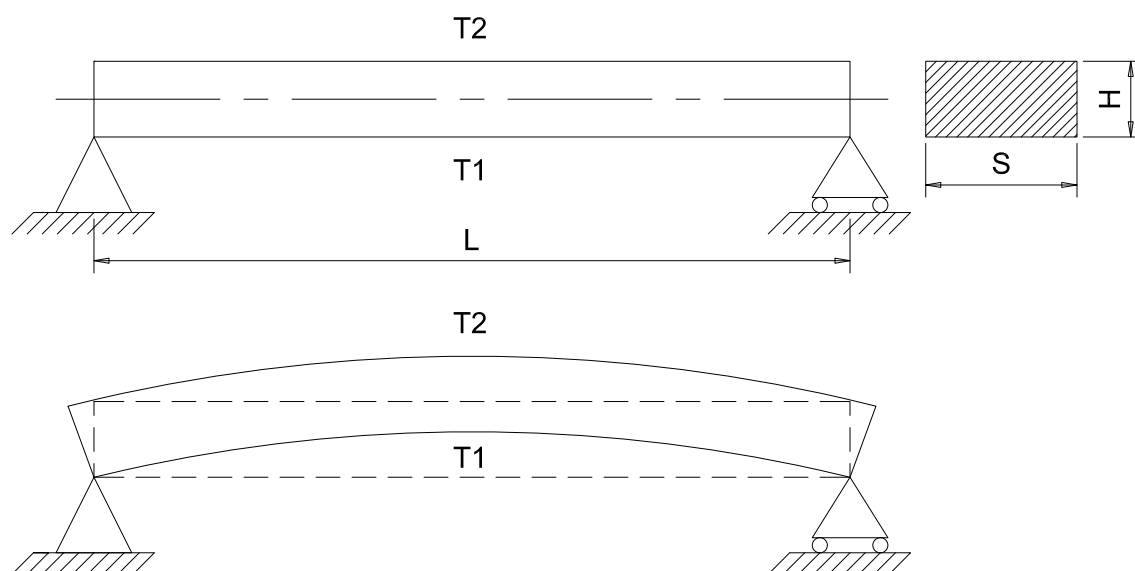
Materiale	$\lambda (^{\circ}\text{C}^{-1})$	Allungamento per aumento di 1°C per 1m di lunghezza (mm)
Acciaio	$11 \cdot 10^{-6}$	0,011
Alluminio	$24 \cdot 10^{-6}$	0,024
Ferro	$12 \cdot 10^{-6}$	0,012
P.V.C.	$70 \cdot 10^{-6}$	0,070
Vetro	$9 \cdot 10^{-6}$	0,009

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 ΔT 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 λ , 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 ΔL 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 ;

λ = 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.

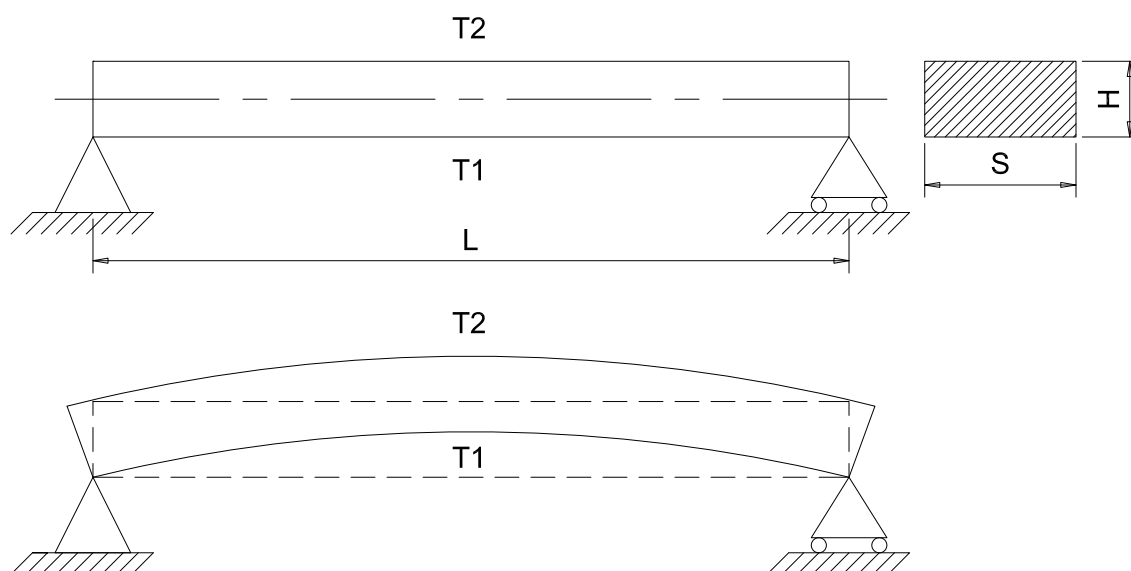
Material	$\lambda (^{\circ}\text{C}^{-1})$	Material length increase, 1 degree per 1m (mm)
Steel	$11 \cdot 10^{-6}$	0,011
Aluminium	$24 \cdot 10^{-6}$	0,024
Iron	$12 \cdot 10^{-6}$	0,012
P.V.C.	$70 \cdot 10^{-6}$	0,070
Glass	$9 \cdot 10^{-6}$	0,009

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 ΔT 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.

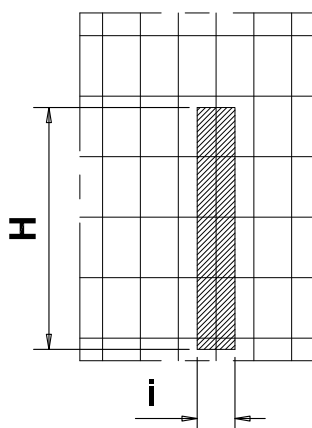
Interasse montanti / Post centre distance
 i (cm)

$q = \text{N/m}^2$

500 750 1000 1250 1750

Note tecniche / Technical notes

DIAGRAMMA STATICO STATIC DIAGRAM



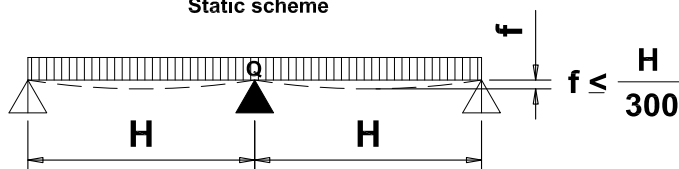
Prospetto
Table

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 (cm⁴)

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 = cm⁴
Moment of inertia

Q = Carico = N/cm
Load

q = Carico del vento = N/cm²
Wind load

i = Interasse = cm
Centre distance

E = Modulo di elasticità = N/cm²
Young's modulus

f = Freccia = cm
Deflection

H = Lunghezza montante = cm
Mullion length

W = Modulo di resistenza montante = cm³
Mullion resistance modulus

Esempio di calcolo
Calculation example

$i = 120$ cm

$H = 340$ cm

$q = 1000$ N/cm²

$J_x = 109,5$ cm⁴

VERIFICA DELLO STATO DI TENSIONE ò
TENSION ò CHECKING

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

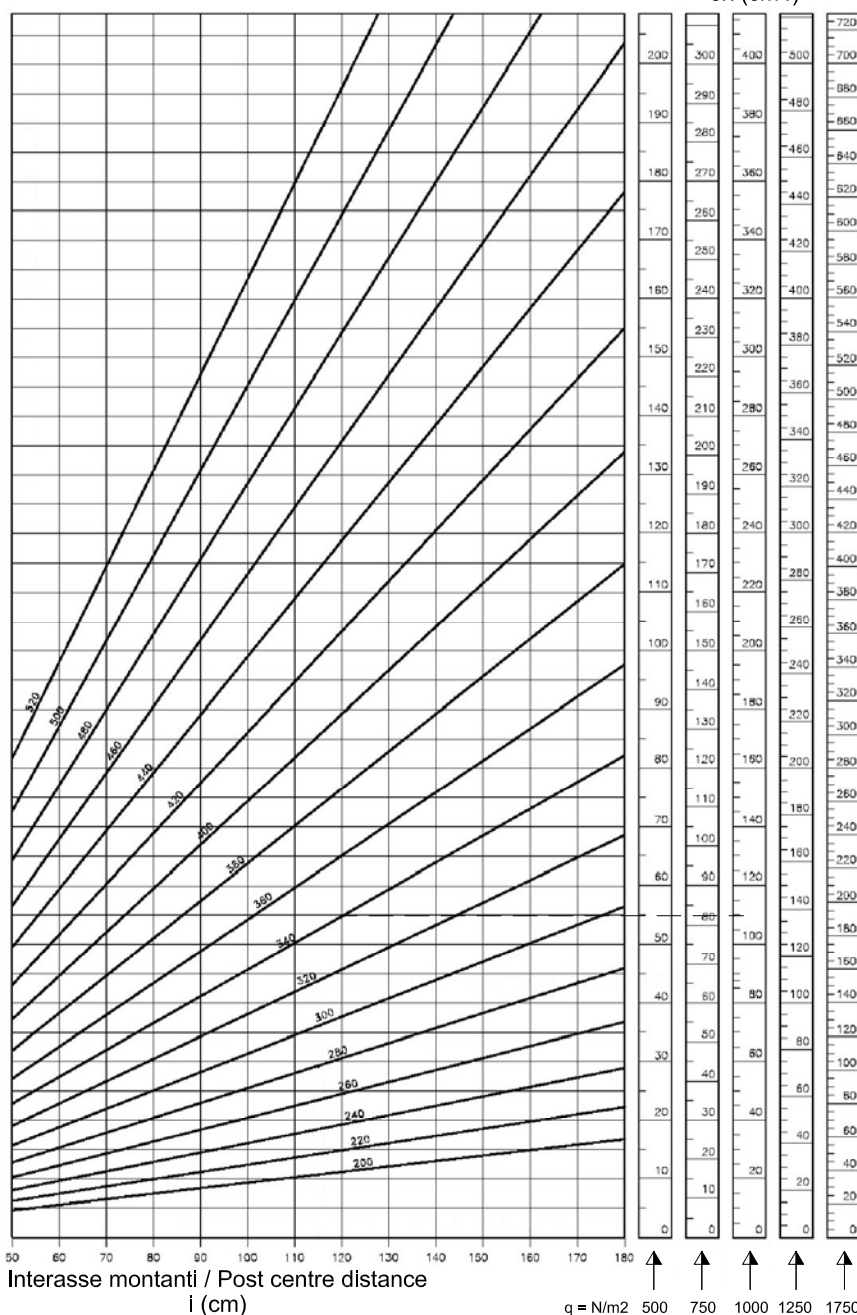
$$\sigma = \frac{M_{max}}{W}$$

$\sigma < 8000$ N/cm²

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

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

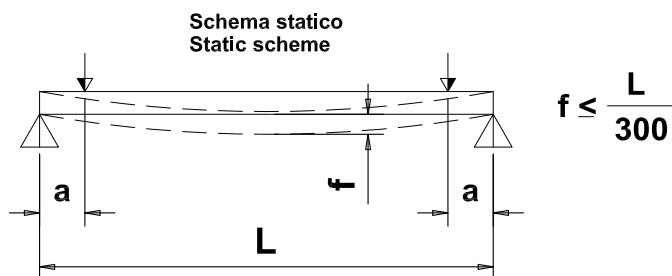
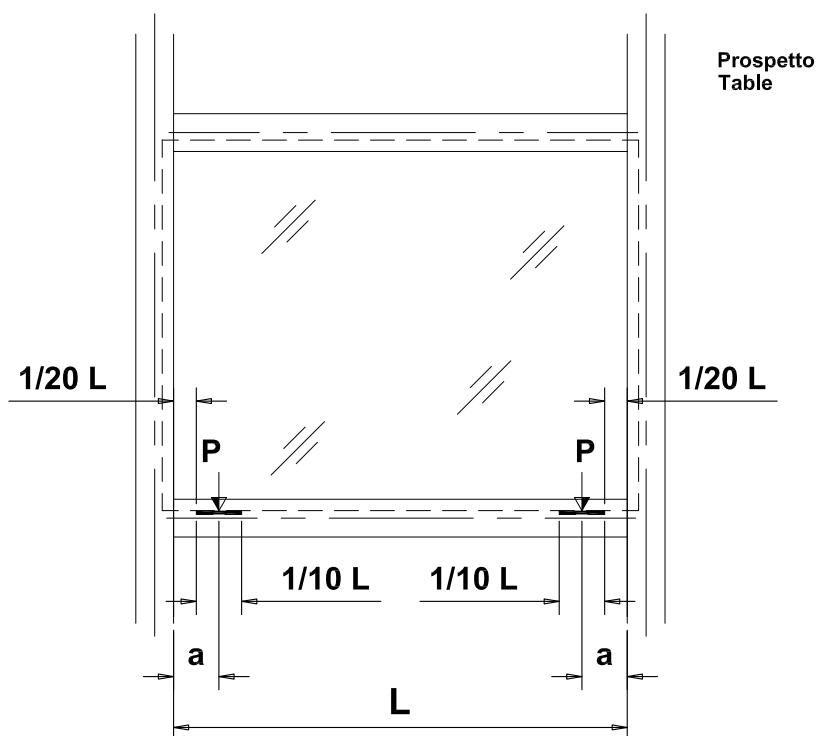
Lunghezza montante / Mullion length
 H (cm)



$q = \text{N/m}^2$ 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**

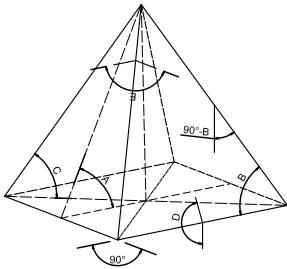
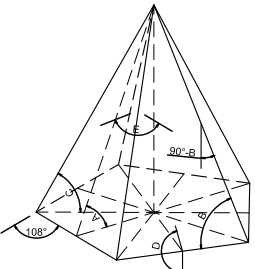
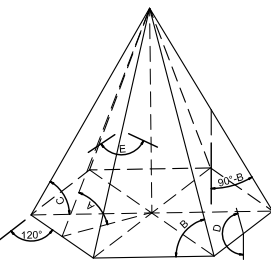
**a = Distanza degli appoggi = cm
Supports distance**

**Jy = Momento d' inerzia = cm⁴
Moment of inertia**

**E = Modulo di elasticità = N/cm²
Young's modulus**

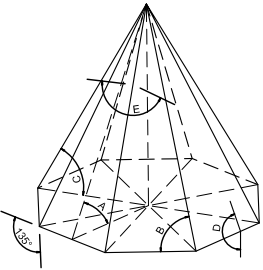
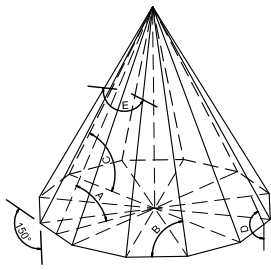
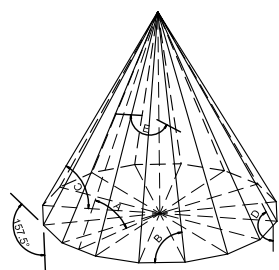
Note tecniche / Technical notes

**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**

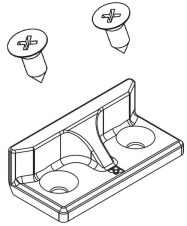
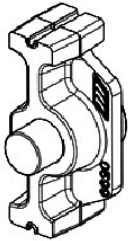
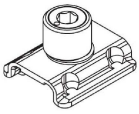
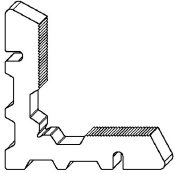
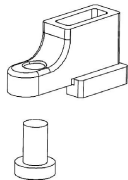
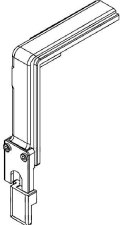
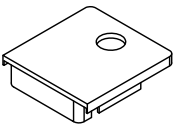
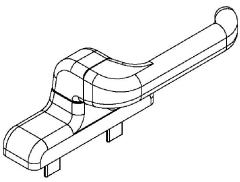
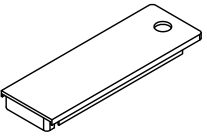
Piramide a 8 lati					Piramide a 12 lati					Piramide a 16 lati				
														
A	B	C	D	E	B	C	D	E		B	C	D	E	
10°	67.81	9.25	100.00	172.38	75.22	9.67	100.00	174.85		78.92	9.81	100.00	176.12	
11	67.87	10.18	101.00	171.63	75.26	10.63	101.00	174.34		78.95	10.79	101.00	175.73	
12	67.94	11.11	102.00	170.87	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	
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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	
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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



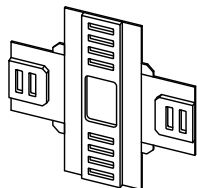
ACCESSORIES AND GASKETS LIST

Accessori - Accessory

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

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

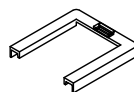
Accessori - Accessory



art. 526-4392

CROCE DI TENUTA
IN EPDM

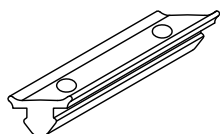
*EPDM TIGHTNESS
CROSS*



art. 526-6455

FONDELLO DI FINITURA
TRAVERSO 19827

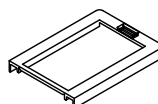
*FINISHING ELEMENT
FOR TRANSOM 19827*



art. 526-4405

ELEMENTO DI TENUTA TRA
MONTANTI E TRAVERSI

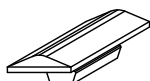
*MULLIONS / TRANSOMS
CONNECTION*



art. EA-0408

FONDELLO DI FINITURA
TRAVERSI 24583

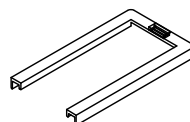
*FINISHING ELEMENT
FOR TRANSOM 24583*



art. 526-6205

FRIZIONE IN PVC PER PROFILI
CANNOTTO

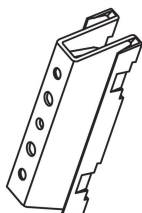
*PVC FRICTION FOR TELESCOPIC
TUBE*



art. 526-6454

FONDELLO DI FINITURA
TRAVERSO 22628

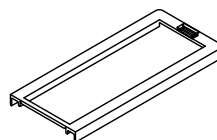
*FINISHING ELEMENT
FOR TRANSOM 22628*



art. 526-6390

ELEMENTO DI GIUNZIONE
TRA MONTANTI

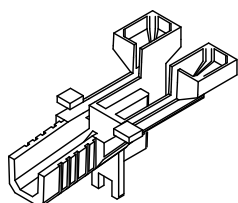
MULLIONS CONNECTION



art. EA-0409

FONDELLO DI FINITURA
TRAVERSI 24495

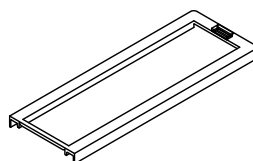
*FINISHING ELEMENT
FOR TRANSOM 24495*



art. 526-6391

TAPPO DRENAGGIO
MONTANTI

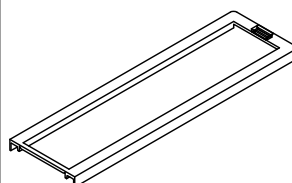
*MULLIONS DRAINAGE
PLUG*



art. 526-6450

FONDELLO DI FINITURA
TRAVERSO 22629

*FINISHING ELEMENT
FOR TRANSOM 22629*



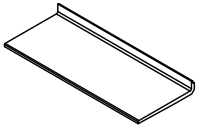
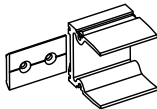
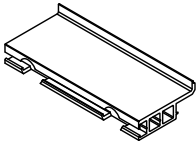
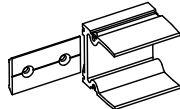
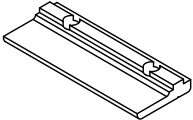
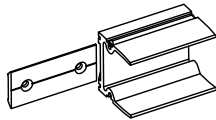
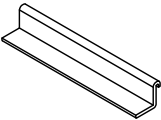
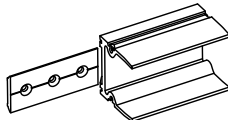
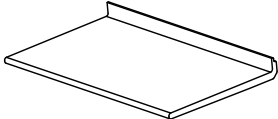
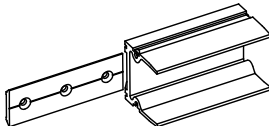
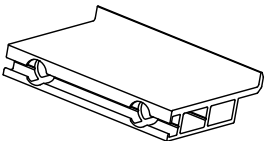
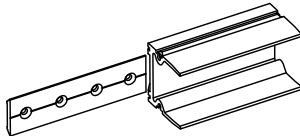
art. EA-0410

FONDELLO DI FINITURA
TRAVERSO 24577

*FINISHING ELEMENT
FOR TRANSOM 24577*

**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. 553-0032 SUPPORTO VETRO <i>GLASS SUPPORT</i>	 art. 553-0052 CAVALLOTTO A SLITTA PER TRAVERSO 19827 <i>SLIDING SUPPORT FOR TRANSOM 19827</i>
 art. 553-0033 SUPPORTO VETRO RINFORZATO <i>REINFORCED GLASS SUPPORT</i>	 art. EA-0309 CAVALLOTTO A SLITTA PER TRAVERSO 24583 <i>SLIDING SUPPORT FOR TRANSOM 224583</i>
 art. 553-0034 SUPPORTO VETRO ESTERNO PER ANTA SPORGERE <i>EXTERNAL GLASS SUPPORT AWNING WINDOWS</i>	 art. 553-0053 CAVALLOTTO A SLITTA PER TRAVERSO 22628 <i>SLIDING SUPPORT FOR TRANSOM 22628</i>
 art. 553-0035 SUPPORTO VETRO INTERNO PER ANTA SPORGERE <i>INTERNAL GLASS SUPPORT AWNING WINDOWS</i>	 art. EA-0310 CAVALLOTTO A SLITTA PER TRAVERSO 24495 <i>SLIDING SUPPORT FOR TRANSOM 24495</i>
 art. 553-0076 SUPPORTO VETRO PER VETRI 48/50 mm <i>GLASS SUPPORT FOR 48/50 mm THICKNESS GLASS</i>	 art. 553-0054 CAVALLOTTO A SLITTA PER TRAVERSO 22629 <i>SLIDING SUPPORT FOR TRANSOM 22629</i>
 art. 553-0077 SUPPORTO VETRO RINFORZATO PER VETRI 48/50 mm <i>REINFORCED GLASS SUPPORT FOR 48/50 mm THICKNESS GLASS</i>	 art. EA-0396 CAVALLOTTO A SLITTA PER TRAVERSO 24577 <i>SLIDING SUPPORT FOR TRANSOM 24577</i>

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

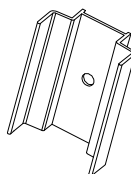
Accessori - Accessory



art. EA-0199

CANNOTTO TELESCOPICO PER
UNIONE MONTANTI 24582

*TELESCOPIC TUBE FOR
MULLIONS 24582 JUNCTION*



art. 553-0047

SUPPORTO PROFILO
OGIVA 19822 E 24488

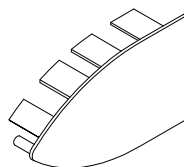
*SUPPORT OGIVE
PROFILE 19822 AND
24488*



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)

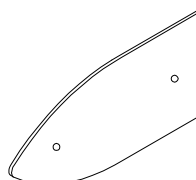
*PLUG FOR OGIVE PROFILE
19822 BLACK COLOR (PA6)*



art. EA-0194

CANNOTTO TELESCOPICO PER
UNIONE MONTANTI 24496

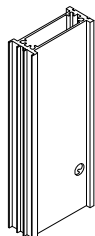
*TELESCOPIC TUBE FOR
MULLIONS 24496 JUNCTION*



art. EA-0130

TAPPO PER OGIVA DA 24488
(ALLUMINIO)

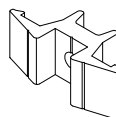
*PLUG FOR OGIVE PROFILE
24488 (ALUMINIUM)*



art. 553-0051

CANNOTTO TELESCOPICO PER
UNIONE MONTANTI 19801-19814

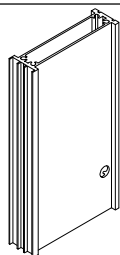
*TELESCOPIC TUBE FOR
MULLIONS 19801 - 19814 JUNCT.*



art. 553-0064

ELEMENTO PER FISSAGGIO
MONTANTE 19816 ALLA
SOTTOSTRUTTURA

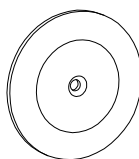
*ELEMENT FOR FIXING
MULLION 19816 TO
BEARING STRUCTURE*



art. 553-0066

CANNOTTO TELESCOPICO PER
UNIONE MONTANTI 22670

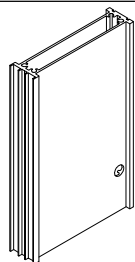
*TELESCOPIC TUBE FOR
MULLIONS 22670 JUNCTION*



art. 553-0065

BORCHIA SUPPORTO
VETRO

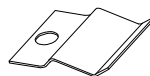
*GLASS SUPPORT
STUD*



art. EA-0189

CANNOTTO TELESCOPICO PER
UNIONE MONTANTI 24481

*TELESCOPIC TUBE FOR
MULLIONS 24481 JUNCTION*



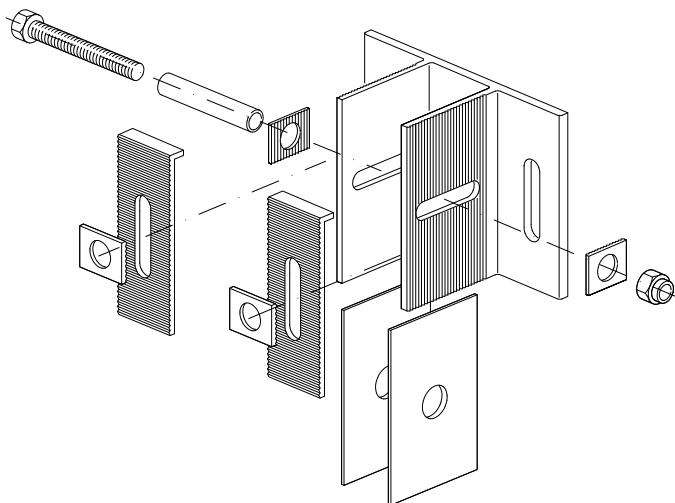
art. EA-0107

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**

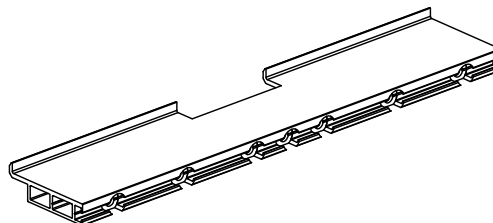
Accessori - Accessory



art. EA-0171

STAFFA AGGANCIO
STRUTTURA

WALL CONNECTION
BRACKET



art. EA-0391

SUPPORTO PER VETRI
PESANTI

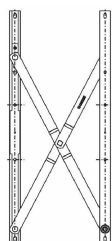
HEAVY GLASS SUPPORT



art. 535-090.27

VITE AUTOF. TE INOX A2 PER
FISSAGGIO TRAVERSO

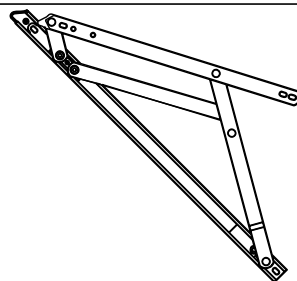
ST. STEEL A2 SCREW FOR
TRANSOM FIXING



art. 500-1990

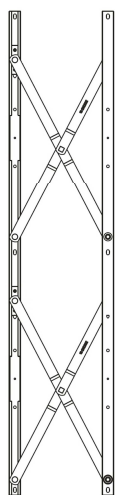
COPPIA BRACCI PER
APERTURA PARALLELO

ARM COUPLE FOR
PARALLEL WINDOWS



COPPIA BRACCI PER
APERTURA A SPORGERE

ARM COUPLE FOR
AWNING WINDOWS

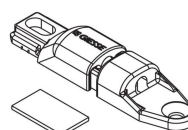


art. 500-1991

COPPIA DOPPI BRACCI PER
APERTURA PARALLELO

DOUBLE ARM COUPLE FOR
PARALLEL WINDOWS

Codice braccio Arm code	Lunghezza braccio Arm length	Altezza massima Max height	Larghezza massima Max width	Peso massimo 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.

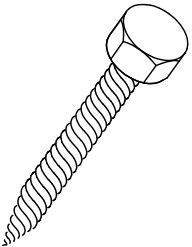
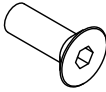
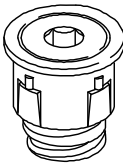
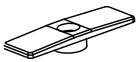
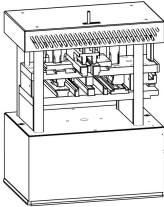
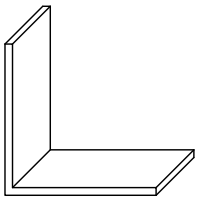
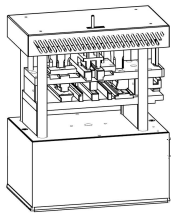
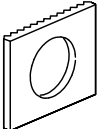


art. 500-2006K

COPPIA REGOLATORE
DI ALTEZZA BRACCI

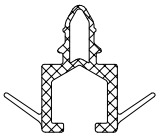
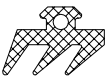
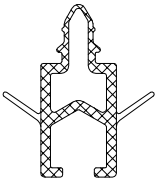
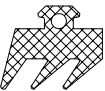
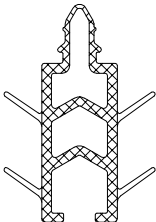
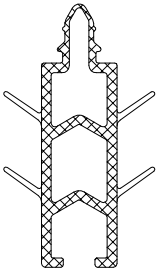
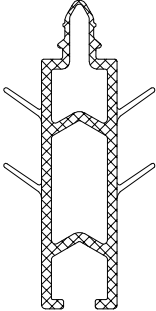
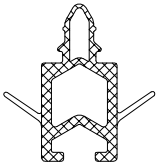
COUPLE FOR ARMS HEIGHT
ADJUSTMENT DEVICE

Accessori - Accessory

VITE AUTOF. TE INOX A2 PER FISSAGGIO PRESSORE <i>ST. STEEL A2 HEXAGON HEAD TAPPING SCREW FOR PRESSURE FAST.</i> 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. 581-BGA2A204 VITE INOX M8x16 PER FISSAGGIO ART. 553-0048 <i>SCREW M8x16 INOX FOR FIXING ITEM 553-0048</i>  art. 581-AC0010 RONDELLA SAGOMATA IN ACCIAIO INOX PER VITE 581-BGA2A204 <i>SHAPED WASHER INOX FOR SCREW 581-BGA2A204</i> 
art. 535-090.27 VITE AUTOF. TE INOX A2 PER FISSAGGIO TRAVERSO <i>ST. STEEL A2 SCREW FOR TRANSOM FIXING</i> 	art. EA-0311 ESPANSORE PER FISSAGGIO TELAJ SPORGERE <i>ADJUSTING EXPANDER AWNING FRAMES</i> 
art. 580-121280 RONDELLA PER DILATAZIONE PRESSORE <i>PRESSURE PLATE DILATATION WASHER</i> 	art. 520-3160712 PUNZONATRICE LAVORAZIONE TRAVERSI <i>TRANSOMES TOOLING PUNCHING MACHINE</i> 
art. 576-EF048 SQUADRETTA ALLINEAMENTO PROFILO TTE 163 - 165 - 166 <i>ALIGNEMENT CORNER JOINT PROFILE TTE163 - 165 - 166</i> 	art. 520-3160761 PUNZONATRICE LAVORAZIONI VARIE <i>VARIOUS TOOLING PUNCHING MACHINE</i> 
art. EA-0197 ELEMENTO PER FISSAGGIO <i>FASTENING ELEMENT</i> 	art. EU-0008 DIMA FORATURA CAVALLOTTI <i>DRILLING TEMPLATE FOR TRANSOM T-JOINT</i> 

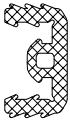
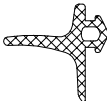
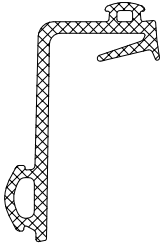
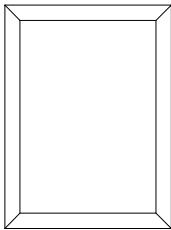
**N.B. PER GLI ACCESSORI DELLE APERTURE A BATTENTE VEDERE IL RELATIVO CATALOGO
SEE THE PERTAINING CATALOGUE FOR ALL THE ACCESSORIES OF ONE LEAF OPENING**

Guarnizioni - Gaskets

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

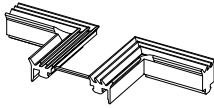
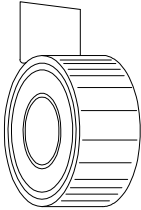
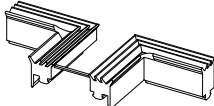
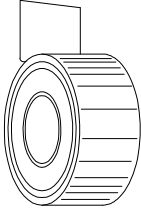
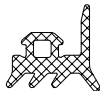
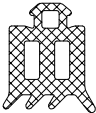
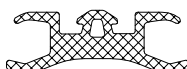
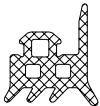
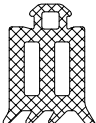
**N.B. PER LE GUARNIZIONI DELLE APERTURE A BATTENTE VEDERE IL RELATIVO CATALOGO
SEE THE PERTAINING CATALOGUE FOR ALL THE GASKETS OF ONE LEAF OPENING**

Guarnizioni - Gaskets

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

**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

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

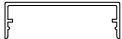
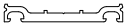
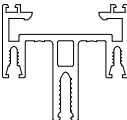
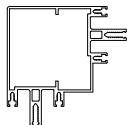
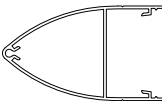
**N.B. PER LE GUARNIZIONI DELLE APERTURE A BATTENTE VEDERE IL RELATIVO CATALOGO
SEE THE PERTAINING CATALOGUE FOR ALL THE GASKETS OF ONE LEAF OPENING**

ELENCO PROFILI



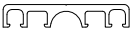
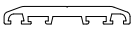
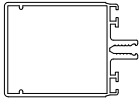
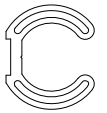
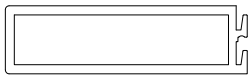
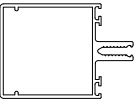
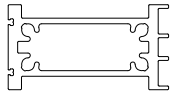
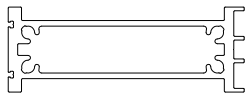
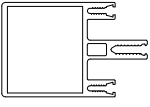
PROFILE LIST

Elenco Profili - Profiles List

SIGLA CODE	PROFILO PROFILE	PESO Kg/m WEIGHT Kg/m	IMPIEGO USE	PAGINA PAGE
4162		0.308	Copertina a scatto altezza mm.16 <i>Snap cover - height 16 mm.</i>	4-14
6086		0.348	Copertina a scatto altezza mm.19 <i>Snap cover - height 19 mm.</i>	4-15
6405		0.159	Asta di comando chiusure <i>Closing rod</i>	4-29
9107		0.428	Profilo per battiscopa <i>Profile for skirting</i>	4-16
9108		0.470	Copertina a scatto per facciate inclinate <i>Snap cover for sloped curtain walling</i>	4-15
19801		3.376	Montante da mm.150 <i>150 mm. mullion</i>	4-05
19803		0.452	Pressore <i>Pressure plate</i>	4-14
19813		2.940	Montante da mm.110 <i>110 mm. mullion</i>	4-03
19814		4.669	Montante da mm.175 <i>175 mm. mullion</i>	4-06
19816		1.517	Montante per sottostruttura EKU 50 GLASS R <i>Mullion with bearing structure EKU 50 GLASS R</i>	4-24
19818		3.470	Montante d'angolo a 90° <i>Corner mullion 90°</i>	4-23
19822		1.022	Copertina a scatto ad ogiva da 86 mm <i>Snap cover - ogive shaped</i>	4-16

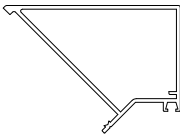
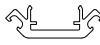
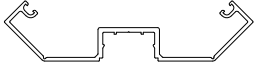
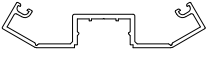
Note:  = profilo non a stock
profile no stock

Elenco Profili - Profiles List

SIGLA CODE	PROFILO PROFILE	PESO Kg/m WEIGHT Kg/m	IMPIEGO USE	PAGINA PAGE
19824		0.558	Pressore per coperture <i>Covering pressure plate</i>	4-18
19825		0.548	Pressore per coperture <i>Covering pressure plate</i>	4-18
19826		0.462	Copertina a scatto altezza mm. 30 <i>Snap cover - height 30 mm.</i>	4-15
19827		1.308	Traverso da 60 mm. <i>60 mm. transom</i>	4-09
19828		1.415	Cavallotto per angoli variabili <i>Adjustable corner T-joint</i>	4-27
19829		6.317	Cannotto montanti per angoli variabili (barra = 4 mt) <i>Adjustable corner mullions insert (L bar = 4 mt)</i>	4-33
22611		1.318	Traverso da 60 mm. di secondo livello <i>60 mm. transom (second level)</i>	4-11
22613		2.907	Profilo per cannotto da 85 mm <i>85 mm. insert profile</i>	4-28
22614		3.555	Profilo per cannotto da 125 mm <i>125 mm. insert profile</i>	4-30
22615		2.090	Montante da mm.60 <i>60 mm. mullion</i>	4-01
22628		1.827	Traverso da 114 mm. <i>114 mm. transom</i>	4-10
22629		2.216	Traverso da 154 mm. <i>154 mm. transom</i>	4-11

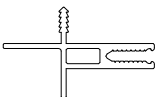
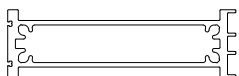
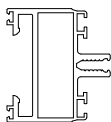
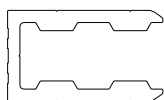
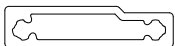
Note:  = profilo non a stock
profile no stock

Elenco Profili - Profiles List

SIGLA CODE	PROFILO PROFILE	PESO Kg/m WEIGHT Kg/m	IMPIEGO USE	PAGINA PAGE
22630		1.838	Traverso da 107 mm. di secondo livello <i>107 mm. transom (second level)</i>	4-13
22631		2.226	Traverso da 147 mm. di secondo livello <i>147 mm. transom (second level)</i>	4-13
22632		1.528	Profilo supplementare per angoli negativi a 90° <i>Supplementary profile for inner 90° corner</i>	4-22
22633		0.547	Pressore per angoli negativi a 90° <i>Pressure plate for inner 90° corner</i>	4-22
22634		0.302	Copertina a scatto per angoli negativi a 90° <i>Snap cover for inner 90° corner</i>	4-23
22636		0.279	Copertina a scatto altezza mm. 13 <i>Snap cover - height 13 mm.</i>	4-14
22637		0.109	Porta guarnizione per facciate inclinate a 45° <i>Gasket carrier for 45° inclined curtain wall</i>	4-21
22649		0.636	Traverso da 6 mm. <i>6 mm. transom</i>	4-09
22662		1.285	Pressore montante per angoli a 45° <i>Mullion pressure plate 45° corner</i>	4-20
22663		0.167	Copertina a scatto per facciate inclinate <i>Snap cover for inclined curtain wall</i>	4-19
22664		0.106	Porta guarnizione per facciate inclinate a 30° <i>Gasket carrier for 30° inclined curtain wall</i>	4-20
22665		1.094	Pressore montante per angoli a 30° <i>Mullion pressure plate 30° corner</i>	4-19

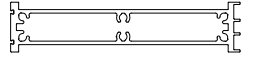
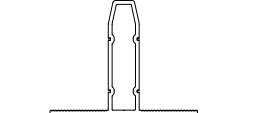
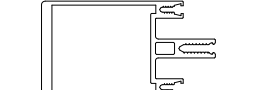
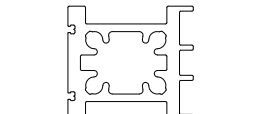
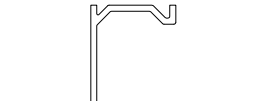
Note:  = profilo non a stock
profile no stock

Elenco Profili - Profiles List

SIGLA CODE	PROFILO PROFILE	PESO Kg/m WEIGHT Kg/m	IMPIEGO USE	PAGINA PAGE
22666		0.104	Porta guarnizione per facciate inclinate a 15° <i>Gasket carrier for 15° inclined curtain wall</i>	4-20
22667		0.917	Pressore montante per angoli a 15° <i>Mullion pressure plate 15° corner</i>	4-19
22670		4.356	Montante da mm.200 <i>200 mm. mullion</i>	4-07
22671		1.676	Semi montante per angolo variabile <i>Partly mullion for variable angle</i>	4-25
22672		0.856	Semi montante per angolo variabile <i>Partly mullion for variable angle</i>	4-27
22673		4.633	Profilo per canotto da 176 mm <i>176 mm. insert profile</i>	4-31
22674		1.318	Traverso per sottostruttura (EKU 50 GLASS R) <i>Transom with bearing structure (EKU 50 GLASS R)</i>	4-24
22697		3.709	Cannotto per aggancio montante piramide <i>Insert profile for pyramid mullion</i>	4-34
22698		0.688	Profilo compensatore per canotto 22697 <i>Compensating profile for insert 22697</i>	4-34
22699		1.351	Cannotto per montante angolo variabile 22671 <i>Insert profile for variable angle mullion 22671</i>	4-26
22700		0.205	Profilo riduttore vetro <i>Reducer glass profile</i>	4-21
24480		0.481	Pressore ribassato per coperture <i>Reduced covering pressure plate</i>	4-18

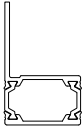
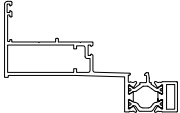
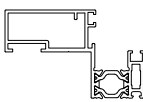
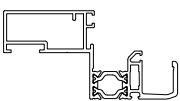
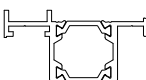
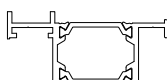
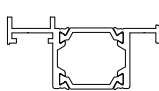
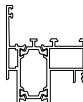
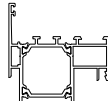
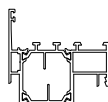
Note:  = profilo non a stock
profile no stock

Elenco Profili - Profiles List

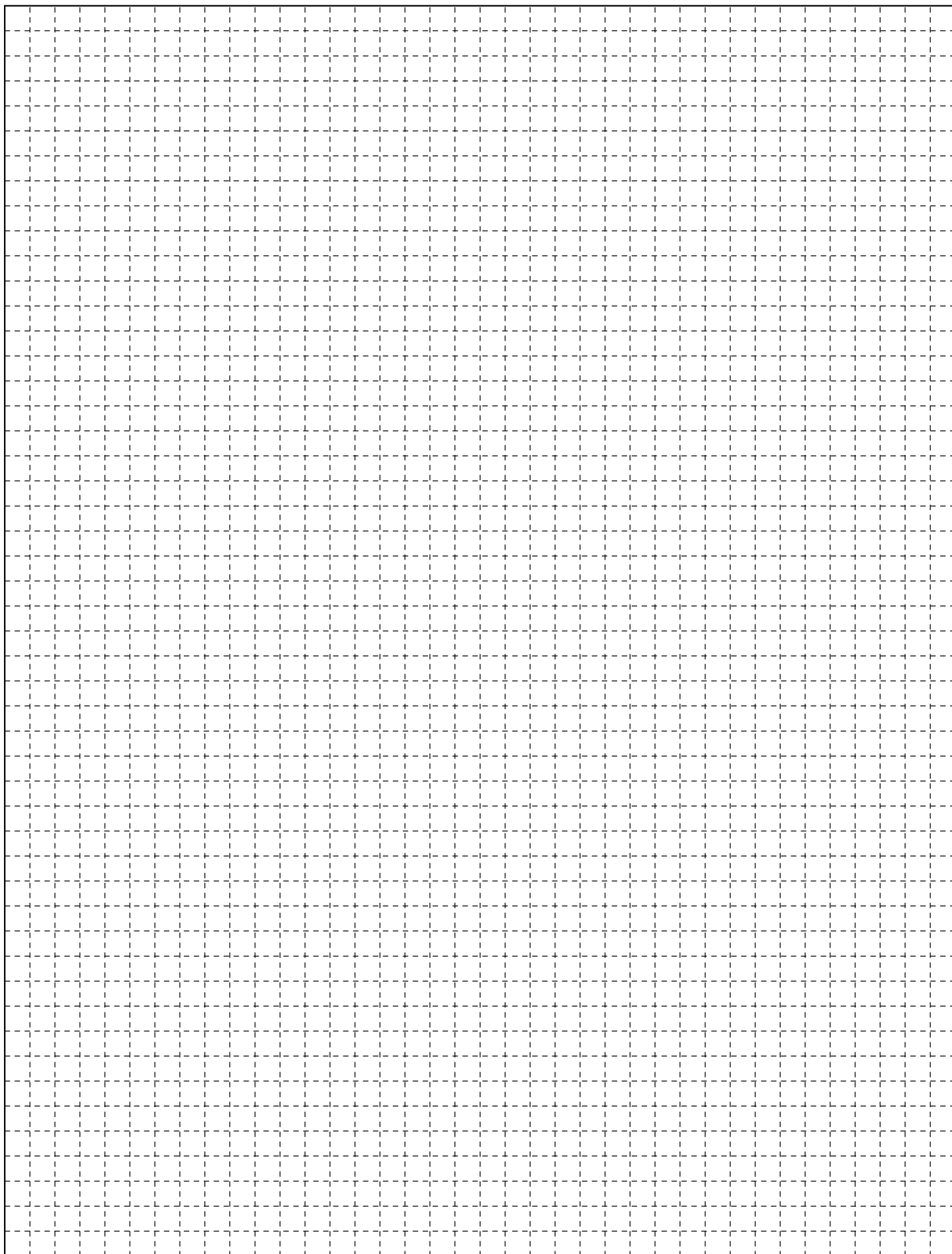
SIGLA CODE	PROFILO PROFILE	PESO Kg/m WEIGHT Kg/m	IMPIEGO USE	PAGINA PAGE
24481		5.213	Montante da mm.230 <i>230 mm. mullion</i>	4-08
24482		5.028	Profilo per canotto da 202 mm <i>202 mm Insert profile</i>	4-32
24488		2.126	Copertina a scatto ad ogiva da 180 mm <i>180 mm Snap cover - ogive shaped</i>	4-17
24495		1.976	Traverso da 129 mm <i>129 mm transom</i>	4-10
24496		3.110	Montante da 125 mm <i>125 mm mullion</i>	4-04
24497		3.151	Profilo per canotto da 100 mm <i>100 mm insert profile</i>	4-29
24577		3.190	Traverso da 200 mm <i>200mm transom</i>	4-12
24581		9.431	Canotto per fissaggio superiore/inferiore <i>Insert profile for lower/upper anchoring</i>	4-35
24582		2.543	Montante da 75 mm <i>75 mm mullion</i>	4-02
24583		1.490	Traverso da 79 mm <i>79mm transom</i>	4-09
24584		2.341	Profilo per canotto da 50 mm <i>50 mm insert profile</i>	4-28
24585		0.230	Profilo per raccordo inferiore <i>Profile building lower connection</i>	4-35

Note:  = profilo non a stock
profile no stock

Elenco Profili - Profiles List

SIGLA CODE	PROFILO PROFILE	PESO Kg/m WEIGHT Kg/m	IMPIEGO USE	PAGINA PAGE
TTE156		1.031	Distanziatore a muro a taglio termico <i>Thermal break wall spacer</i>	4-36
TTE160		1.356	Telaio fisso per aperture a sporgere <i>Fixed frame for awning windows</i>	4-36
TTE161		1.298	Telaio apribile strutturale per aperture a sporgere <i>Structural leaf frame for awning window</i>	4-37
TTE162		1.515	Telaio apribile per aperture a sporgere <i>Leaf frame for awning window</i>	4-37
TTE163		0.999	Telaio per inserimento porte serie EKU 66 TT PORTE <i>Frame for door leaf insertion series EKU 66 TT PORTE</i>	4-39
TTE165		1.049	Telaio per inserimento porte serie EKU 78 TT <i>Frame for door leaf insertion series EKU 78 TT</i>	4-40
TTE166		1.015	Telaio per inserimento porte serie EKU 62 TT <i>Frame for door leaf insertion series EKU 62 TT</i>	4-40
TTE556		1.357	Telaio per inserimento anta apribile serie EKU 52 TT <i>Frame for openable leaf insertion series EKU 52 TT</i>	4-38
TTE756		1.453	Telaio per inserimento anta apribile serie EKU 66 TT <i>Frame for openable leaf insertion series EKU 66 TT</i>	4-38
TTE956		1.407	Telaio per inserimento anta apribile serie EKU 66 TT HPS <i>Frame for openable leaf insertion series EKU 66 TT HPS</i>	4-39

Note:  = profilo non a stock
profile no stock

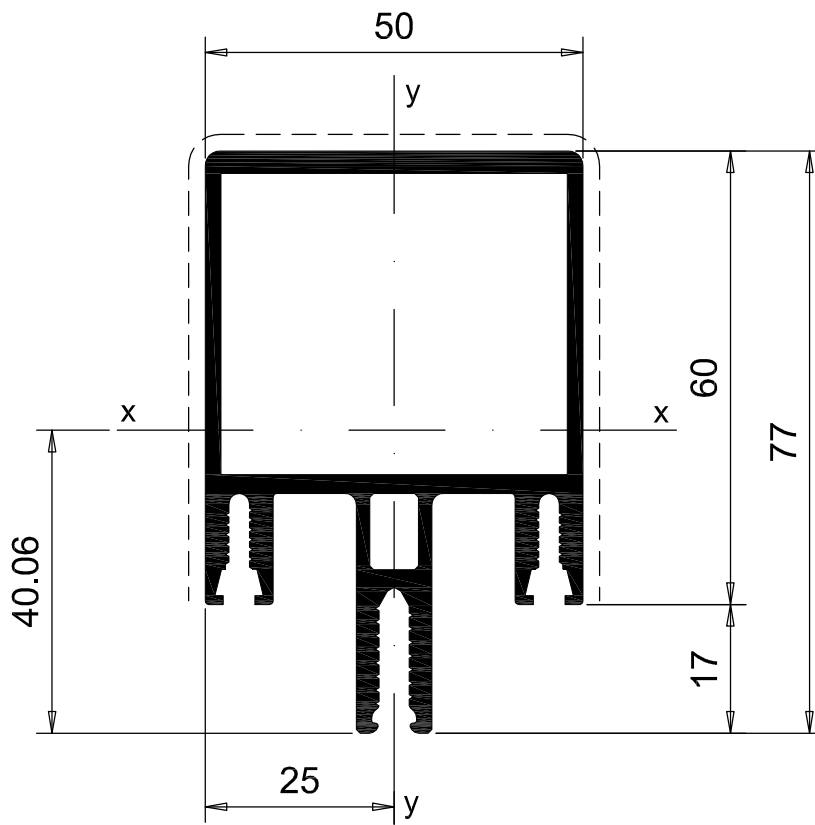


PROFILI IN SCALA 1:1



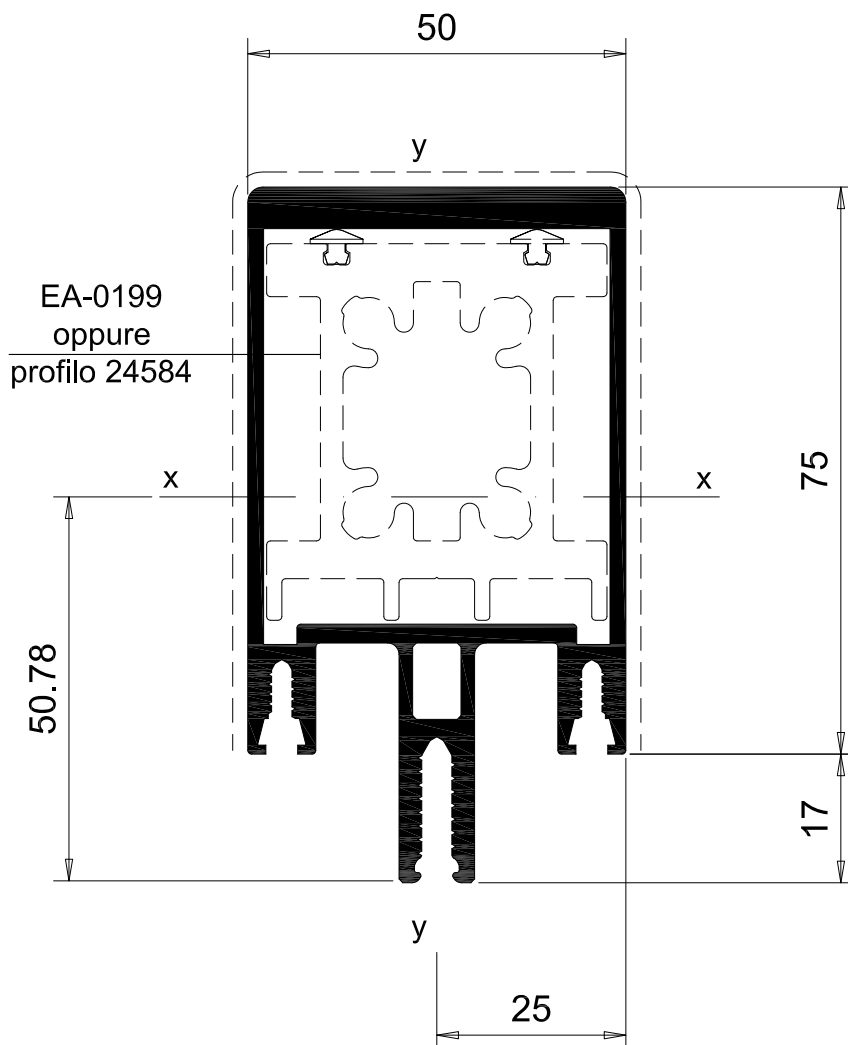
PROFILE 1:1

Profili 1:1 - Profiles 1:1



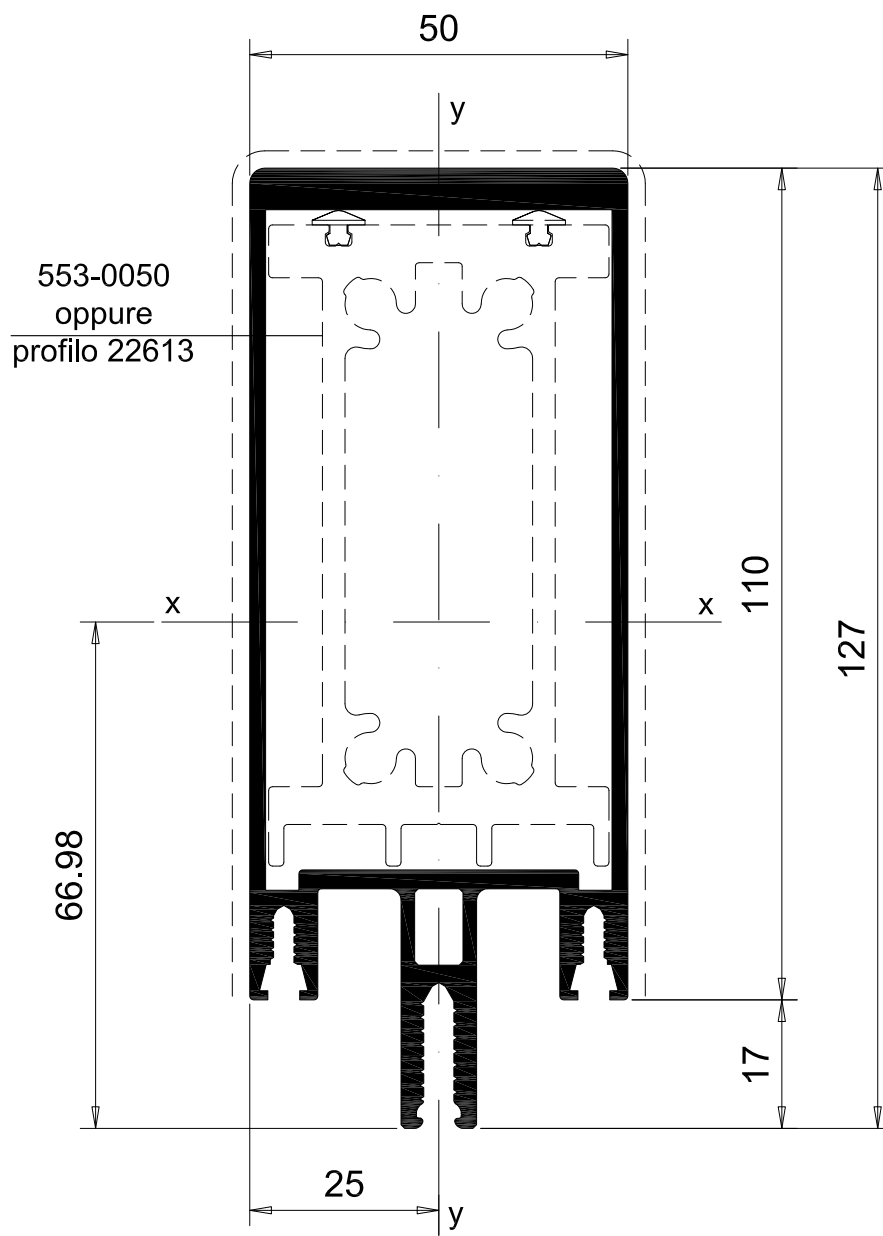
22615	Montante da mm.60 60 mm. mullion						
	PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
	Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
2.090	426	167	40.57	10.13	22.33	8.932	

Profili 1:1 - Profiles 1:1



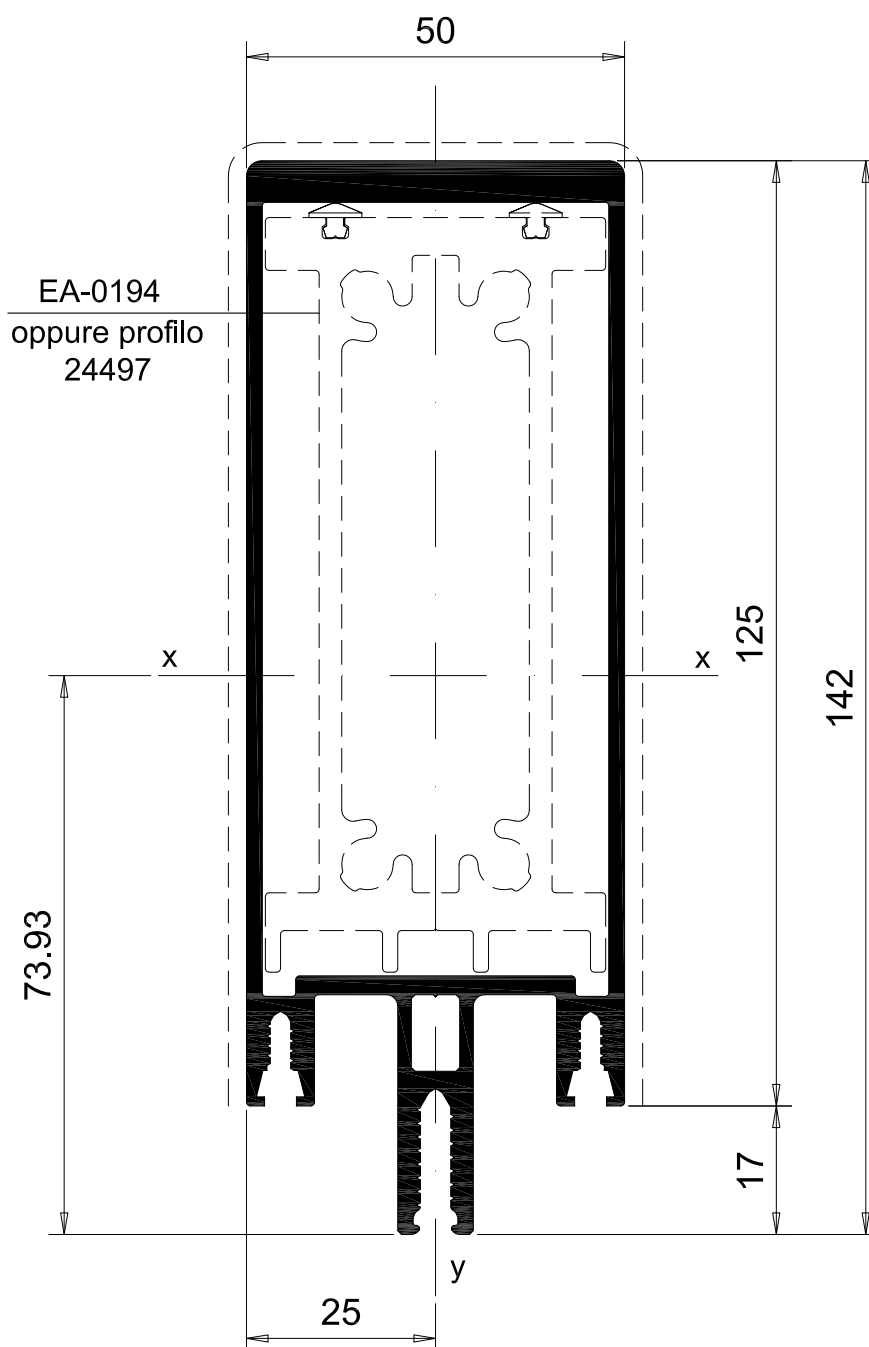
24582	Montante da mm.75 75 mm. mullion		Y X — X Y				
	PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
	Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
2.543	444	197	85.37	16.81	27.50	11.00	

Profili 1:1 - Profiles 1:1



19813	Montante da mm.110 110 mm. mullion					
	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
	Kg/m	mm	cm ⁴	cm ³	cm ⁴	cm ³
	2.940	514	206.90	30.89	35.93	14.37

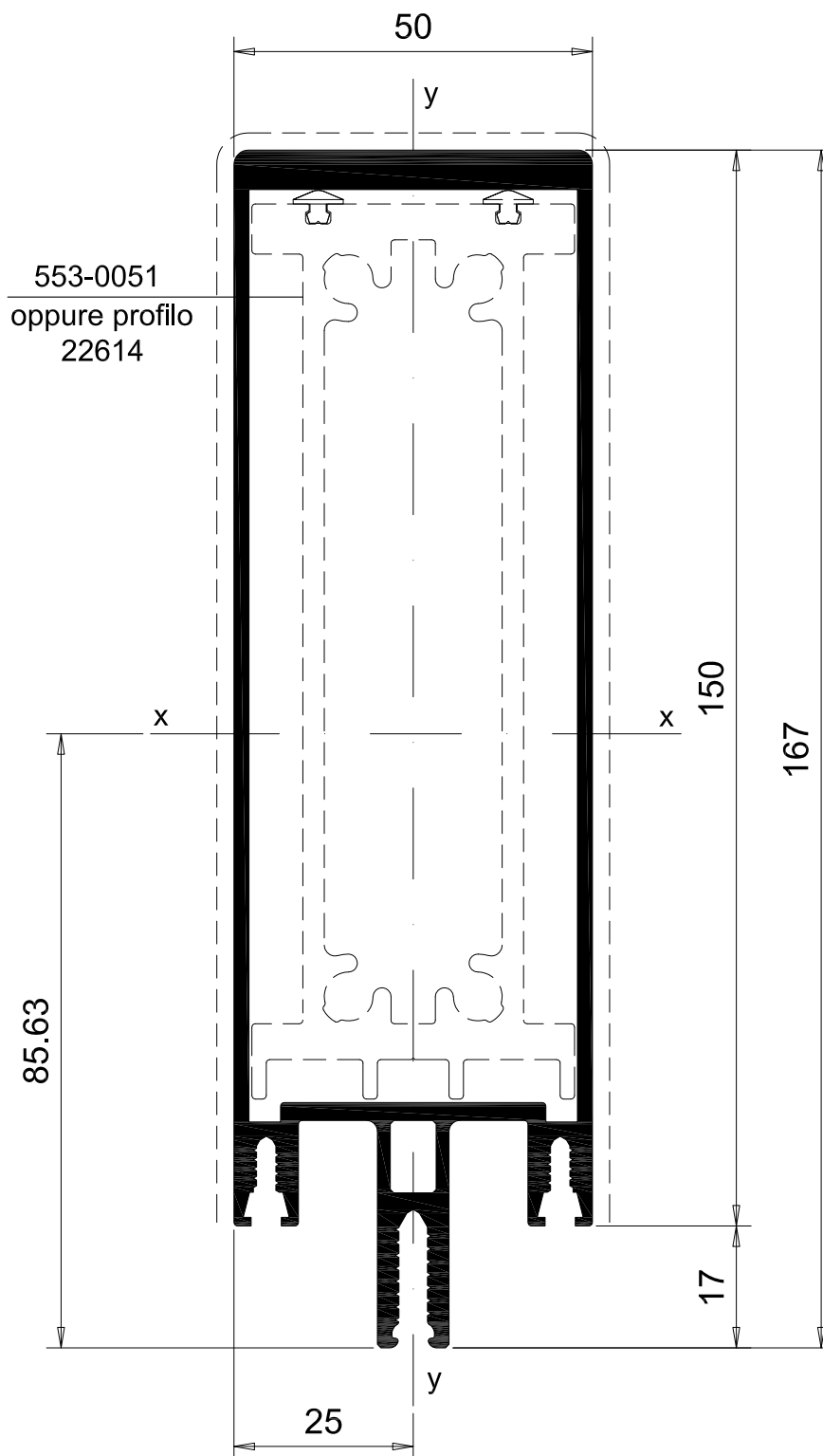
Profili 1:1 - Profiles 1:1



24496	Montante da mm.125 125 mm. mullion					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
3.110	544	294	278.90	37.72	39.56	15.24

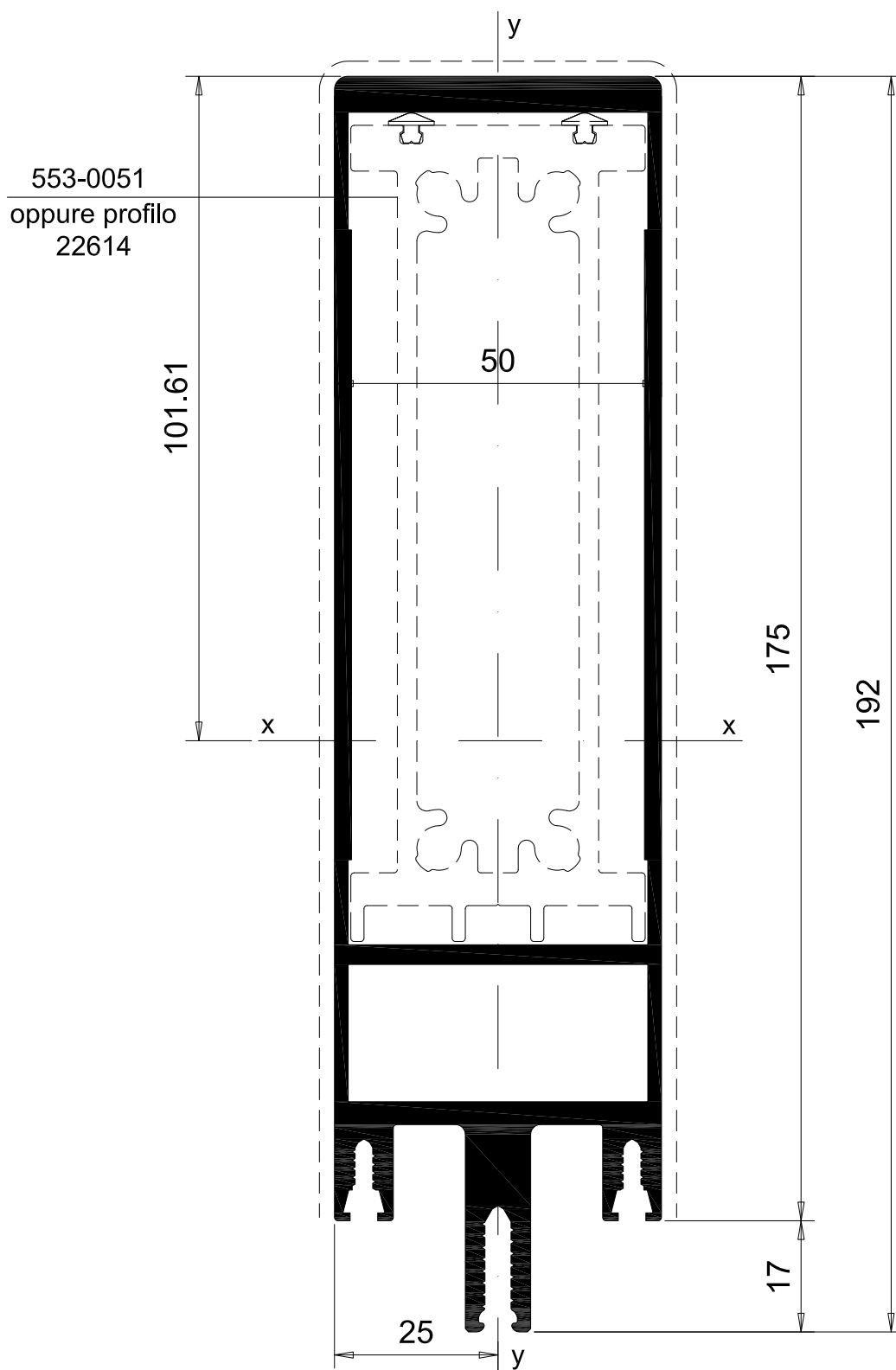
Note: = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1



19801	Montante da mm.150 150 mm. mullion		Y X—X Y				
	PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
	Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
3.376	594	347	427.76	49.95	45.58	18.23	

Profili 1:1 - Profiles 1:1



19814	Montante da mm.175 rinforzato 175 mm. reinforced mullion		Y X — X Y			
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
4.669	644	397	701.54	69.04	70.69	28.28

Note: = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1

553-0066
oppure profilo
22673

109.43

200

217

17

25

y

x

x

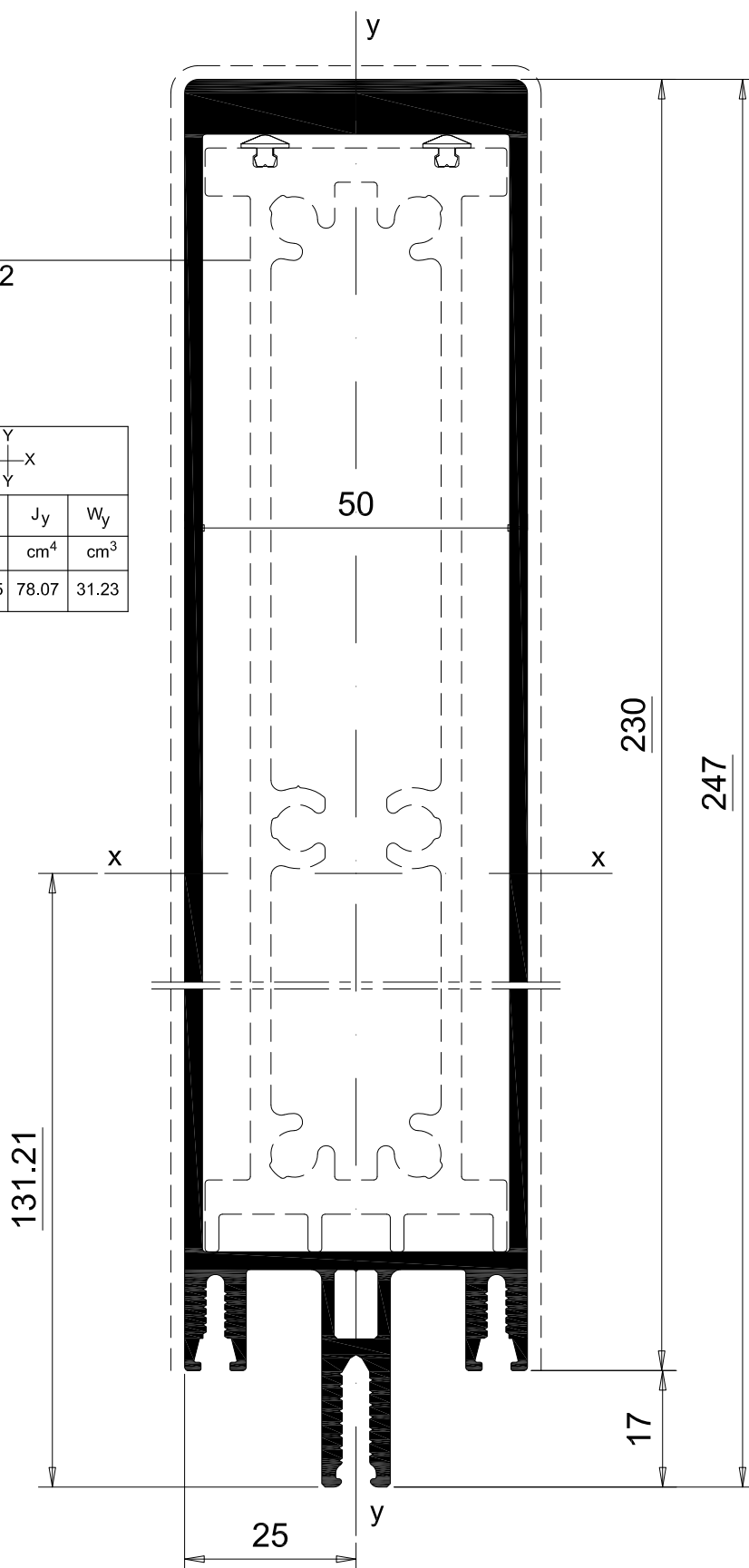
y

22670	Montante da mm.200 200 mm. mullion					
			J _x	W _x	J _y	W _y
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	cm ⁴	cm ³	cm ⁴	cm ³
Kg/m	mm	mm				
4.356	701	447	853.28	77.97	66.43	26.57

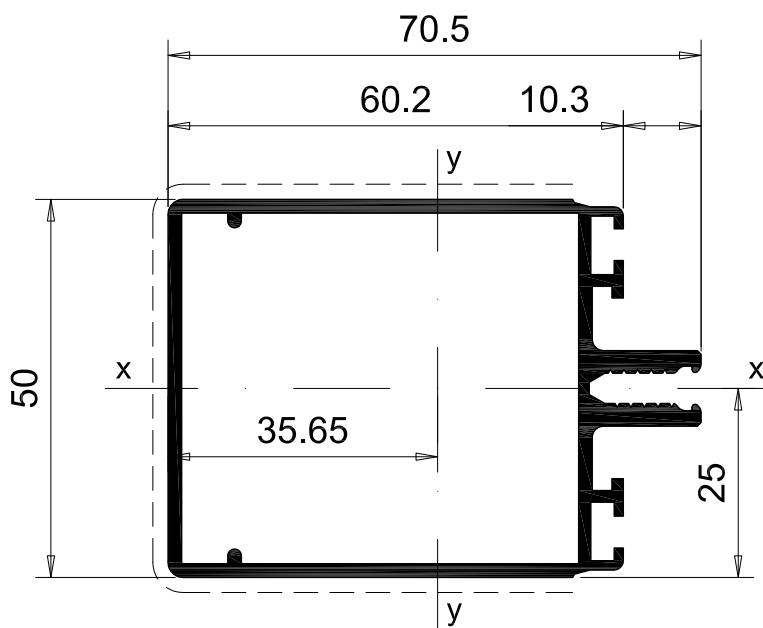
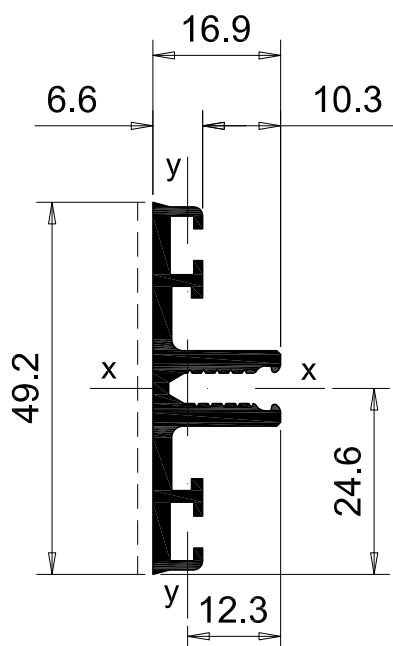
Profili 1:1 - Profiles 1:1

EA-0189
oppure
profilo 24482

24481	Montante da mm.230 230 mm. mullion					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
5.213	761	507	1417.72	108.05	78.07	31.23

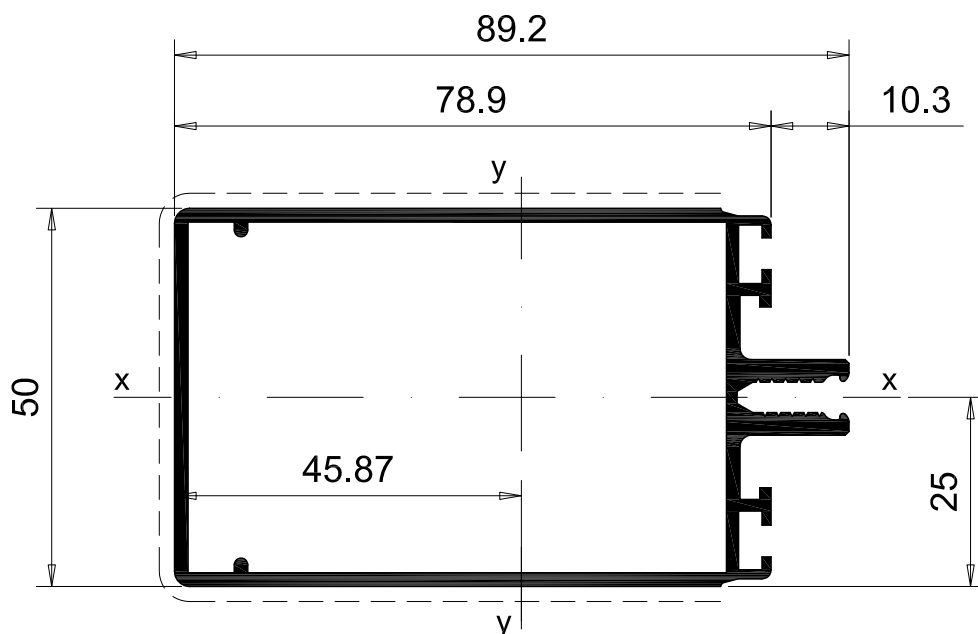


Profili 1:1 - Profiles 1:1



22649	Traverso da mm.6 6 mm. transom					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.636	189	55	3.532	1.436	0.467	0.380

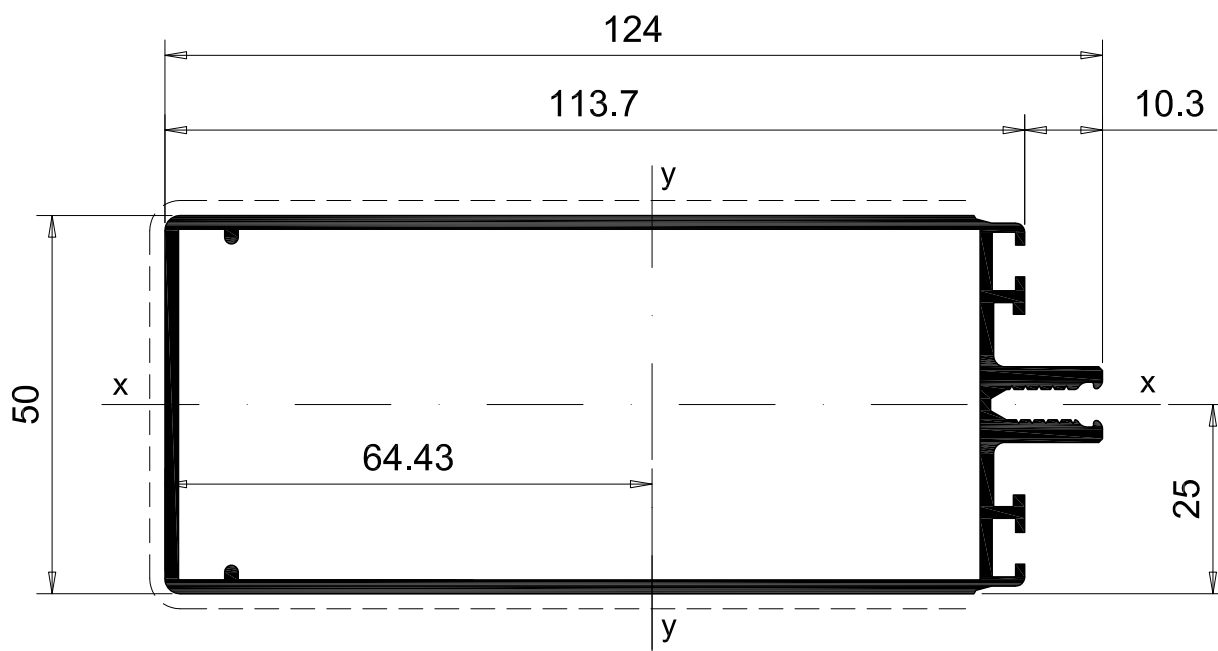
19827	Traverso da mm.60 60 mm. transom					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.308	323	155	15.87	4.45	27.83	11.13



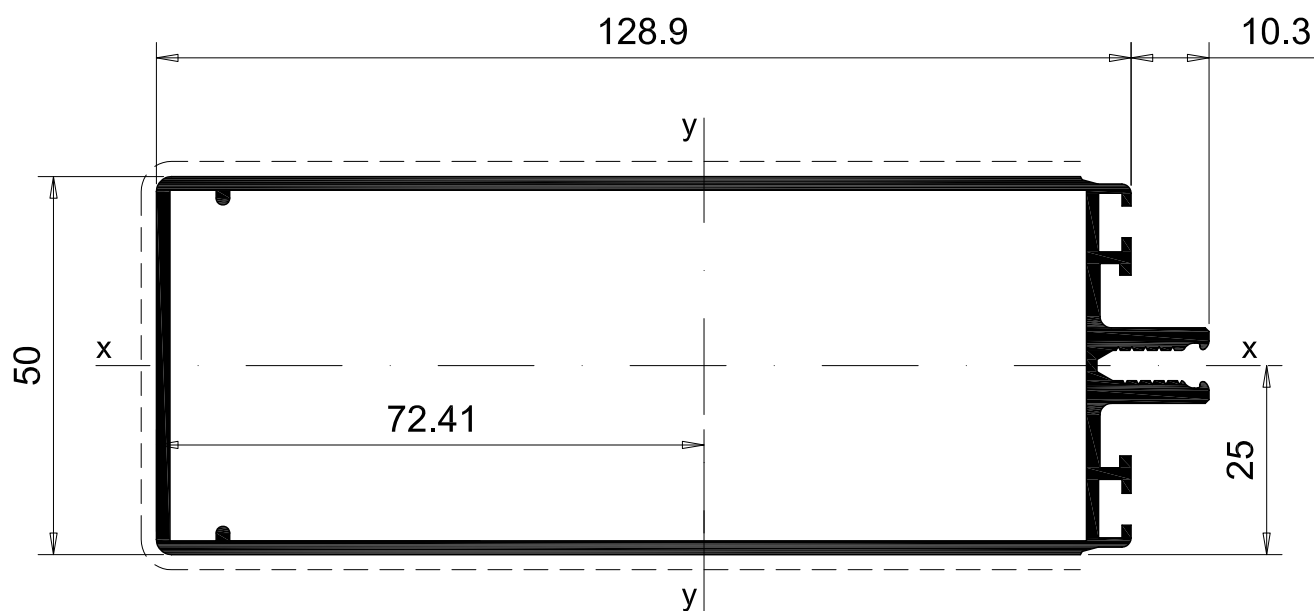
24583	Traverso da mm.79 79 mm. transom					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.490	361	193	19.79	7.92	52.03	11.34

Note: = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1



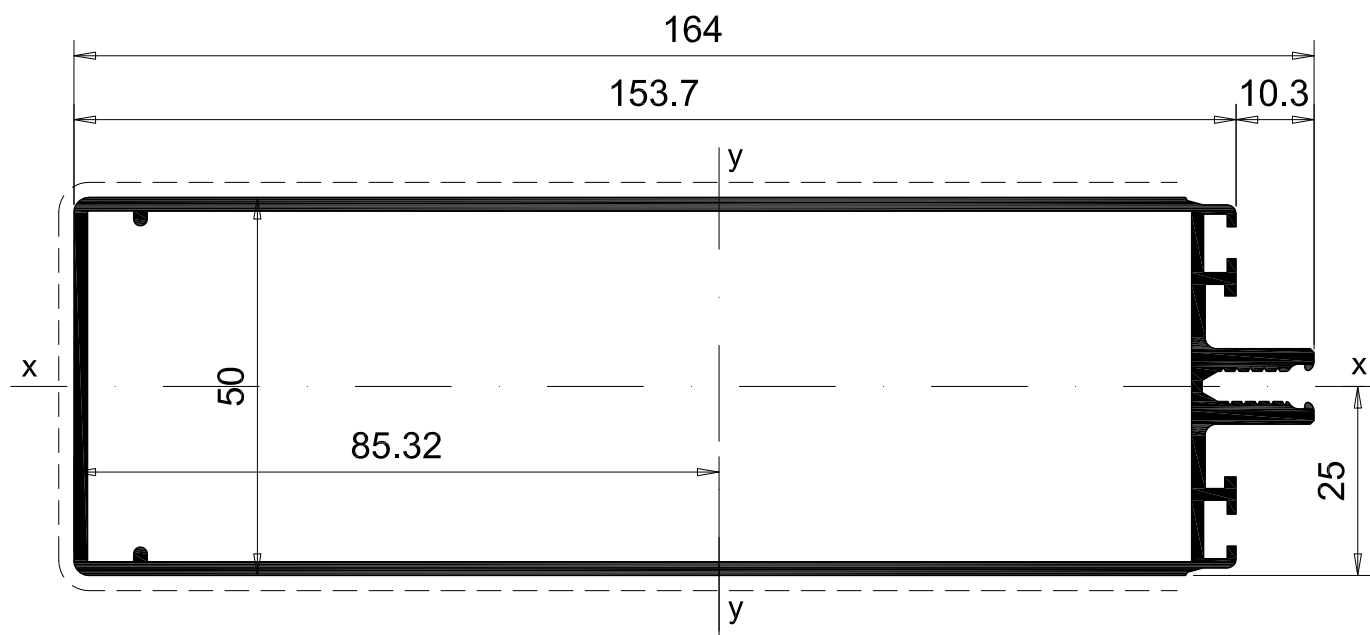
22628	Traverso da mm.114 114 mm. transom						
	PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
	Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.827	430	262	27.06	10.82	123.50	19.17	



