format38

less frame / more light

uniform

sistema con tecnologia

uni_one

ed. 31.01.2020

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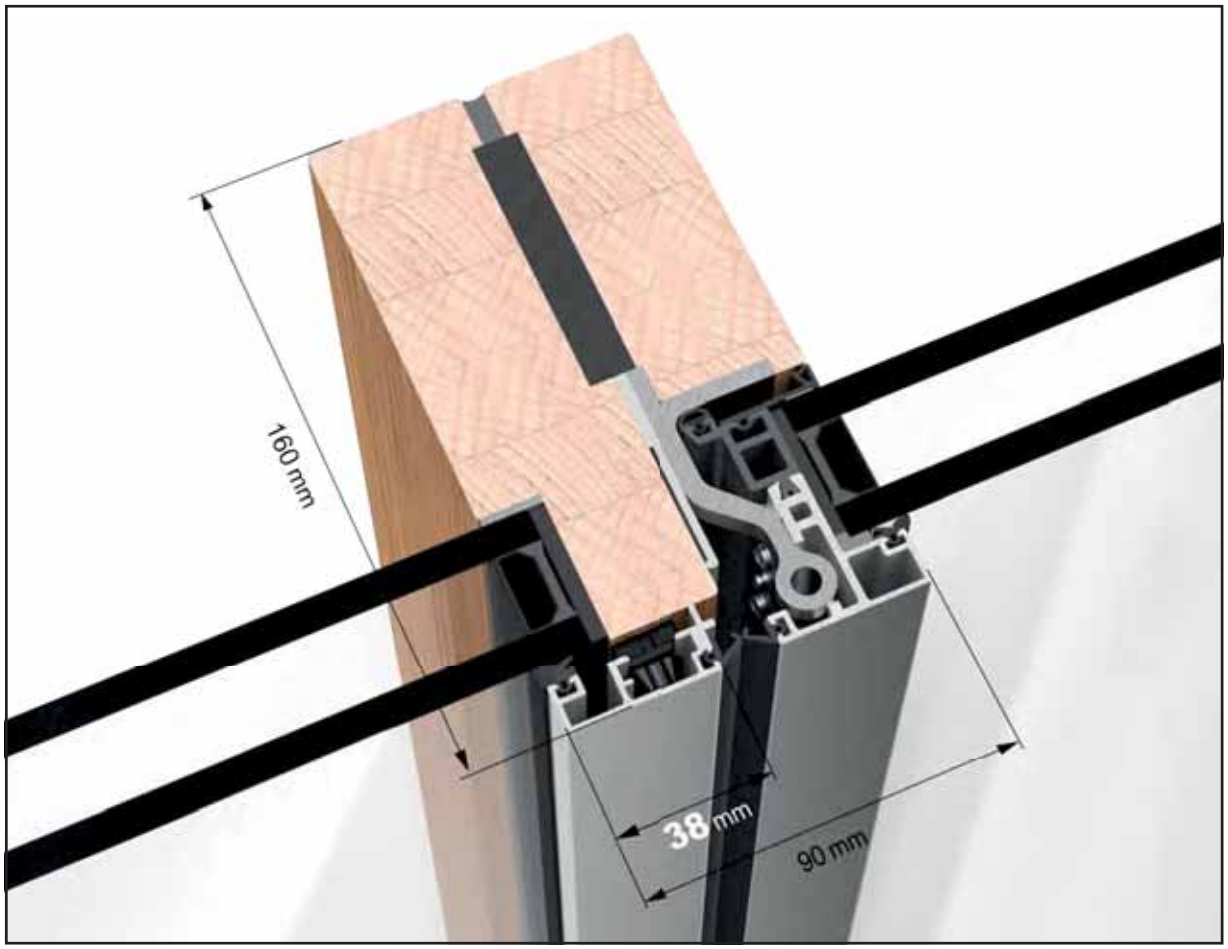
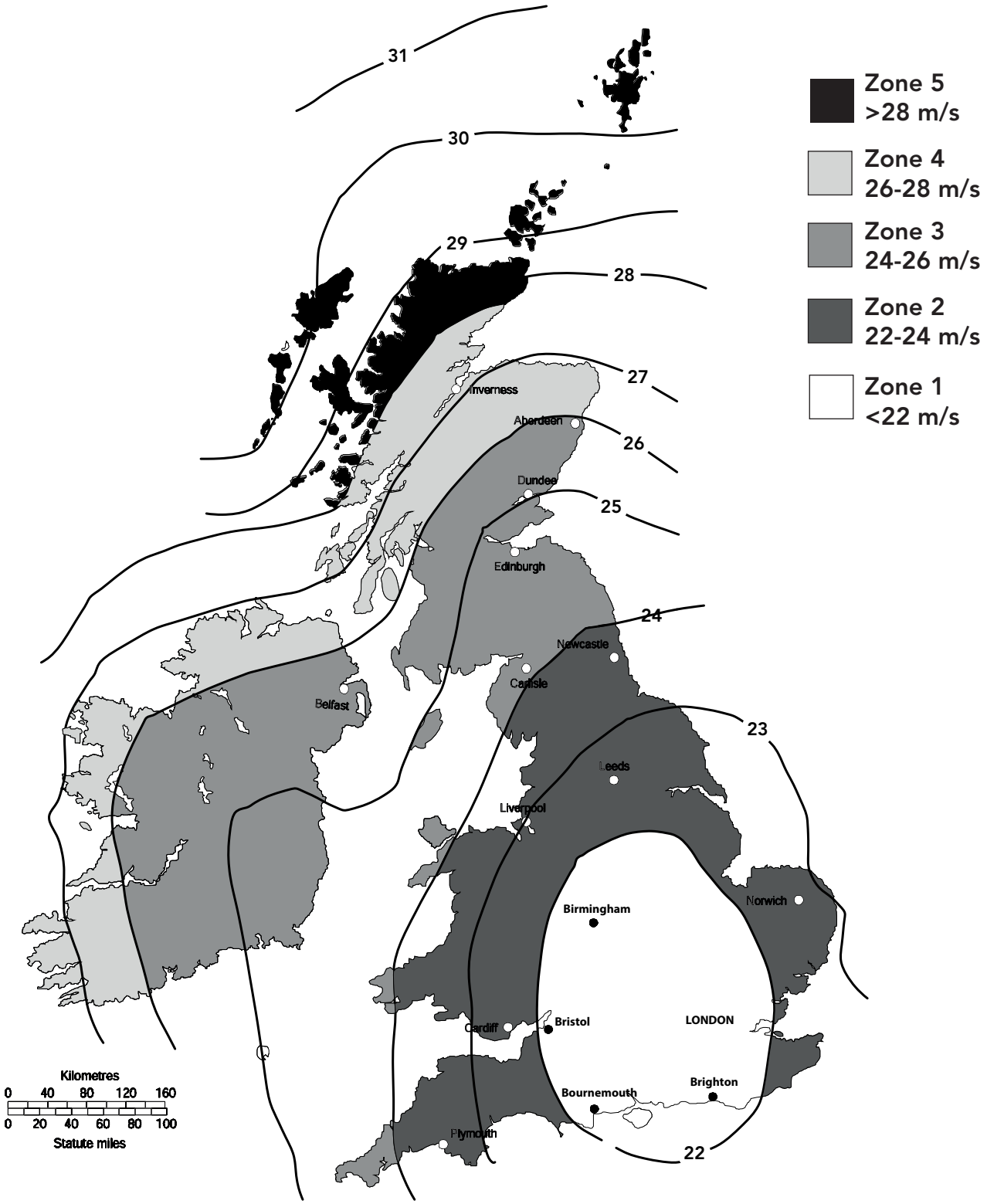
uniform

GENERALITA'

Il sistema per finestre in alluminio con telaio in legno UNI_ONE - format 38 è nasce per il mercato del Regno Unito al fine di soddisfare le esigenze di avere una finestra funzionale e versatile dagli ingombri minimali.
Dal punto di vista normativo, il progetto segue rigorosamente la Normativa BS - EN 1991-1-4.
Per il dimensionamento statico delle strutture, si è scelto di considerare una velocità di riferimento del vento pari a 22m/s, che è quella che la Normativa prevede per la zona Sud dell'Inghilterra, comprendente l'area urbana di Londra (pagina 3)
Come tipologia di edificio, si considera un edificio multipiano di 12 piani, per una altezza complessiva di 36m circa.
Con queste ipotesi di calcolo, il carico del vento di progetto è di 100kg/m².
Al fine di rendere fruibile il sistema in una parte più ampia del Regno Unito, i calcoli sono stati estesi alla zona cui compete un carico del vento di 24m/s; per la stessa tipologia di edificio presa in considerazione
precedentemente, i calcoli vengono ripetuti per un carico del vento di progetto di 120kg/m².
Per condizioni di cantiere o di logistica particolari UNIFORM si rende disponibile a personalizzare, con l'ausilio di uno studio esterno di ingegneri indipendenti, il dimensionamento statico delle strutture secondo le esigenze del singolo Cliente.



MAPPA DELLE VELOCITA' DEL VENTO IN U.K.



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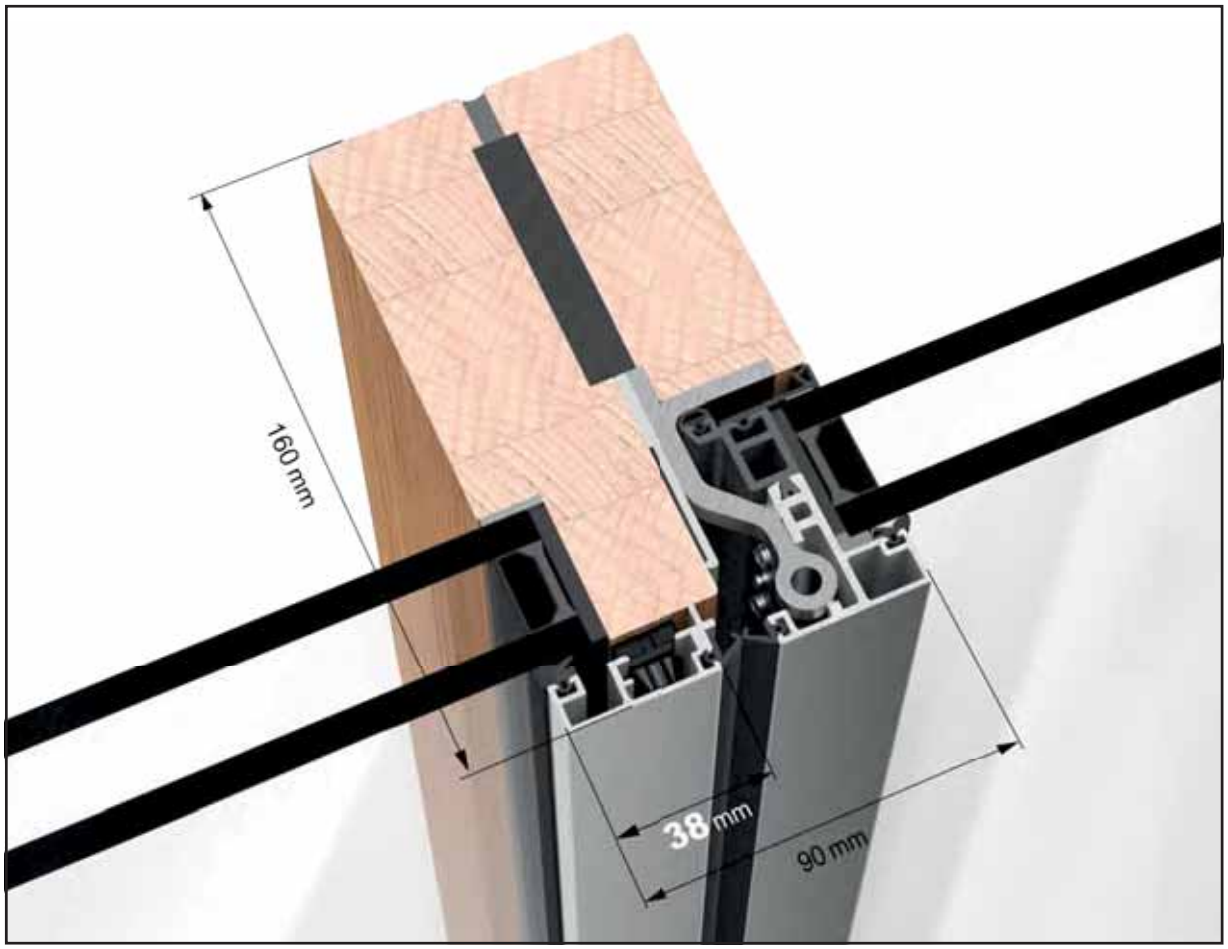
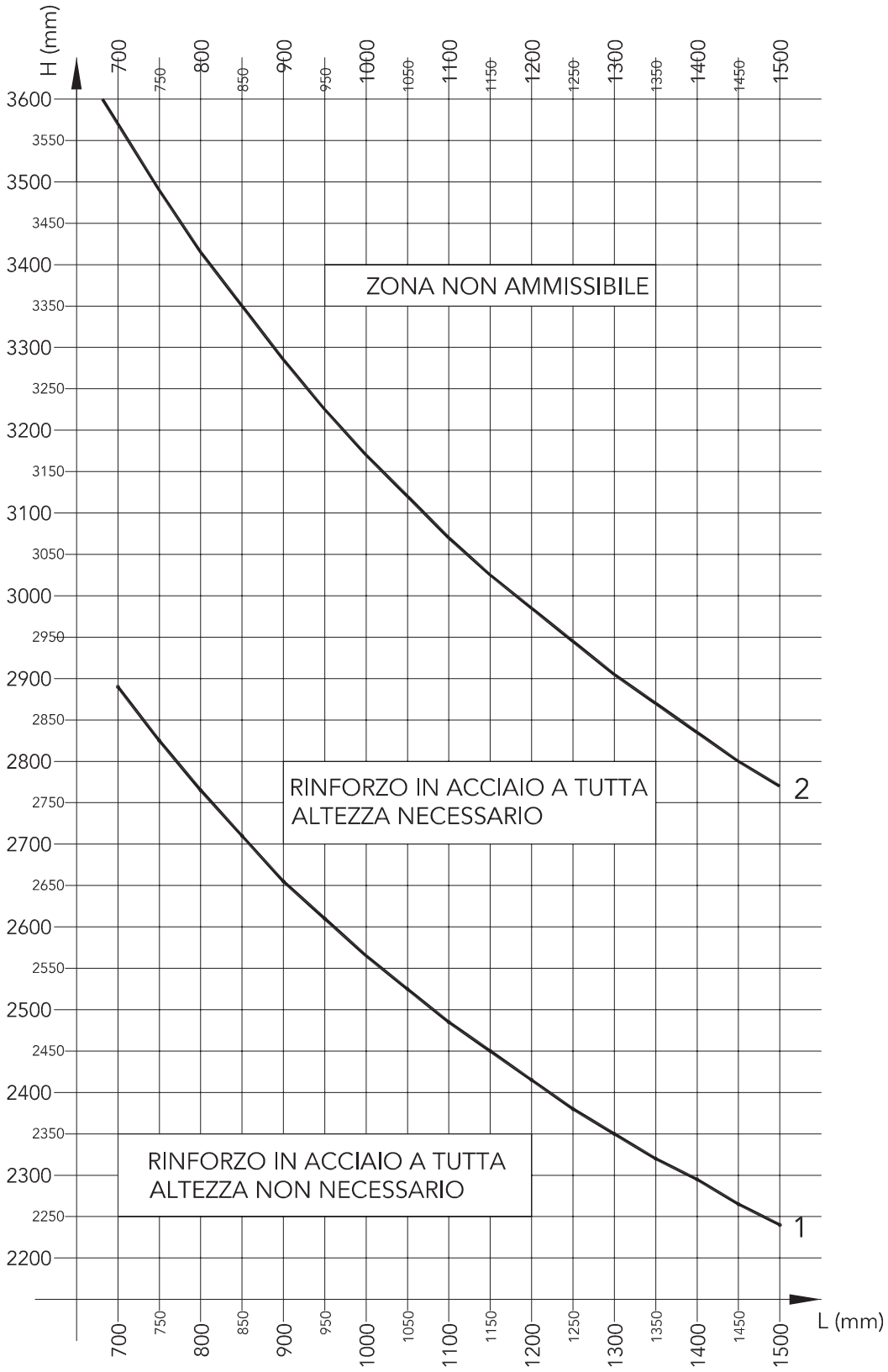
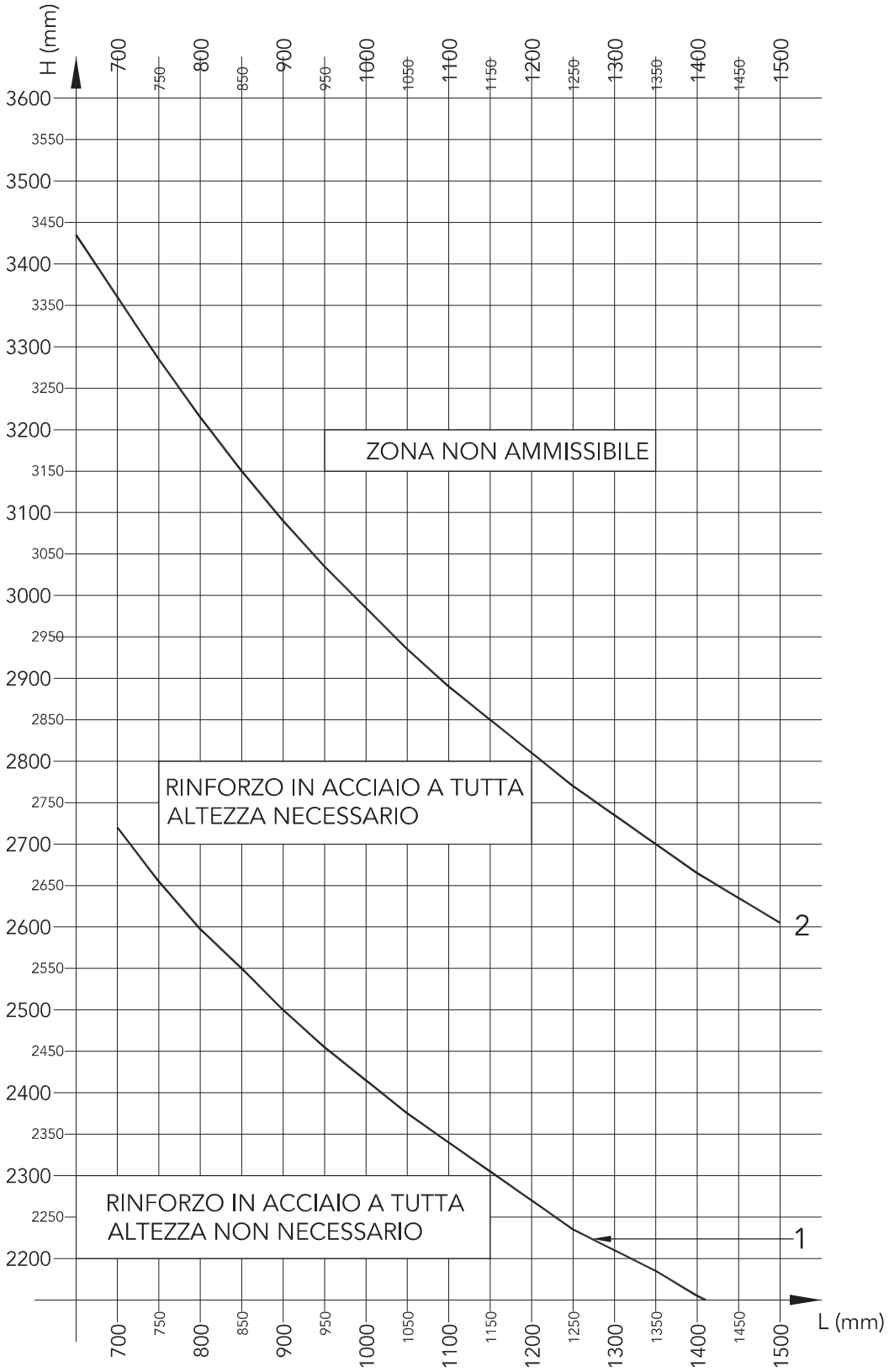


DIMENSIONAMENTO DELLE CELLULE - velocità del vento: 22m/s



LEGENDA
Curva 1: limite di deflessione ammissibile senza l'utilizzo del profilo di rinforzo in acciaio
Curva 2: limite di deflessione ammissibile con l'utilizzo del profilo di rinforzo in acciaio

DIMENSIONAMENTO DELLE CELLULE - velocità del vento: 24m/s

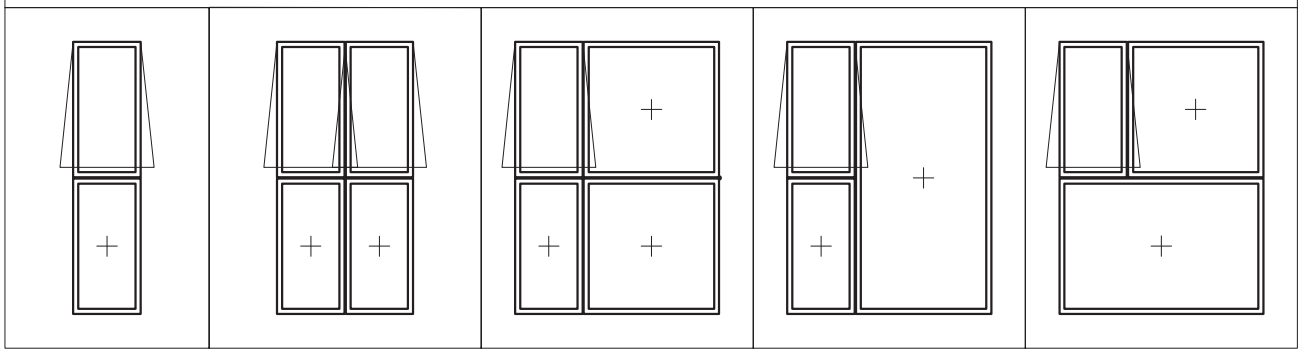


LEGENDA
Curva 1: limite di deflessione ammissibile senza l'utilizzo del profilo di rinforzo in acciaio
Curva 2: limite di deflessione ammissibile con l'utilizzo del profilo di rinforzo in acciaio

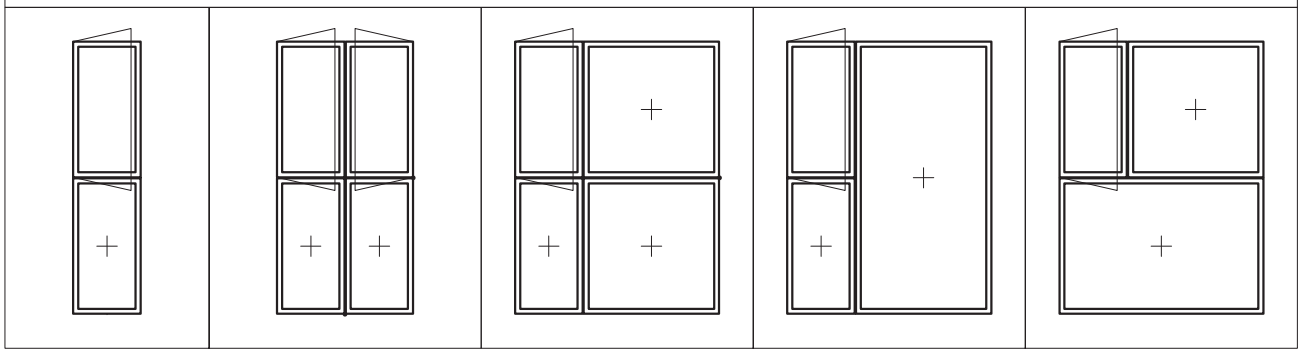
TIPOLOGIE REALIZZABILI

Il sistema UNI_ONE format 38 consente di eseguire, oltre ai fissi, solo aperture apribili verso l'esterno: pertanto, TOP HUNG e SIDE HUNG, questi ultimi sia in configurazione "window" che "door".
Di seguito sono rappresentate schematicamente le configurazioni più comuni per le 3 tipologie di apribili; la fattibilità di altre configurazioni personalizzate come pure combinazioni delle configurazioni precedenti saranno valutate dall'Ufficio Tecnico di UNIFORM.