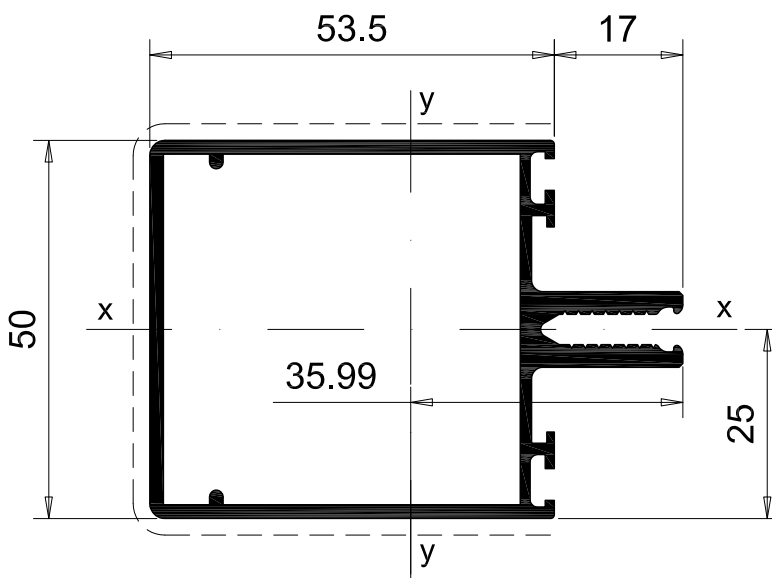
24495	Traverso da mm.129 129 mm. transom		Y X X Y			
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.976	461	293	30.24	12.09	167.08	23.07

Note:  = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1



22629	Traverso da mm.154 154 mm. transom						
	PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
	Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
2.216	510	353	35.43	14.17	256.59	30.07	

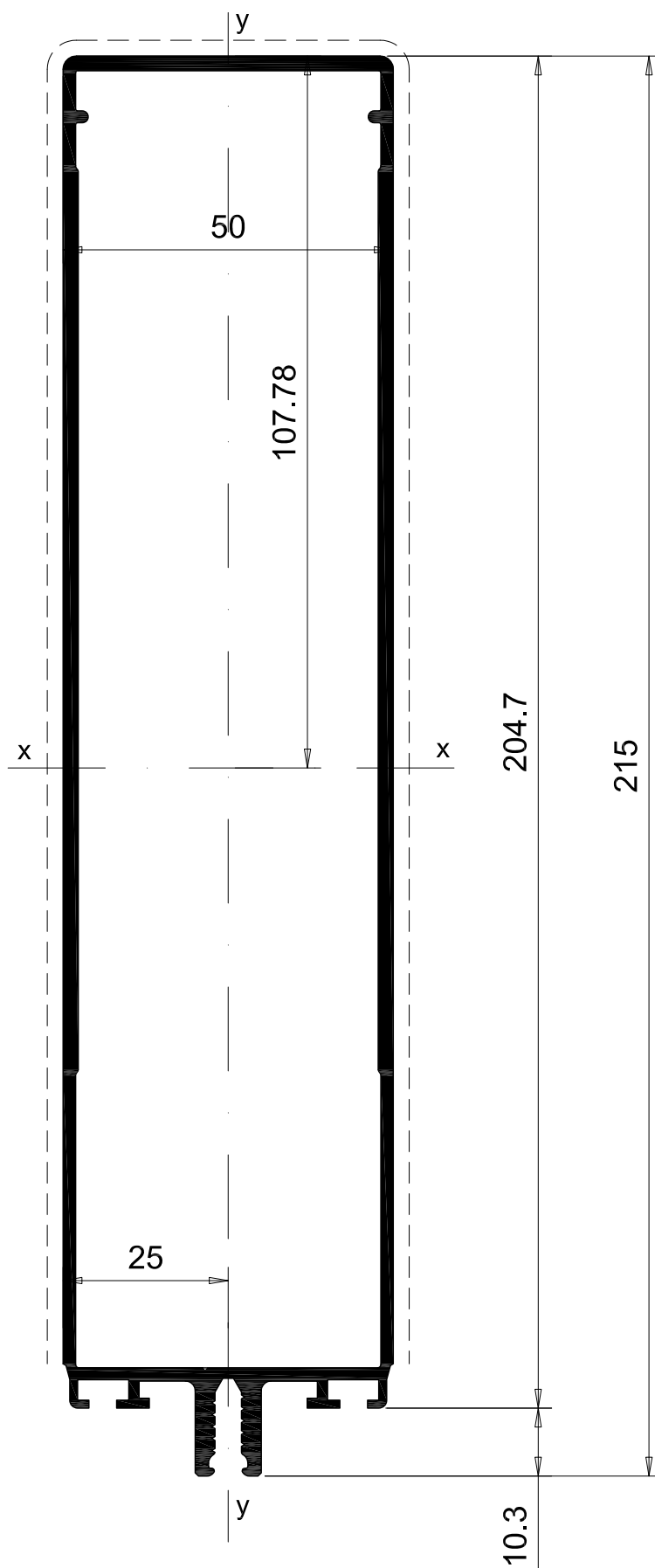


22611	Traverso da 53 mm. di secondo livello 53 mm. transom (second level)		Y X X Y			
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.318	321	154	14.66	5.86	25.63	7.12

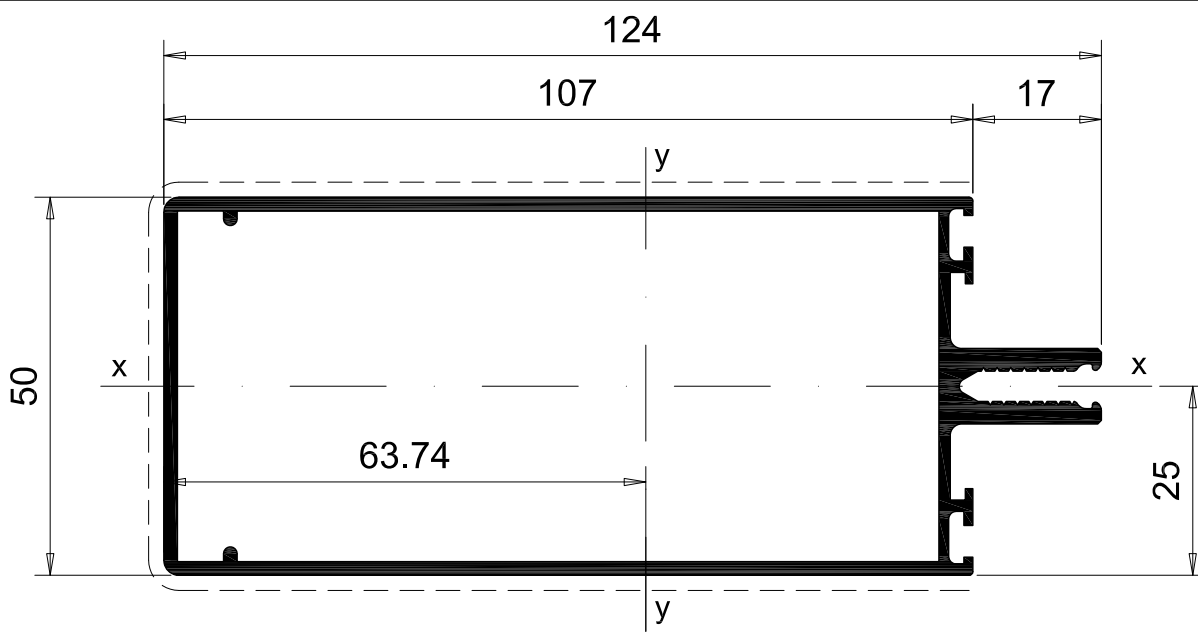
Note:  = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1

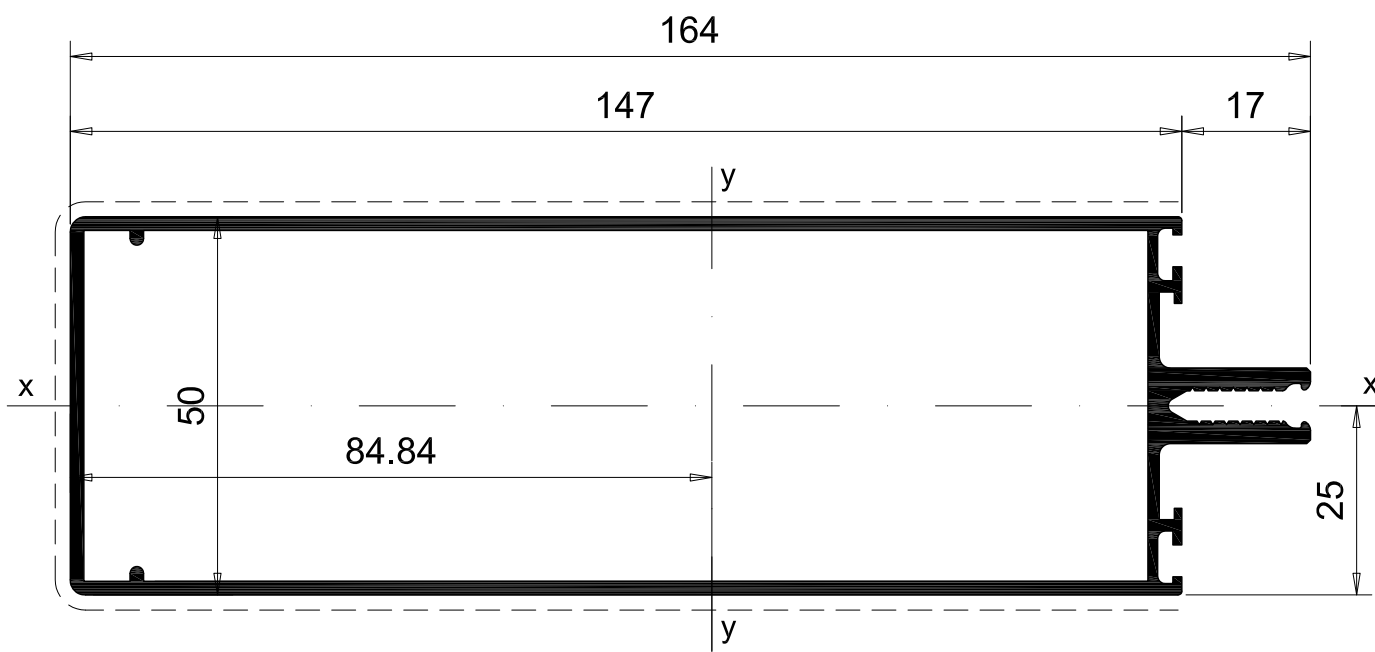
24577		Traverso da mm. 205 205 mm. transom	
PESO WEIGHT		PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.
Kg/m		mm	mm
3.190		612	460
			
J _x	W _x	J _y	W _y
cm ⁴	cm ³	cm ⁴	cm ³
588.16	54.57	54.44	21.77



Profili 1:1 - Profiles 1:1



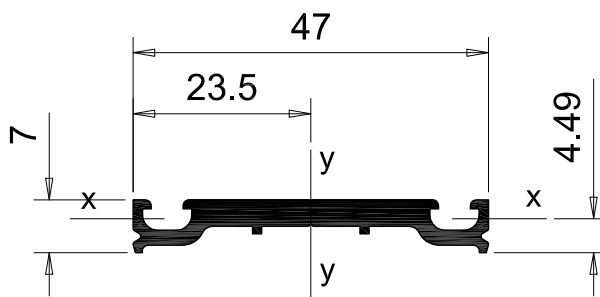
22630	Traverso da 107 mm. di secondo livello 107 mm. transom (second level)					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.838	428	261	25.85	10.34	118.80	18.64



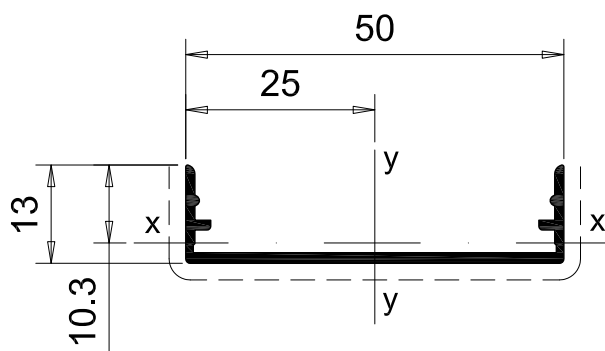
22631	Traverso da 147 mm. di secondo livello 147 mm. transom (second level)					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
2.226	508	343	34.22	13.69	250.26	29.50

Note:  = profilo non a stock
profile no stock

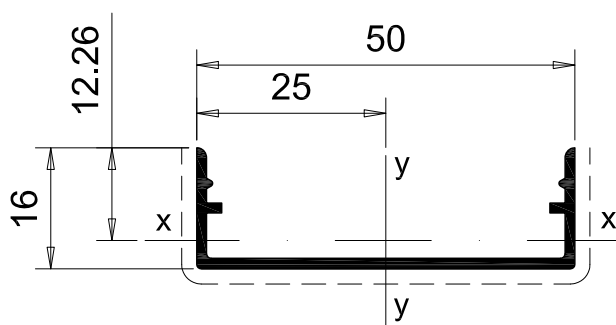
Profili 1:1 - Profiles 1:1



19803	Pressore Pressure plate						
	PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
	Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.452	137	0	0.046	0.102	3.088	1.314	

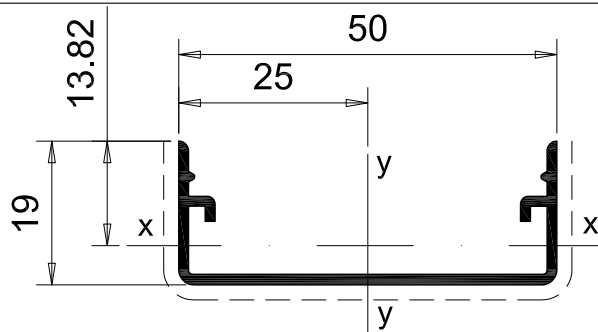


22636	Copertina a scatto altezza mm.13 Snap cover - height 13 mm.						
	PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
	Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.279	157	75	0.117	0.113	3.393	1.357	

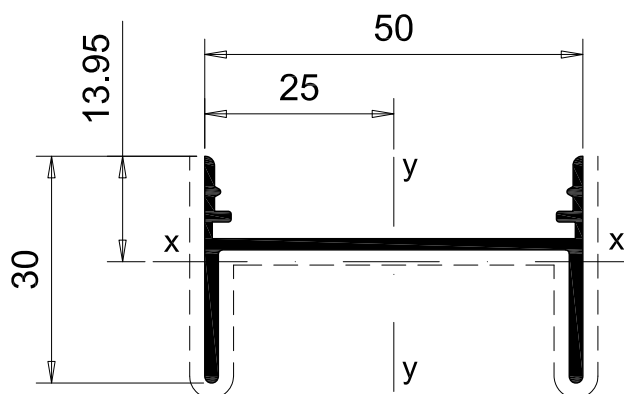


4162	Copertina a scatto altezza mm.16 <i>Snap cover - height 16 mm.</i>					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.308	169	81	0.234	0.191	4.014	1.605

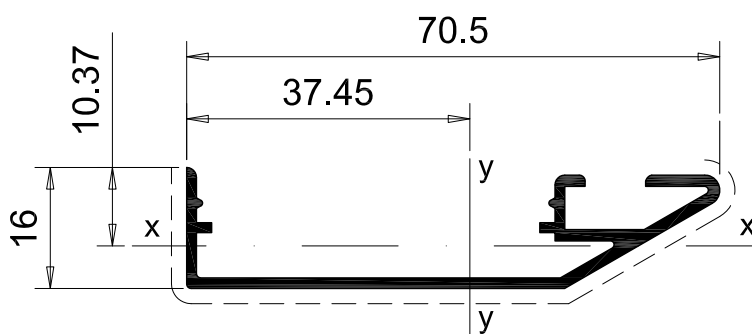
Profili 1:1 - Profiles 1:1



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



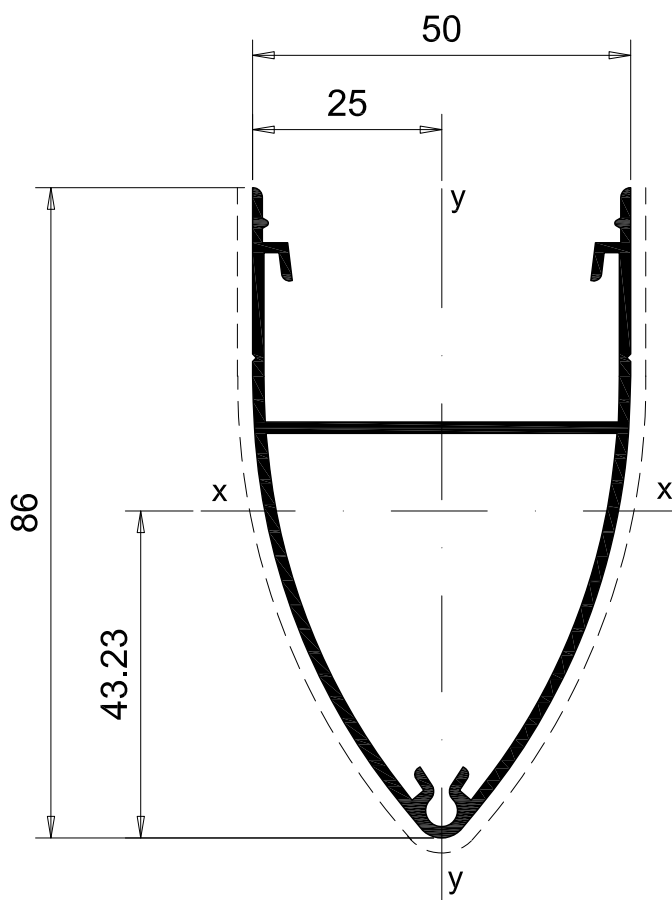
19826	Copertina a scatto altezza mm.30 <i>Snap cover - height 30 mm.</i>					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.462	225	143	0.771	0.553	7.162	2.865



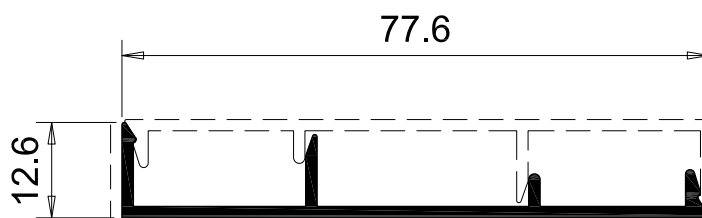
9108	Copertina a scatto per facciate incline <i>Snap cover for sloped curtain wall</i>					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.470	243	94	0.443	0.427	9.273	2.476

Note: = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1



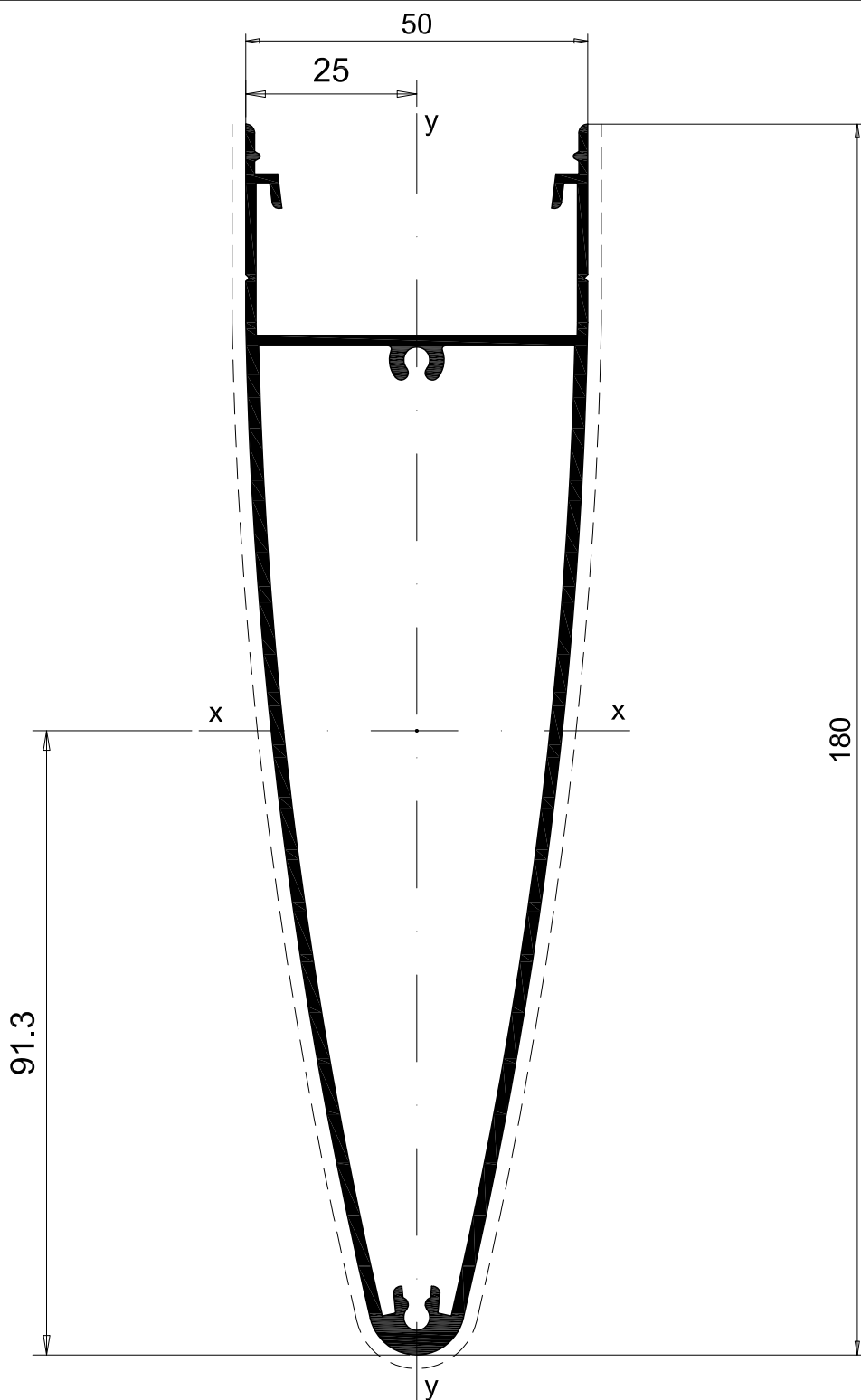
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	Y X — X Y			
			J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.022	327	185	22.59	5.225	12.69	5.076



PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	Y X — X Y			
			J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.428	213	90				

Note: = profilo non a stock
profile no stock

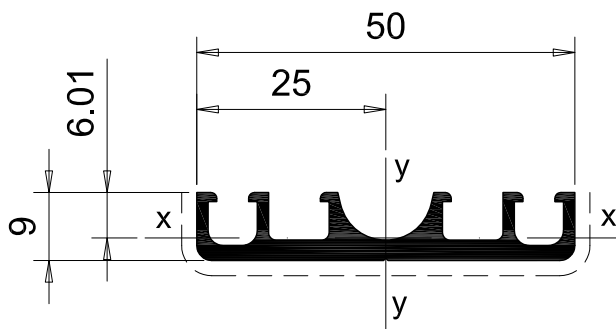
Profili 1:1 - Profiles 1:1



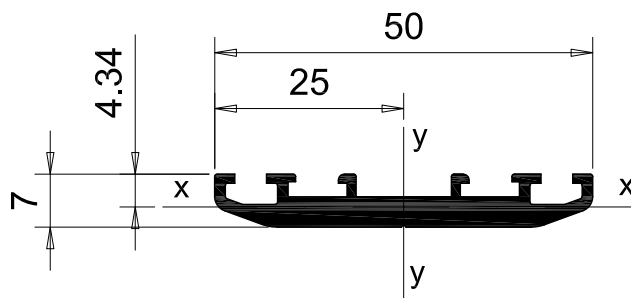
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	Y X — X Y			
			J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
2.126	510	372	239.26	26.206	24.87	9.948

Note: 24488 = profilo non a stock
profile no stock

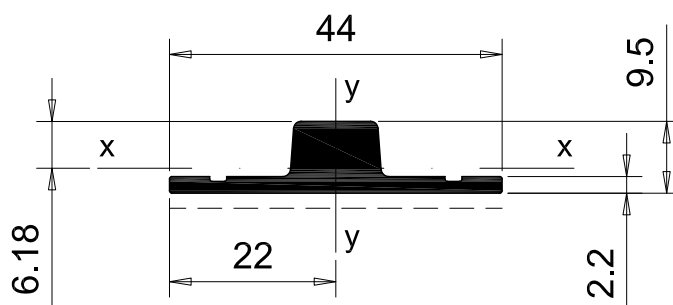
Profili 1:1 - Profiles 1:1



19824	Pressore per coperture Covering pressure plate		Y X—+—X ↓ Y				
	PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
	Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.558	183	67	0.131	0.218	4.441	1.776	



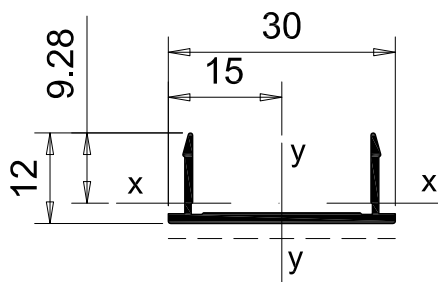
19825	Pressore per coperture Covering pressure plate		Y X—+—X ↓ Y			
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.548	159	57	0.064	0.147	3.755	1.502



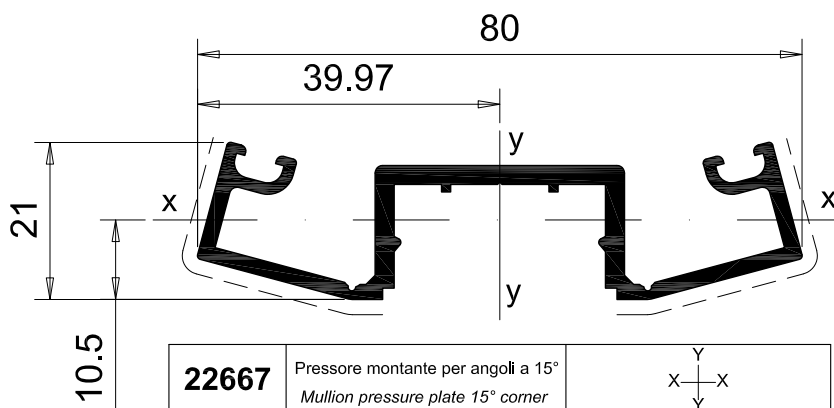
24480	Pressore ribassato per coperture <i>Reduced covering pressure plate</i>		Y X X Y			
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.481	107	48	0.139	0.225	1.584	0.720

Note:  = profilo non a stock
profile no stock

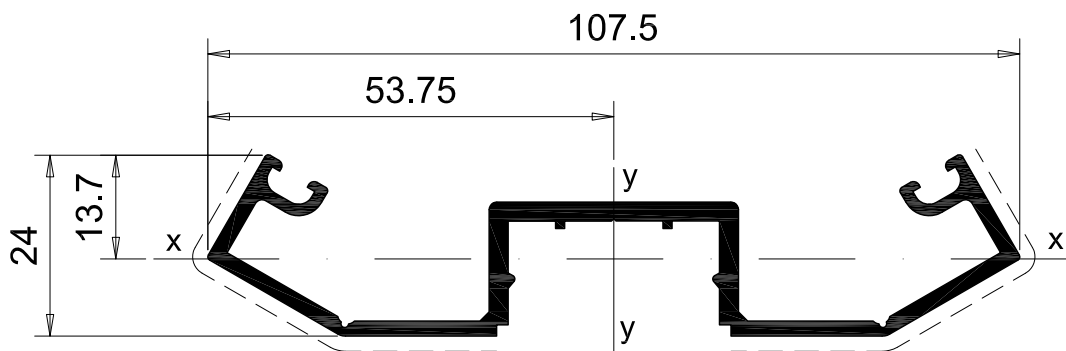
Profili 1:1 - Profiles 1:1



PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	$\begin{matrix} Y \\ X \leftrightarrow X \\ Y \end{matrix}$			
			J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.167	105	30	0.067	0.072	0.617	0.411



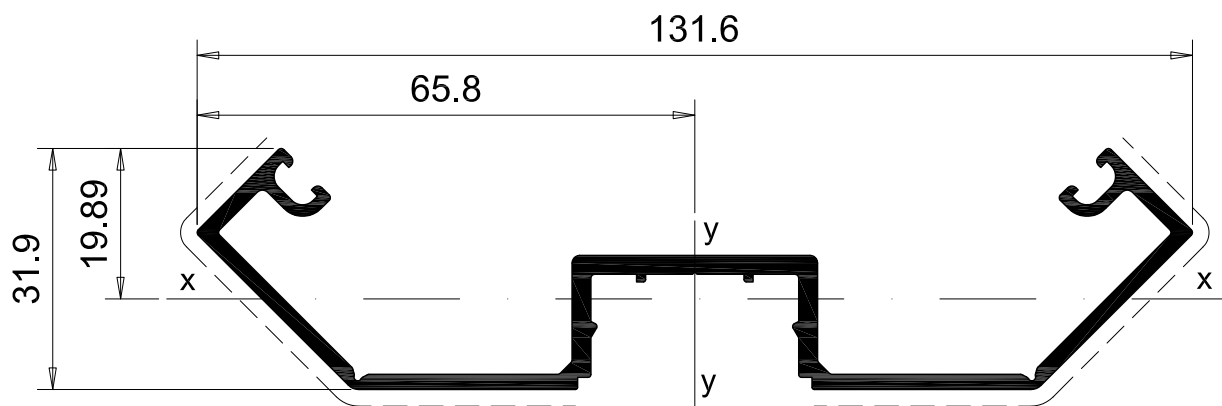
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	$\begin{matrix} Y \\ X \leftrightarrow X \\ Y \end{matrix}$			
			J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.917	330	81	1.242	1.182	21.28	5.320



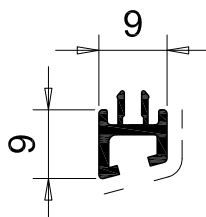
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	$\begin{matrix} Y \\ X \leftrightarrow X \\ Y \end{matrix}$			
			J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.094	395	114	1.931	1.409	43.22	8.041

Note:  = profilo non a stock
profile no stock

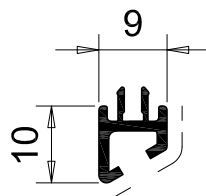
Profili 1:1 - Profiles 1:1



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



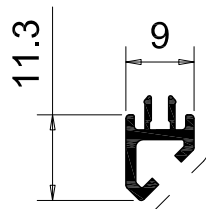
22666	Porta guarnizione per facciate inclinate a 15° <i>Gasket carrier for 15° inclined curtain wall</i>					
			J _x	W _x	J _y	W _y
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	cm ⁴	cm ³	cm ⁴	cm ³
0.104	68	12				



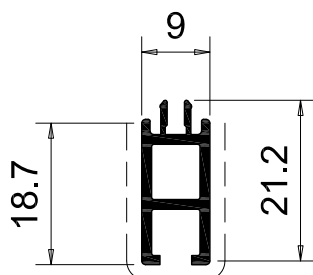
22664	Porta guarnizione per facciate inclinate a 30° <i>Gasket carrier for 30° inclined curtain wall</i>					
			J _x	W _x	J _y	W _y
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	cm ⁴	cm ³	cm ⁴	cm ³
0.106	69	12				

Note:  = profilo non a stock
profile no stock

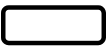
Profili 1:1 - Profiles 1:1



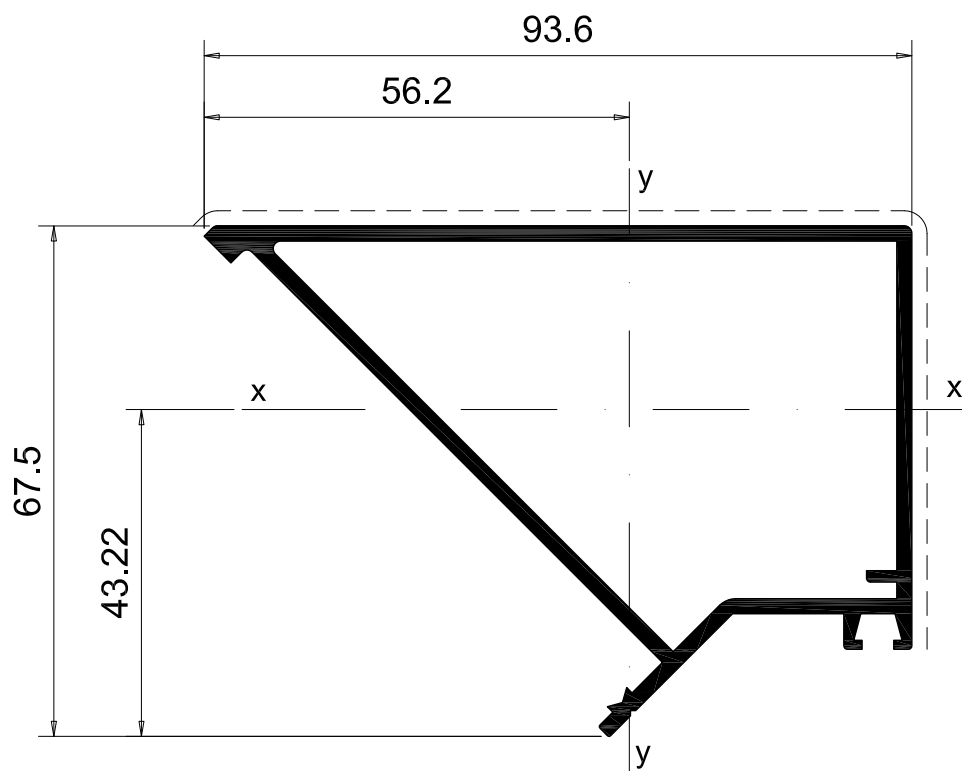
22637	Porta guarnizione per facciate inclinate a 45° <i>Gasket carrier for 45° inclined curtain wall</i>					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.109	72	11				



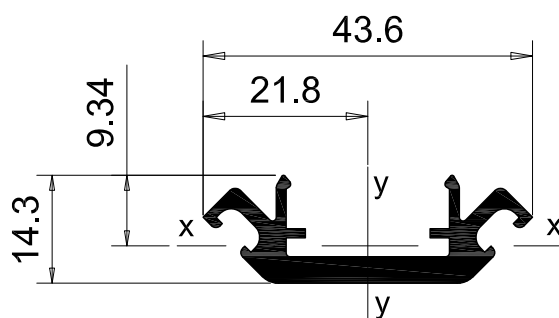
22700	Profilo riduttore vetro <i>Reducer glass profile</i>					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.205	95	43				

Note:  = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1



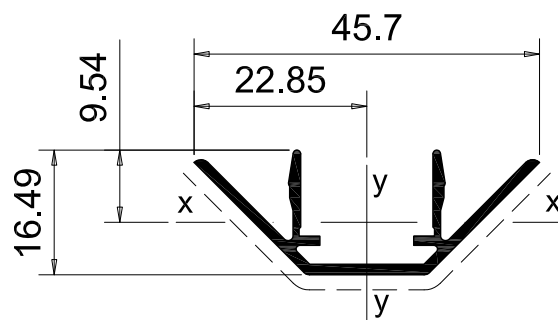
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	Y X — X Y			
			J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.528	388	147	27.61	6.391	47.89	8.521



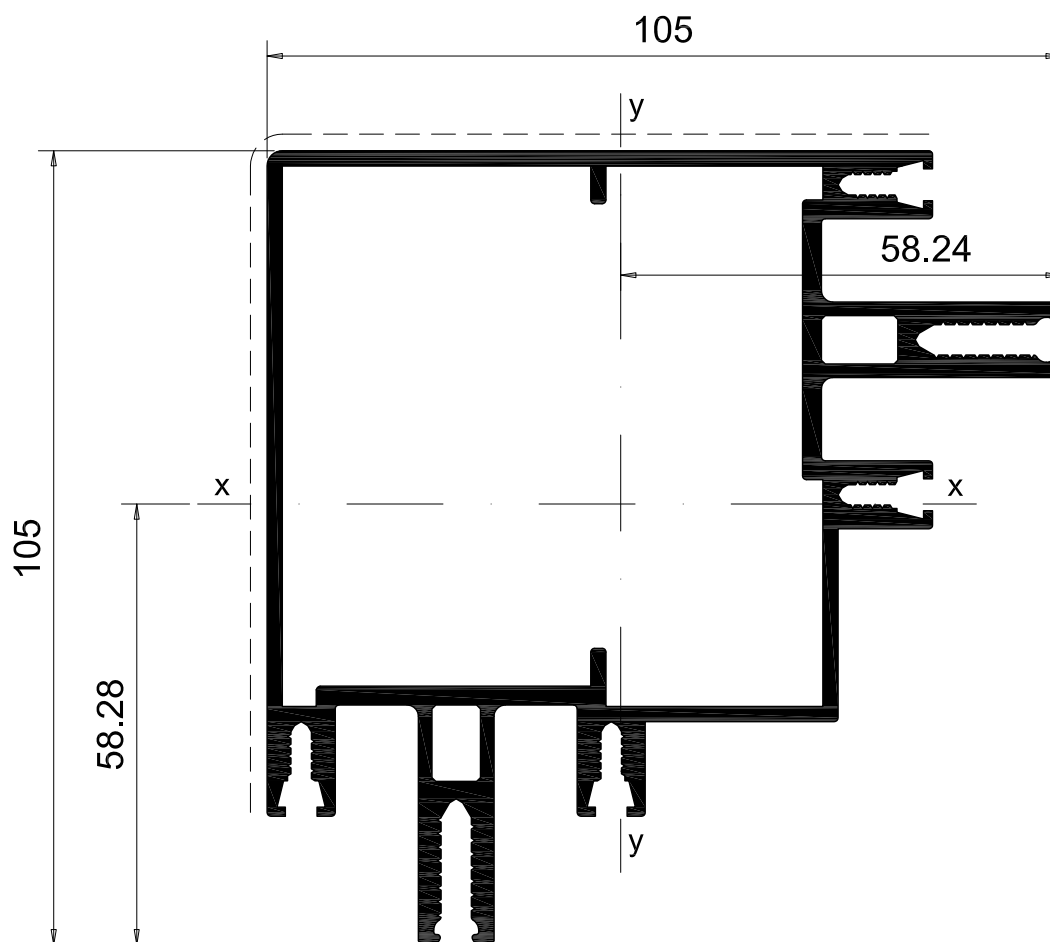
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	Y X — X Y			
			J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.547	163	0	0.285	0.305	2.867	1.315

Note: 22632 = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1



22634	Copertina a scatto per angoli negativi a 90° <i>Snap cover for inner 90° corner</i>		Y X—X Y			
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.302	176	58	0.259	0.271	1.636	0.716

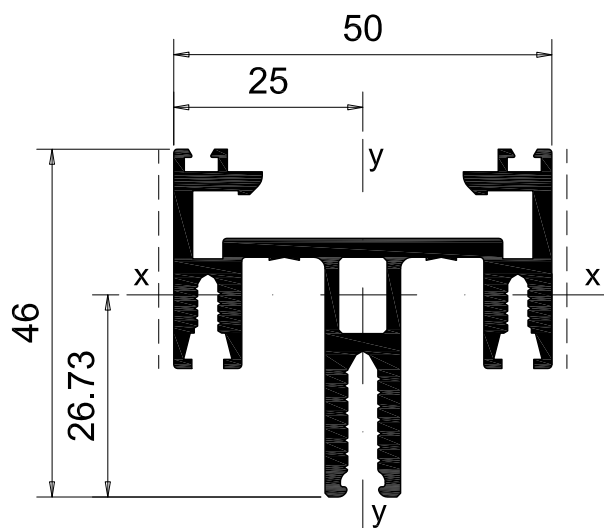


19818	Montante d' angolo a 90° <i>Corner mullion 90</i>		Y X—+—X Y			
	PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
3.470	742	174	132.94	22.81	130.50	22.41

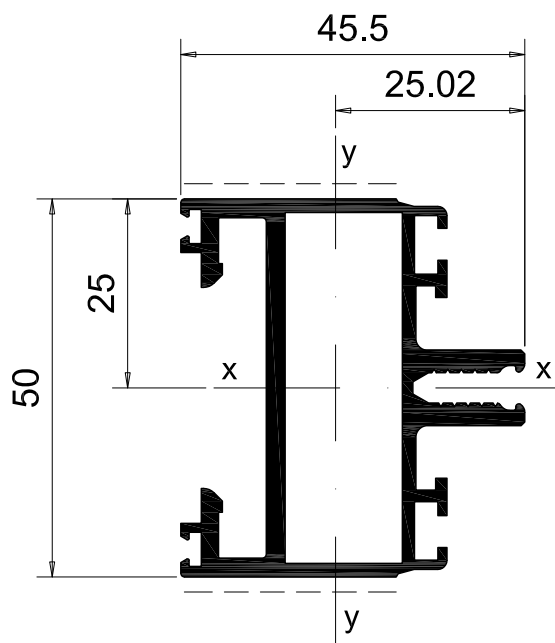
Note:  = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1

EKU 50 GLASS R

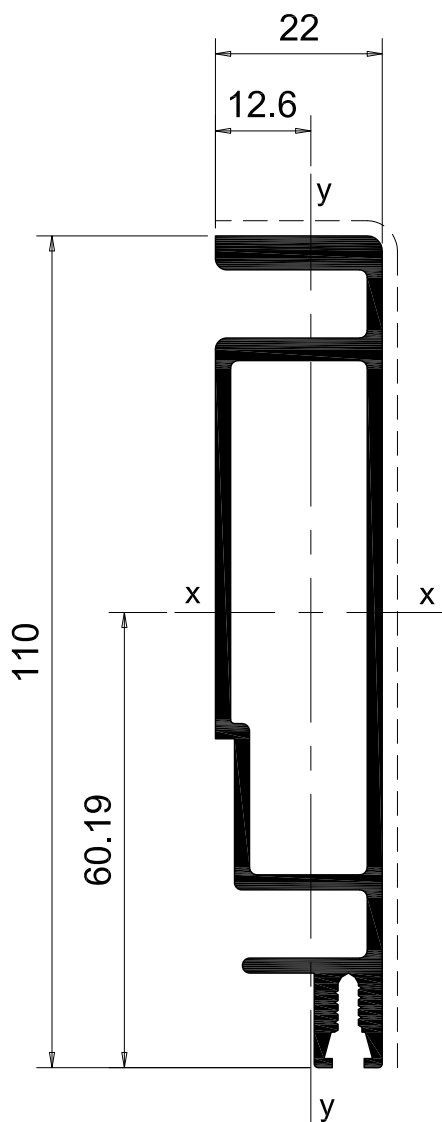


19816	Montante per sottostruttura <i>Mullion with bearing structure</i>		Y X—+—X Y				
	PESO <i>WEIGHT</i>	PERIMETRO <i>PERIMETER</i>	SUP. VISTA <i>SHOWN SURF.</i>	J _x	W _x	J _y	W _y
	Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.517	444	58	6.579	2.461	14.30	5.720	



22674	Traverso per sottostruttura <i>Transom with bearing structure</i>		Y X—+—X Y			
	PESO <i>WEIGHT</i>	PERIMETRO <i>PERIMETER</i>	SUP. VISTA <i>SHOWN SURF.</i>	J _x	W _x	J _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.318	350	56	13.30	5.320	7.567	3.024

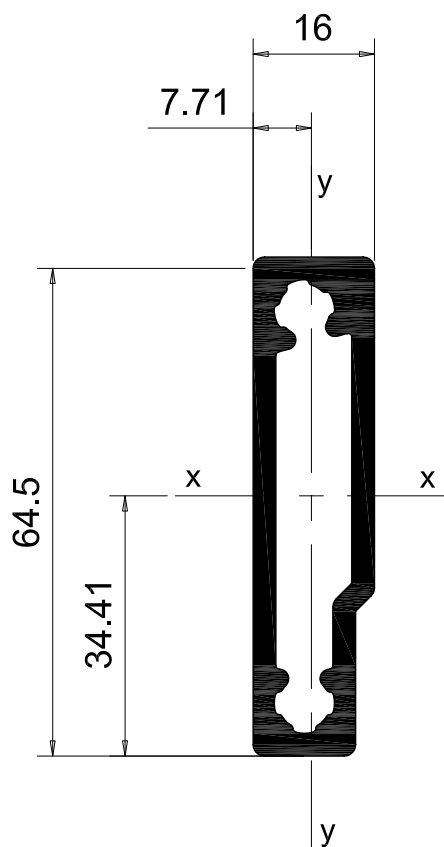
Profili 1:1 - Profiles 1:1



PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	$\begin{matrix} Y \\ X \text{---} X \\ Y \end{matrix}$			
			J_x	W_x	J_y	W_y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.676	362	134	79.05	13.13	4.083	3.240

Note:  = profilo non a stock
profile no stock

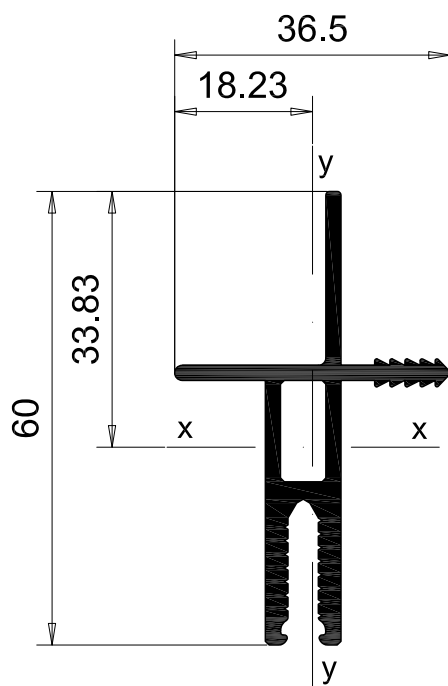
Profili 1:1 - Profiles 1:1



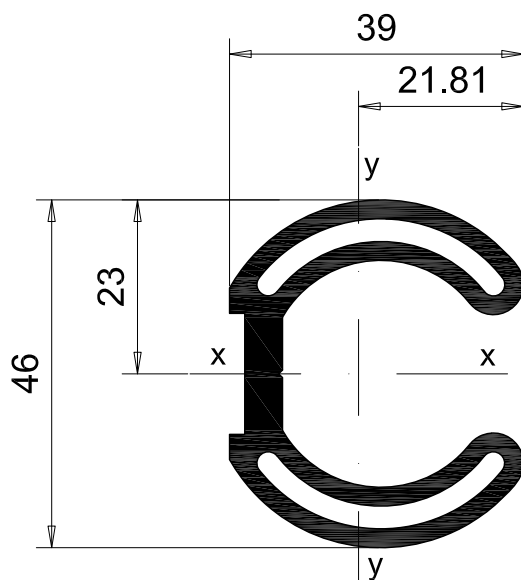
22699	Cannotto per montante angolo variabile <i>Insert profile for angle variable mullion</i>		Y X—X Y			
PESO <i>WEIGHT</i>	PERIMETRO <i>PERIMETER</i>	SUP. VISTA <i>SHOWN SURF.</i>	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.351	160	0	22.92	6.66	1.647	2.136

Note:  = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1



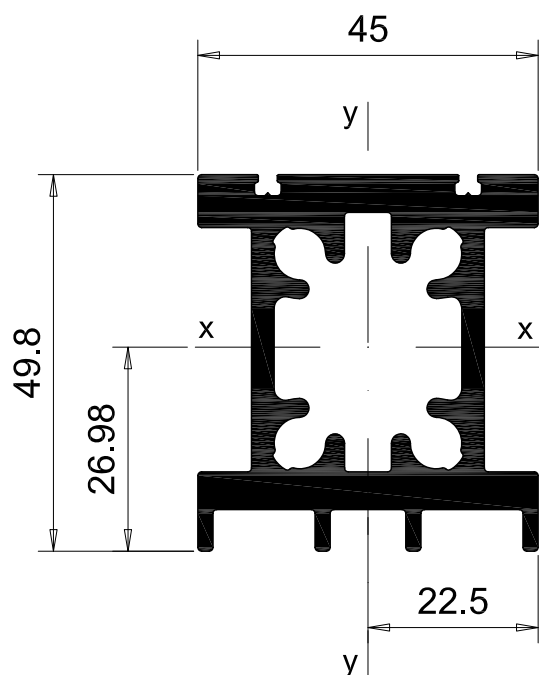
22672	Semi montante per angolo variabile <i>Partly mullion for variable angle</i>					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.856	245	0	6.683	1.975	1.238	0.679



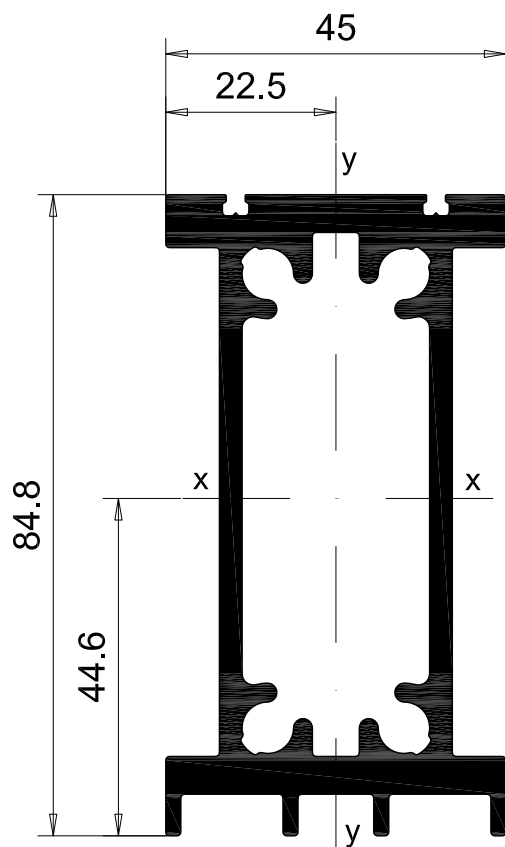
19828	Cavalletto per angoli variabili <i>Adjustable corner T-joint</i>					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.415	212	0	11.42	4.965	7.314	3.353

Note:  = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1

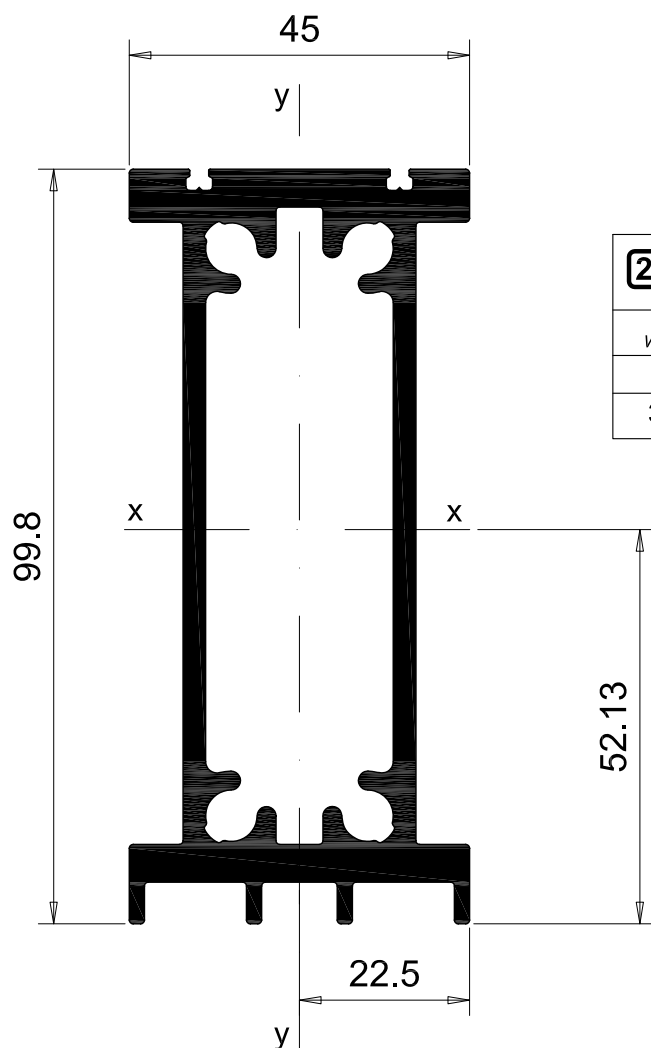


24584	Profilo per canotto da 50 mm. 50 mm. insert profile					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
2.341	260	0	24.90	9.23	14.47	6.43



22613	Profilo per canotto da 85 mm 85 mm. insert profile					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
2.907	330	0	101.84	22.82	18.54	8.240

Profili 1:1 - Profiles 1:1

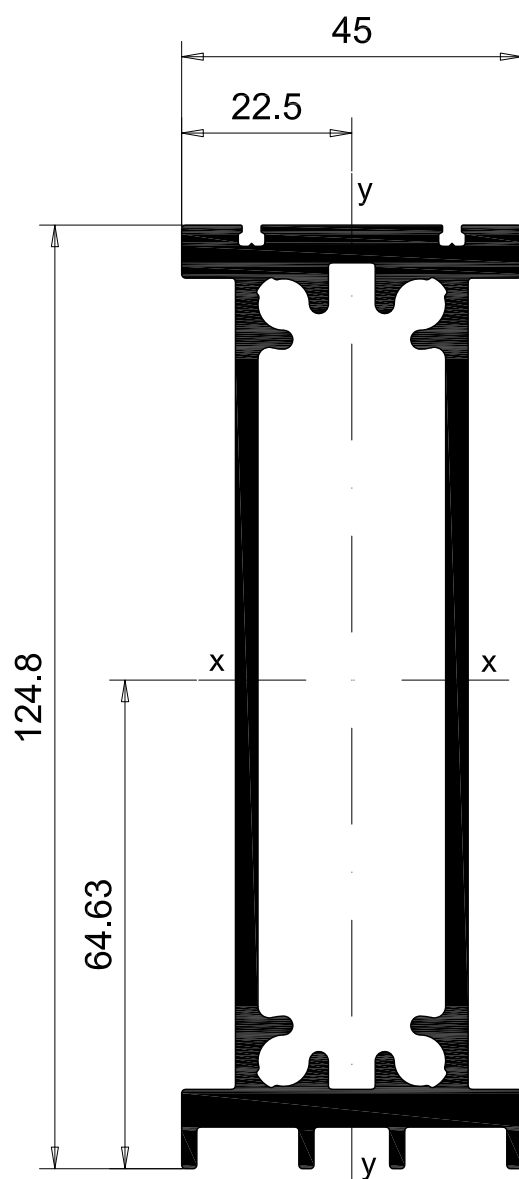


24497	Profilo per canotto da 100 mm. 100 mm. insert profile		Y X—X Y			
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
3.151	360	0	167.08	32.05	16.71	7.43

6405	Asta di comando chiusure <i>Closing rod</i>		Y X—X Y			
PESO <i>WEIGHT</i>	PERIMETRO <i>PERIMETER</i>	SUP. VISTA <i>SHOWN SURF.</i>	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.159	49	15				

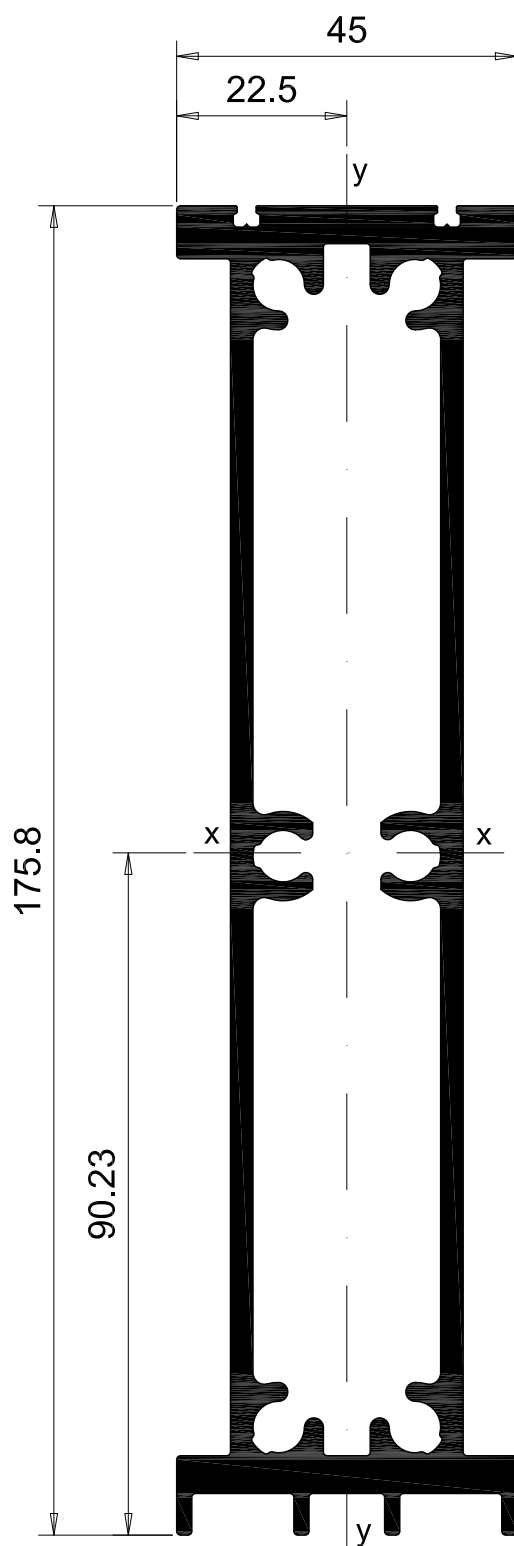
Note:  = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1



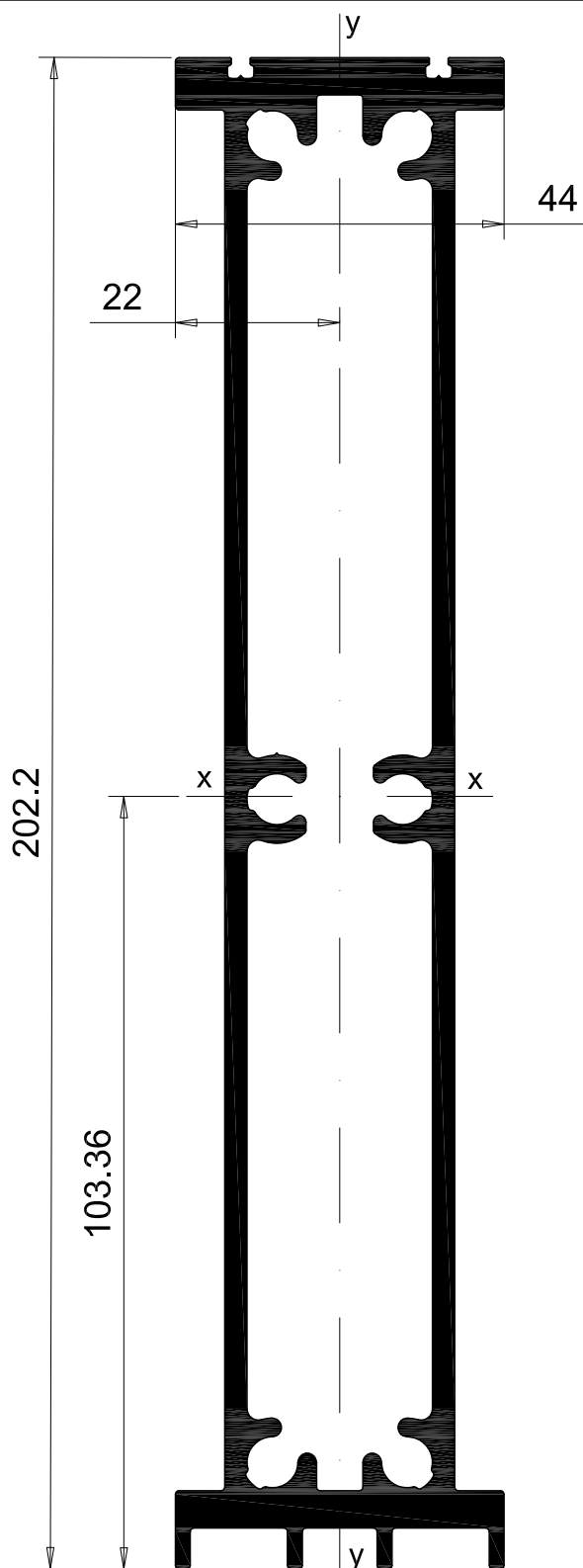
22614	Profilo per canotto da 125 mm 125 mm. insert profile					
	PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y
	Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴
	3.555	410	0	271.25	41.97	23.20

Profili 1:1 - Profiles 1:1



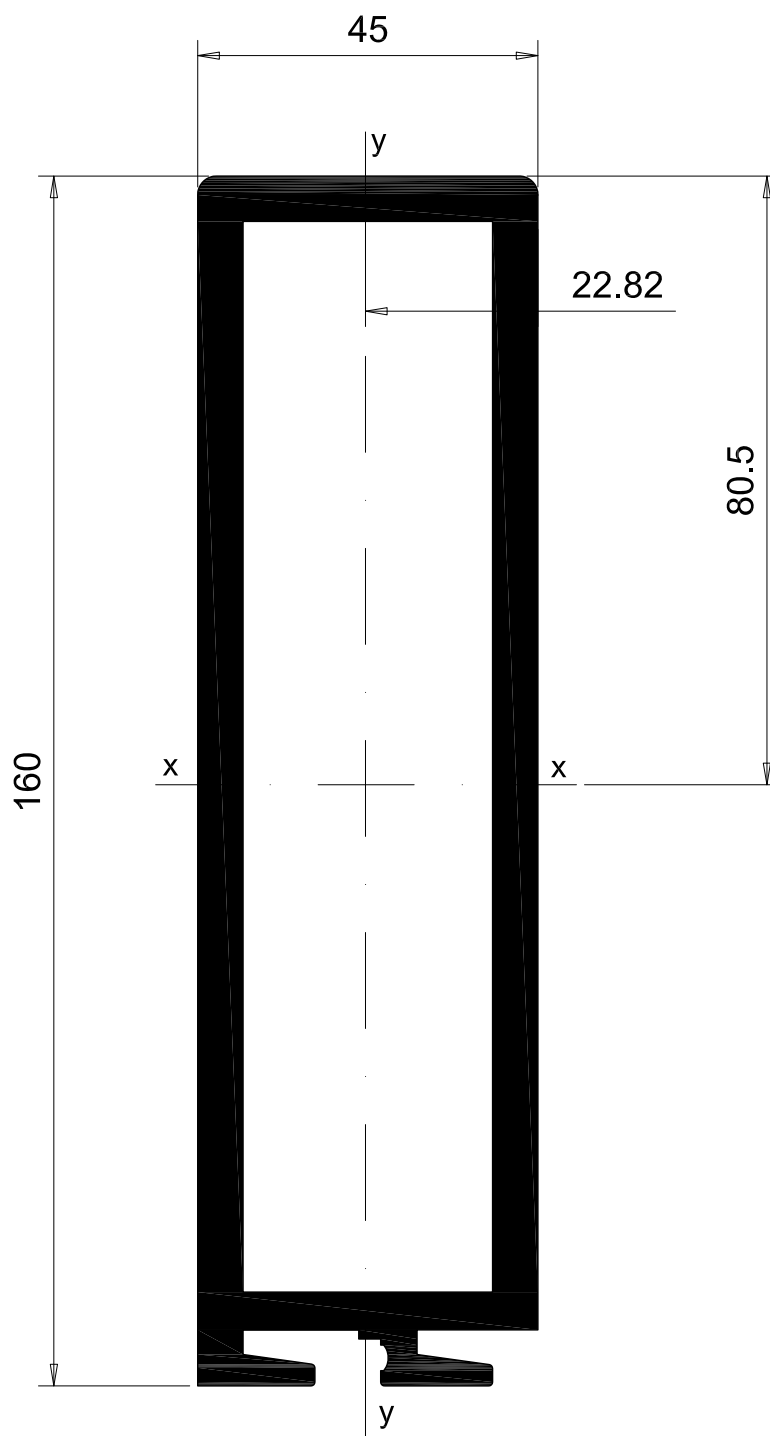
22673	Profilo per canotto da 176 mm <i>176 mm. insert profile</i>						
	PESO <i>WEIGHT</i>	PERIMETRO <i>PERIMETER</i>	SUP. VISTA <i>SHOWN SURF.</i>	J _x	W _x	J _y	W _y
	Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
4.633	512	0	642.78	71.24	29.91	13.29	

Profili 1:1 - Profiles 1:1



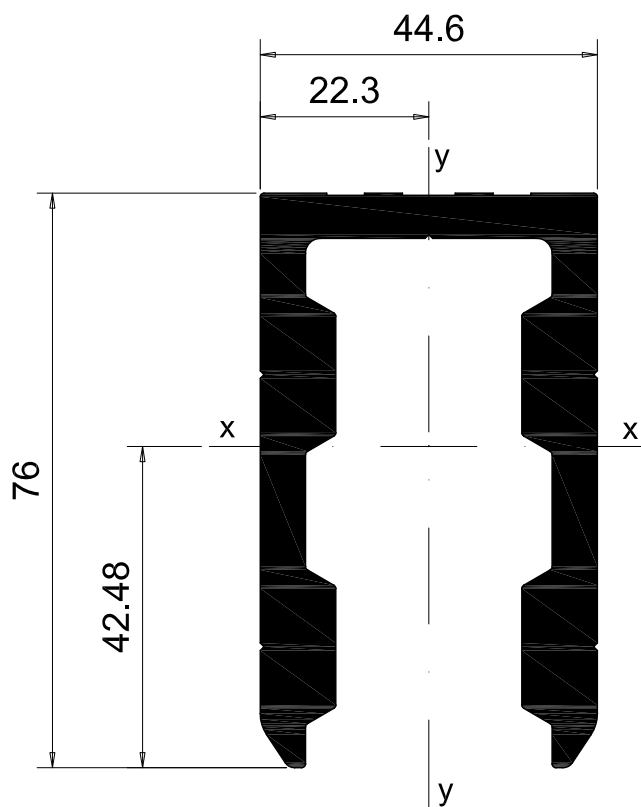
24482	Profilo per canotto da 202 mm 202 mm. insert profile					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
5.028	560	0	904.46	87.51	32.34	14.70

Profili 1:1 - Profiles 1:1

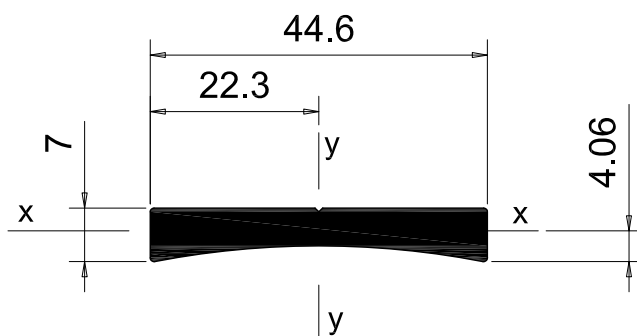


19829	Cannotto montanti per angoli variabili (barra = 4 mt) <i>Adjustable corner mullions insert (L bar = 4 mt)</i>		Y X— —X Y			
	PESO <i>WEIGHT</i>	PERIMETRO <i>PERIMETER</i>	SUP. VISTA <i>SHOWN SURF.</i>	J _x	W _x	J _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
6.317	459	0	642.73	79.84	76.05	33.32

Profili 1:1 - Profiles 1:1



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

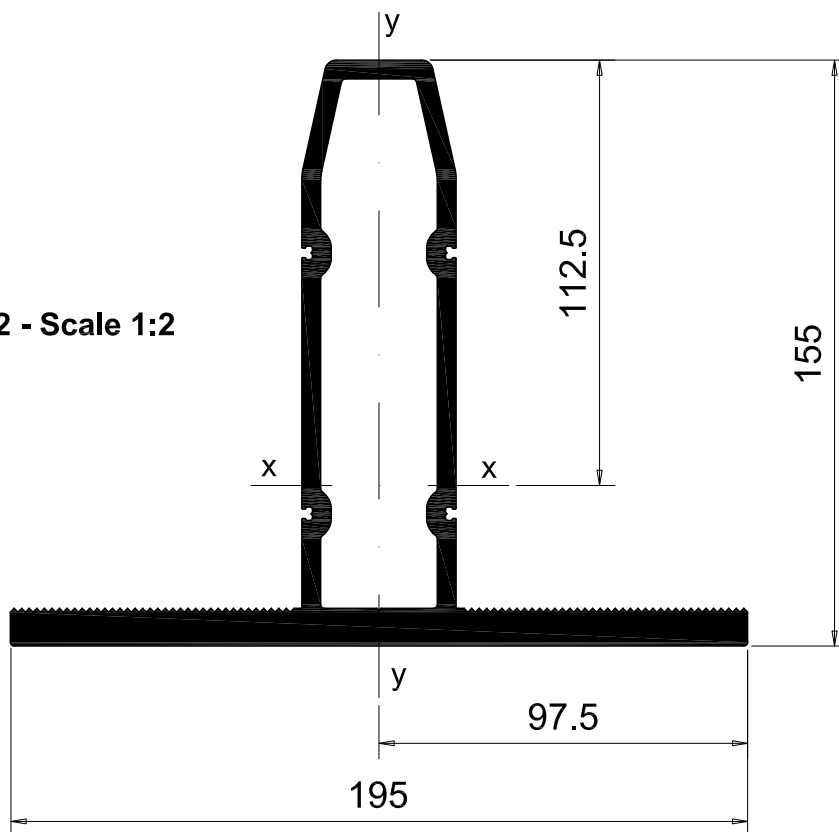


22698	Profilo compensatore per cannotto 22697 <i>Compensating profile for insert 22697</i>					
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J_x	W_x	J_y	W_y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.688	103	0	0.748	1.842	4.649	2.085

Note:  = profilo non a stock
profile no stock

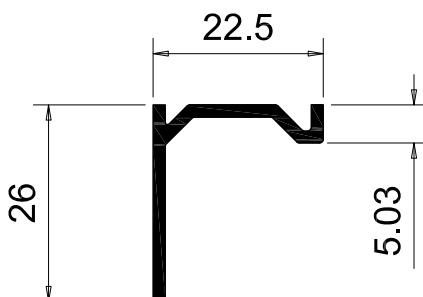
Profili - Profiles

Scala 1:2 - Scale 1:2



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

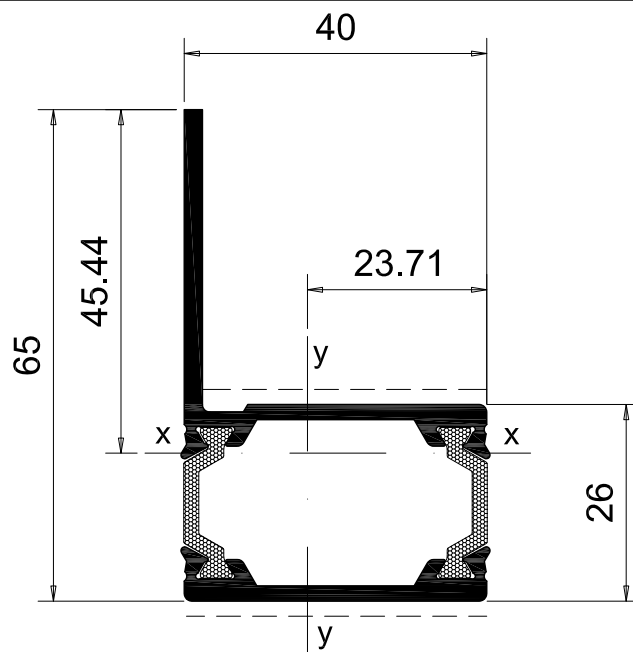
Scala 1:1 - Scale 1:1



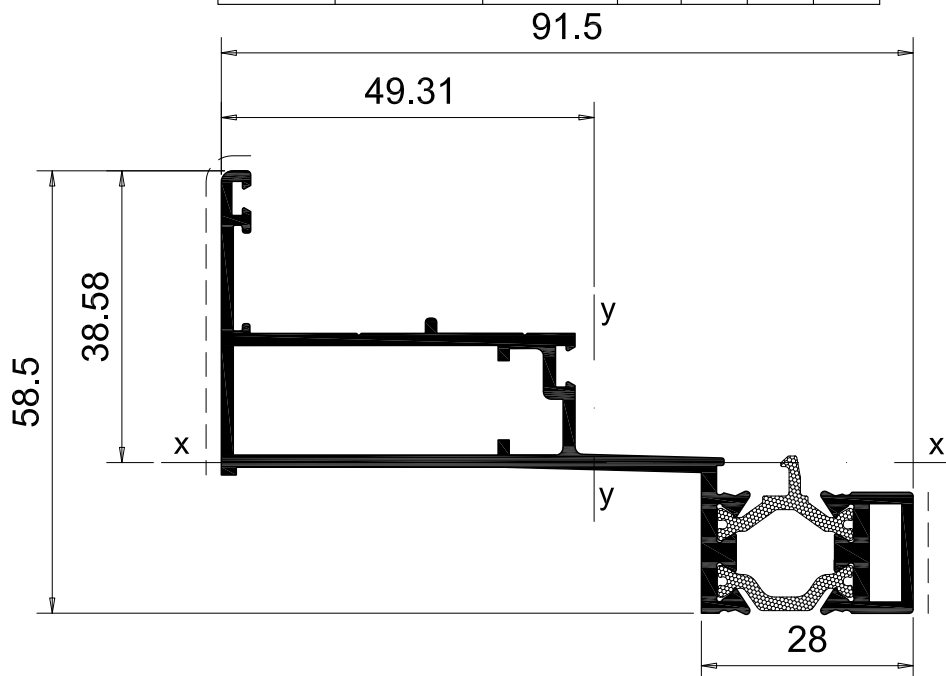
24585	Profilo per raccordo inferiore <i>Profile building lower connection</i>		Y X—+—X Y			
PESO <i>WEIGHT</i>	PERIMETRO <i>PERIMETER</i>	SUP. VISTA <i>SHOWN SURF.</i>	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
0.230	107	0				

Note:  = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1

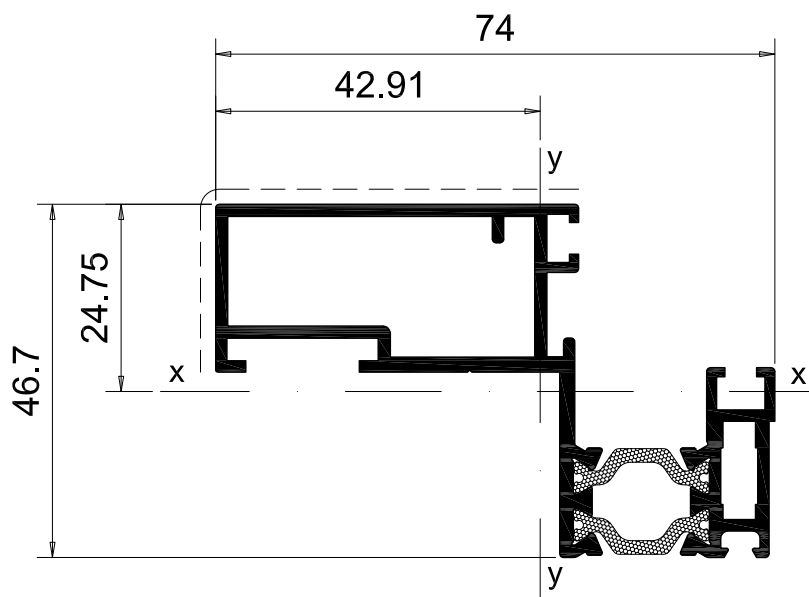


TTE156	Distanziatore a muro a taglio termico Thermal break wall spacer						
	PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
	Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
	1.031	232	78	11.48	2.526	7.008	2.956

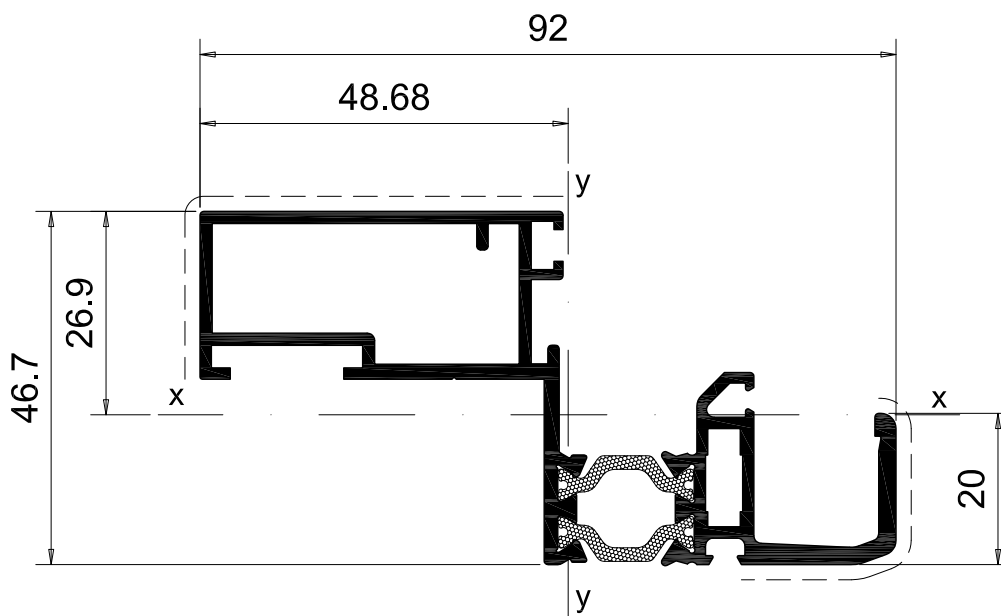


TTE160	Telaio fisso per aperture a sporgere <i>Fixed frame for awning windows</i>		Y X—+—X Y			
	PESO <i>WEIGHT</i>	PERIMETRO <i>PERIMETER</i>	SUP. VISTA <i>SHOWN SURF.</i>	J _x	W _x	J _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.356	367	60	8.750	2.268	42.81	8.682

Profili 1:1 - Profiles 1:1



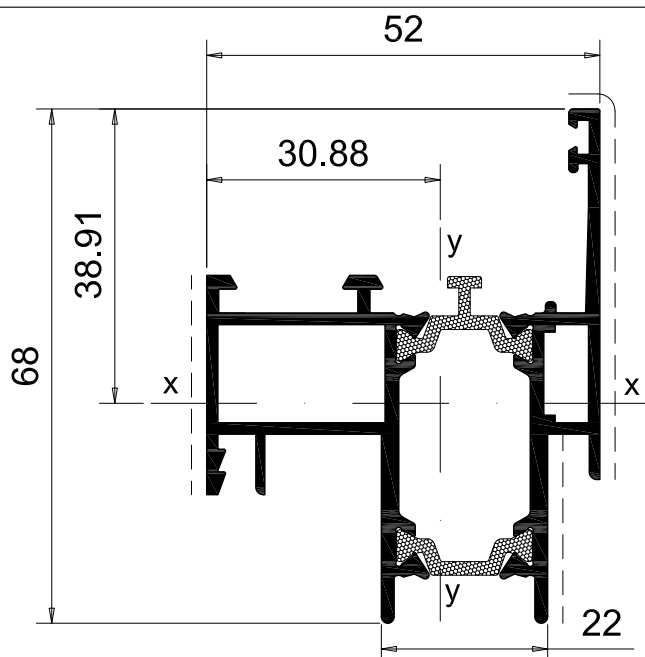
TTE161	Telaio apribile strutturale per aperture a sporgere <i>Structural leaf frame for awning window</i>					
			J _x	W _x	J _y	W _y
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	cm ⁴	cm ³	cm ⁴	cm ³
1.298	360	69	9.164	3.702	22.57	5.260



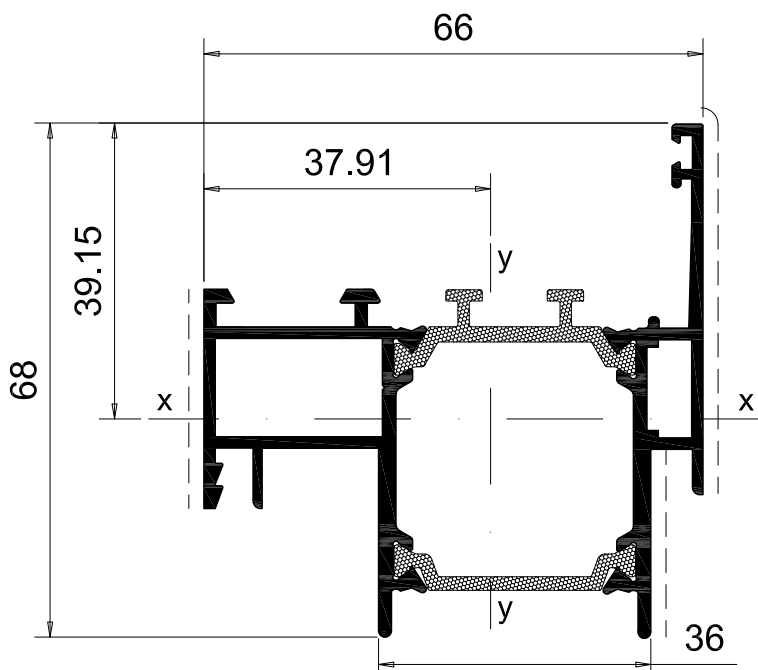
TTE162	Telaio apribile per aperture a sporgere <i>Leaf frame for awning windows</i>					
			J _x	W _x	J _y	W _y
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	cm ⁴	cm ³	cm ⁴	cm ³
1.515	424	109	12.03	4.472	37.71	7.746

Note:  = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1



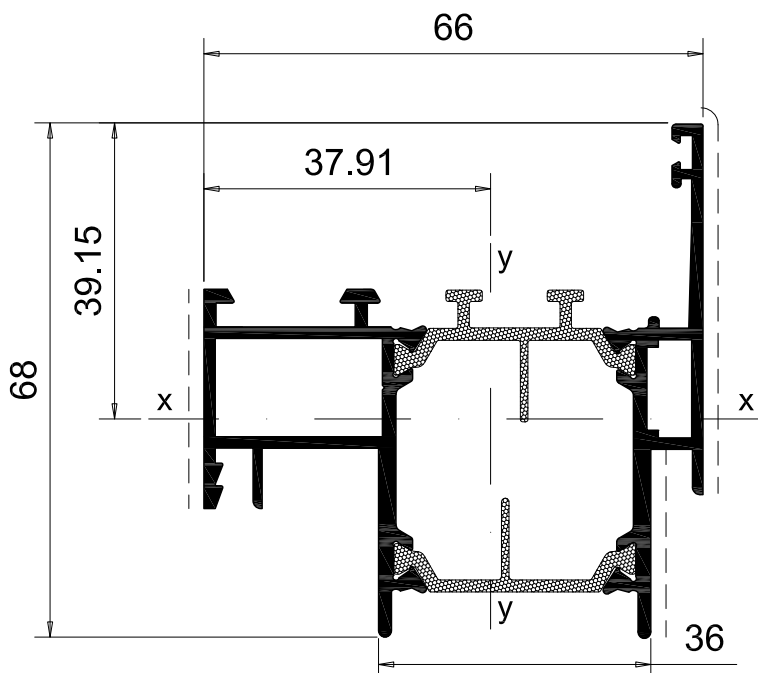
TTE556	Telaio per inserimento anta apribileserie EKU 52 TT Frame for openable leaf insertionseries EKU 52 TT		Y X—X Y			
	PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.357	390	106	10.09	2.593	13.71	4.440



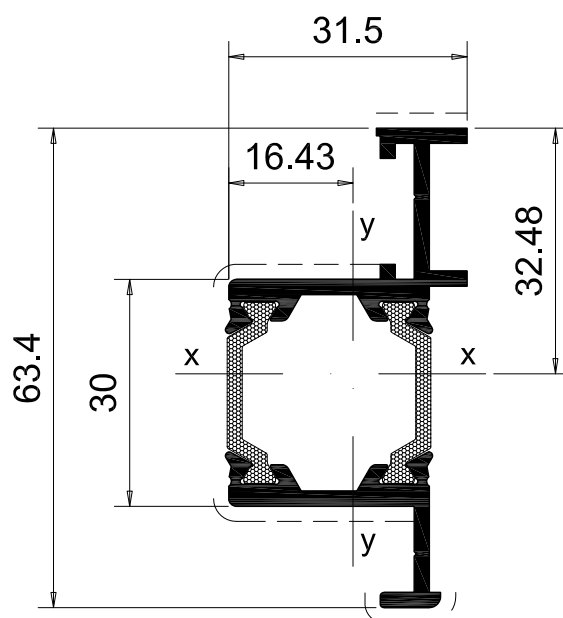
TTE756	Telaio per inserimento anta apribileserie EKU 66 TT <i>Frame for openable leaf insertionseries EKU 66 TT</i>		Y X—X Y			
	PESO <i>WEIGHT</i>	PERIMETRO <i>PERIMETER</i>	SUP. VISTA <i>SHOWN SURF.</i>	J _x	W _x	J _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.453	433	106	10.11	2.582	25.78	6.800