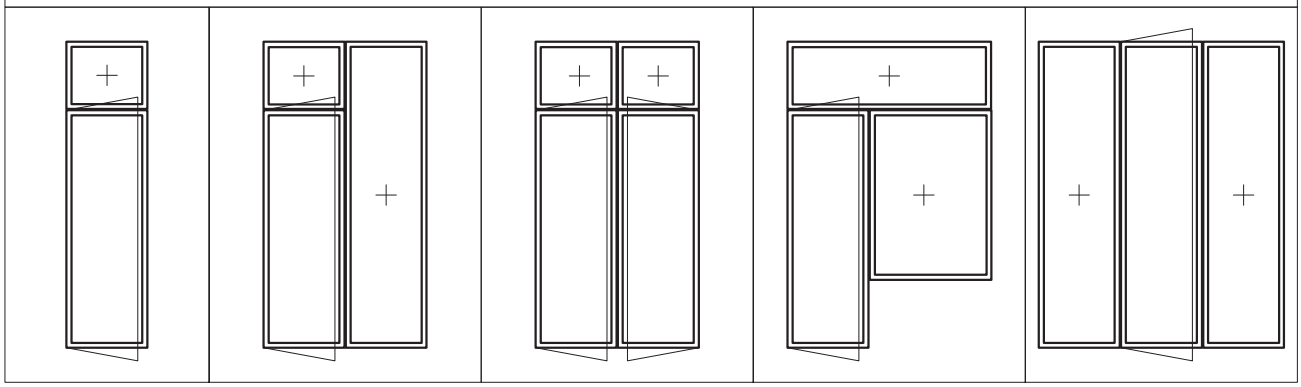
TOP HUNG



SIDE HUNG _ WINDOW



SIDE HUNG _ DOOR



DIMENSIONAMENTO DELLE ANTE APRIBILI

Il sistema UNI_ONE format38 richiede che, per tutte le ante apribili, il limite di peso per l'anta sia di 90kg.
Il sistema prevede la possibilità di alloggiare vetrocamera con spessori come qui diseguito indicato:

spessore = 31mm ⇒ usare il profilo format 38 - **AL31 / TB31**
spessore = 38mm ⇒ usare il profilo format 38 - **AL37 / TB37**
spessore = 41mm ⇒ usare il profilo format 38 - **AL41 / TB41**
spessore = 47mm ⇒ usare il profilo format 38 - **AL47 / TB47**

Nei grafici delle pagine seguenti è possibile verificare la fattibilità delle ante in funzione del peso al metro quadrato del vetro che si intende utilizzare.

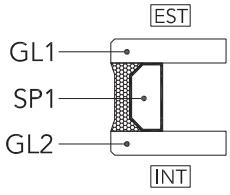
I grafici mostrano le seguenti curve vi peso:

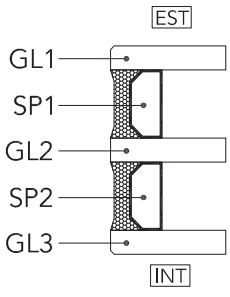
GW35 = peso del vetro 35kg/m²
GW40 = peso del vetro 40kg/m²
GW45 = peso del vetro 45kg/m²
GW50 = peso del vetro 50kg/m²
GW57.5 = peso del vetro 57.5kg/m²
GW65 = peso del vetro 65kg/m²

Di seguito alcuni esempi di possibili composizioni dei vetro-camera ed i relativi profili in alluminio da utilizzare:

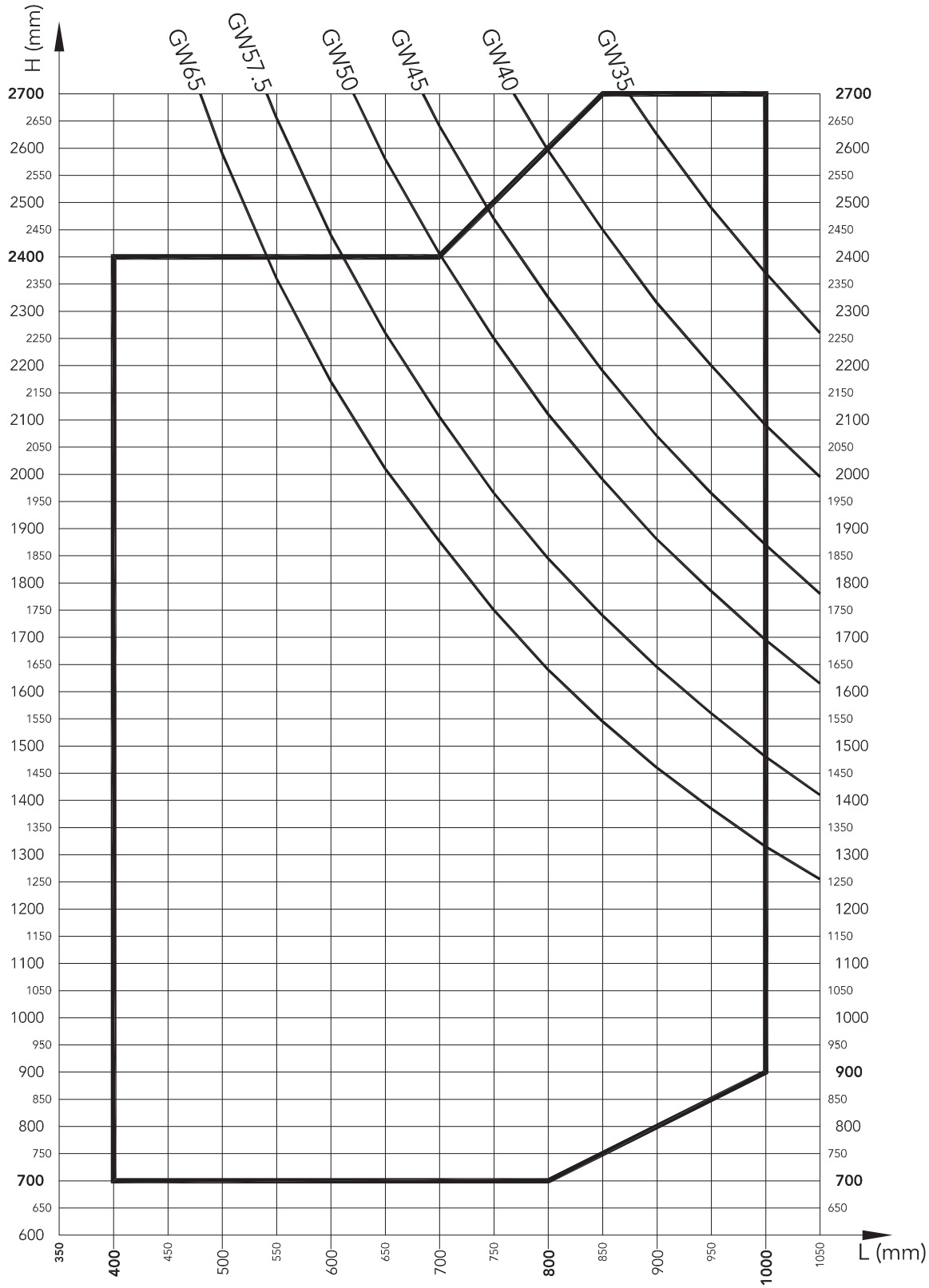
GW	thickn.	possibible composition					profile to be used
		GL1	SP1	GL2	SP2	GL3	
35	14mm	8mm	16mm	33.2mm	-	-	FORMAT 38 - 31AL / 31TB
40	16mm	8mm	14mm	44.2mm	-	-	FORMAT 38 - 31AL / 31TB
		8mm	20mm	44.2mm	-	-	FORMAT 38 - 37AL / 37TB
45	18mm	10mm	12mm	44.2mm	-	-	FORMAT 38 - 31AL / 31TB
		10mm	18mm	44.2mm	-	-	FORMAT 38 - 37AL / 37TB
		10mm	27mm	44.2mm	-	-	FORMAT 38 - 47AL / 47TB
50	20mm	10mm	11mm	55.1mm	-	-	FORMAT 38 - 31AL / 31TB
		10mm	18mm	55.1mm	-	-	FORMAT 38 - 37AL / 37TB
		10mm	27mm	55.1mm	-	-	FORMAT 38 - 47AL / 47TB
57.5	23mm	10mm	12mm	5mm	12mm	44.2mm	FORMAT 38 - 47AL / 47TB
65	26mm	10mm	10mm	6mm	12mm	55.1mm	FORMAT 38 - 47AL / 47TB

LEGENDA





DIMENSIONAMENTO DELLE ANTE: SIDE HUNG

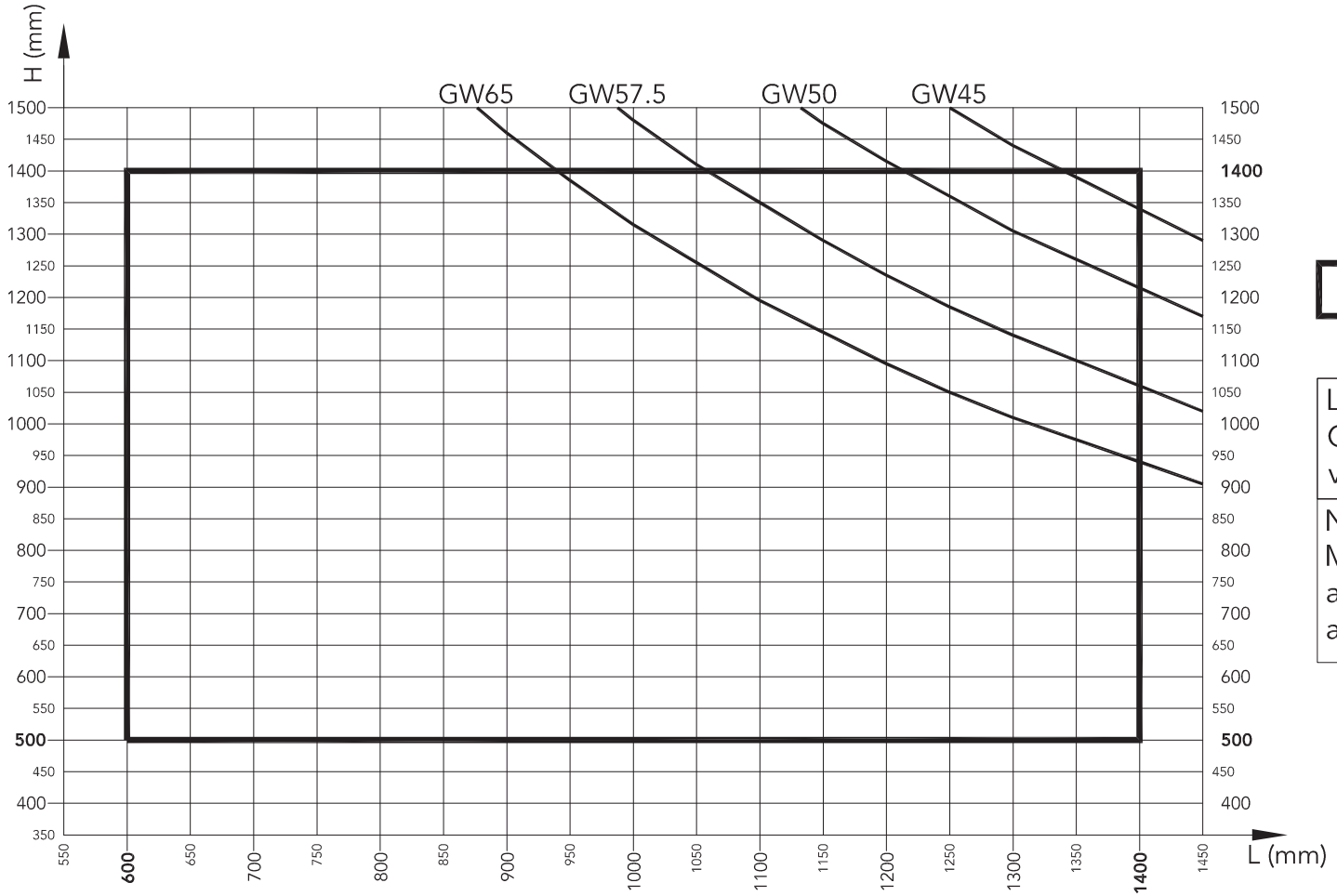


limiti di fattibilità

LEGENDA
GW =peso del vetro (kg/m²)

NOTA
Massimo peso ammissibile per le ante: 90kg

DIMENSIONAMENTO DELLE ANTE: TOP HUNG



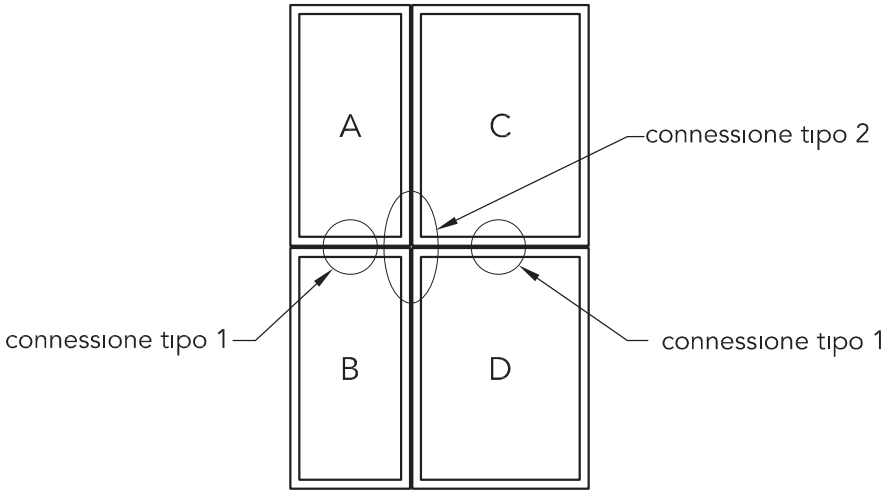
limiti di fattibilità

LEGENDA
GW =peso del vetro (kg/m²)

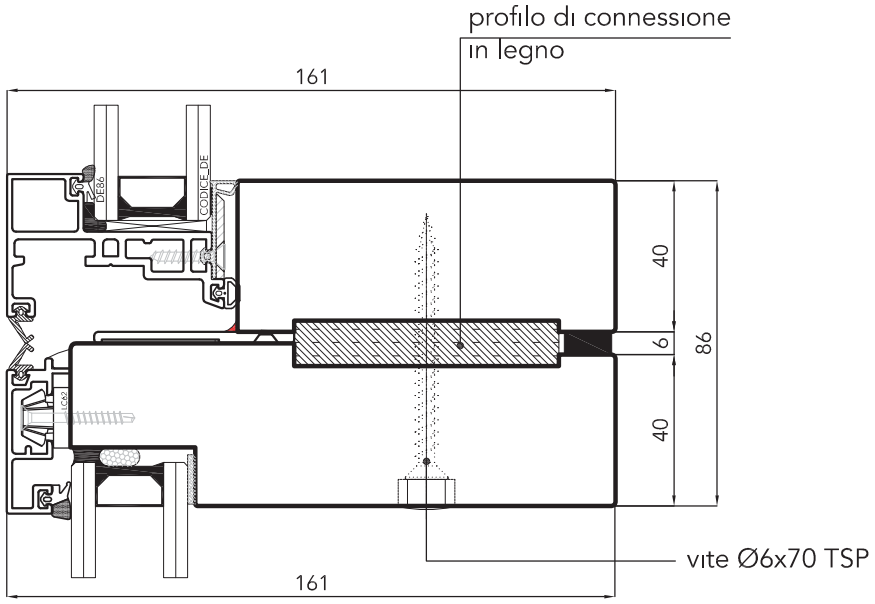
NOTA
Massimo peso ammissibile per le ante: 90kg

CONNESSIONI STANDARD FRA CELLULE

Prendiamo in esame una realizzazione che preveda un utilizzo di 4 cellule, come quella qui sotto esemplificata::

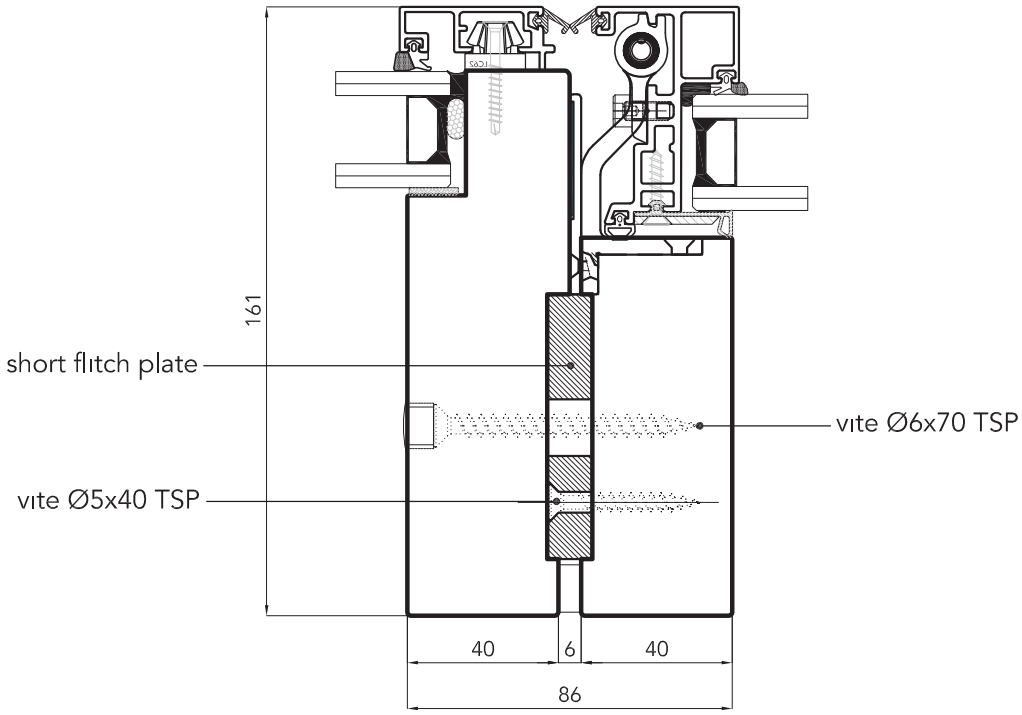


Le coppie di cellule A-B e C-D arriveranno in cantiere preassemblate in prossimità dei traversi adiacenti tramite un distanziale in legno alloggiato nell'apposita cavità del profilo in legno e fissato tramite viti (connessione tipo 1) come dimostrato qui sotto:



connessione tipo 1

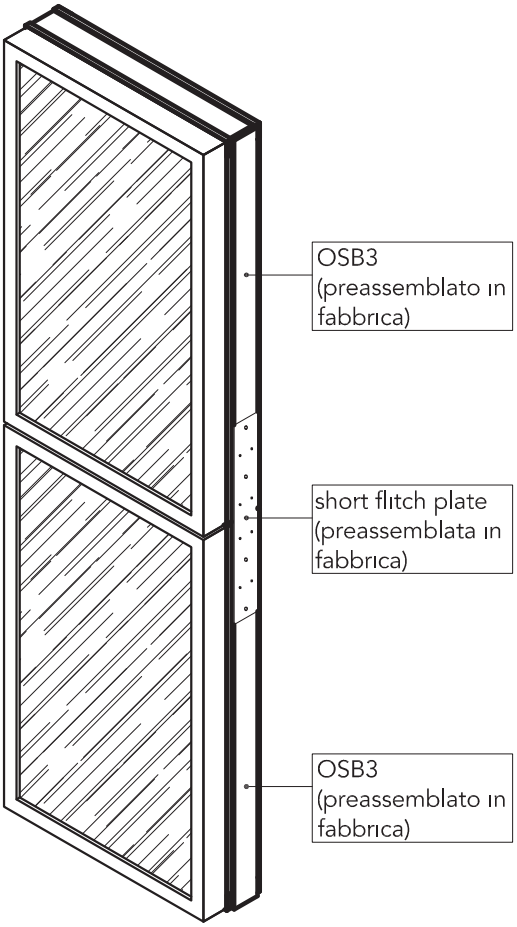
Una volta arrivate in cantiere, si procederà all'assemblaggio in verticale delle due coppie di cellule (connessione di tipo 2) utilizzando sempre un profilo in acciaio zincato preforato, denominato ***short flitch plate***, di lunghezza standard di 500mm, posizionato in modo che il fissaggio interessi tutte e 4 le cellule, come mostrato più sotto e nella pagina seguente, prima in sezione e poi in assonometria.
La connessione fra cellule mediante short flitch plate è sempre necessaria quando si debbano assemblare almeno due coppie di cellule (A-B con C-D).



connessione tipo 2

Il profilo metallico viene anch'esso premontato in officina su una delle due cellule e dovrà essere assemblato all'altra in cantiere tramite viti a testa svasata piana Ø6x70mm.

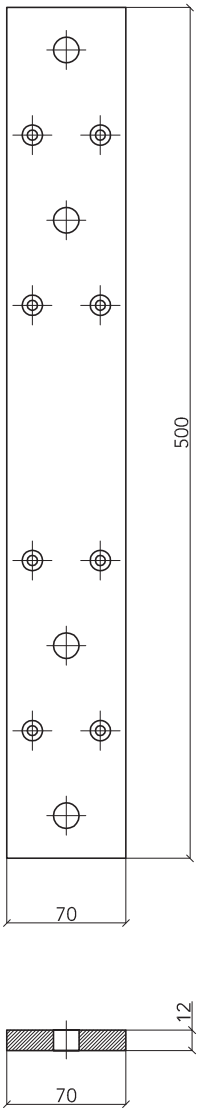
Qui sotto mostriamo la vista assonometrica di due cellule preassemblate in fabbrica; in questo caso, viene usata la short flitch plate, che viene fornita da UNIFORM preforata e zincata a caldo; la short flitch plate viene fissata alle cellule tramite viti galvanizzate a testa svasata piana Ø6x70mm. I fori di fissaggio delle viti sono chiusi tramite appositi tappi adesivi, che vengono forniti in finitura stanard bianco RAL 9010; altre finiture su richiesta.



coppia di cellule accoppiate con short flitch plate

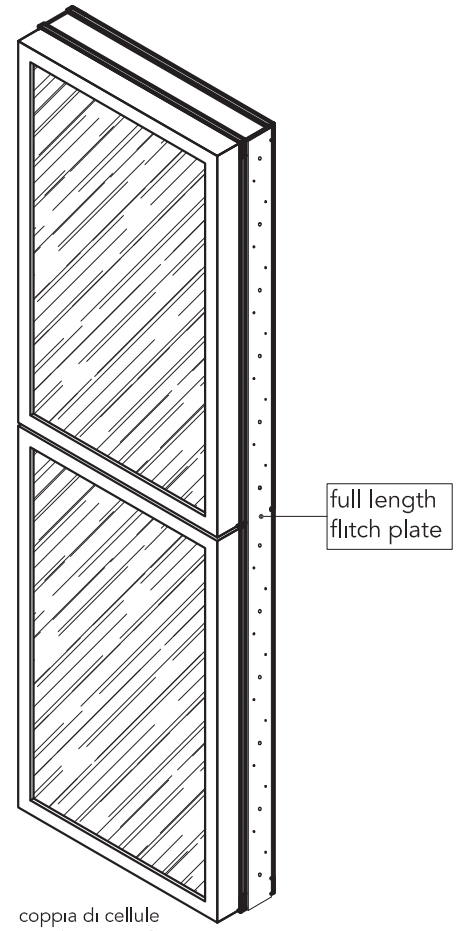
vista assonometrica

Short flitch plate
Prospect and sectional views



CONNESSIONE FRA CELLULE CON FULL LENGTH FLITCH PLATE

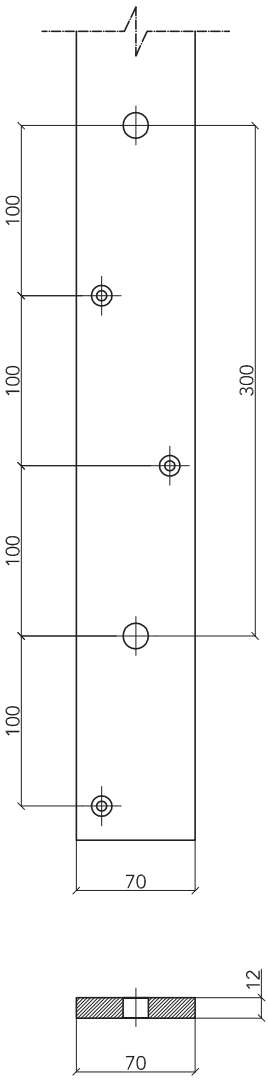
Nel caso il dimensionamento statico delle cellule lo richieda (verificare al §3), la connessione verticale fra le 2 coppie di cellule (A-B e C-D) viene realizzata tramite un profilo in acciaio di altezza pari a quella della coppia di cellule finite, denominato ***full length flitch plate***; la sezione utilizzata è sempre la 12x70mm, come per la short flitch plate del paragrafo precedente.
La procedura di lavorazione è identica al fissaggio standard fra cellule, e cioè la full length flitch plate viene fissata in officina ad una delle coppie di cellule e successivamente collegata all'altra coppia di cellule in cantiere.
Modalità di fissaggio e viteria da utilizzare sono le stesse utilizzate per la connessione standard. In questo caso però la connessione fra le due coppie di cellule avviene a tutta altezza con intervallo dei fissaggi di circa 300-400mm: questoconsente di ottenere, a fissaggio completato, una struttura che ai fini dei calcoli e della resistenza meccanica può a tutti gli effetti essere considerata unica.



coppia di cellule
assemblate con full
length flitch plate

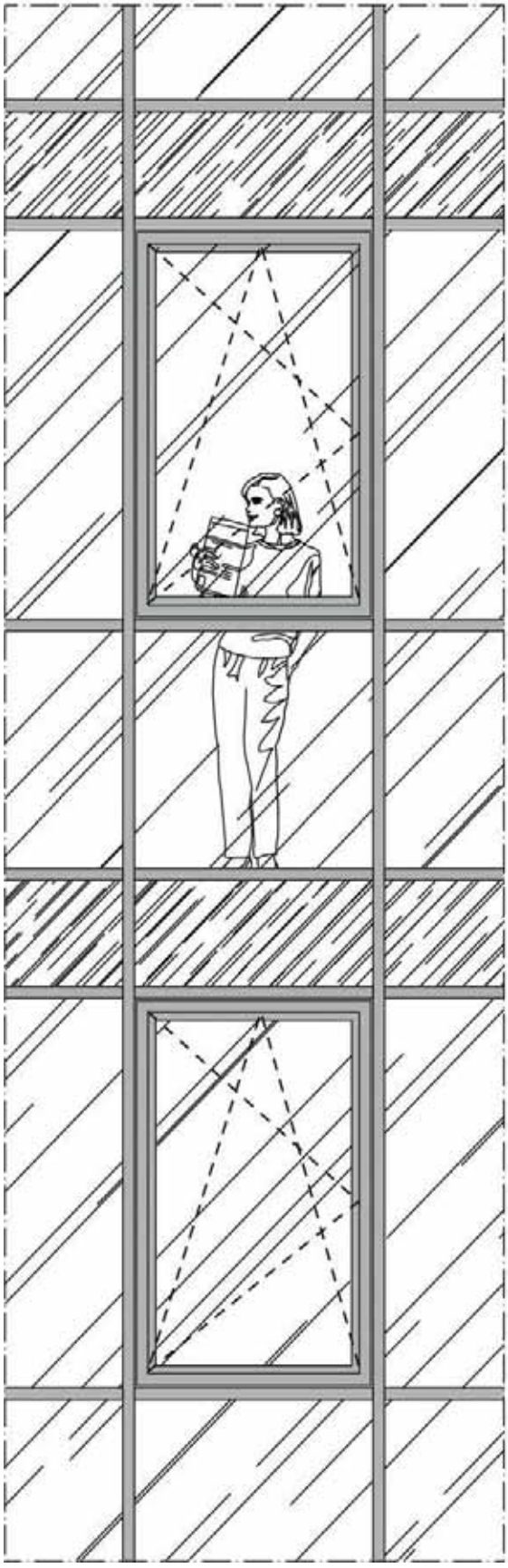
vista assonometrica

Full length flitch plate
prospetto e sezione

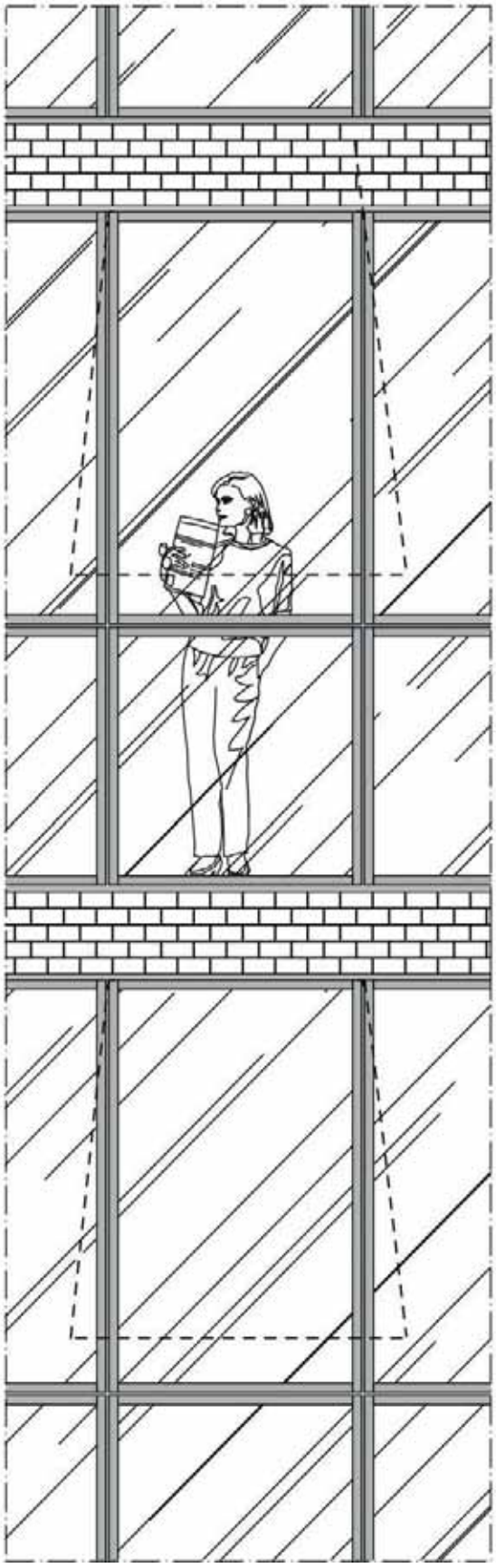


UNA APPLICAZIONE DEL FORMAT38: WINDOW WALL

Il sistema FORMAT38 di UNIFORM si presta, oltre che alla realizzazione di combinazioni di fissi e apribili di piccole e medie dimensioni, prettamente ad uso residenziale - abitativo, anche alla realizzazione di sistemi di tamponamento verticali di grande estensione compresi tra piano e piano: i cosidetti window wall.
Tali sistemi simulano l'utilizzo e l'aspetto di una facciata continua (curtain wall) pur distinguendosi da essa per alcuni aspetti fondamentali, qui di seguito descritti.
Un **curtain wall** è un sistema di pareti vetrate fissato di fronte alle teste dei solai usando adeguate staffe in acciaio.
Le facciate continue sono autoportanti e conferiscono all'esterno dell'edificio l'aspetto di un unico vetro che si estende senza soluzione di continuità dal basso all'alto.
Il segno distintivo delle facciate continue è di passare di fronte alle teste dei solai; la mascheratura della testa del solaio stessa viene eseguita solitamente con un vetro colorato.
Le facciate continue sono generalmente installate dall'esterno dell'edificio utilizzando gru o macchinari di sollevamento simulari. Se installate correttamente, le facciate continue, in particolare quelle dette "a montanti e traversi" come il sistema UNITHERM di UNIFORM, offrono una eccellente integrità strutturale in quanto i montanti sono fissati direttamente alla muratura e non sono necessari i giunti fra cellule che caratterizzano la maggior parte dei sistemi di window wall. Inoltre, poiché una volta installata e vetrata la facciata agisce come una singola unità, essa si dimostra altamente resistente all'umidità, al vento, al calore ed ai terremoti. Il costo aggiuntivo di produzione e posa di un sistema di facciata continua (che è spesso il doppio o il triplo del costo di un window wall) non elimina comunque problemi come il danno potenziale durante il trasporto o il disallineamento durante l'installazione.
Un altro svantaggio segnalato per i sistemi di facciata continua è la trasmissione del rumore: infatti, se non viene messo in opera un adeguato setto acustico in prossimità delle teste dei solai, il suono viaggia tra i livelli più liberamente rispetto ad un sistema di window wall.
Le facciate continue richiedono poca manutenzione; tuttavia una scorretta installazione potrebbe comportare problemi costosi da risolvere.
Un **window wall** si ottiene posizionando le pareti vetrate tra i solai di un edificio, utilizzando i solai stessi come supporto strutturale; il tamponamento delle teste dei solai è spesso ottenuto mediante pannelli sandwich o cappotti termoisolanti.
Il window wall FORMAT 38 di UNIFORM è composto da cellule apribili verso l'esterno e cellule fisse, aventi la medesima sezione esterna a vista di 38mm. Tale caratteristica consente di avere tutte le cellule perfettamente uguali tra loro evitando di percepire sezioni diverse nelle porzioni apribili, come avviene nel curtain wall: i window wall consentono la perfetta simmetria di tutte le cellule inserite nell'edificio. Sono spesso utilizzati in applicazioni residenziali in quanto consentono di personalizzare ciascuna delle sezioni (o cellule) di cui sono composti con fissi, finestre o portefinestre a seconda delle necessità. Sono più comunemente installati dall'interno dell'edificio, procedura più sicura, efficiente ed economica rispetto alla posa tramite gru. Segni distintivo dei window wall è di essere confinati tra i solai. Oltre ad i vantaggi come personalizzazione, facilità di installazione e risparmio, i window wall richiedono limitate considerazioni dal punto di vista ingegneristico; inoltre, dato che la parete esterna è divisa ai solai di ciascun piano, i window wall garantiscono da soli una ottima compartimentazione al fuoco.
Infine, poichè la separazione di ogni cellula crea uno spazio sigillato, c'è meno trasferimento di rumore ed una perdita limitata di energia.
Un ulteriore vantaggio dei window wall consiste nel fatto che, se una cellula si danneggia, è possibile sostituirla senza rimuovere le cellule adiacenti.

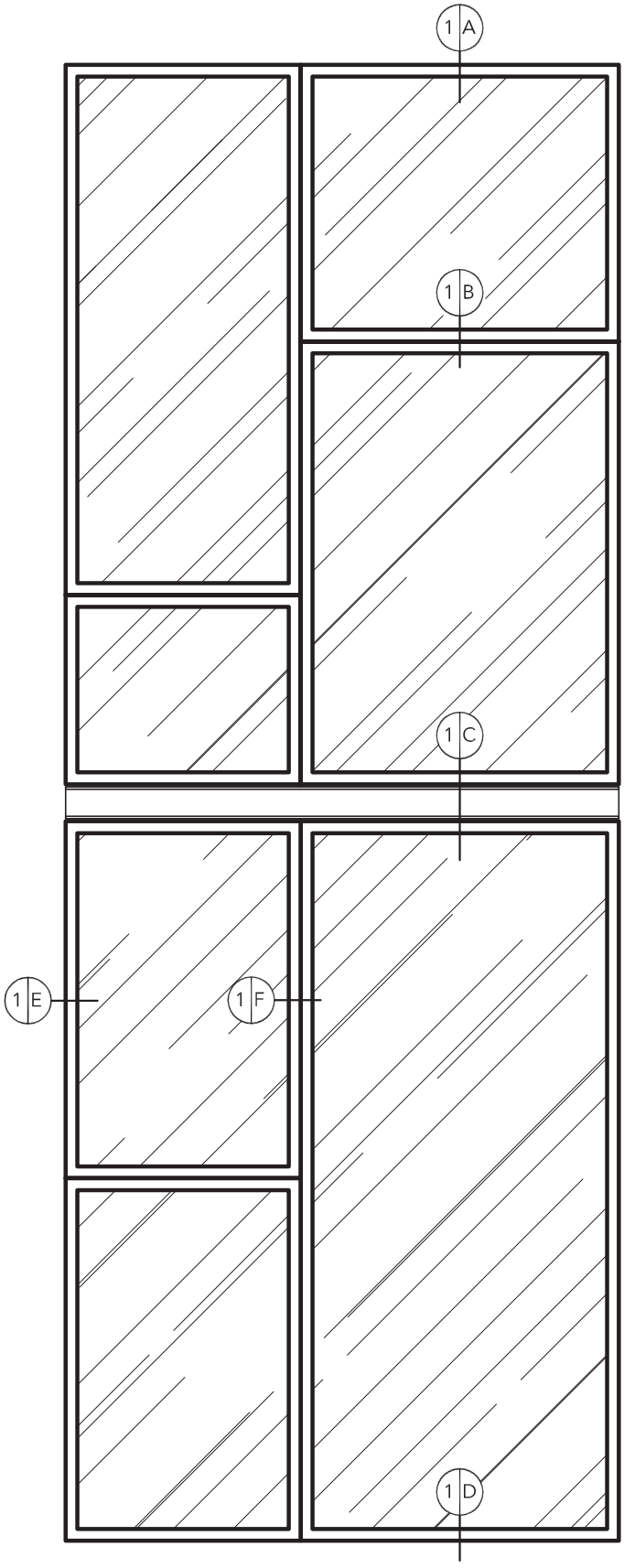


UNITHERM curtain wall

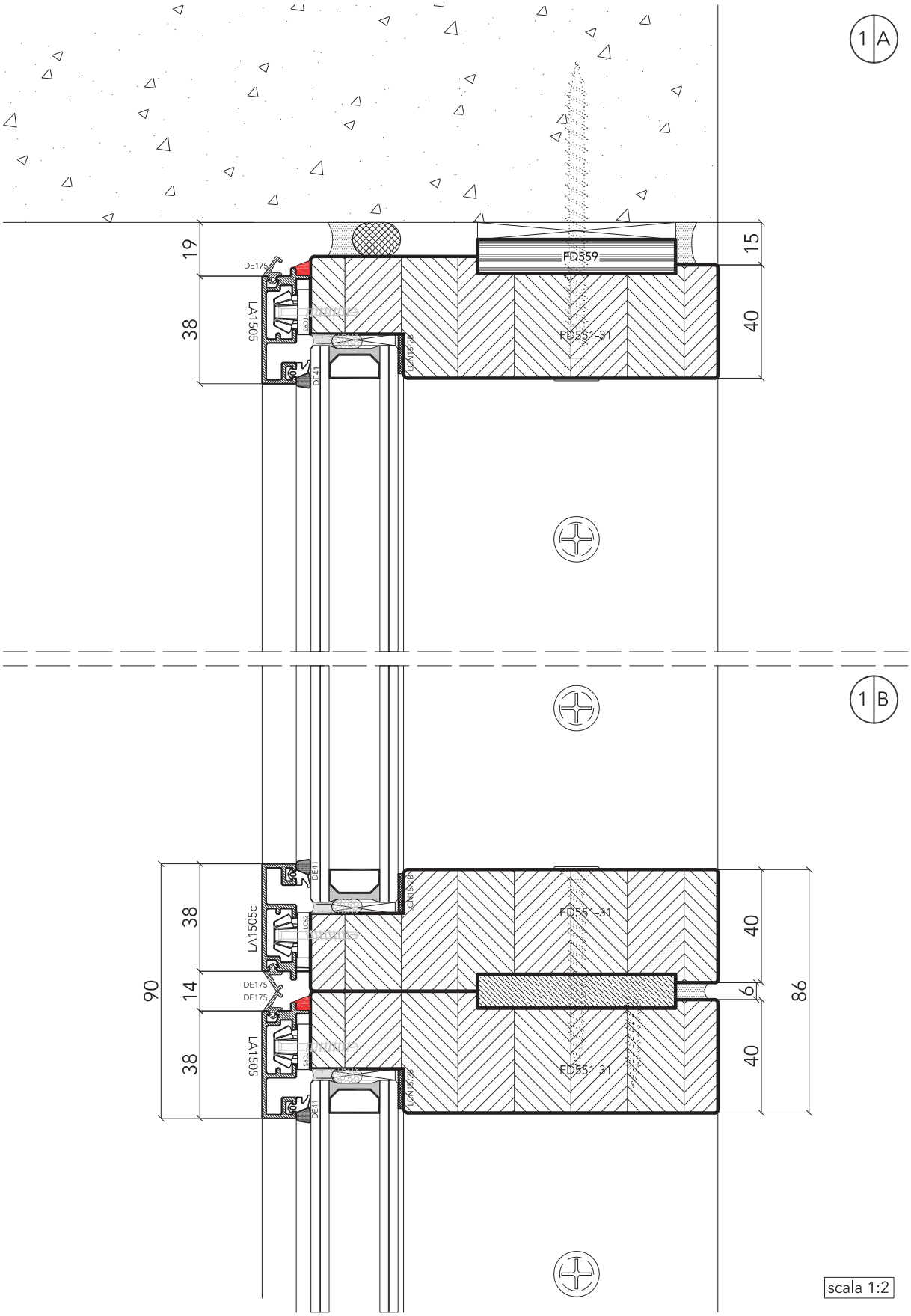


FORMAT38 window wall

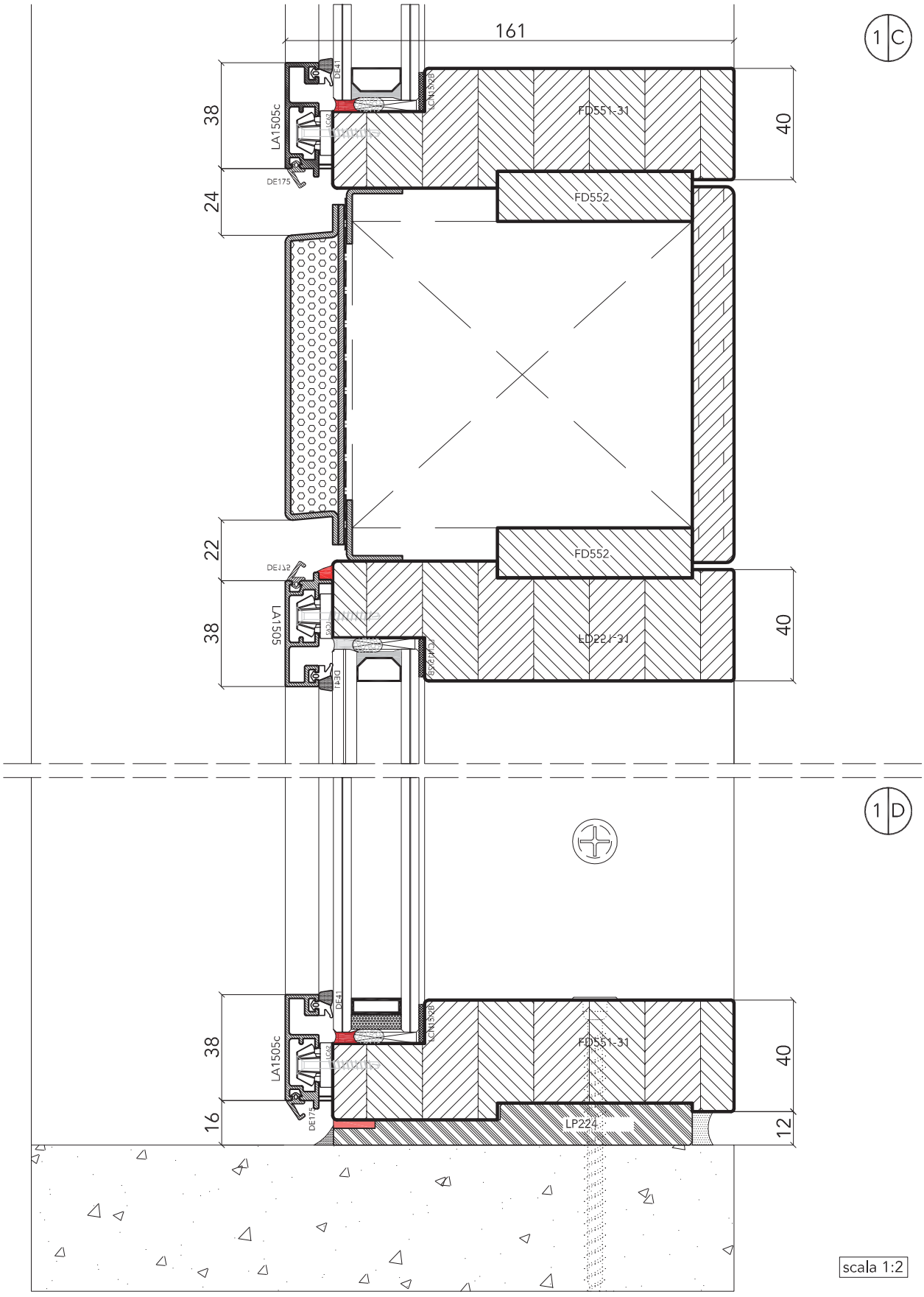
suggerimenti di posa - tipo 1
VANO SCALA