Note:  = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1

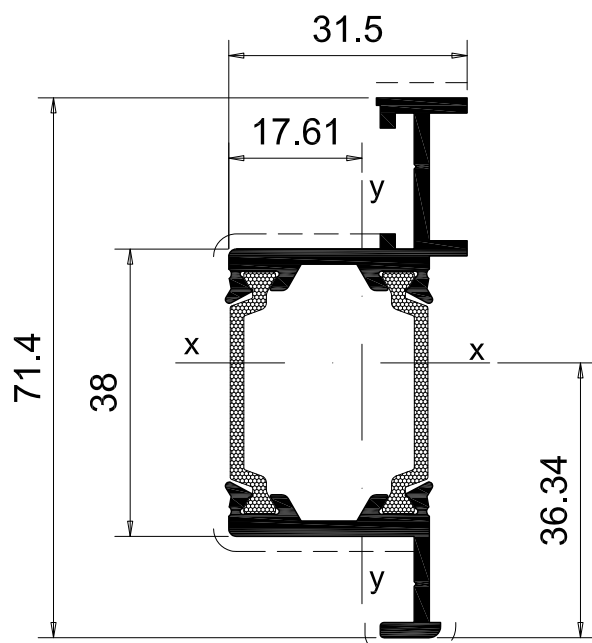


TTE956	Telaio per inserimento anta apribileserie EKU 66 TT HPS <i>Frame for openable leaf insertionseries EKU 66 TT HPS</i>					
			J _x	W _x	J _y	W _y
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	cm ⁴	cm ³	cm ⁴	cm ³
1.407	433	106	10.11	2.582	25.78	6.800

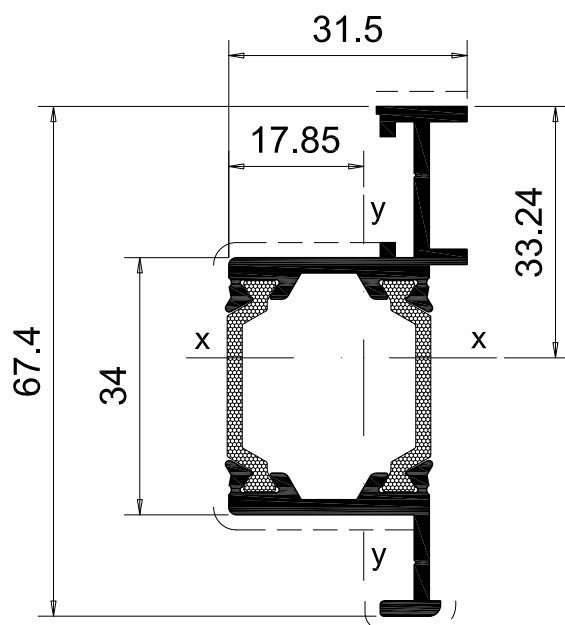


TTE163	Telaio per inserimento porte serie EKU 66 TT PORTE <i>Frame for door leaf insertion series EKU 66 TT PORTE</i>					
			J _x	W _x	J _y	W _y
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	cm ⁴	cm ³	cm ⁴	cm ³
0.999	258	69	10.62	3.270	2.607	1.586

Profili 1:1 - Profiles 1:1



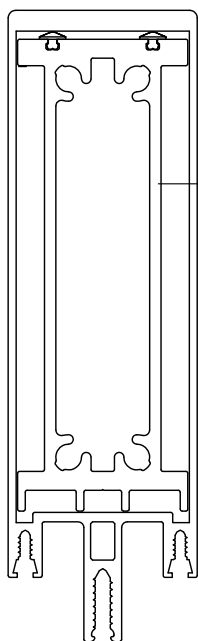
TTE165	Telaio per inserimento porte serie EKU 78 TT <i>Frame for door leaf insertion series</i> EKU 78 TT		Y X—X Y			
PESO WEIGHT	PERIMETRO PERIMETER	SUP. VISTA SHOWN SURF.	J _x	W _x	J _y	W _y
Kg/m	mm	mm	cm ⁴	cm ³	cm ⁴	cm ³
1.049	274	69	15.36	4.227	2.79	1.584



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

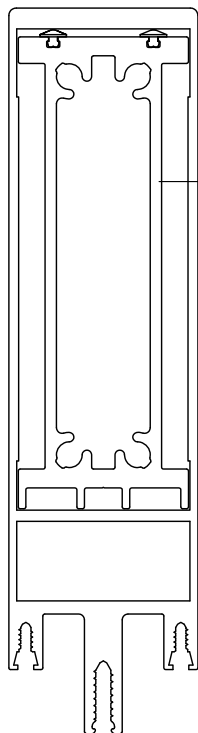
Note:  = profilo non a stock
profile no stock

Profili 1:1 - Profiles 1:1



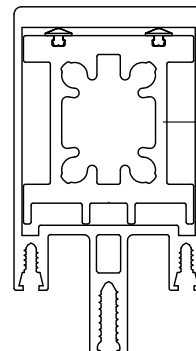
Montante 19801

553-0051
oppure profilo
22614



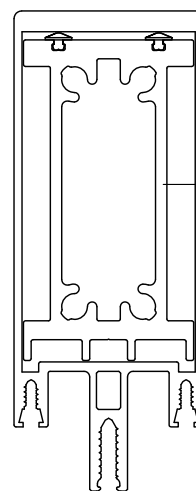
Montante 19814

553-0051
oppure profilo
22614



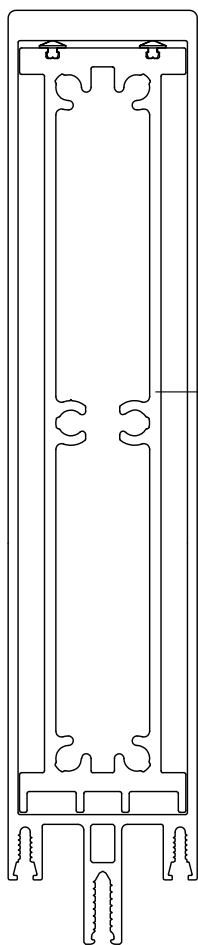
Montante 24582

EA-0199
oppure profilo
24584



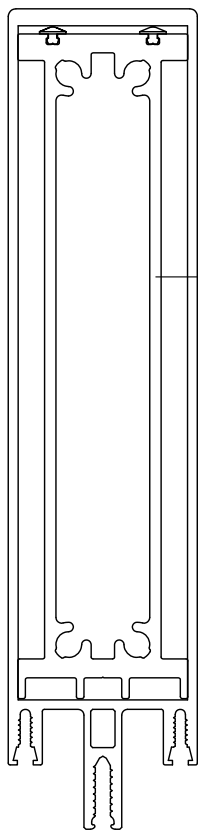
Montante 19813

553-0050
oppure profilo
22613



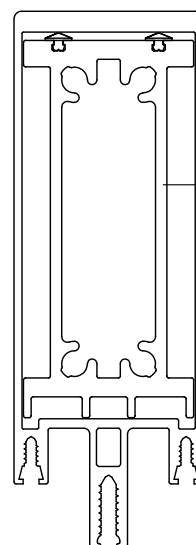
Montante 24481

EA-0189
oppure profilo
24482



Montante 22670

553-0066
oppure profilo
22673



Montante 24496

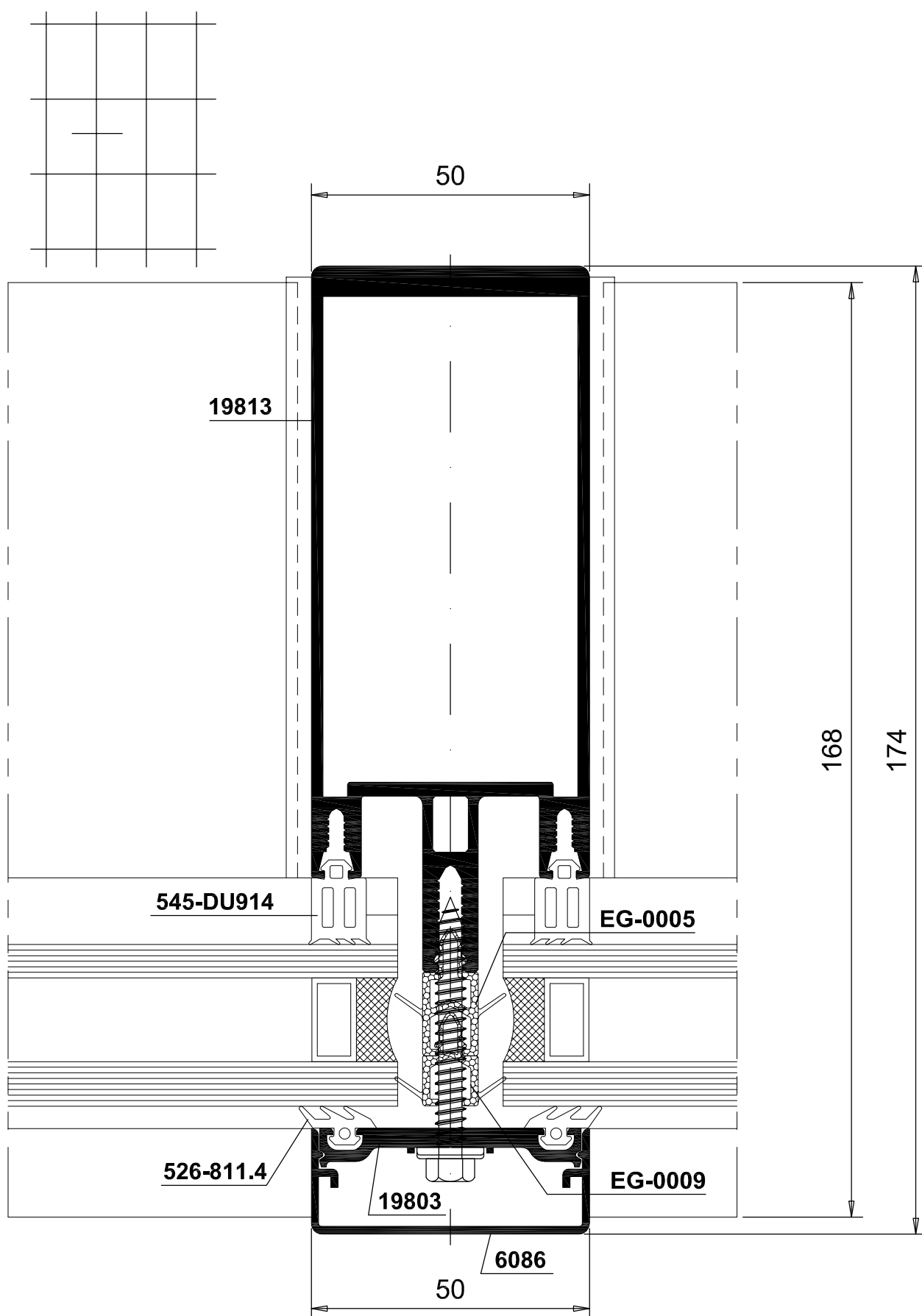
EA-0194
oppure profilo
24497

SEZIONI IN SCALA 1:1

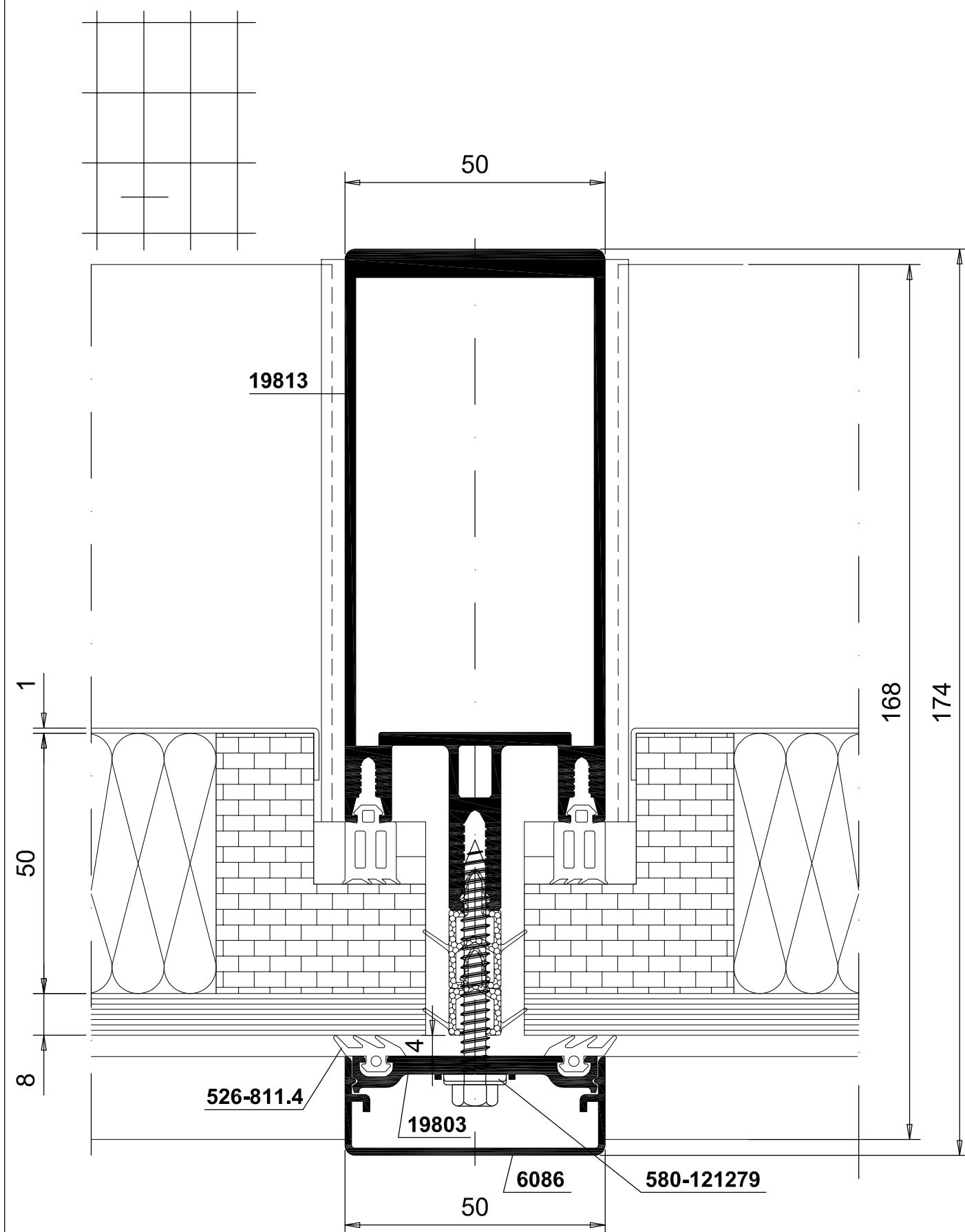


CROSS SECTIONS 1:1

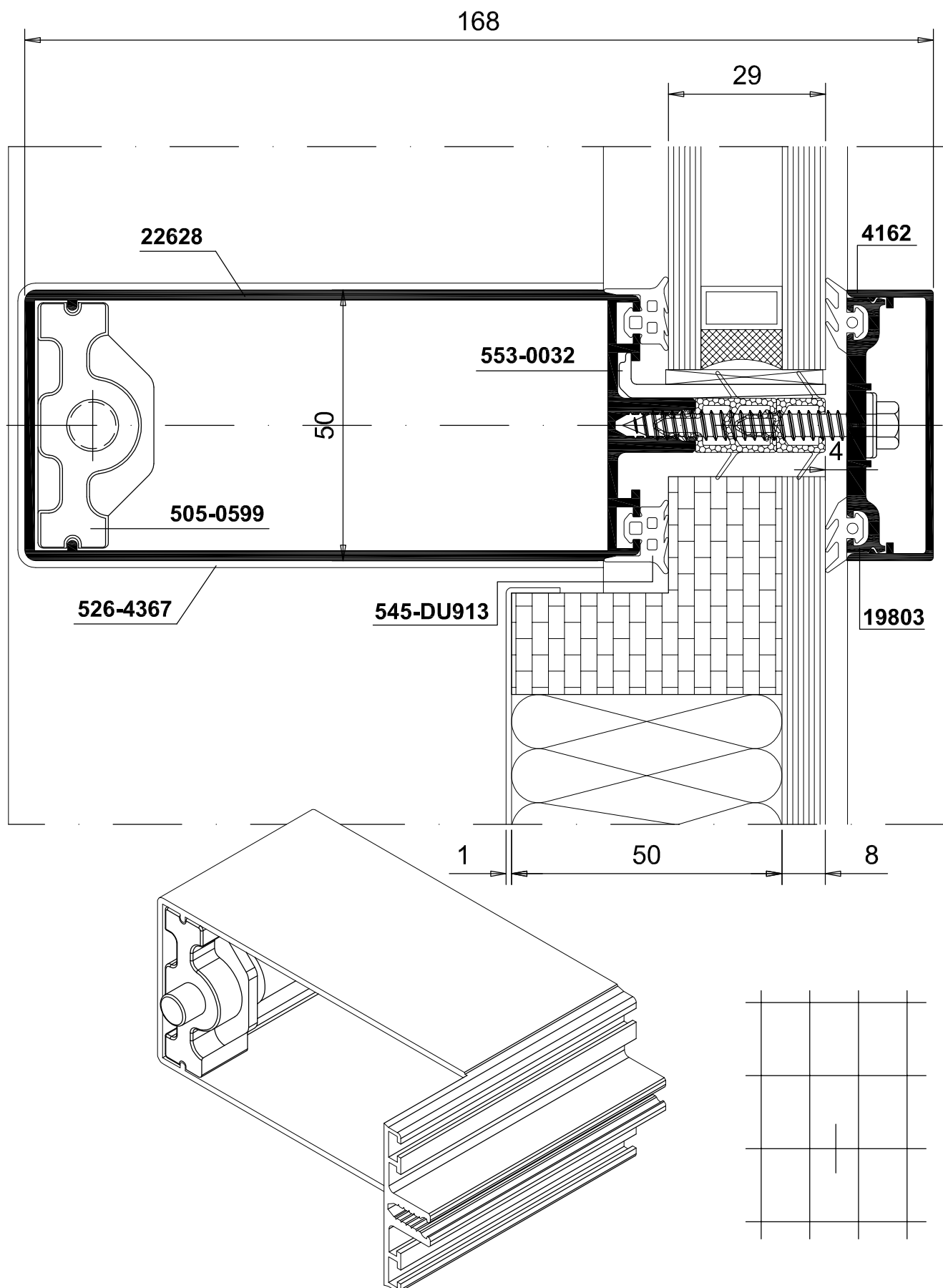
Sezioni 1:1 - Cross sections 1:1



Sezioni 1:1 - Cross sections 1:1



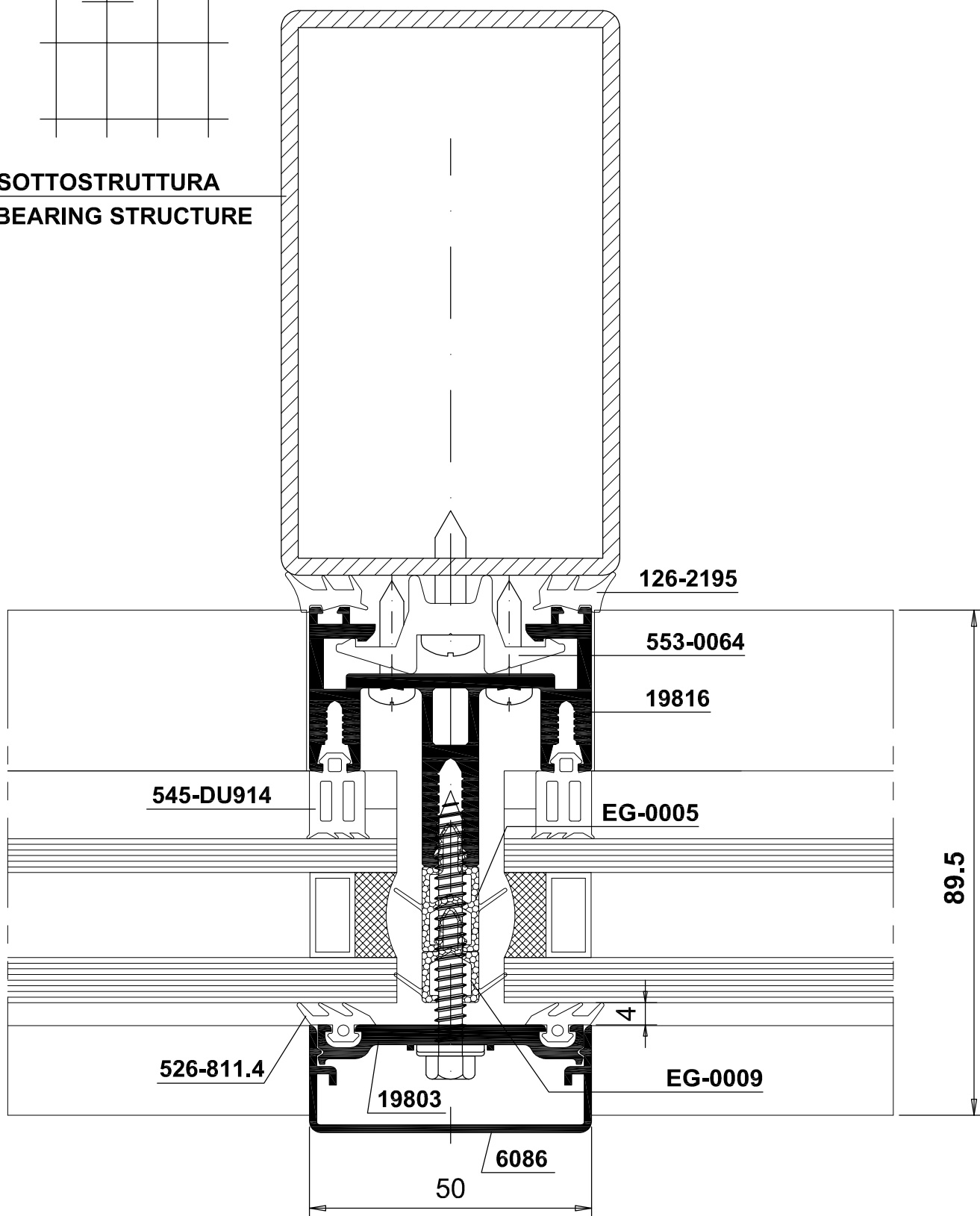
Sezioni 1:1 - Cross sections 1:1



Sezioni 1:1 - Cross sections 1:1

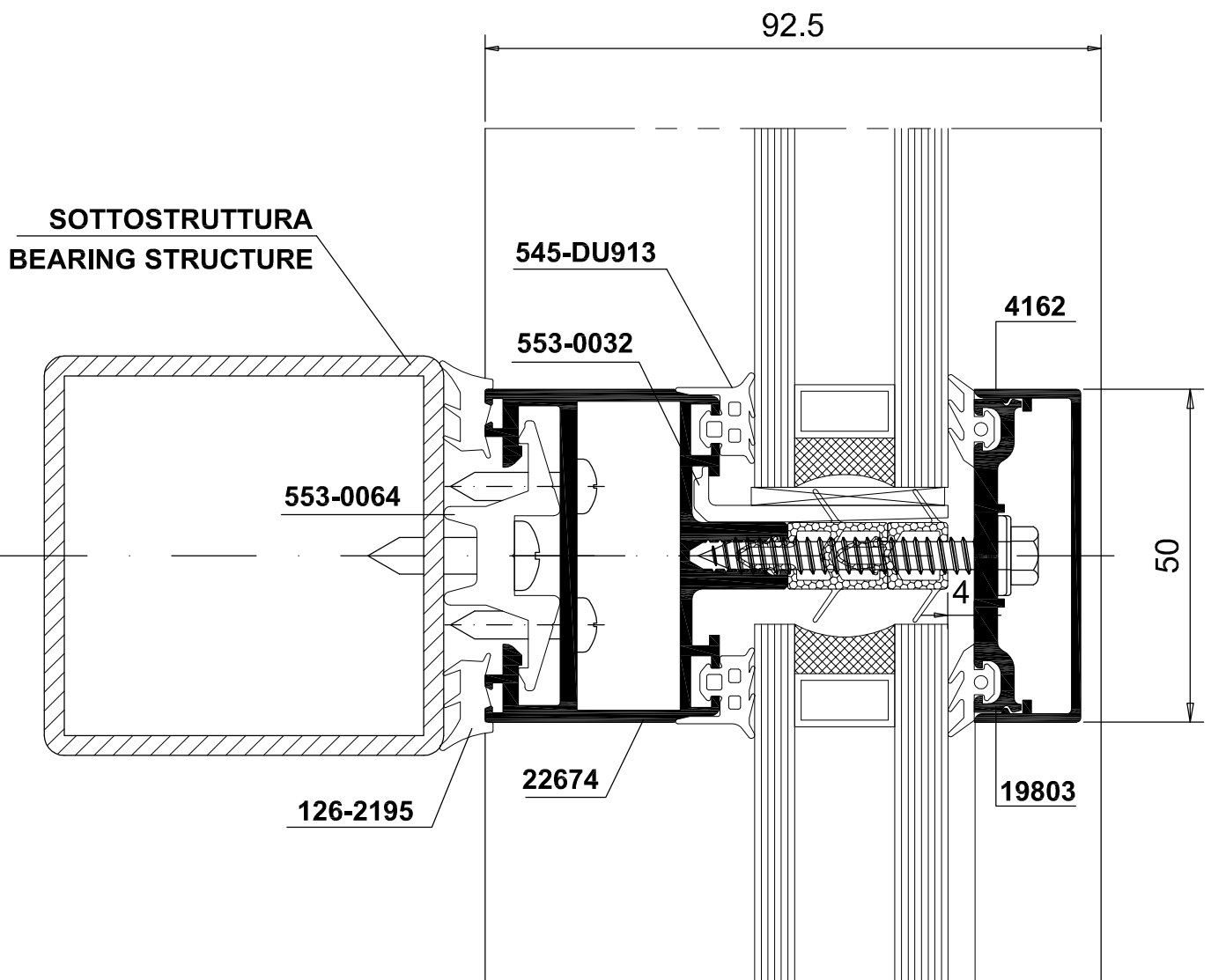
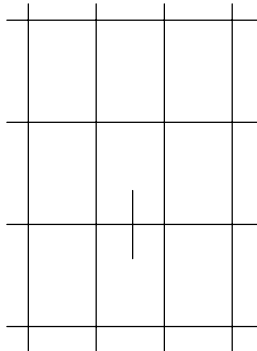
EKU 50 GLASS R

**SOTTOSTRUTTURA
BEARING STRUCTURE**

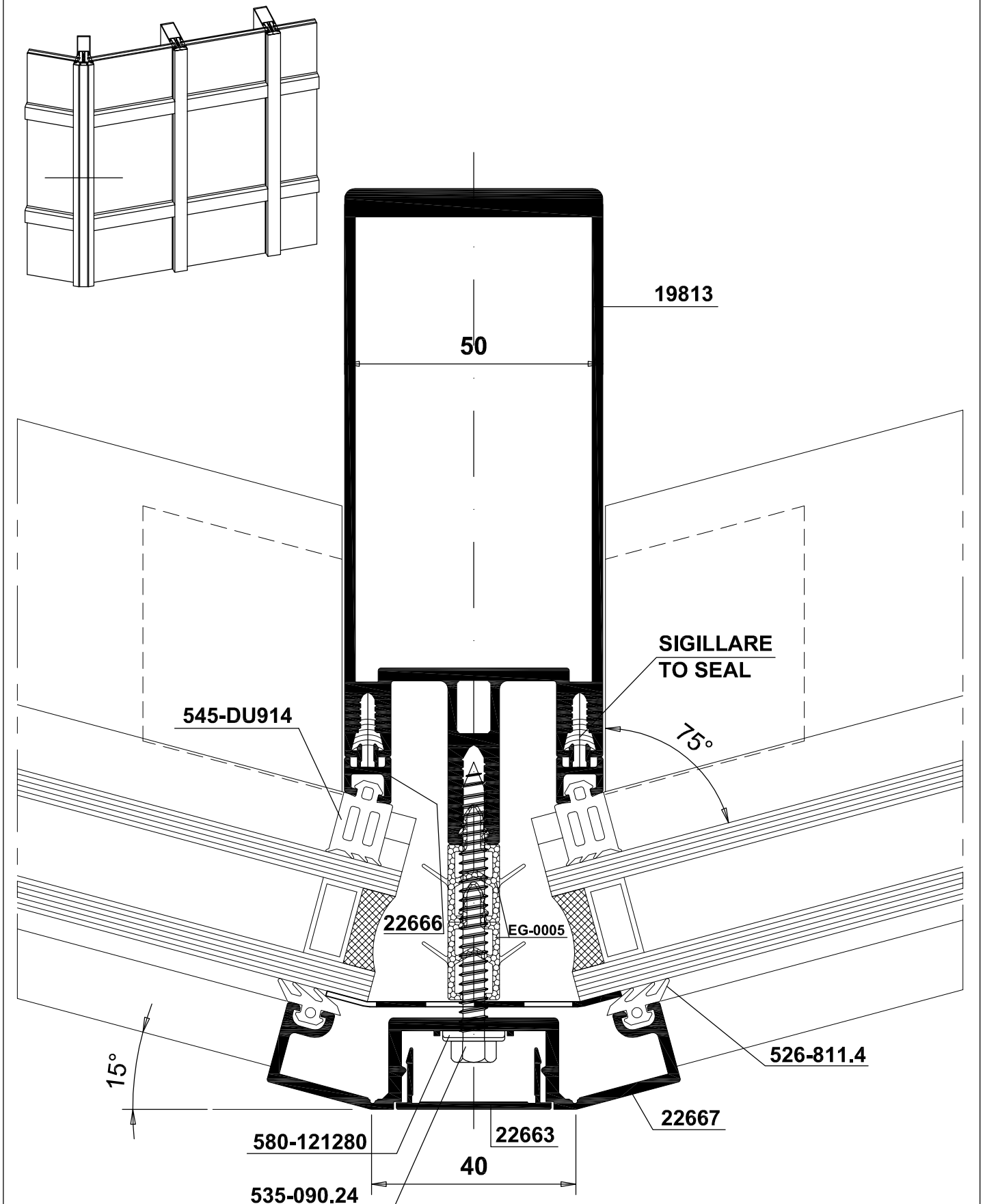


Sezioni 1:1 - Cross sections 1:1

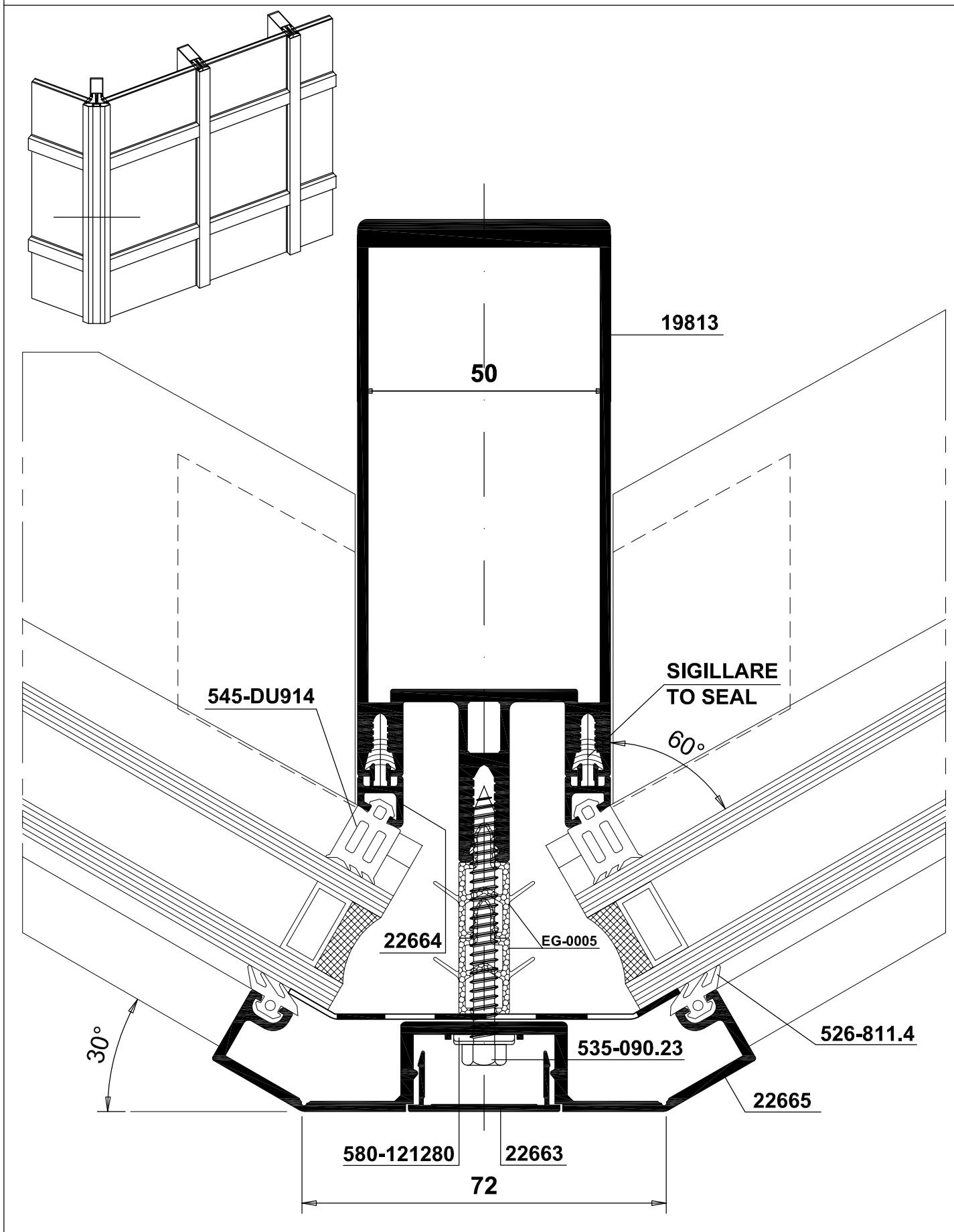
EKU 50 GLASS R



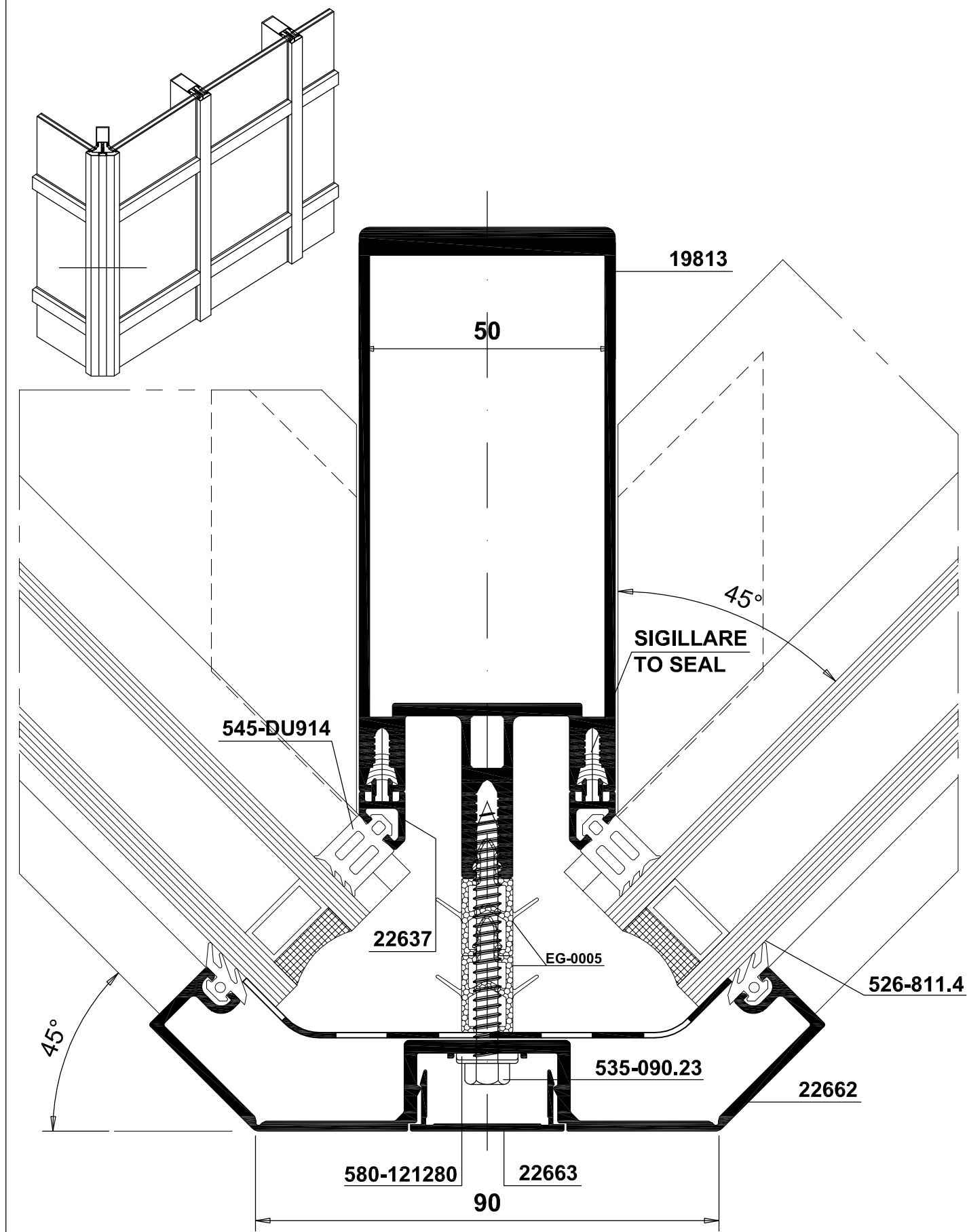
Sezioni 1:1 - Cross sections 1:1



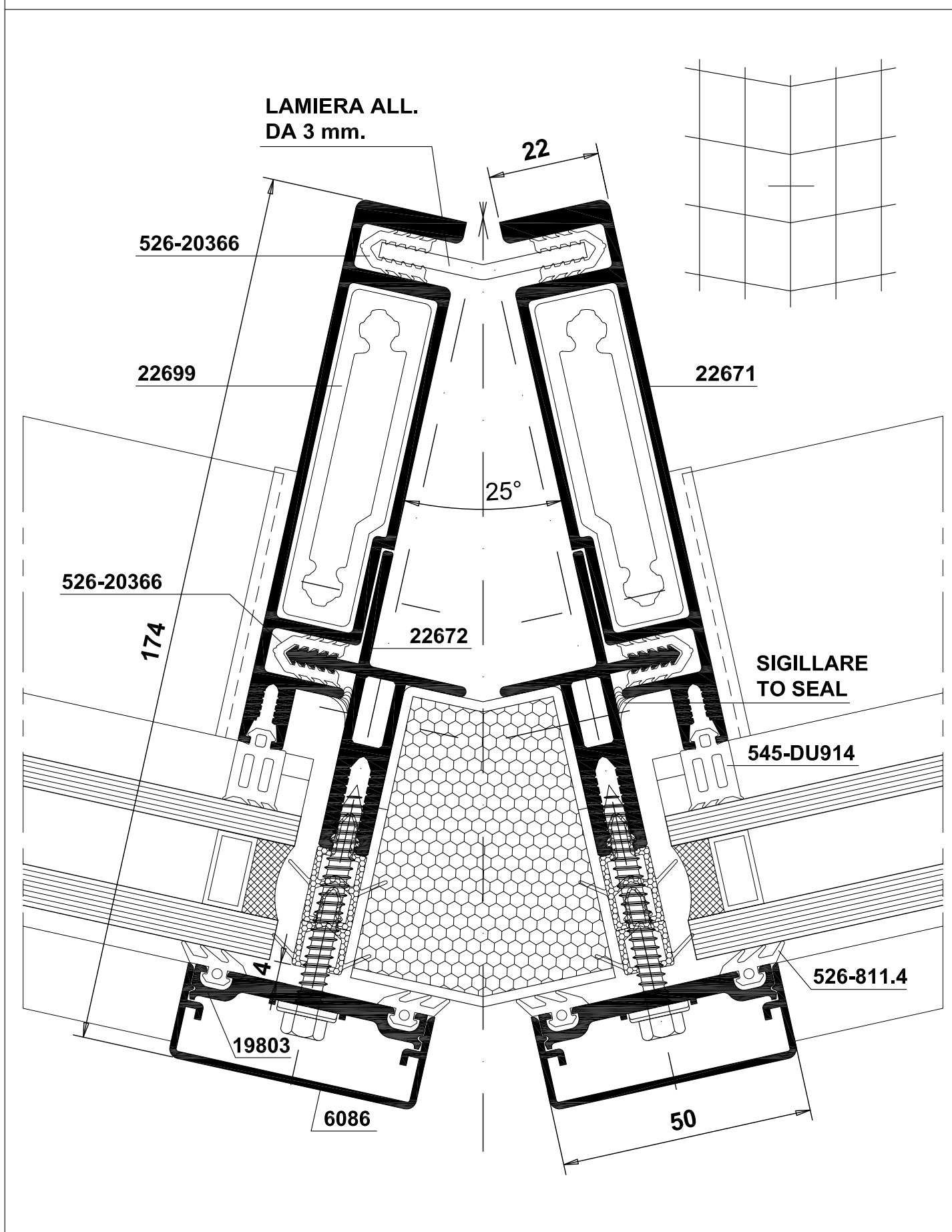
Sezioni 1:1 - Cross sections 1:1



Sezioni 1:1 - Cross sections 1:1



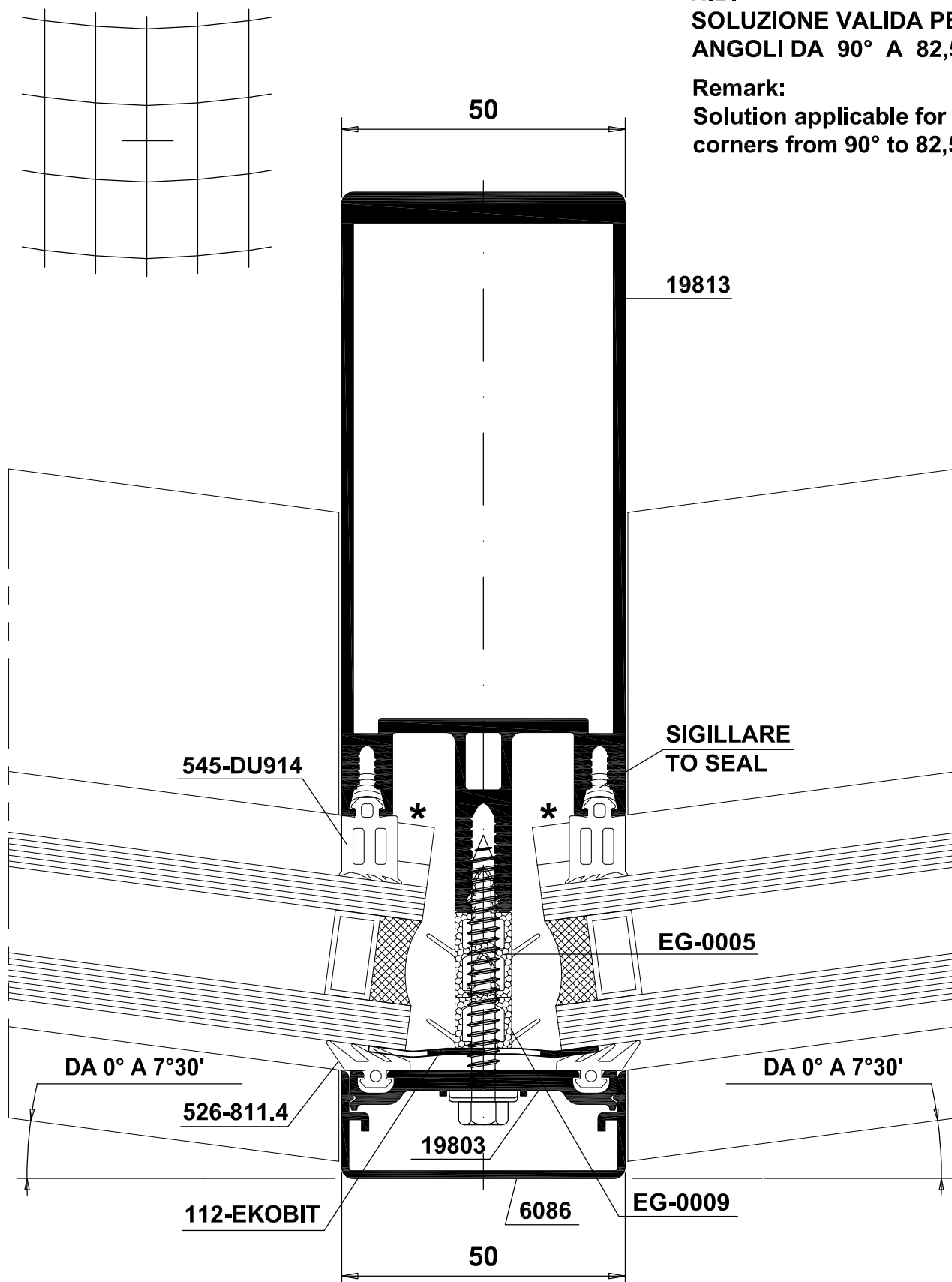
Sezioni 1:1 - Cross sections 1:1



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°



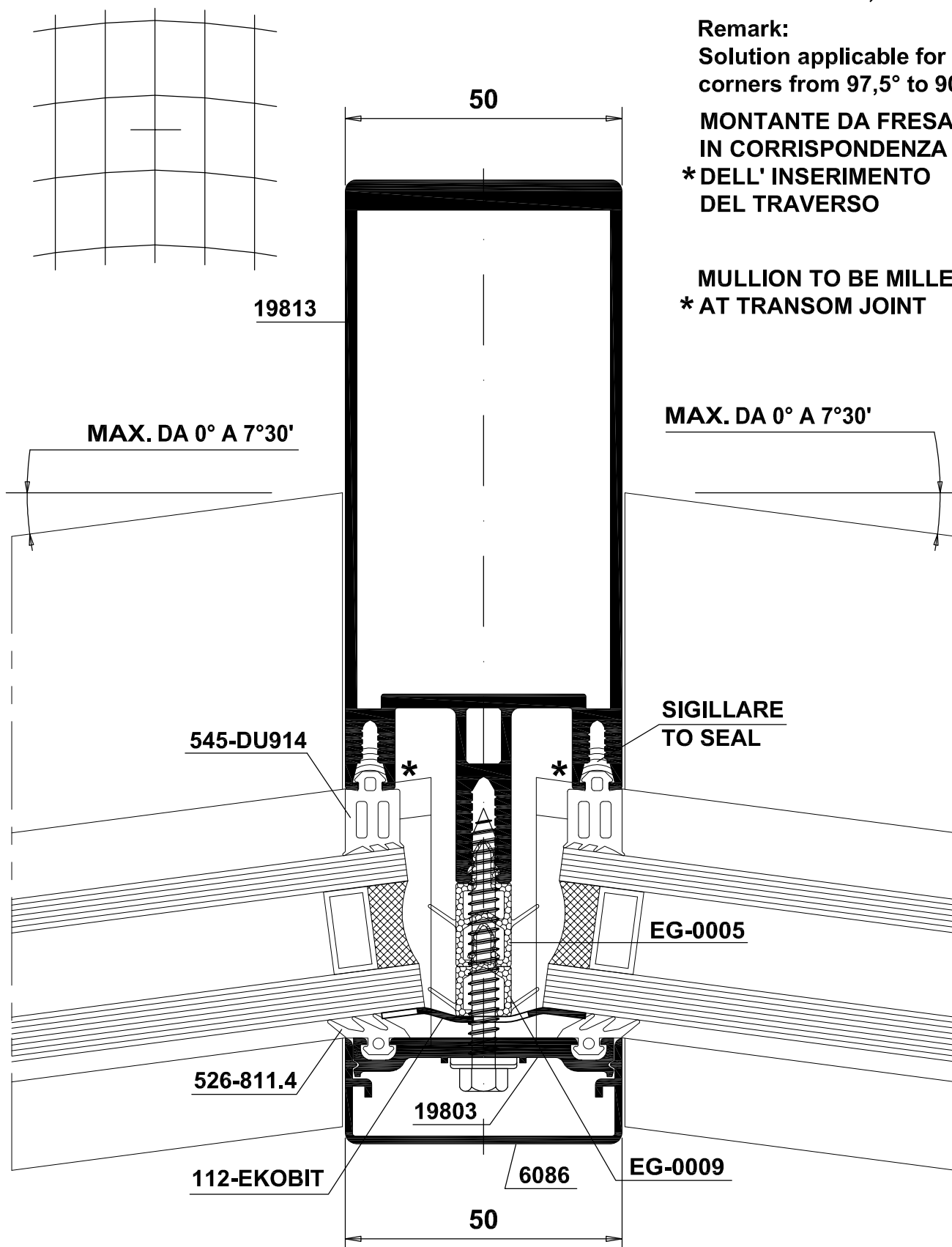
Sezioni 1:1 - Cross sections 1:1

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

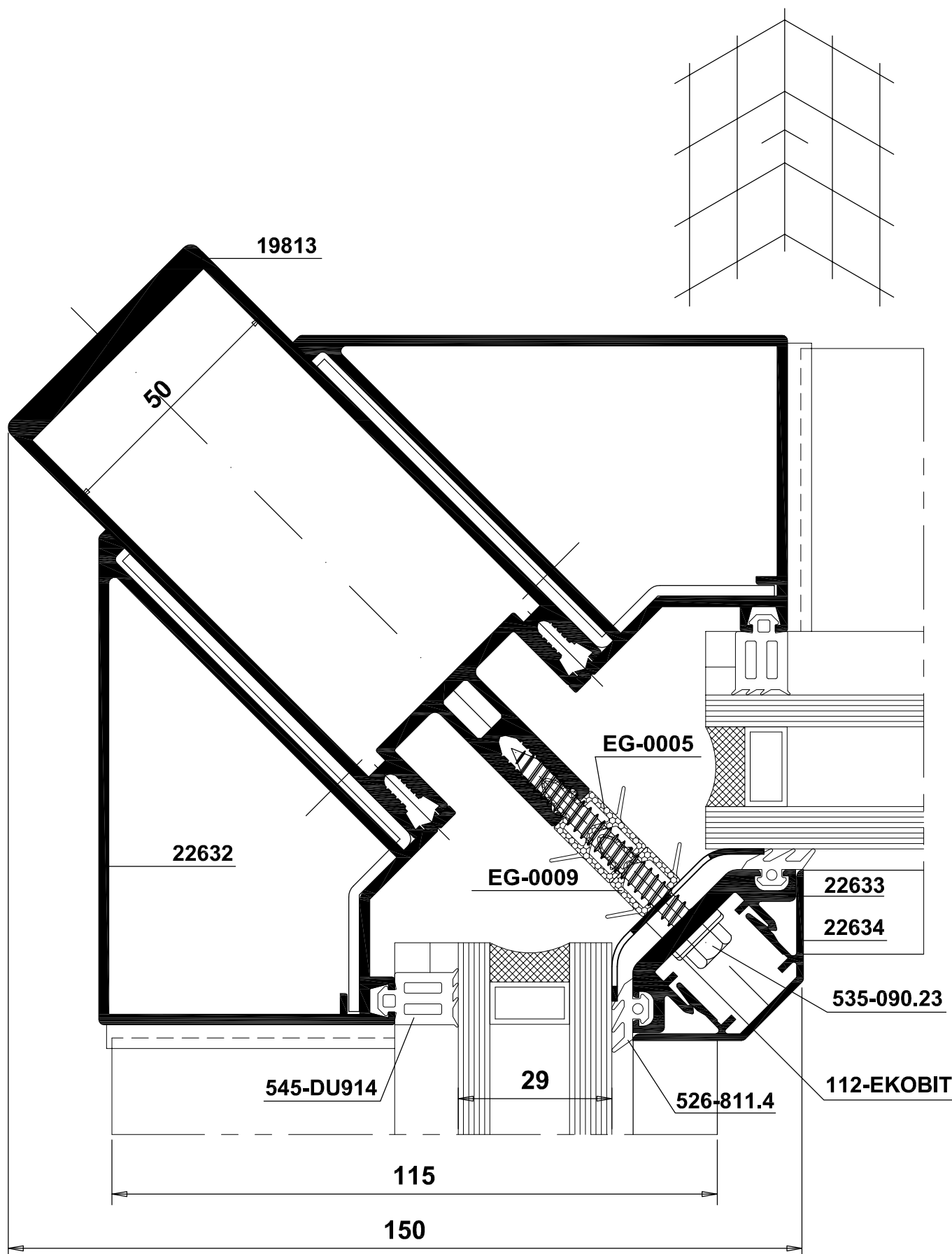
Remark:
Solution applicable for
corners from 97,5° to 90°

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

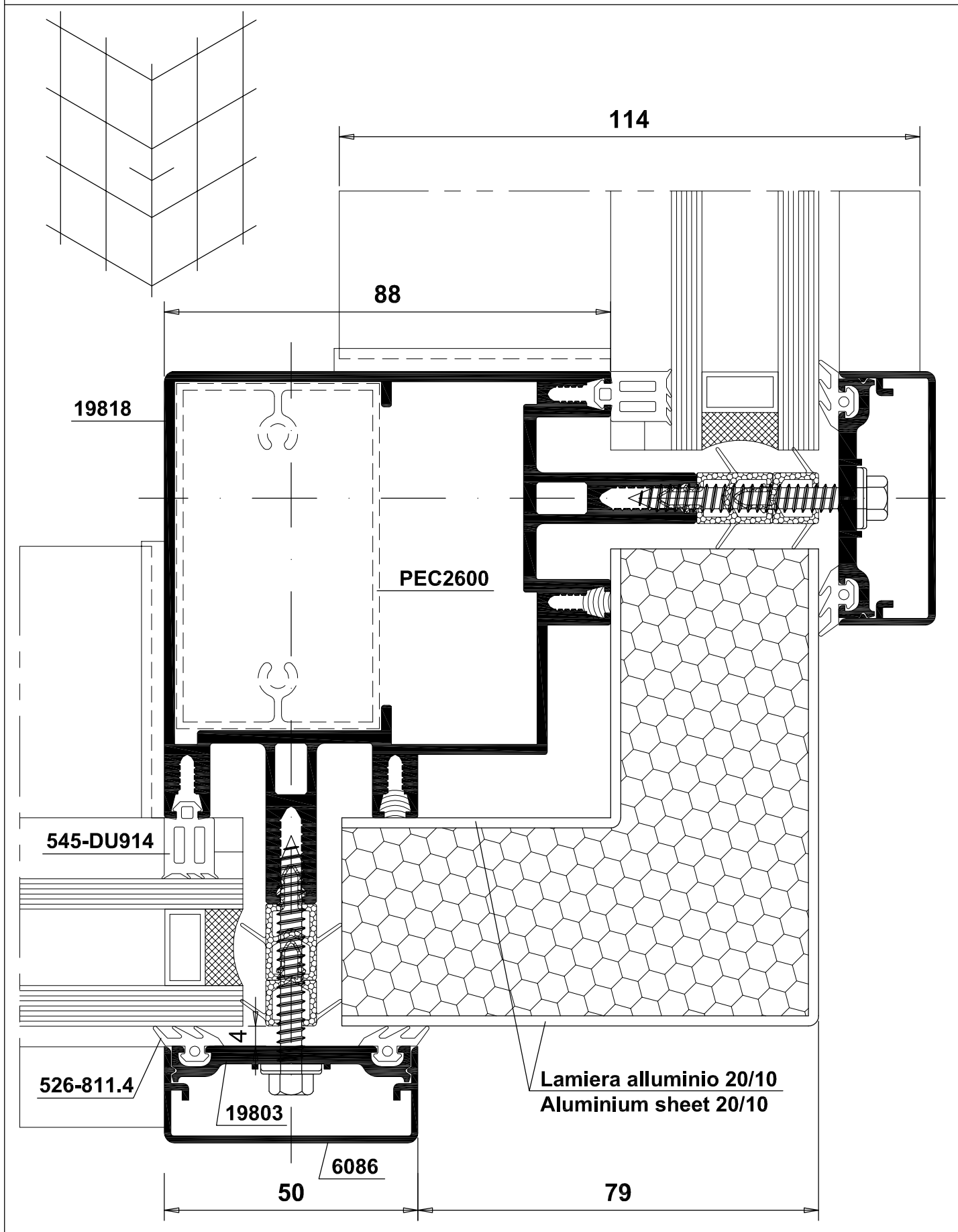
MULLION TO BE MILLED
*** AT TRANSOM JOINT**



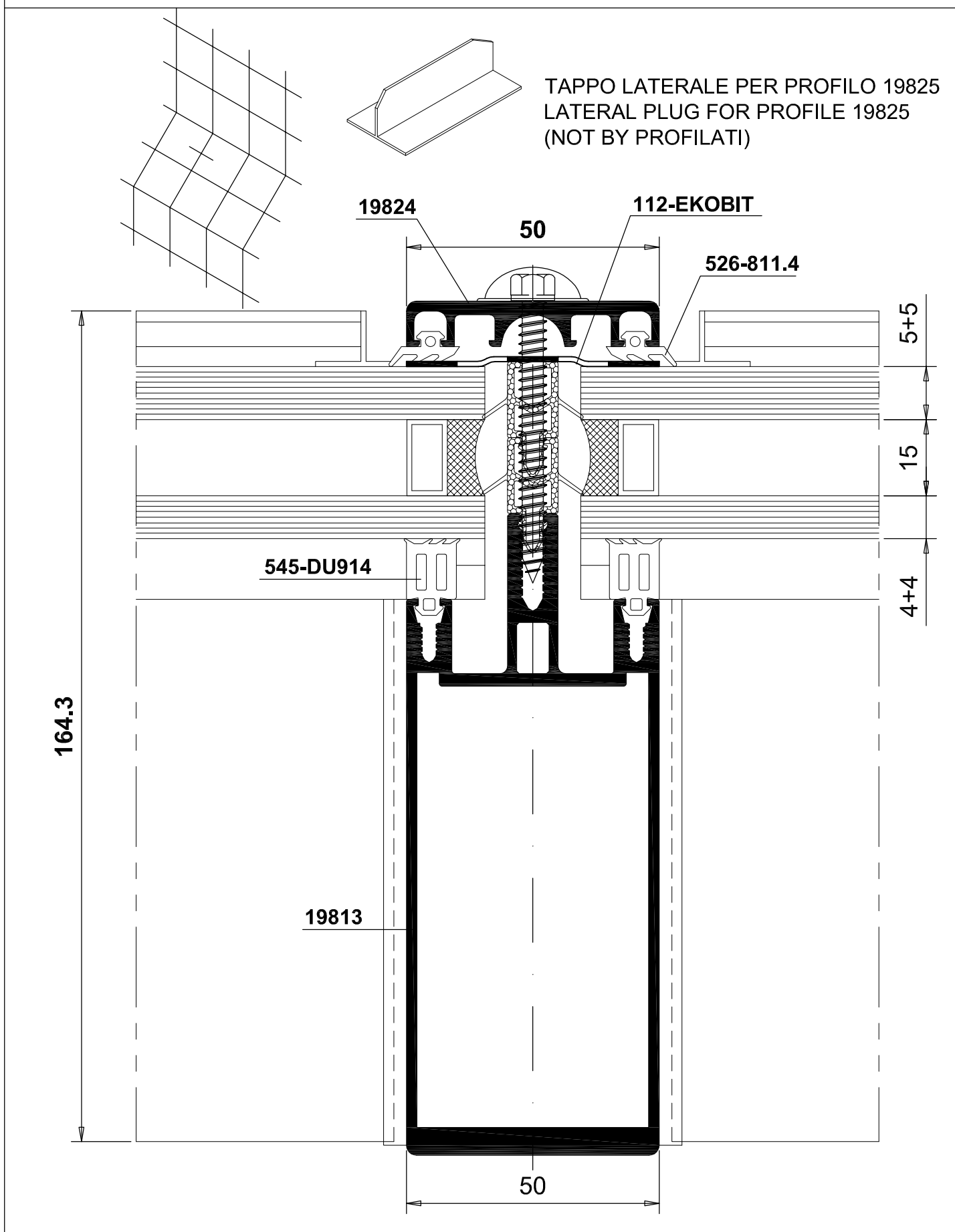
Sezioni 1:1 - Cross sections 1:1



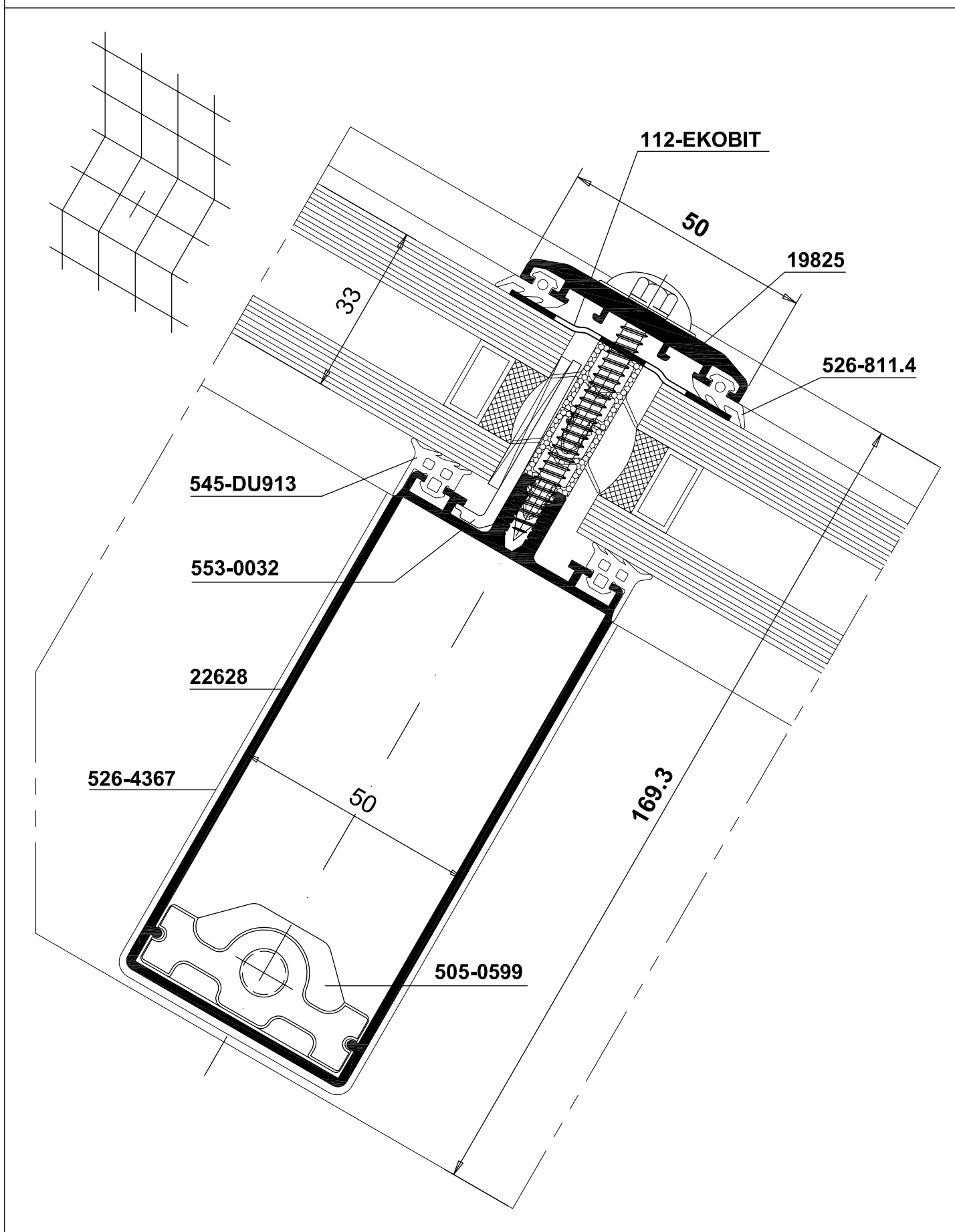
Sezioni 1:1 - Cross sections 1:1



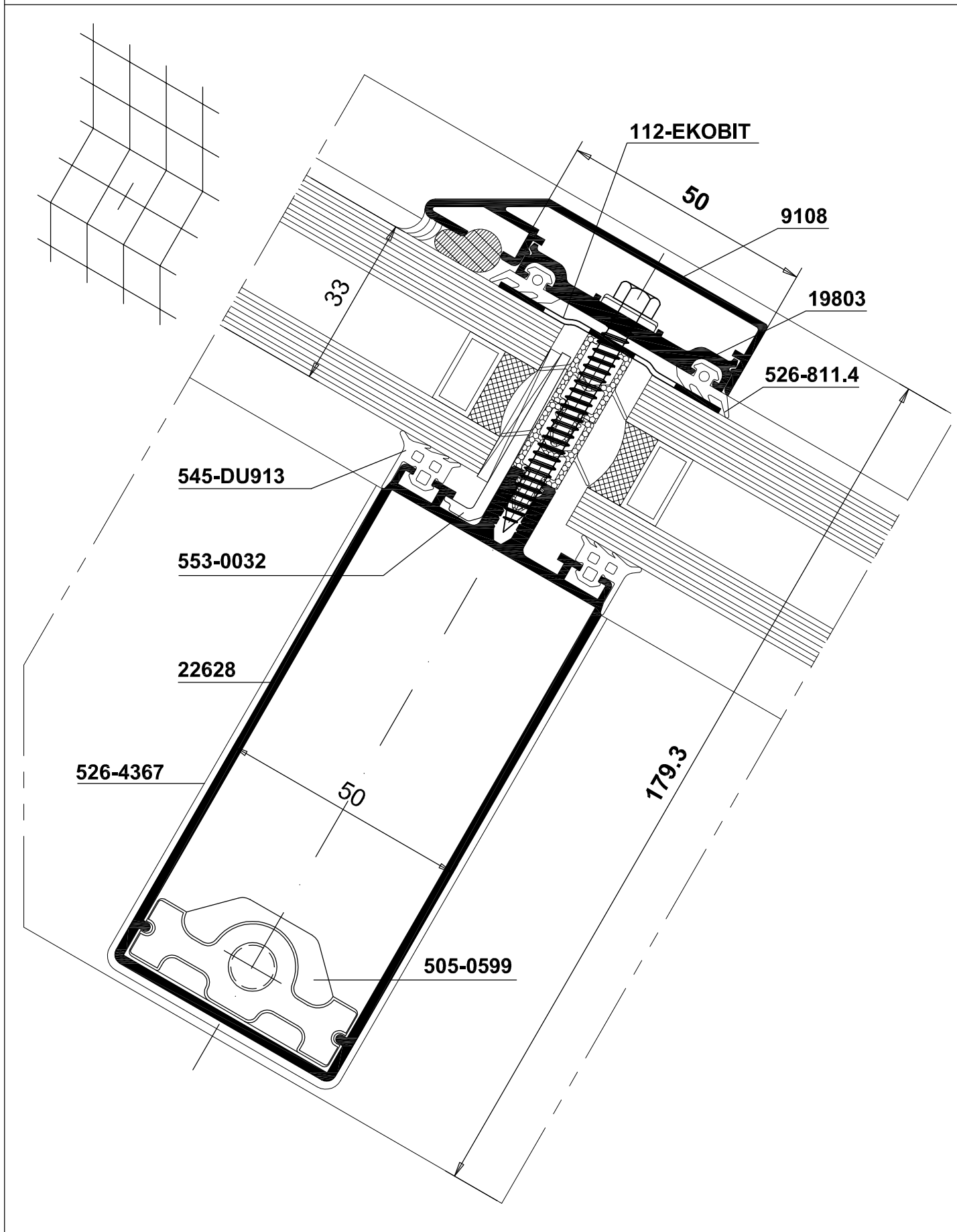
Sezioni 1:1 - Cross sections 1:1



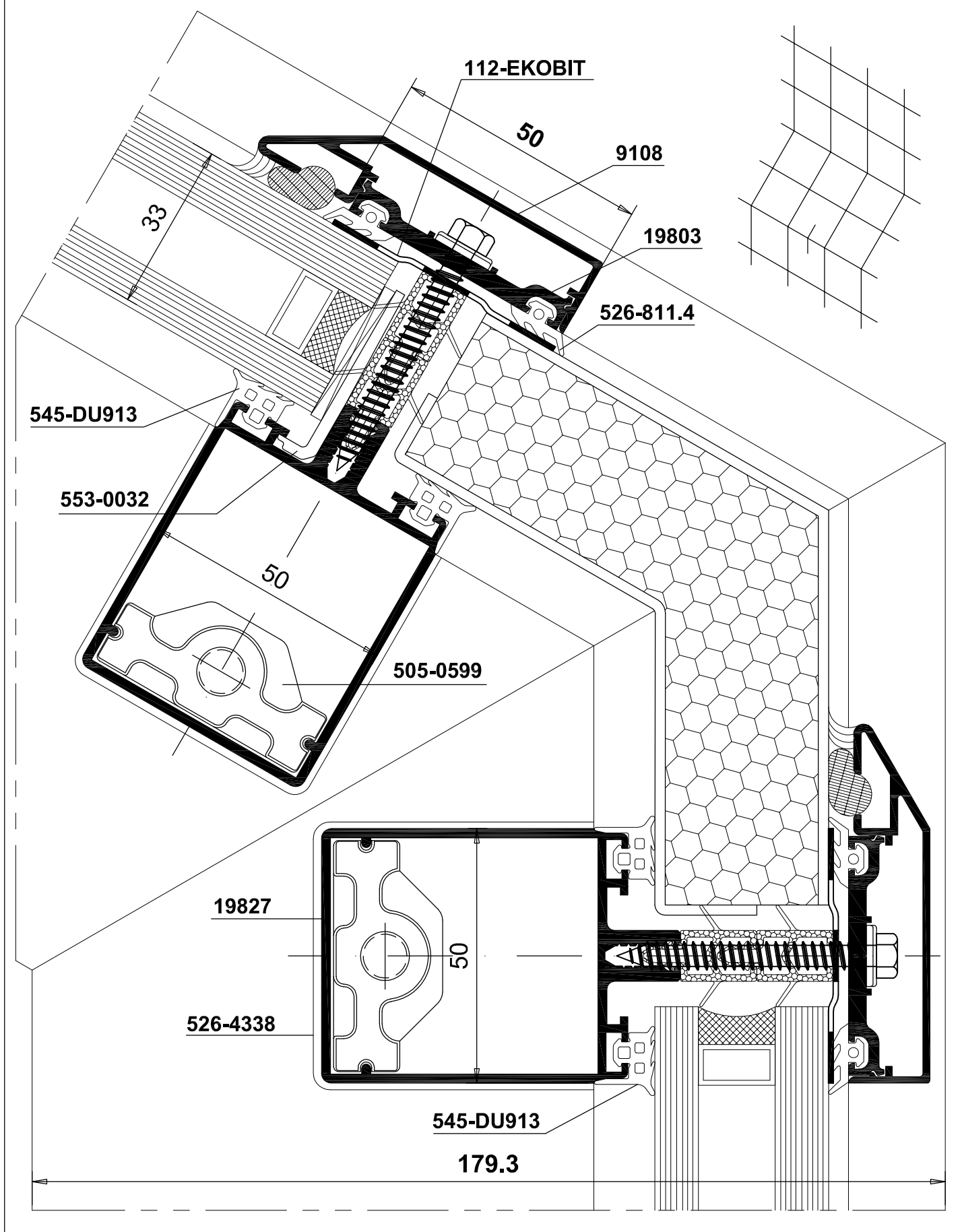
Sezioni 1:1 - Cross sections 1:1



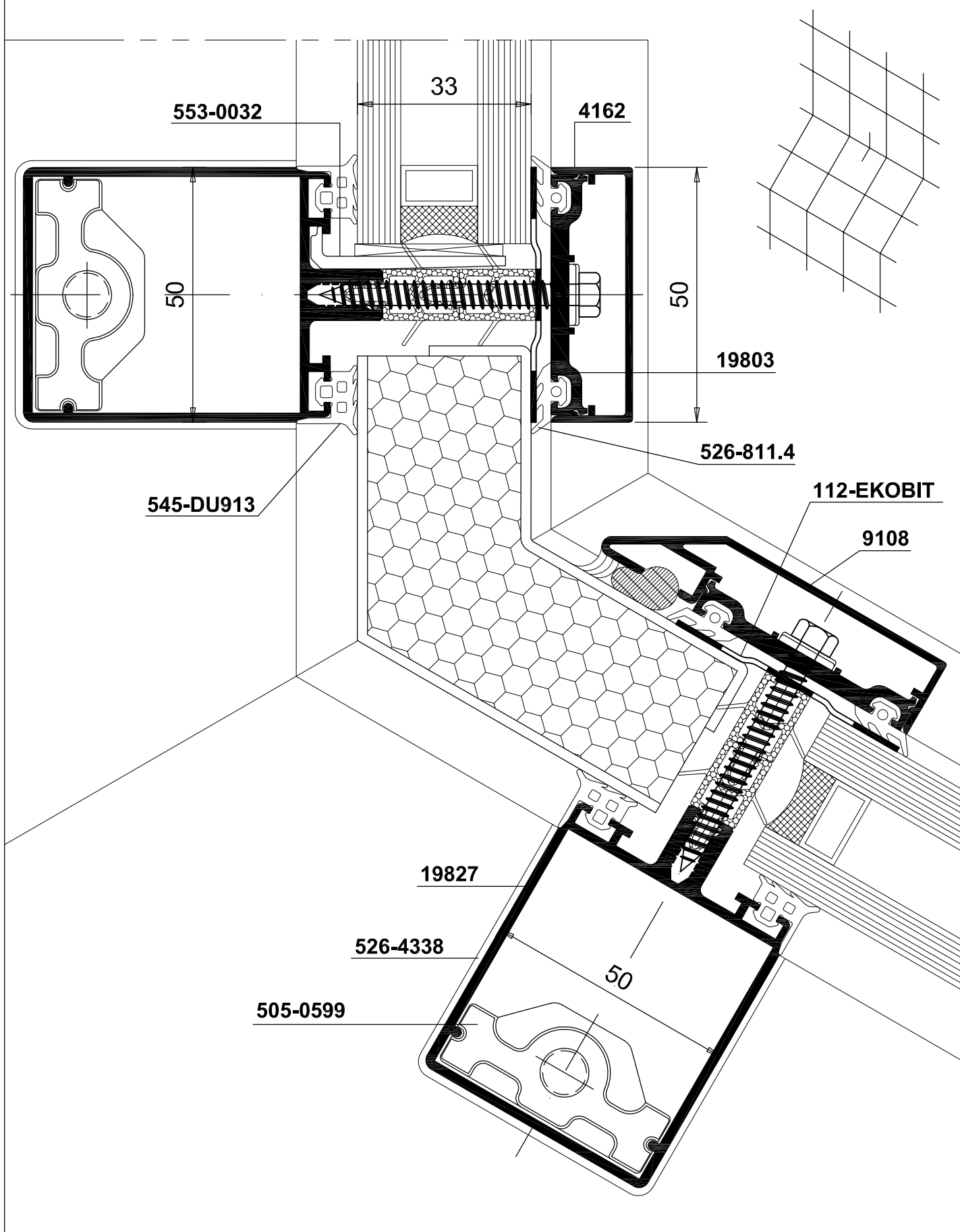
Sezioni 1:1 - Cross sections 1:1



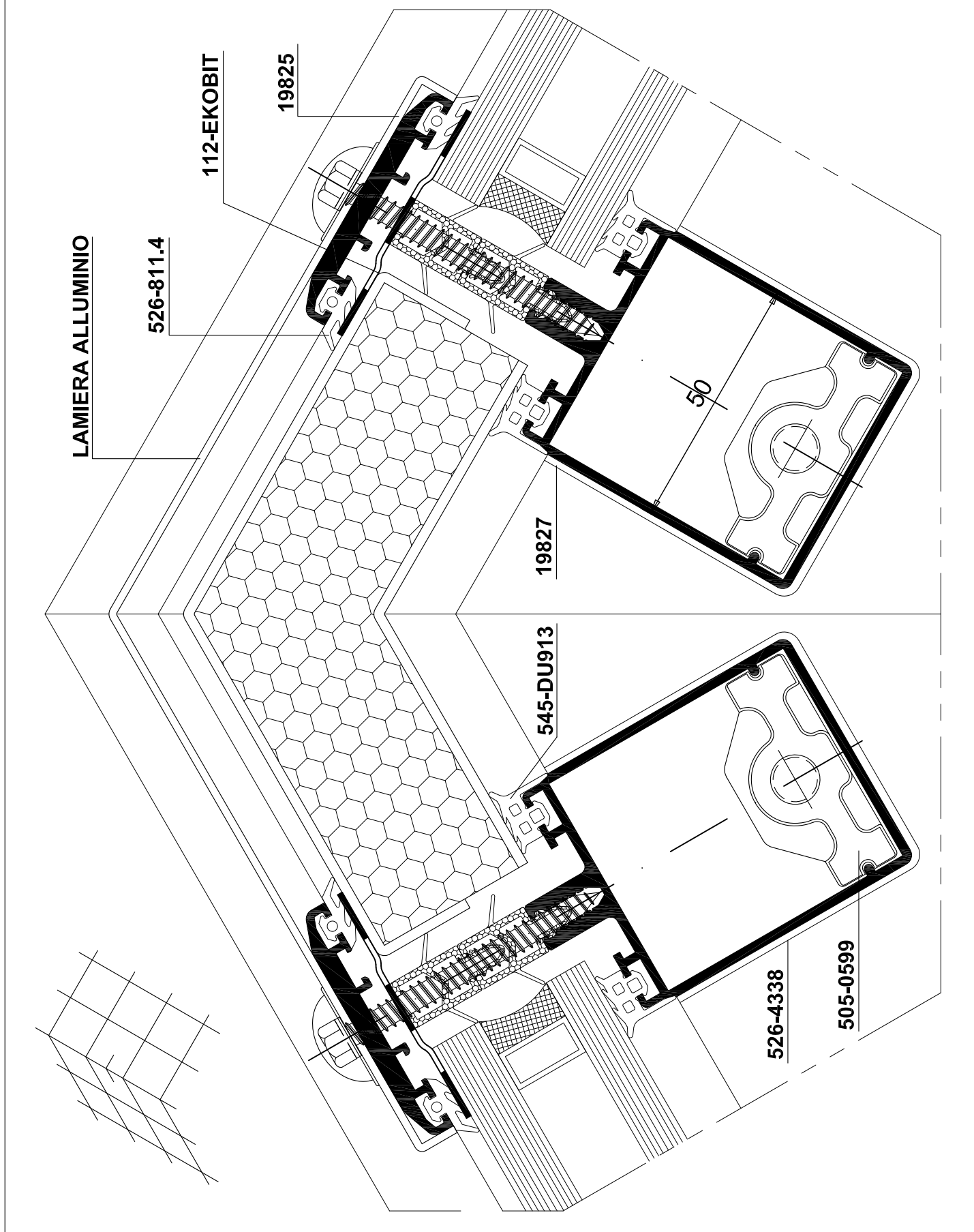
Sezioni 1:1 - Cross sections 1:1



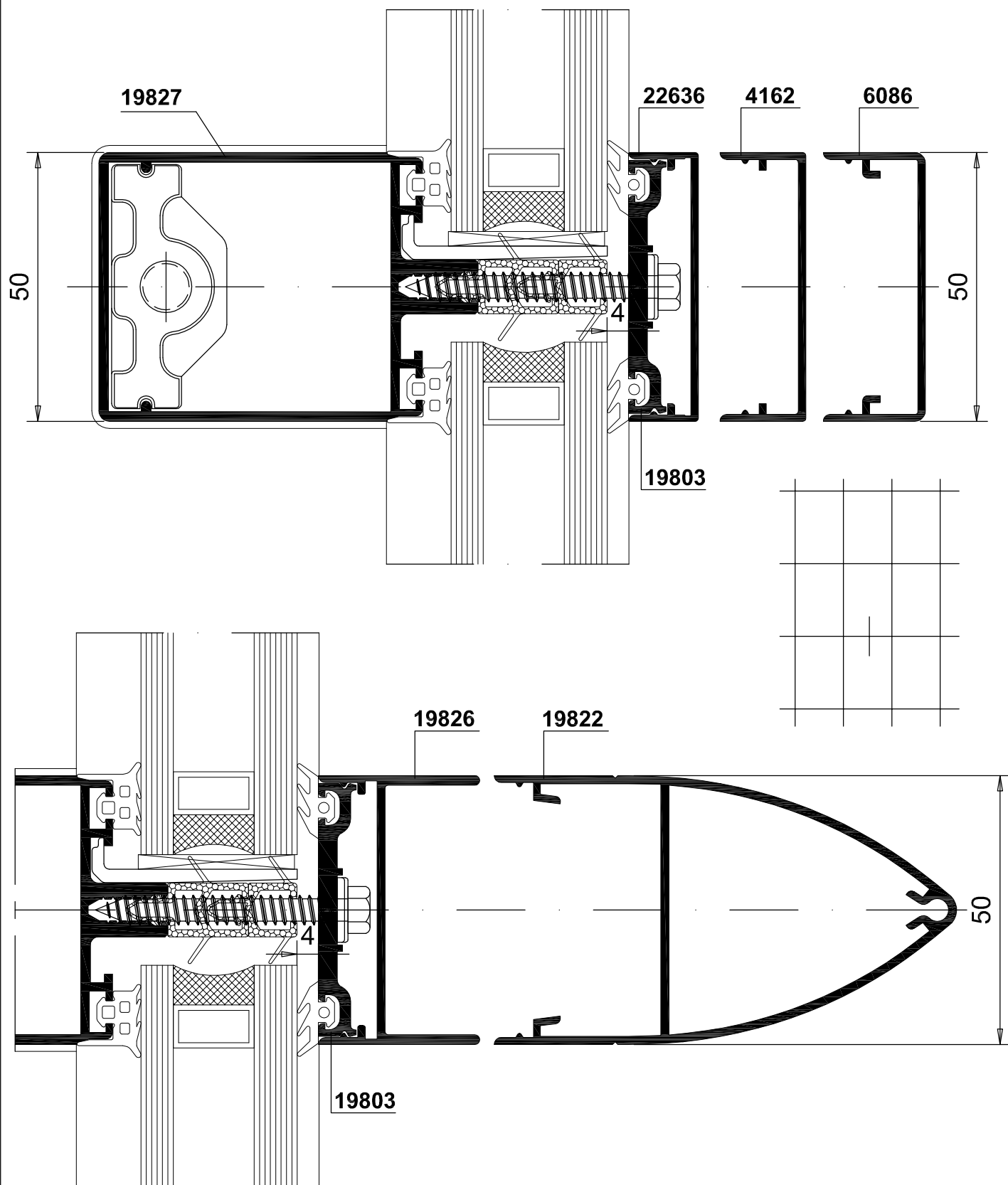
Sezioni 1:1 - Cross sections 1:1



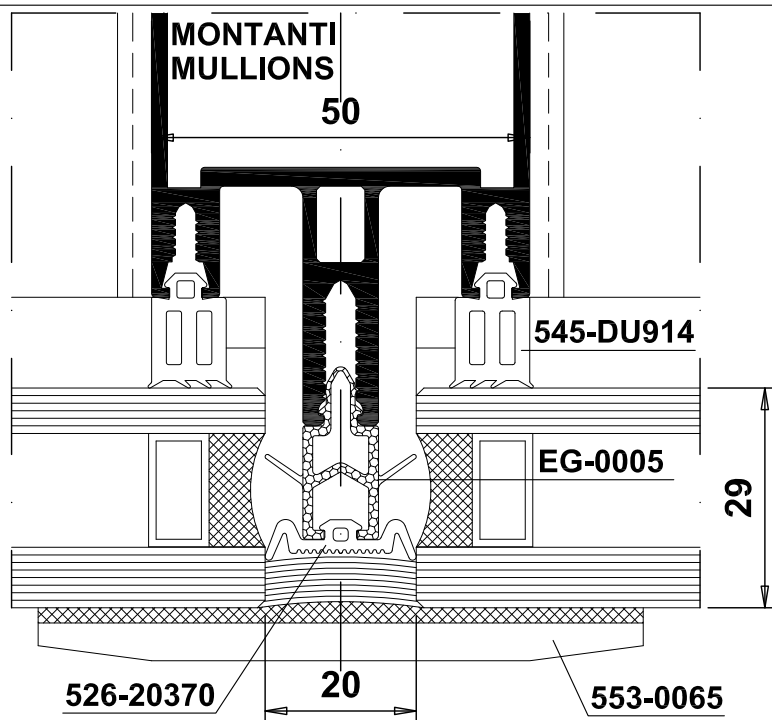
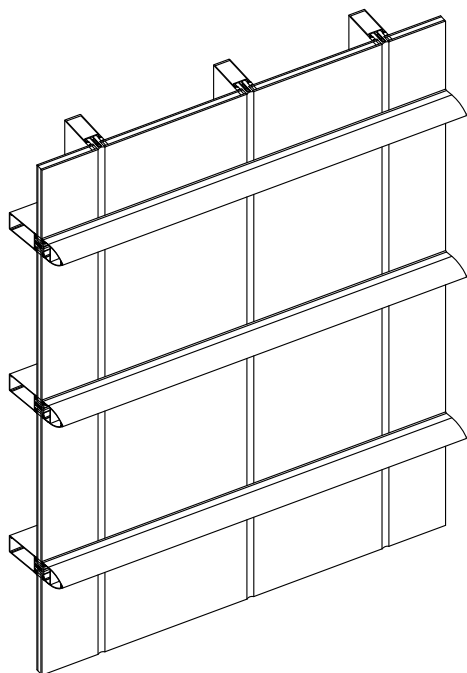
Sezioni 1:1 - Cross sections 1:1