scala 1:25

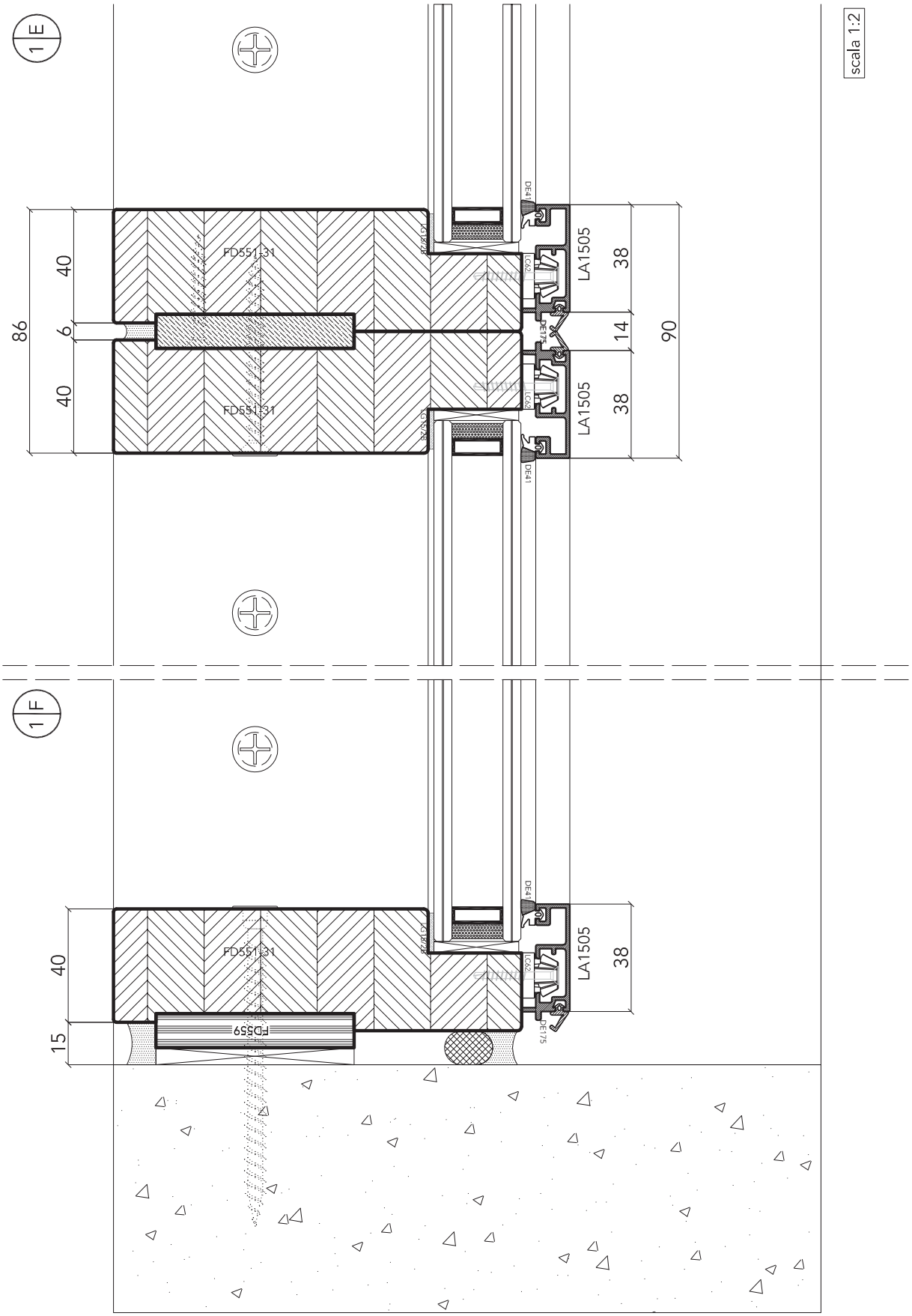

1 A
19
38
DE175
LA1505
DE41
FD559
FD551-31
15
40
1 B
90
14
LA1505c
DE175
6
86

scala 1:2

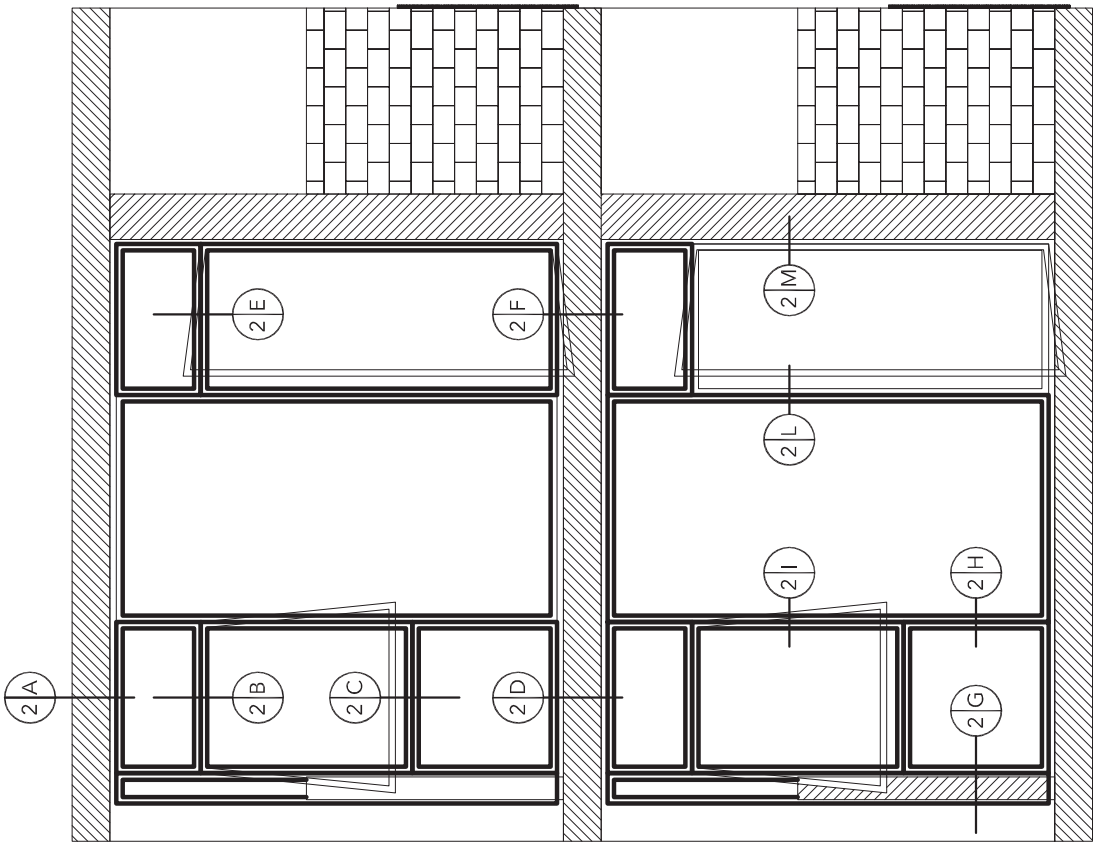


uni_one format38

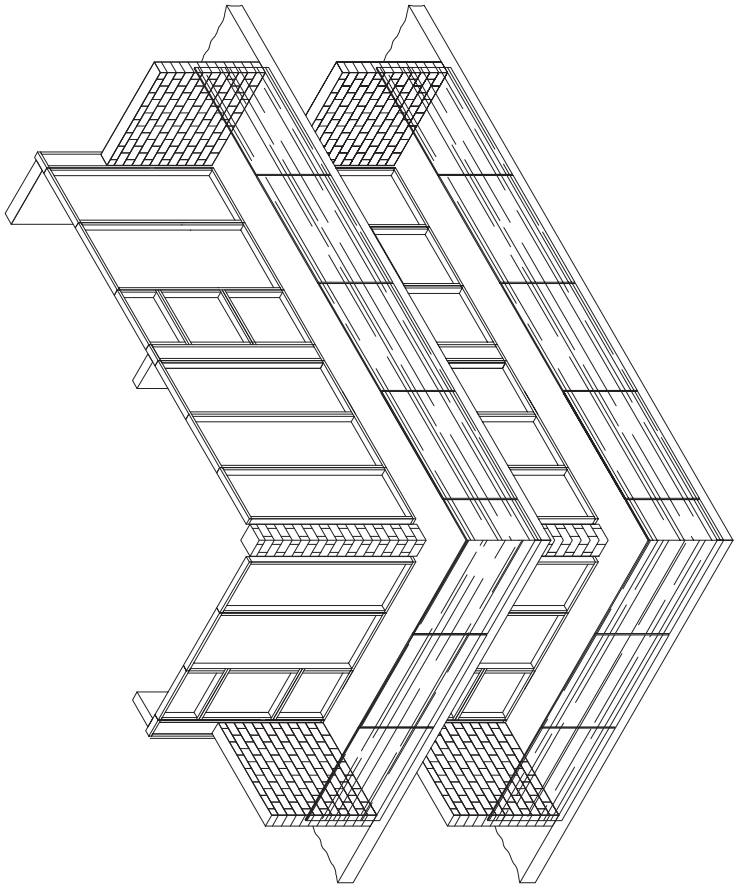
uniform


1 E
1 F
scala 1:2
FD551_31
FD551_31
FD559
LA1505
LA1505
LA1505
38
38
38
14
90
86
40
6
40
40
15
DE42
DE41
DE75

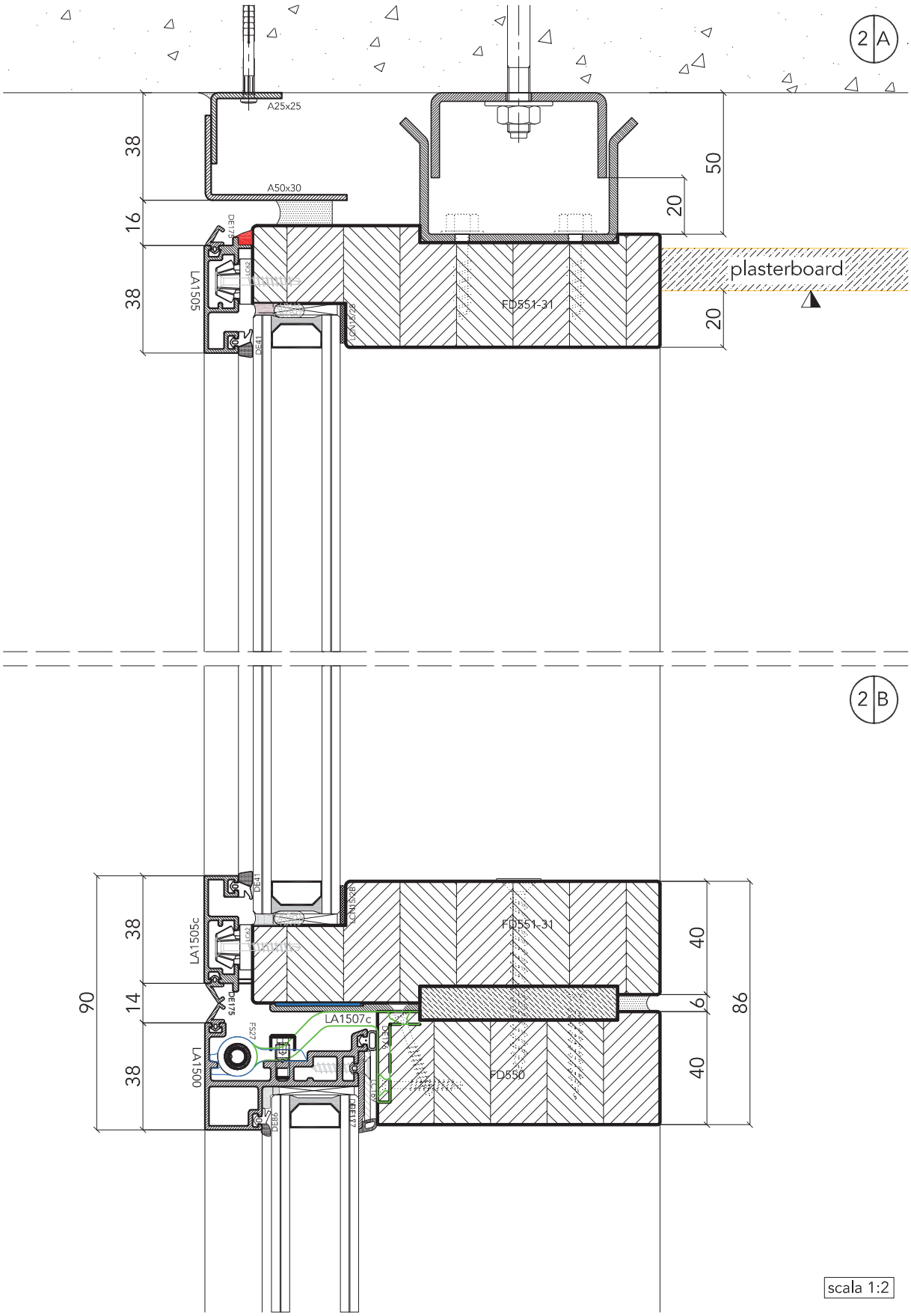
suggerimenti di posa - tipo 2
WINDOW WALL FRA I SOLAI DI UN EDIFICIO MULTIPIANO

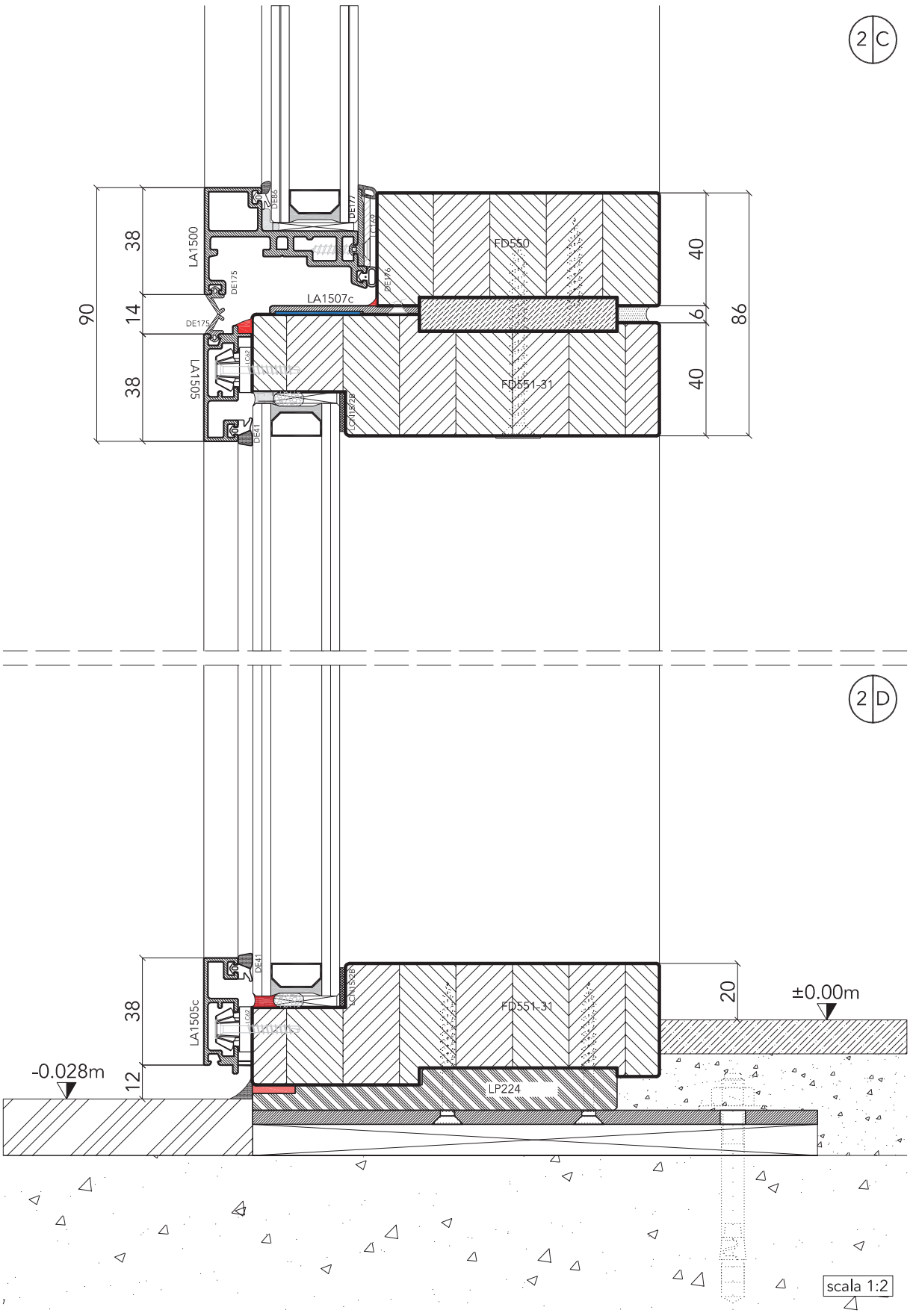


scala 1:50



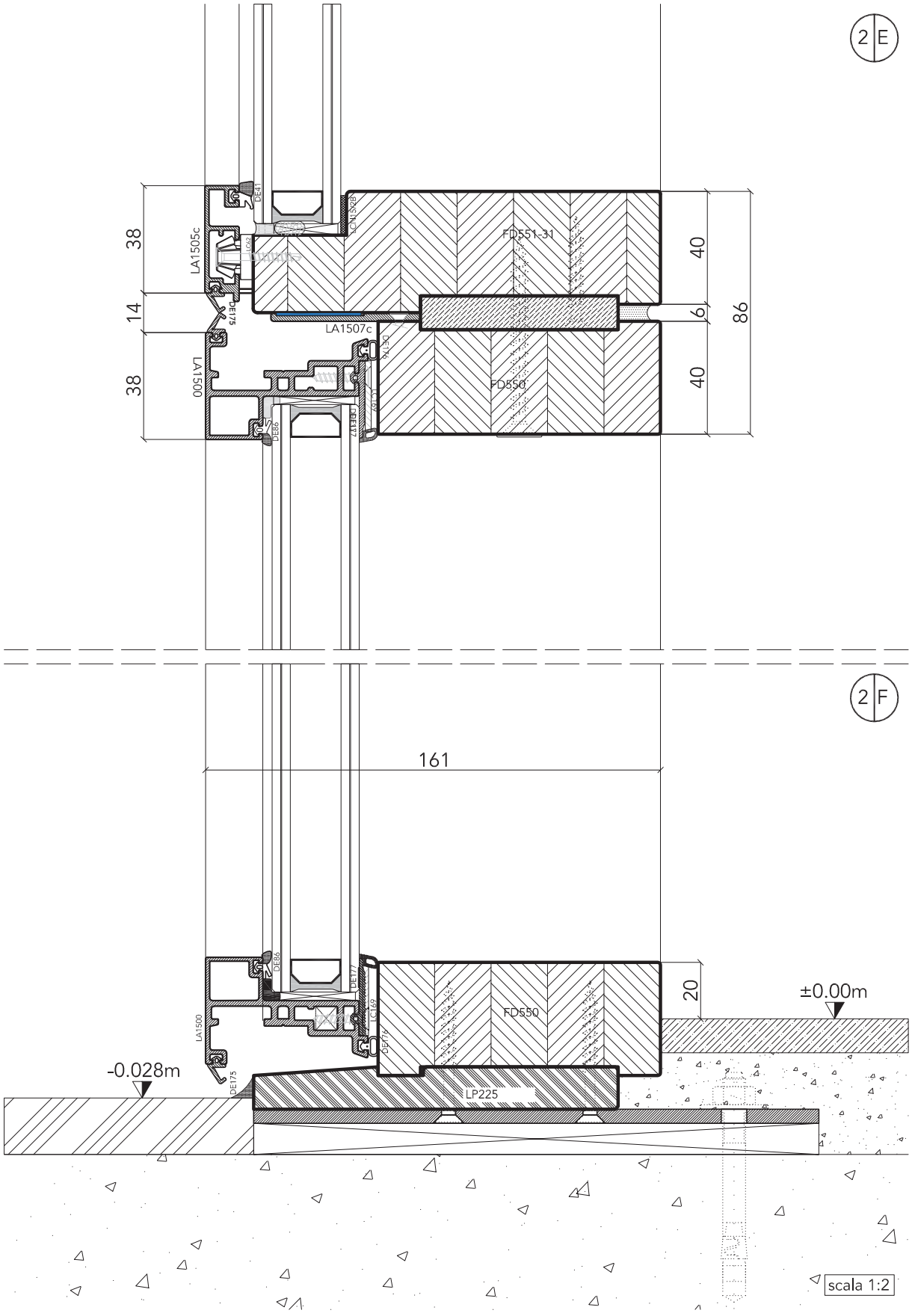
vista assonometrica

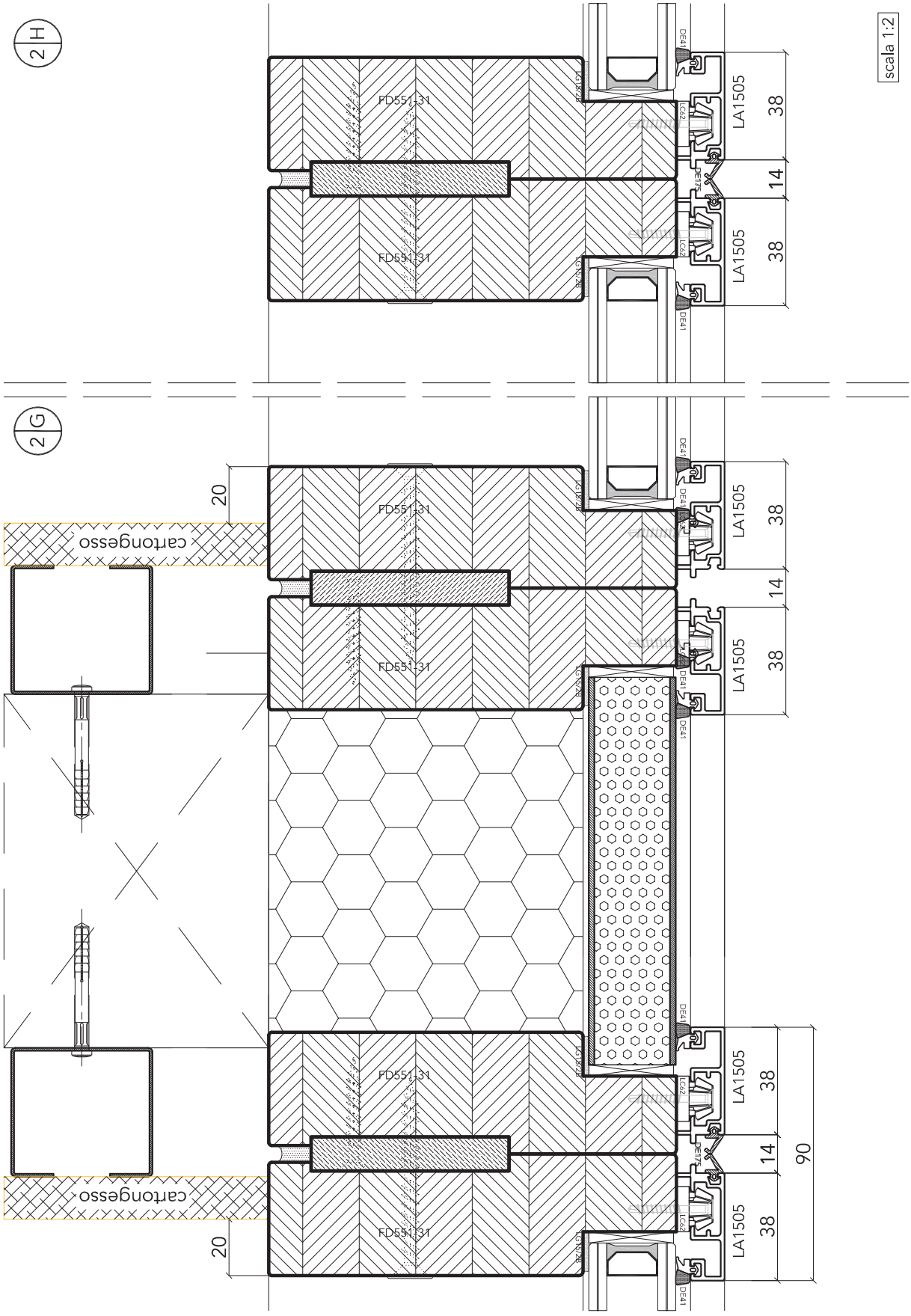

2 A
A25x25
38
A50x30
16
38
50
20
LA1505
FD551-31
plasterboard
20
2 B
90
38
14
38
LA1505c
LA1500
LA1507c
FD551-31
FD550
40
6
40
86
scala 1:2