Sezioni 1:1 - Cross sections 1:1



Sezioni 1:1 - Cross sections 1:1

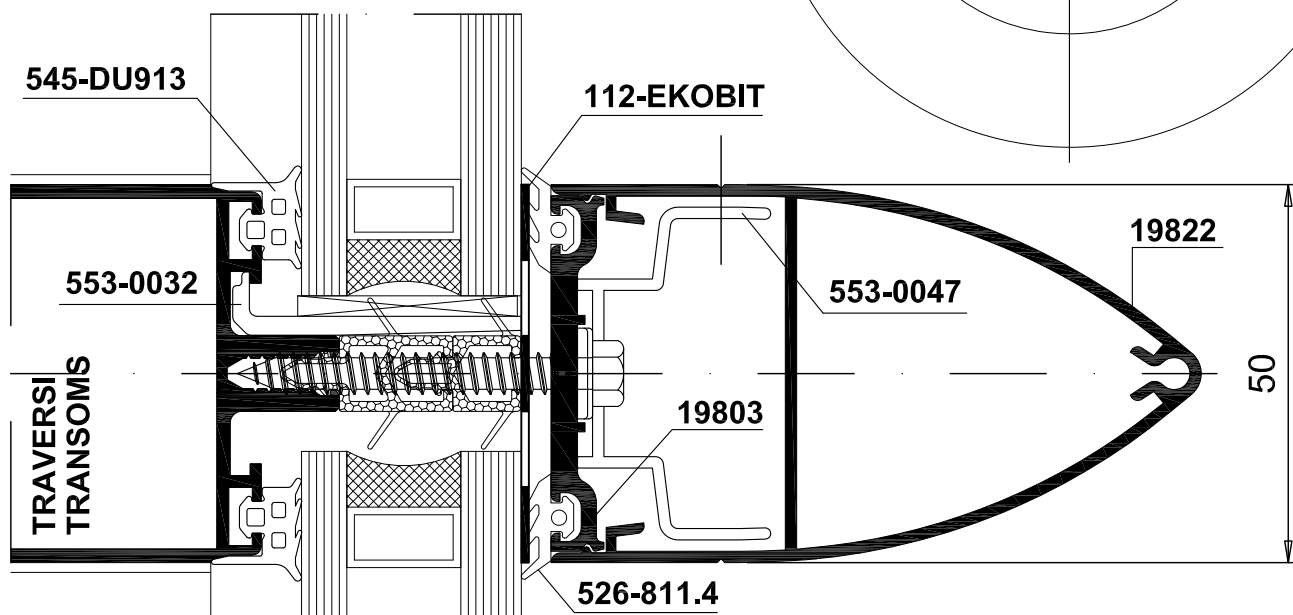
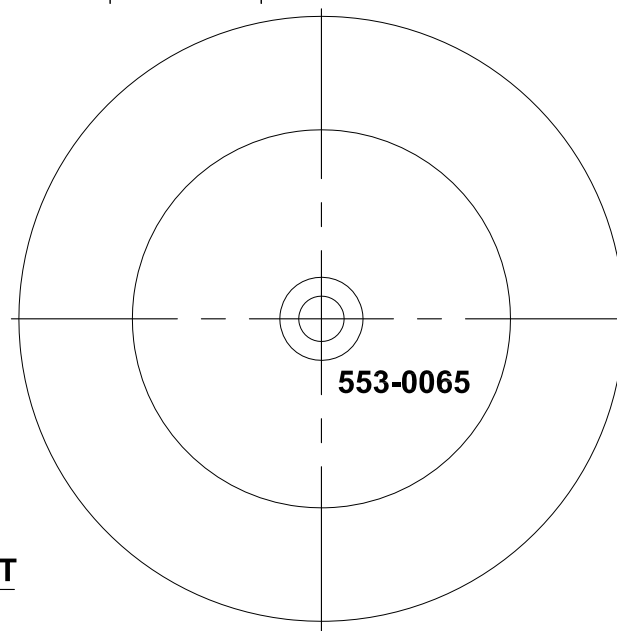


Note:

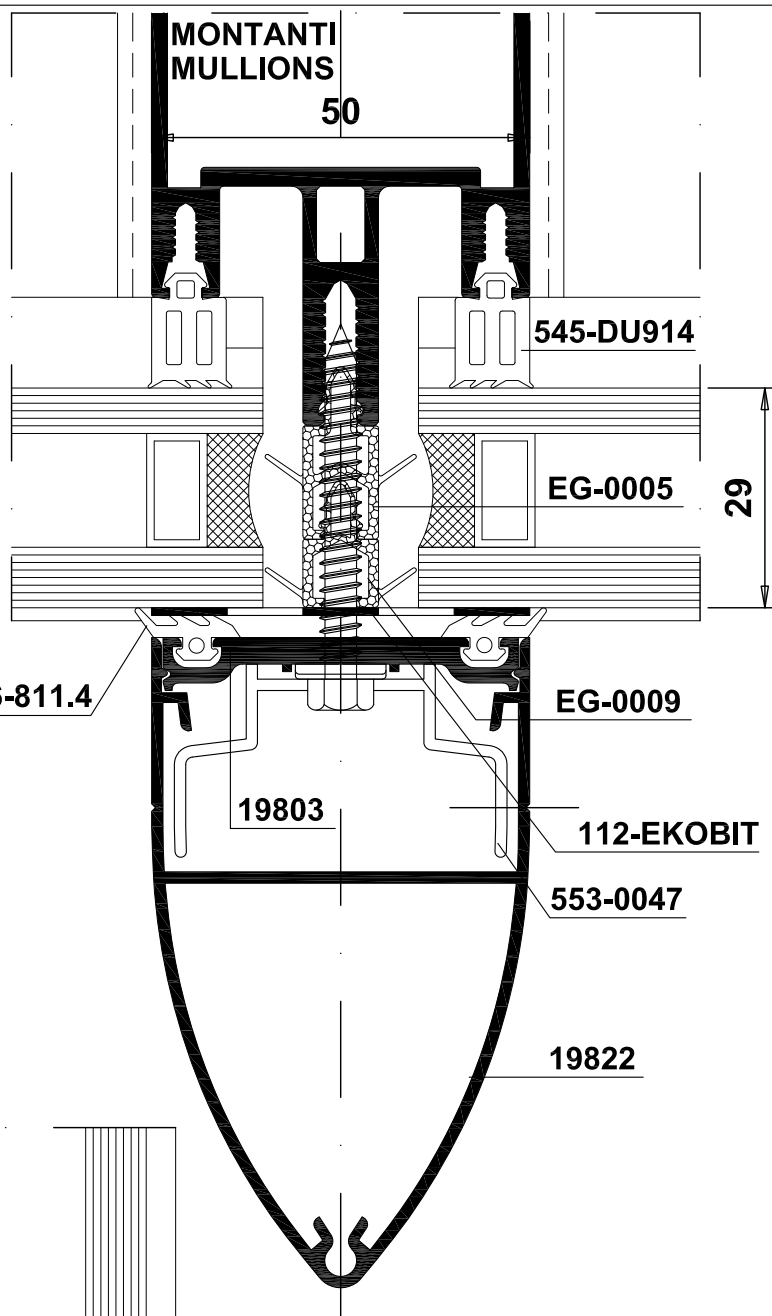
- Utilizzare sigillante resistente ai raggi U.V. e compatibile con la guarnizione 526-20370
- Vetri molati a filo lucido

Remarks:

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

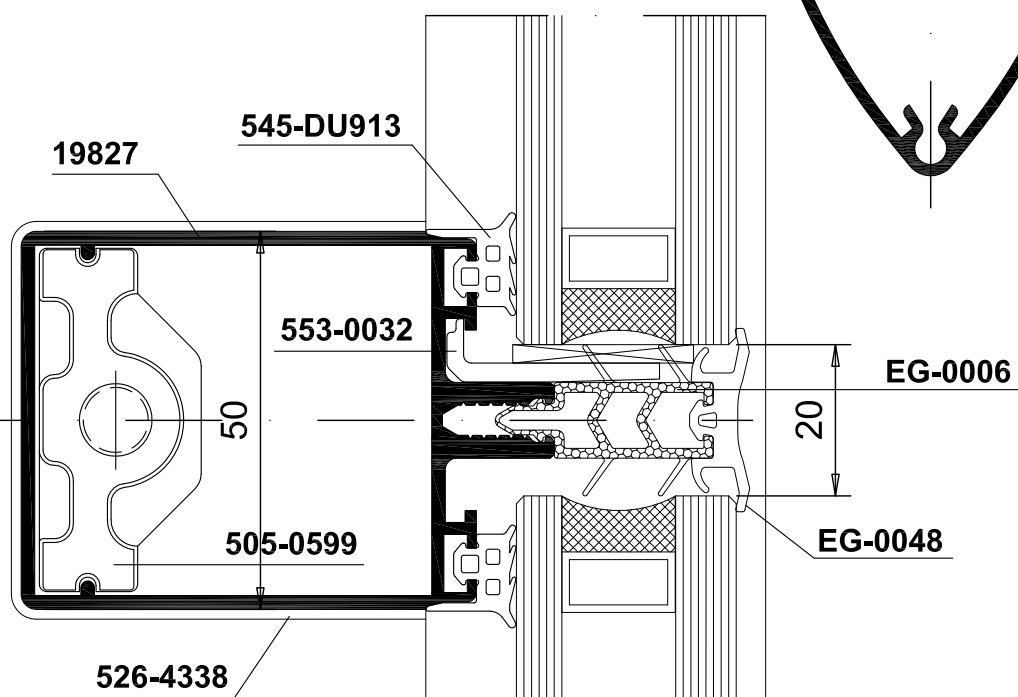


Sezioni 1:1 - Cross sections 1:1

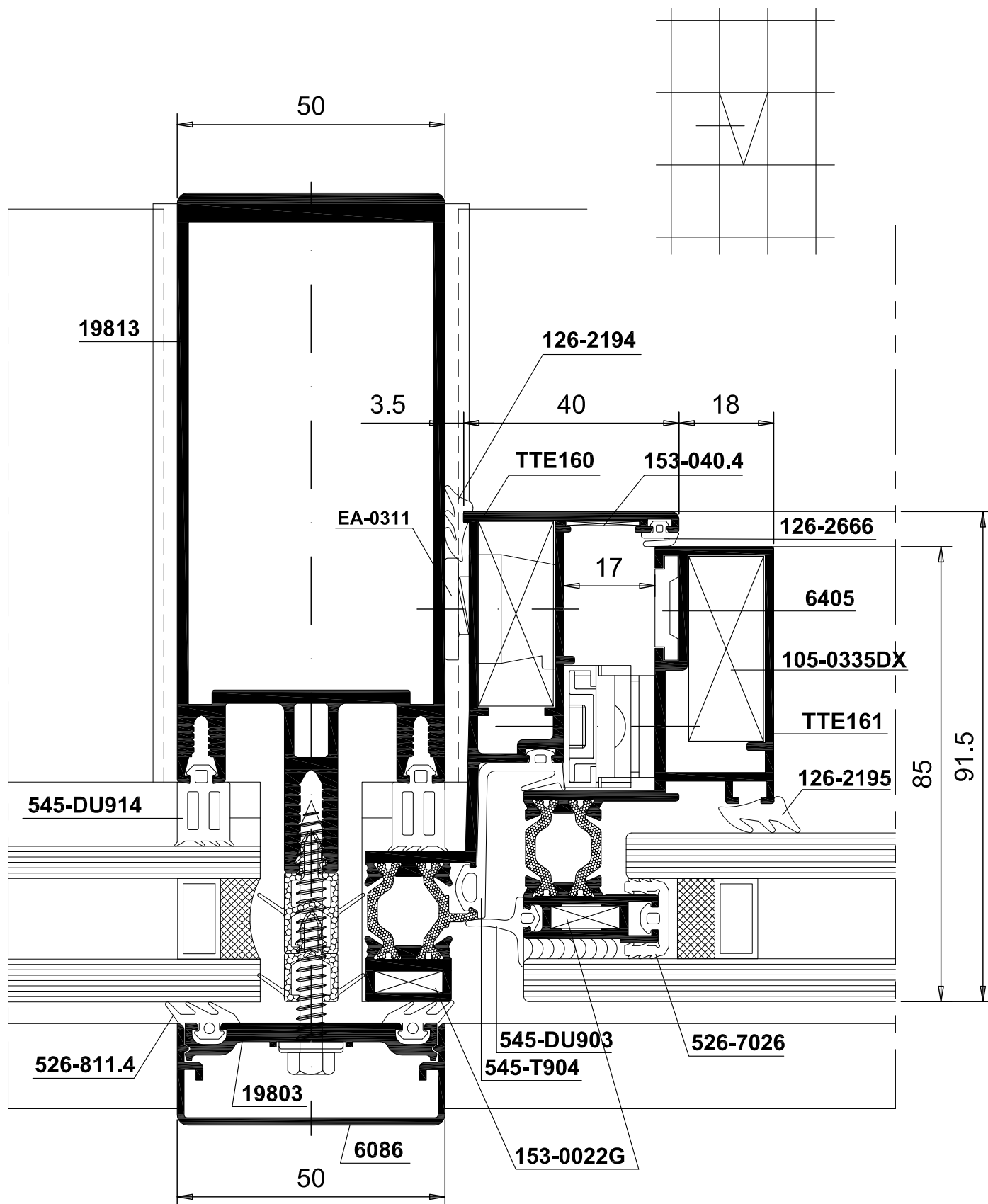


- Utilizzare sigillante resistente ai raggi U.V. e compatibile con la guarnizione 526-20370
- Vetri molati a filo lucido

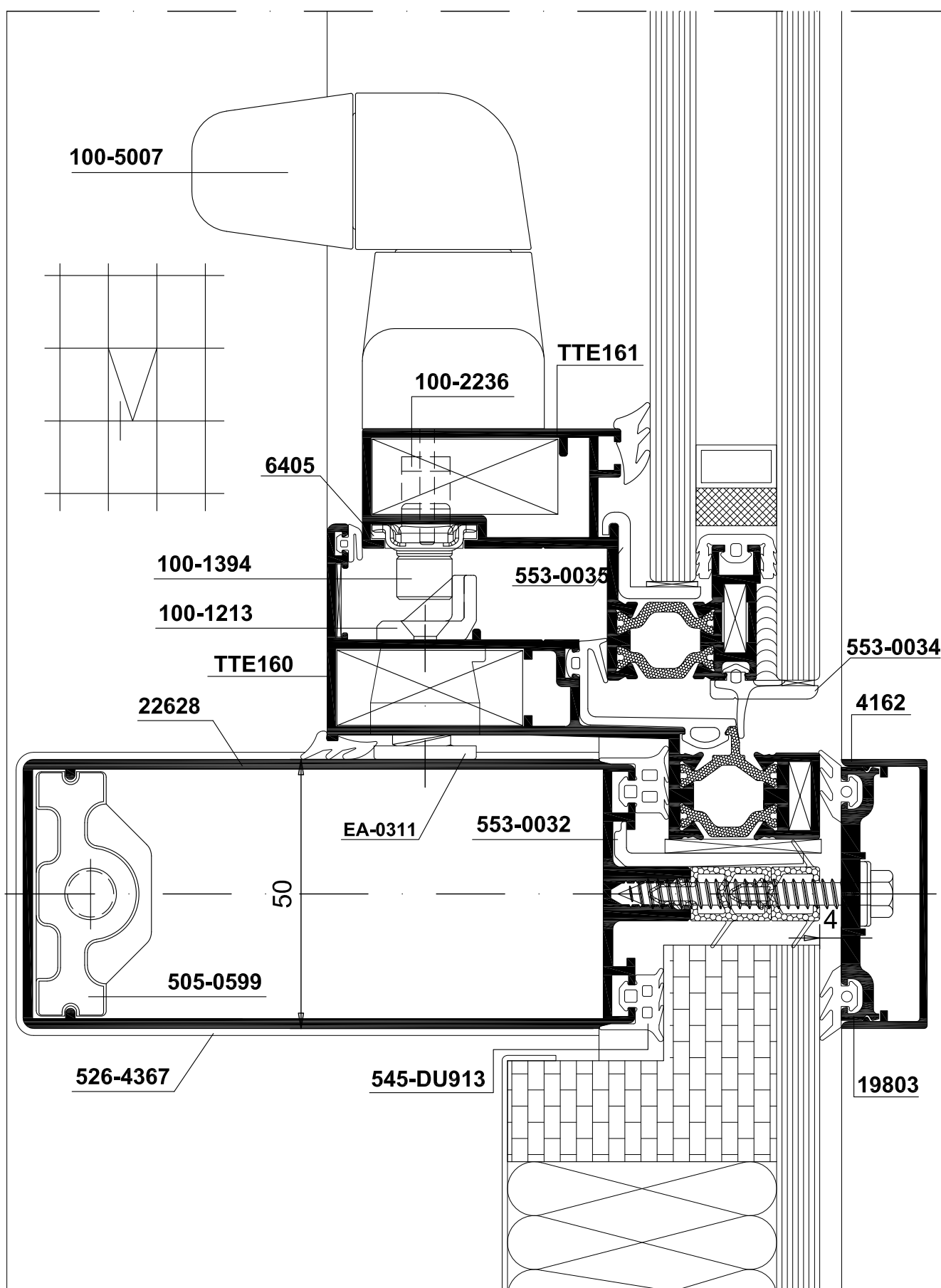
- Use sealant U.V. resistant and compatible with 526-20370 gasket
- Glasses edges are to be grinded and smoothed



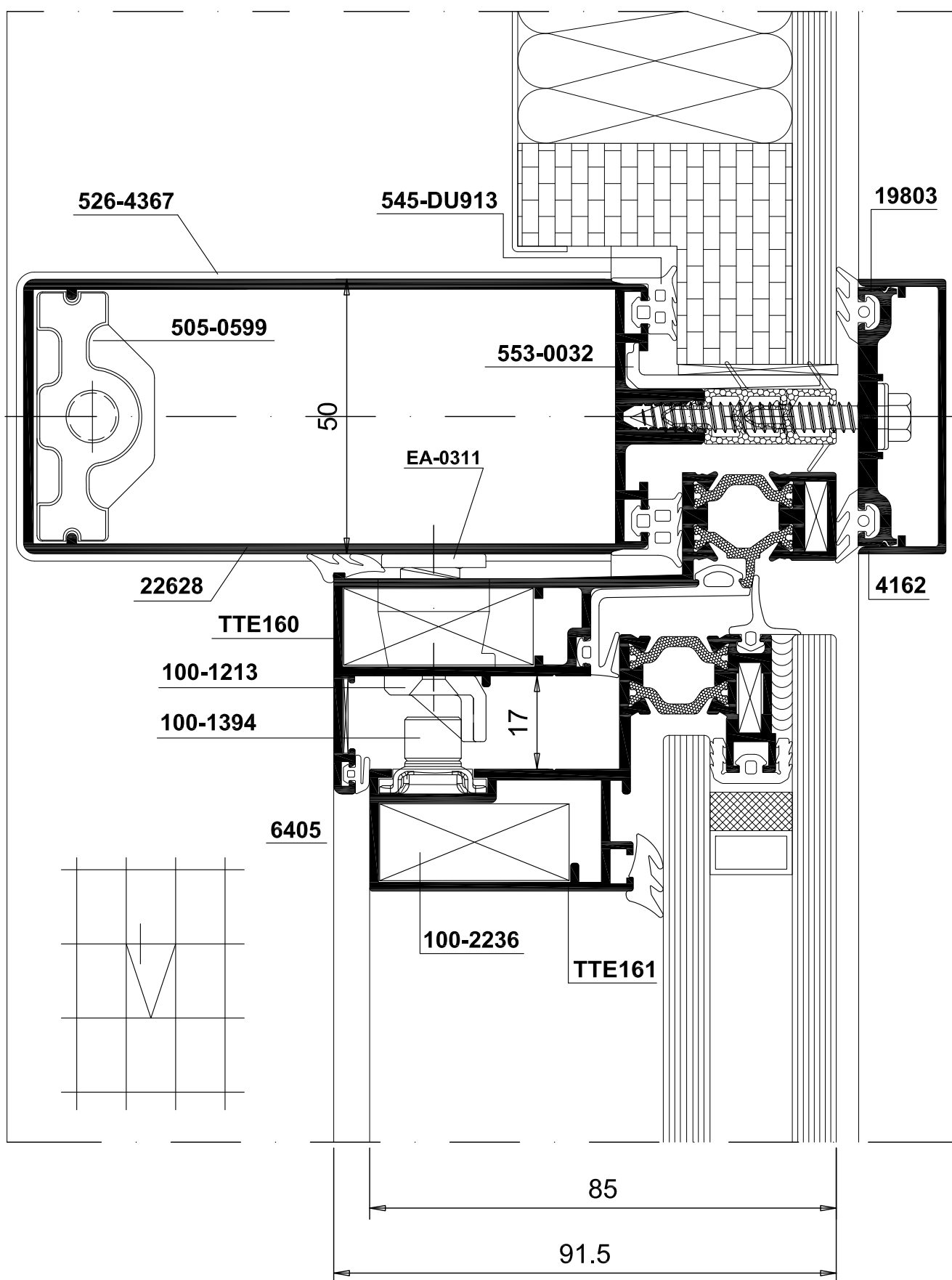
Sezioni 1:1 - Cross sections 1:1



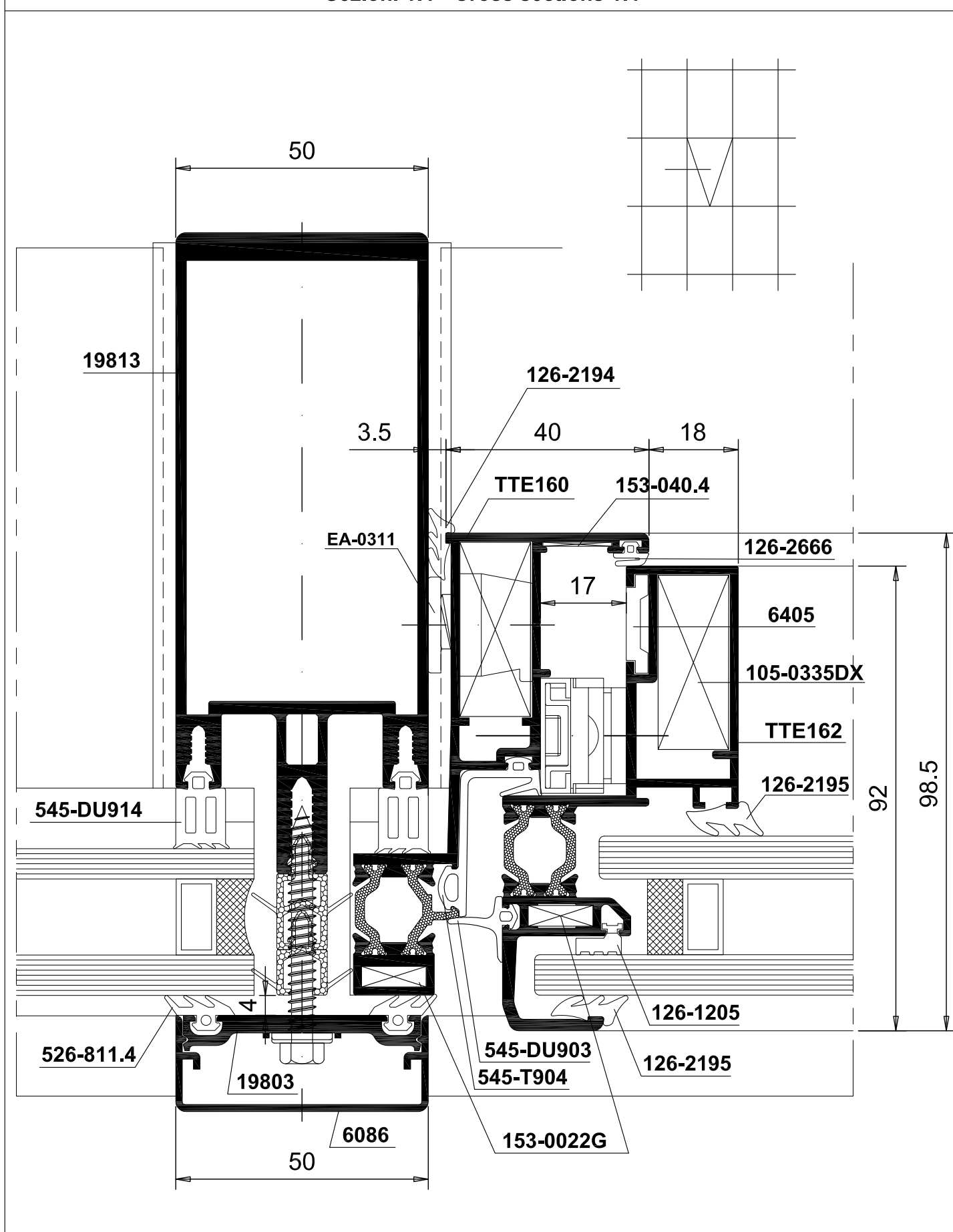
Sezioni 1:1 - Cross sections 1:1



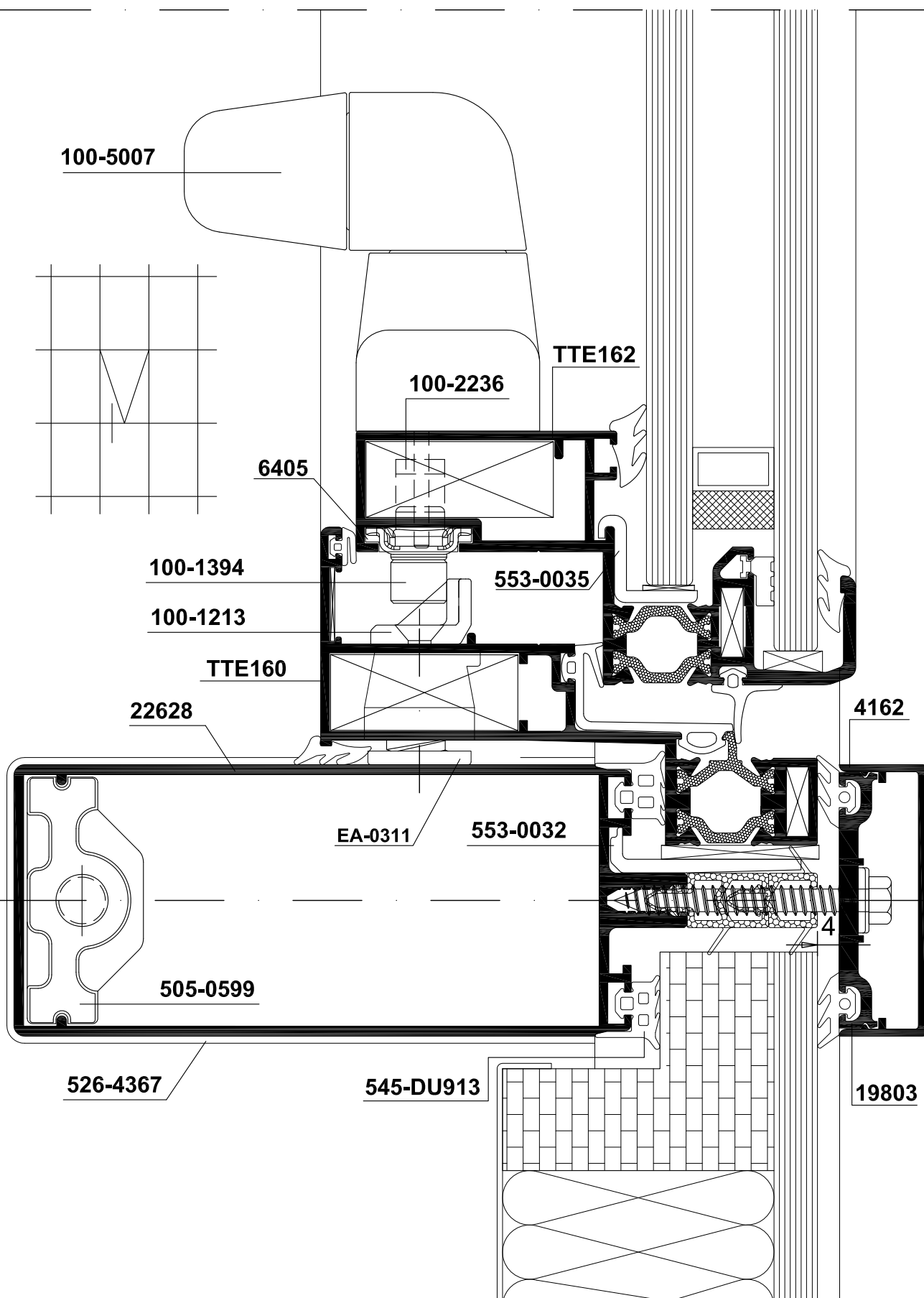
Sezioni 1:1 - Cross sections 1:1



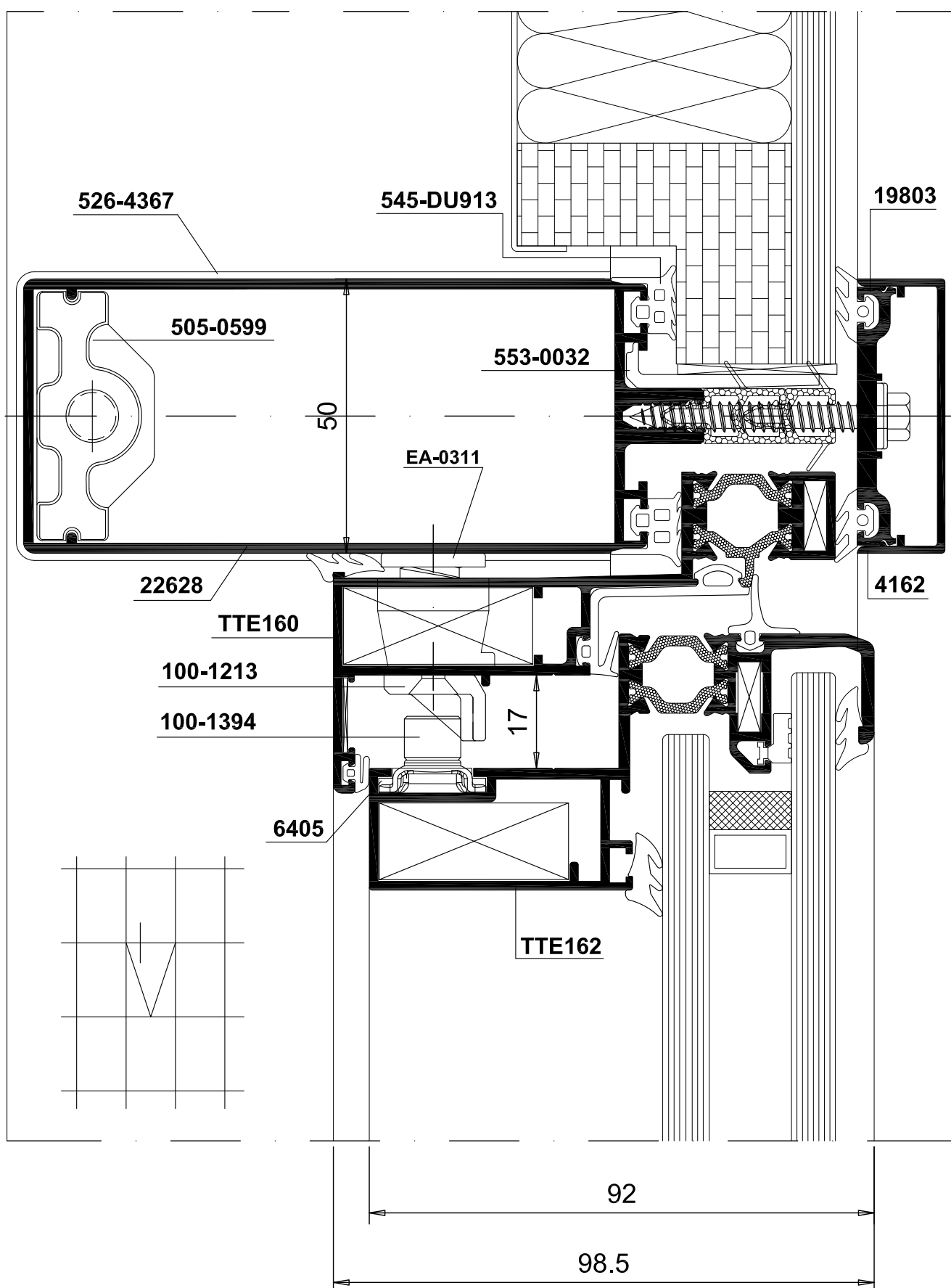
Sezioni 1:1 - Cross sections 1:1



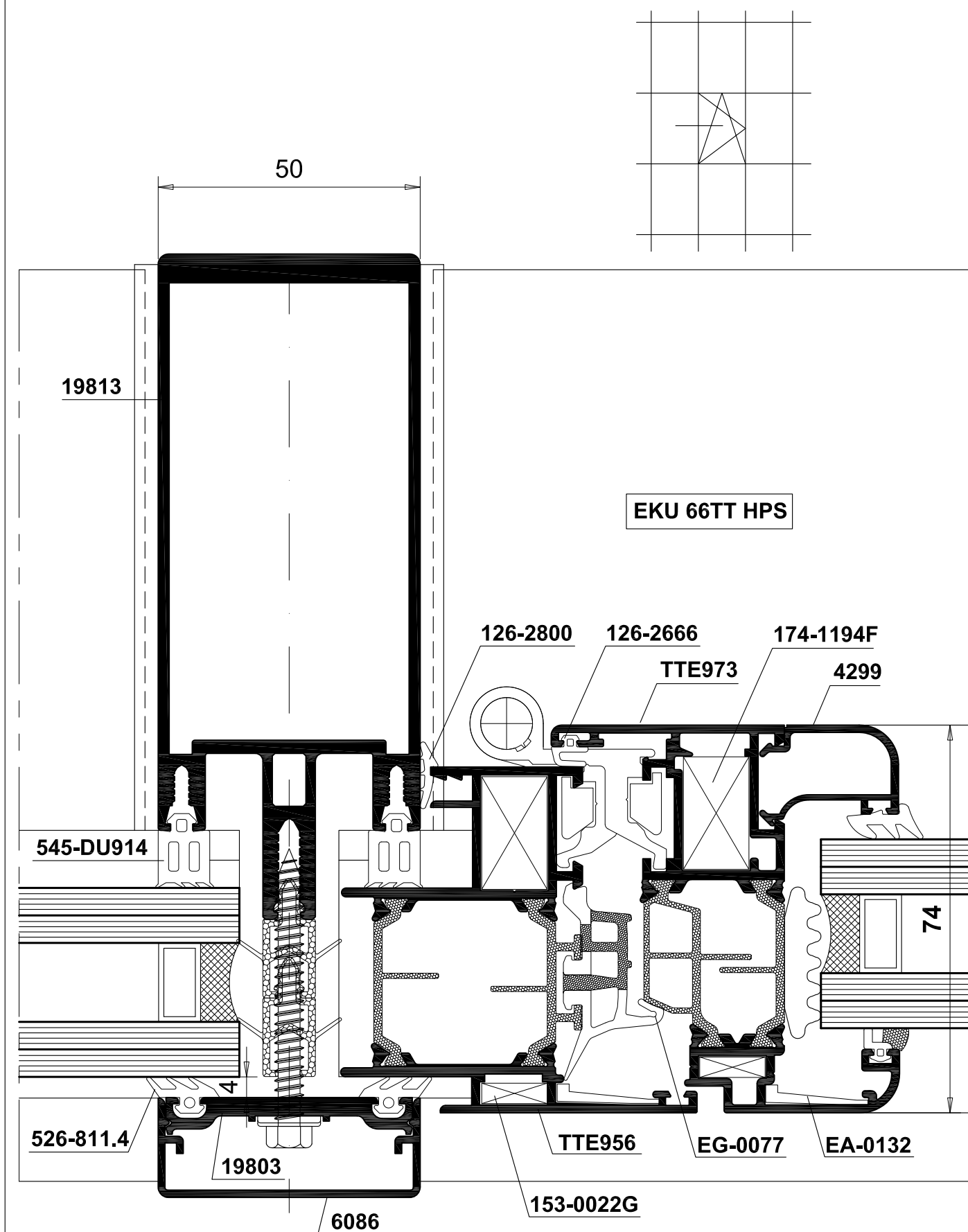
Sezioni 1:1 - Cross sections 1:1



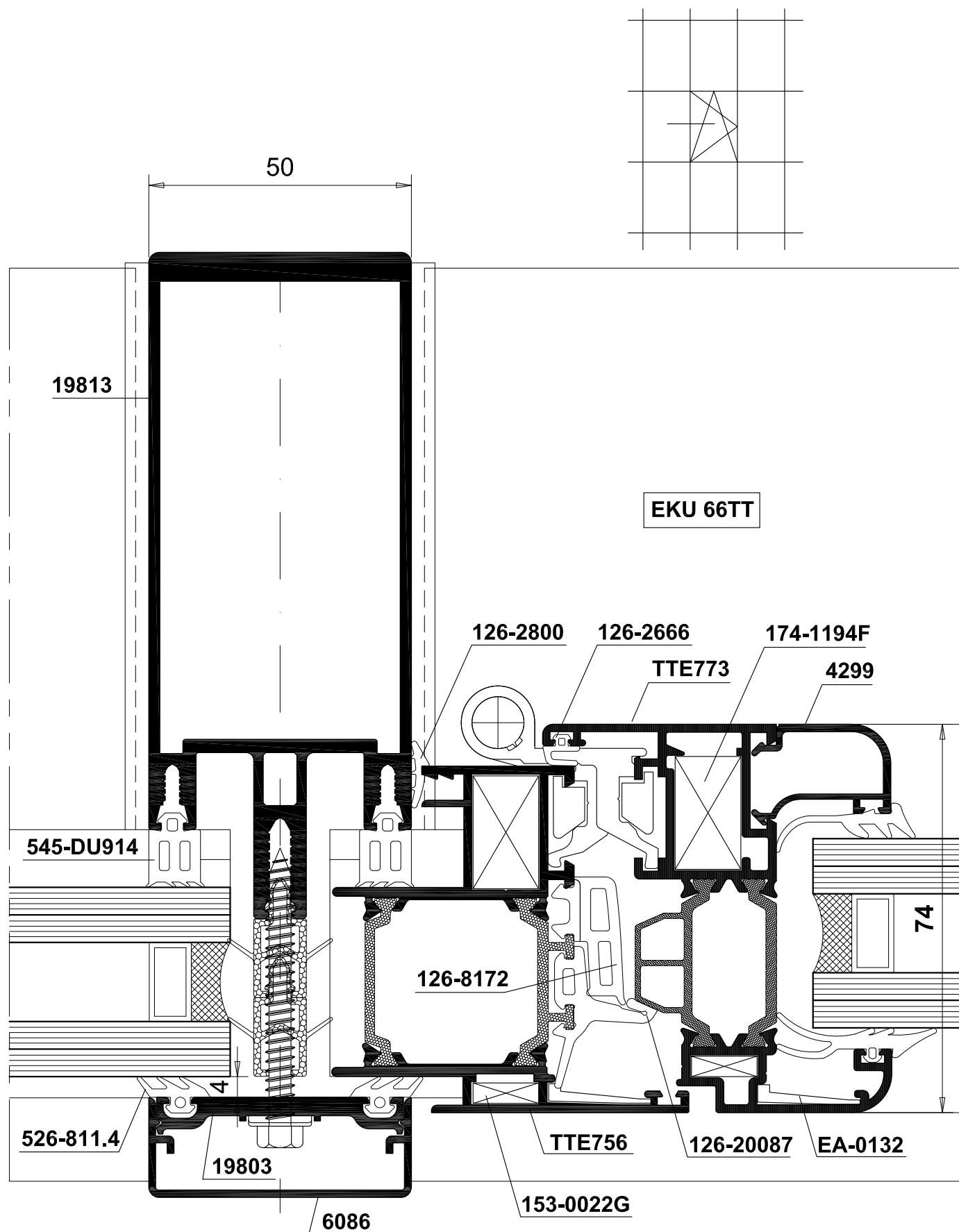
Sezioni 1:1 - Cross sections 1:1



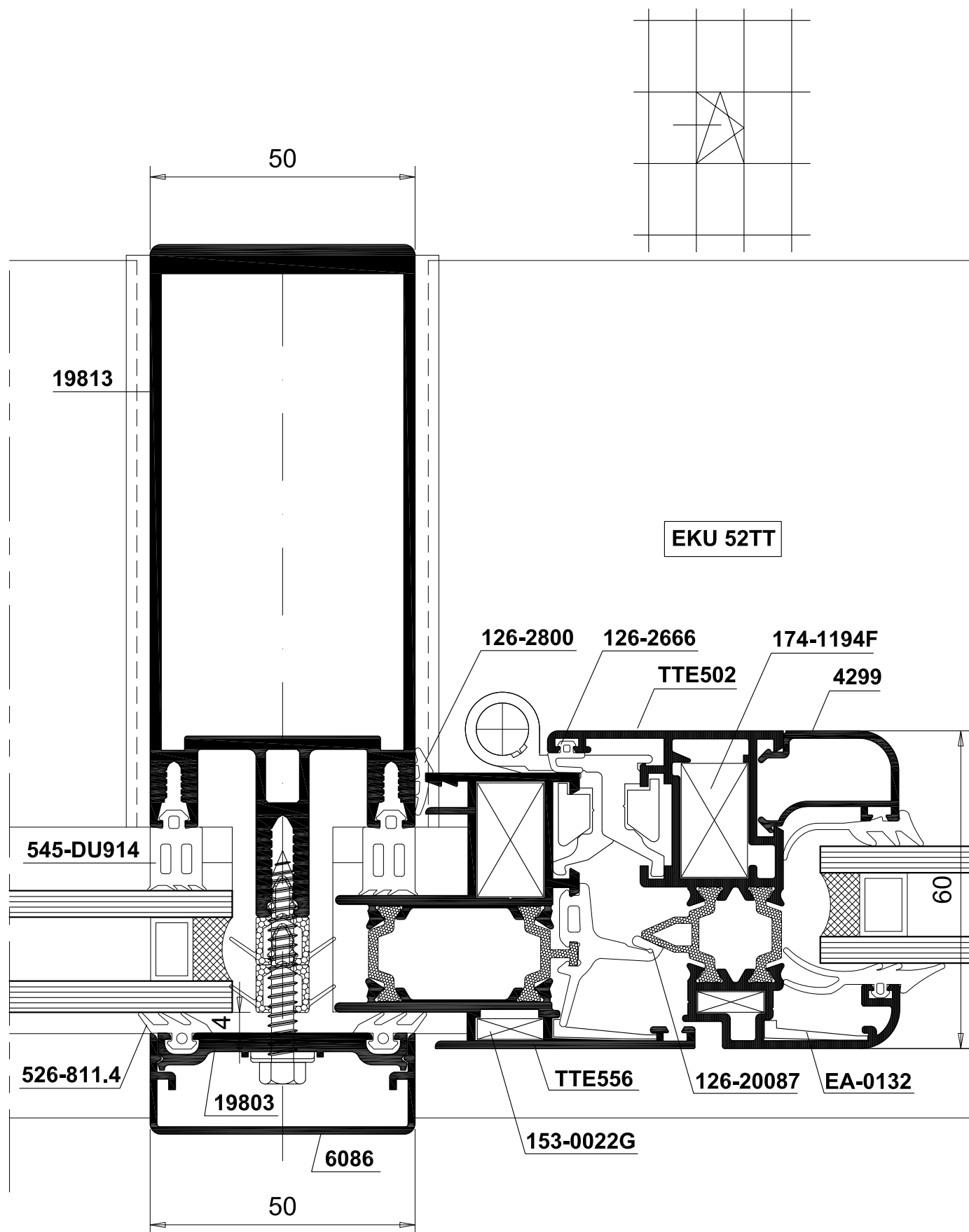
Sezioni 1:1 - Cross sections 1:1



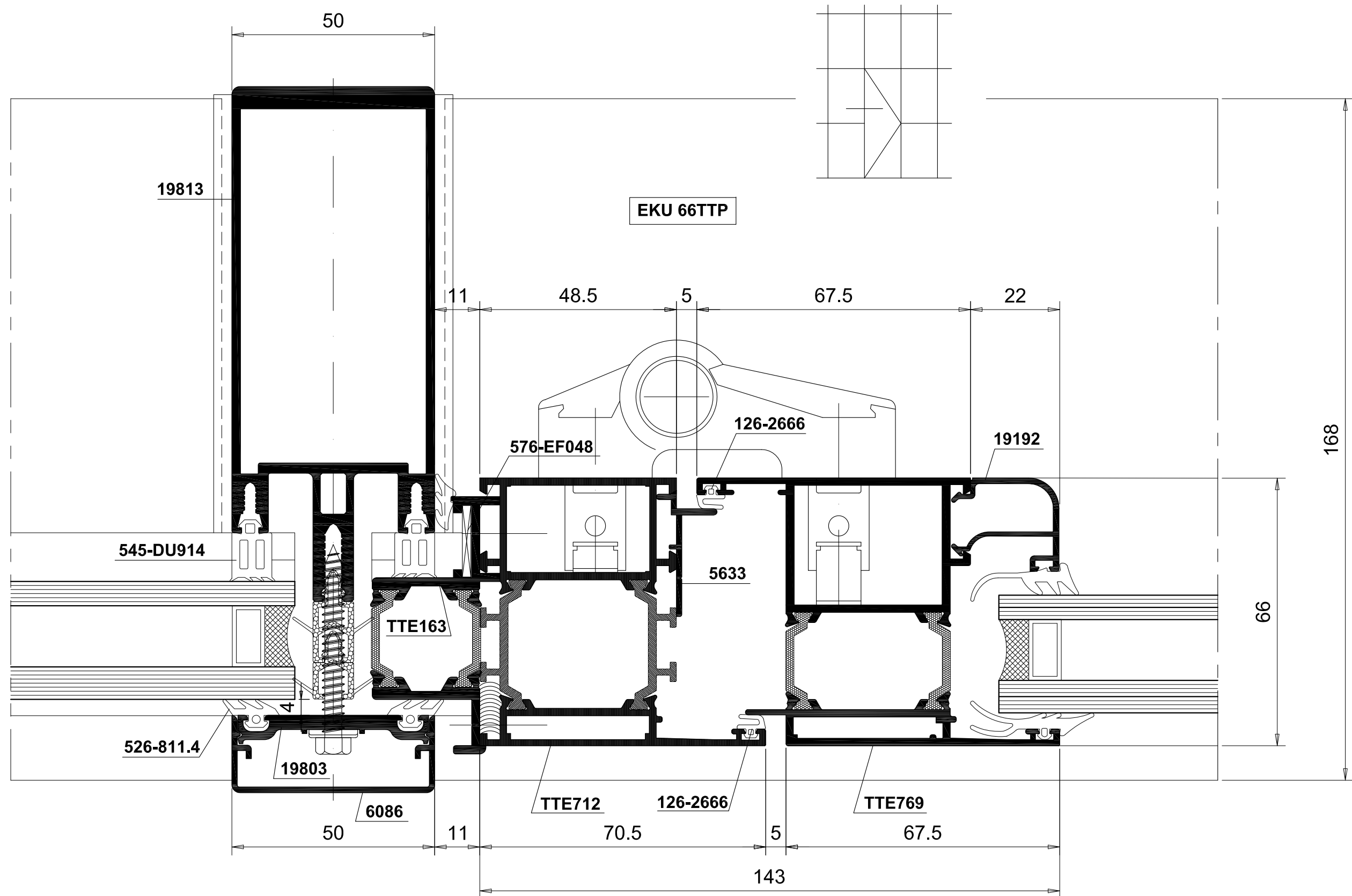
Sezioni 1:1 - Cross sections 1:1



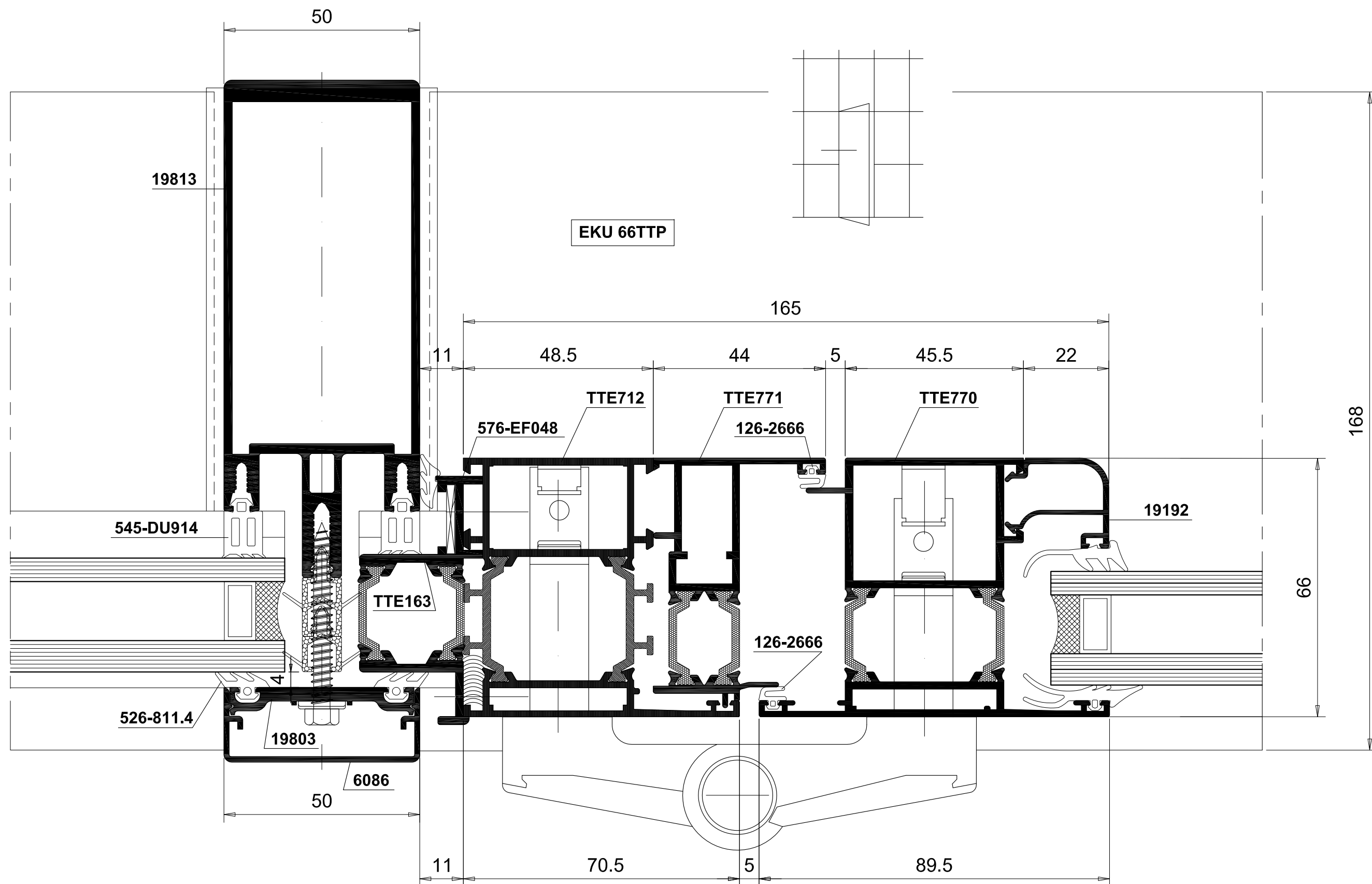
Sezioni 1:1 - Cross sections 1:1



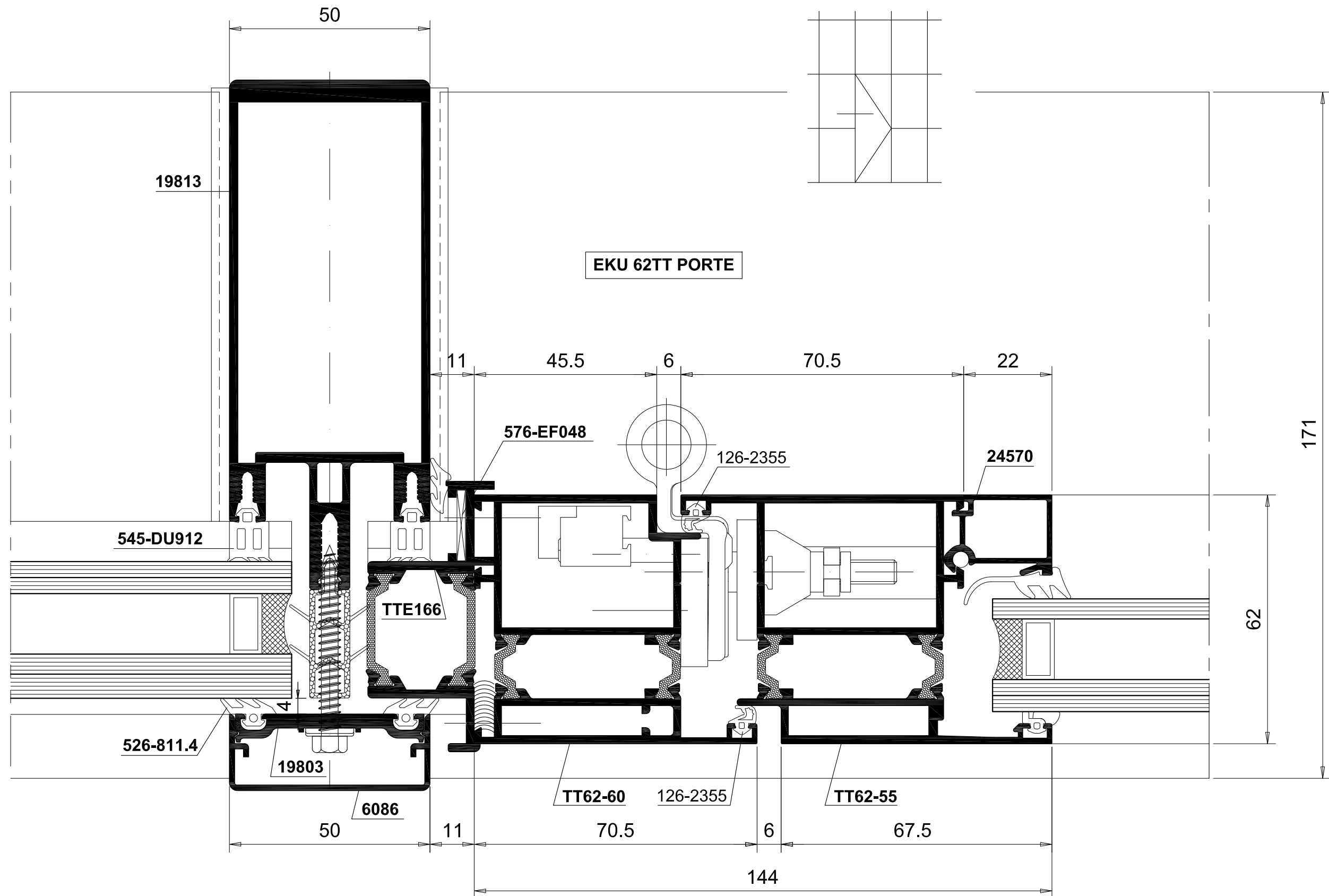
Sezioni 1:1 - Cross sections 1:1



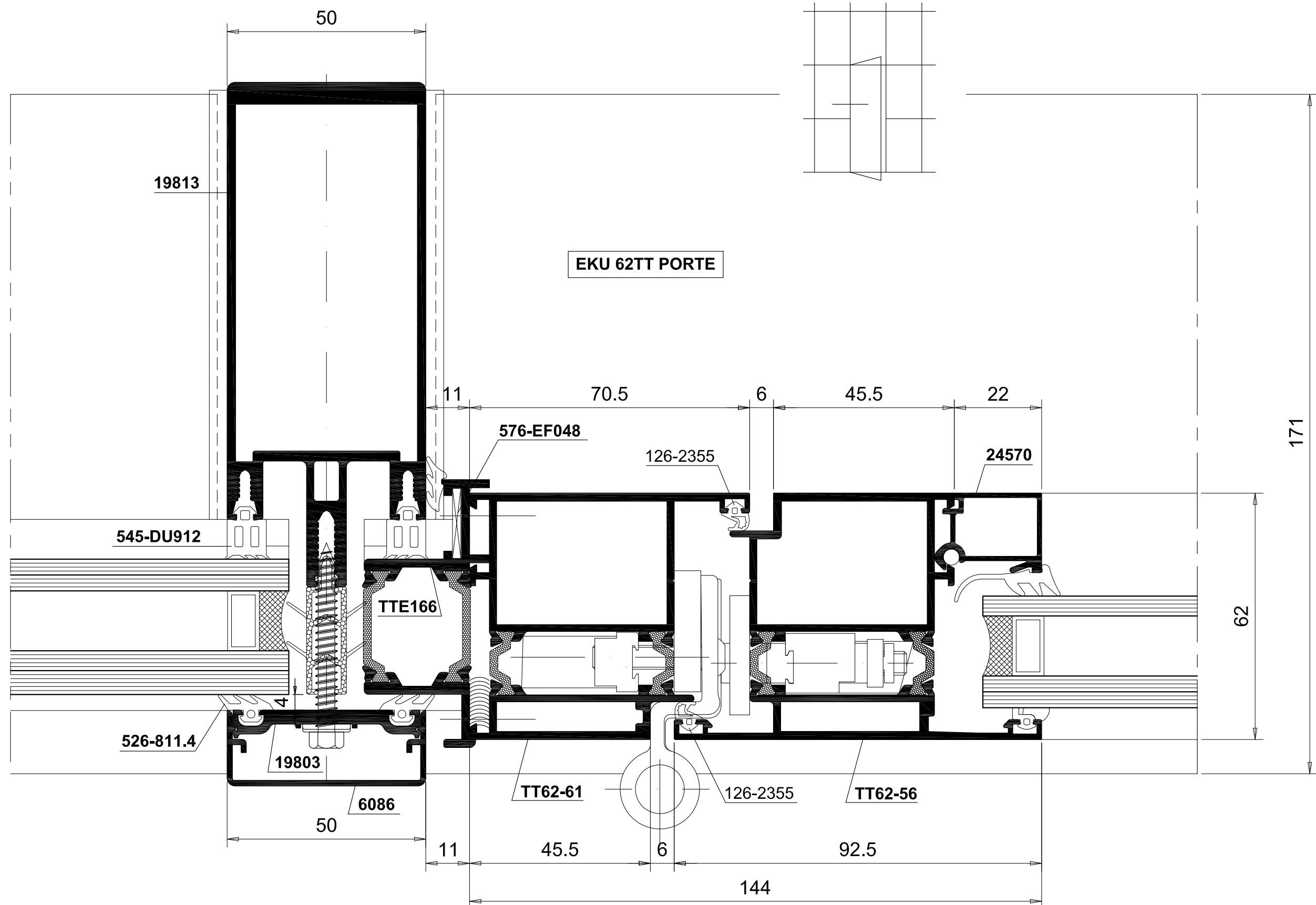
Sezioni 1:1 - Cross sections 1:1



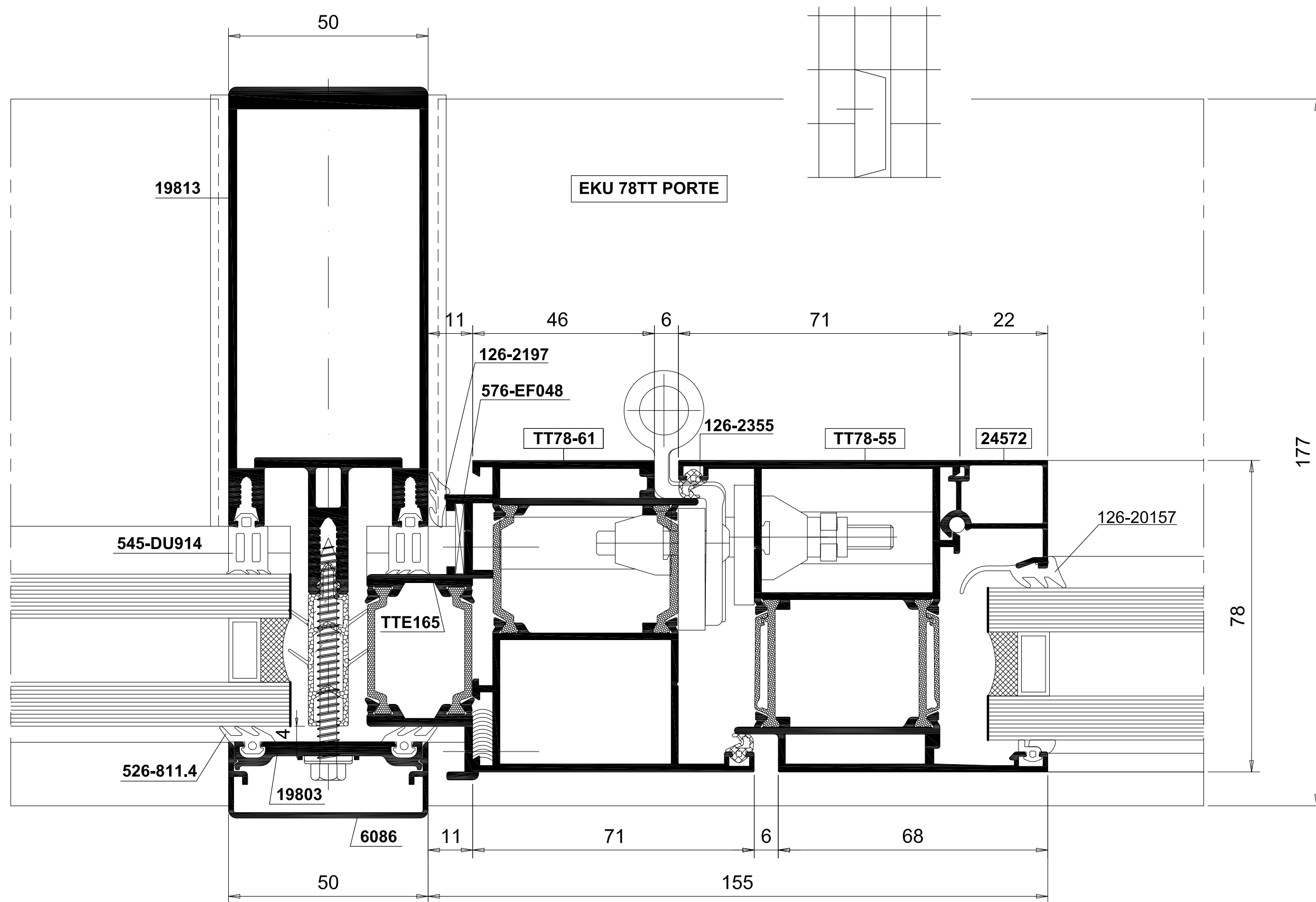
Sezioni 1:1 - Cross sections 1:1



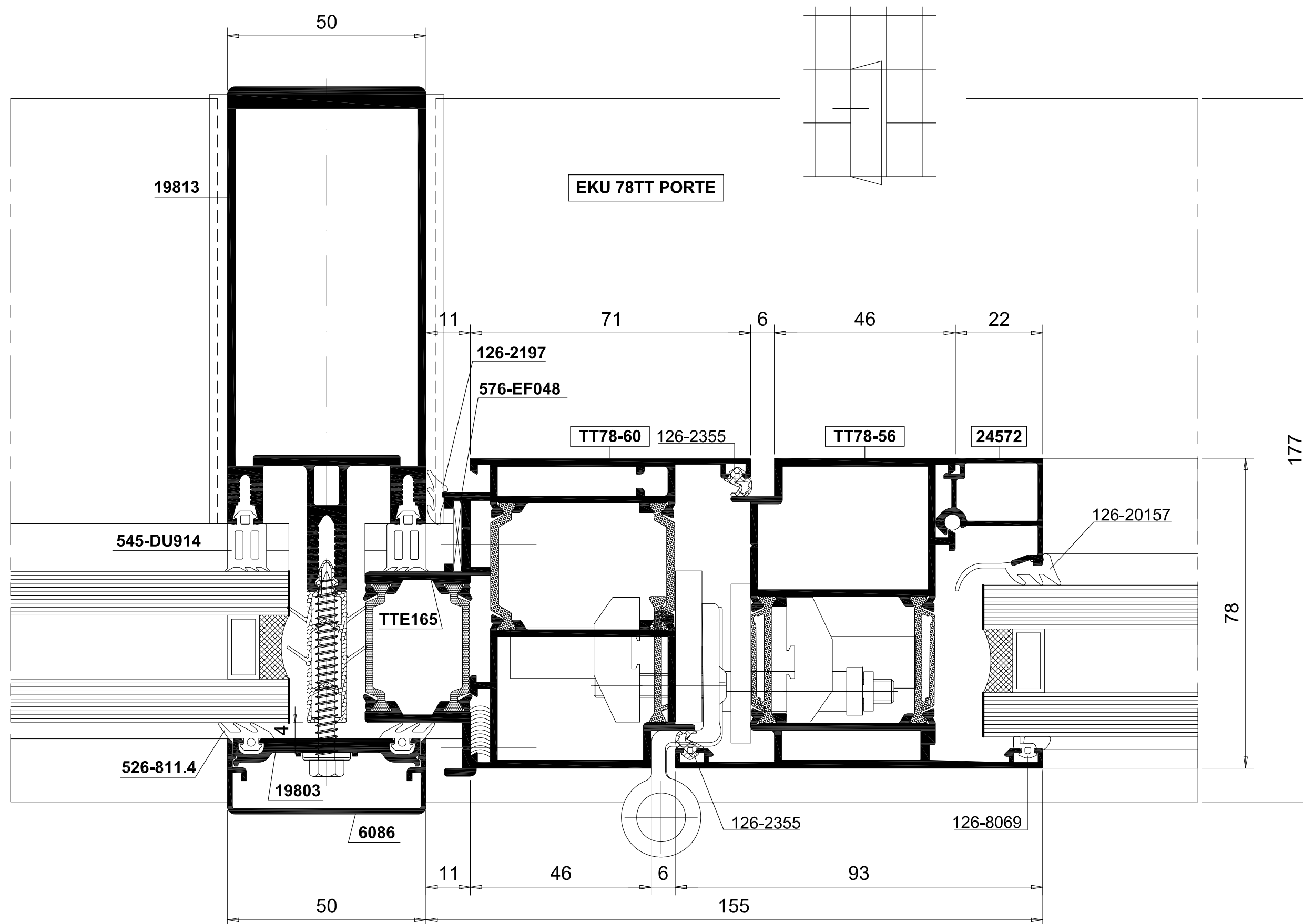
Sezioni 1:1 - Cross sections 1:1



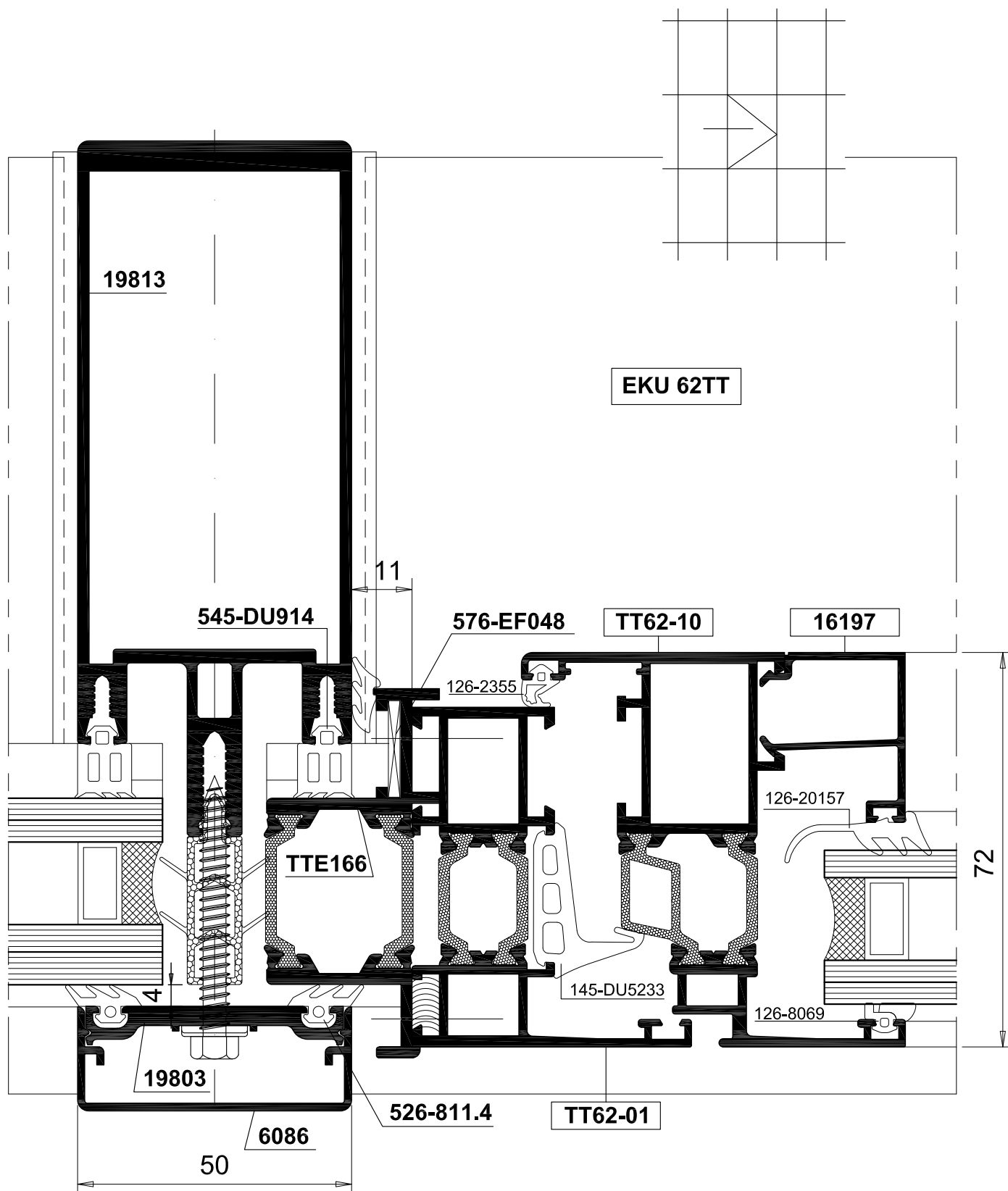
Sezioni 1:1 - Cross sections 1:1



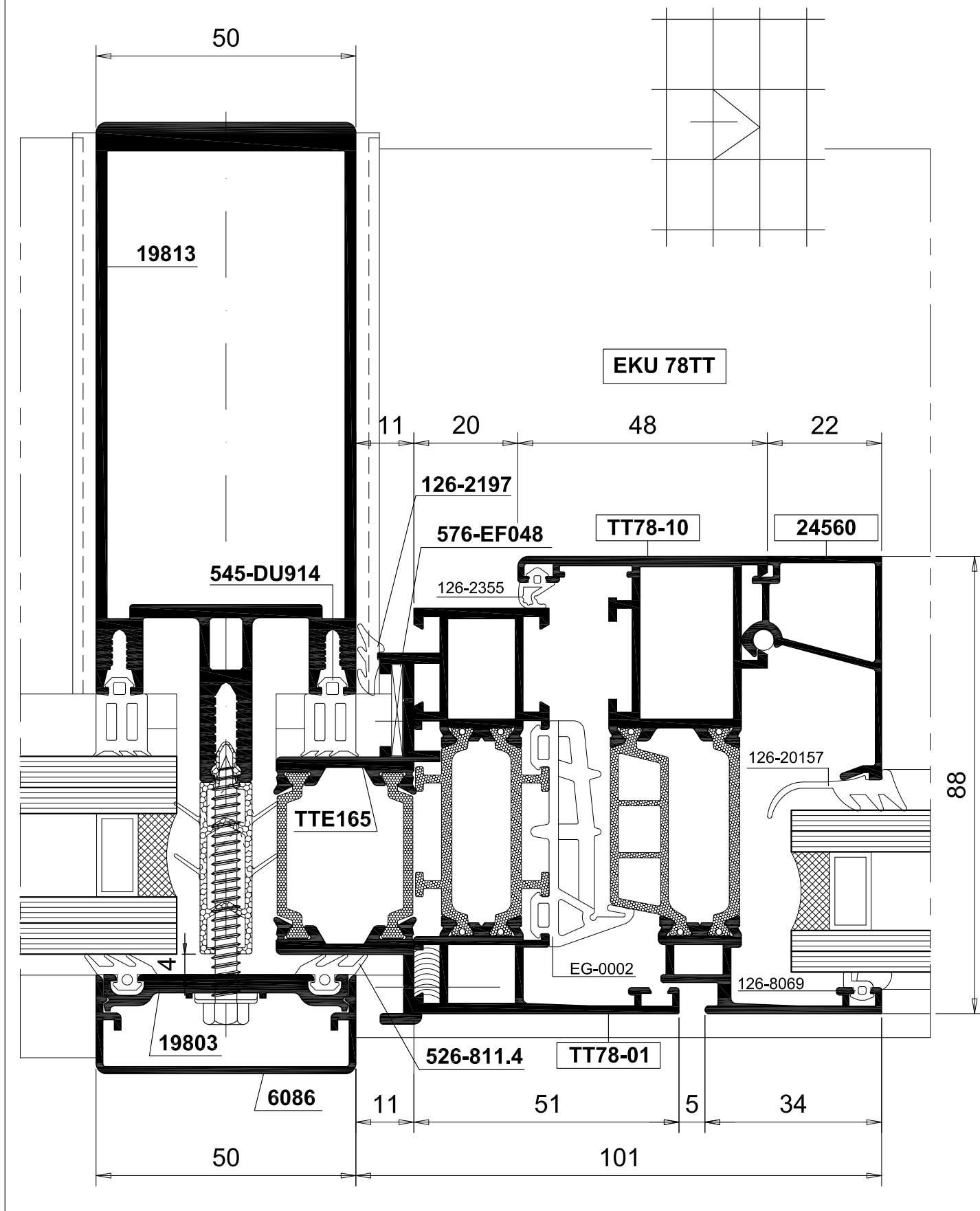
Sezioni 1:1 - Cross sections 1:1



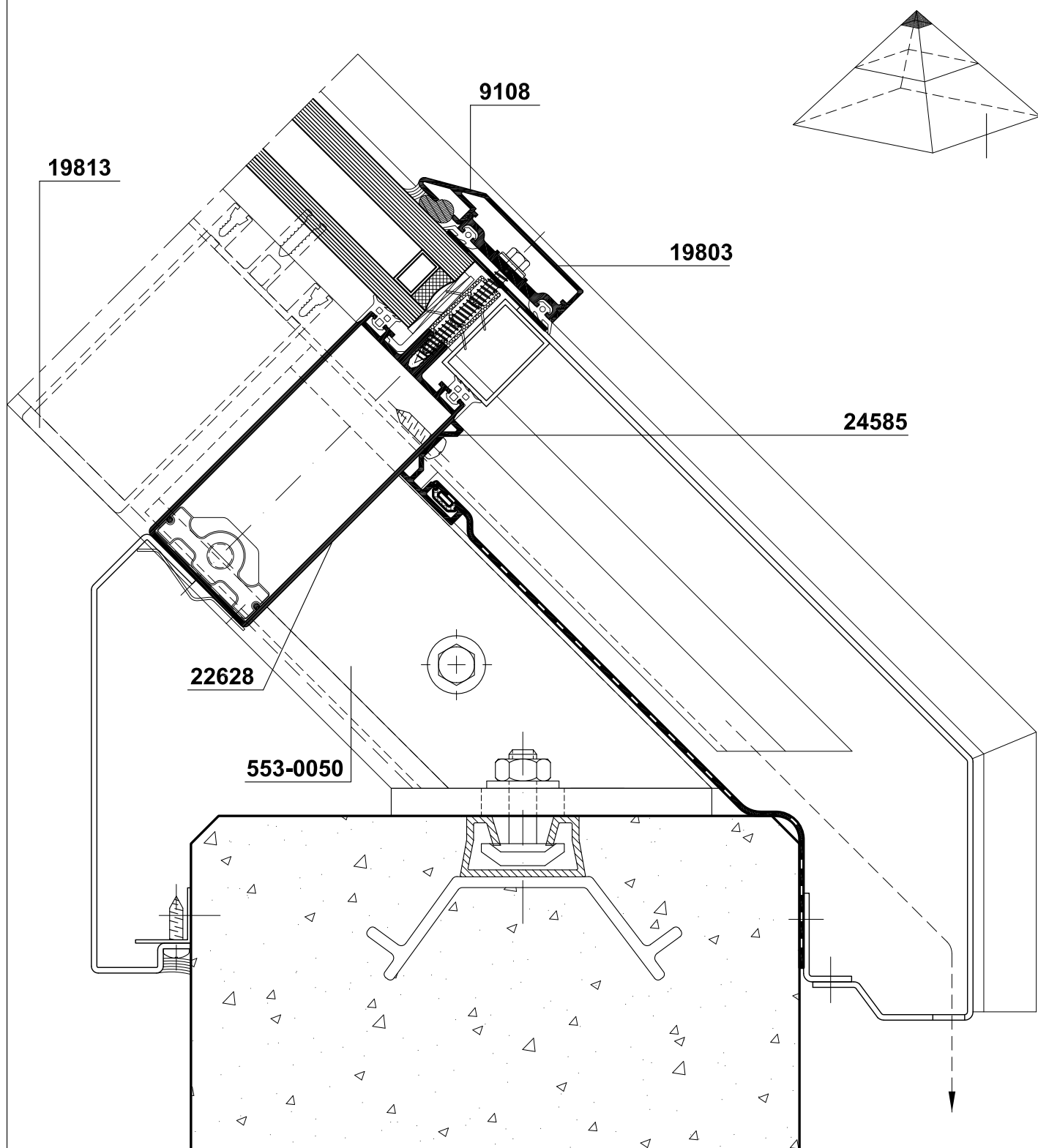
Sezioni 1:1 - Cross sections 1:1



Sezioni 1:1 - Cross sections 1:1

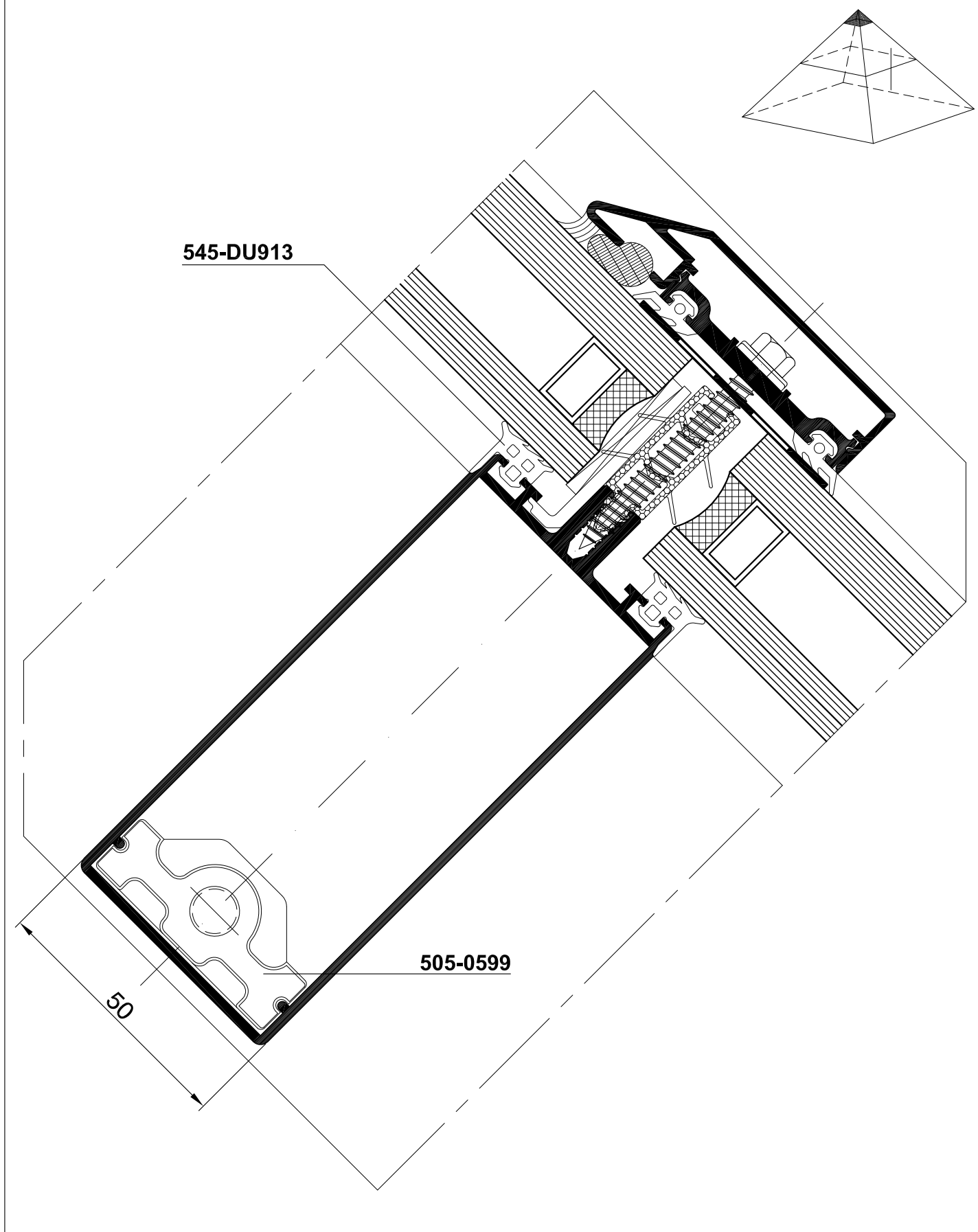


Sezioni 1:2 - Cross sections 1:2

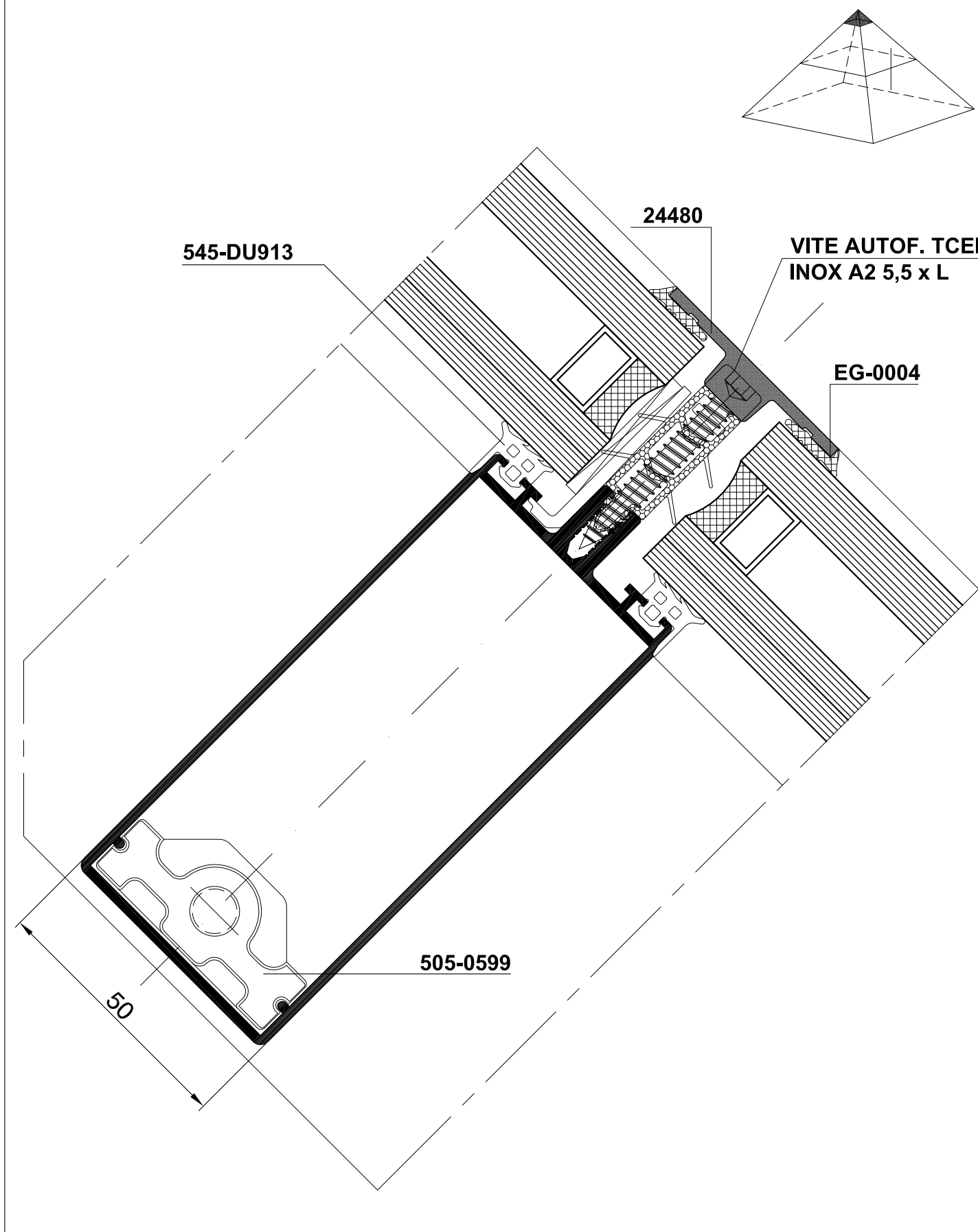


N.B. Per le lamiere è consigliabile utilizzare trattamento anti-rombo
REMARK: For plates it is advisable to use anti-turbot

Sezioni 1:1 - Cross sections 1:1



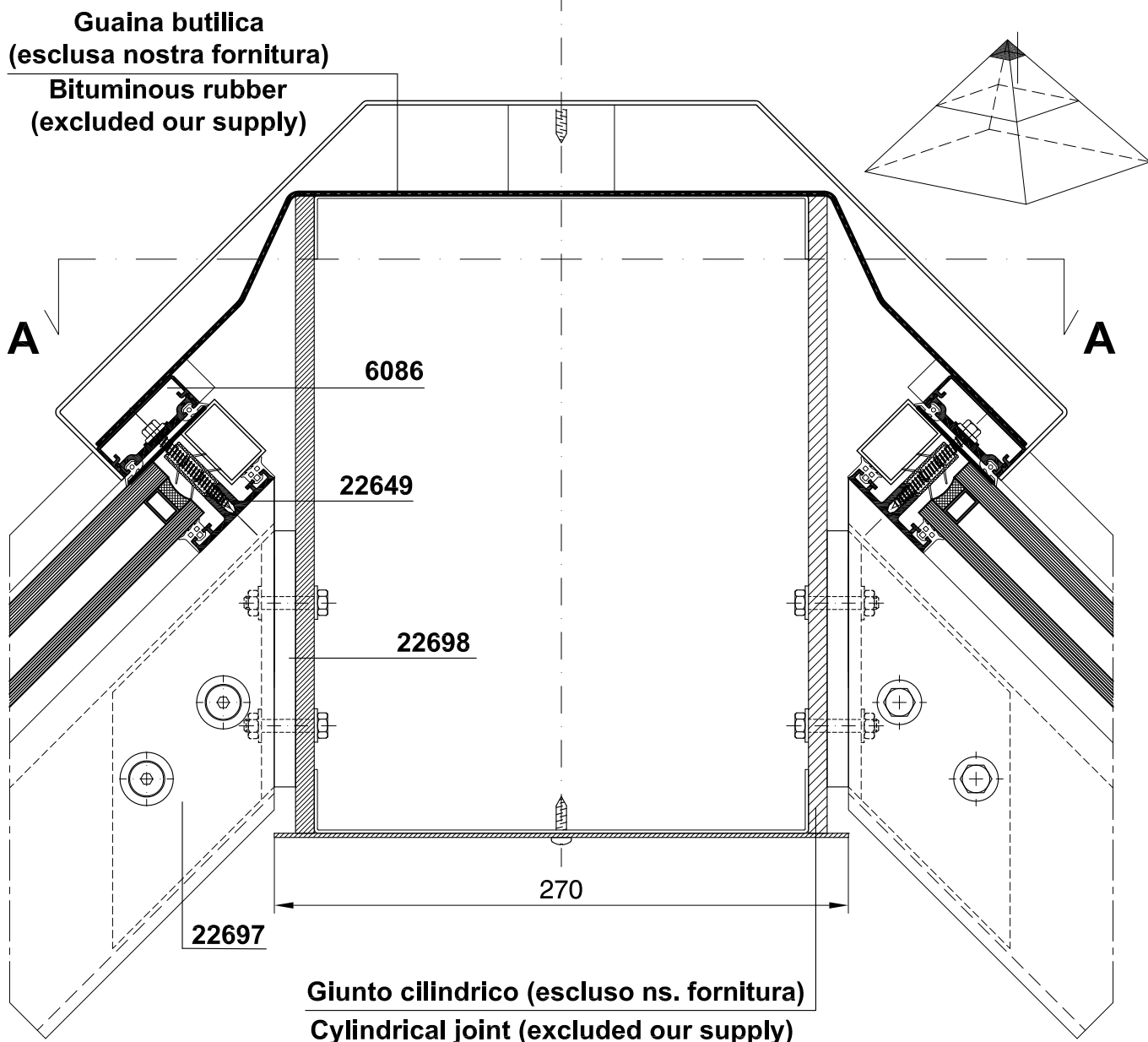
Sezioni 1:1 - Cross sections 1:1



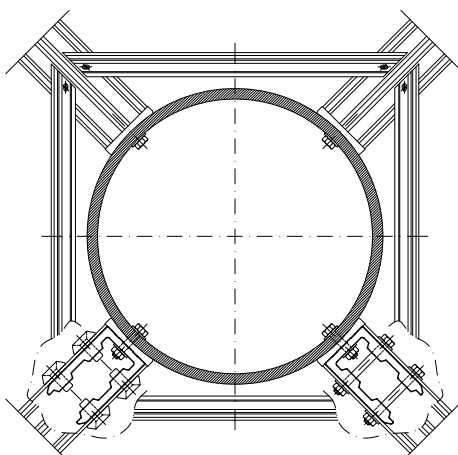
Sezioni 1:3 - Cross sections 1:3

**Guaina butilica
(esclusa nostra fornitura)**

**Bituminous rubber
(excluded our supply)**



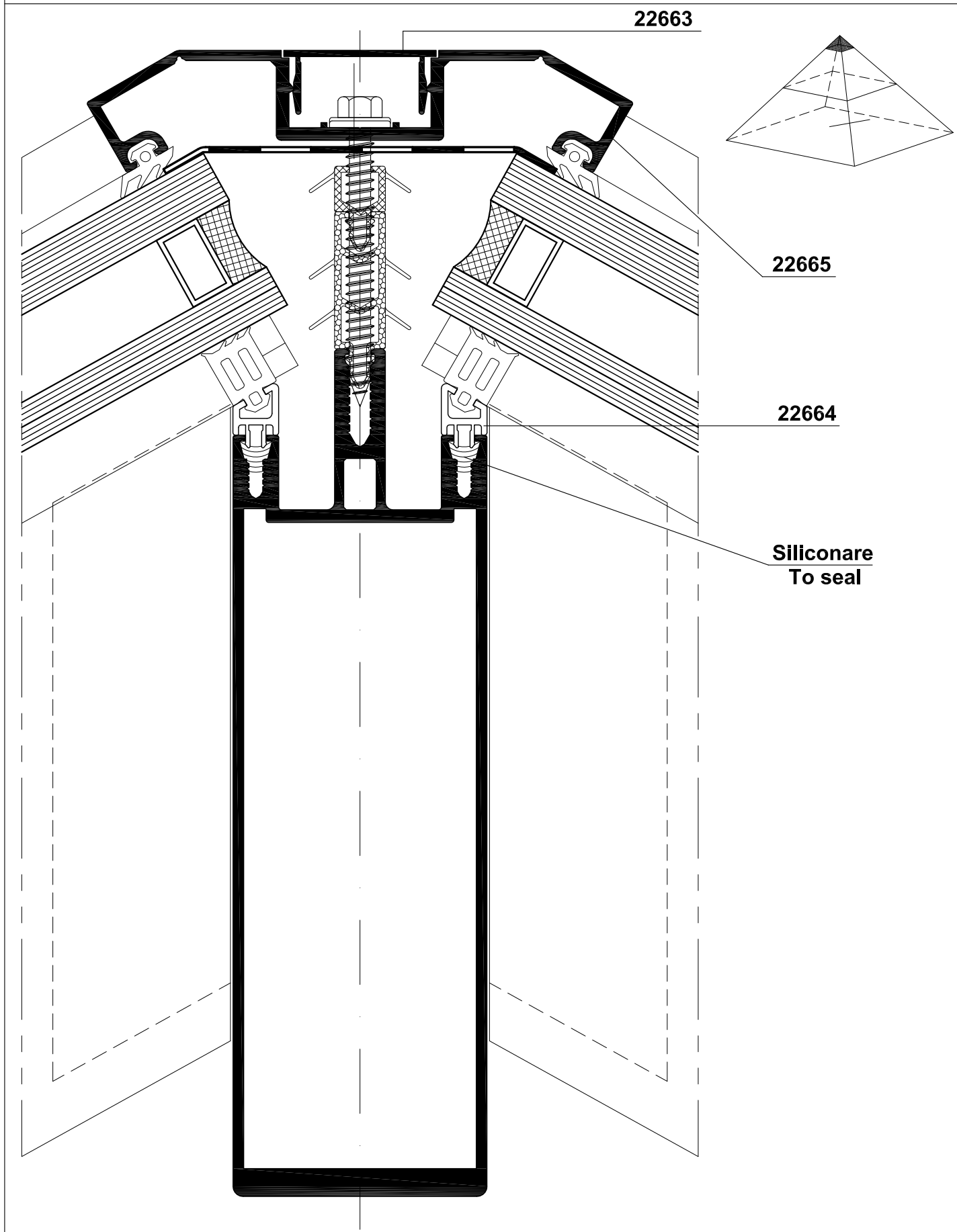
Giunto cilindrico (escluso ns. fornitura)
Cylindrical joint (excluded our supply)



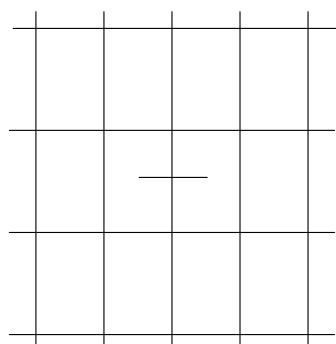
Sezione A-A (non in scala)
A-A Section (not to scale)

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

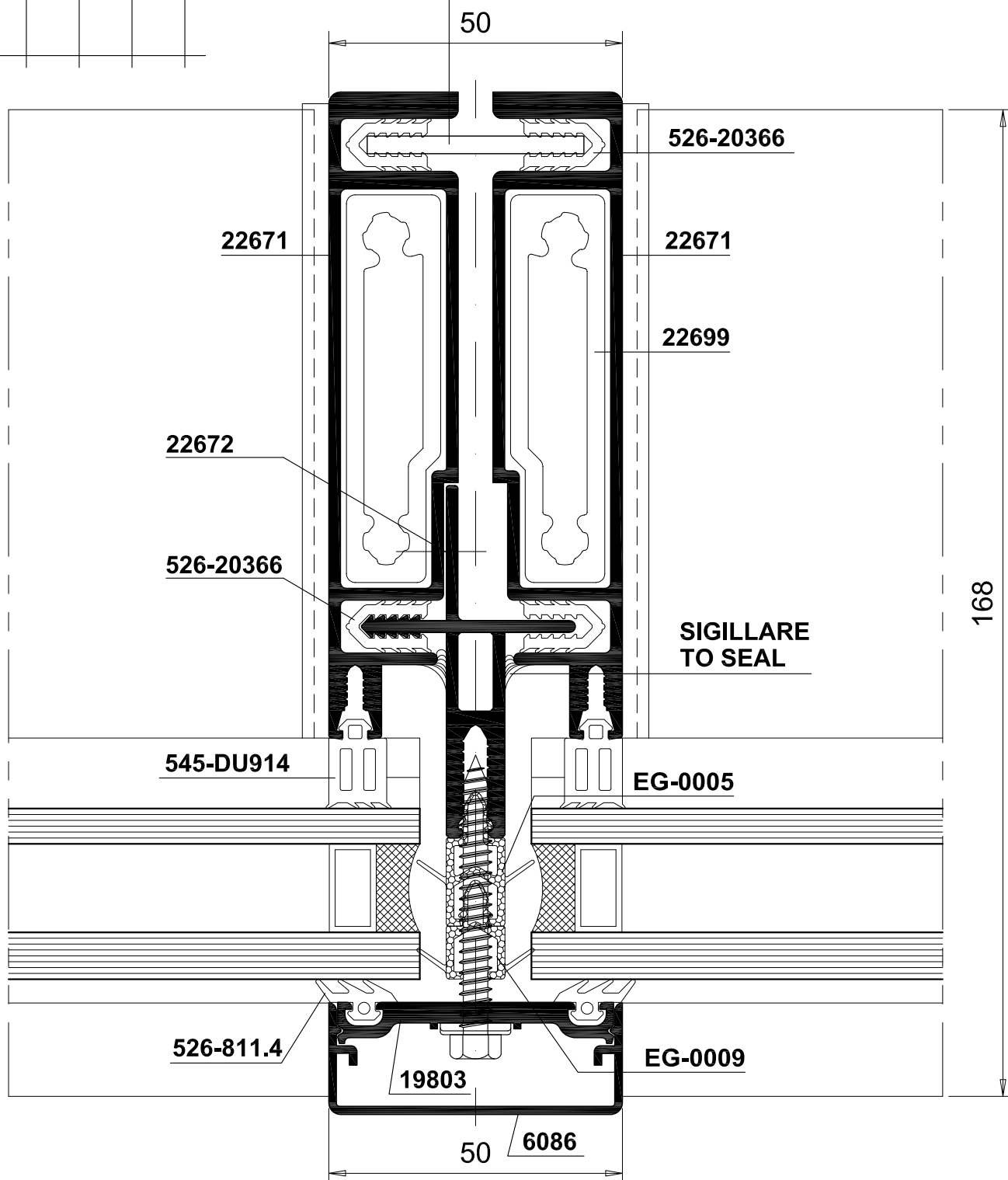
Sezioni 1:1 - Cross sections 1:1



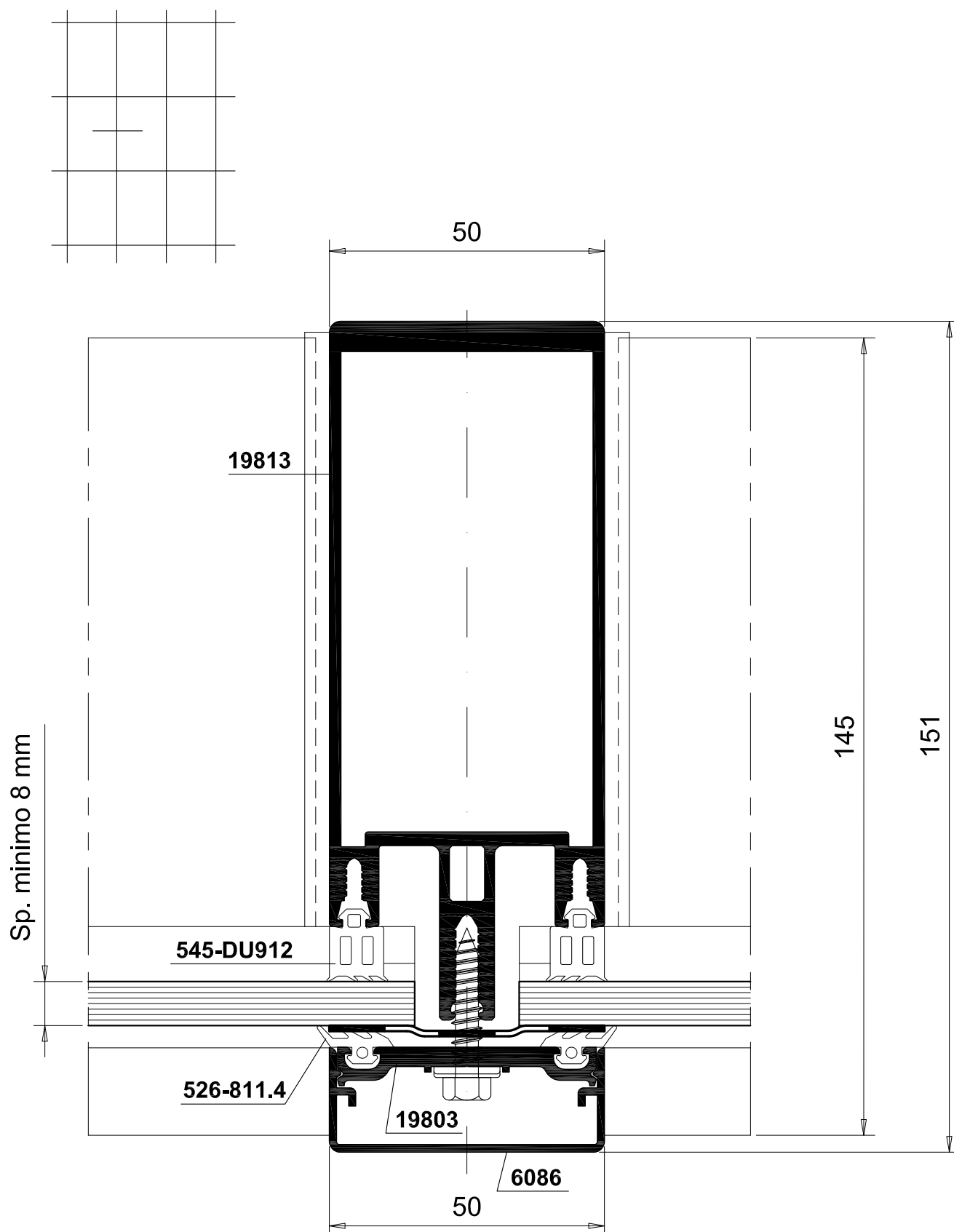
Sezioni 1:1 - Cross sections 1:1



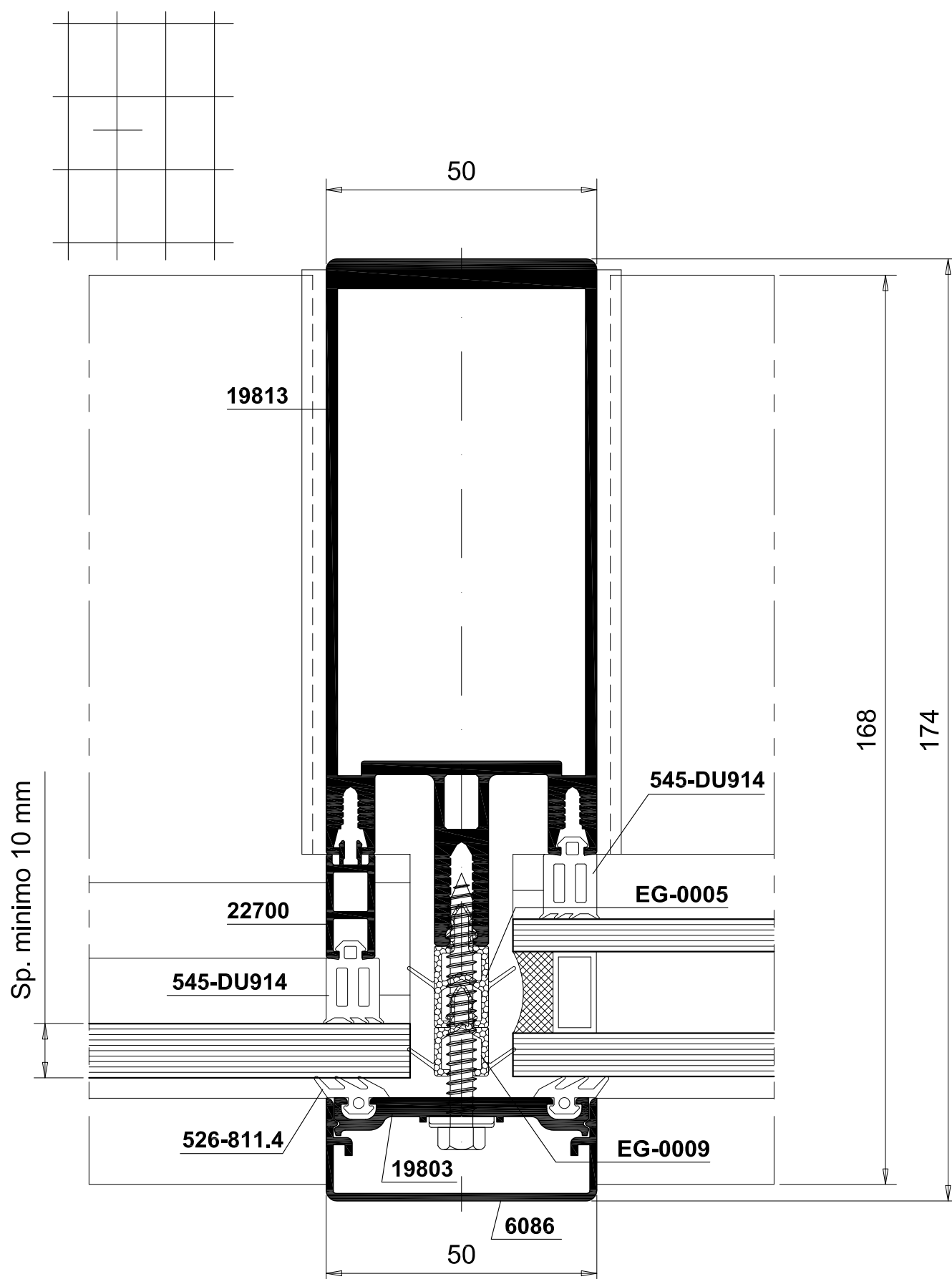
**LAMIERA ALL.
DA 3 mm.
(esclusa ns. fornitura)**



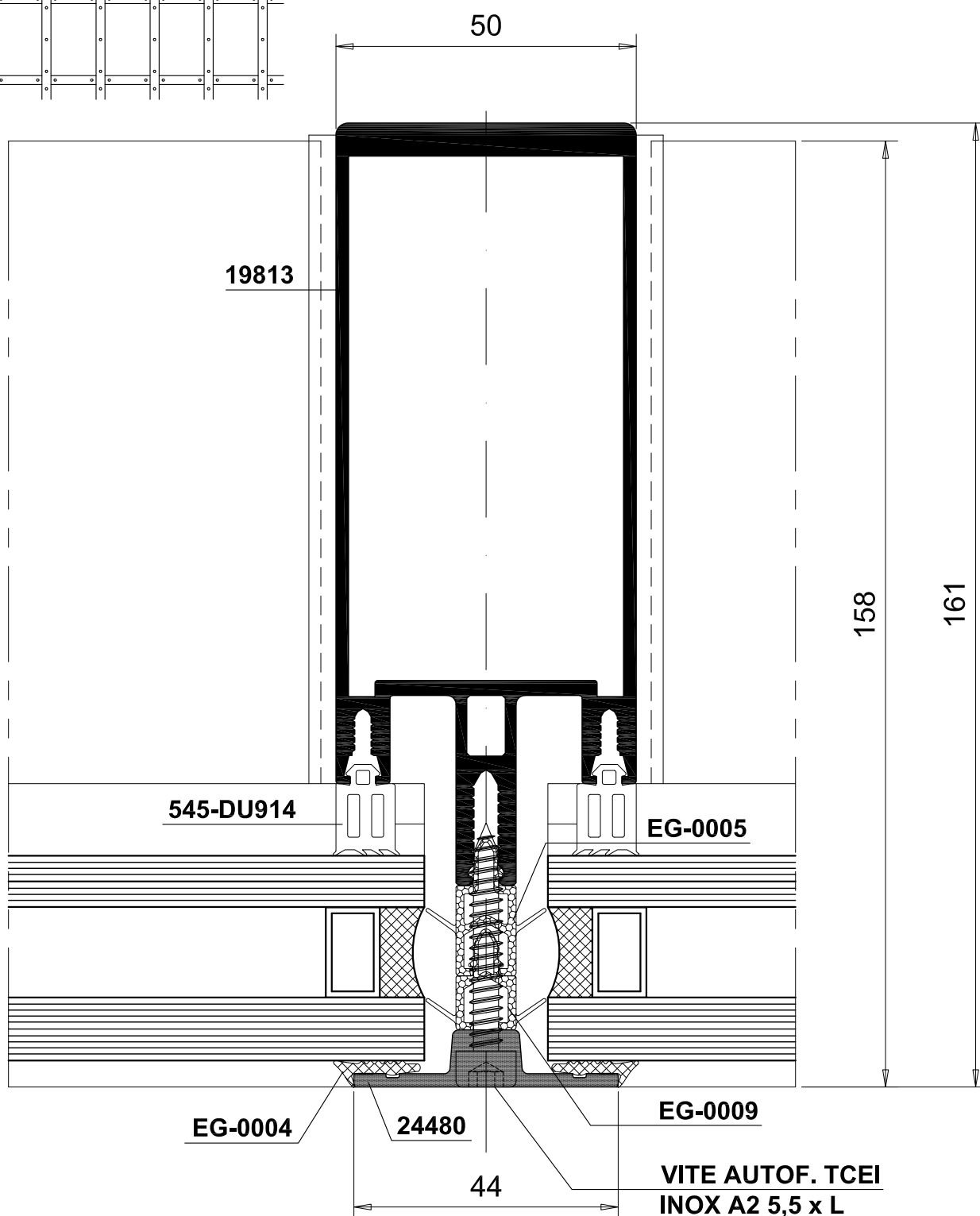
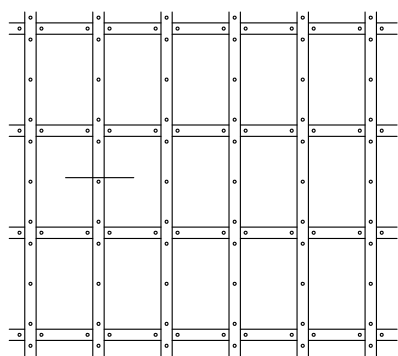
Sezioni 1:1 - Cross sections 1:1



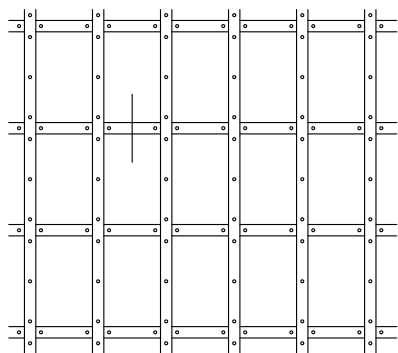
Sezioni 1:1 - Cross sections 1:1



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

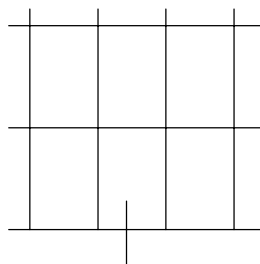
2.5

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

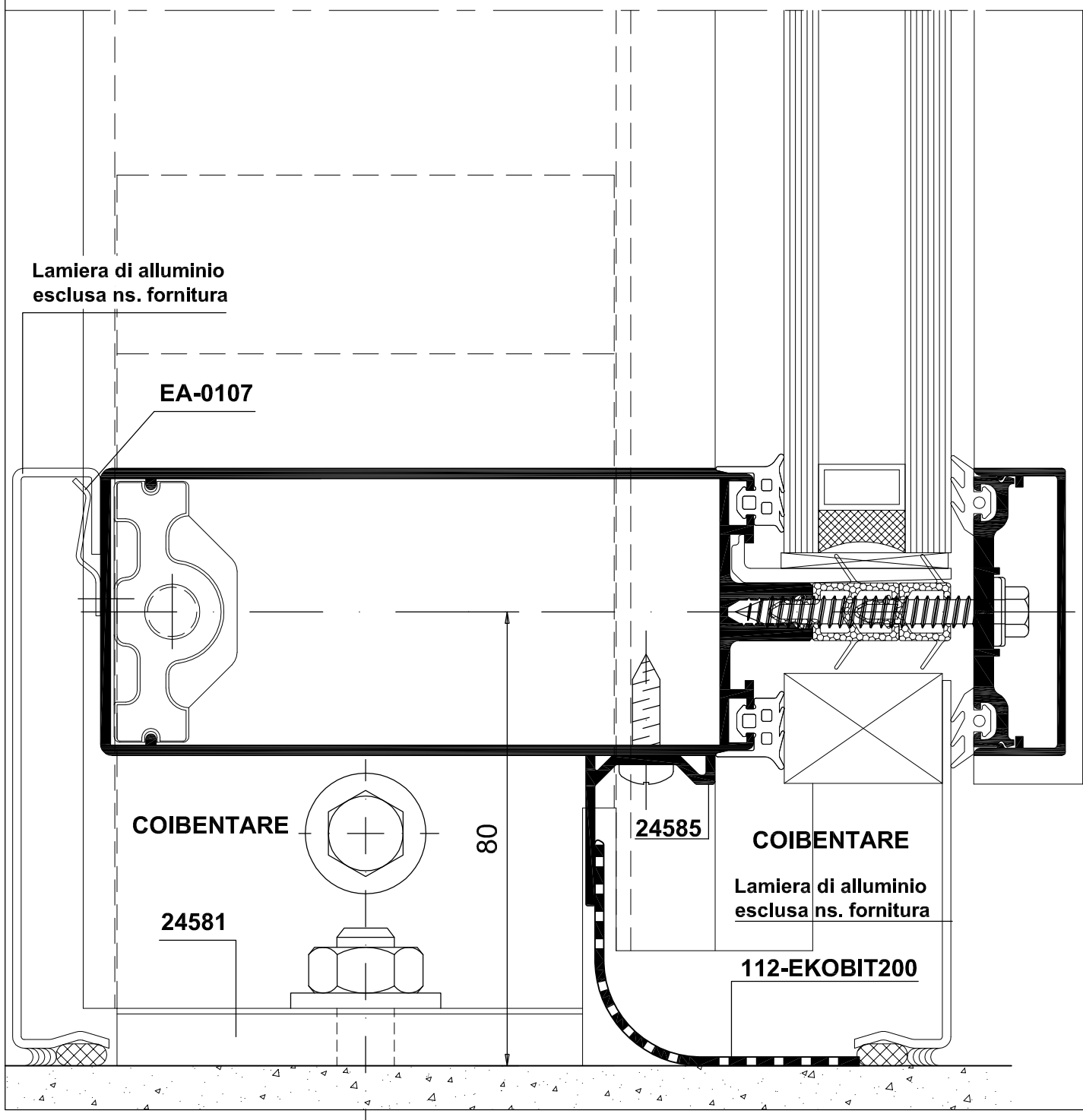
24581

24585

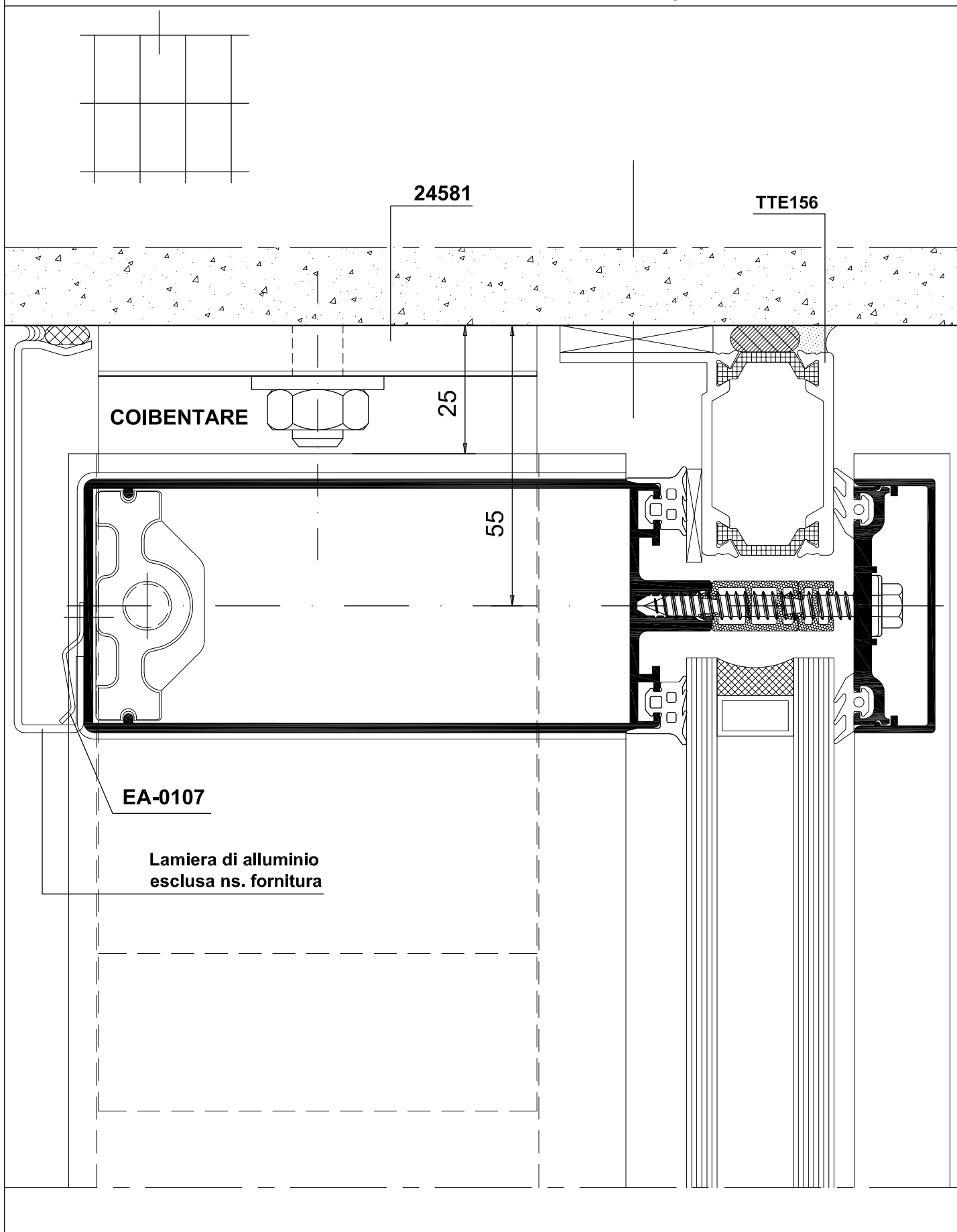
COIBENTARE

Lamiera di alluminio
esclusa ns. fornitura

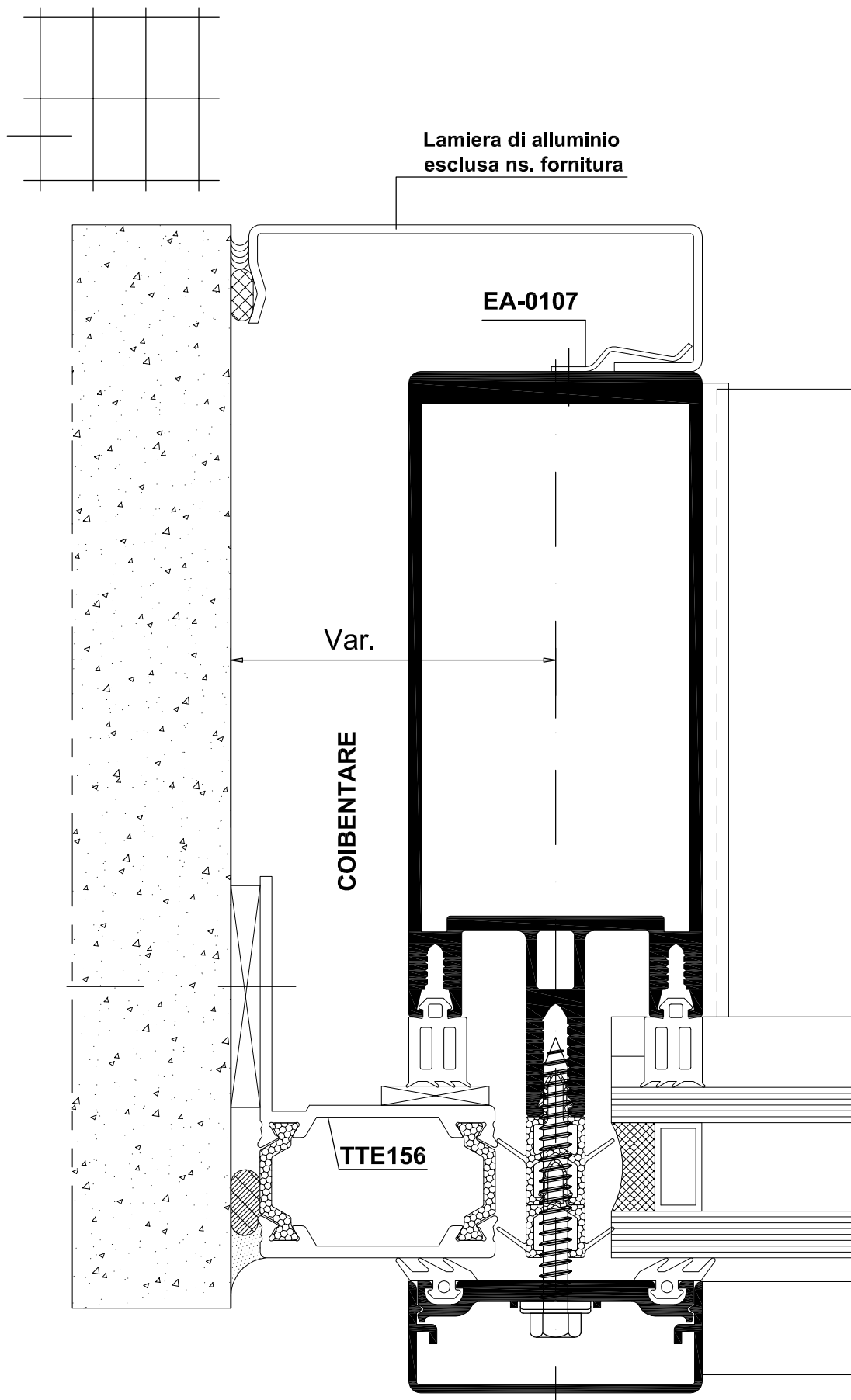
112-EKOBIT200



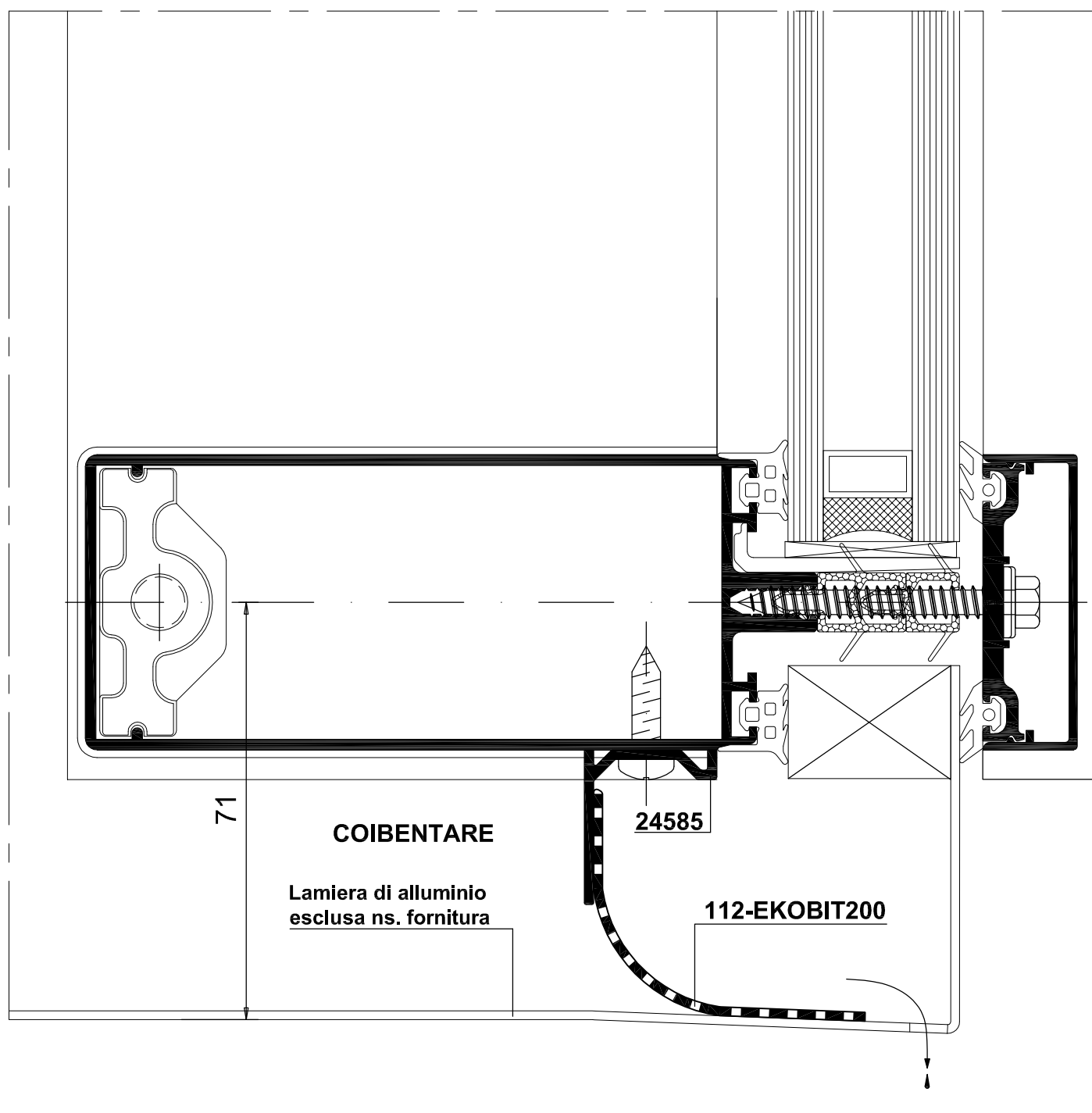
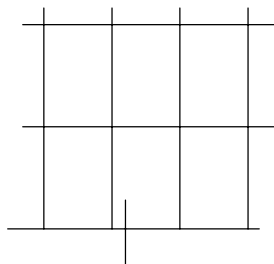
Esempi raccordi con le murature 1:1 - Examples of fittings to the walls 1:1



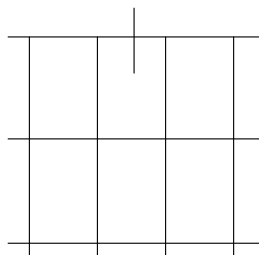
Esempi raccordi con le murature 1:1 - Examples of fittings to the walls 1:1



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

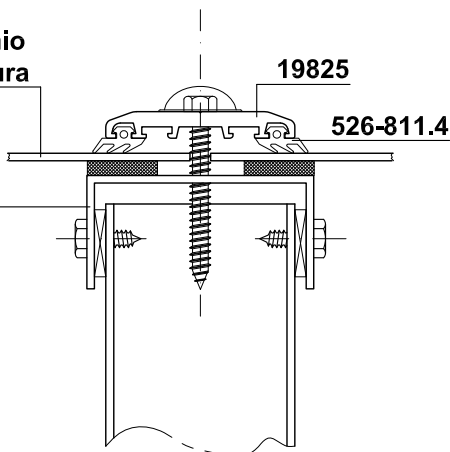


Esempi raccordi con le murature 1:2 - Examples of fittings to the walls 1:2



**Lamiera di alluminio
esclusa ns. fornitura**

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

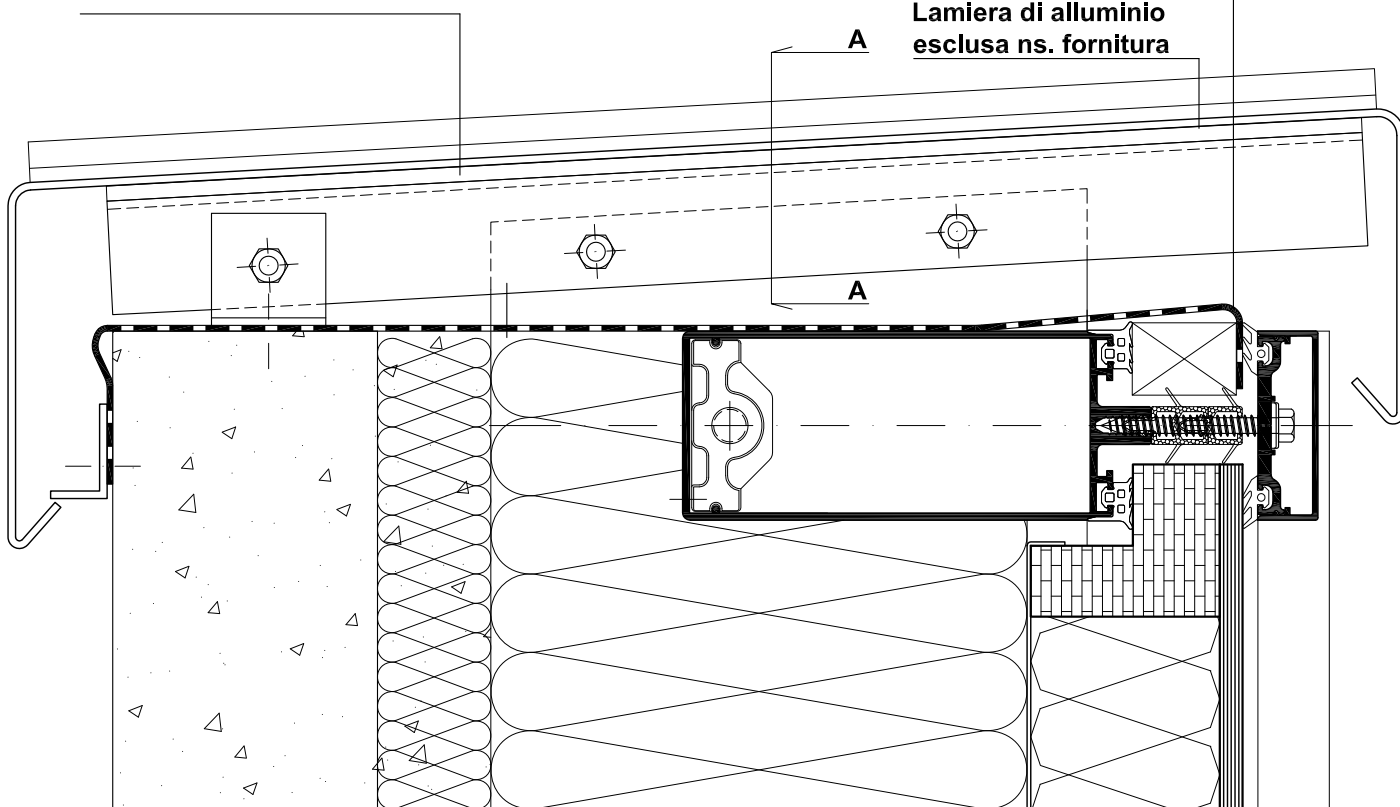


**Sezione A-A
Scala 1:1**

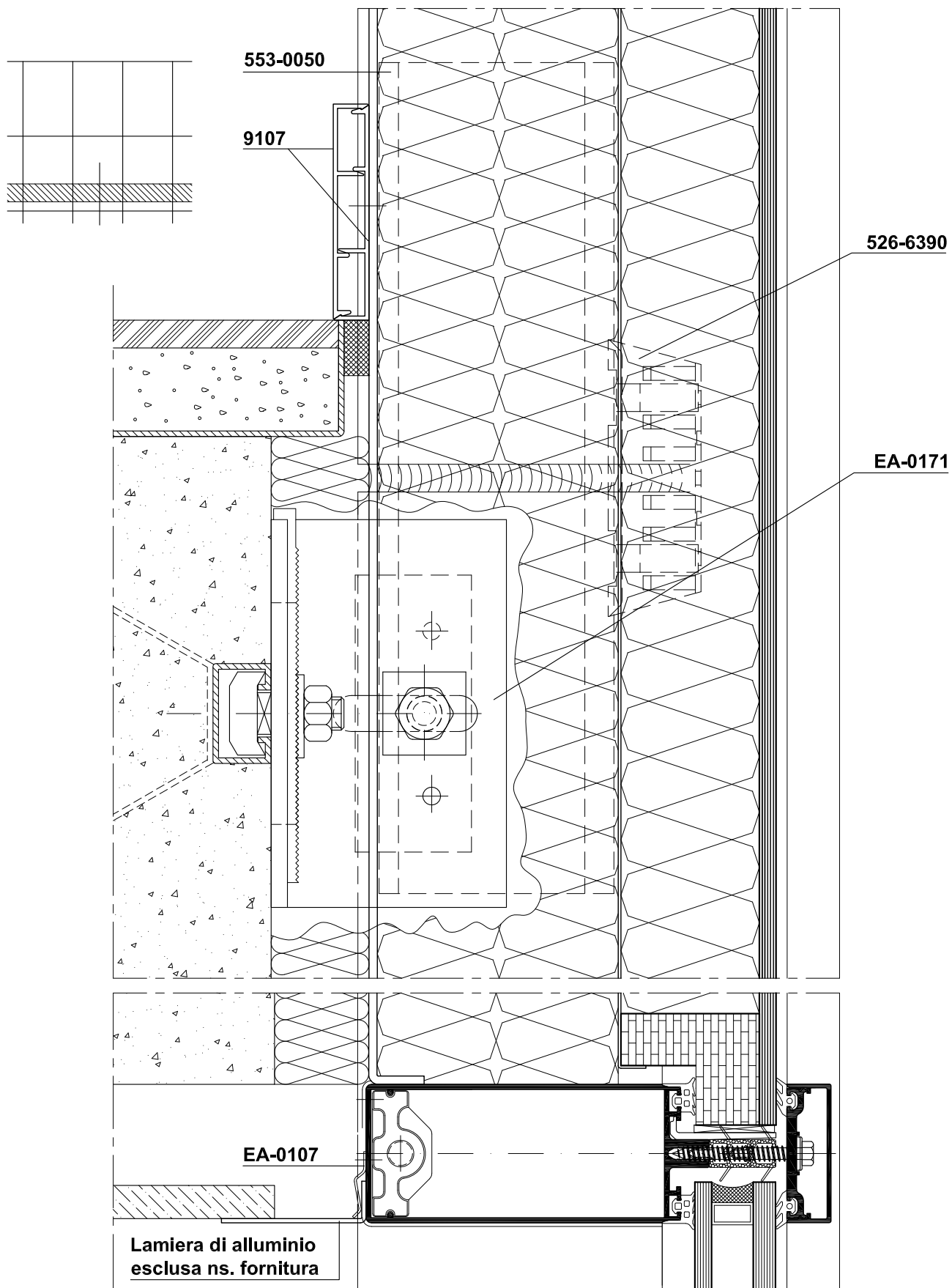
**Guaina impermeabile
Esclusa ns. fornitura**

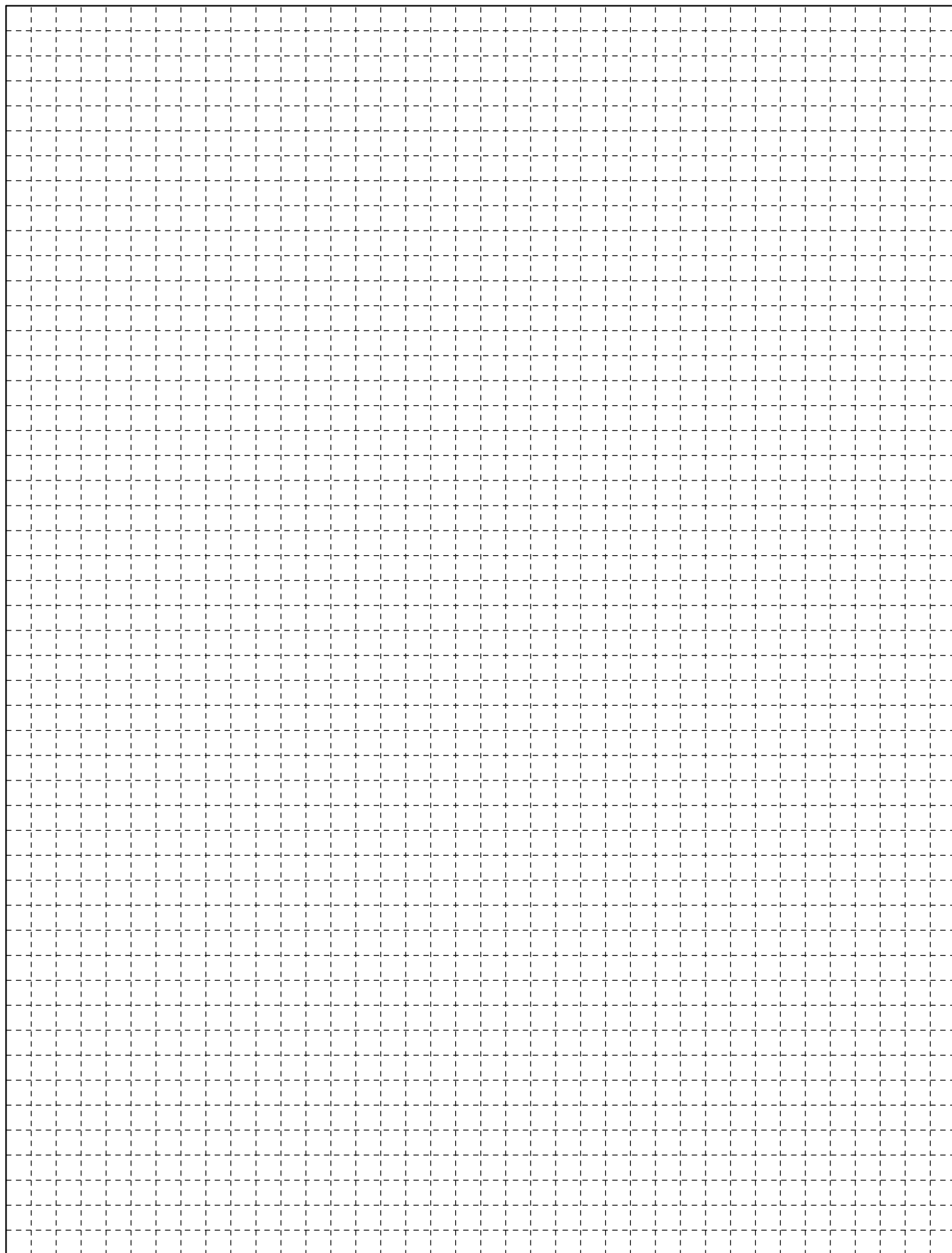
**Bandella tipo aerstop adesiva
Esclusa ns. fornitura**

**Lamiera di alluminio
esclusa ns. fornitura**



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



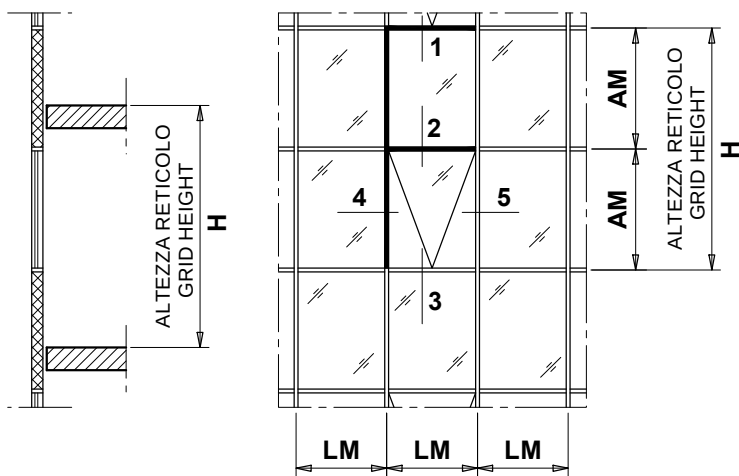


DISTINTE DI TAGLIO



PREPARATIONS

Disegni d' assieme - Assembly drawings



**APERTURA A SPORGERE
AWNING WINDOW**

PROFILI / PROFILES

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

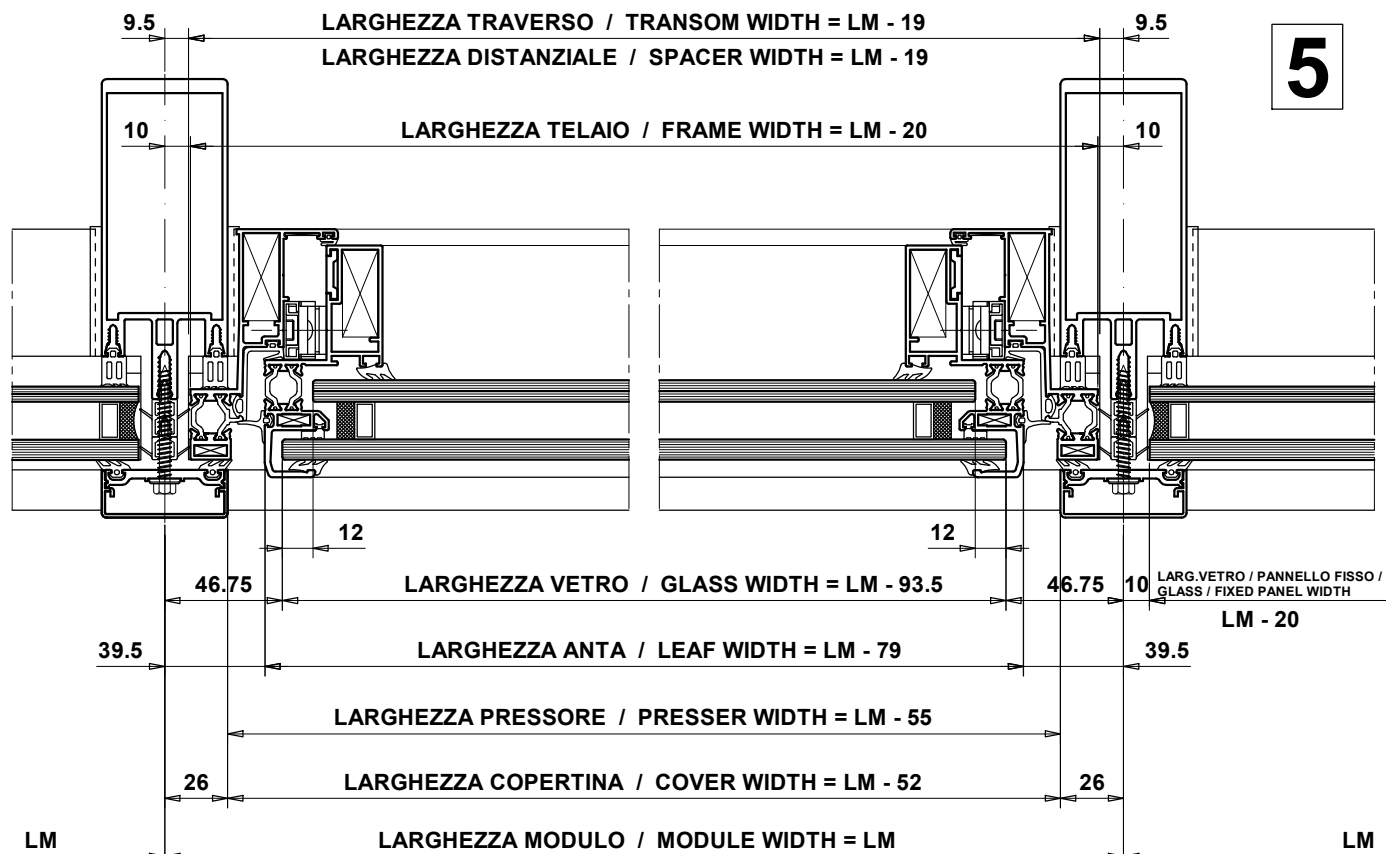
GUARNIZIONI / GASKETS

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

ACCESSORI / ACCESSORIES

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

4



5

Disegni d' assieme - Assembly drawings

**RETICOLO DI FACCIATA
WALL GRID**

PROFILI / PROFILES

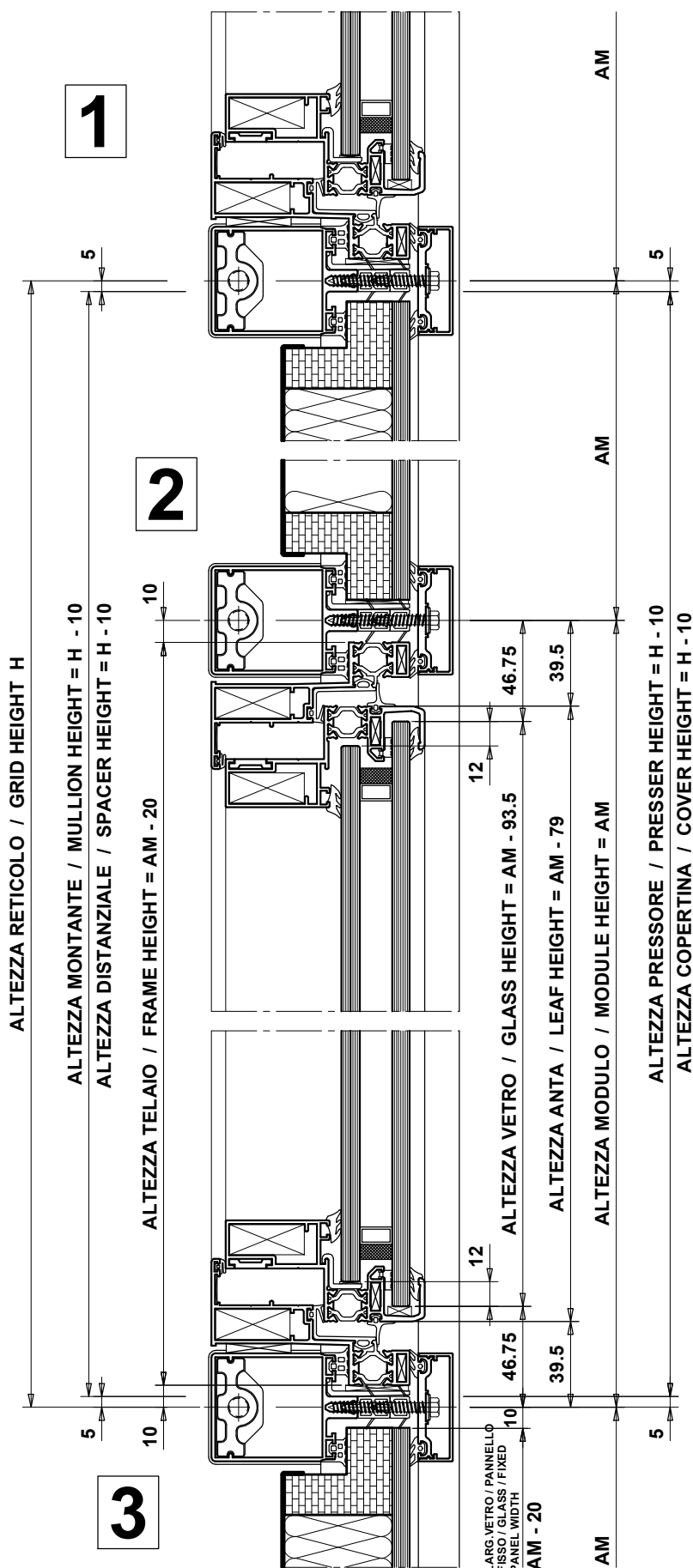
19813	MONTANTE MULLION	1H
19827	TRAVERSO TRANSOM	2LM
19803	PRESSORE PRESSURE PLATE	2LM + 1H
4162	COPERTINA COVER	2LM
6086	COPERTINA COVER	1H

GUARNIZIONI / GASKETS

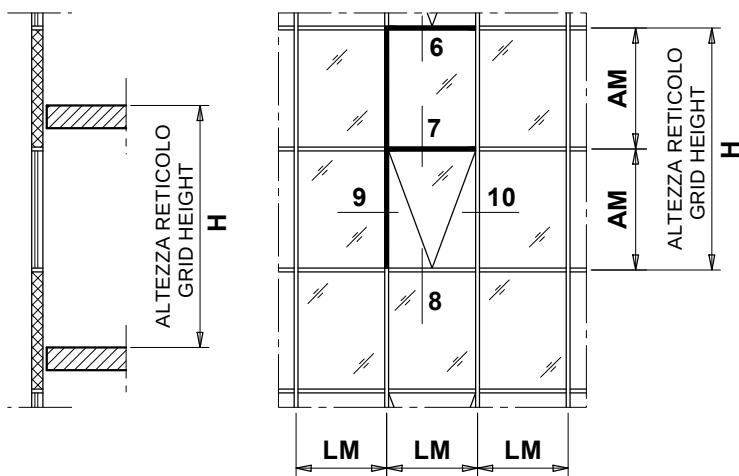
EG-0005	DISTANZIALE MM.15 SPACING MM.15	2LM + 1H
EG-0009	DISTANZIALE MM.9 SPACING MM.9	2LM + 1H
545-DU914	INTERNA MONTANTI MULLION INTERNAL	2H
545-DU913	INTERNA TRAVERSI TRANSOM INTERNAL	4LM
526-811.4	VETRAZIONE ESTERNA MM.4 EXTERNAL GLASS BEADING MM.4	4LM + 2H

ACCESSORI / ACCESSORIES

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



Disegni d' assieme - Assembly drawings



APERTURA A SPORGERE AWNING WINDOW

PROFILI / PROFILES

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

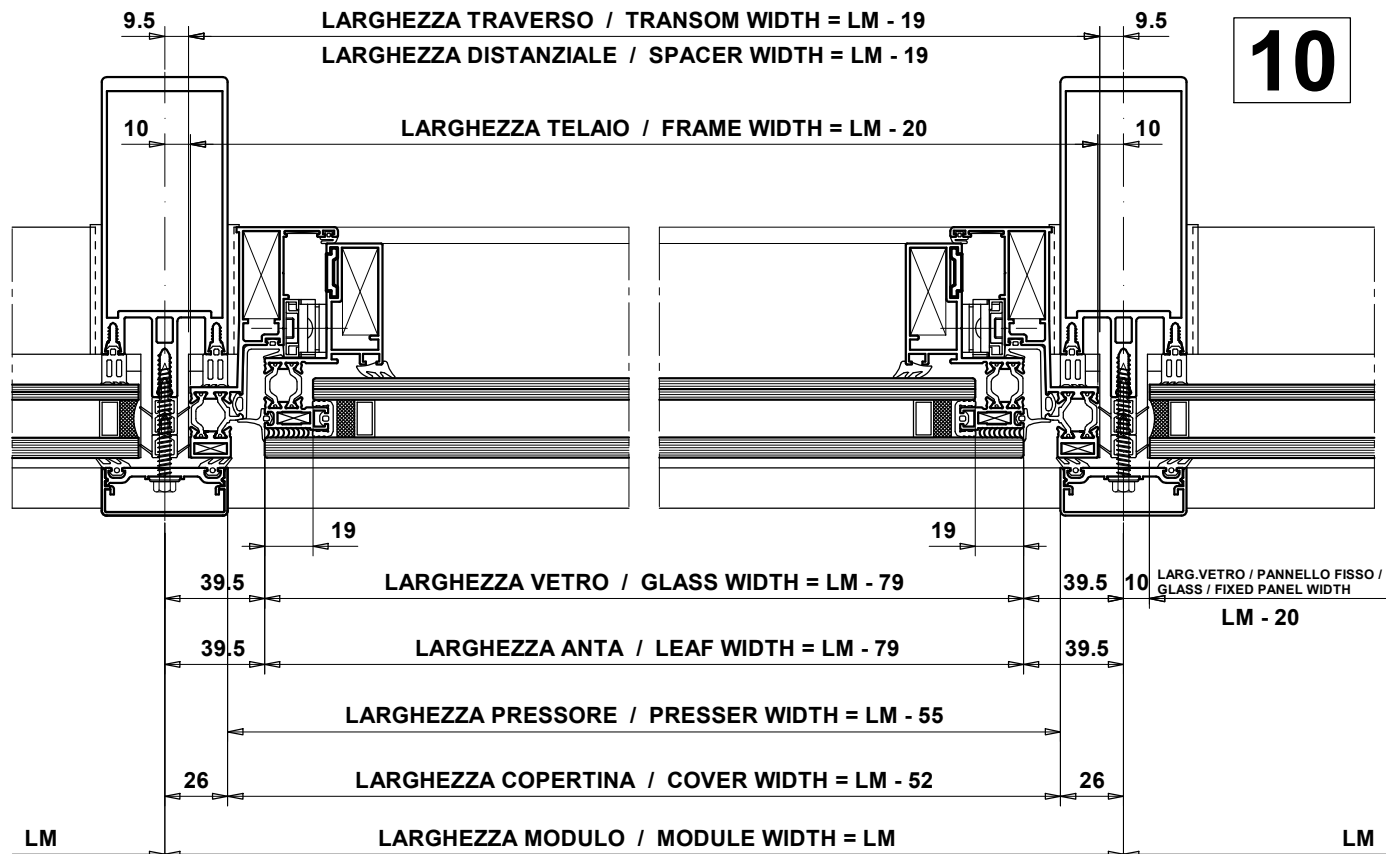
GUARNIZIONI / GASKETS

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

ACCESSORI / ACCESSORIES

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

9



10

Disegni d' assieme - Assembly drawings

**RETICOLO DI FACCIATA
WALL GRID**

PROFILI / PROFILES

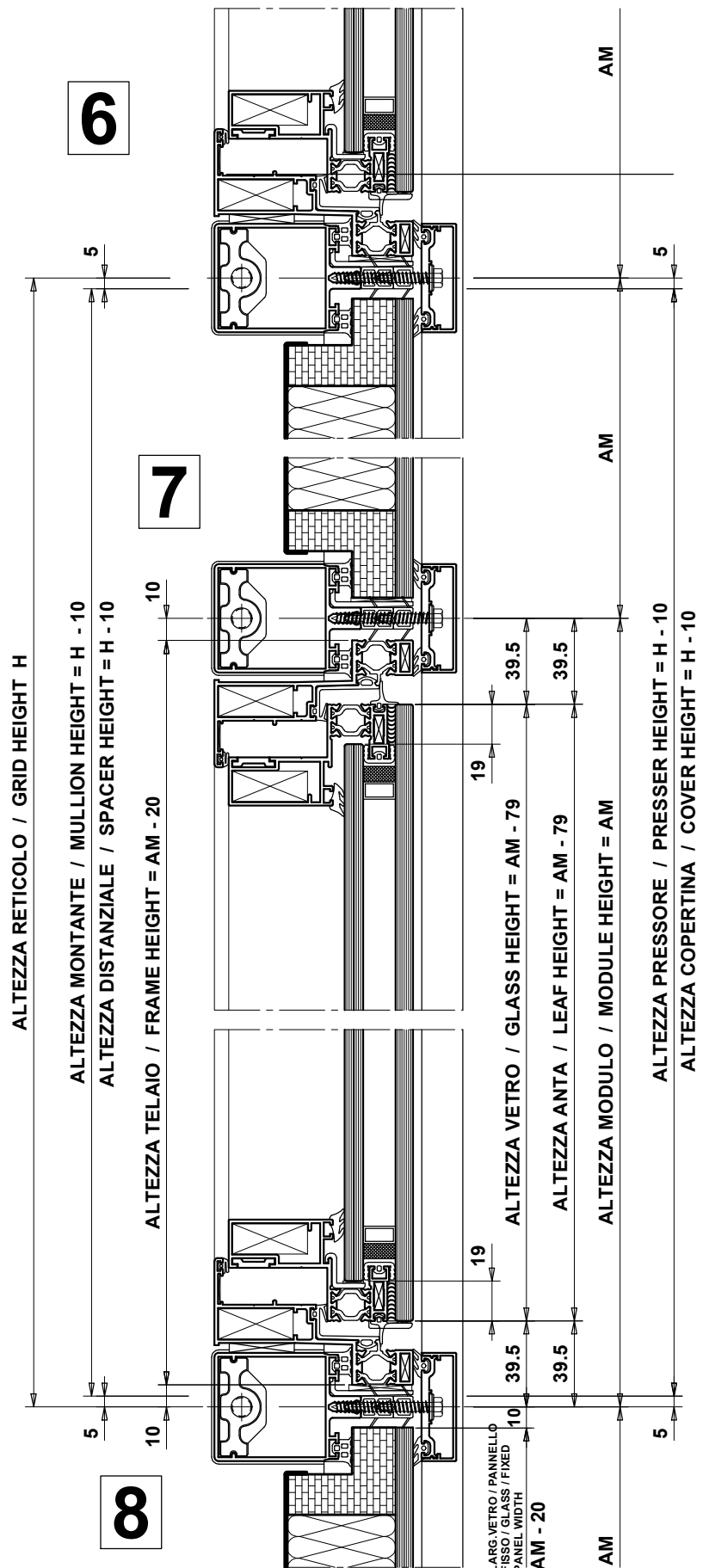
19813	MONTANTE MULLION	1H
19827	TRAVERSO TRANSOM	2LM
19803	PRESSORE PRESSURE PLATE	2LM + 1H
4162	COPERTINA COVER	2LM
6086	COPERTINA COVER	1H

GUARNIZIONI / GASKETS

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

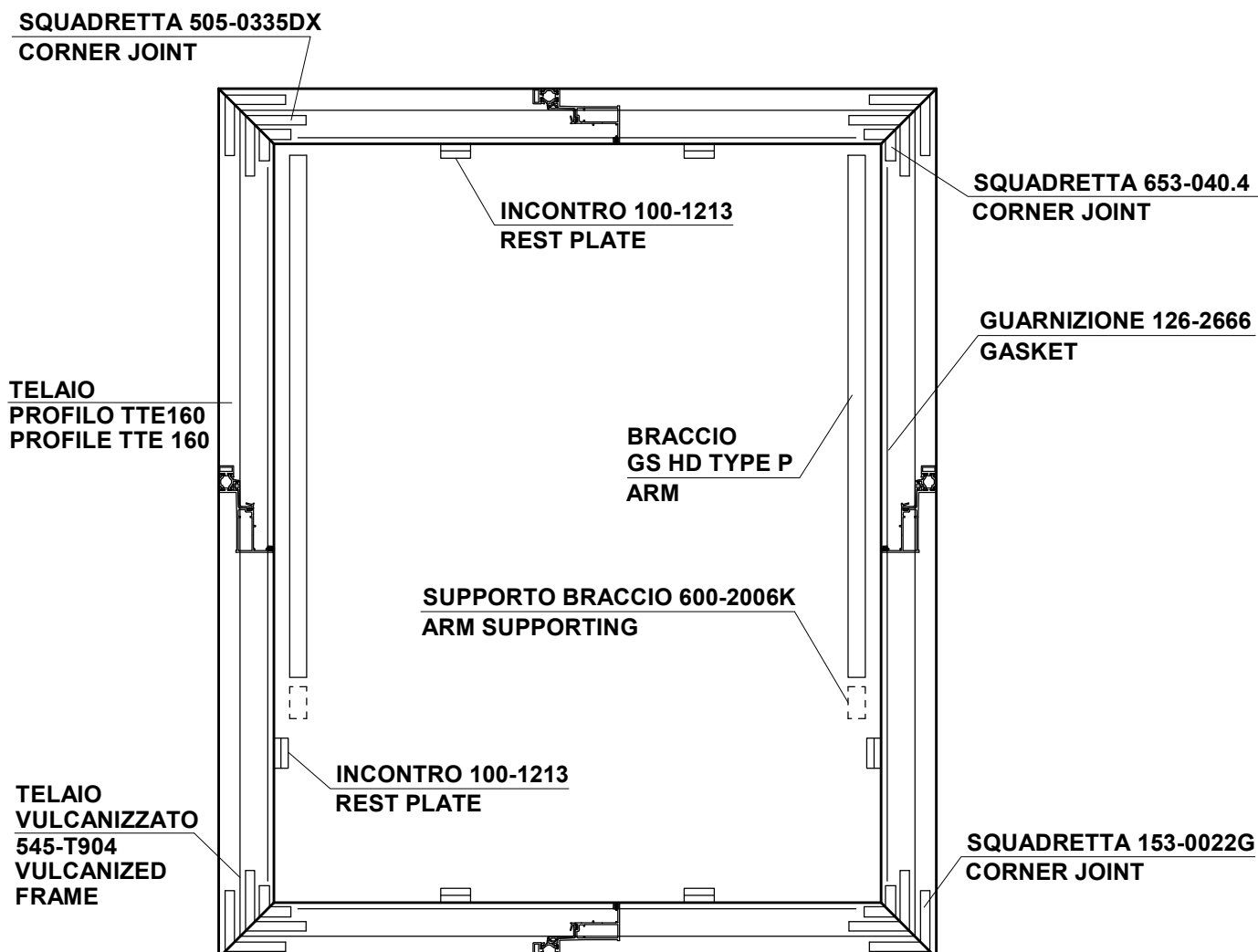
ACCESSORI / ACCESSORIES

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



Disegni d' assieme - Assembly drawings

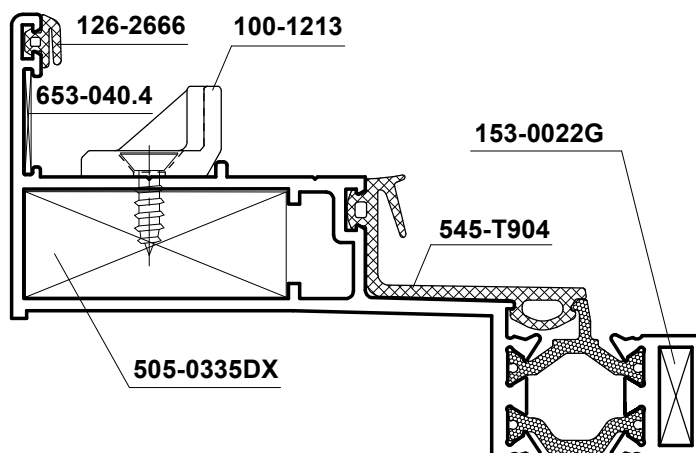
SCHEMA APERTURA A SPORGERE - TELAIO TTE160: accessori e guarnizioni
AWNING WINDOW - FRAME TTE160: accessories and gaskets



RIEPILOGO QUANTITA' / QUANTITY SUMMARY

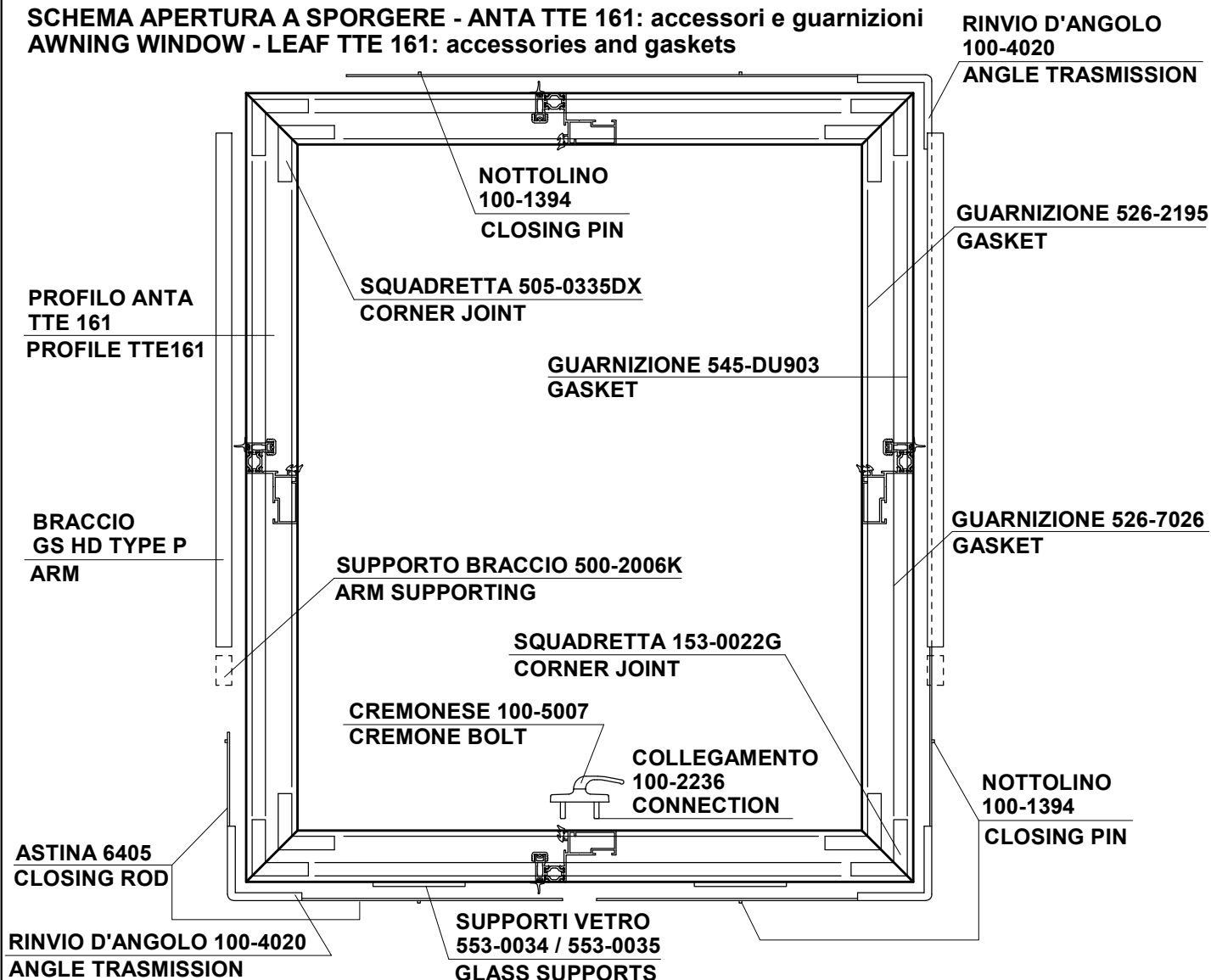
SQUADRETTA 505-0335DX -----> N° 4 Pz.
CORNER JOINT
SQUADRETTA 153-0022G -----> N° 4 Pz.
CORNER JOINT
SQUADRETTA 653-040.4 -----> N° 4 Pz.
CORNER JOINT
GUARNIZIONE 126-2666 -----> 2H + 2L
GASKET
TELAIO VULCANIZZATO 545-T904 -----> N° 1 Pz.
VULCANIZED FRAME
BRACCIO..... -----> N° 1 Cp.
ARM
SUPPORTO BRACCIO 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

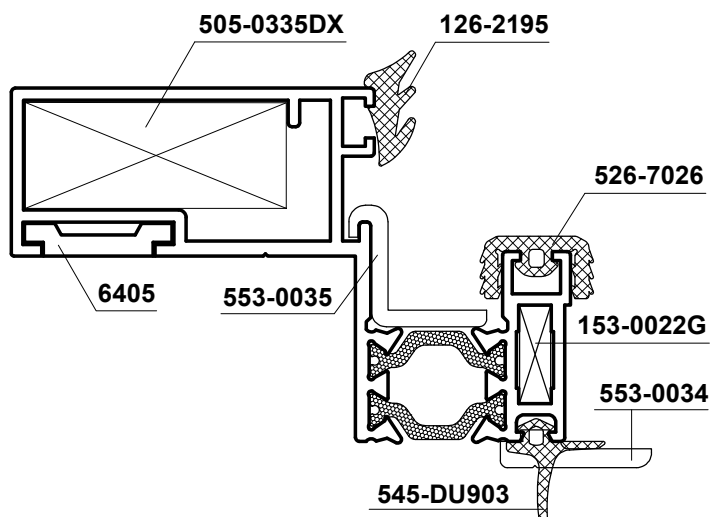
SCHEMA APERTURA A SPORGERE - ANTA TTE 161: accessori e guarnizioni
AWNING WINDOW - LEAF TTE 161: accessories and gaskets