uni_one format38

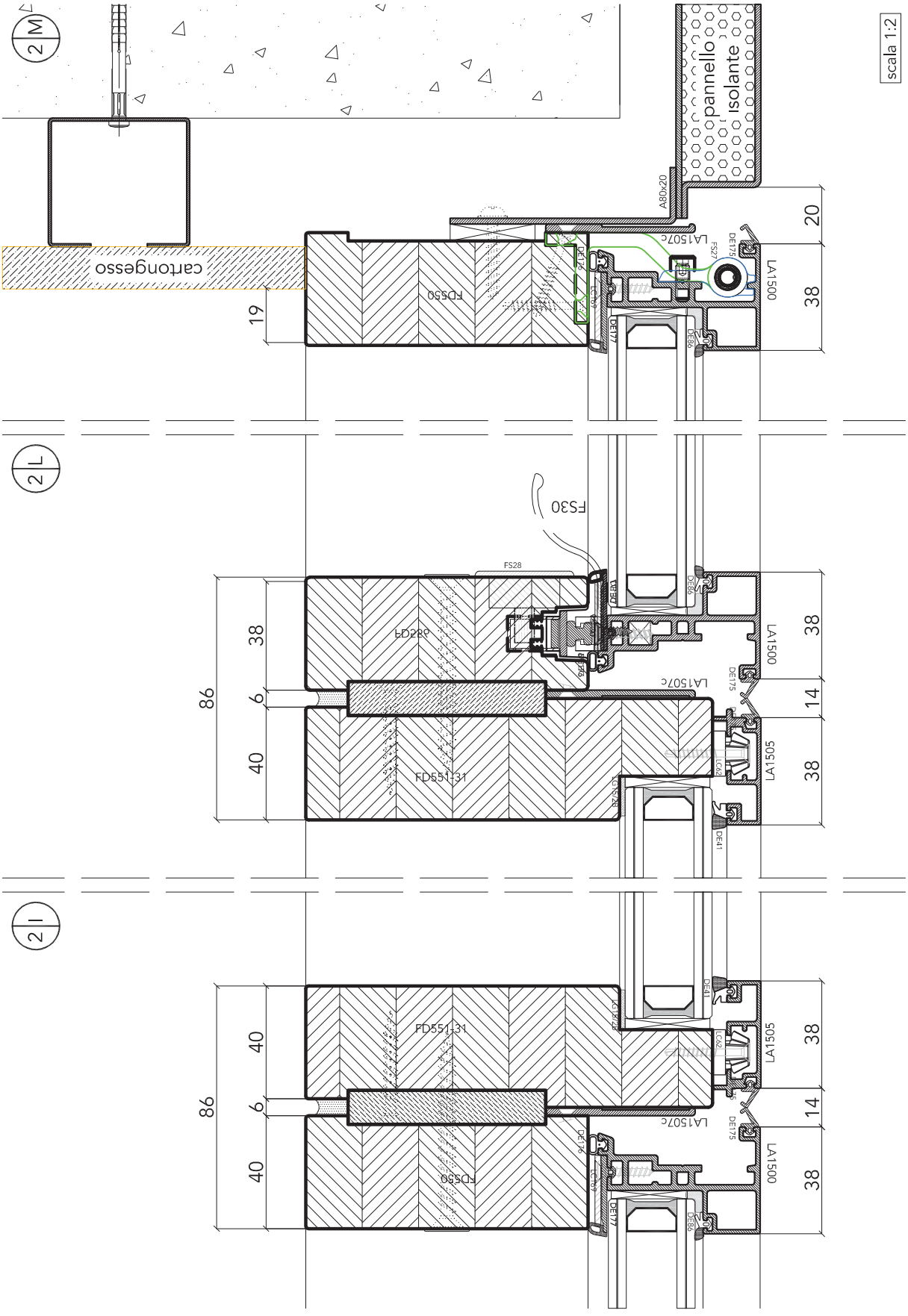
uniform


2 E
38
14
38
LA1505c
LA1500
DE41
DE175
DE86
LCN1528
FD551-31
LA1507c
DE176
LC169
DE177
FD550
40
6
40
86
2 F
161
20
±0.00m
-0.028m
LA1500
DE86
DE177
LC169
DE176
DE175
FD550
LP225
scala 1:2



uni_one format38

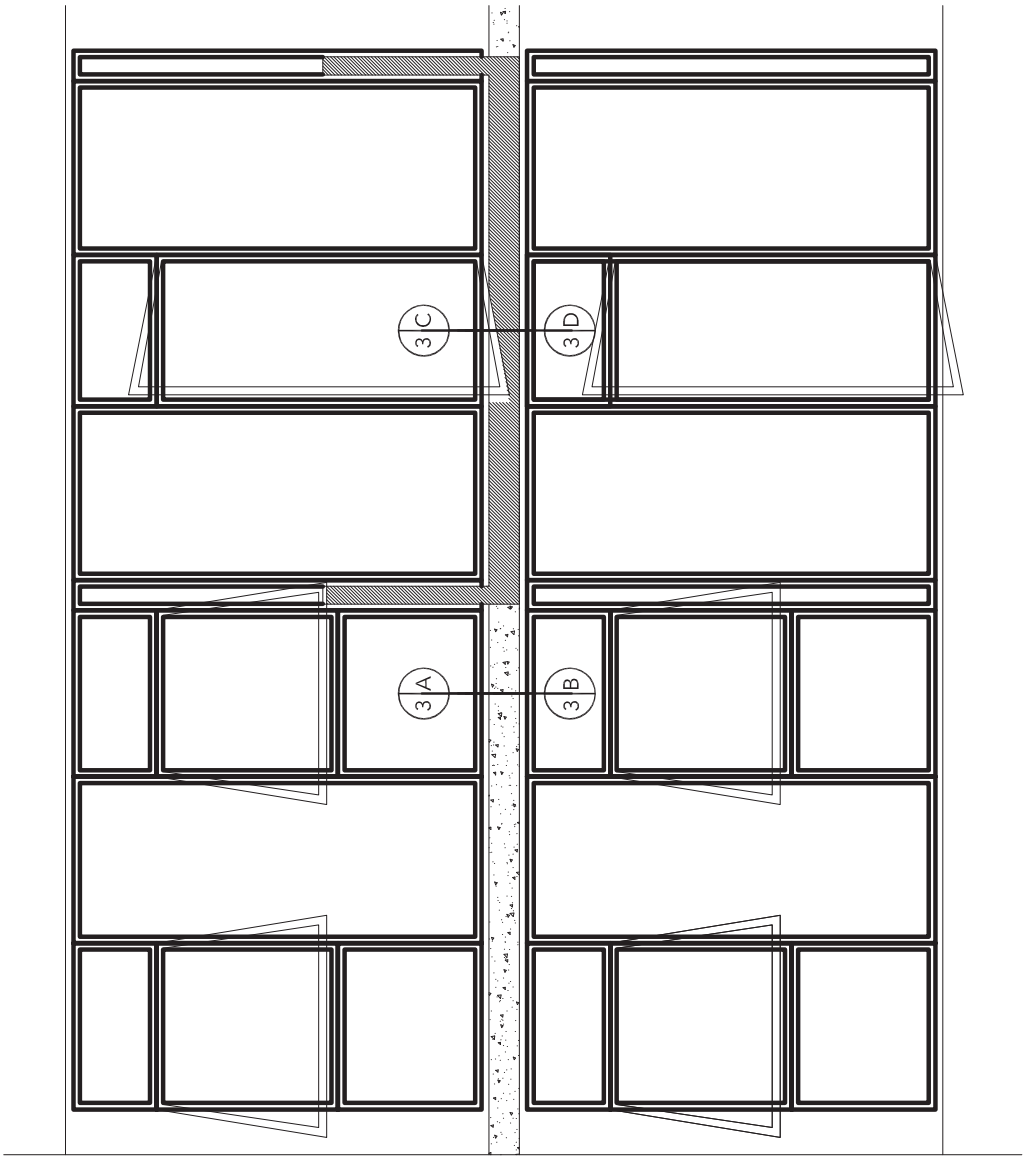
uniform



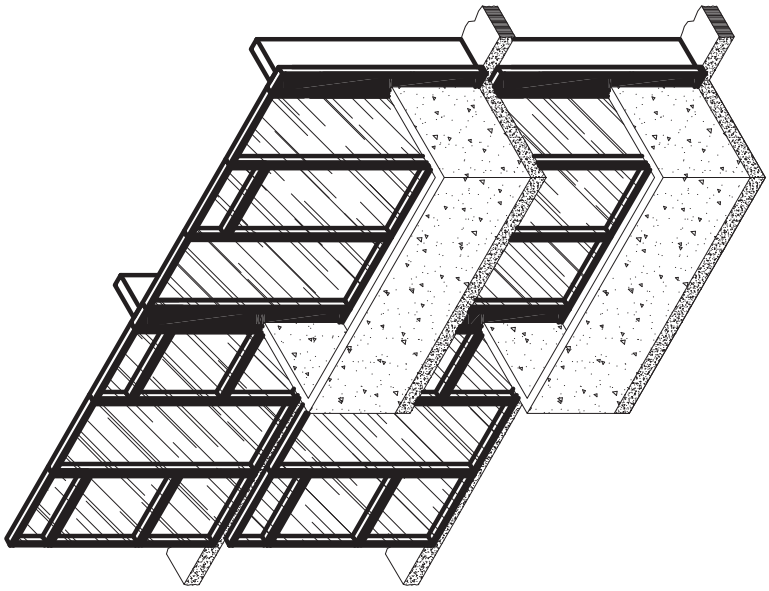
uni_one format38

uniform

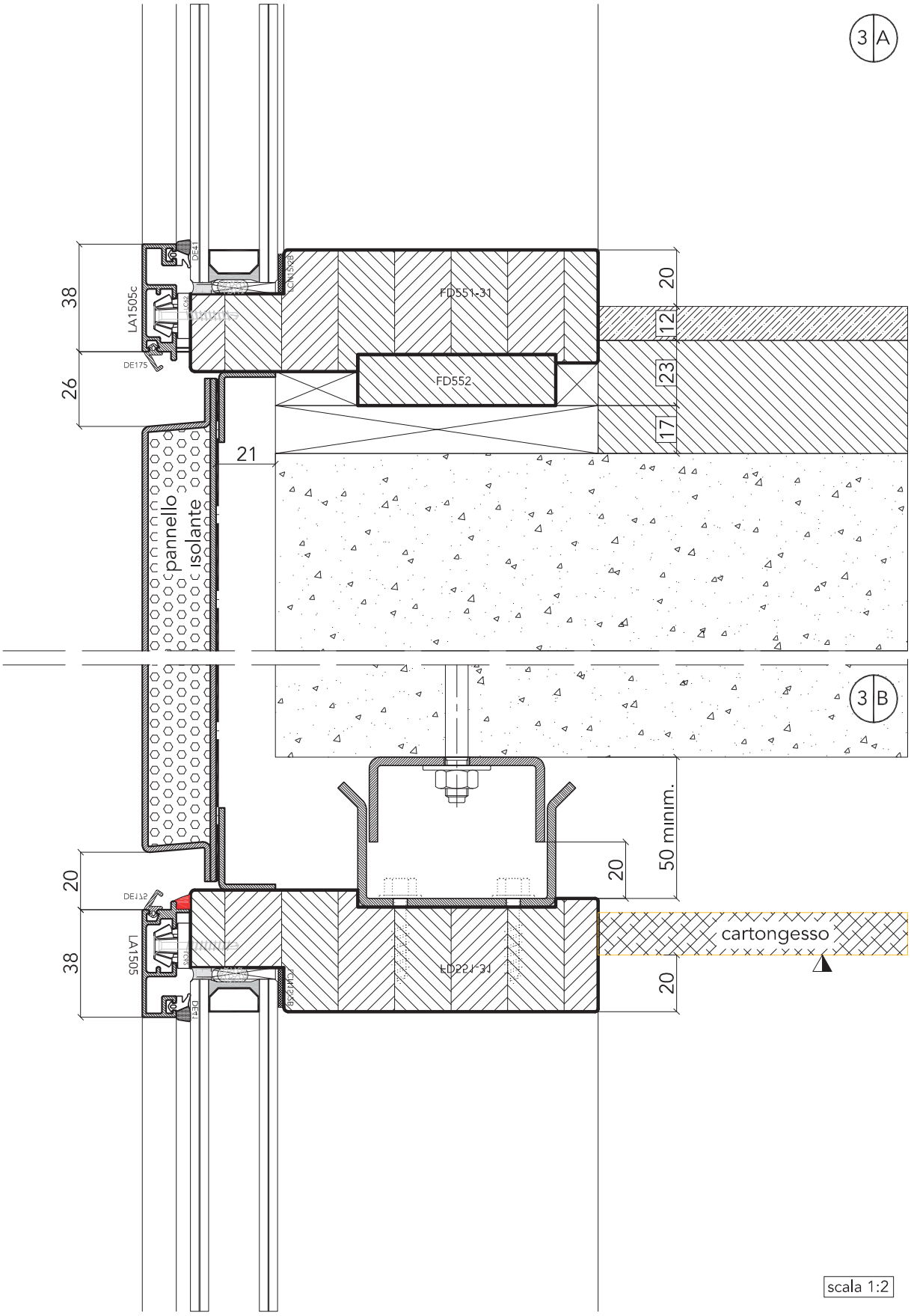
suggerimenti di posa - tipo 3
WINDOW WALL CON TERRAZZE INDIPENDENTI

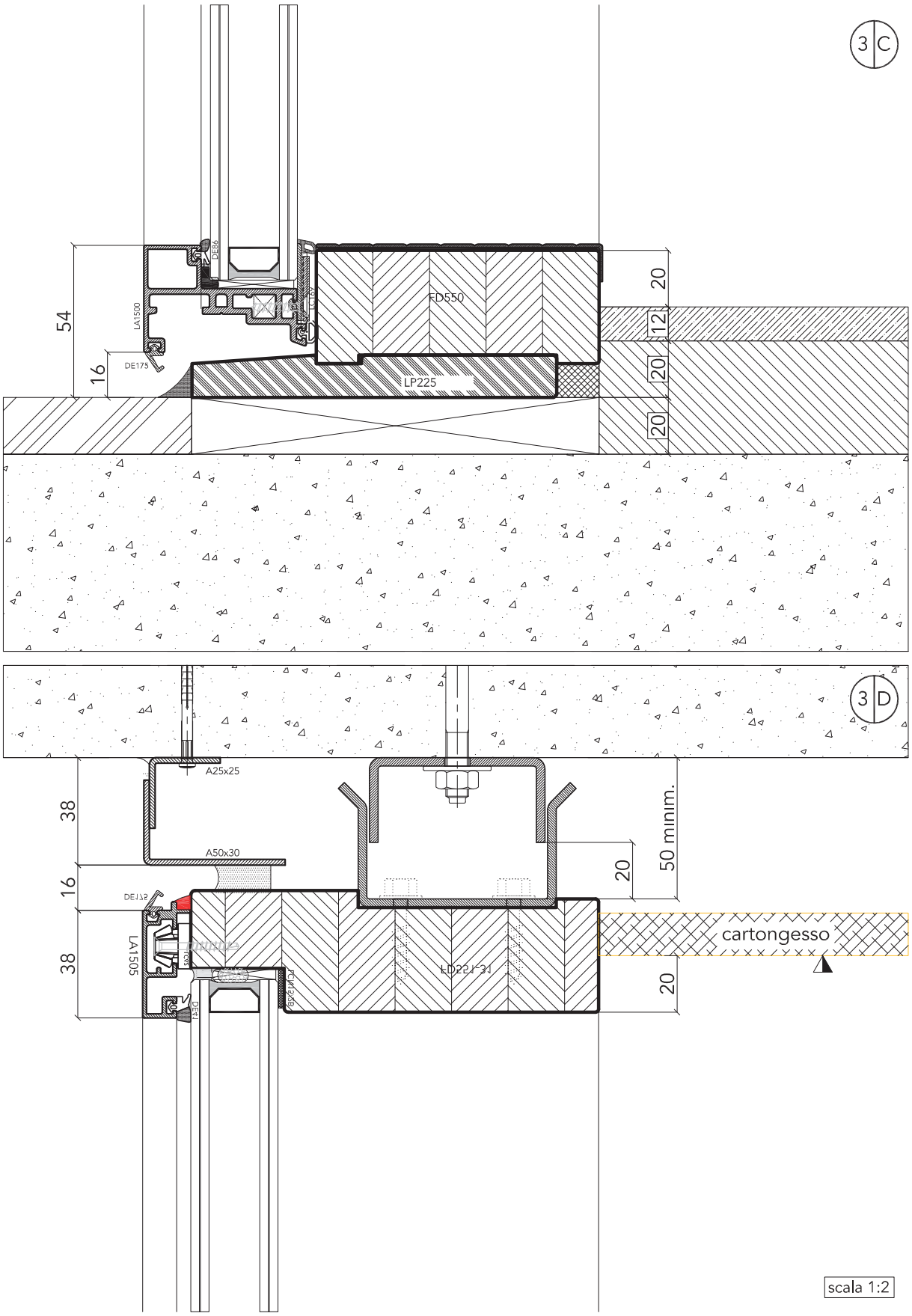


scala 1:50



vista assonometrica


3 A
38
26
LA1505c
DE41
DE175
FD551-31
FD552
20
12
23
17
21
pannello isolante
3 B
50 minim.
20
20
38
LA1505
cartongesso
20
scala 1:2