RIEPILOGO QUANTITA' / QUANTITY SUMMARY

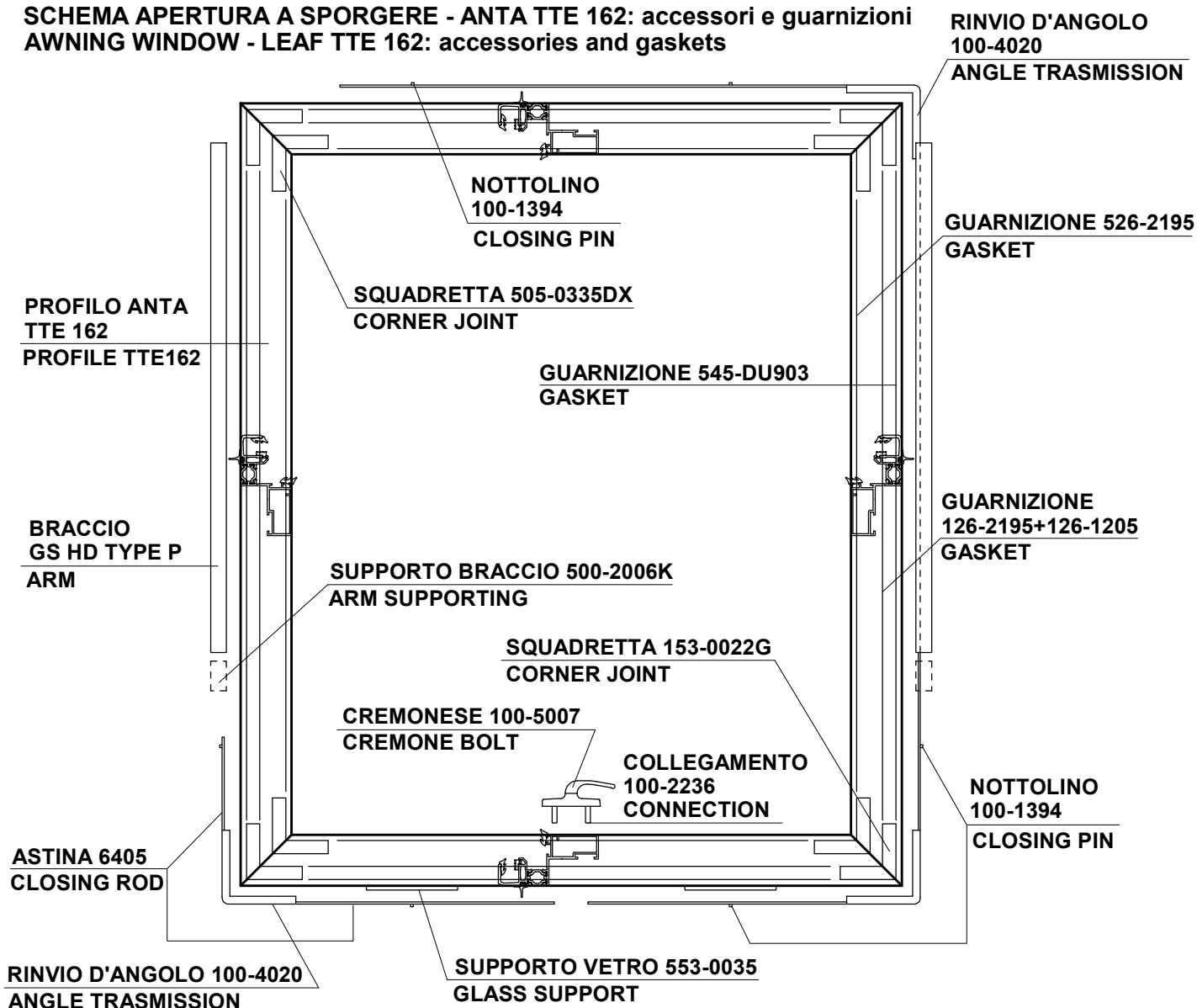
SQUADRETTA 505-0335DX	-----> N° 4 Pz.
CORNER JOINT	
SQUADRETTA 153-0022G	-----> N° 4 Pz.
CORNER JOINT	
GUARNIZIONE 126-2195	-----> 2H + 2L
GASKET	
GUARNIZIONE 545-DU903	-----> 2H + 2L
GASKET	
GUARNIZIONE 526-7026	-----> 2H + 2L
GASKET	
CREMONESE 100-5007	-----> N° 1 Pz.
CREMONE BOLT	
COLLEGAMENTO 100-2236	-----> 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

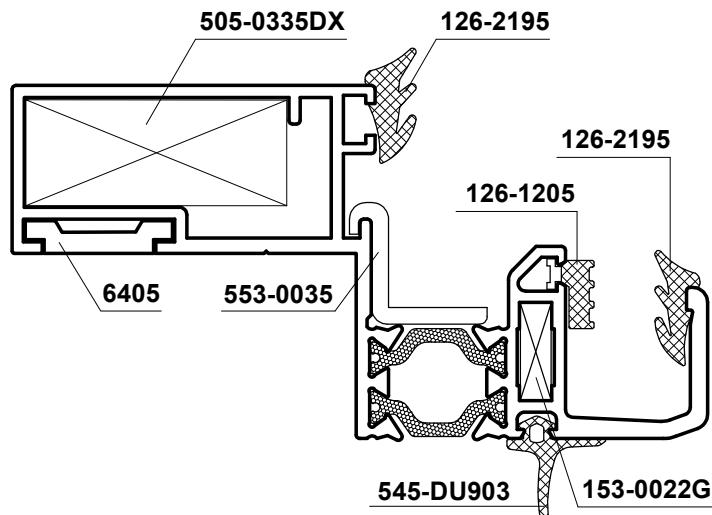
SCHEMA APERTURA A SPORGERE - ANTA TTE 162: accessori e guarnizioni
AWNING WINDOW - LEAF TTE 162: accessories and gaskets



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



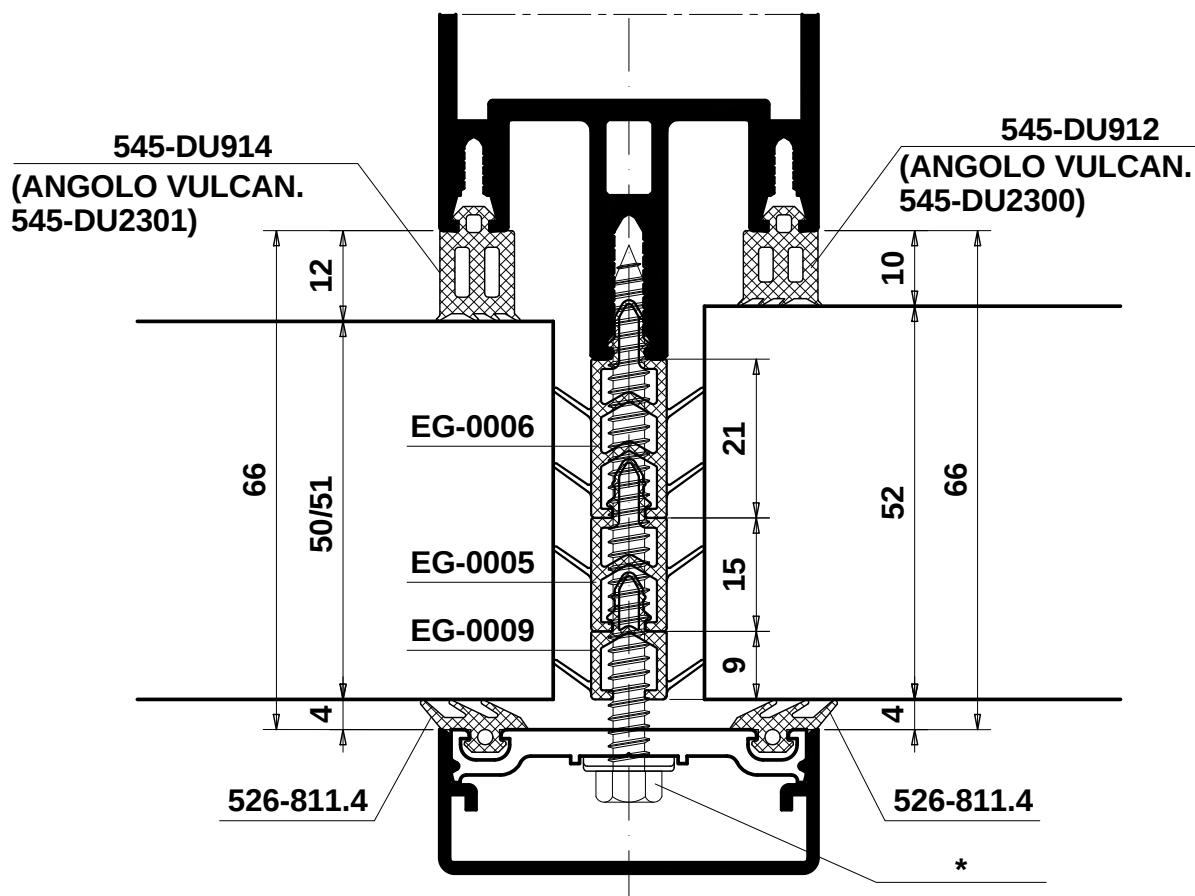
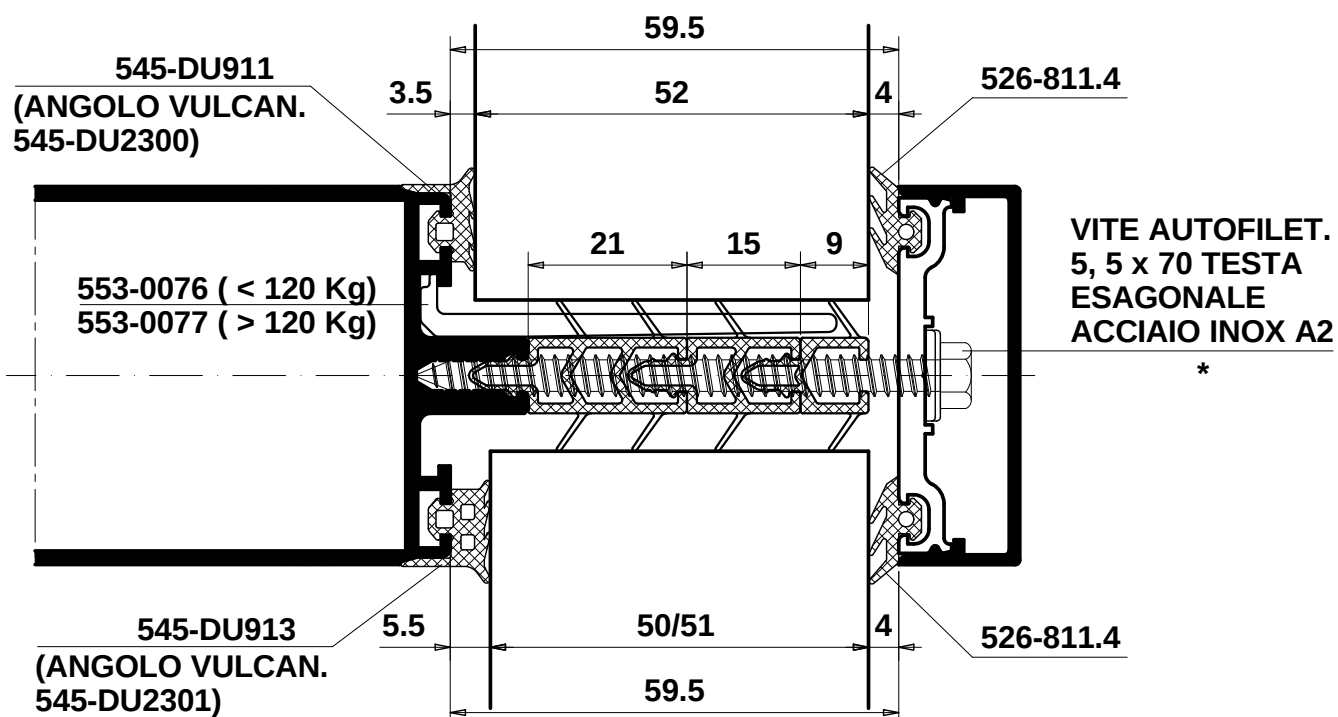
VETRAZIONI



GLAZING

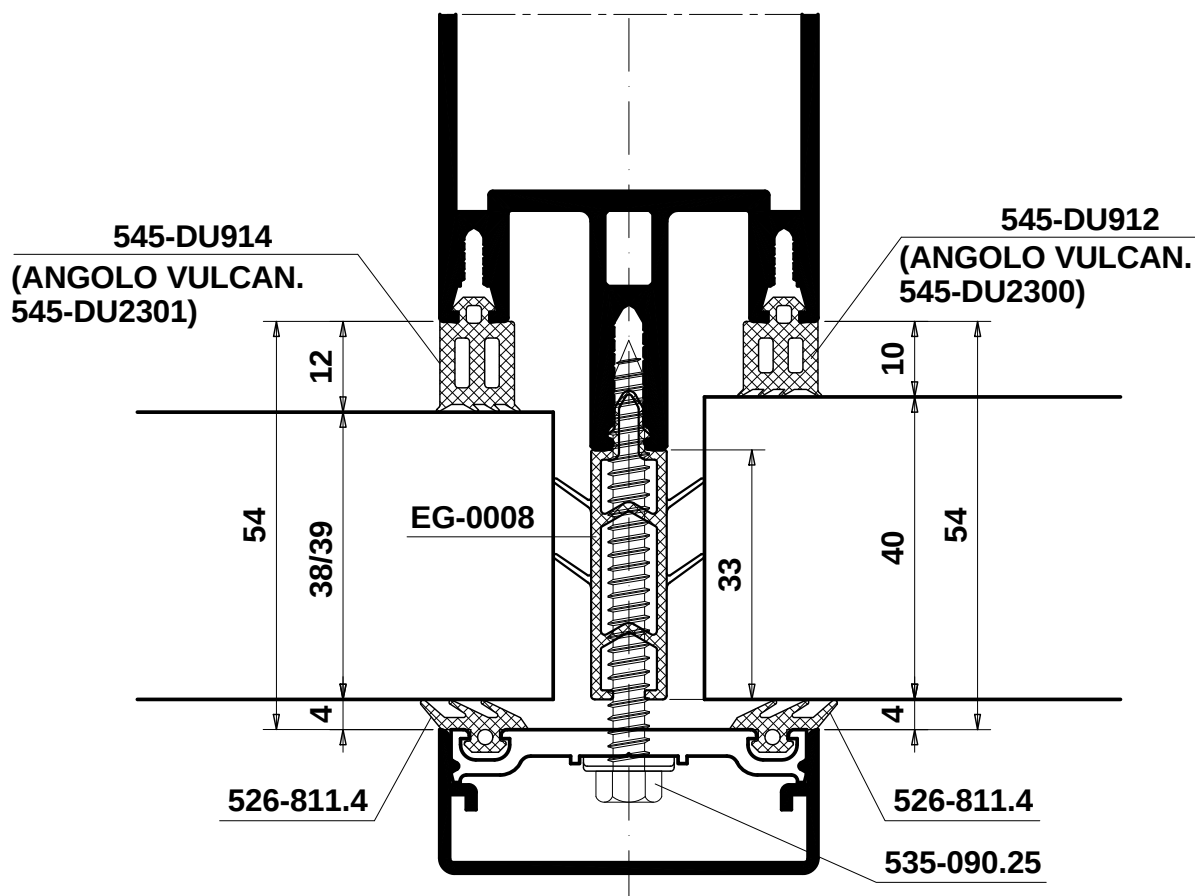
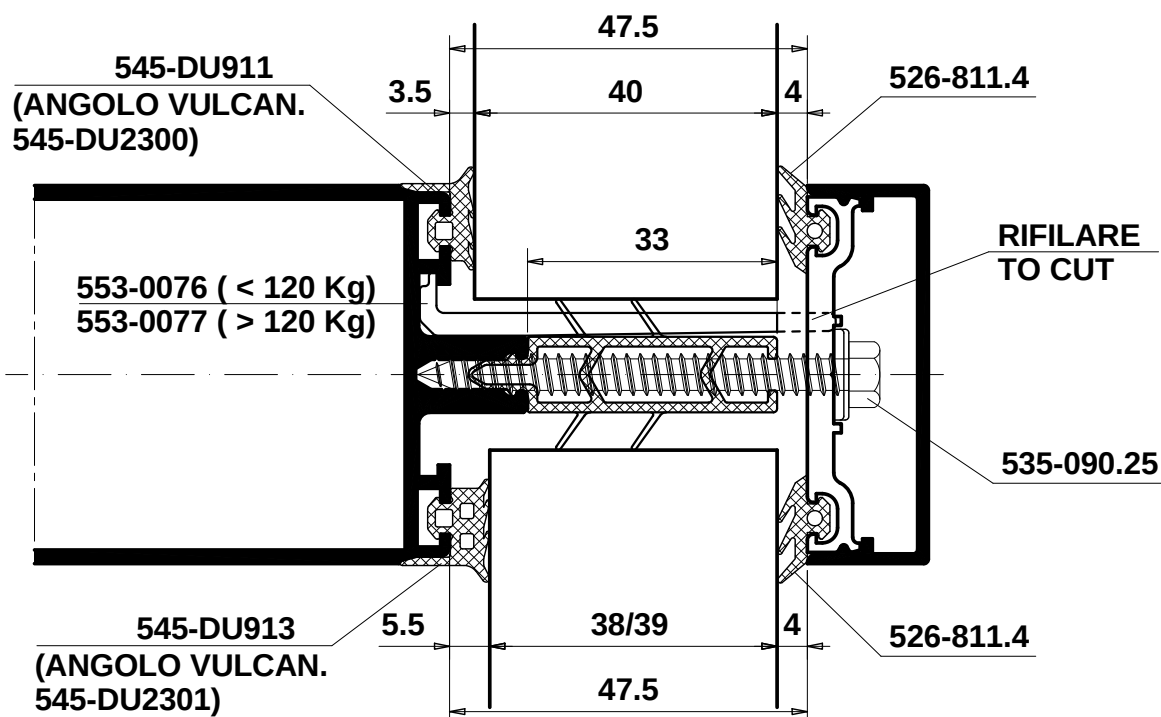
Schema vetrazioni - Glazing diagram

SPAZI DI VETRAZIONE E PANNELLATURA
GLASS BEADING AND PANELLING SPACES



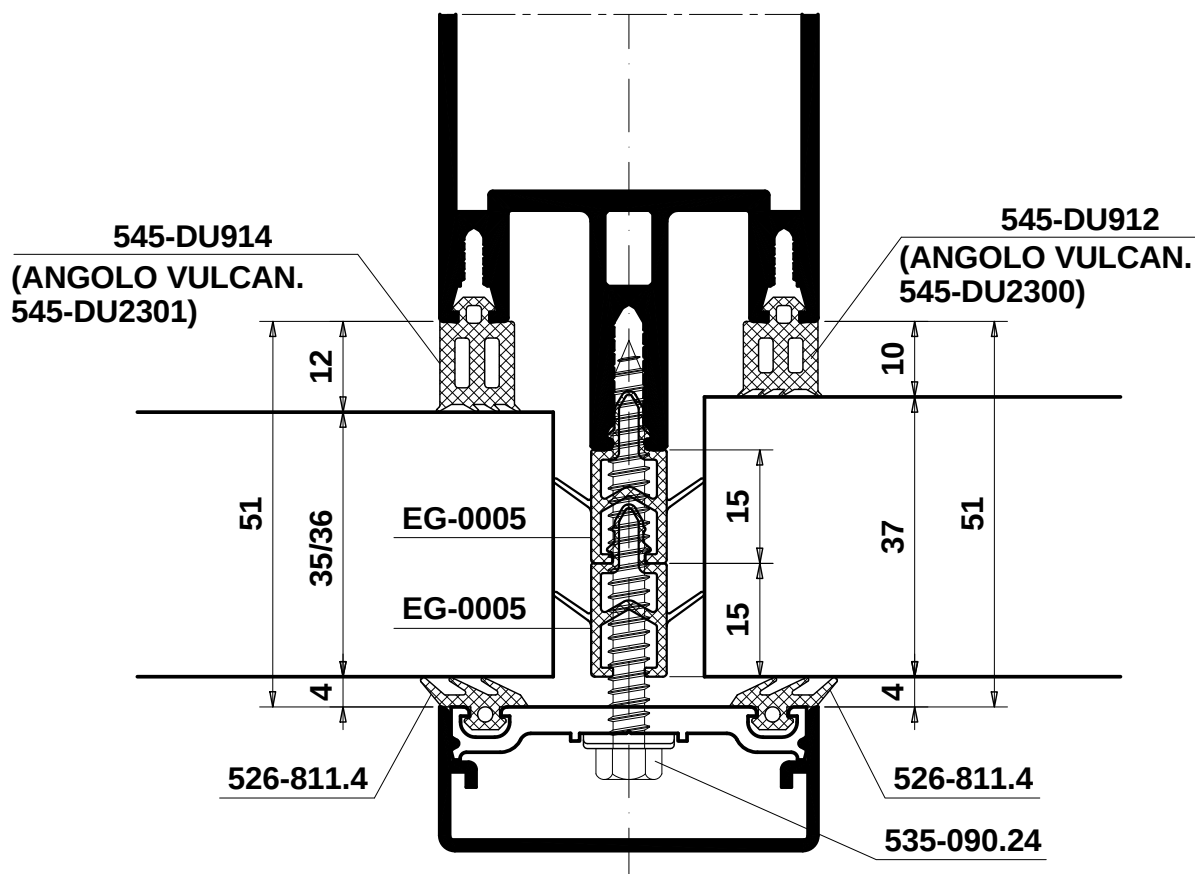
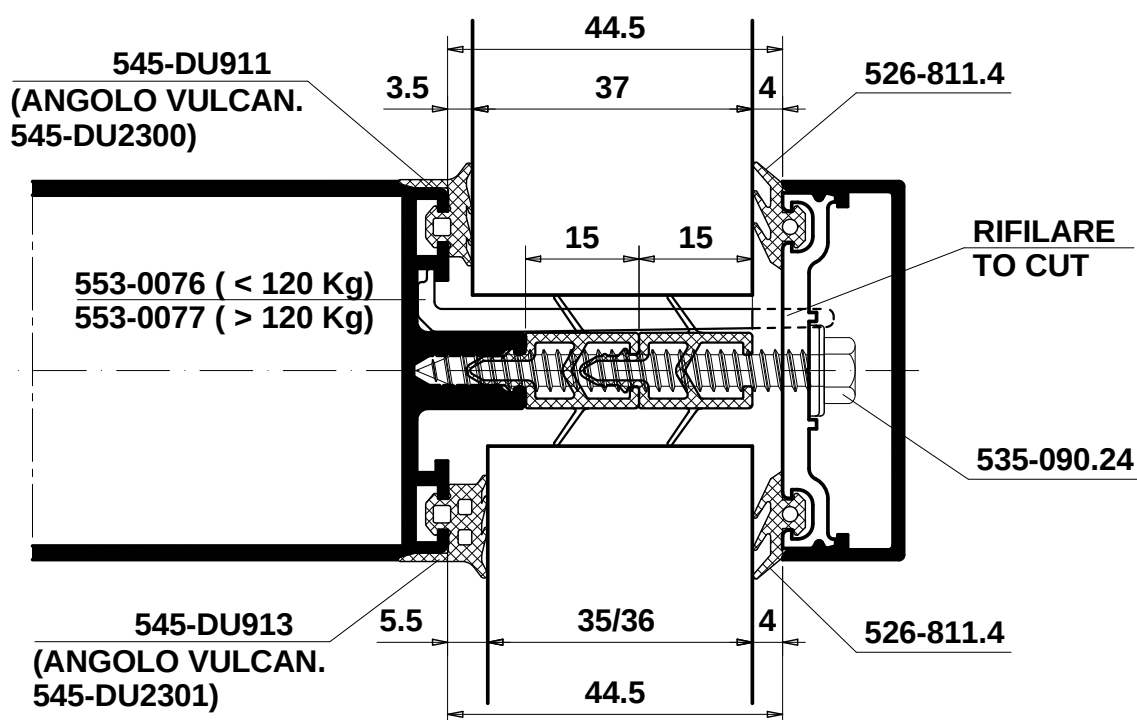
Schema vetrazioni - Glazing diagram

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



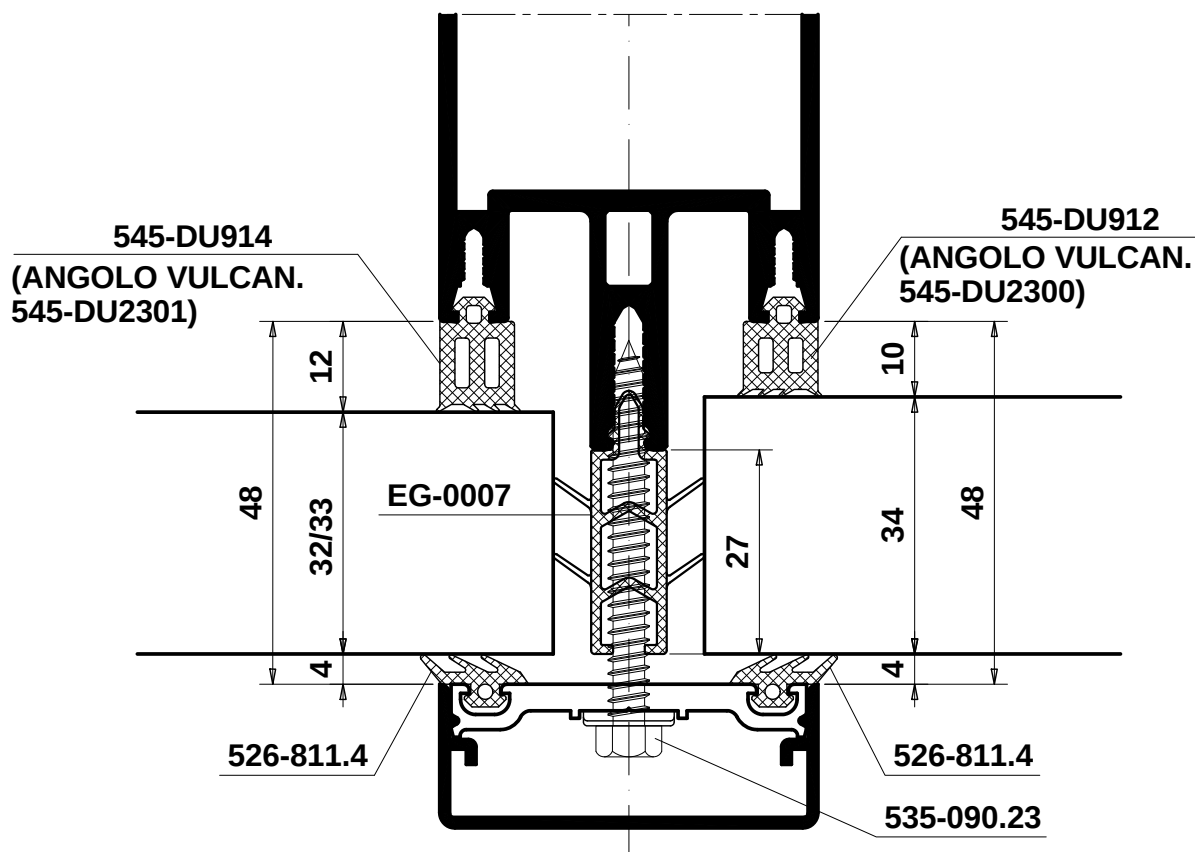
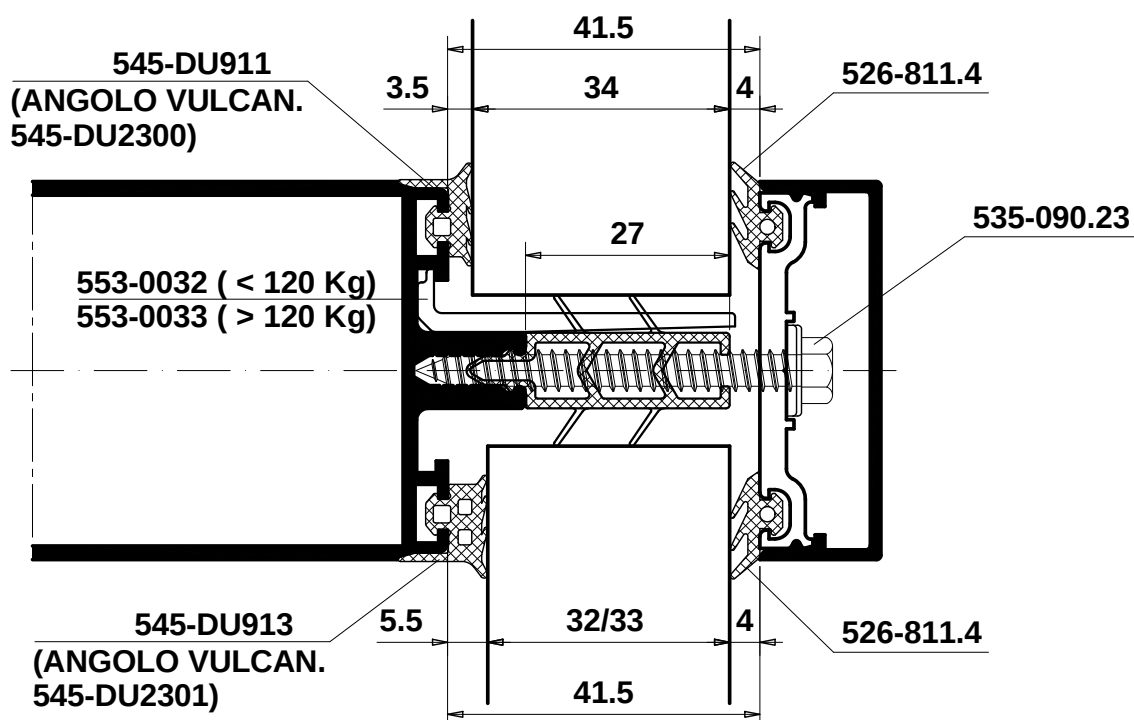
Schema vetrazioni - Glazing diagram

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



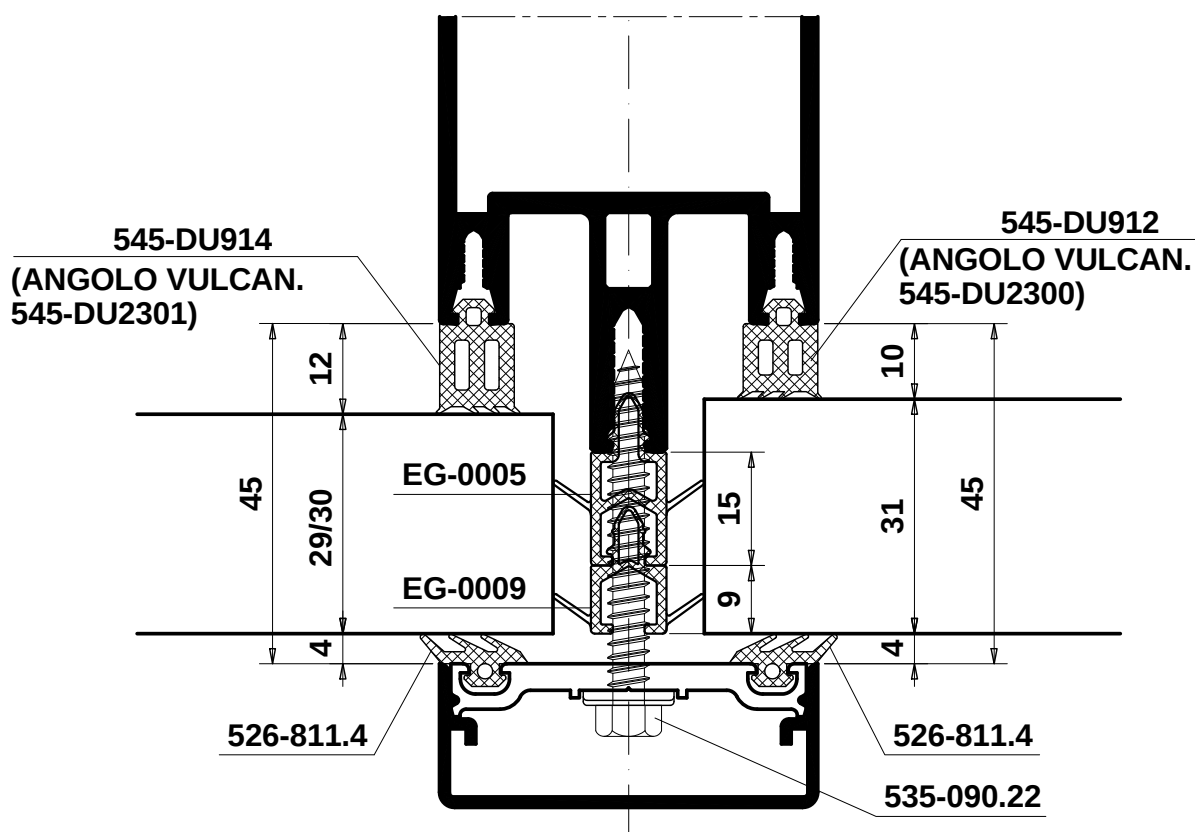
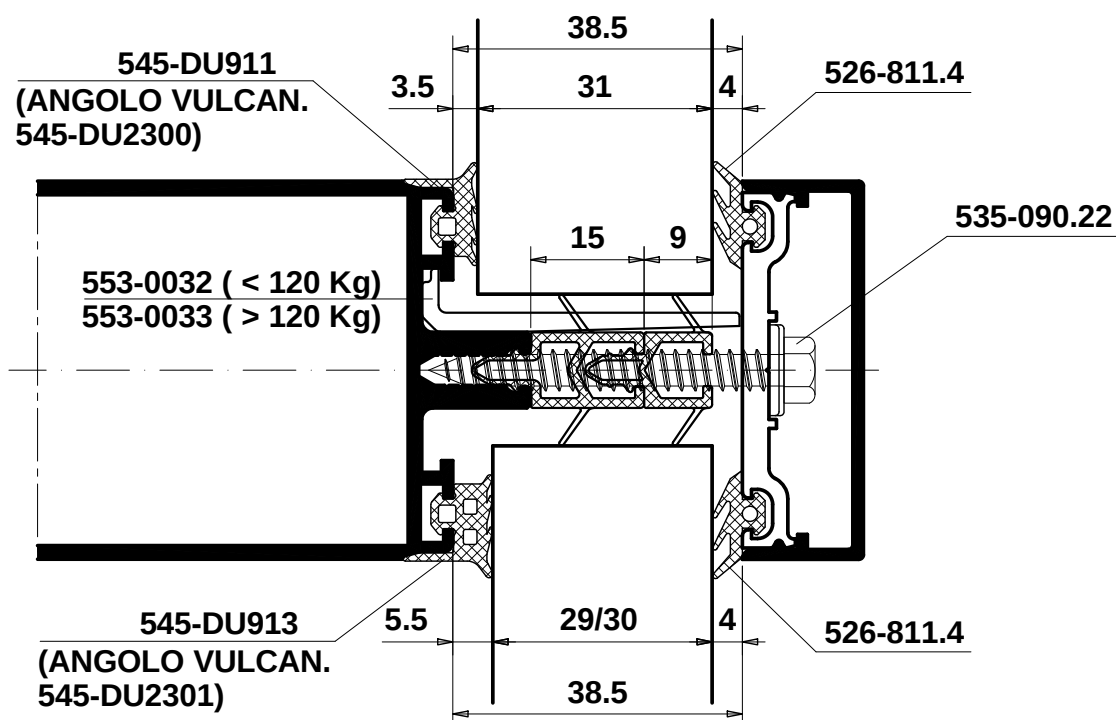
Schema vetrazioni - Glazing diagram

SPAZI DI VETRAZIONE E PANNELLATURA
GLASS BEADING AND PANELLING SPACES



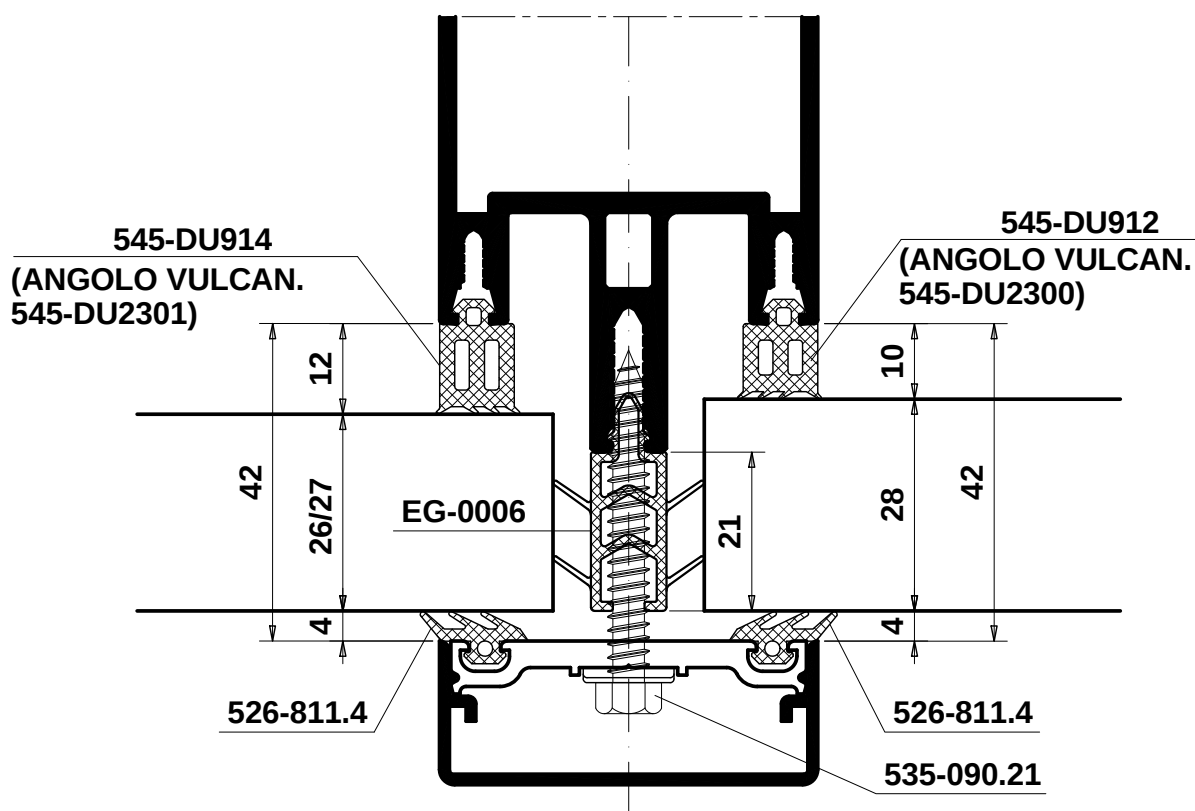
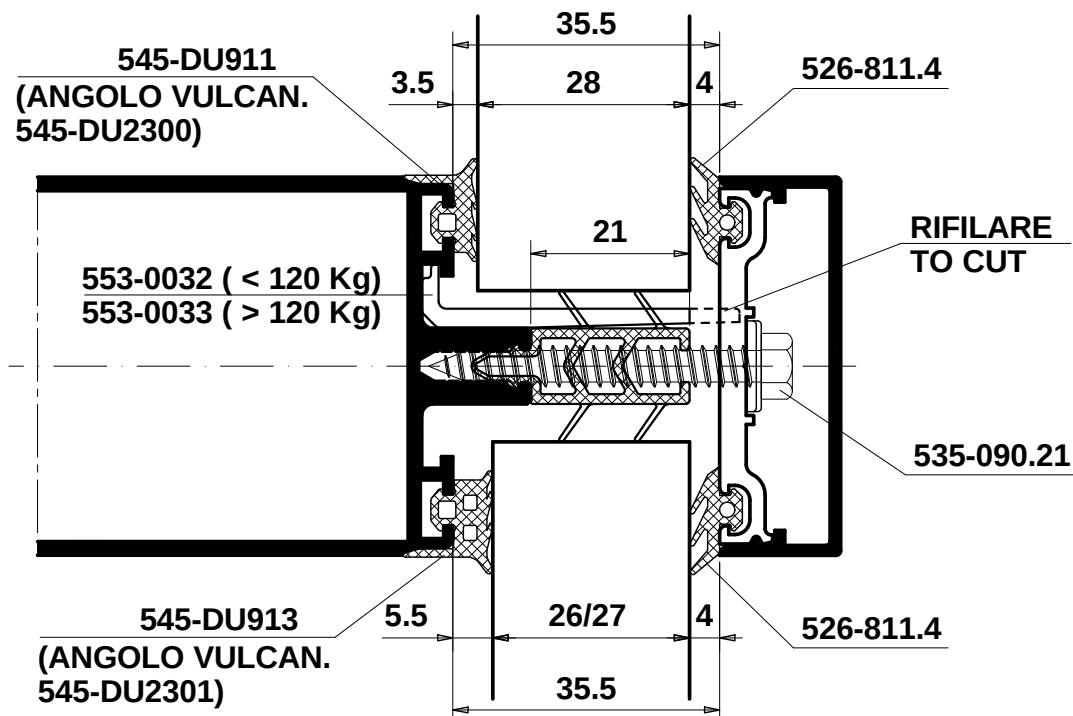
Schema vetrazioni - Glazing diagram

SPAZI DI VETRAZIONE E PANNELLATURA
GLASS BEADING AND PANELLING SPACES



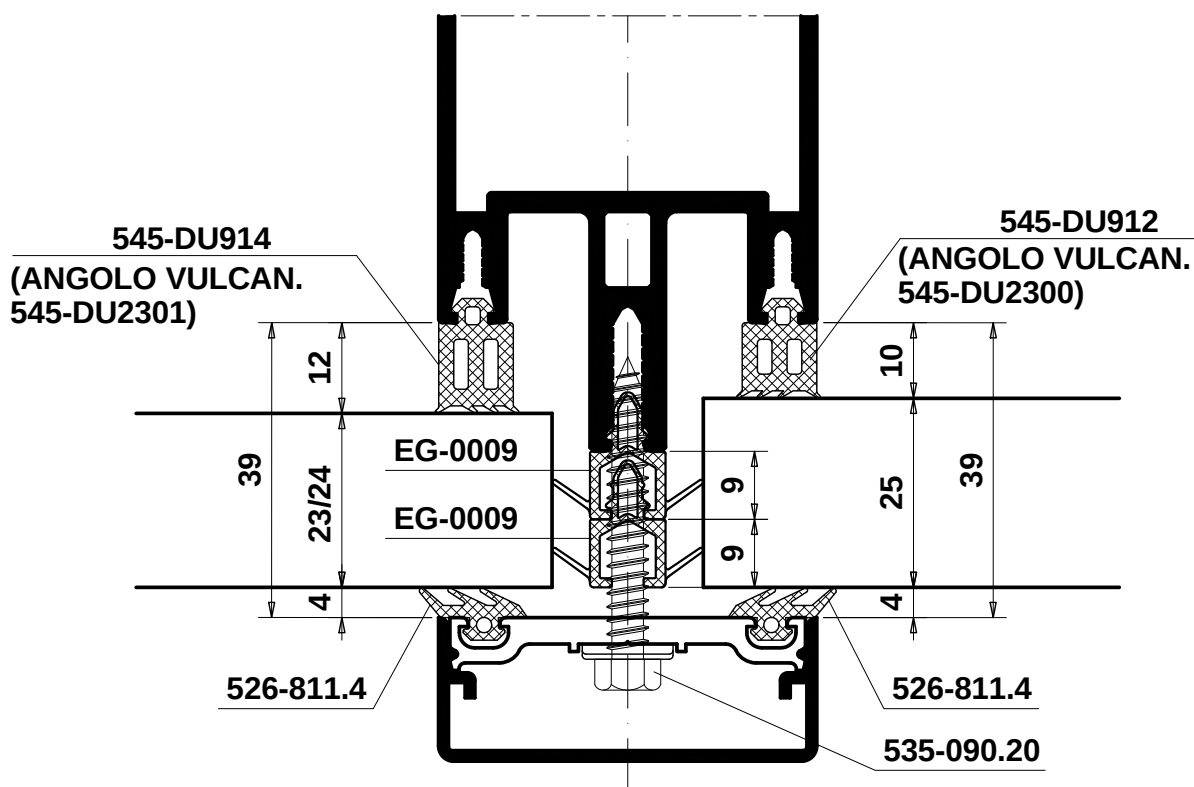
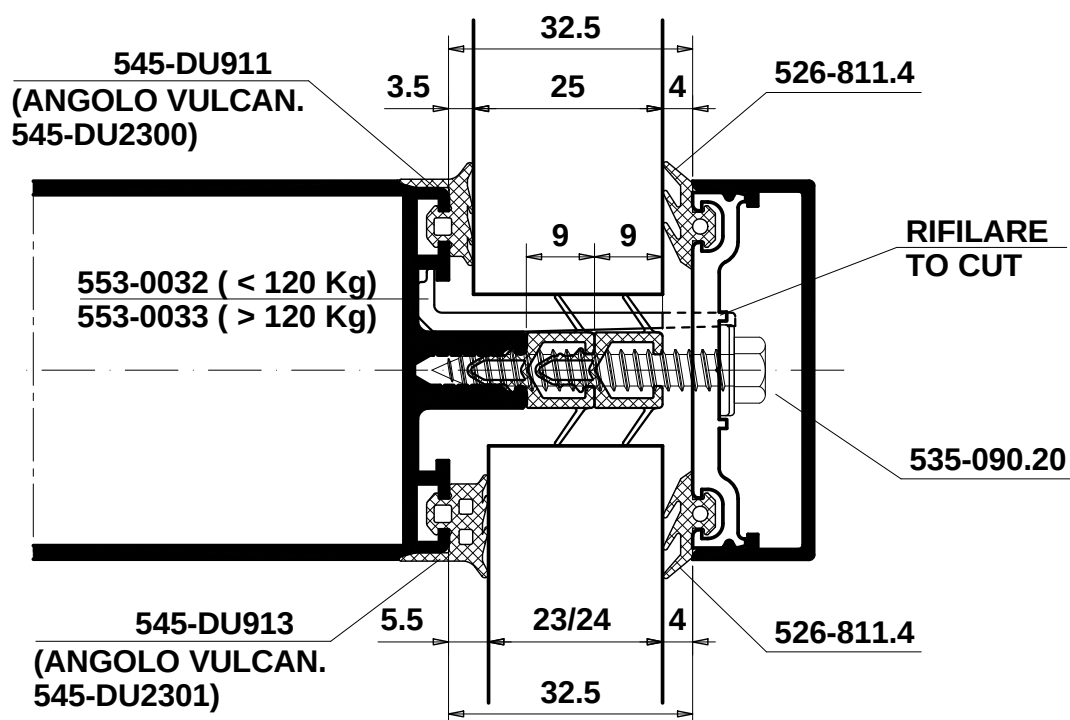
Schema vetrazioni - Glazing diagram

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



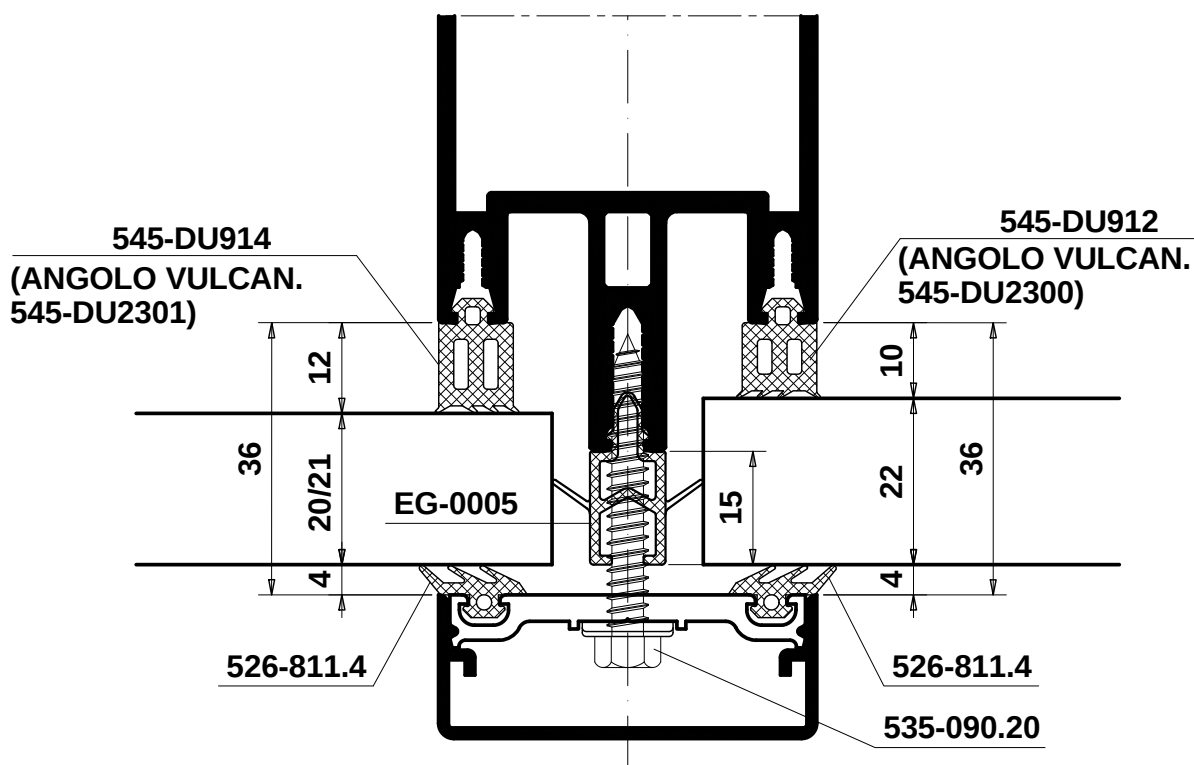
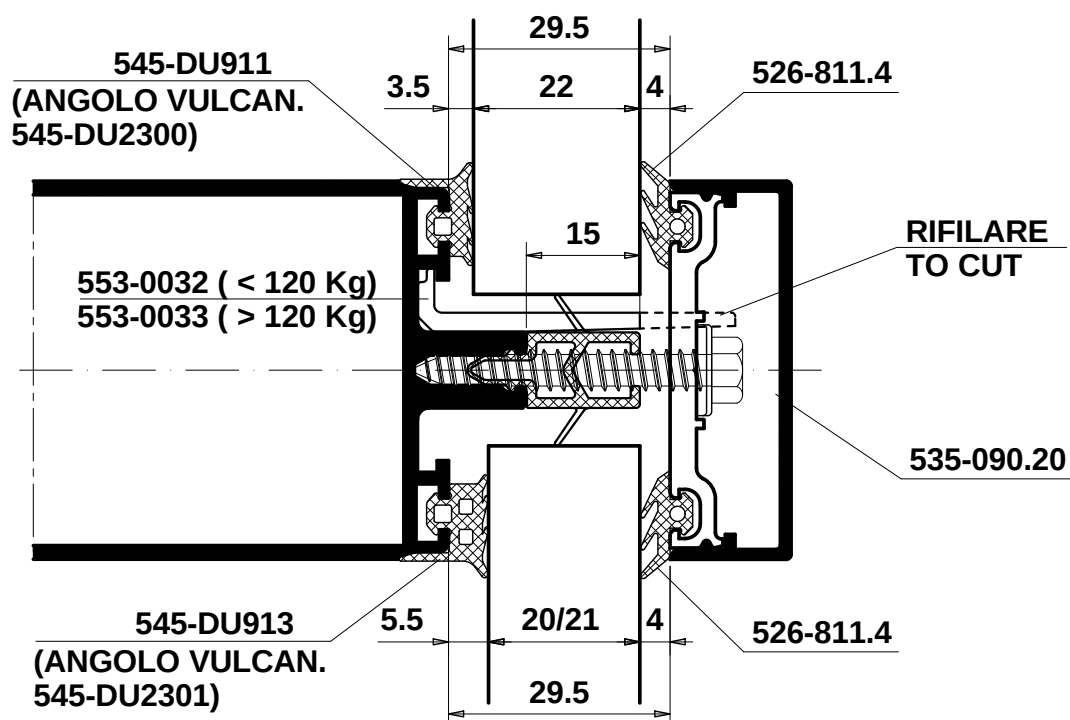
Schema vetrazioni - Glazing diagram

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



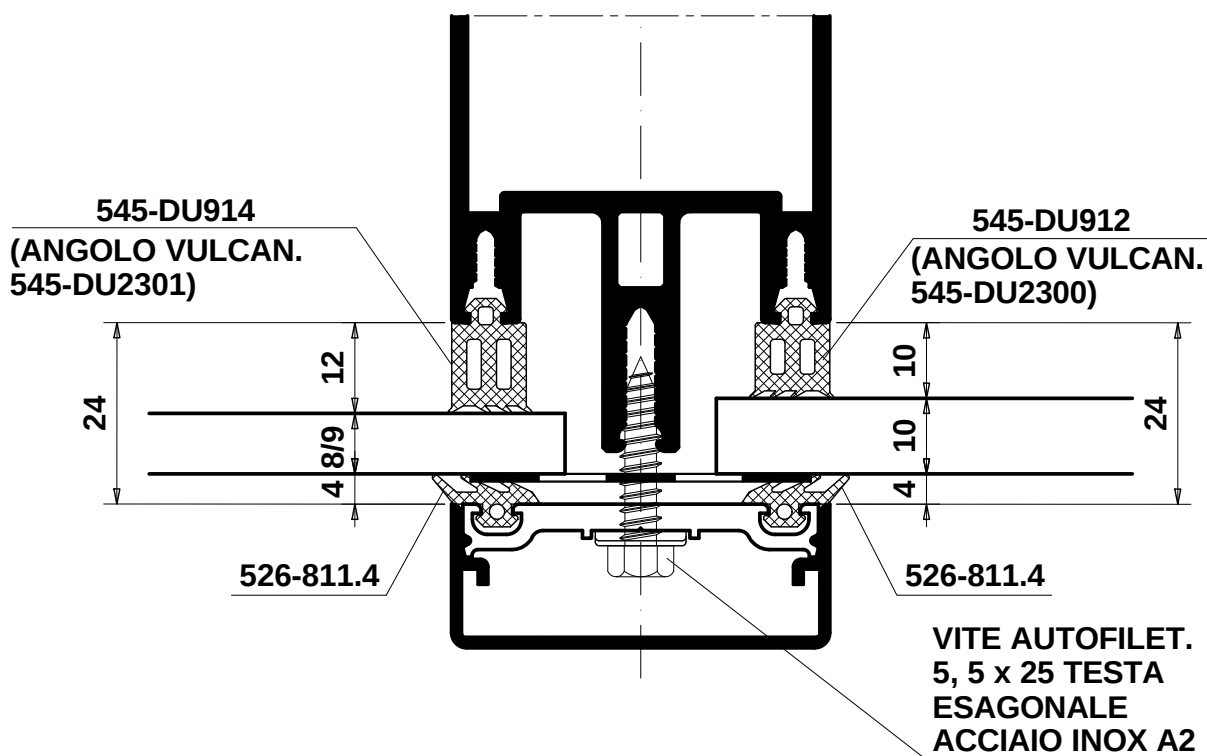
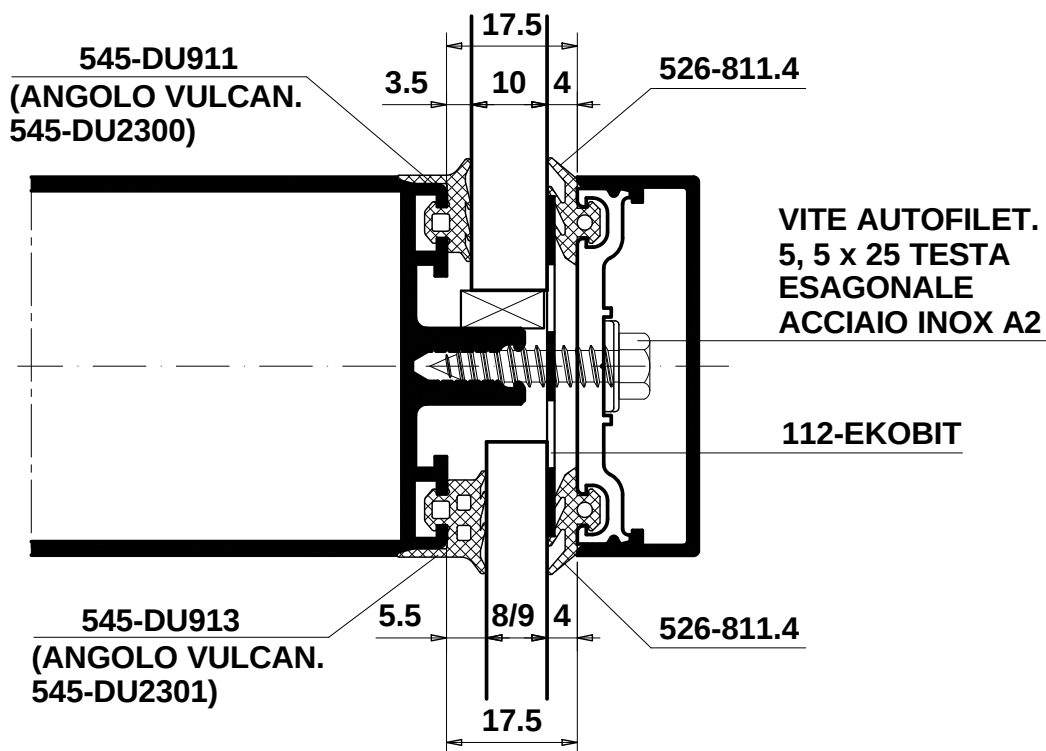
Schema vetrazioni - Glazing diagram

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



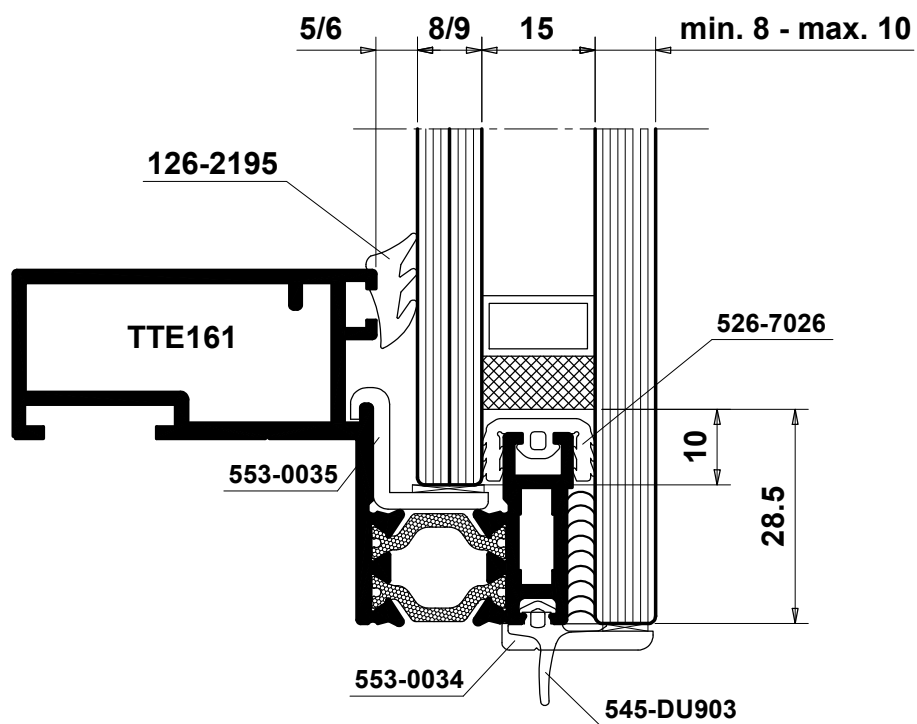
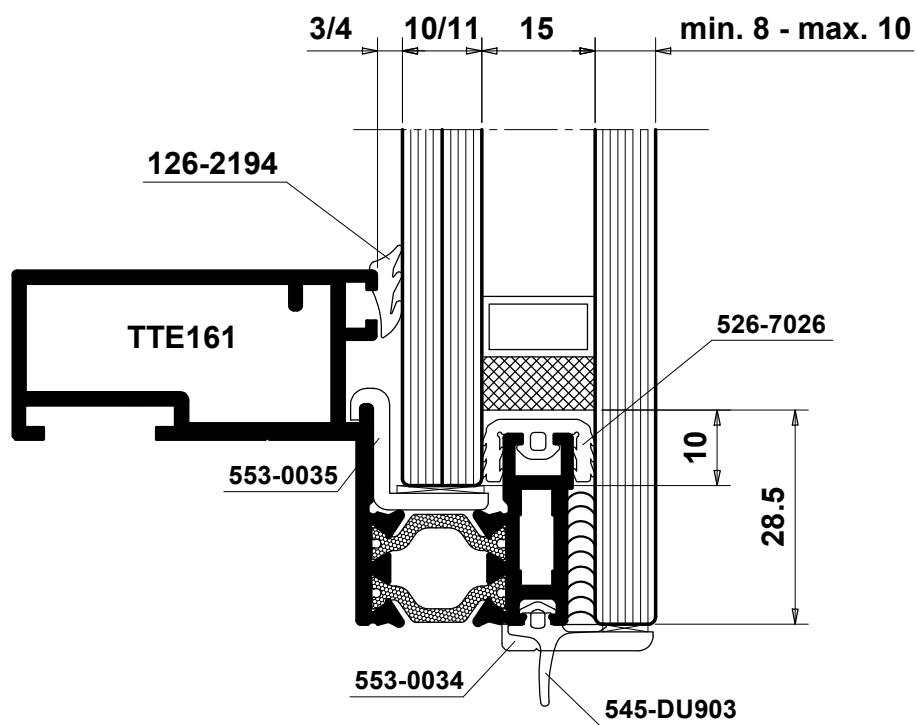
Schema vetrazioni - Glazing diagram

SPAZI DI VETRAZIONE E PANNELLATURA
GLASS BEADING AND PANELLING SPACES



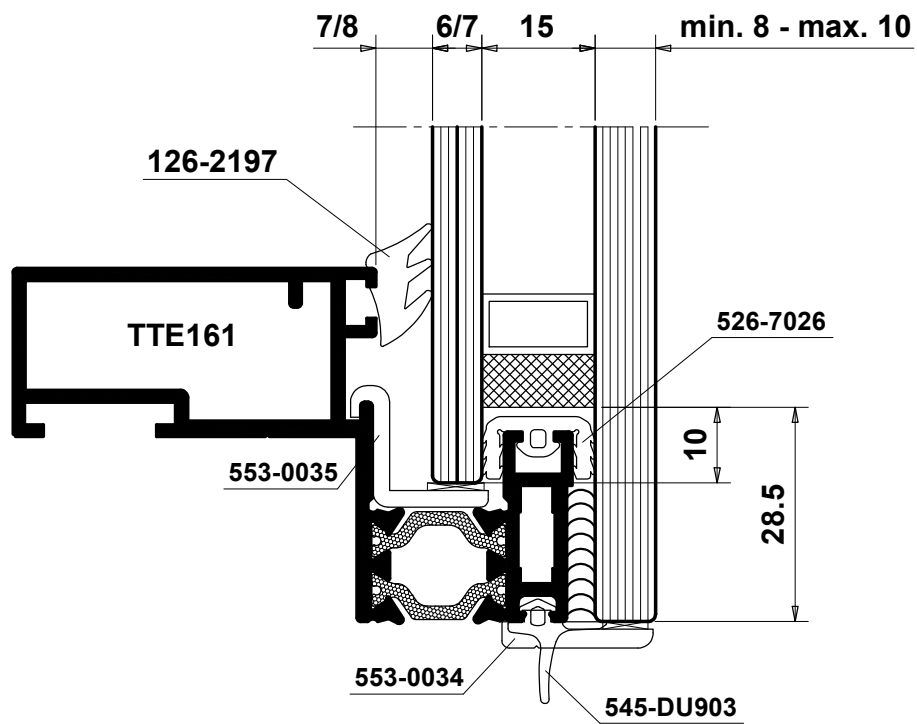
Schema vetrazioni - Glazing diagram

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



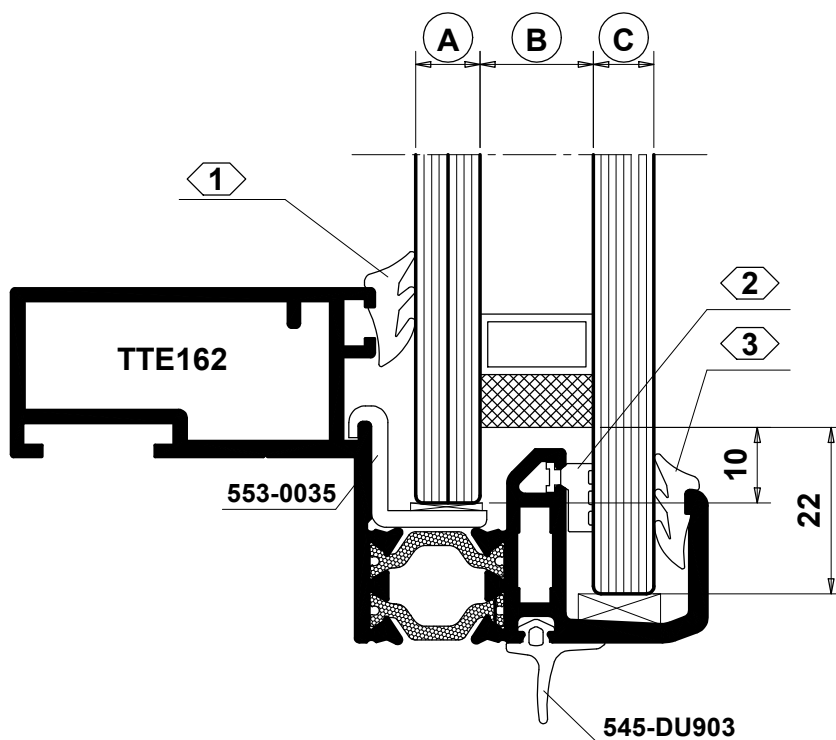
Schema vetrazioni - Glazing diagram

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

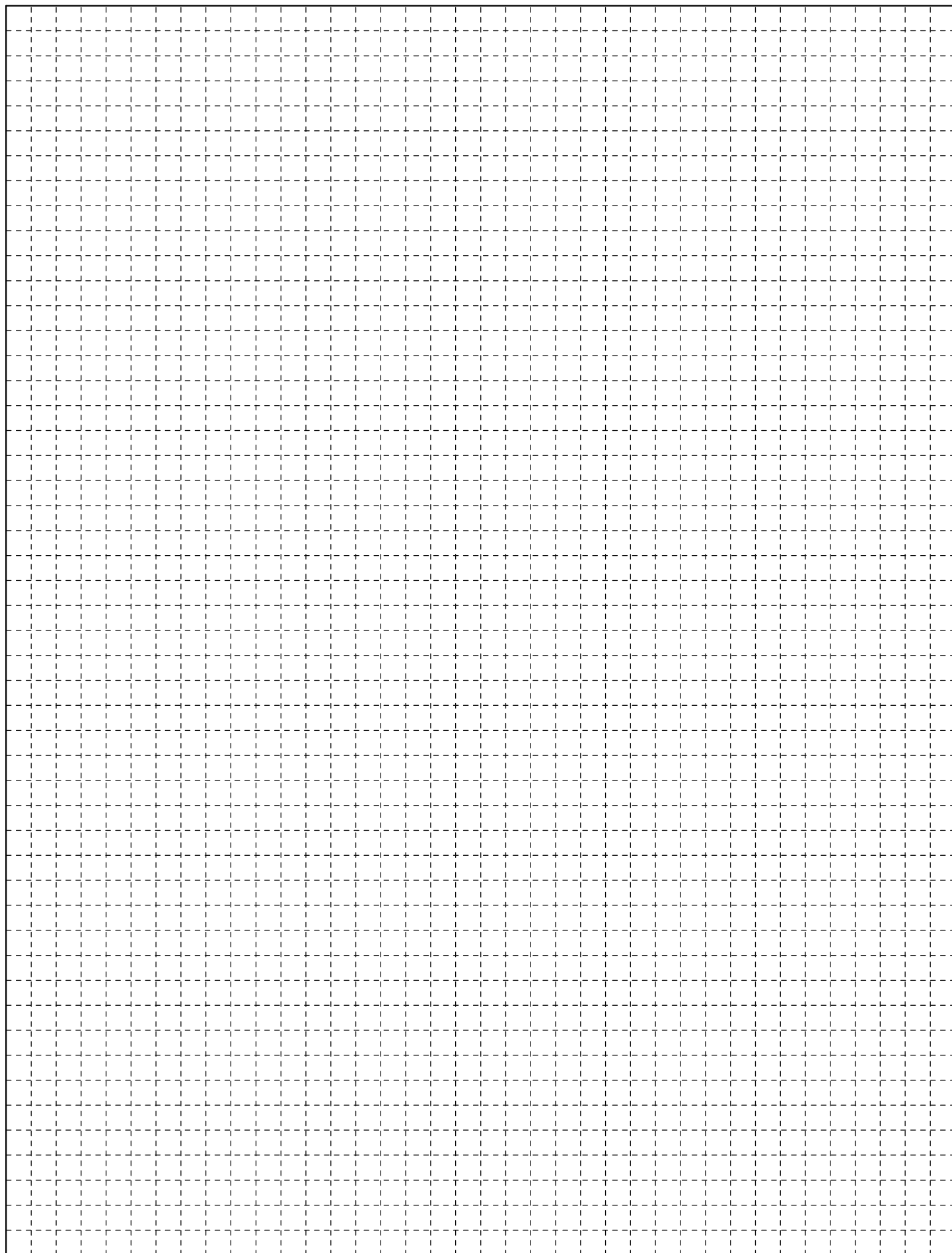


Schema vetrazioni - Glazing diagram

**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

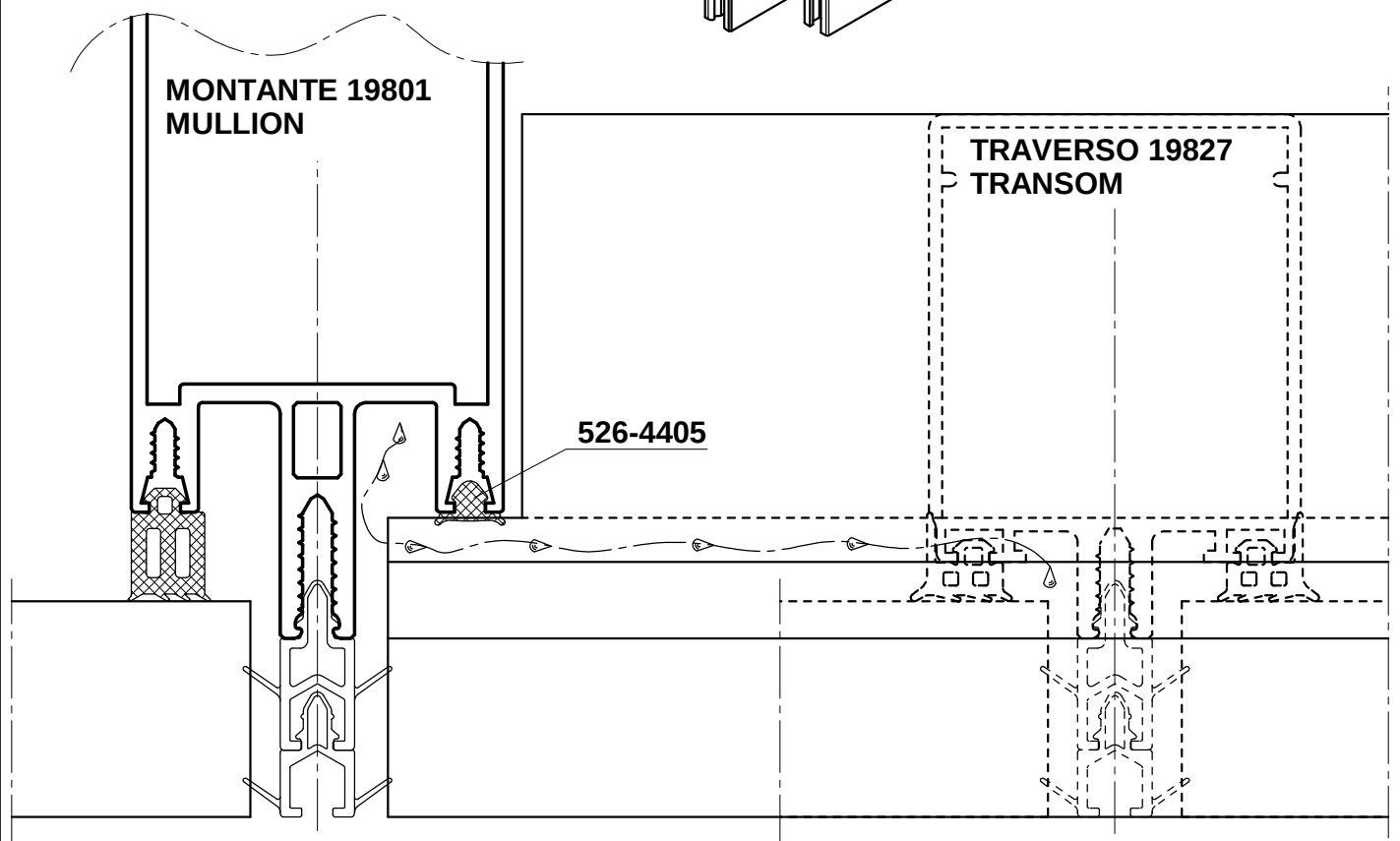
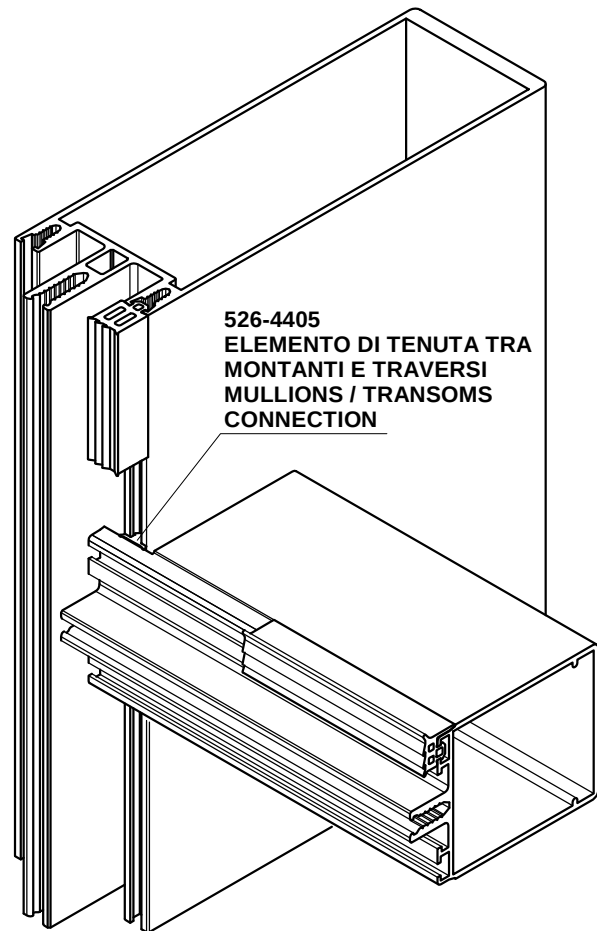


TOOLING

Lavorazioni - Tooling

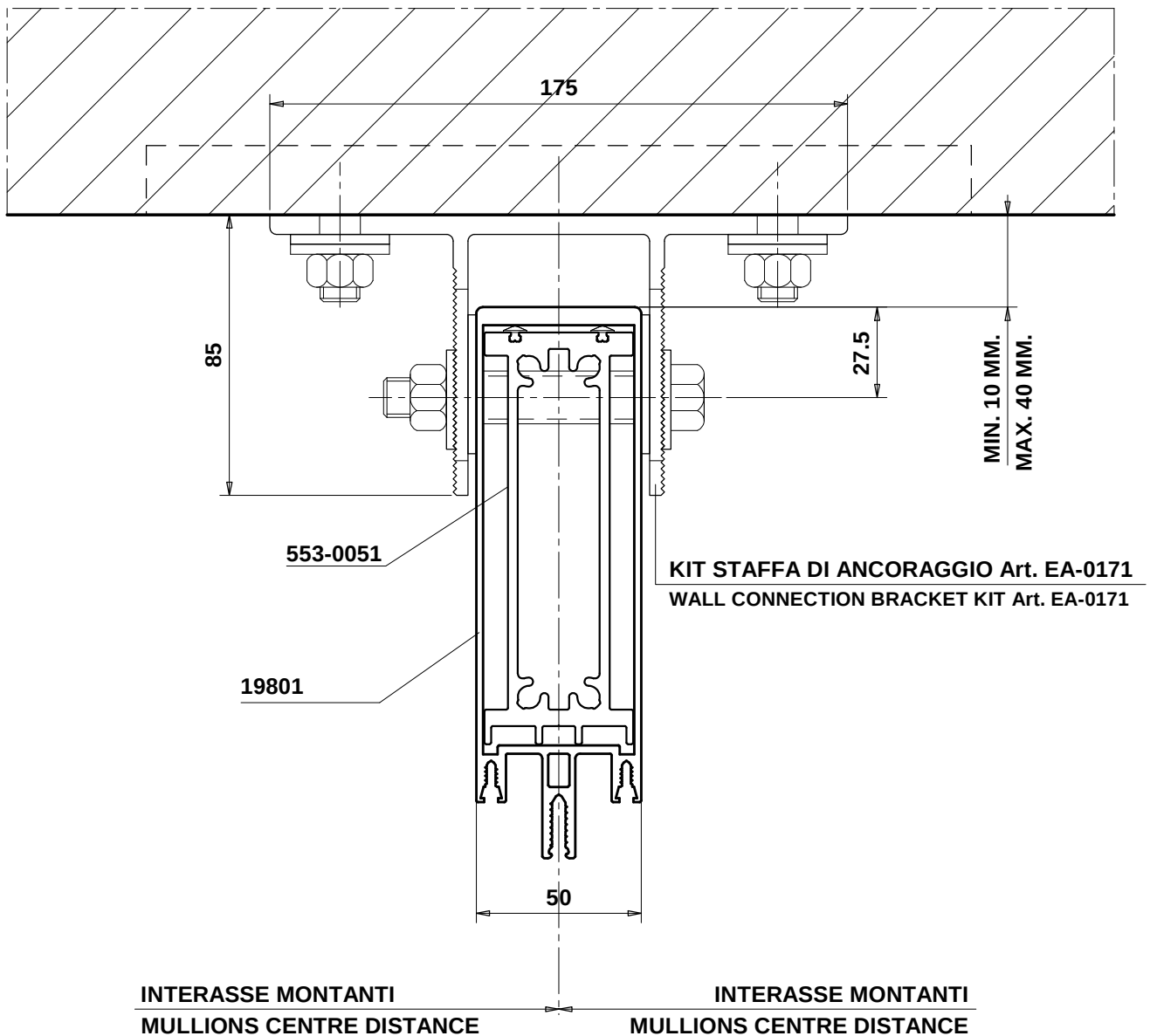
**Rappresentazione della giunzione
tra montanti e traversi e sistema
di drenaggio e ventilazione vetri**

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



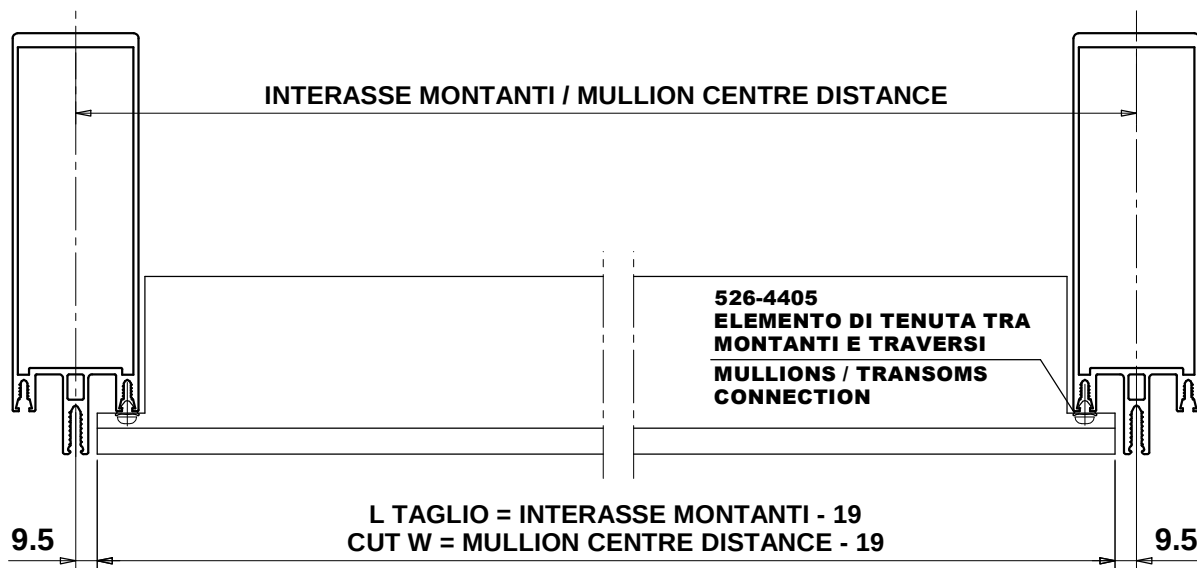
Lavorazioni - Tooling

SEZIONE ORIZZONTALE ANCORAGGIO ALLA STRUTTURA MURARIA
WALL CONNECTION HORIZONTAL SECTION



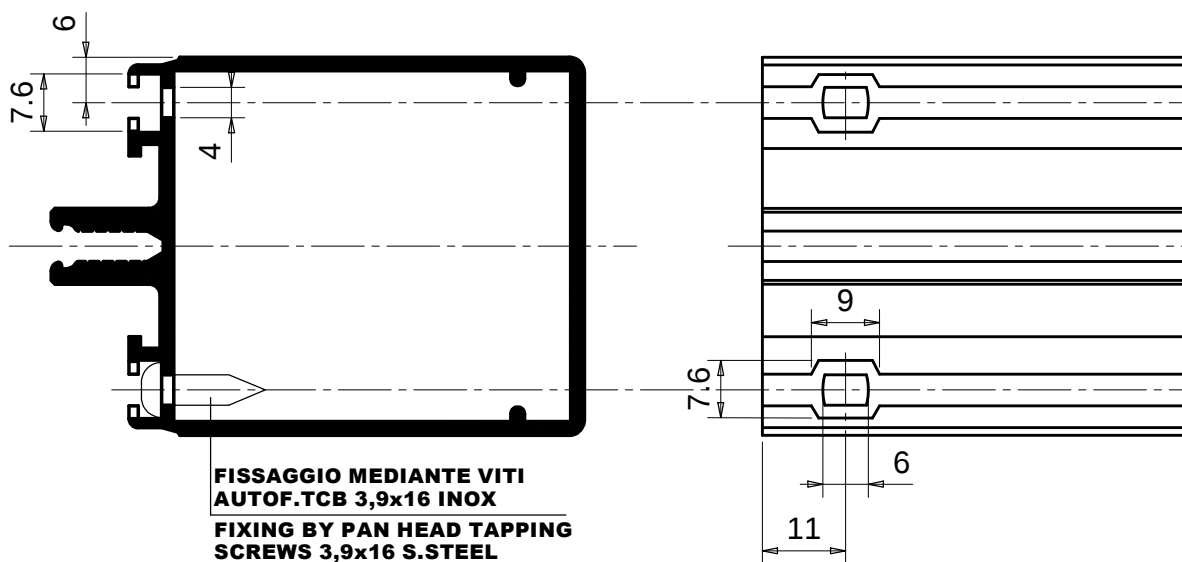
Lavorazioni - Tooling

TAGLIO DEL TRAVERSO / TRANSOM CUT



LAVORAZIONE SUL TRAVERSO / TRANSOM TOOLING

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

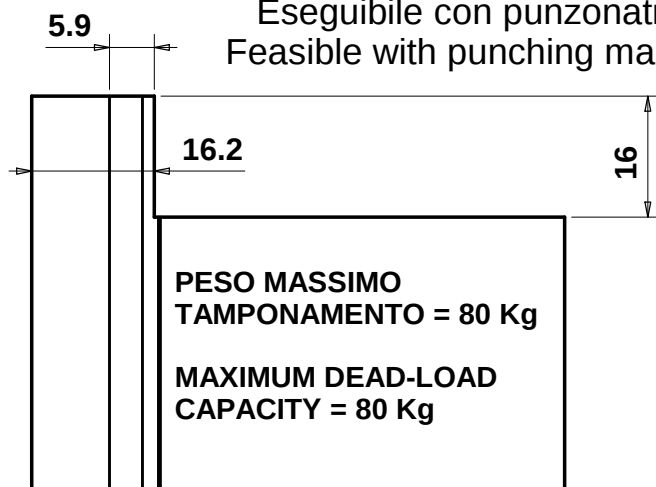


ART/ITEM 535-090.27

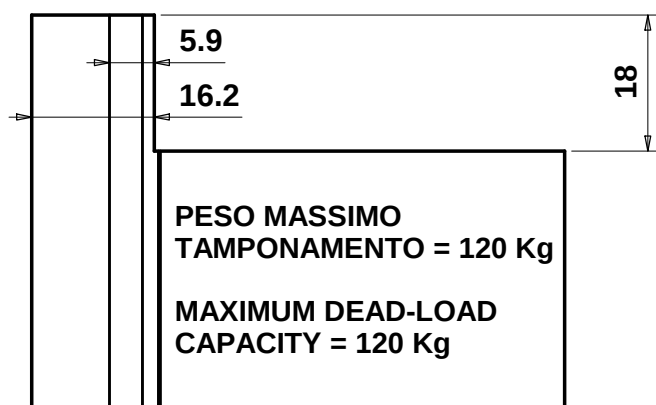
Lavorazioni - Tooling

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

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



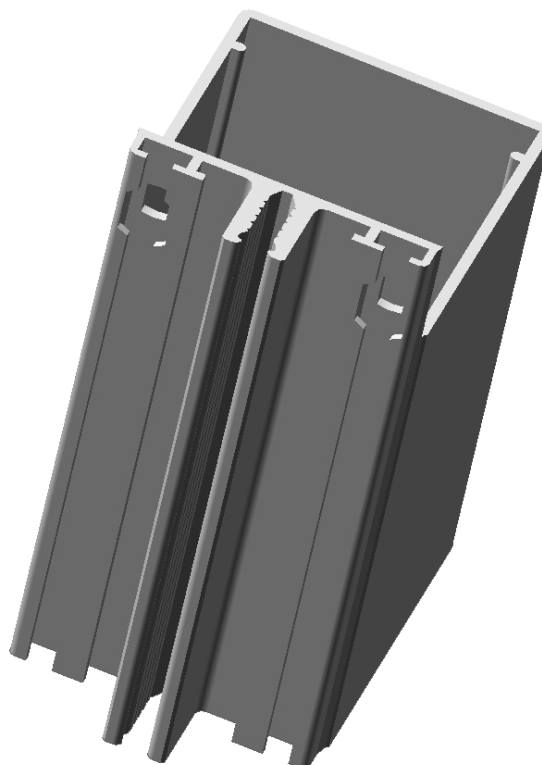
SENZA NESSUN CAVALLOTTO E NESSUN FONDELLO (SOLO VITI)
WITHOUT ANY SUPPORT AND ANY FINISHING ELEMENT (ONLY SCREWS)



CON CAVALLOTTO A PULSANTE
WITH BUTTON SUPPORT



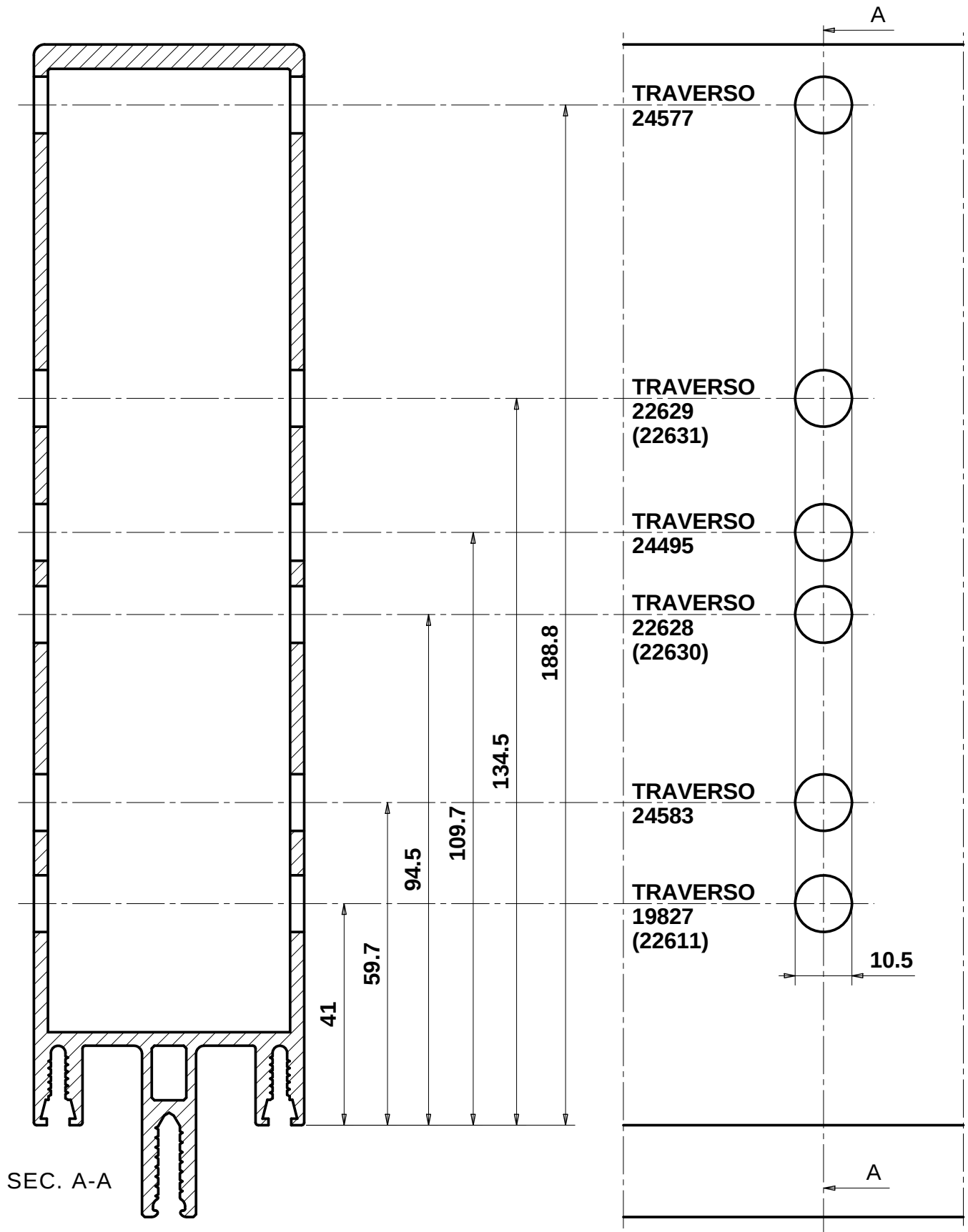
CON CAVALLOTTO A SLITTA
WITH SLIDING SUPPORT



Lavorazioni / Tooling

**FORATURE MONTANTE PER FISSAGGIO
TRAVERSI CON CAVALLOTTO A PULSANTE**

**MULLION DRILLING FOR TRANSOM
FIXING BY BUTTON SUPPORT**



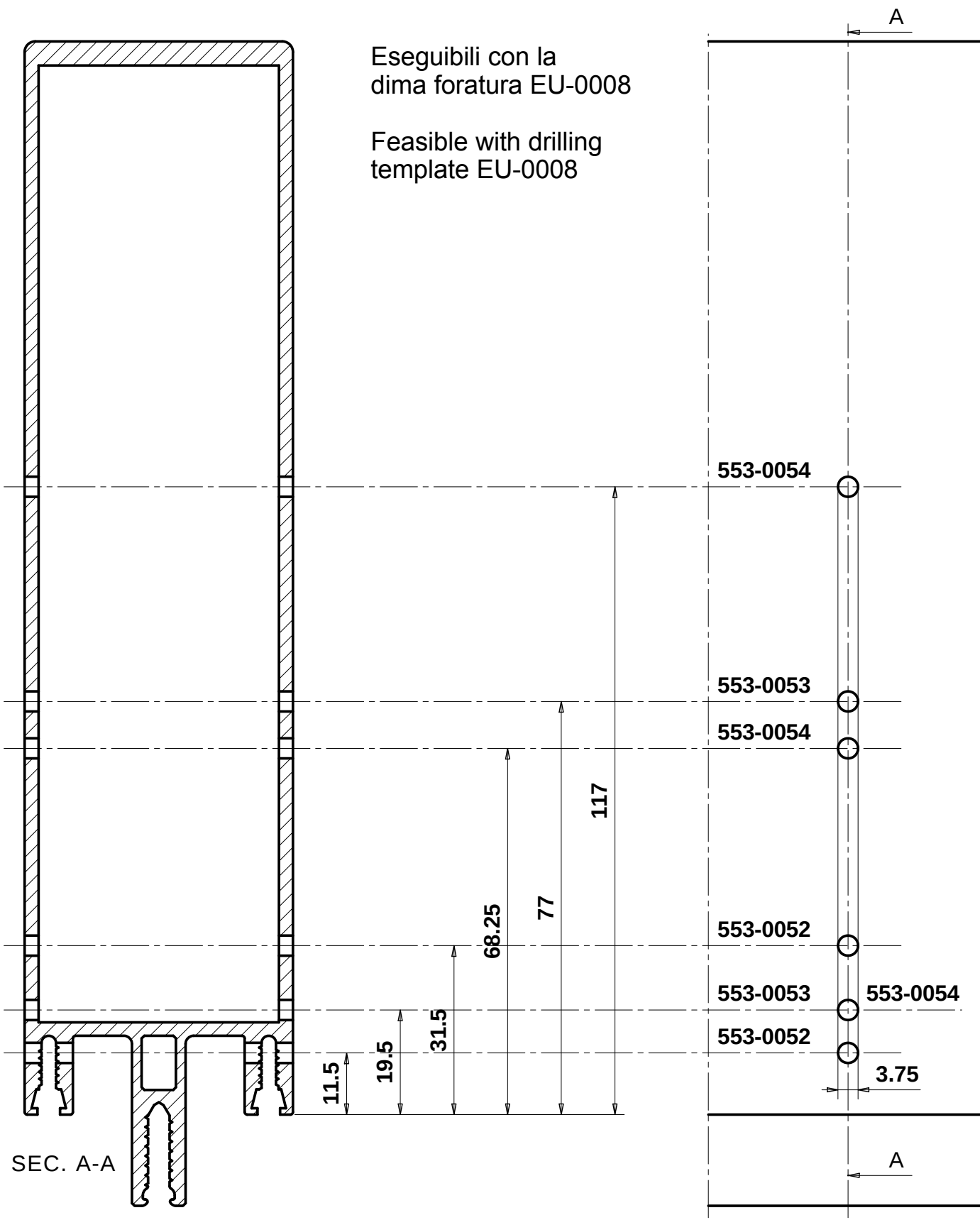
Lavorazioni / Tooling

**FORATURE MONTANTE PER FISSAGGIO
TRAVERSI CON CAVALLOTTO A SLITTA**

**MULLION DRILLING FOR TRANSOM
FIXING BY SLIDING SUPPORT**

Eseguibili con la
dima foratura EU-0008

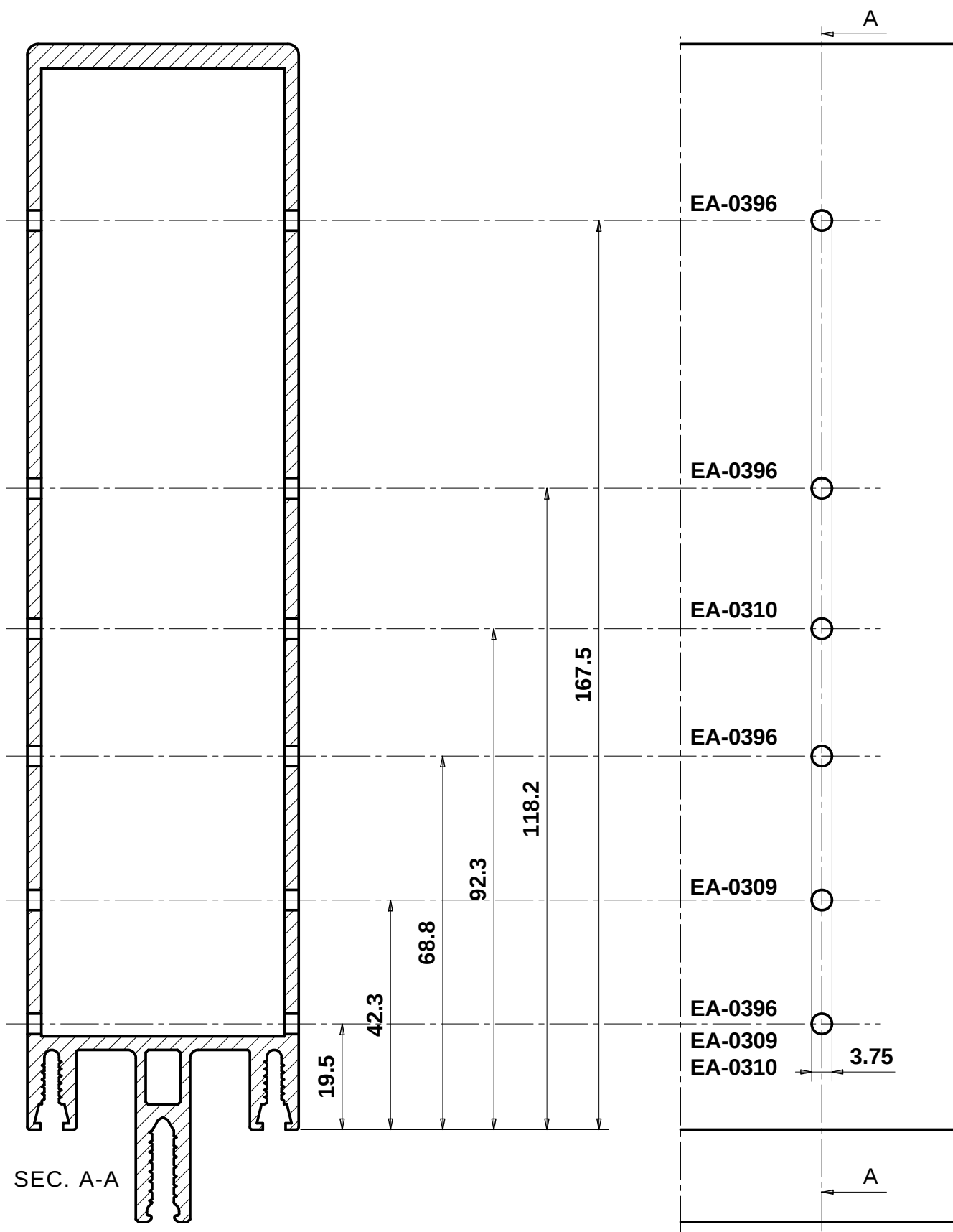
Feasible with drilling
template EU-0008



Lavorazioni / Tooling

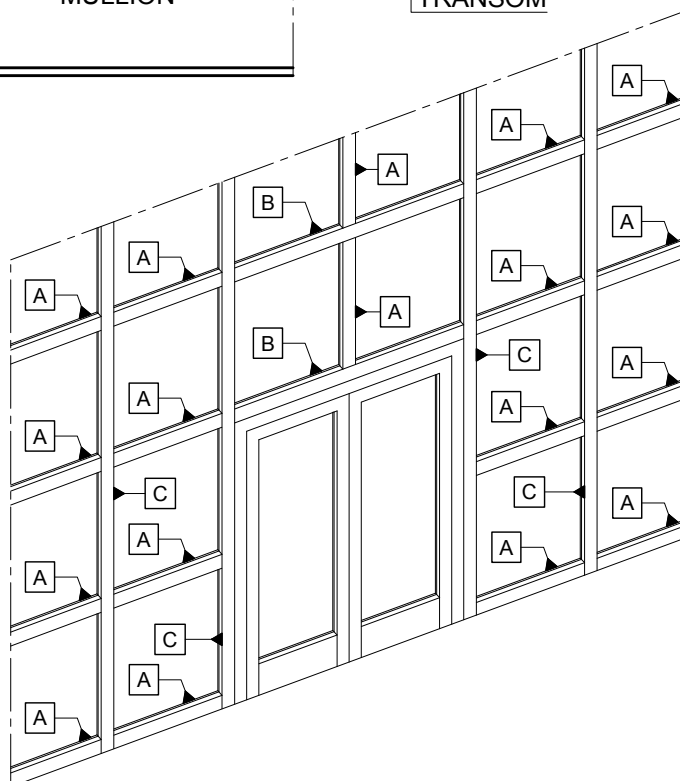
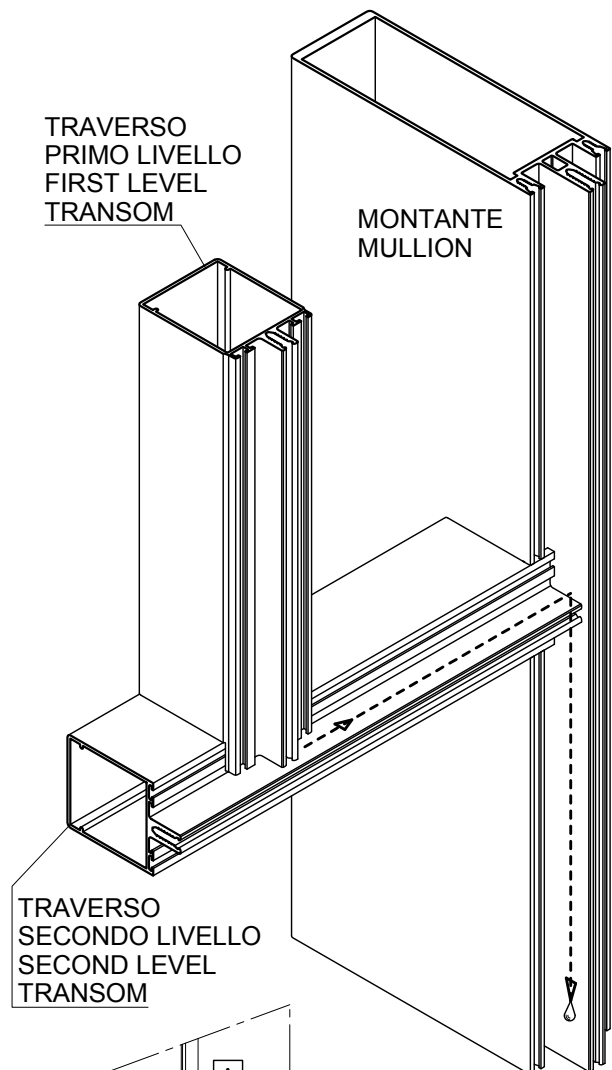
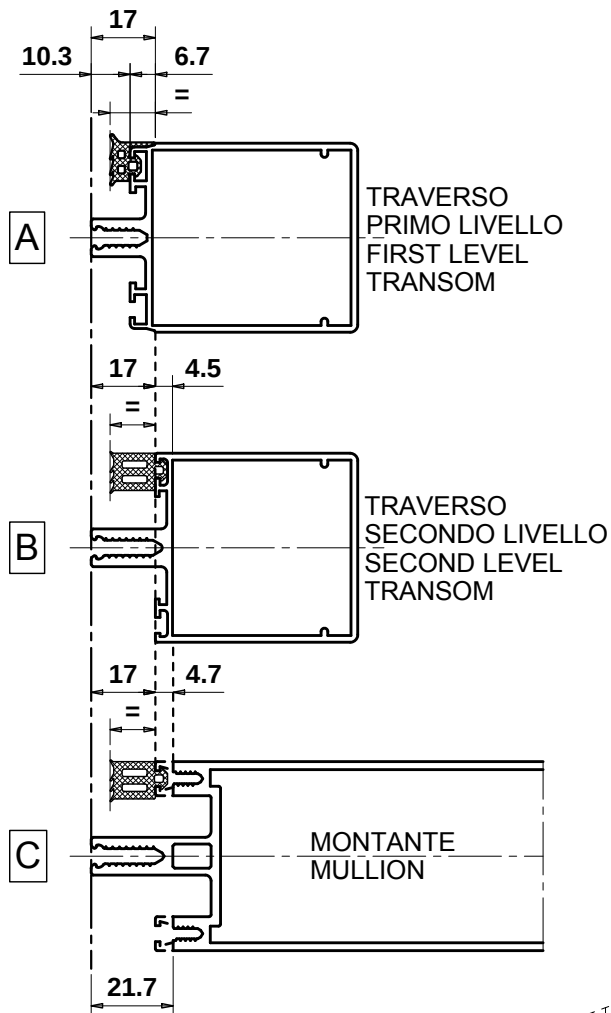
**FORATURE MONTANTE PER FISSAGGIO
TRAVERSI CON CAVALLOTTO A SLITTA**

**MULLION DRILLING FOR TRANSOM
FIXING BY SLIDING SUPPORT**



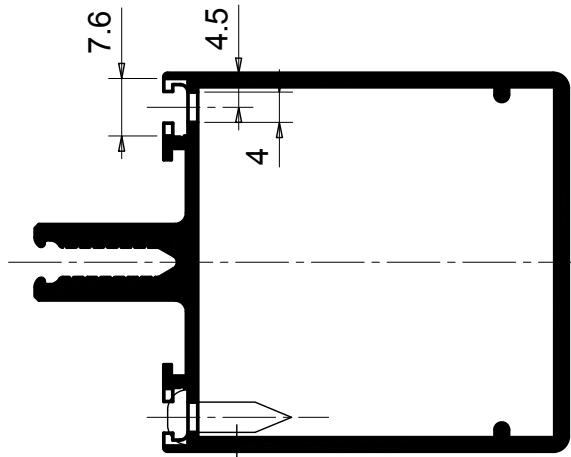
Lavorazioni - Tooling

**LIVELLI DI DRENAGGIO
DRAINAGE LEVELS**



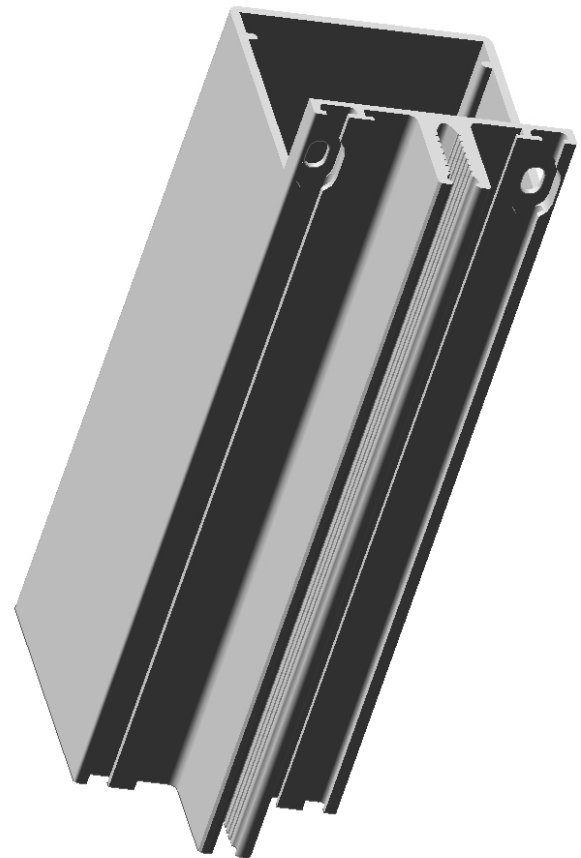
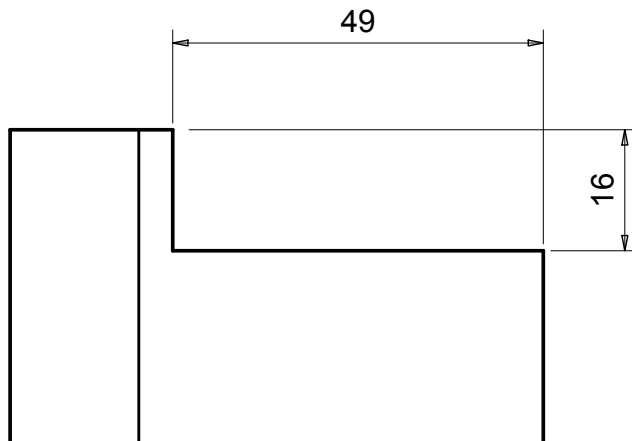
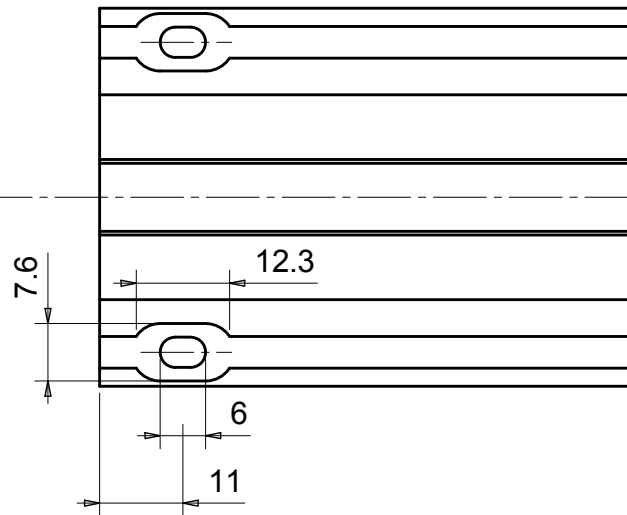
Lavorazioni / Tooling

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

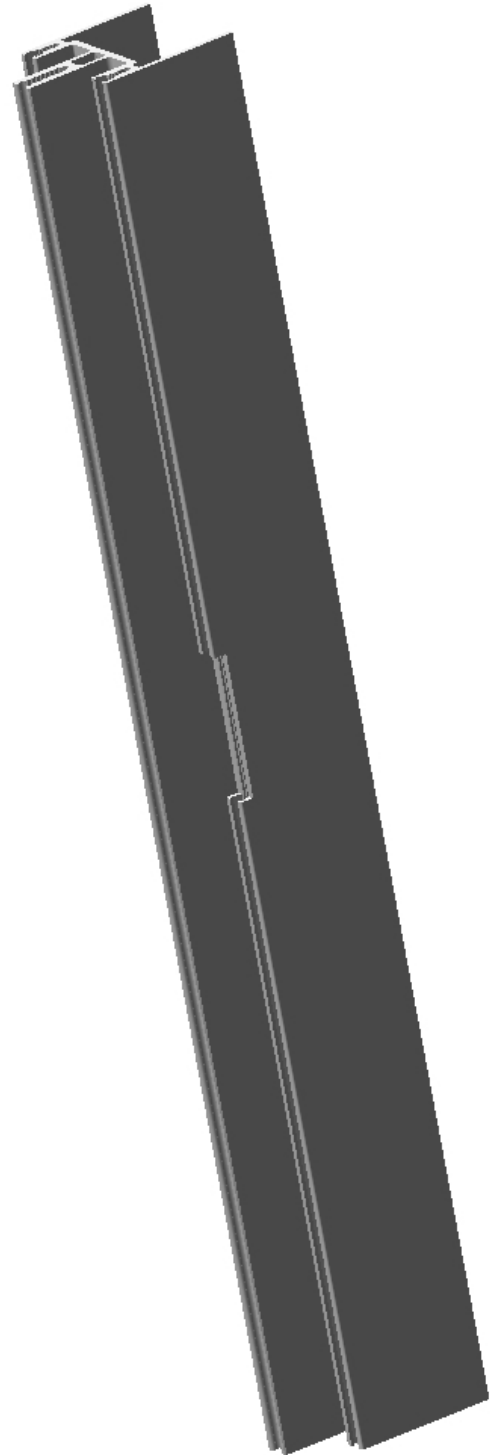
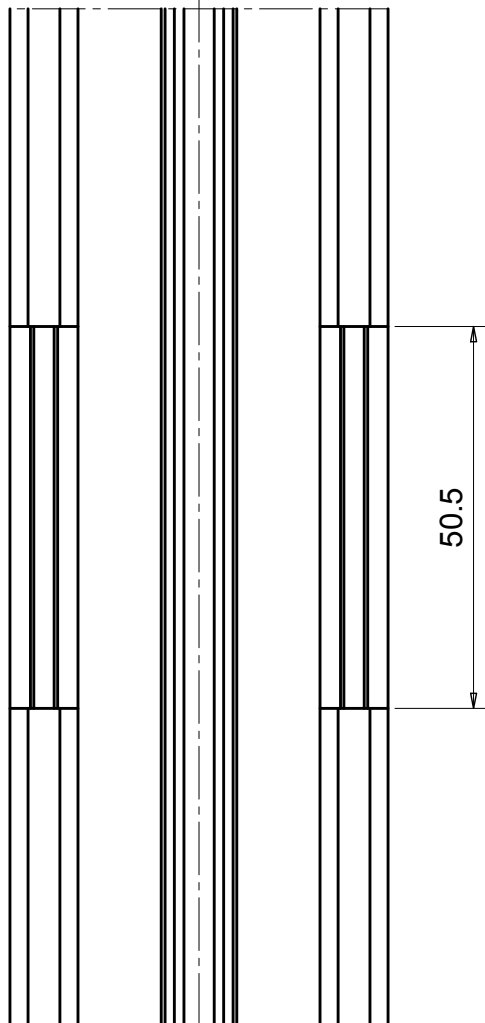
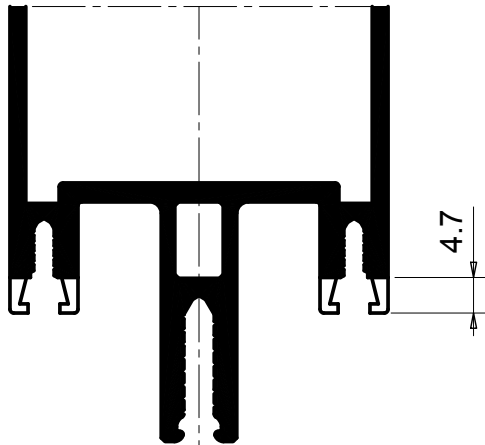


Lavorazioni / Tooling

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

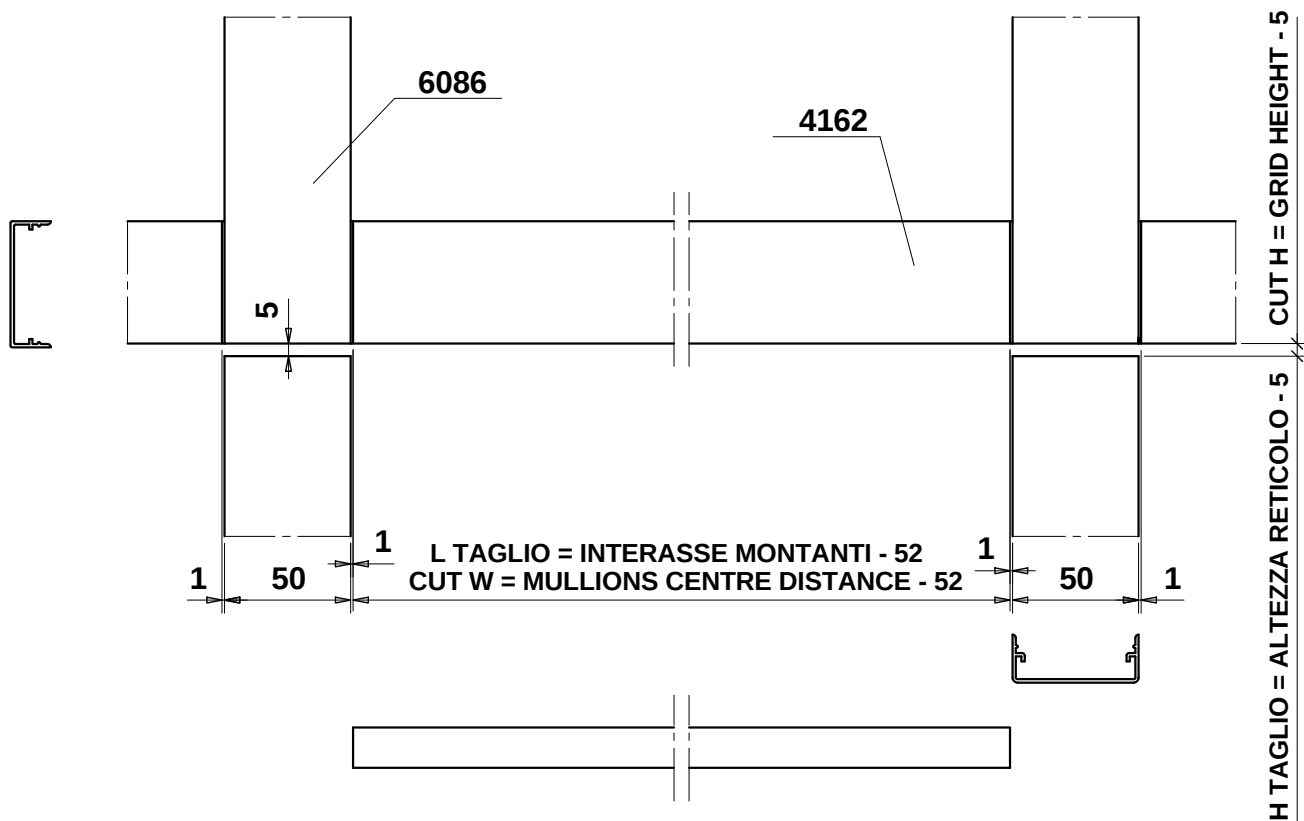
Eseguibile con punzonatrice 520-3160761

Feasible with punching machine 520-3160761

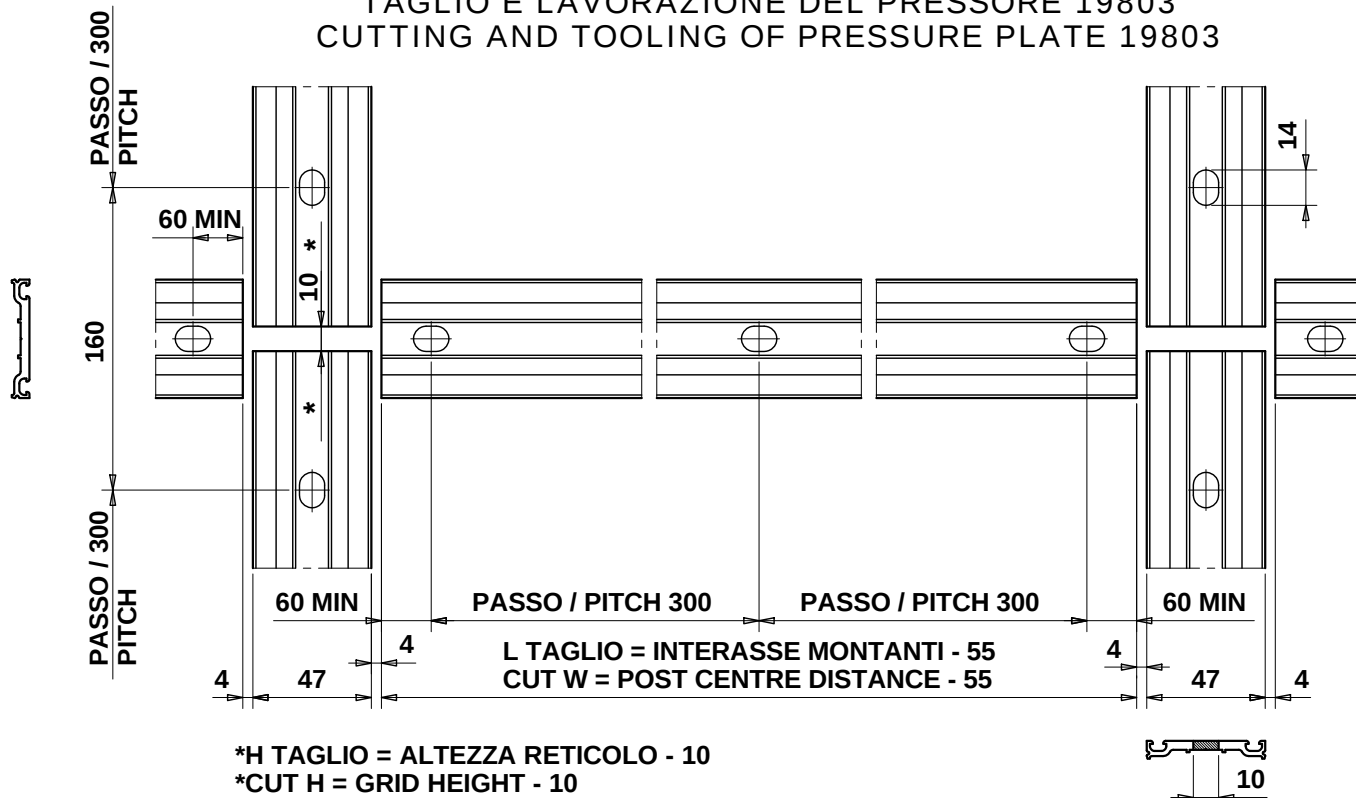


Lavorazioni / Tooling

TAGLIO E LAVORAZIONE DELLA COPERTINA A SCATTO
CUTTING AND TOOLING OF SNAP TYPE COVER



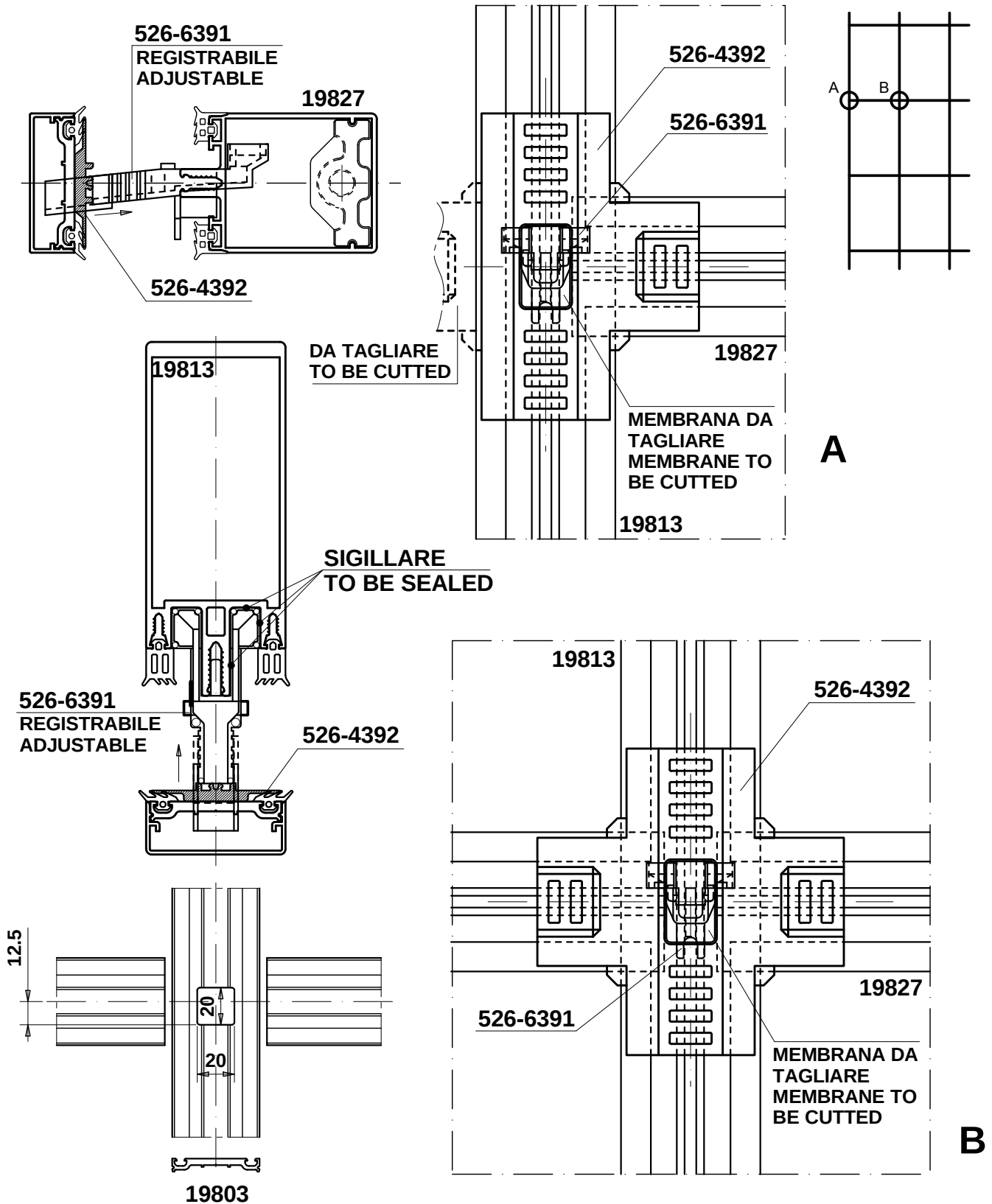
TAGLIO E LAVORAZIONE DEL PRESSORE 19803
CUTTING AND TOOLING OF PRESSURE PLATE 19803



Lavorazioni / Tooling

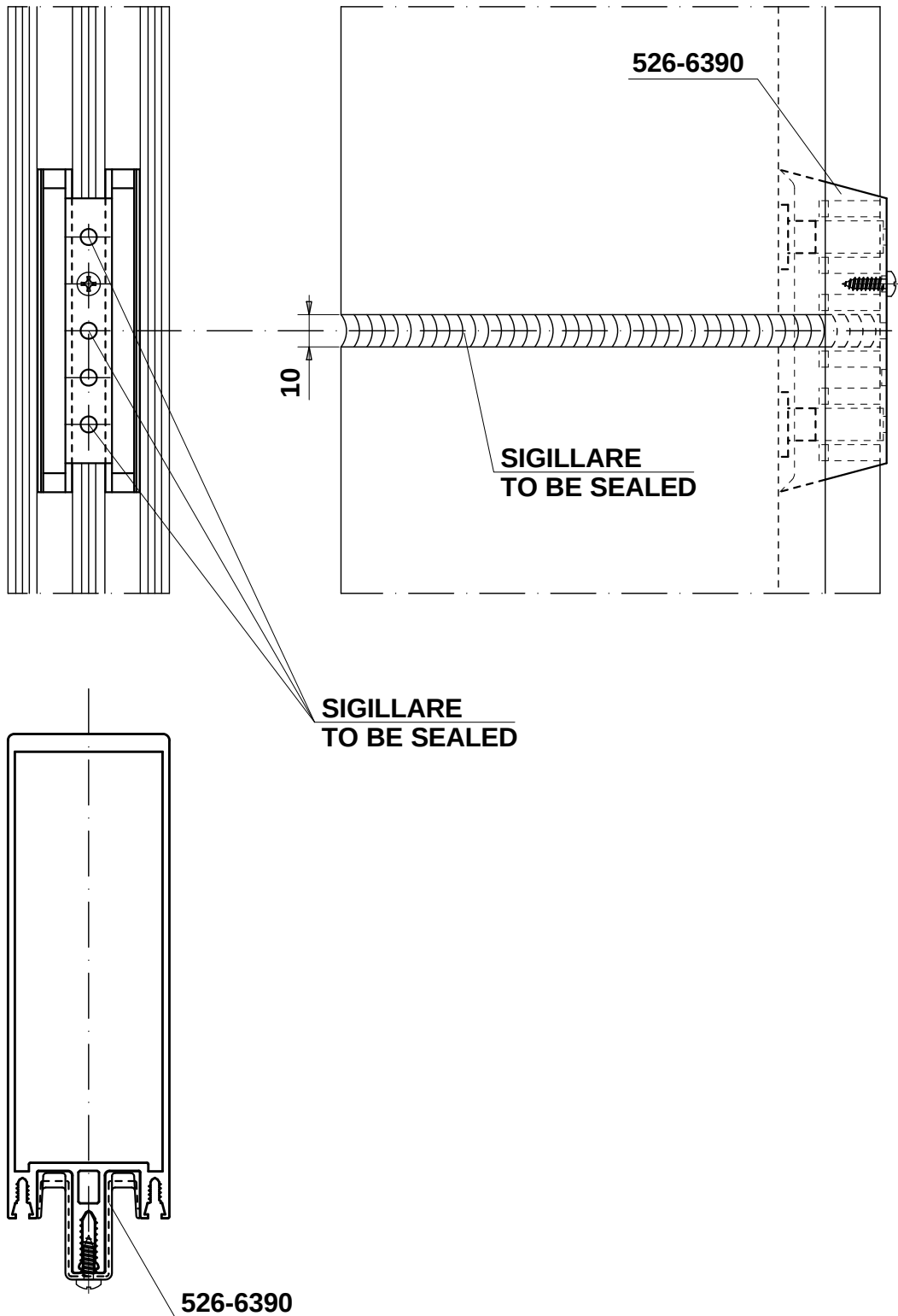
**MONTAGGIO TAPPO DI DRENAGGIO MONTANTI 526-6391
E MONTAGGIO CROCE DI TENUTA 526-4392**

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



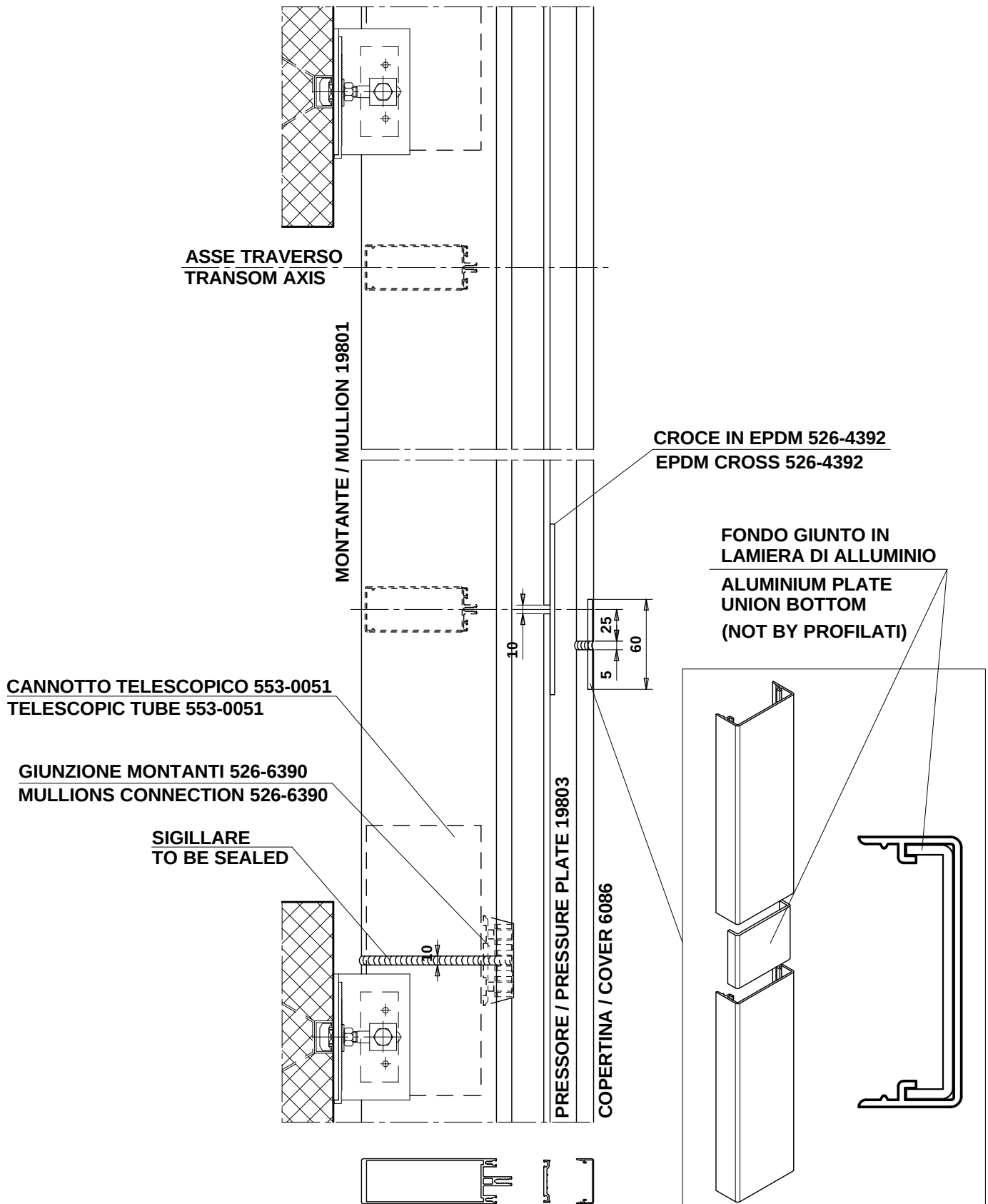
Lavorazioni / Tooling

**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**

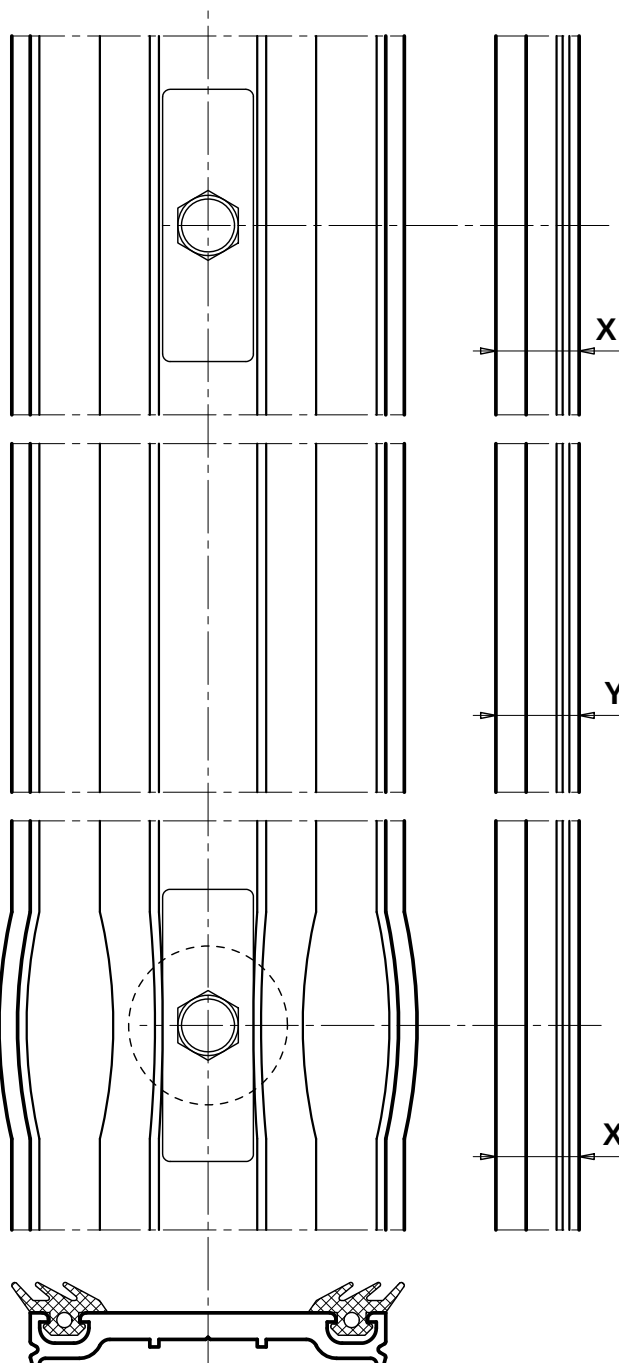
**CENTRALLY POSITION
BETWEEN SCREWS
FASTENING**

**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:

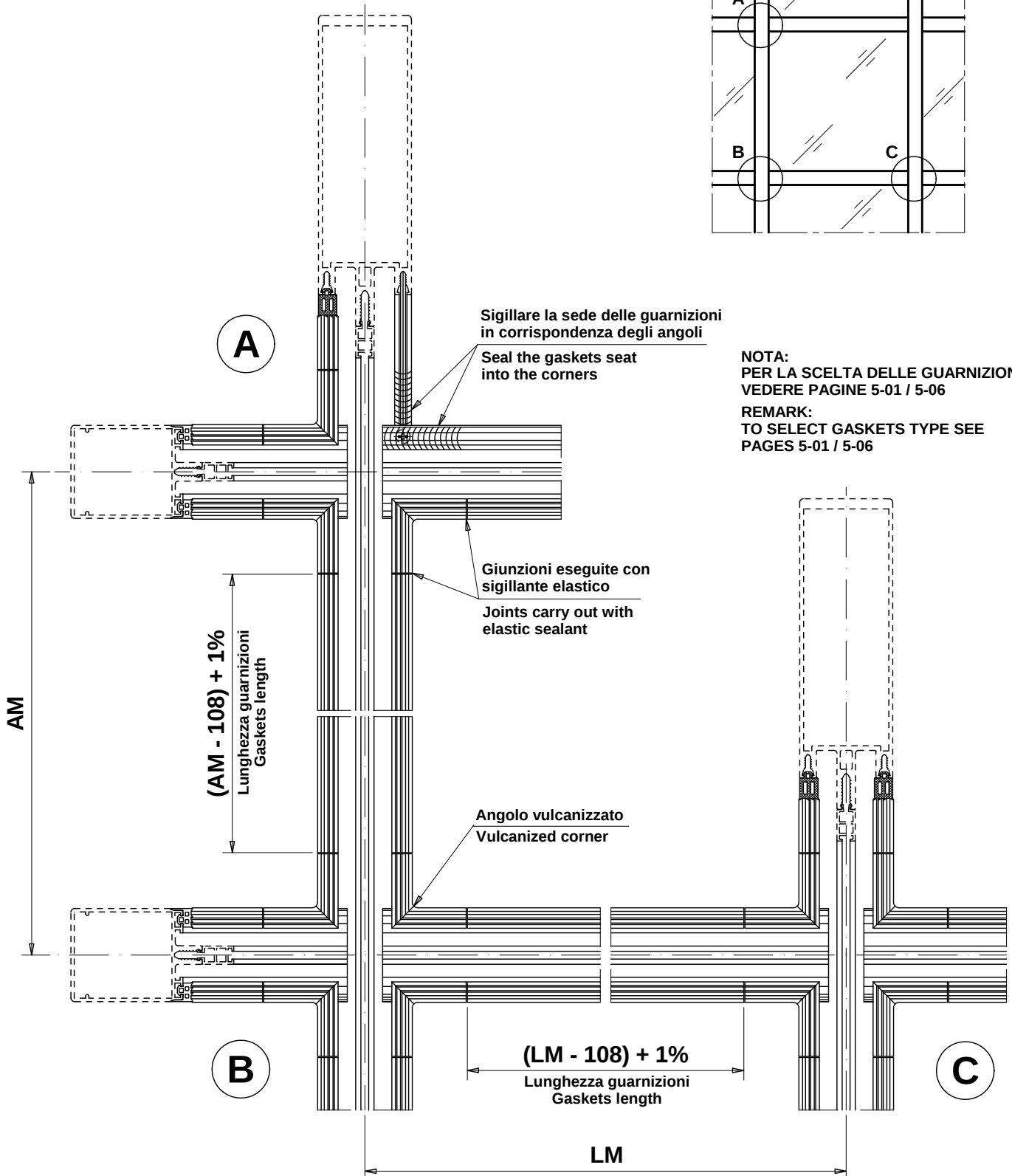
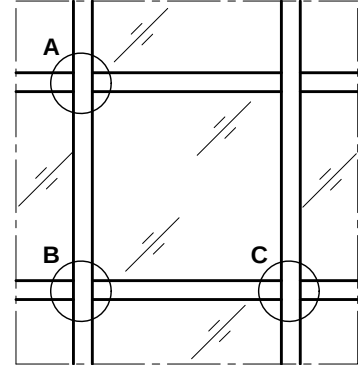
SERRARE LE VITI DI FISSAGGIO DEI PRESSORI CON AVVITATORE REGOLABILE TARATO A 4,5 Nm.
LE GUARNIZIONI NON DEVONO SBORDARE E IL PRESSORE NON DEVE ESSERE DEFORMATO
LA PRESSIONE E' CORRETTA QUANDO LA GUARNIZIONE ESTERNA E' ALLINEATA IN TUTTI I PUNTI
E LA DIFFERENZA DI QUOTA RILEVATA TRA I PUNTI "X" E "Y"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

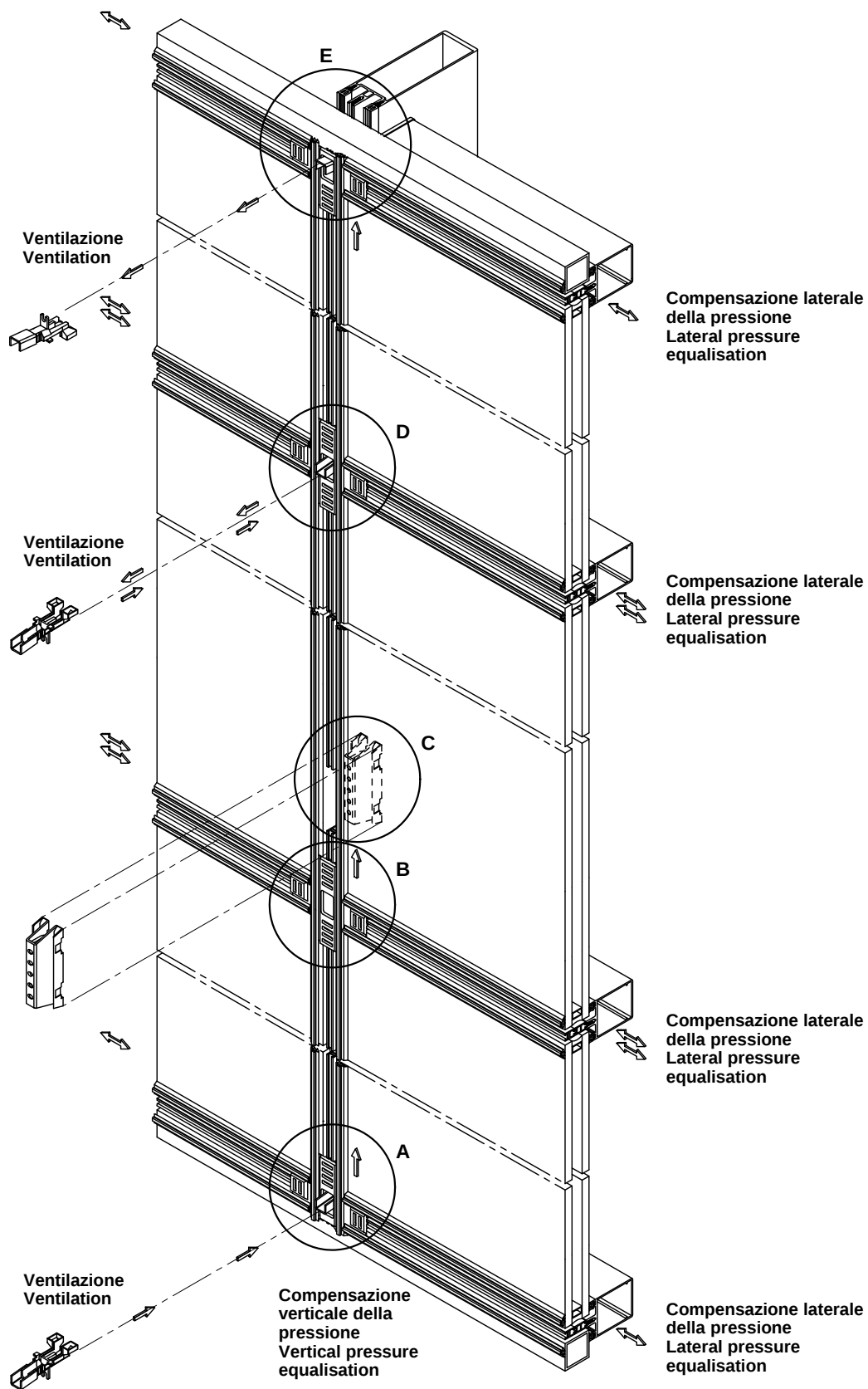
Lavorazioni / Tooling

**SCHEMA DI MONTAGGIO GUARNIZIONI
GASKETS ASSEMBLING LAYOUT**



Lavorazioni / Tooling

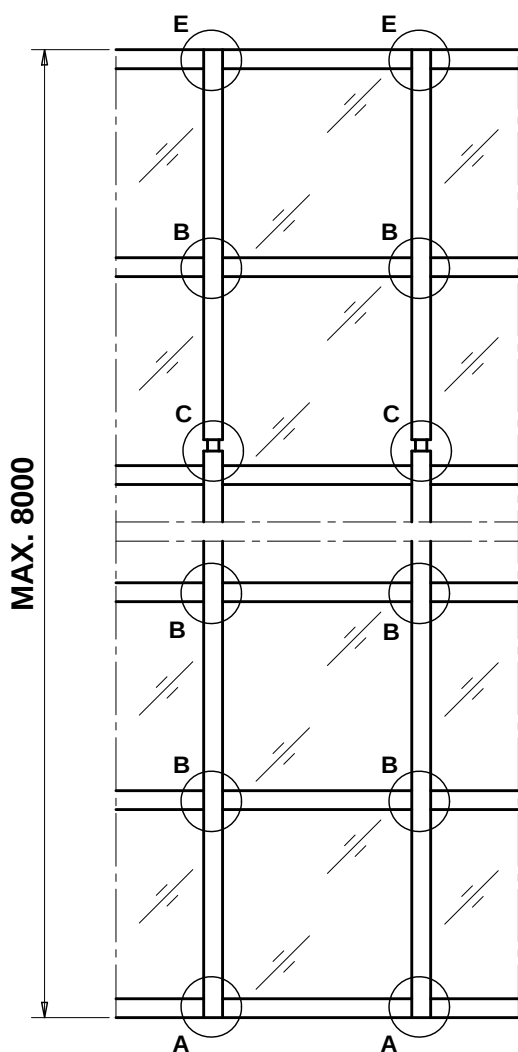
**SCHEMA DI MONTAGGIO FACCIATA
CURTAIN WALL ASSEMBLING LAYOUT**



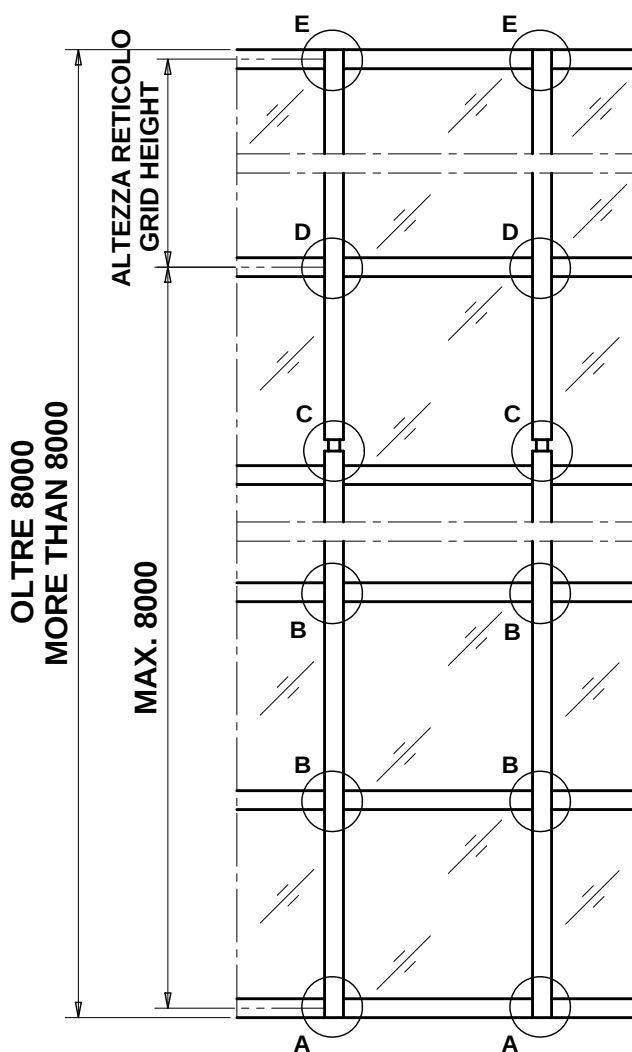
Lavorazioni / Tooling

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

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

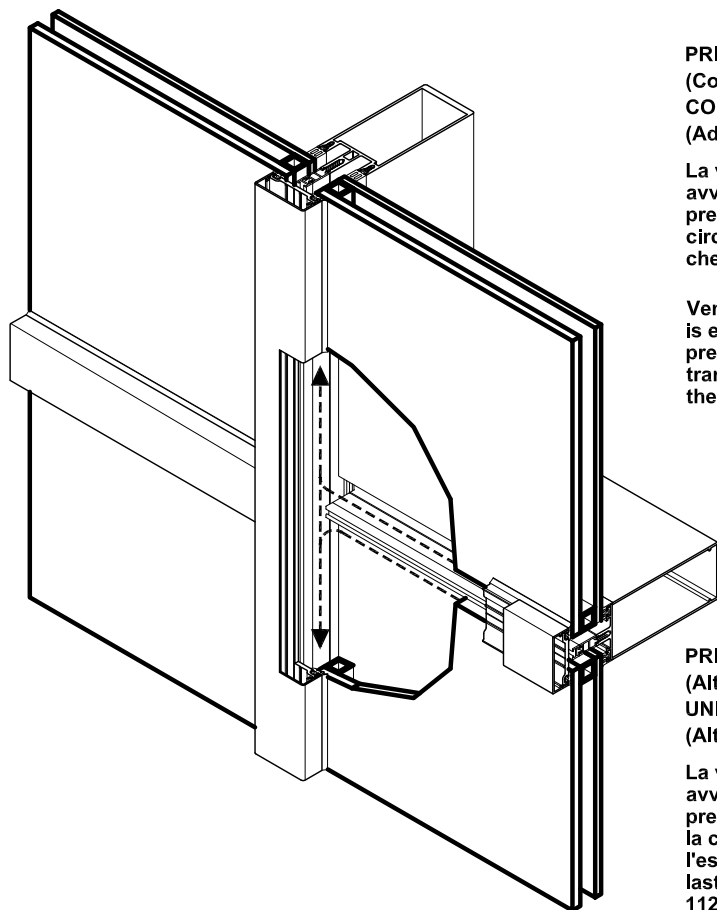


**FACCIATE CON ALTEZZE OLTRE 8 METRI
CURTAIN WALL HEIGHT OVER 8 METERS**



Lavorazioni - Tooling

PRINCIPIO DI VENTILAZIONE FACCIATA
PRINCIPLE OF VENTILATION OF FACADE



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

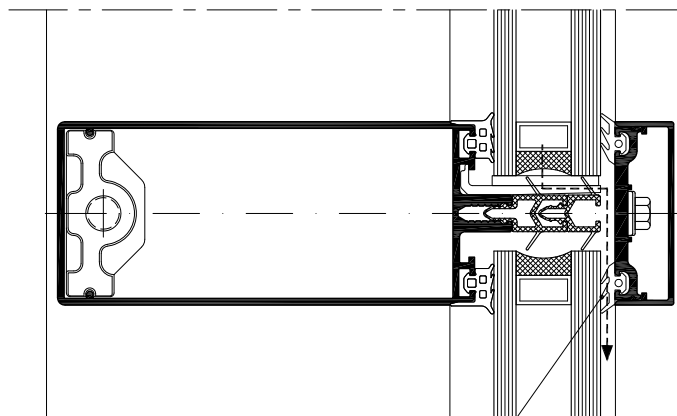
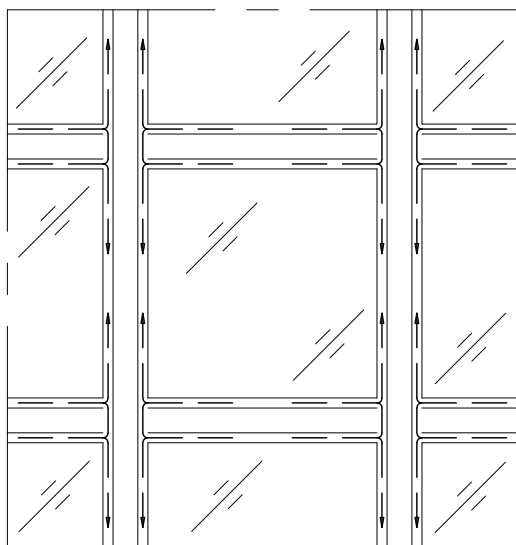
La ventilazione e lo scarico dell' acqua di condensa avvengono attraverso asole praticate sui pressori dei montanti e mantenendo libera la circolazione sui traversi, creando un moto convettivo che consente di areare la lastra vetrata per tutto il perimetro.

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 sfiato 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.

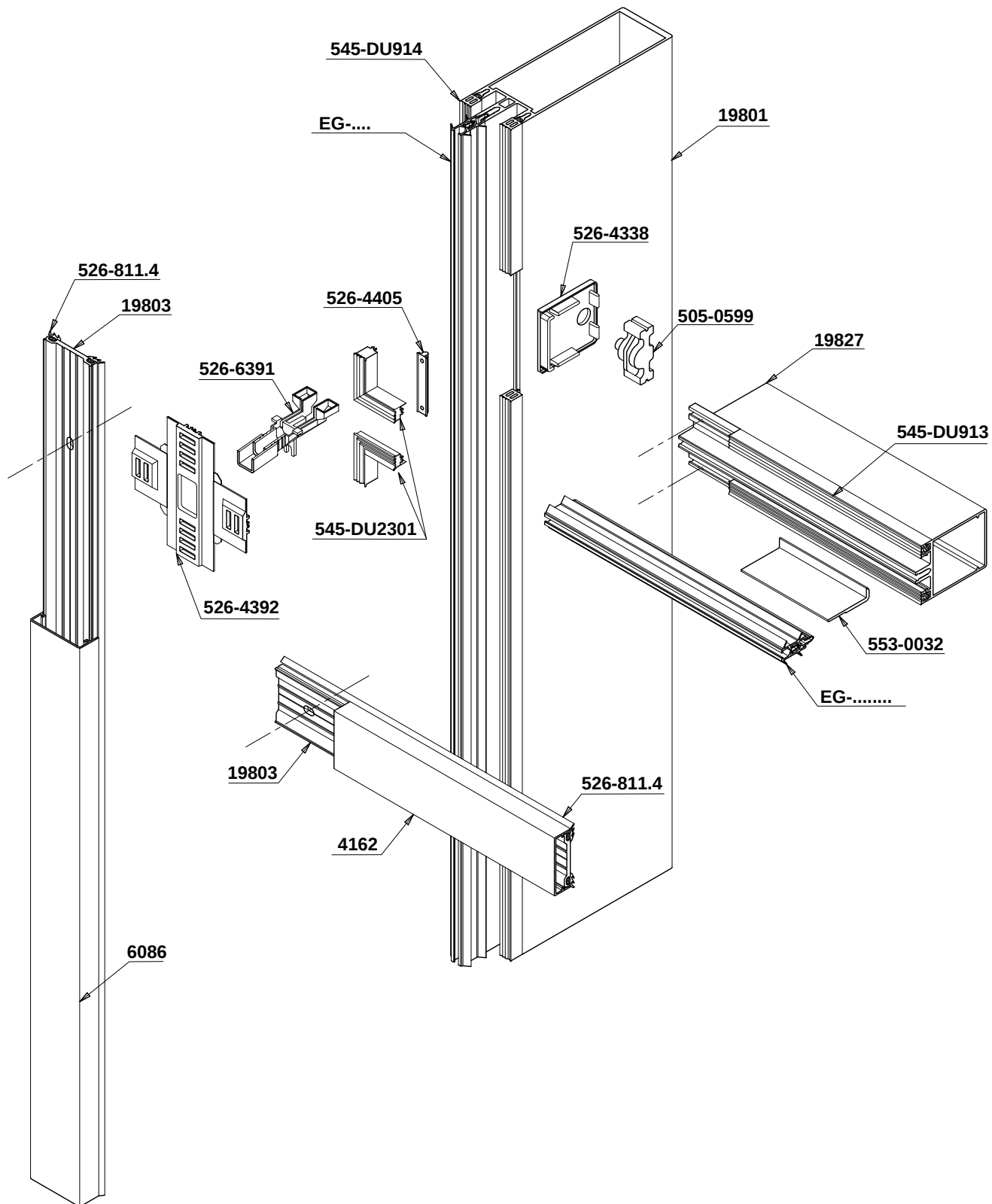


Interrompere la guarnizione per 10 mm

Gasket to be cutted for 10 mm

Lavorazioni / Tooling

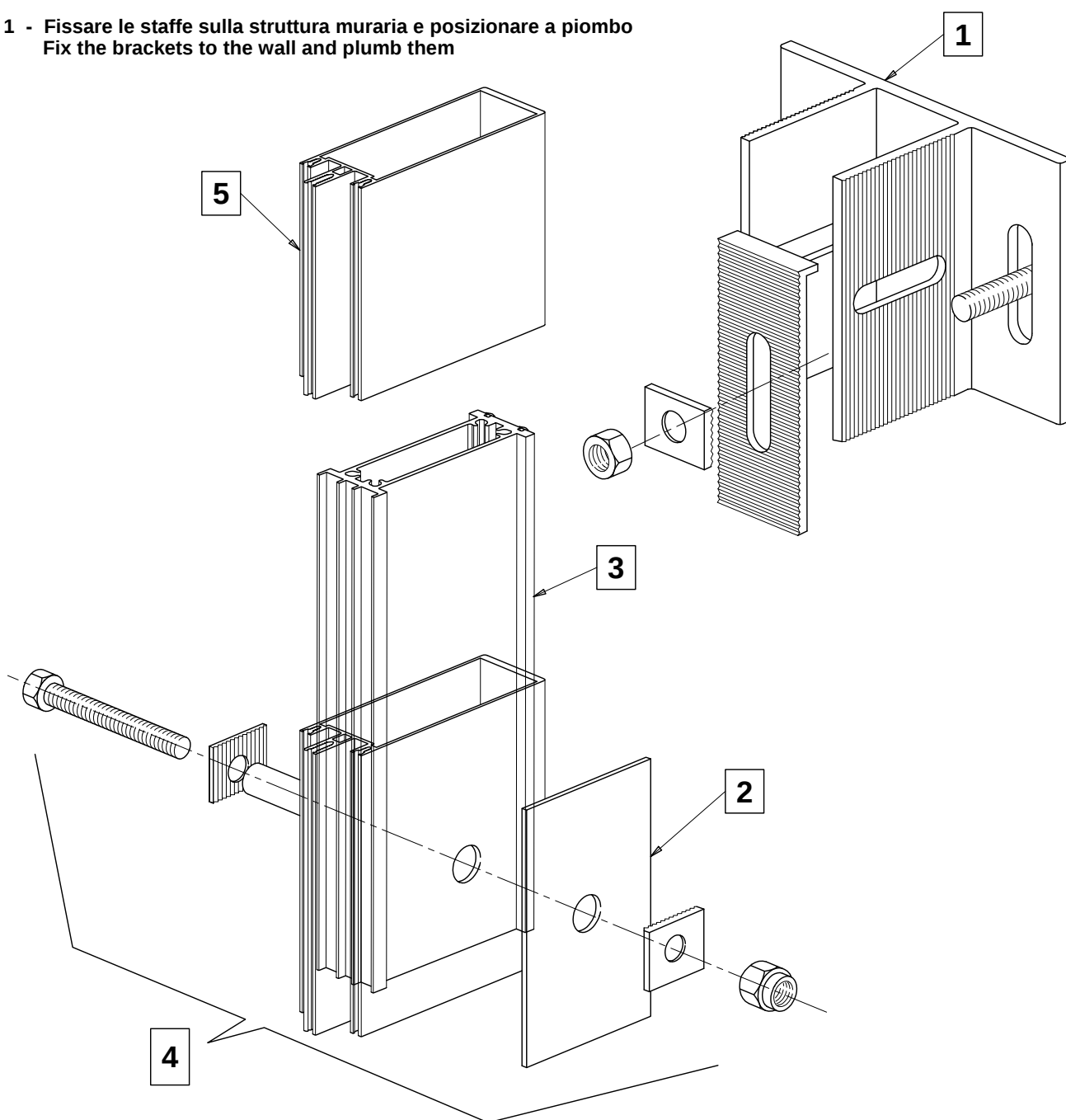
**ESPLOSO DEL SISTEMA
SYSTEM EXPLODED**



Lavorazioni / Tooling

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

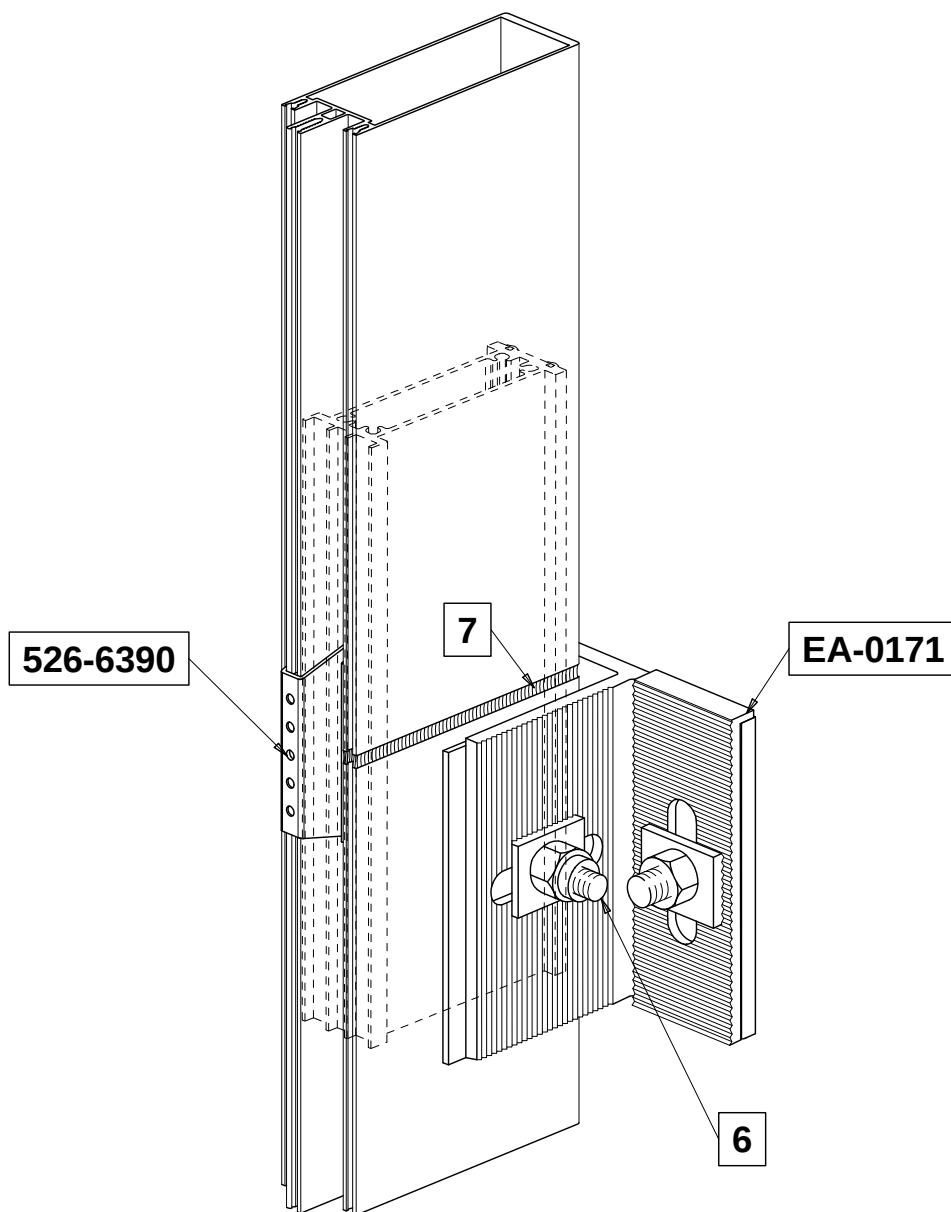
- 1 - Fissare le staffe sulla struttura muraria e posizionare a piombo
Fix the brackets to the wall and plumb them
- 2 - Applicare le piastre autoadesive sul montante
Put the pressure-sensitive adhesive plates on the mullion
- 3 - Inserire il canotto per giunto di dilatazione montante
Place the tube 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

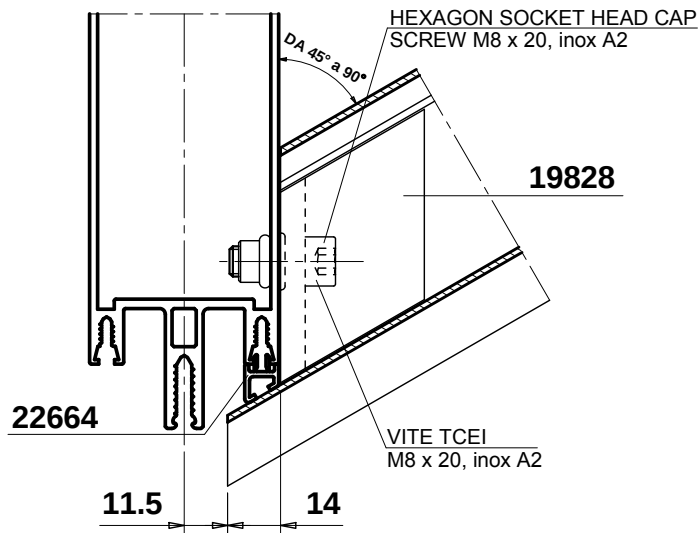
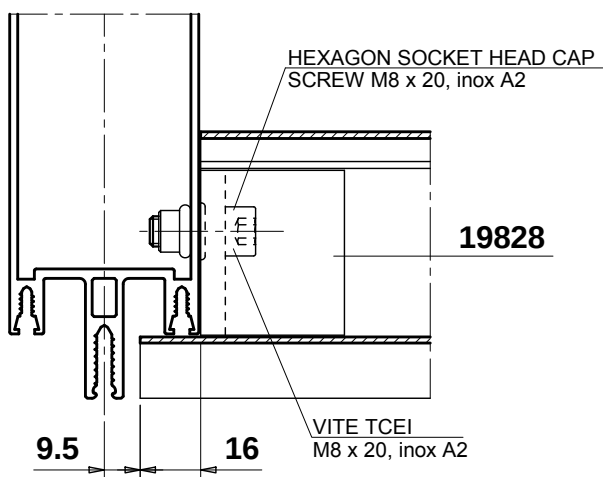
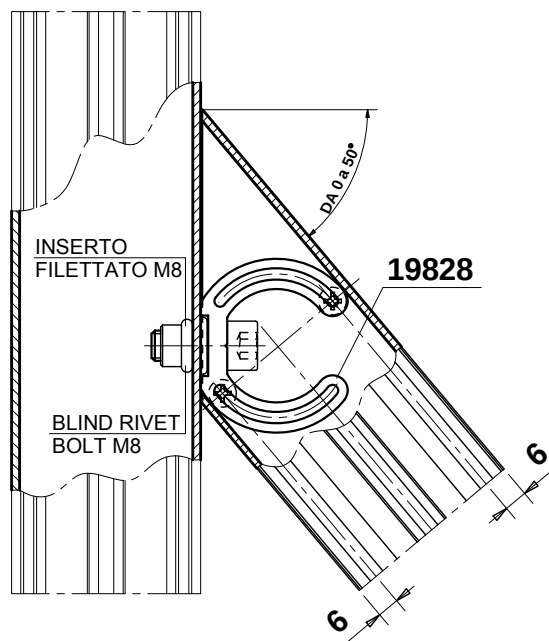
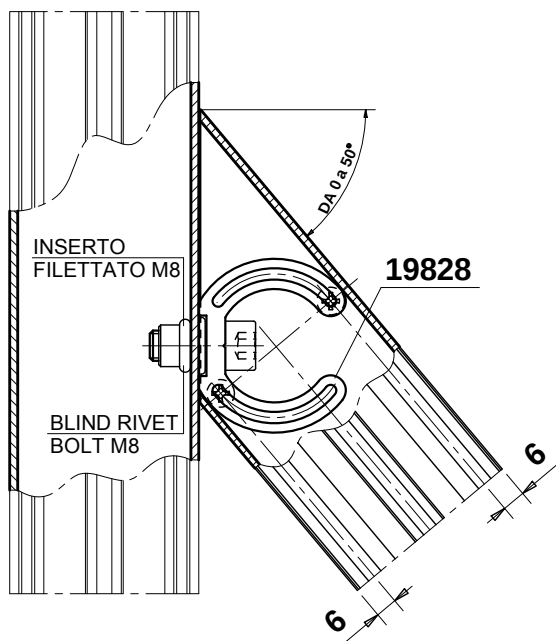
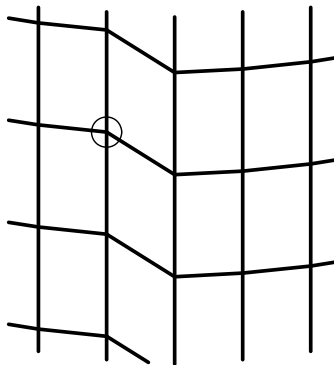
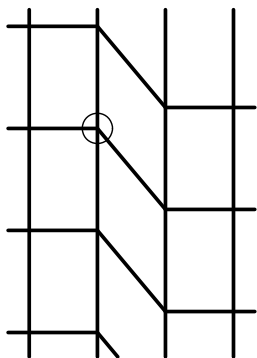
MONTAGGIO STAFFE DI ANCORAGGIO (Art.EA-0171) FASTENING BRACKET ASSEMBLY (item EA-0171)

- 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



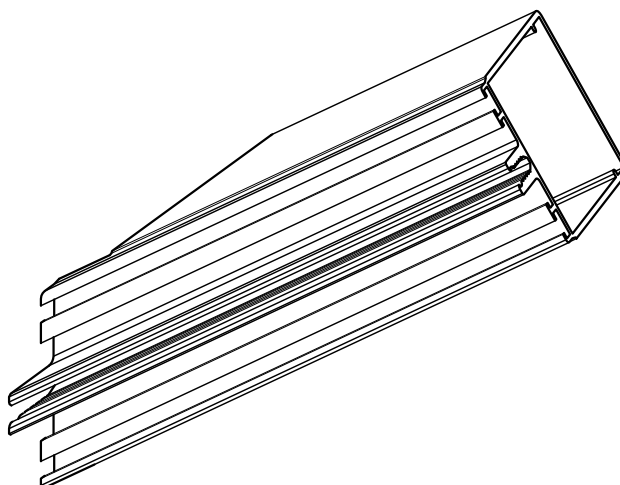
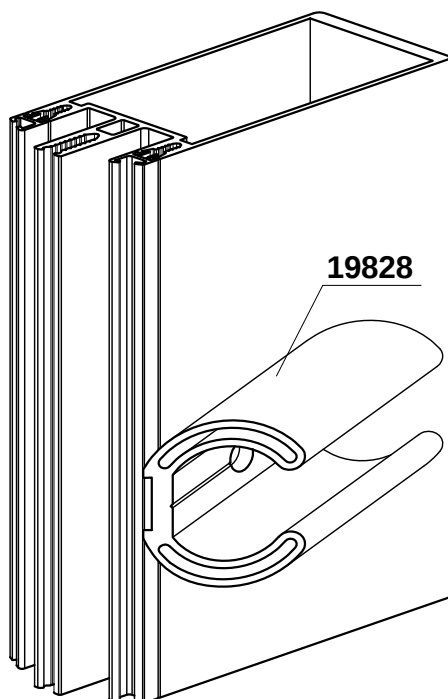
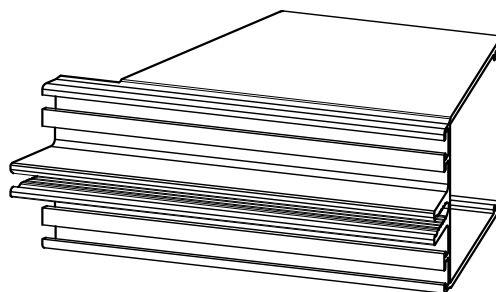
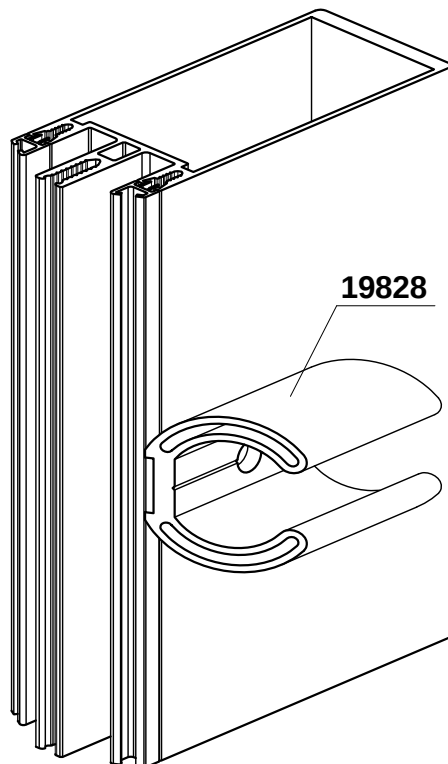
Lavorazioni / Tooling