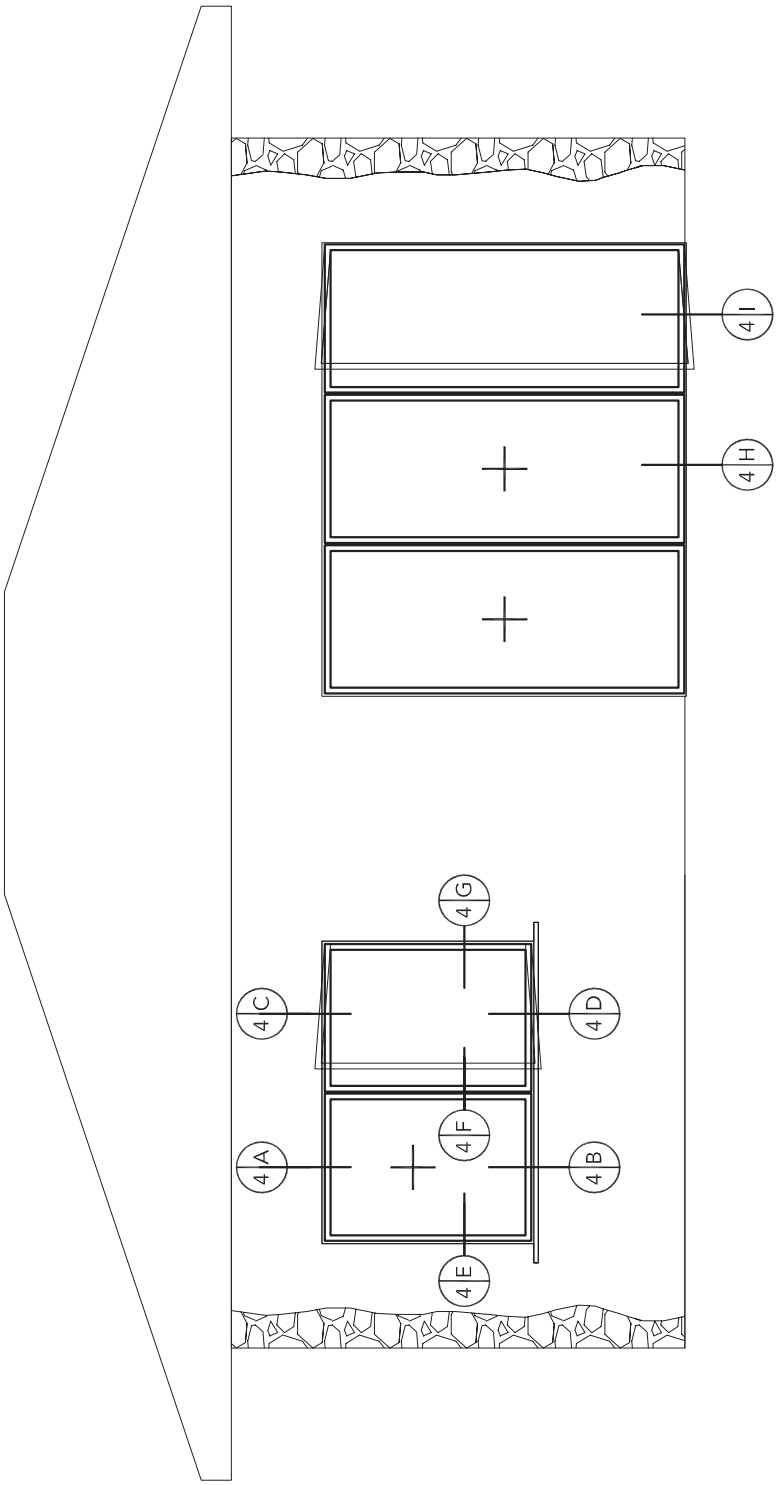


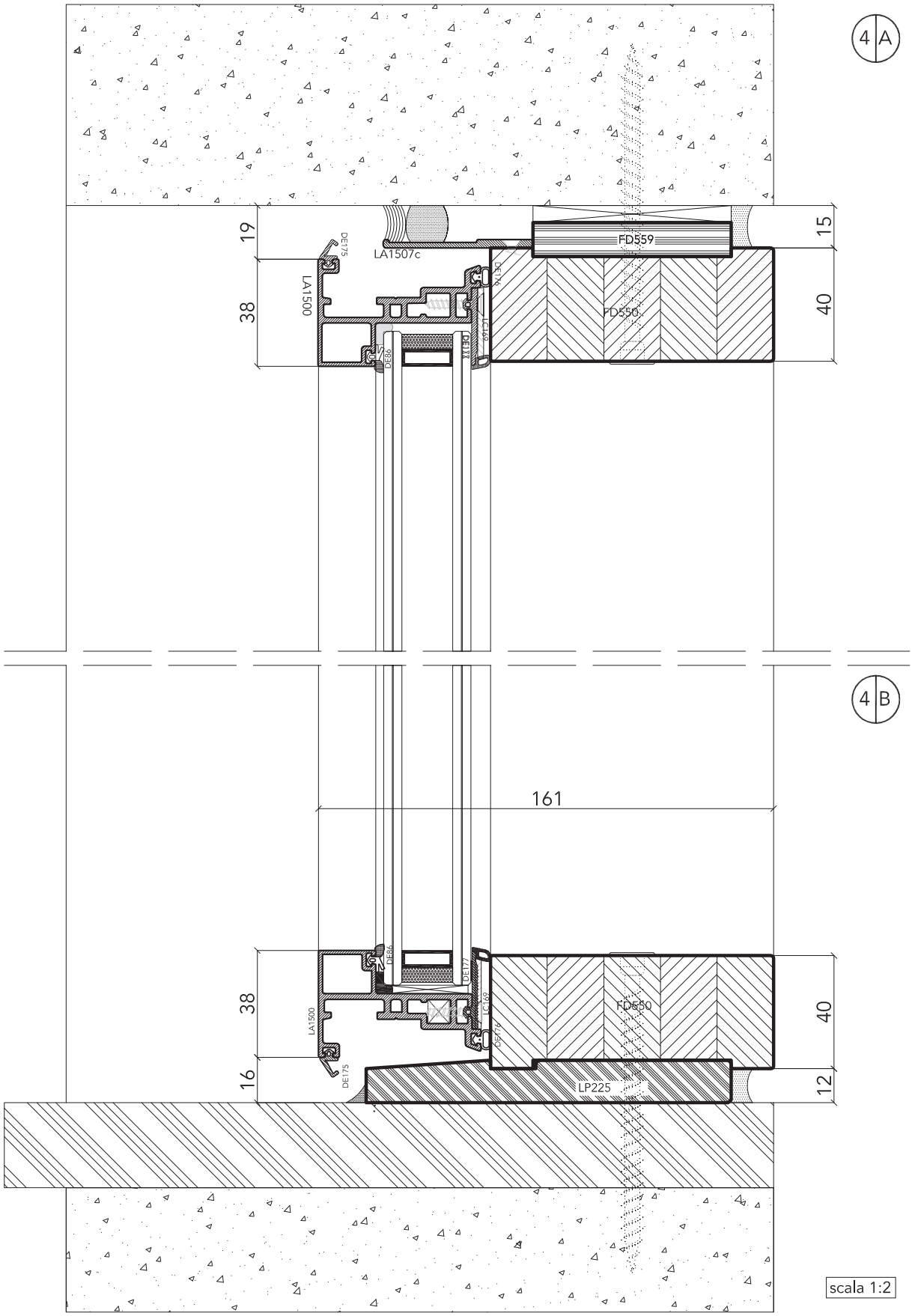
uni_one format38

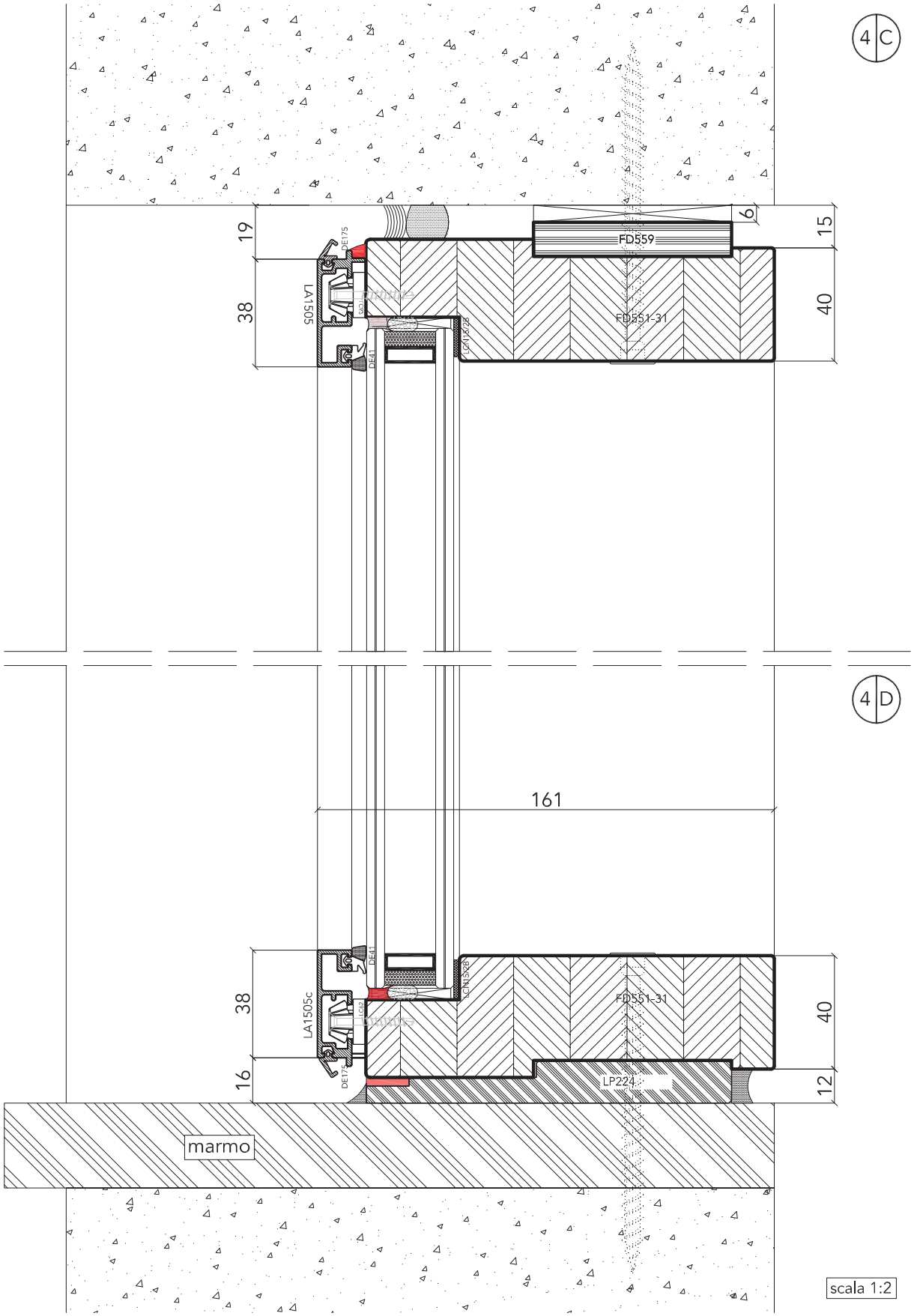
uniform

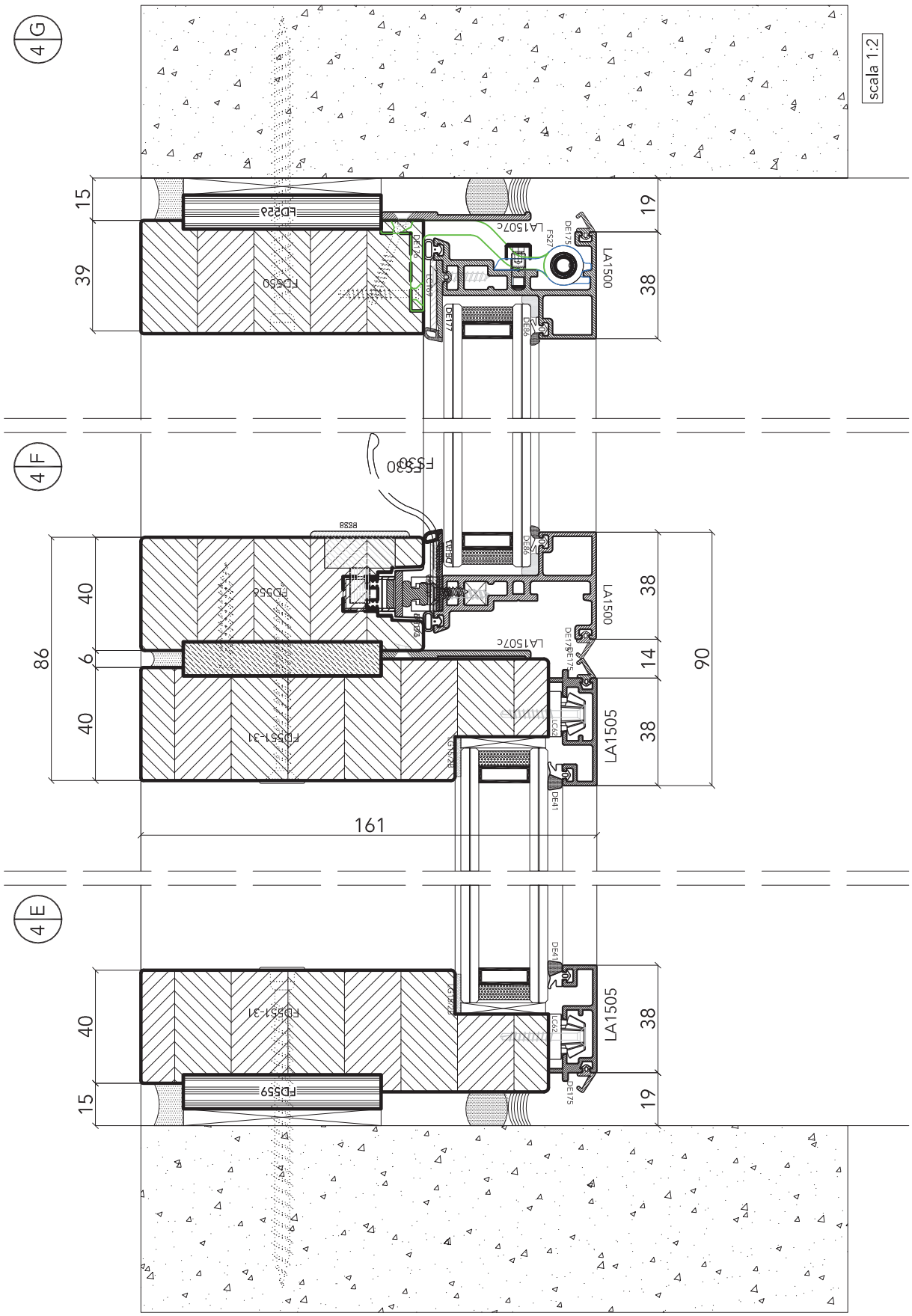
suggerimenti di posa - tipo 4
CASA PRIVATA

scala 1:25



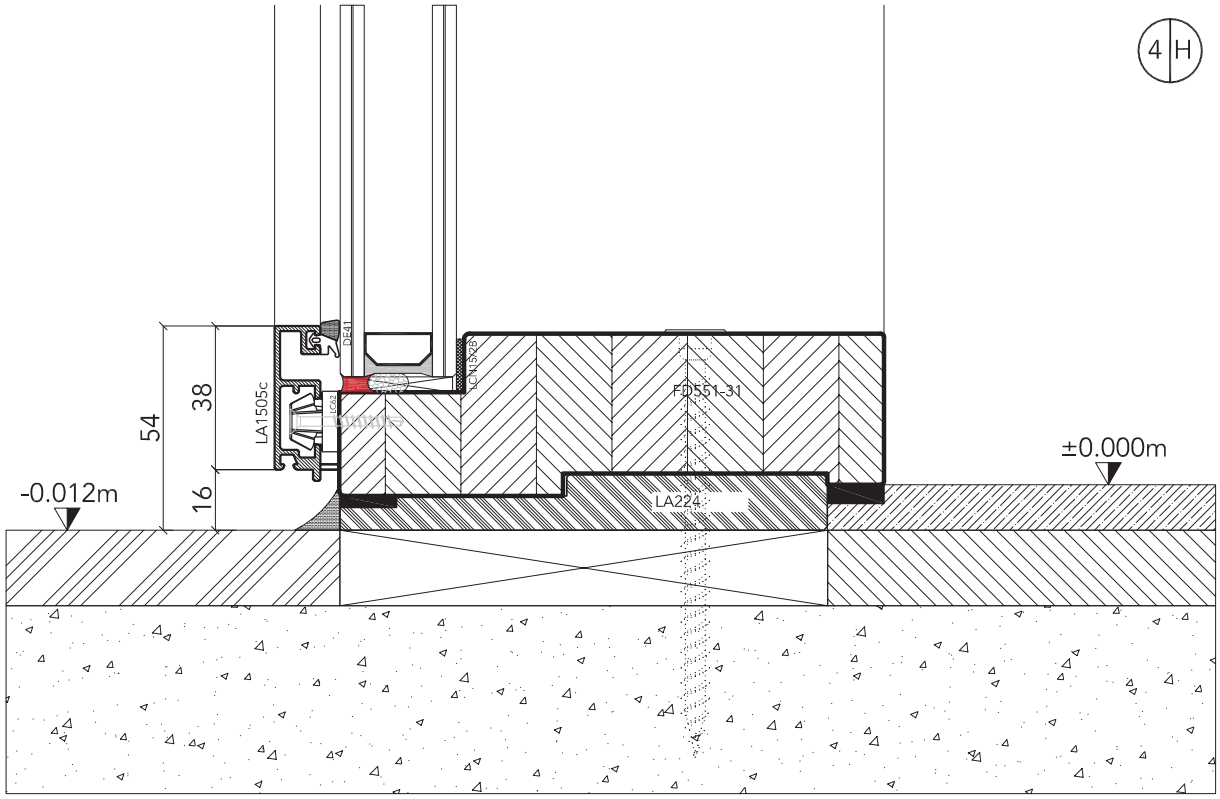

4 A
19
38
15
40
LA1507c
LA1500
FD559
FD550
DE175
DE86
DE177
LC169
4 B
161
38
16
40
12
LA1500
FD550
LP225
scala 1:2

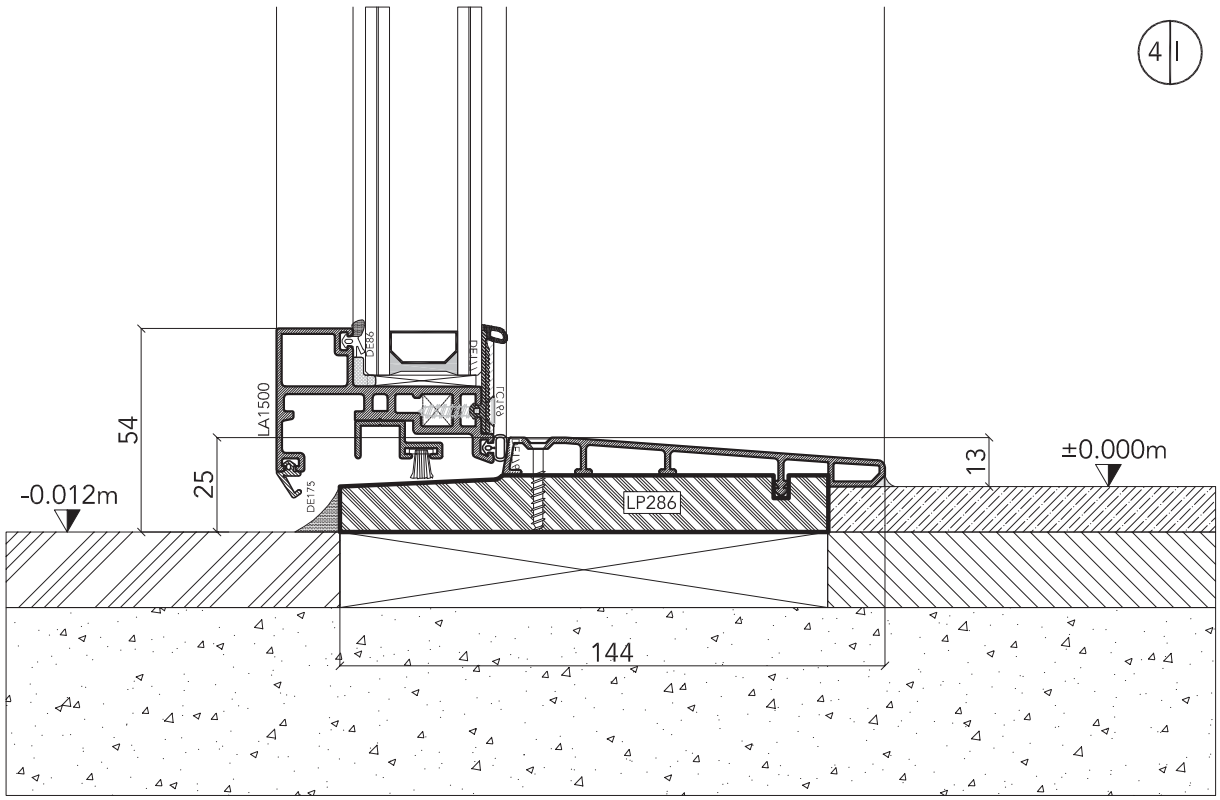

4 C
19
38
6
15
40
FD559
FD551-31
LA1505
DE175
DE41
LCN15/2B
4 D
161
38
16
40
12
LA1505c
FD551-31
LP224
marmo
scala 1:2



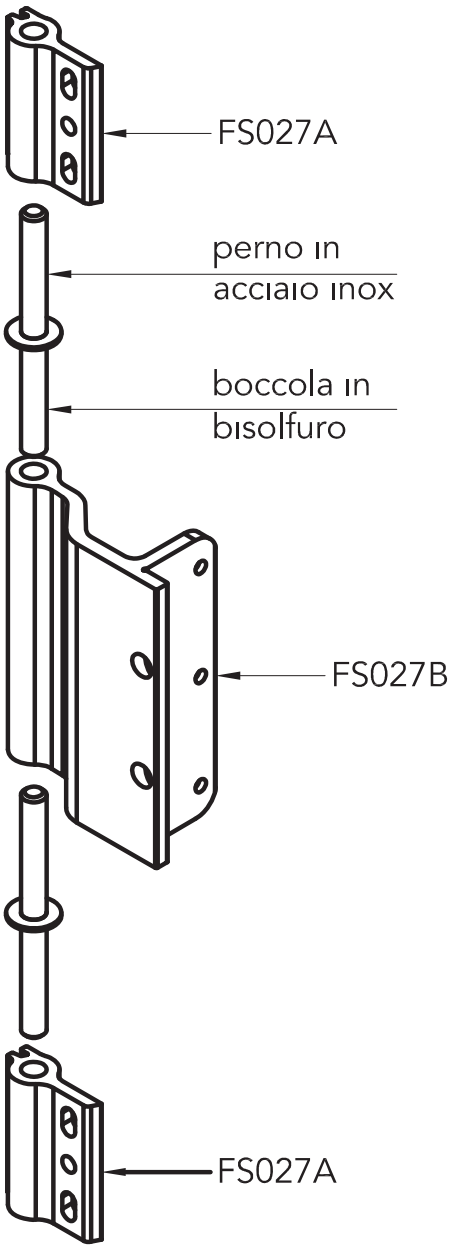
uni_one format38

uniform


4 H
54
38
16
LA1505c
DE41
LC62
LCN1572B
FD551-31
LA224
-0.012m
±0.000m


4 I
54
25
LA1500
DE86
DE175
LP286
13
-0.012m
±0.000m
144

scała 1:2



cerniera FS 27
vista assonometrica

In occasione del lancio del nuovo concept FORMAT 38 UNIFORM ha studiato una innovativa cerniera ad alte prestazioni che viene utilizzata indifferentemente sia per le aperture *side hung* che per le aperture ***top hung.***

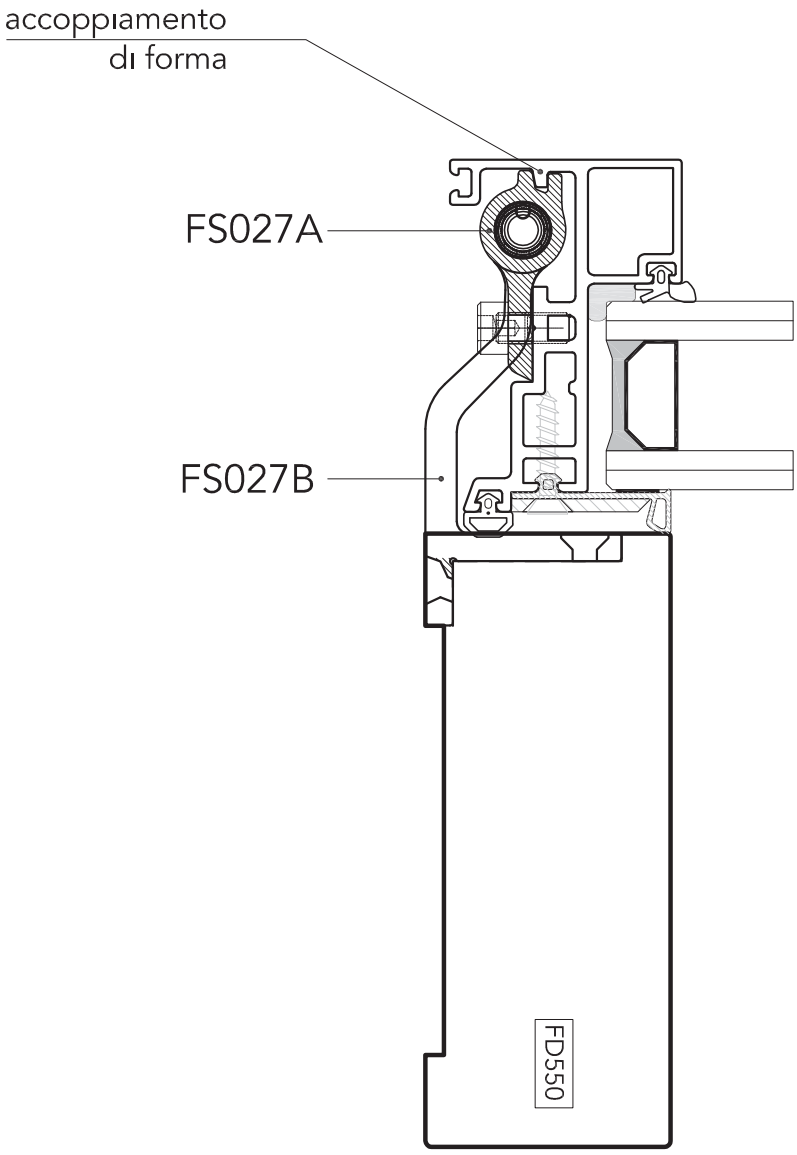
La **FS27**, questo il nome del prodotto, è una cerniera a 3 ali realizzata da estrusi di alluminio 6060.

Il corpo centrale FS027B viene fissato sull'anta in legno tramite 5 viti trucioları a direzioni contrapposte; le ali laterali FS027A sono invece fissate al profilo telaio in alluminio tramite viti metriche M4 in acciaio.

La connessione viene garantita da perni Ø6mm in acciaio inox con boccole in bisolfuro di ferro.

UNIFORM, supportata dallo di Studio di Ingegneria Raddi di Este (Padova) - Italia, ha provveduto a testare con prove sperimentali, la portata delle cerniere; sulla base dei risultati ottenuti, UNIFORM garantisce che una coppia di cerniere può sopportare il peso di 90kg, in normali condizioni statiche di esercizio.

Uno dei punti di forza della cerniera si è dimostrata essere la particolare conformazione delle ali sull'anta, FS027A: la sua gola posteriore, che va ad incastrarsi in una apposita nervatura del profilo telaio in alluminio, realizza infatti un accoppiamento di forma tale per cui tutto il profilo in alluminio contribuisce a sopportare le sollecitazioni, sia statiche che dinamiche.



cerniera FS 27
applicata alla cellula
sezione orizzontale

METODOLOGIA DI CALCOLO E NORMATIVA DI RIFERIMENTO

I dimensionamenti, i calcoli e le tabelle da essi derivanti di questo documento sono stati eseguiti per conto di UNIFORM dallo Studio di Ingegneria Raddi di Este, Padova - Italia basandosi sui principi della Scienza delle Costruzioni in ambito elastico ed utilizzando il metodo semi - probabilistico degli Stati Limite.

La Normativa di riferimento è la seguente:

- UNI EN 1990
- BS - UNI EN 1991-1-4
- UNI EN 1993
- UNI EN 1995-1-1
- BS 6399-2

INGEGNERIA RADDI

Studio di Ingegneria Raddi
Via G.B. Brunelli, 9/1
Este (Pd), 35042
Tel.: +39 0429 783510
Fax: +39 0429 0830889

CERTIFICATE OF STATIC STRENGHT

MANUFACTURER

Uniform Spa		
Company		
Viale dell'Agricoltura 36	37046	VR
Address	*Cap*	*Province*
Minerbe	Italy	
City	*State*	

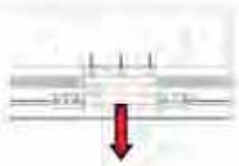
PRODUCT DATASHEET

Hinge for doors and windows		
Description		
Aluminium hinge	FS 27	
Product	*Model*	
001	*2018*	*00*
Series/Matriculation number	*Manufact. year*	*Revision*

TEST OF RESISTANCE

Headquarters Uniform Spa, Viale dell'Agricoltura 36 - 37046 Minerbe (VR)		
Test seat		
23 Luglio 2018	FS 27	
Date	*Model*	

The product has been tested to measure the static resistance in two different load conditions.
Following table shows two types of tests carried out schematically. First type is called TOP HUNG and the second SIDE HUNG.
Technical drawings of test conditions are attached to this certificate.

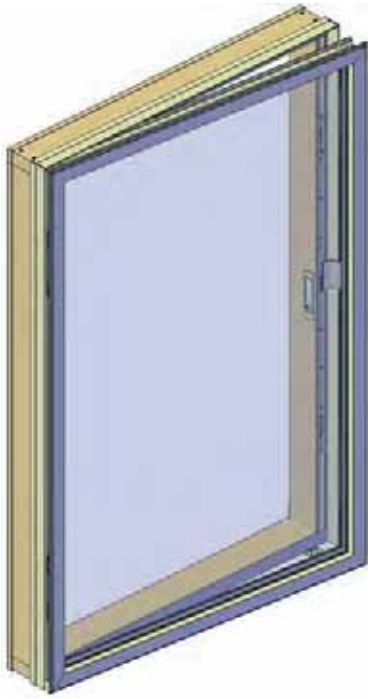
Configuration TOP HUNG	Configuration SIDE HUNG
	
Ultimate load: 700 kg	Ultimate load: 460 kg
Safety factor: 4	Safety factor: 4
Working load: 175 kg	Working load: 115 kg

CERTIFICATION

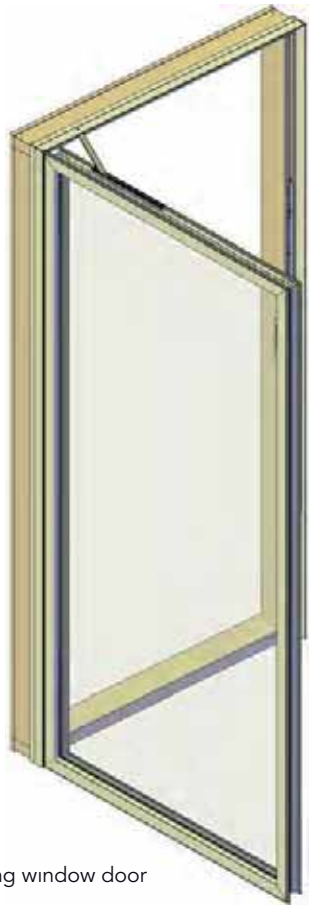
I, Federico Raddi, hereby certify as follows:
- That I am a licensed Professional Engineer (Mechanical Engineer) duly licensed to practice engineering (my license number being 3922);
- That tests described above have been carried out under my direct supervision and that values listed in the table have been determined using repeatable test conditions.

Este, July 24, 2018

Eng. Federico Raddi



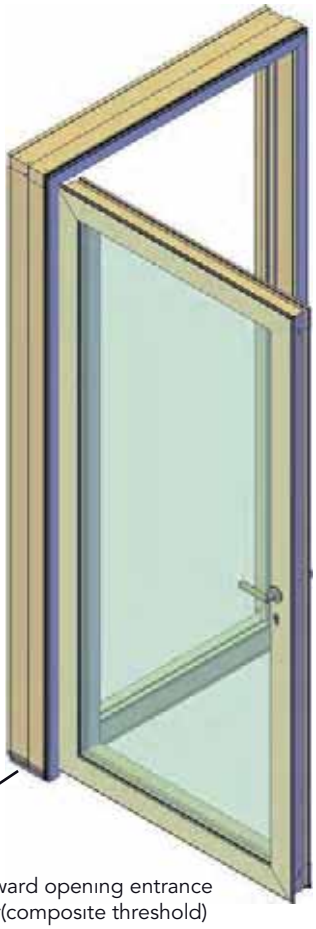
Sidehung window



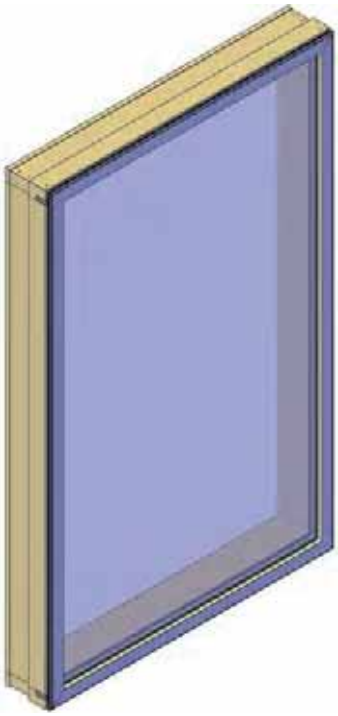
Sidehung window door

Balcony door
(composite threshold)

Tophung window



Outward opening entrance
door(composite threshold)



Fixed Light

Infill panels types

Louvre panel

Insulated sandwich panel

Staved panel

Rainscreen panel

Accessories

Door fix handle

Window fix handle

External fix handle

Magnetic temporary closing

Integrated espagnolette

Espagnolette

Espagnolette with key lock

Double lever handle with cylinder lock

90° Door restrictor(top)

Window restrictor(bottom)

Acustic trickle vent

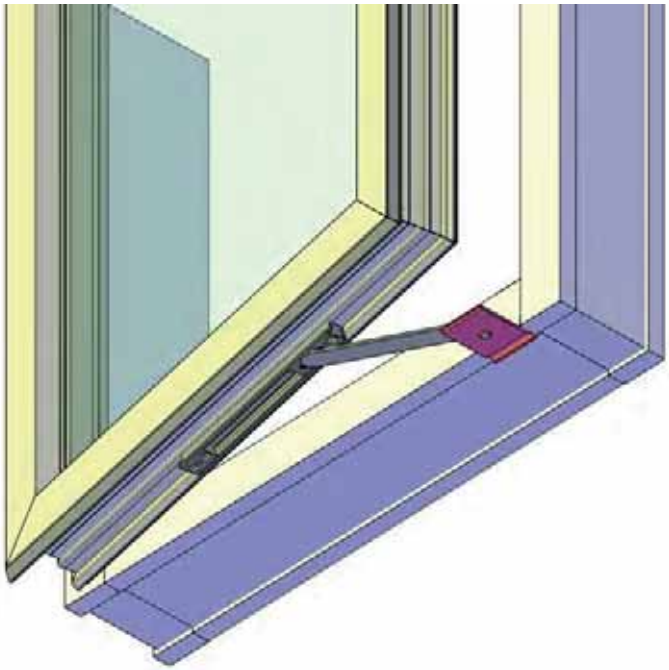
Certifications

Requirements	Classification norm	Features
Water-tightness	UNI EN 1027-12208	Class 9A
Air-tightness	UNI EN 1026-12207	Class 4
Wind-tightness	UNI EN 12211-12210	C4
Burglar resistance	UNI EN 1627	Class 2N *
Sound red. index - fix	UNI-EN ISO 10140 - 717	46dB
Sound red. index - TH	UNI-EN ISO 10140 - 717	42dB

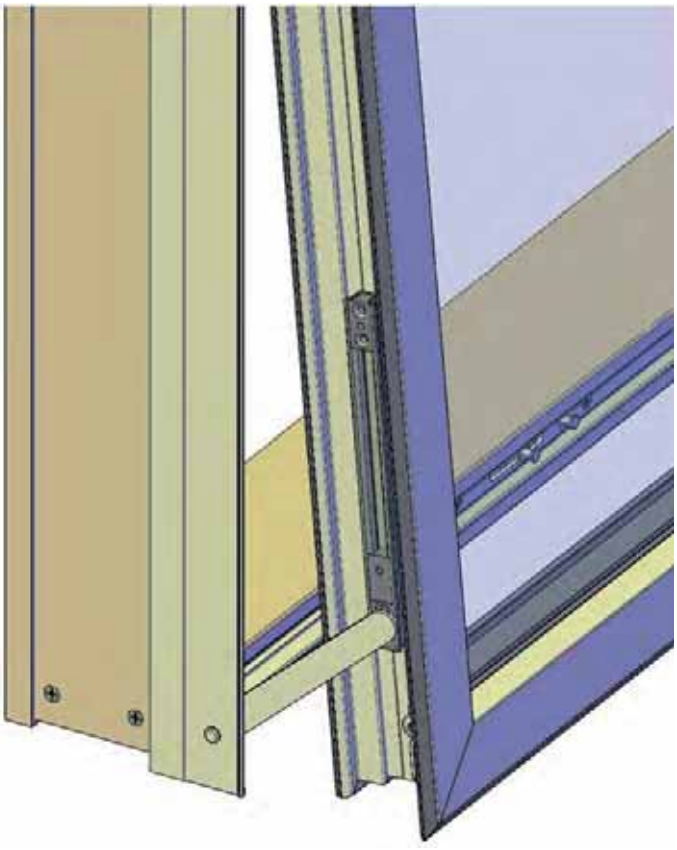
* the result of this test confirms the conformity of the product to the technical requirements of PAS24: 2016

90° Door restrictor

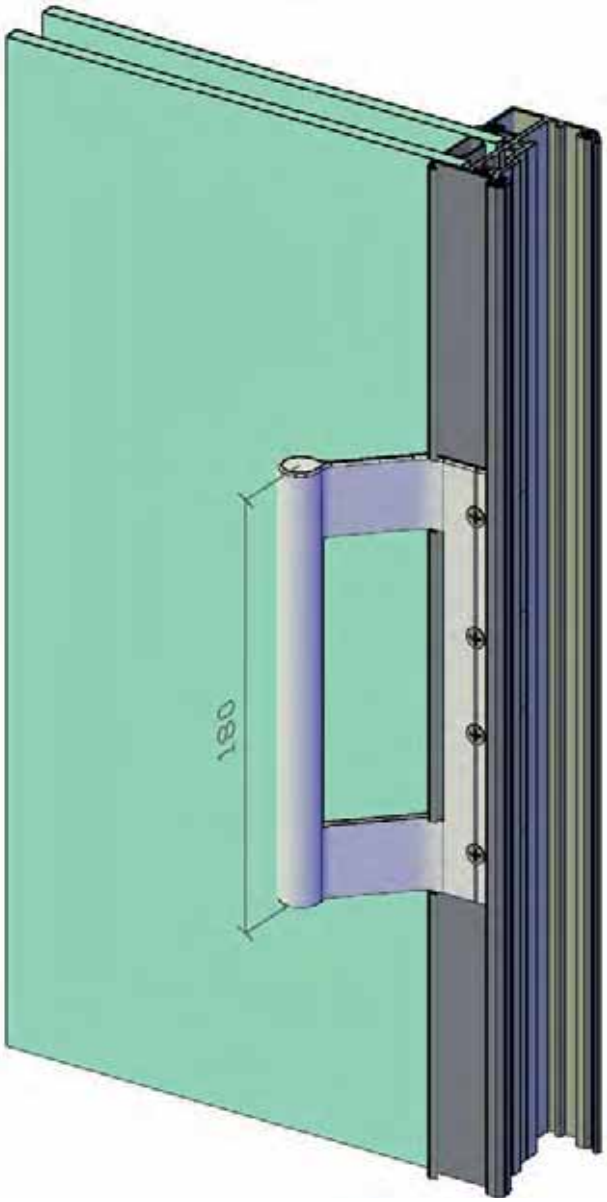
Sidehung window restrictor



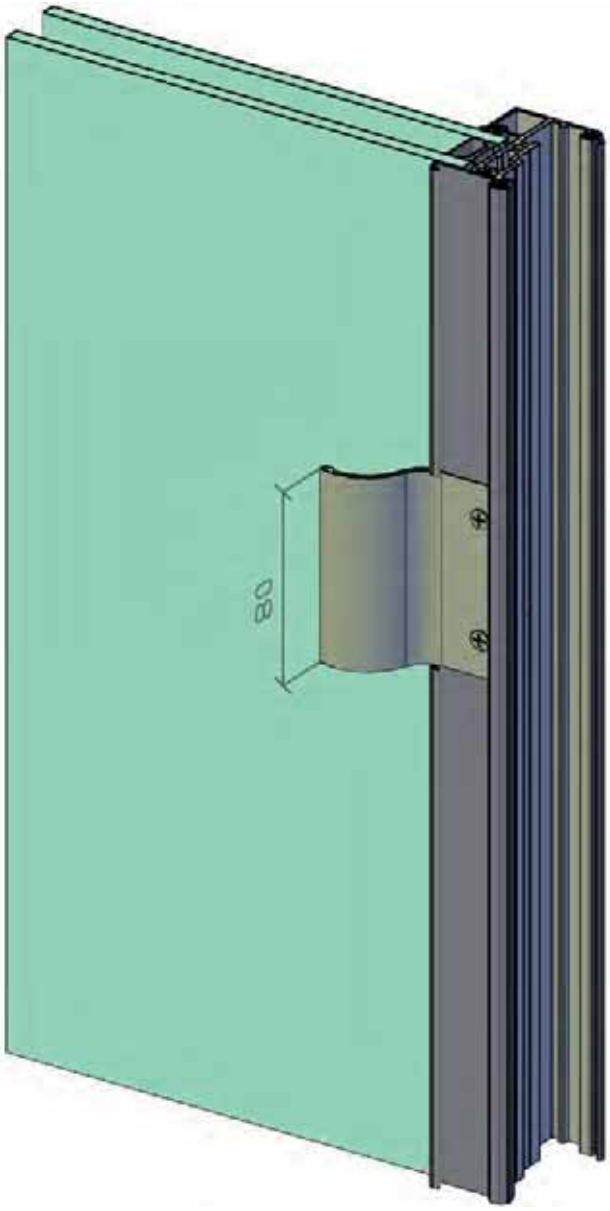
Tophung window restrictor



Limitatori di apertura disponibili:
- 10cm di sicurezza per edifici miltipiano
- 45cm per uscite di sicurezza antincendio

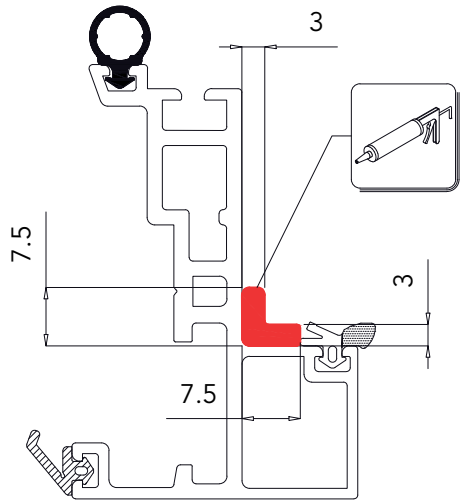


FS29 handle
ıntegrated to the openıng leaf of doors

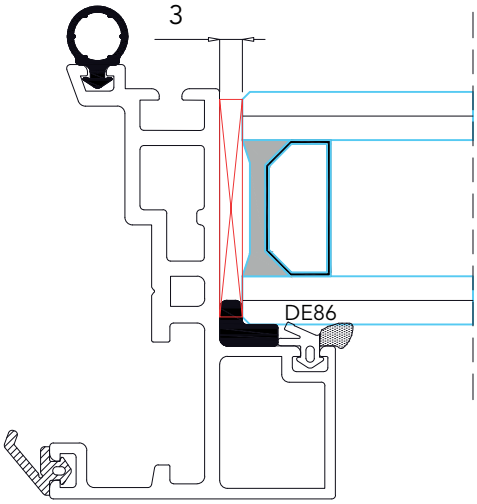


FS30 handle
ıntegrated to the openıng leaf of wındows

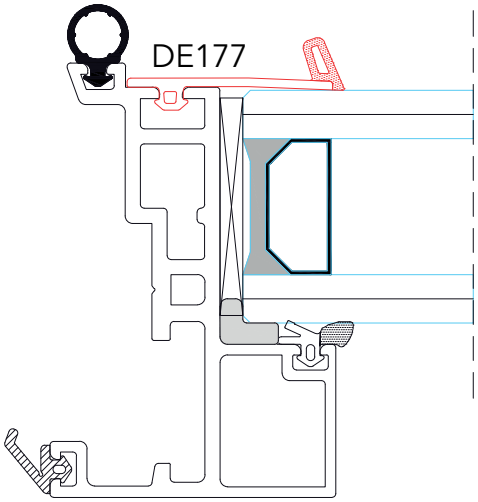
Structural sealing



Insert plastic packers

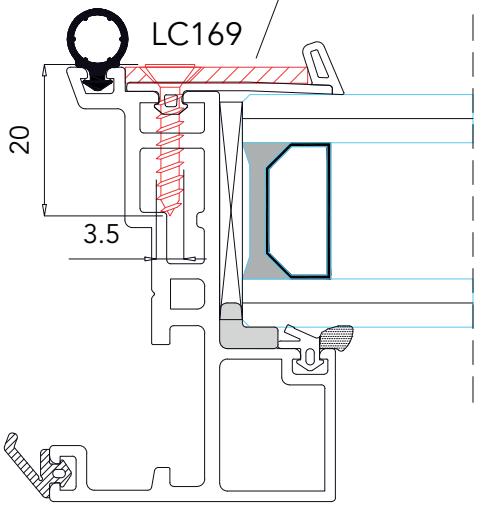


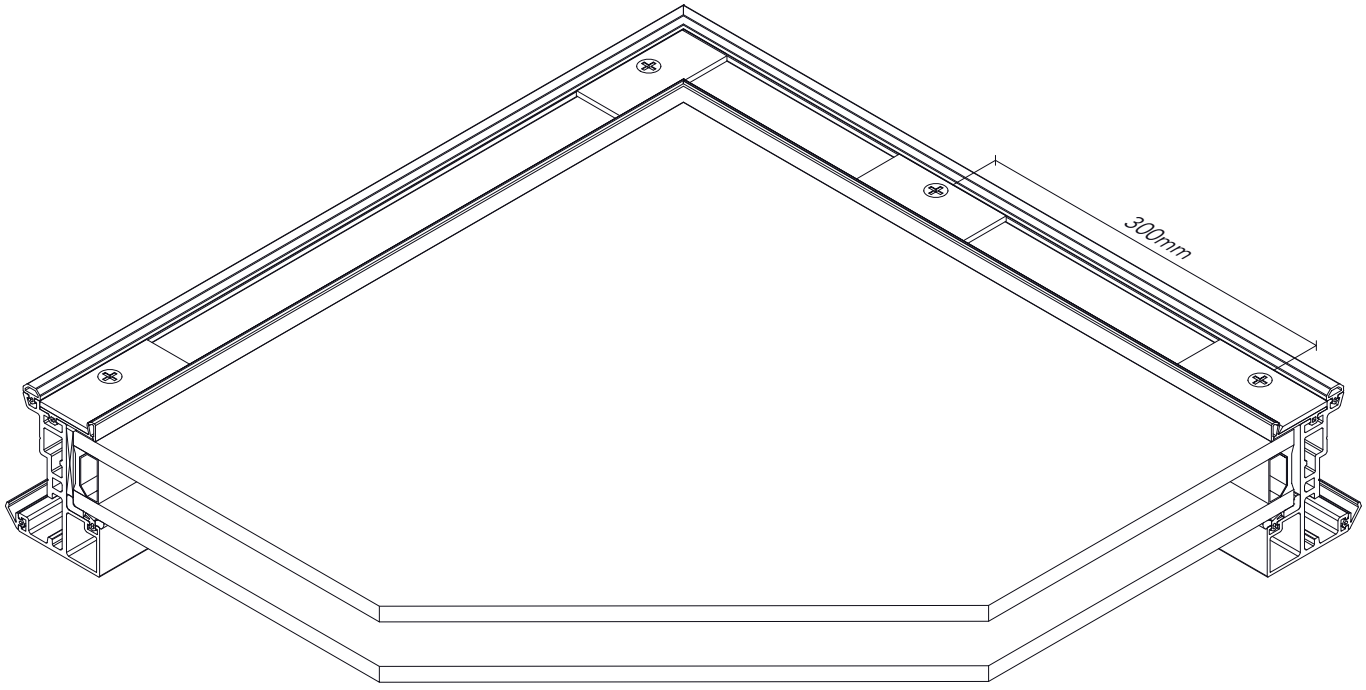
Insert cover gasket



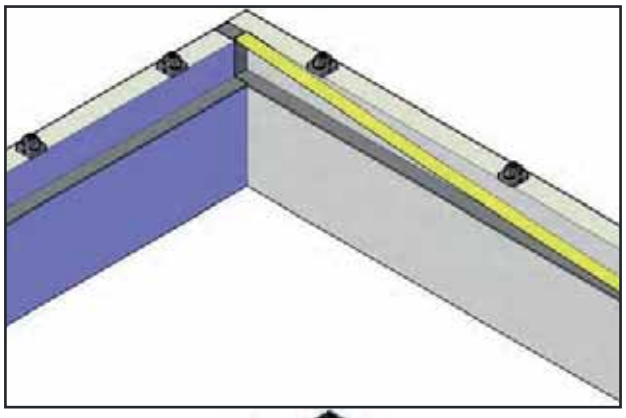
Insert sefety clip

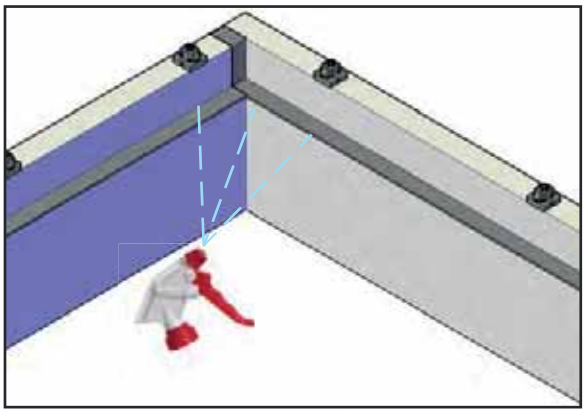
n°3 pcs./mt

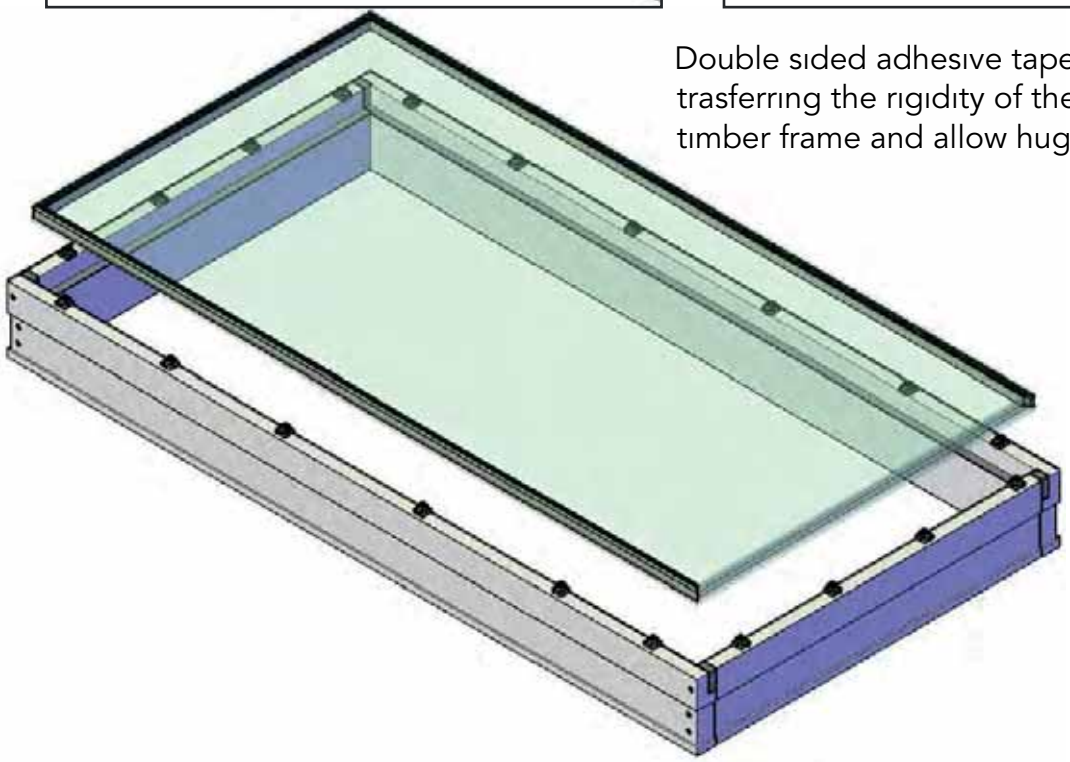




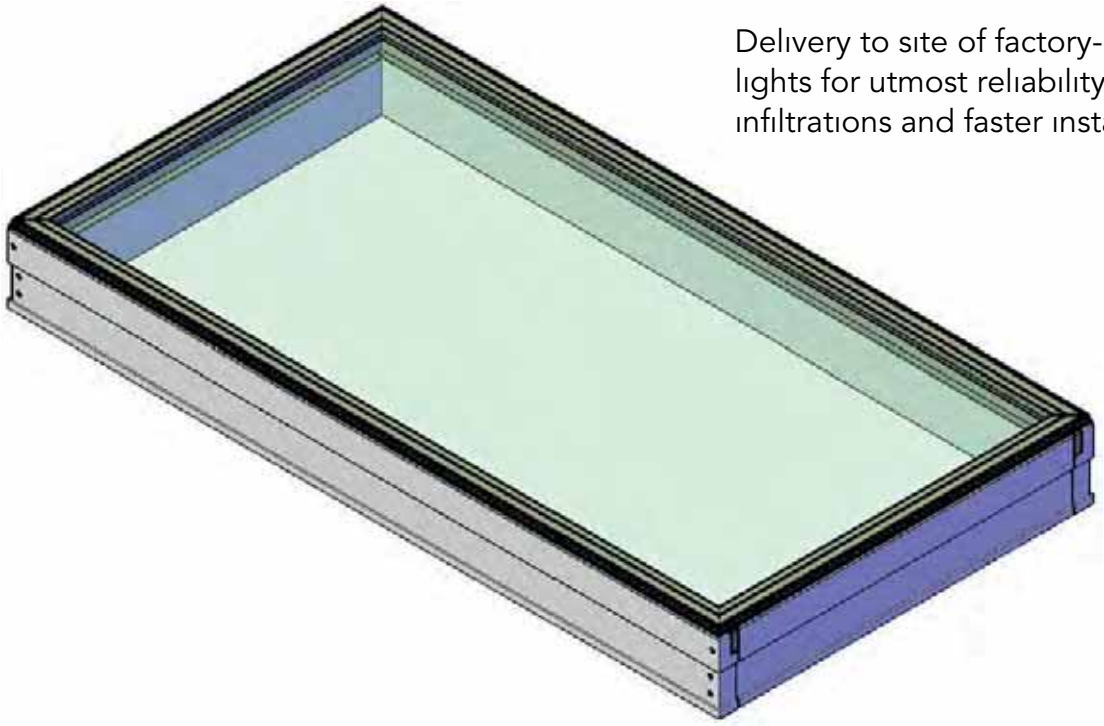
OUTSIDE BEADED FIXED LIGHTS



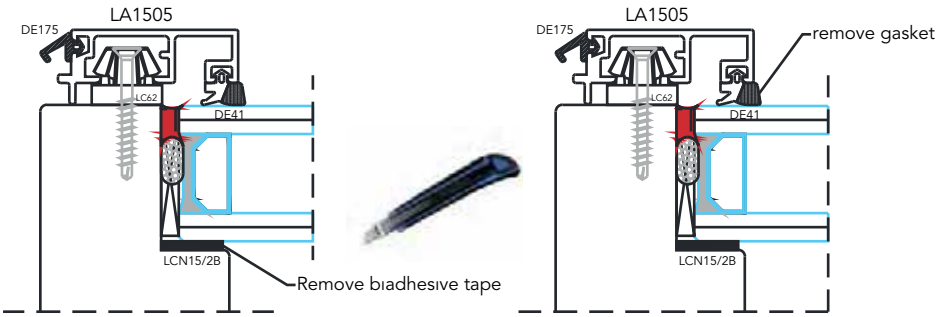


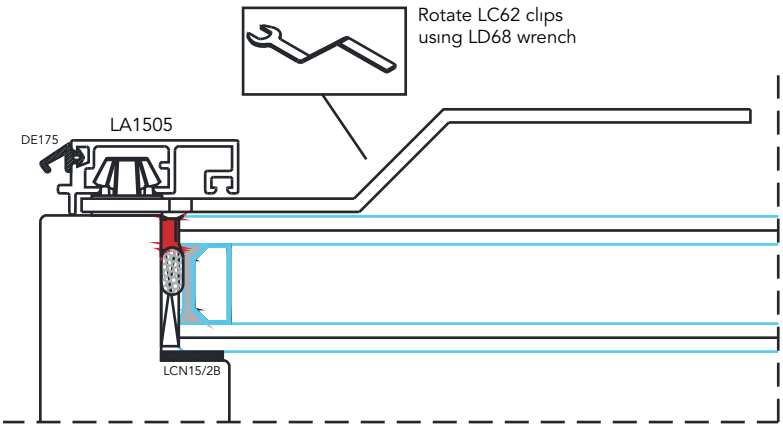


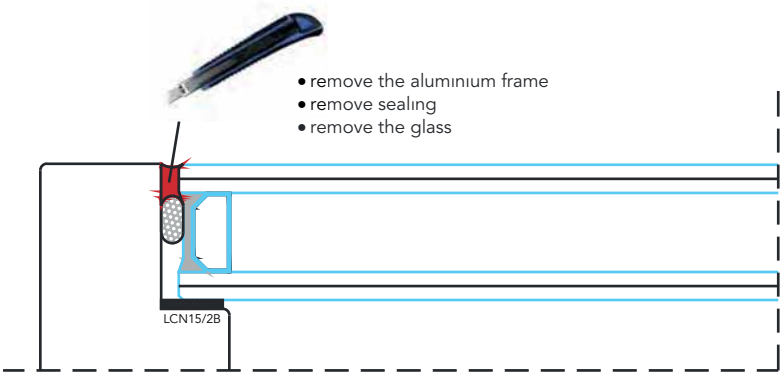
Double sided adhesive tape for trasferring the rigidity of the glass to the timber frame and allow huge stable units