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



Lavorazioni / Tooling

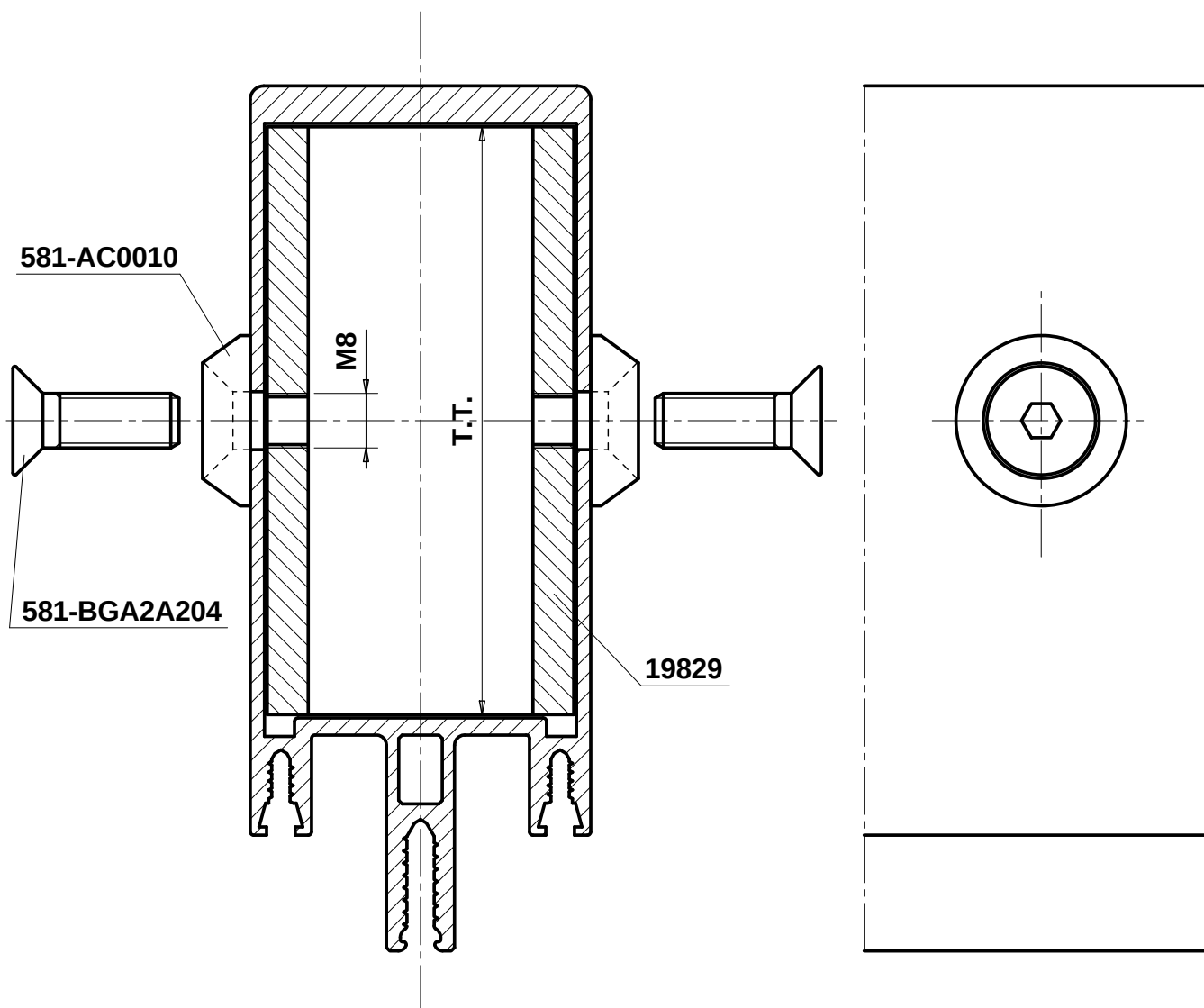
**APPLICAZIONE CAVALLOTTI PER TRAVERSI INCLINATI
SUPPORT APPLICATION FOR SLOPING TRANSOMS**



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

Lavorazioni / Tooling

**MONTAGGIO MONTANTI INCLINATI
SLOPED MULLIONS ASSEMBLY**



Montante/ Mullion	Quota T.T. mm/ Dimension T.T. mm
19813	86,5 ¹
24496	101,5 ¹
19801	126,5 ¹
19814	126,5 ¹
22670	177,5 ¹
24481	204 ¹

ESEMPIO/EXAMPLE:

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

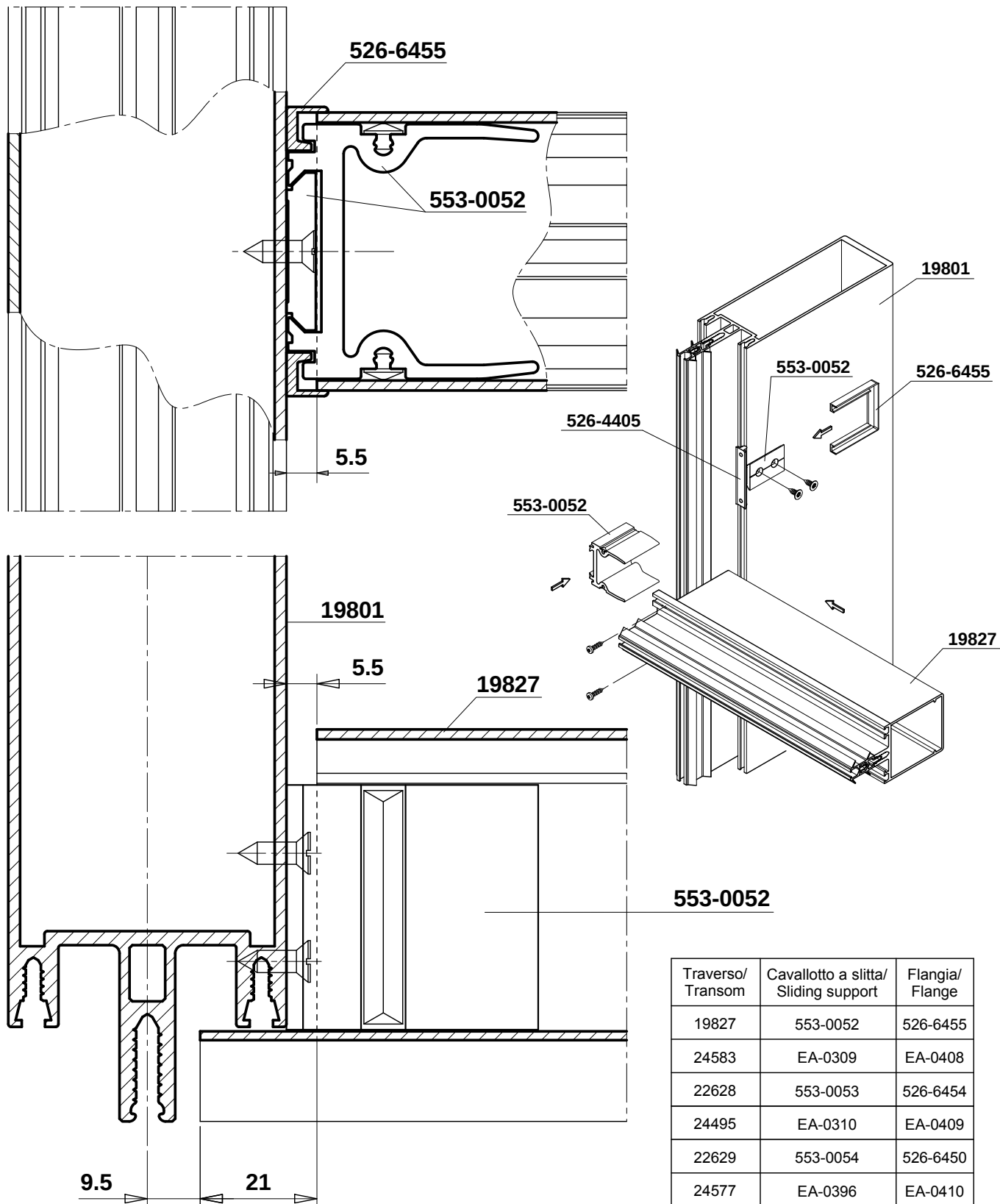
$$L.T. = \frac{T.T.}{\cos(\alpha/2)}$$

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

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

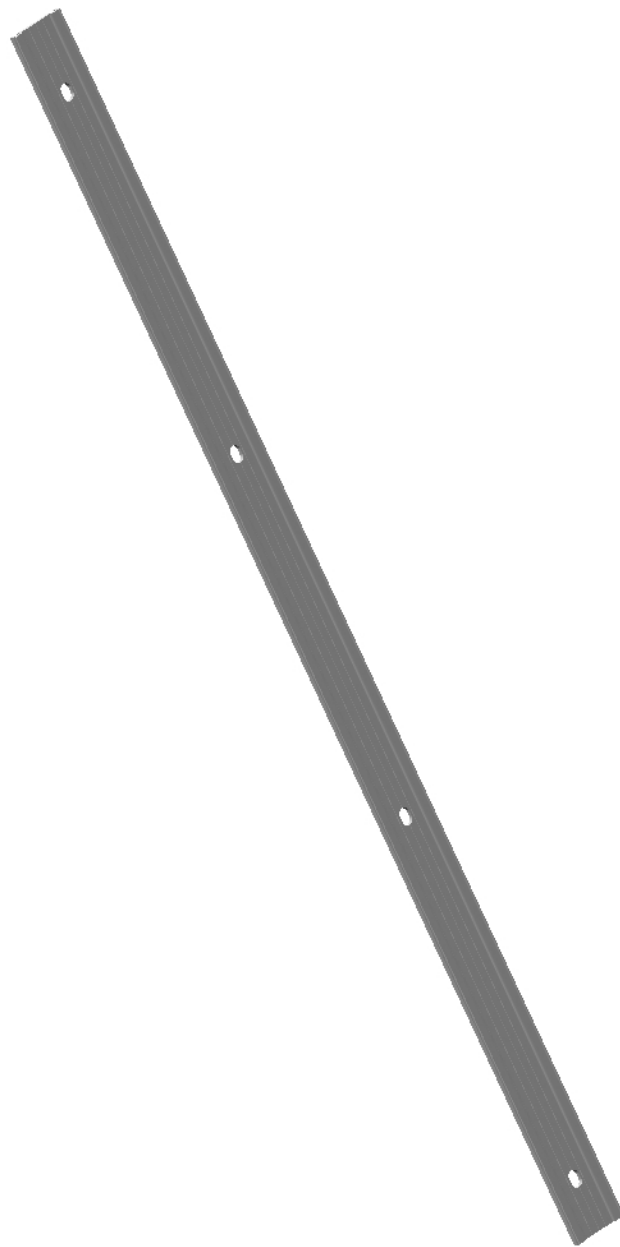
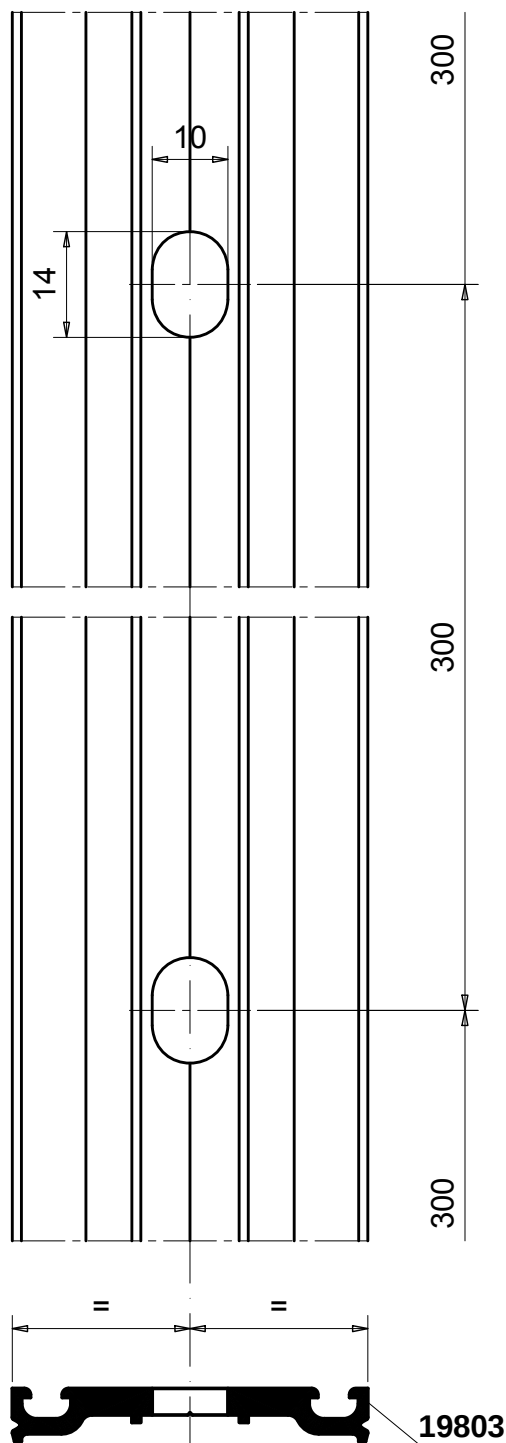
Lavorazioni / Tooling

**MONTAGGIO CAVALLOTTO A SLITTA
SLIDING SUPPORT ASSEMBLY**



Lavorazioni / Tooling

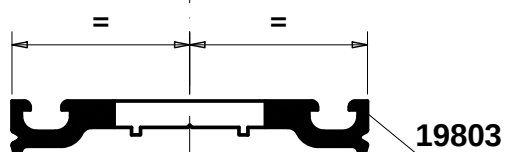
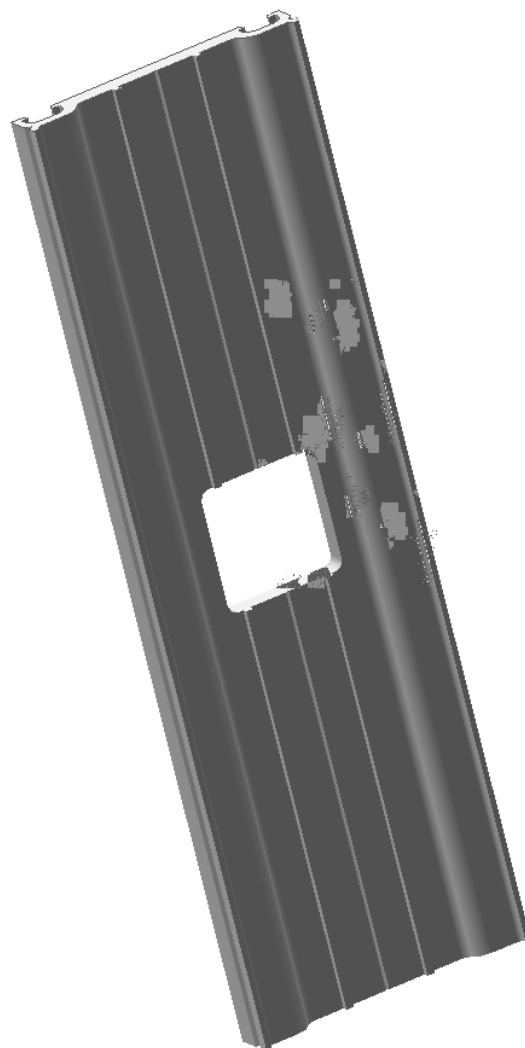
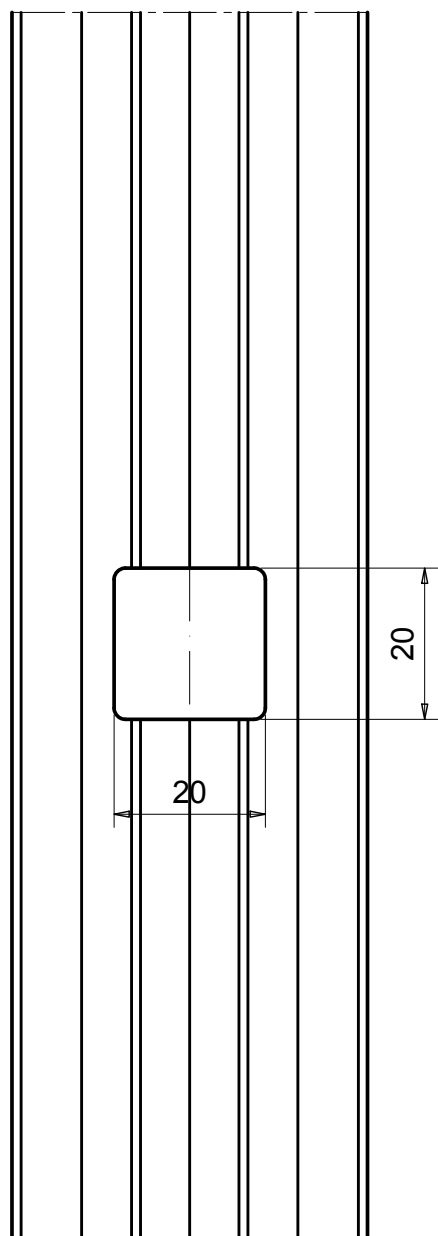
LAVORAZIONE PER PASSAGGIO VITI
DI FISSAGGIO SU PRESSORE 19803
TOOLING OF PRESSURE PLATE 19083
FOR INSTALLING FIXING SCREWS



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

Lavorazioni / Tooling

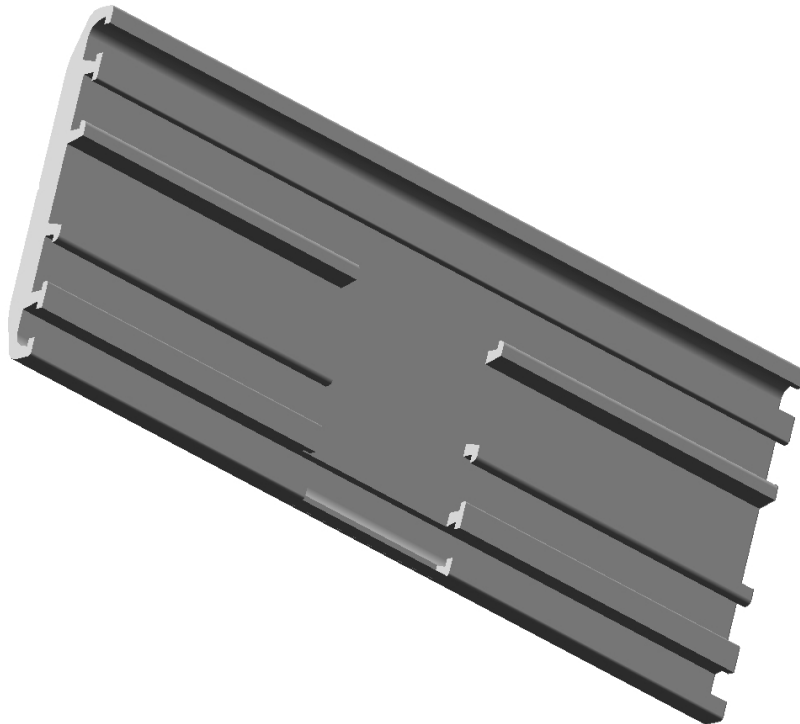
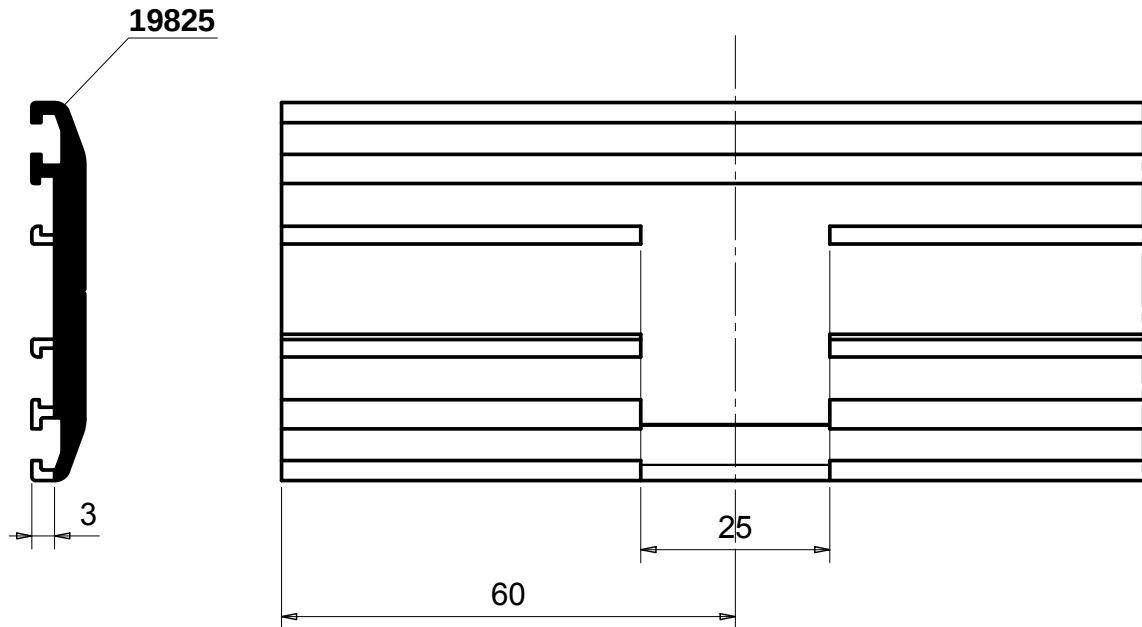
LAVORAZIONE PER PASSAGGIO ARTICOLO 526-6391
SU PRESSORE 19803
TOOLING OF PRESSURE PLATE 19083
FOR INSTALLING ITEM 526-6391



Lavorazioni / Tooling

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

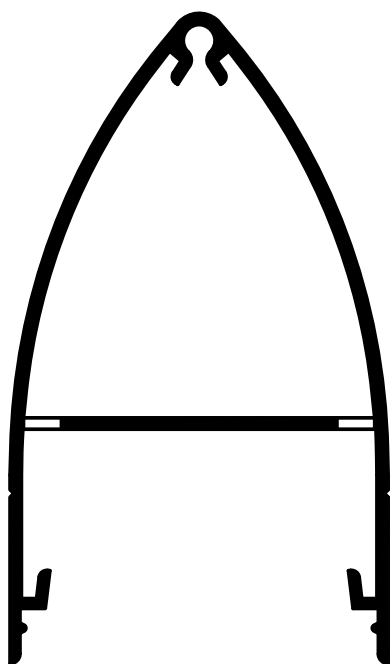
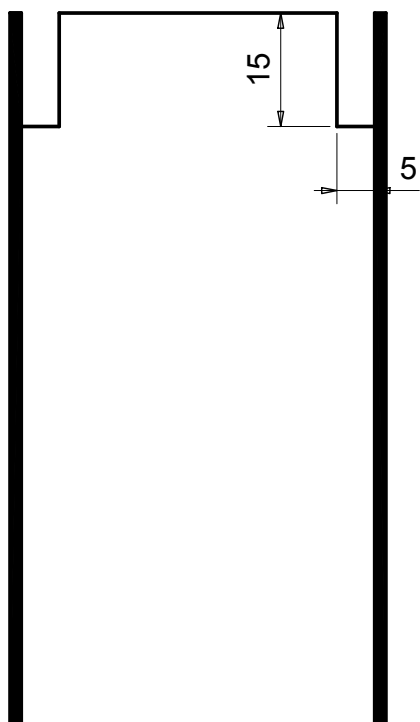
Eseguibile con punzonatrice 520-3160761
Feasible with punching machine 520-3160761



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



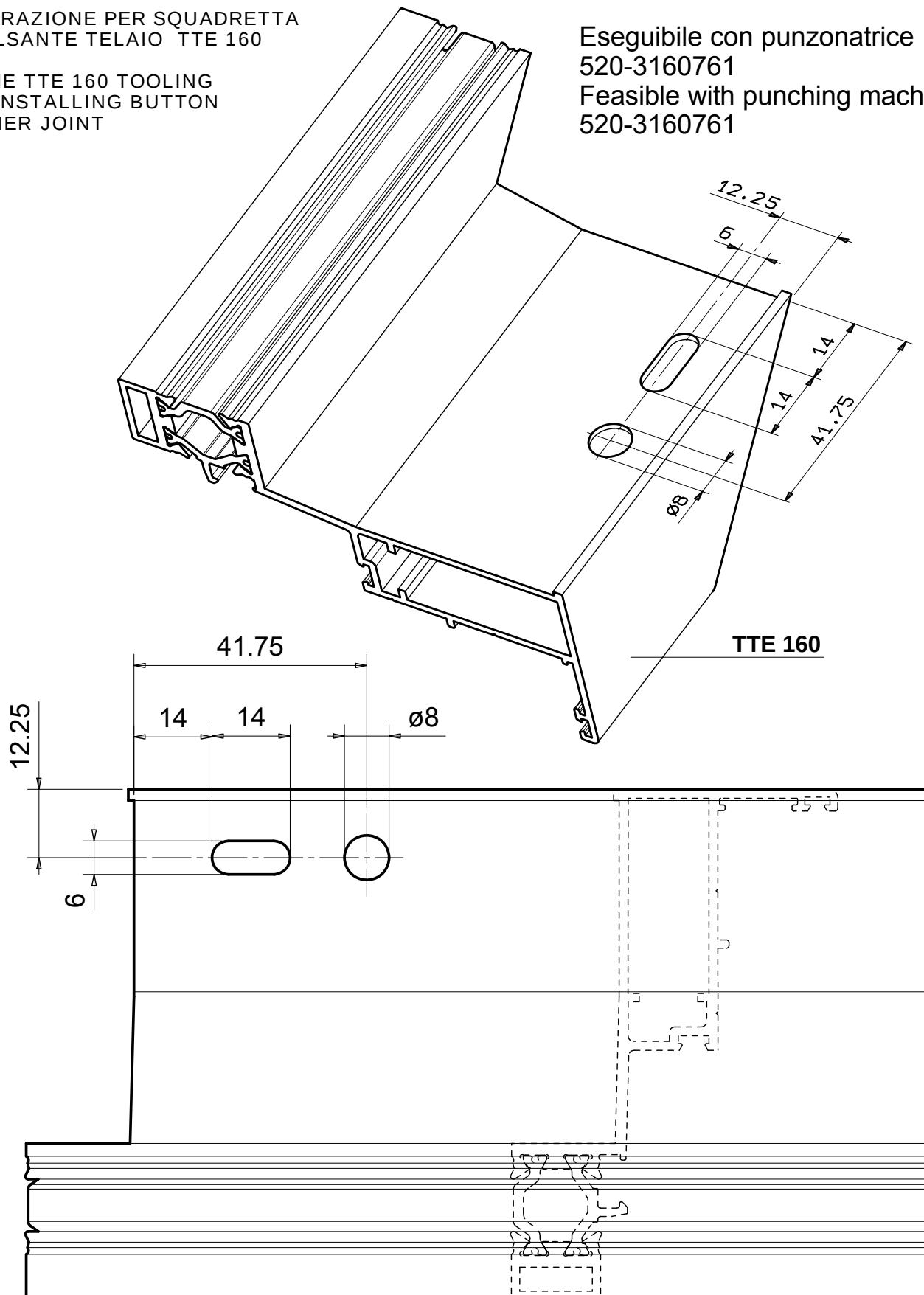
19822

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

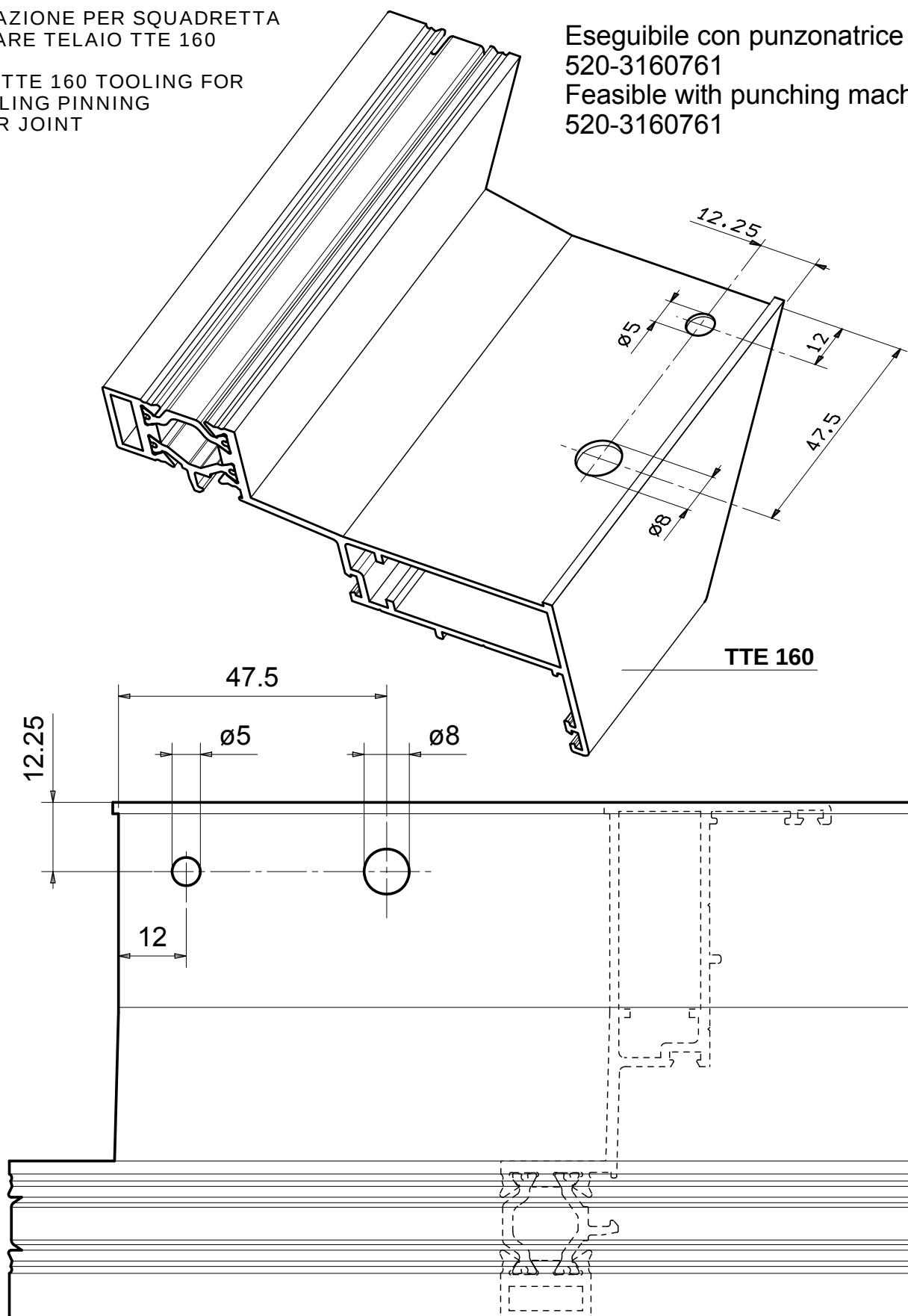


Lavorazioni / Tooling

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



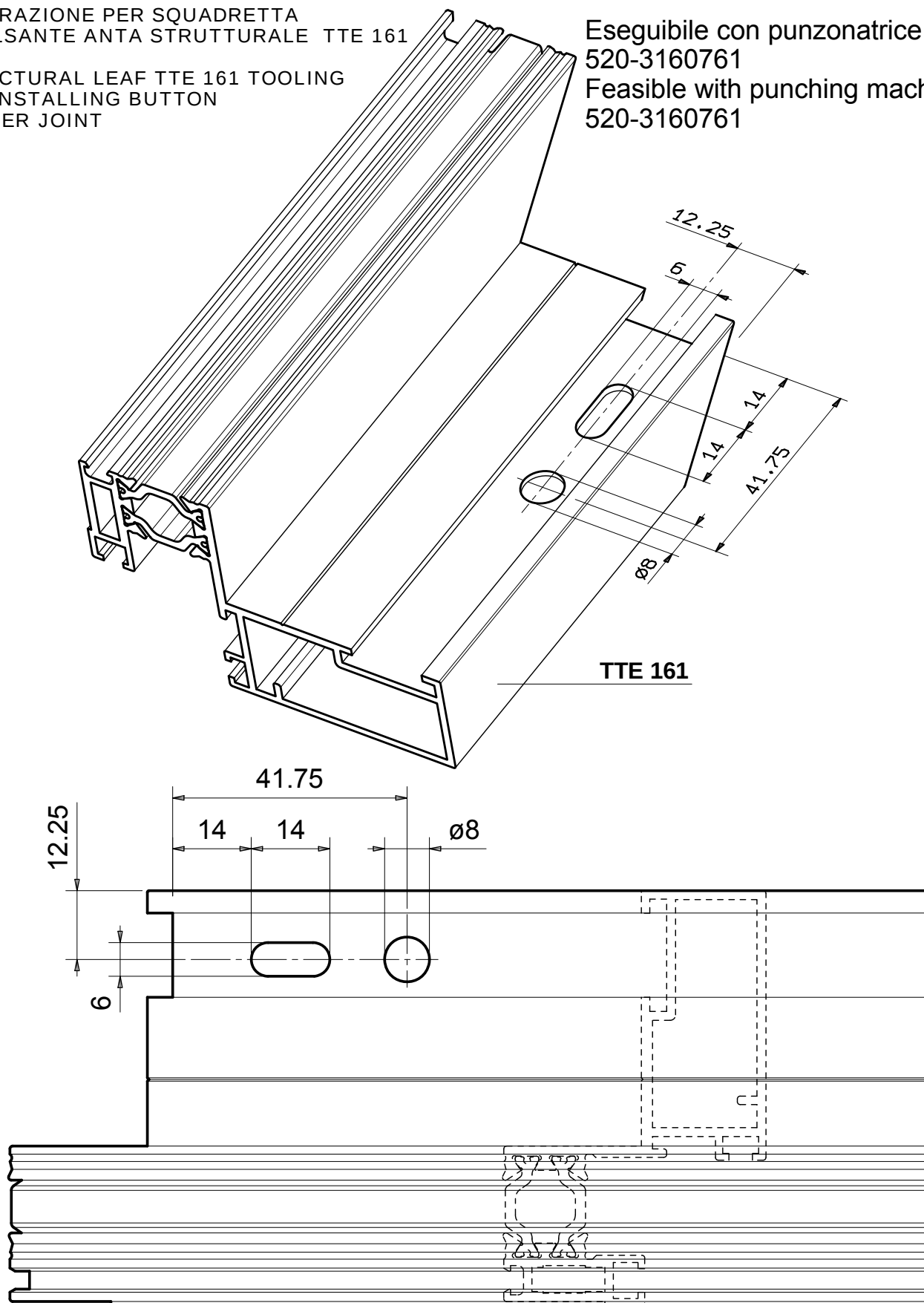
Lavorazioni / Tooling

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

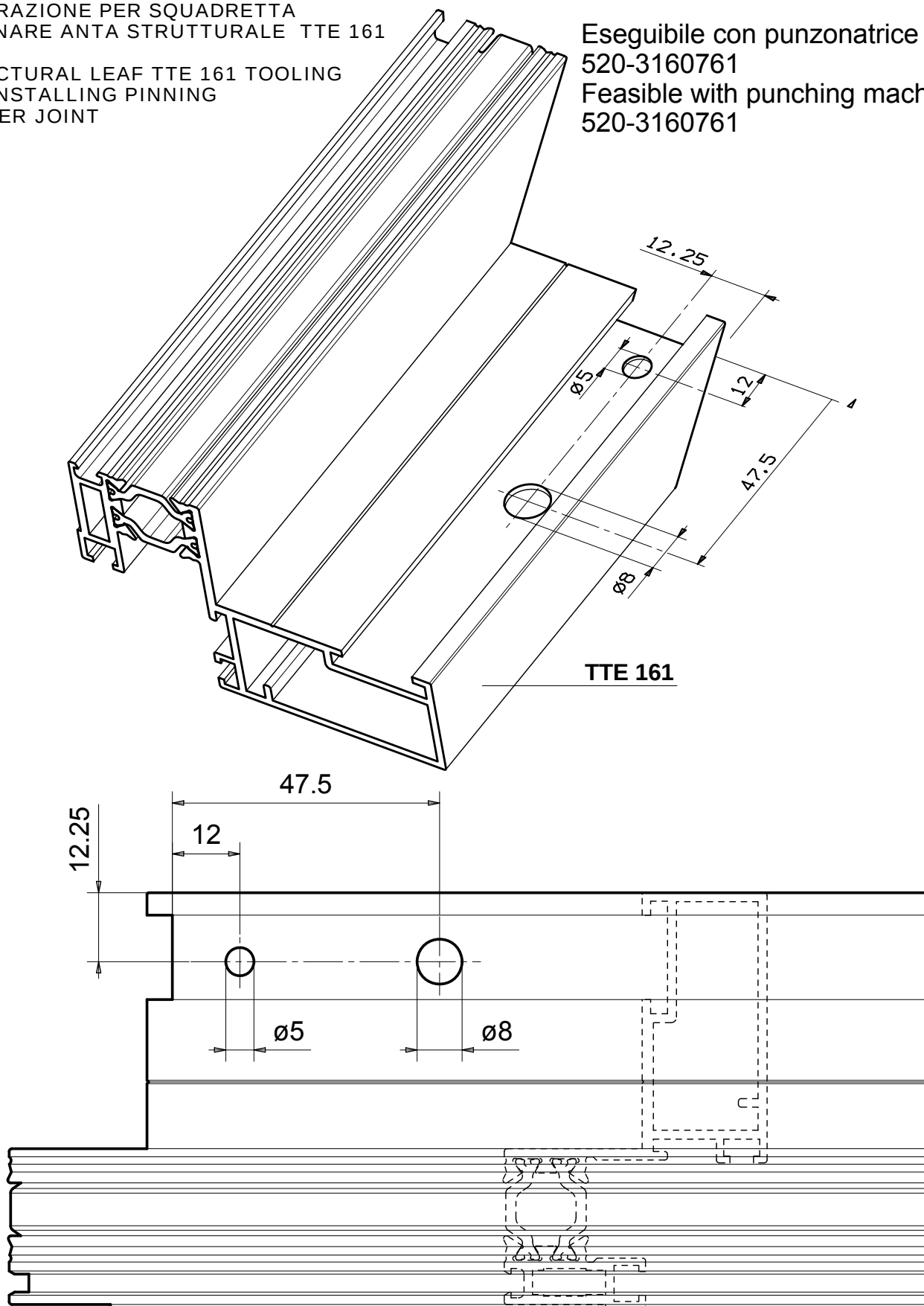


Lavorazioni / Tooling

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

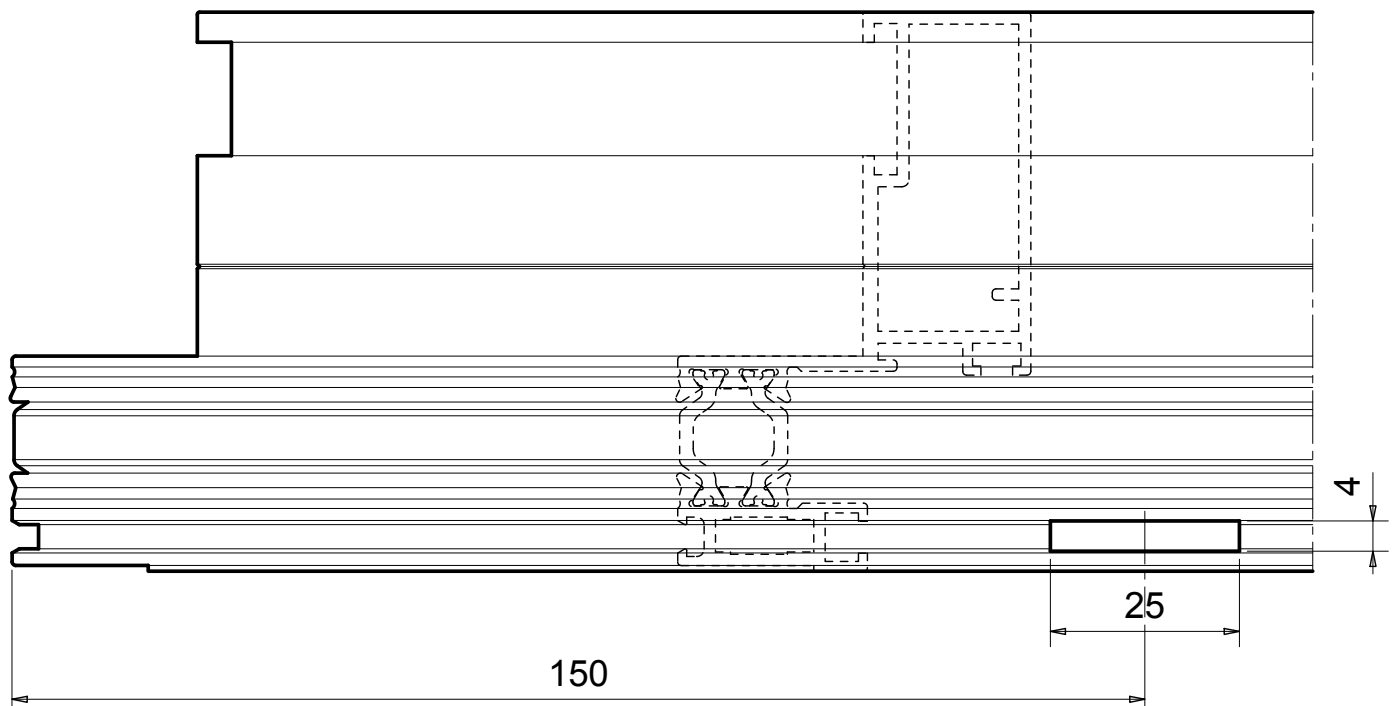
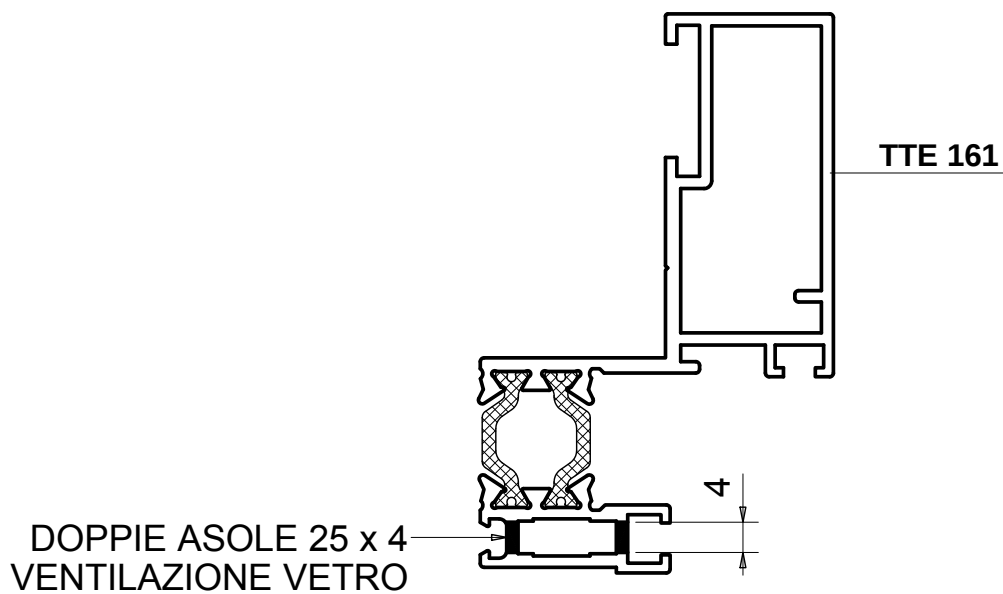


Lavorazioni / Tooling

LAVORAZIONE PER SCARICO ACQUA
ANTA STRUTTURALE TTE 161

STRUCTURAL LEAF TTE 161 WATER
DRAINAGE TOOLING

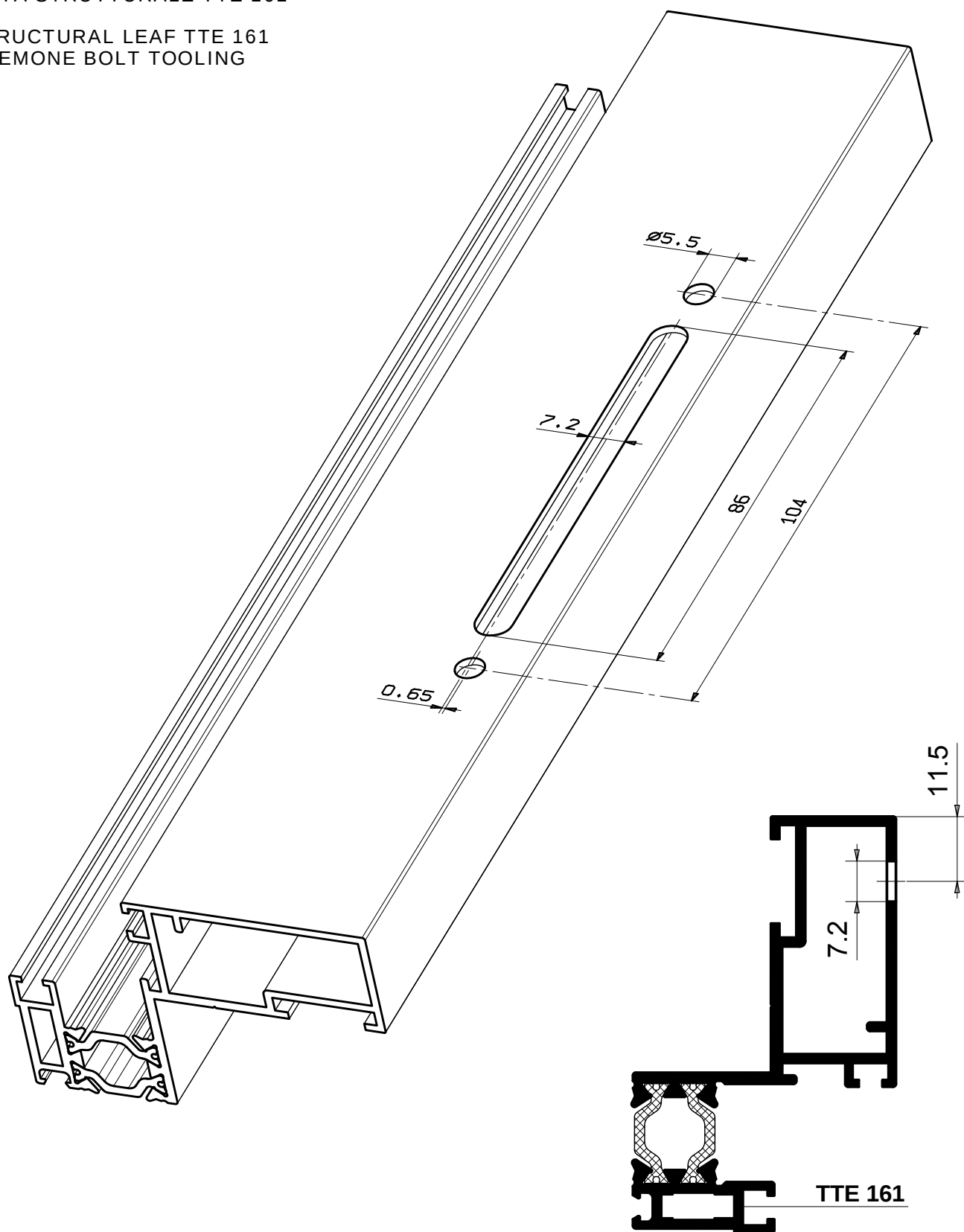
Eseguibile con punzonatrice 520-3160761
Feasible with punching machine 520-3160761



Lavorazioni / Tooling

LAVORAZIONE PER CREMONESE
ANTA STRUTTURALE TTE 161

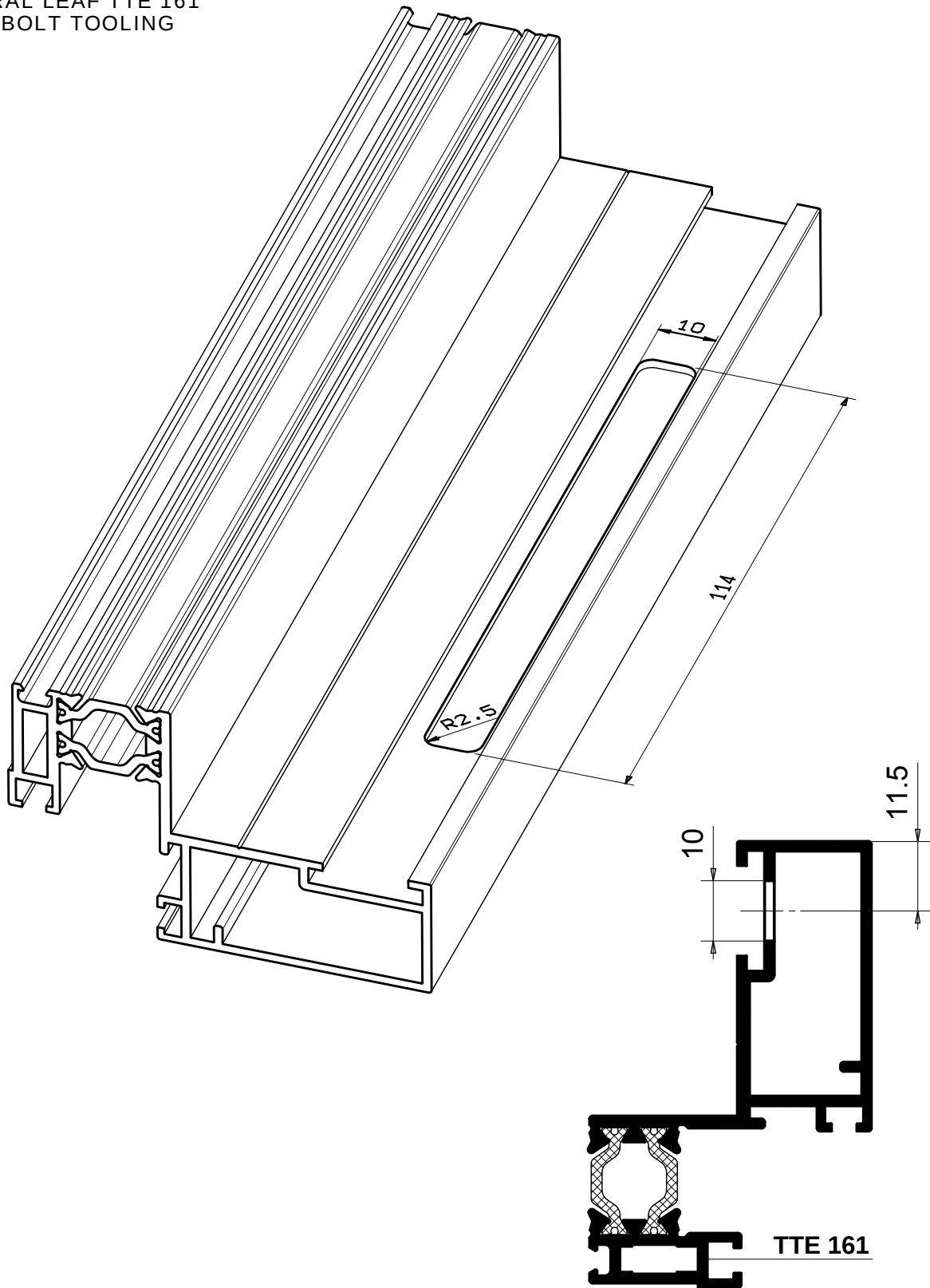
STRUCTURAL LEAF TTE 161
CREMONE BOLT TOOLING



Lavorazioni / Tooling

LAVORAZIONE PER CREMONESE
ANTA STRUTTURALE TTE 161

STRUCTURAL LEAF TTE 161
CREMONE BOLT TOOLING

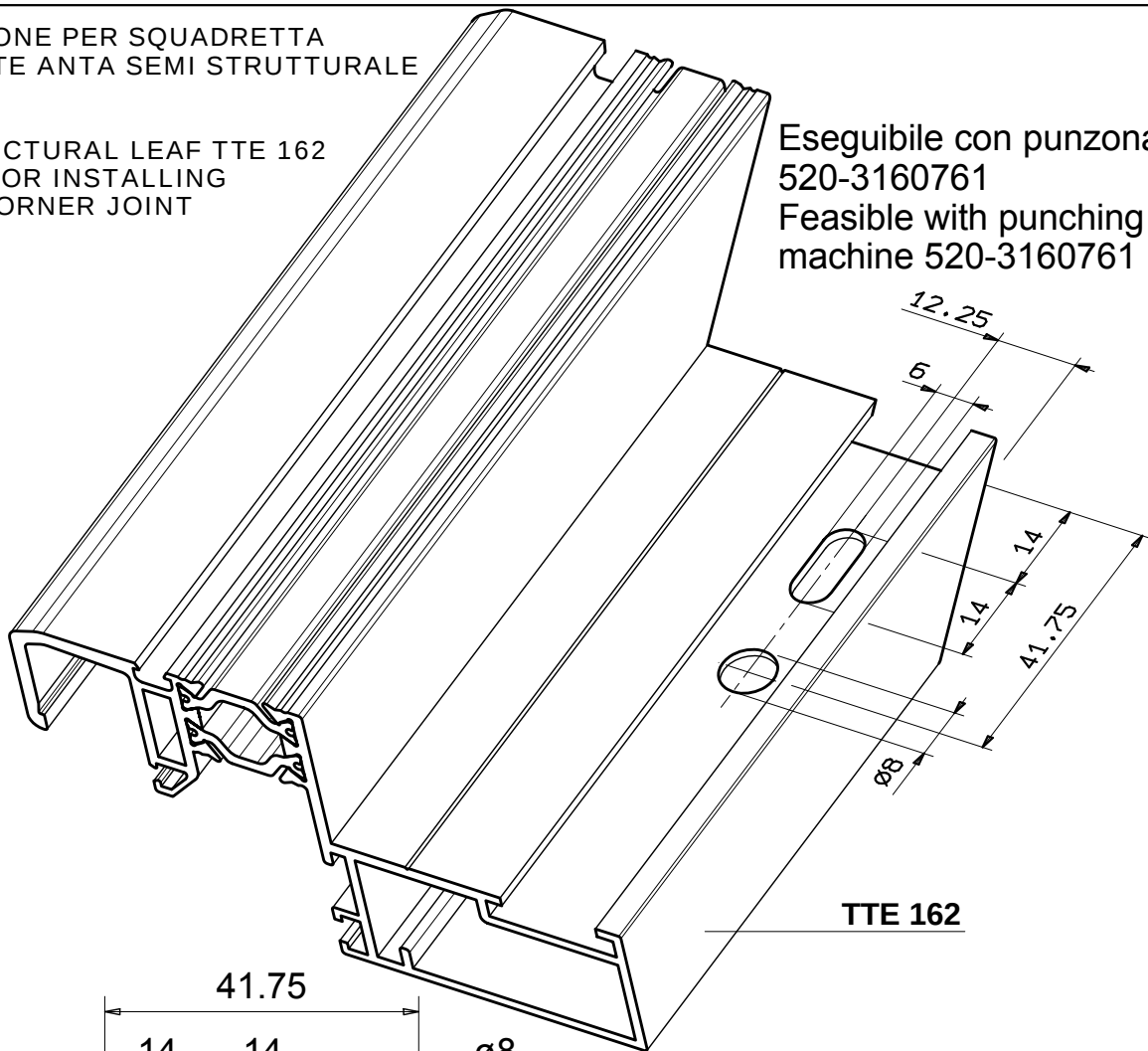


Lavorazioni / Tooling

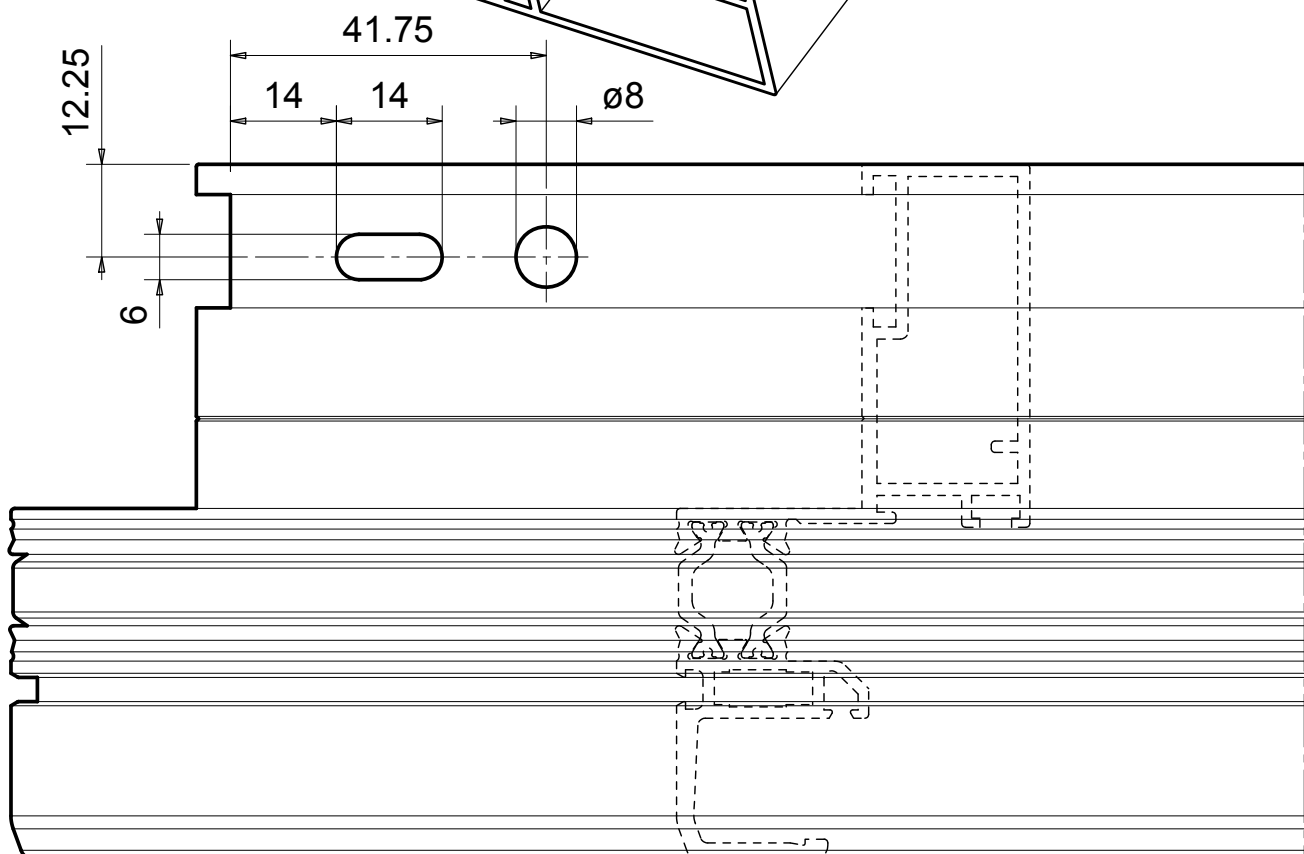
LAVORAZIONE PER SQUADRETTA
A PULSANTE ANTA SEMI STRUTTURALE
TTE 162

SEMI STRUCTURAL LEAF TTE 162
TOOLING FOR INSTALLING
BUTTON CORNER JOINT

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



TTE 162



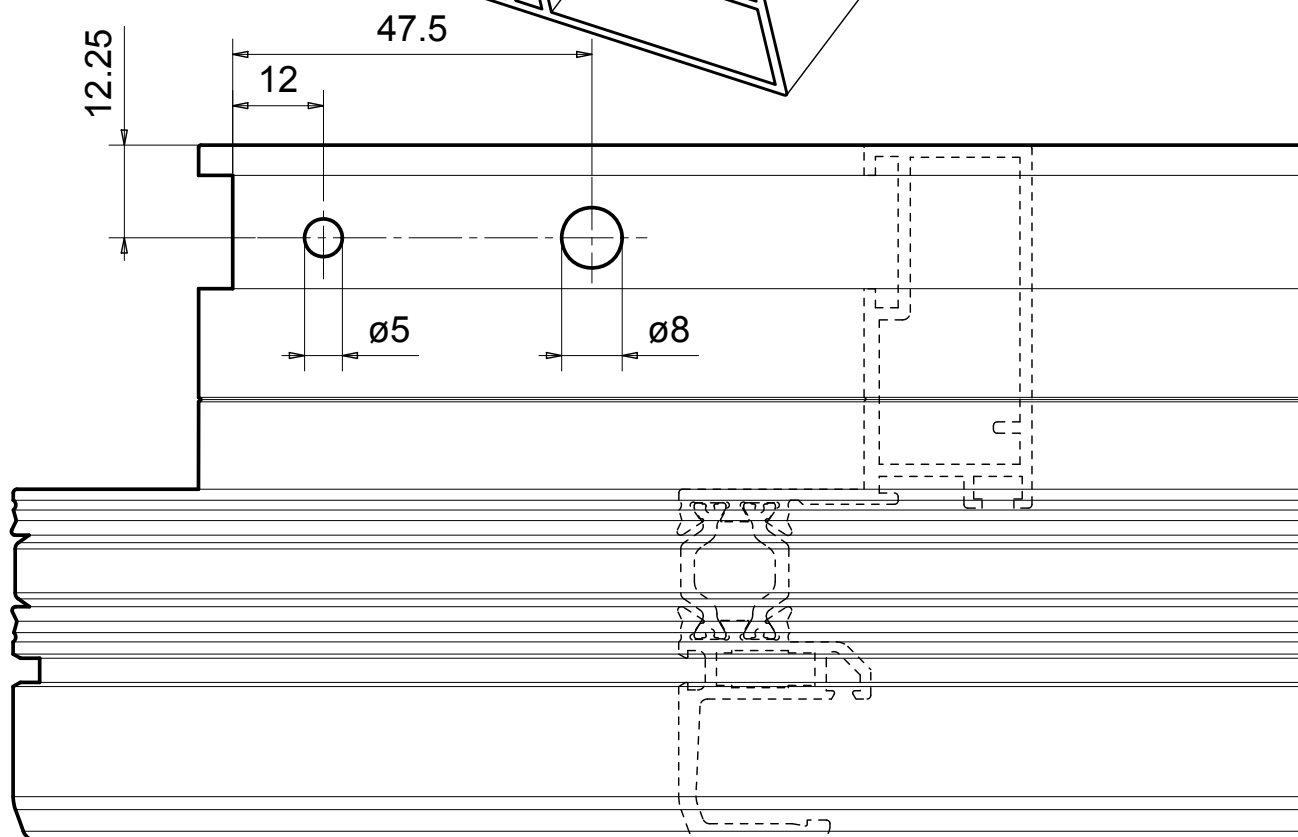
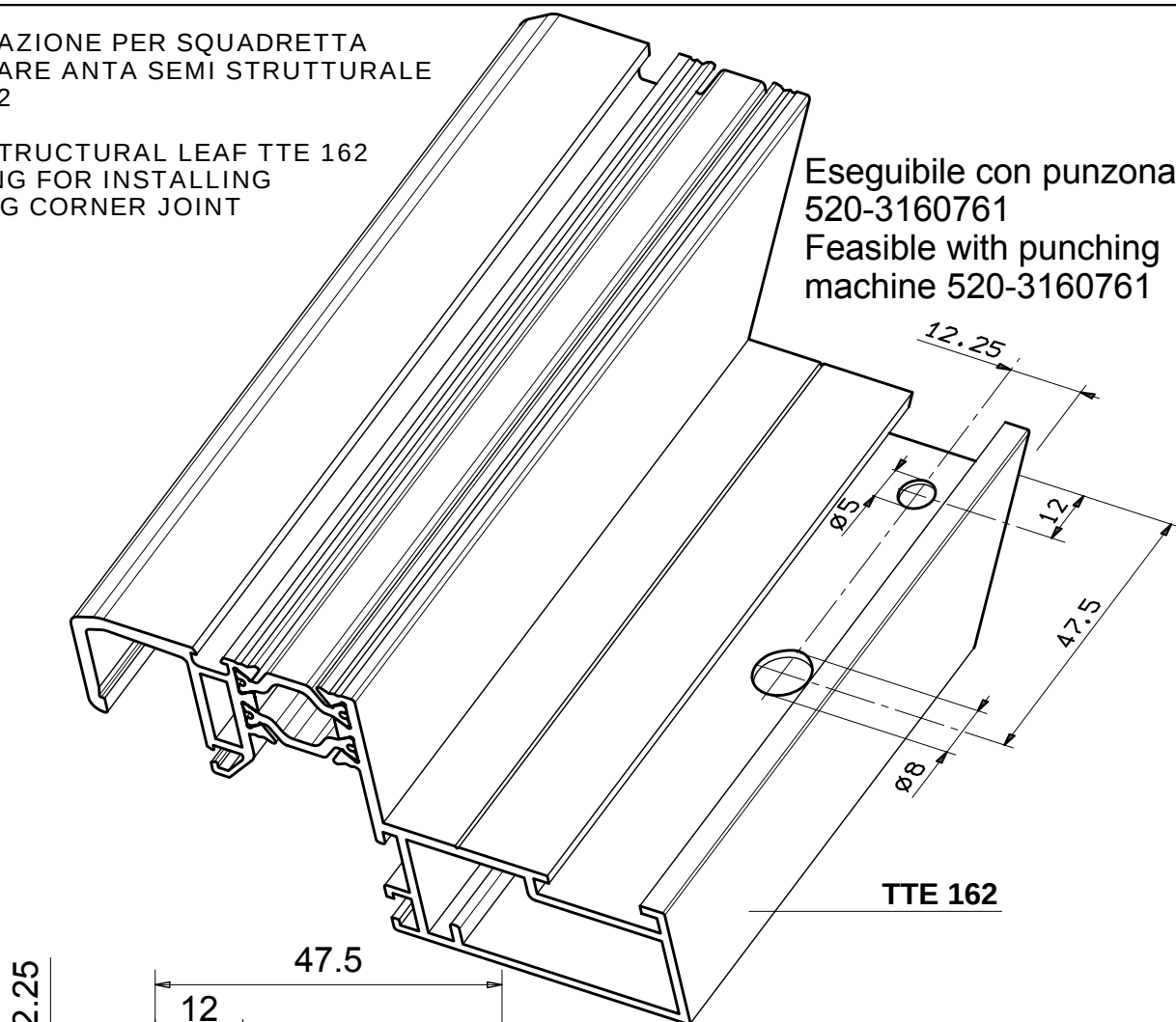
Lavorazioni / Tooling

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

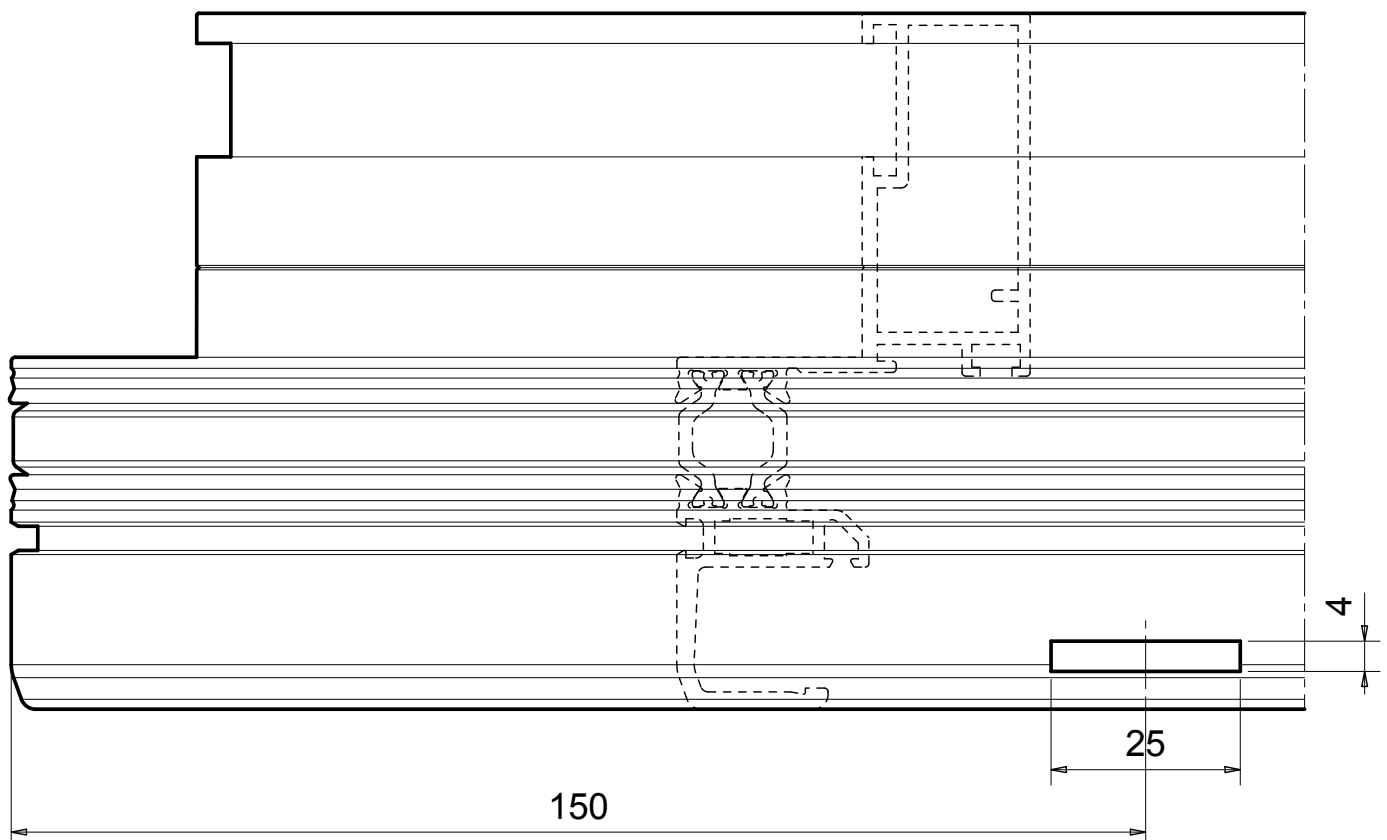
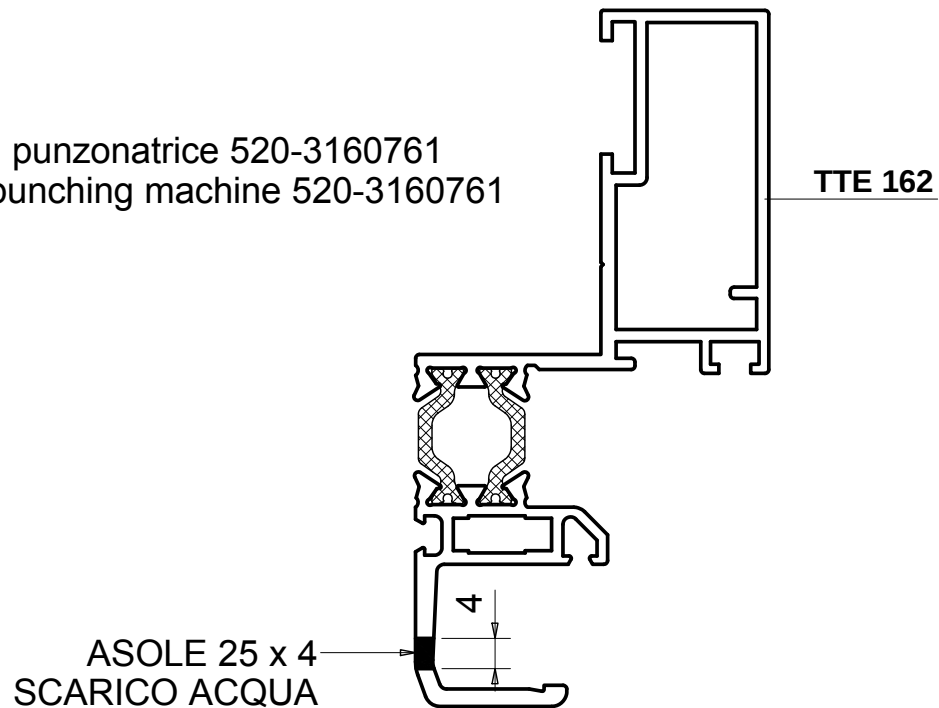


Lavorazioni / Tooling

LAVORAZIONE PER SCARICO ACQUA
ANTA SEMI STRUTTURALE TTE 162

SEMI STRUCTURAL LEAF TTE 162
WATER DRAINAGE TOOLING

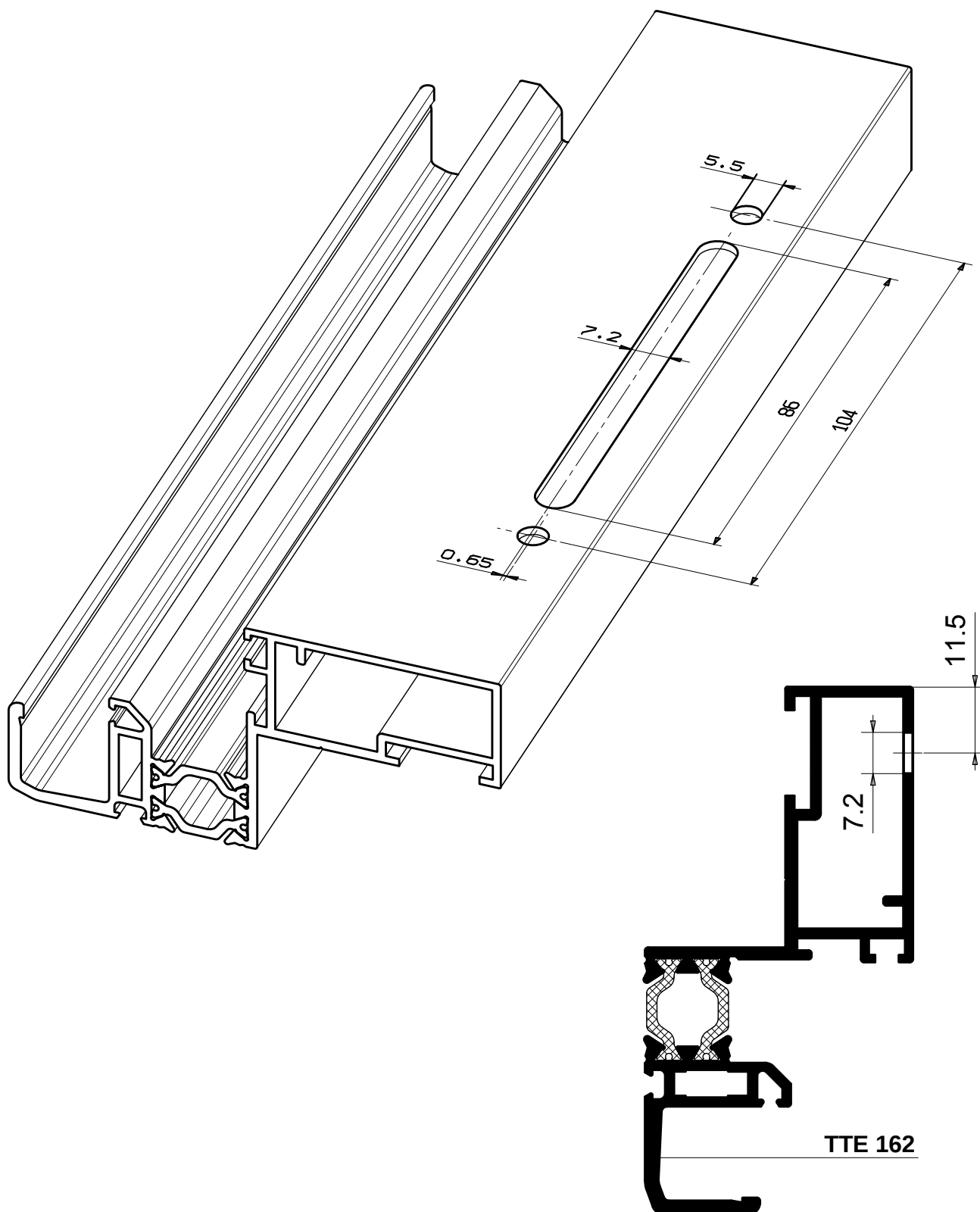
Eseguibile con punzonatrice 520-3160761
Feasible with punching machine 520-3160761



Lavorazioni / Tooling

LAVORAZIONE PER CREMONESE
ANTA SEMISTRUTTURALE TTE 162

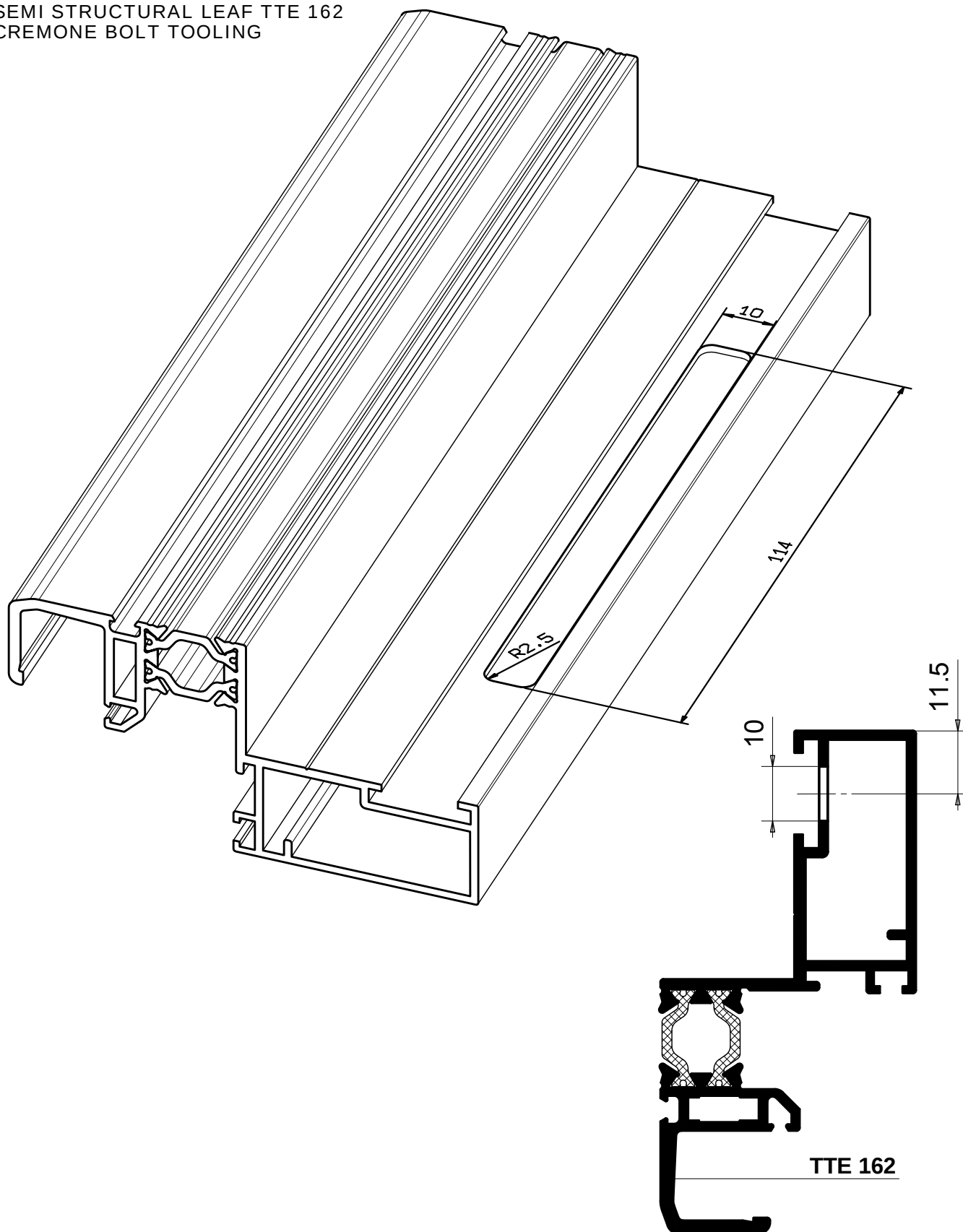
SEMI STRUCTURAL LEAF TTE 162
CREMONE BOLT TOOLING



Lavorazioni / Tooling

LAVORAZIONE PER CREMONESE
ANTA SEMISTRUTTURALE TTE 162

SEMI STRUCTURAL LEAF TTE 162
CREMONE BOLT TOOLING

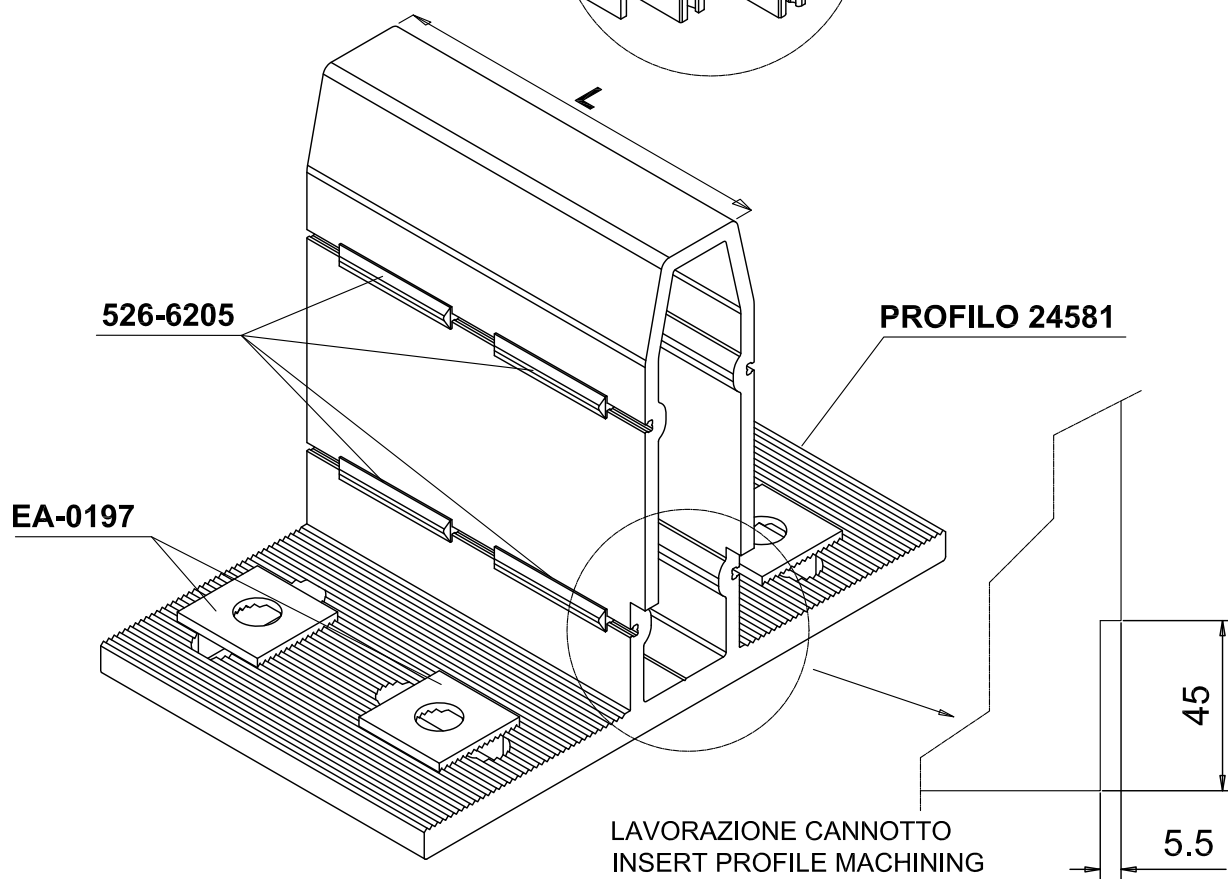
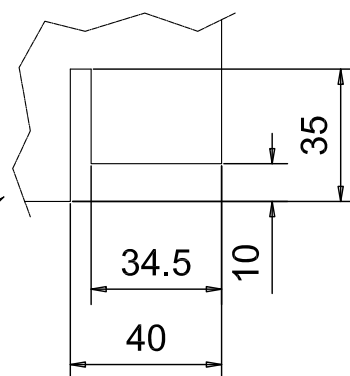


Lavorazioni - Tooling

**FISSAGGIO DI BASE MONTATE
MULLION BASE ANCHORING**

Montante/ Mullion	Quota taglio L 24581 mm/ L cut dimension 24581 mm	Quantità/ Quantity EA-0197	Quantità/ Quantity 526-6205
22615	39 ¹ / ₈	2	4
24582	49,5 ¹ / ₈	2	4
19813	86,5 ¹ / ₈	2	4
24496	101,5 ¹ / ₈	2	8
19801	126,5 ¹ / ₈	4	8
19814	126,5 ¹ / ₈	4	8
22670	177,5 ¹ / ₈	4	8
24481	204 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**