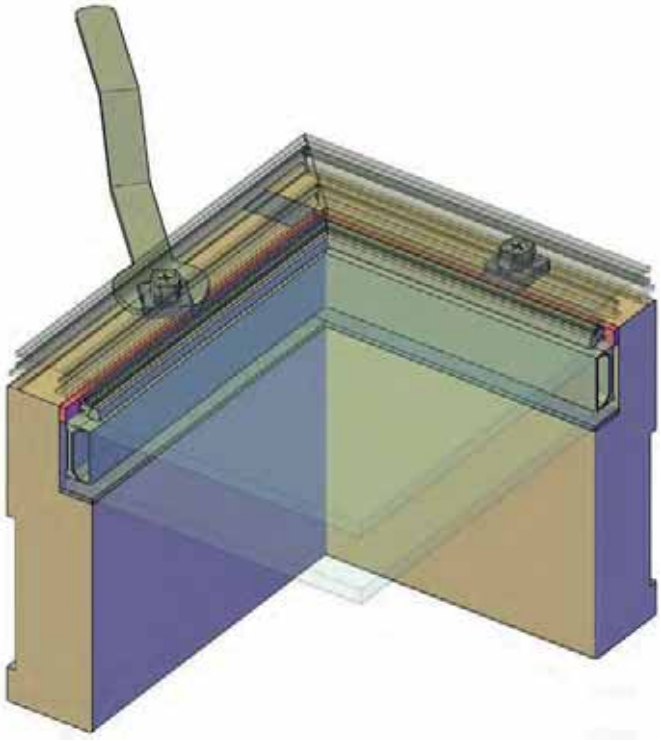


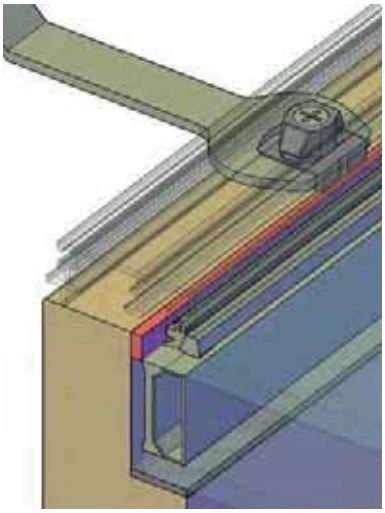
Delivery to site of factory-glazed fixed lights for utmost reliability against water infiltrations and faster installation

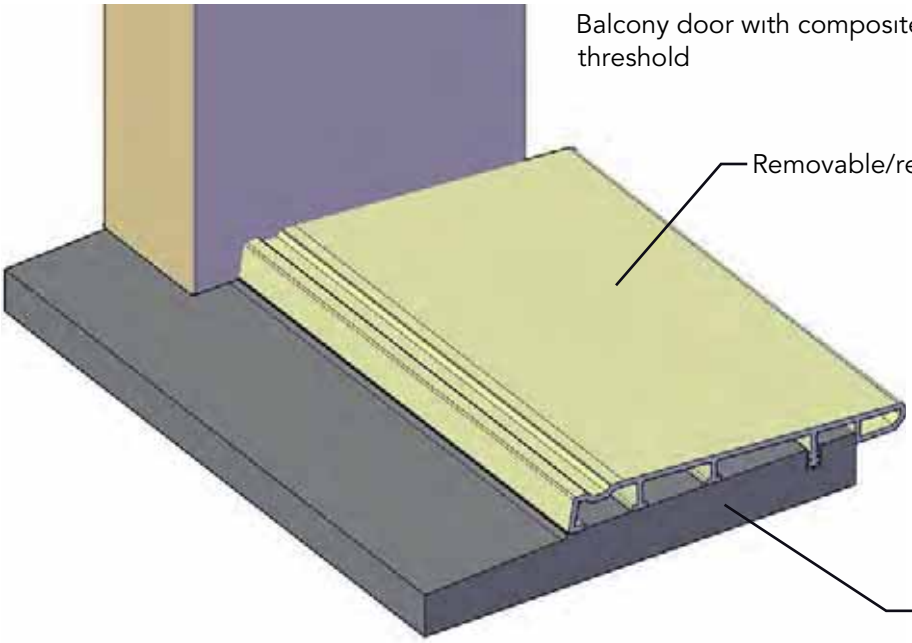

LA1505
DE175
LC62
DE41
LCN15/2B
Remove bıadhesıve tape
LA1505
DE175
remove gasket
LC62
DE41
LCN15/2B

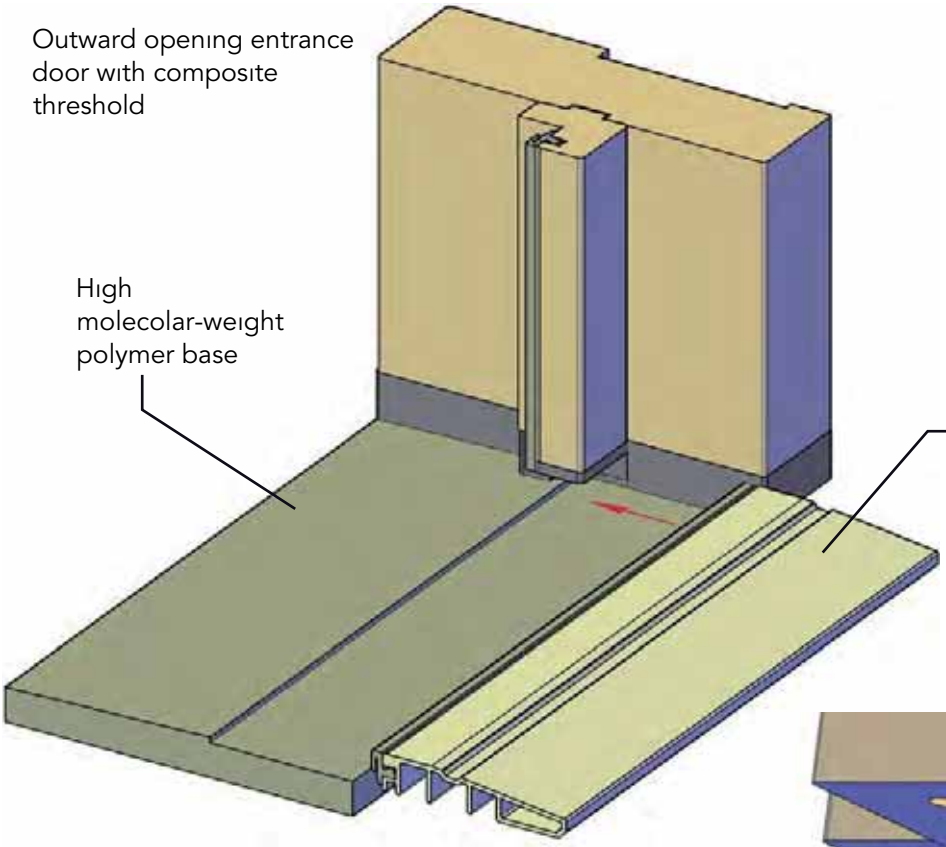

Rotate LC62 clips
usıng LD68 wrench
LA1505
DE175
LCN15/2B

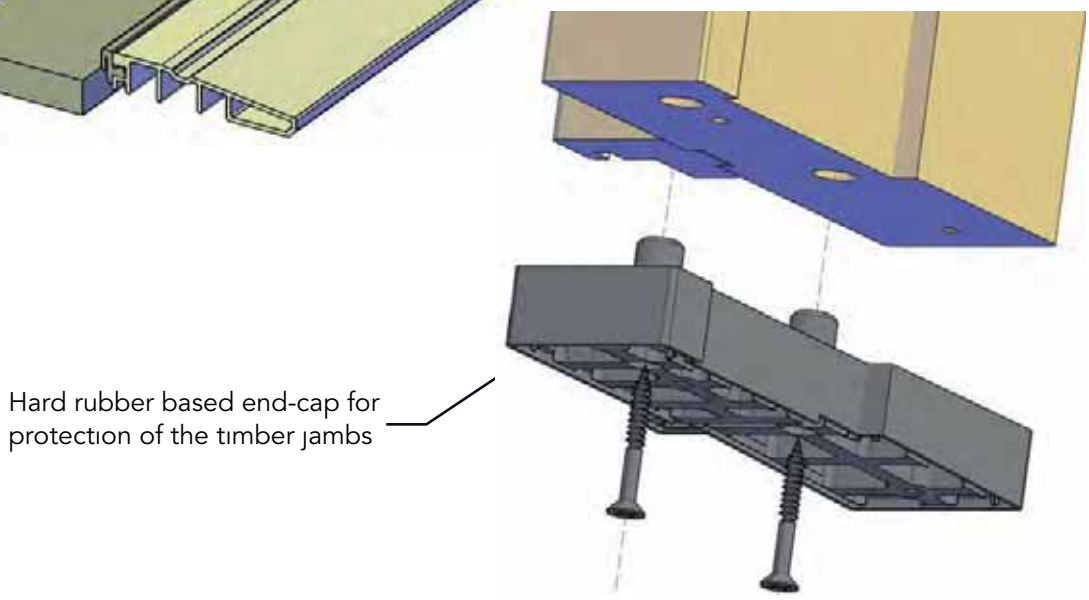

• remove the aluminium frame
• remove sealing
• remove the glass
LCN15/2B





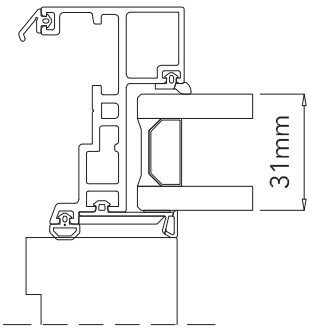

Balcony door with composite threshold
Removable/replaceable element in aluminium
High molecolar-weight polymer base


Outward opening entrance door with composite threshold
High molecolar-weight polymer base
Removable/replaceable element in aluminium


Hard rubber based end-cap for protection of the timber jambs

31mm glass

uni_one format38-AL31 (profilo anta in alluminio)

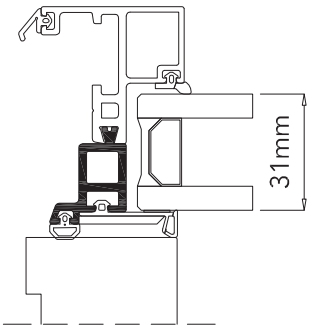


Telaio in PINO	
Ug(W/m²K)	Uw(W/m²K)
1,0	1,3
1,1	1,4
1,2	1,5
1,3	1,6
1,4	1,6

Telaio in ROVERE	
Ug(W/m²K)	Uw(W/m²K)
1,0	1,3
1,1	1,4
1,2	1,5
1,3	1,6
1,4	1,7

uni_one format38-TB31 (profilo anta in alluminio con profilo a taglio termico)

DISPONIBILE NEL 2021

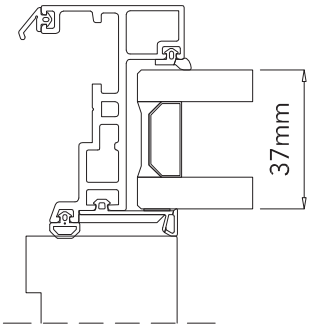


Telaio in PINO	
Ug(W/m²K)	Uw(W/m²K)
1,0	1,3
1,1	1,3
1,2	1,4
1,3	1,5
1,4	1,6

Telaio in ROVERE	
Ug(W/m²K)	Uw(W/m²K)
1,0	1,3
1,1	1,4
1,2	1,5
1,3	1,6
1,4	1,6

37mm glass

uni_one format38-AL37 (profilo anta in alluminio)

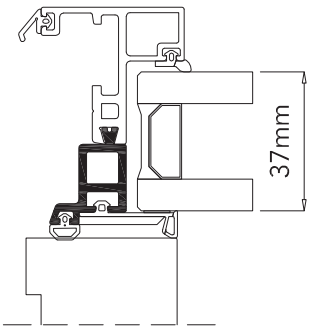


Telaio in PINO	
Ug(W/m²K)	Uw(W/m²K)
1,0	1,3
1,1	1,4
1,2	1,5
1,3	1,6
1,4	1,6

Telaio in ROVERE	
Ug(W/m²K)	Uw(W/m²K)
1,0	1,3
1,1	1,4
1,2	1,5
1,3	1,6
1,4	1,7

uni_one format38-TB37 (profilo anta in alluminio con profilo a taglio termico)

DISPONIBILE NEL 2021

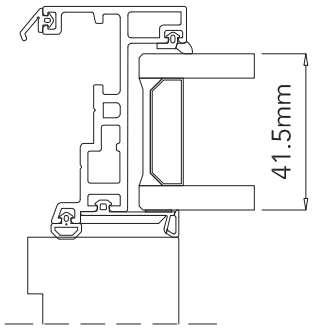


Telaio in PINO	
Ug(W/m²K)	Uw(W/m²K)
1,0	1,3
1,1	1,3
1,2	1,4
1,3	1,5
1,4	1,6

Telaio in ROVERE	
Ug(W/m²K)	Uw(W/m²K)
1,0	1,3
1,1	1,4
1,2	1,5
1,3	1,6
1,4	1,6

41.5mm glass

uni_one format38-AL41 (profilo anta in alluminio)



Telaio in PINO

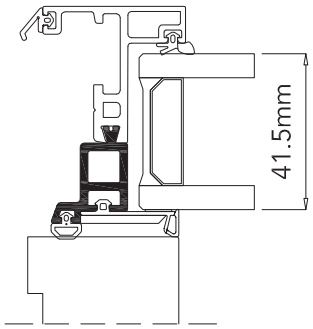
Ug(W/m²K)	Uw(W/m²K)
1,0	1,3
1,1	1,3
1,2	1,4
1,3	1,5
1,4	1,6

Telaio in ROVERE

Ug(W/m²K)	Uw(W/m²K)
1,0	1,3
1,1	1,4
1,2	1,5
1,3	1,6
1,4	1,6

uni_one format38-TB41 (profilo anta in alluminio con profilo a taglio termico)

DISPONIBILE NEL 2021



Telaio in PINO

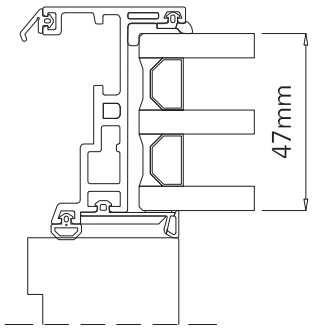
Ug(W/m²K)	Uw(W/m²K)
1,0	1,3
1,1	1,3
1,2	1,4
1,3	1,5
1,4	1,6

Telaio in ROVERE

Ug(W/m²K)	Uw(W/m²K)
1,0	1,3
1,1	1,4
1,2	1,5
1,3	1,6
1,4	1,6

47mm glass

uni_one format38-AL47 (profilo anta in alluminio)



Telaio in PINO

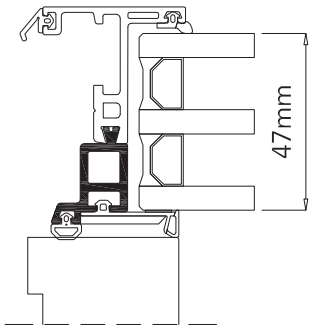
Ug(W/m²K)	Uw(W/m²K)
0,5	0,85
0,6	0,94
0,7	1,0
0,8	1,1
0,9	1,2
1,0	1,3

Telaio in ROVERE

Ug(W/m²K)	Uw(W/m²K)
0,5	0,9
0,6	1,0
0,7	1,1
0,8	1,2
0,9	1,3
1,0	1,4

uni_one format38-TB47 (profilo anta in alluminio con profilo a taglio termico)

DISPONIBILE NEL 2021



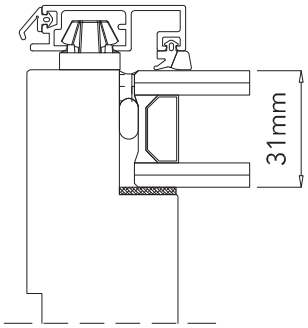
Telaio in PINO

Ug(W/m²K)	Uw(W/m²K)
0,5	0,82
0,6	0,90
0,7	1,0
0,8	1,1
0,9	1,2
1,0	1,3

Telaio in ROVERE

Ug(W/m²K)	Uw(W/m²K)
0,5	0,85
0,6	0,94
0,7	1,0
0,8	1,1
0,9	1,2
1,0	1,3

31mm glass

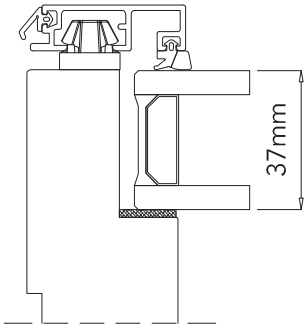


uni_one format38-AL31 Fisso

Telaio in PINO	
Ug(W/m²K)	Uw(W/m²K)
1,0	1,1
1,1	1,2
1,2	1,3
1,3	1,4
1,4	1,5

Telaio in ROVERE	
Ug(W/m²K)	Uw(W/m²K)
1,0	1,2
1,1	1,3
1,2	1,4
1,3	1,4
1,4	1,5

37mm glass

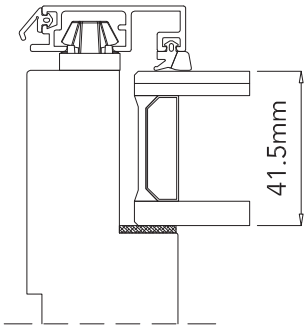


uni_one format38-AL37 Fisso

Telaio in PINO	
Ug(W/m²K)	Uw(W/m²K)
1,0	1,1
1,1	1,2
1,2	1,3
1,3	1,4
1,4	1,5

Telaio in ROVERE	
Ug(W/m²K)	Uw(W/m²K)
1,0	1,2
1,1	1,3
1,2	1,3
1,3	1,4
1,4	1,5

41.5mm glass

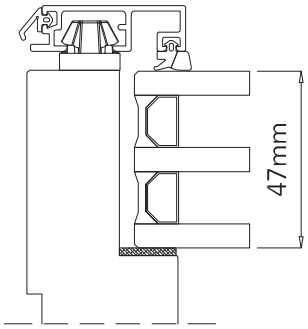


uni_one format38-AL41 Fisso

Telaio in PINO	
Ug(W/m²K)	Uw(W/m²K)
1,0	1,1
1,1	1,2
1,2	1,3
1,3	1,4
1,4	1,5

Telaio in ROVERE	
Ug(W/m²K)	Uw(W/m²K)
1,0	1,2
1,1	1,3
1,2	1,3
1,3	1,4
1,4	1,5

47mm glass



uni_one format38-AL47 Fisso

Telaio in PINO	
Ug(W/m²K)	Uw(W/m²K)
0,5	0,7
0,6	0,8
0,7	0,9
0,8	1,0
0,9	1,0
1,0	1,1

Telaio in ROVERE	
Ug(W/m²K)	Uw(W/m²K)
0,5	0,7
0,6	0,8
0,7	0,9
0,8	1,0
0,9	1,1
1,0	1,1

LABORATORIO TECNOLOGICO
LEGNOLEGNO

LegnoLegno s.c.
Via Pio La Torre, 11
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Tel. +039 0522 733011
Fax +039 0522732636

Testing Laboratory
Notified Body number 1709
n. albo artigiani 900037
n. albo coop.ve A106083
REA 170723
C.F. P.IVA e N.ISCRIZ. REG.IMPRESE REGGIO E. 01244480354

SINTESI DI RAPPORTO DI PROVA N° 0054R/19
SUMMARY OF THE TEST REPORT No.

Luogo, data: Correggio, 04/12/2019
Place, date

Committente: UNIFORM SPA
Client VIA DELL'AGRICOLTURA, 36 - MINERBE (VR)

Per conto della Ditta: c.s.
On behalf of the Company

Denominazione commerciale del modello / *Product trade name*:
UNI_ONE FORMAT38

Dimensioni campione / *Sample dimensions*:
Perimetro apribile / *Length of opening joints*: 4,88 m
Superficie totale / *Overall area*: 1,68 m²

PROVE ESEGUITE E RISULTATI CONSEGUITI
PERFORMED TESTS AND RESULTS

Indice di valutazione del potere fonoisolante: R_w (C; C_{tr}) = 42 (-2; -5) dB
(UNI EN ISO 10140-2:2010 - UNI EN ISO 717-1:2013)
Weighted sound reduction index

Tutti i risultati di prova, con valori misurati sperimentalmente, indicati nella presente sintesi sono contenuti nel rapporto di prova n° 0054R/19 del 04/12/2019 emesso da questo Laboratorio.
All test results, with experimentally measured values, listed in this test report summary are included in the test report No. 0054R/19 dated 04/12/2019 issued by this Laboratory.

Il Responsabile Prove / *Test Technician*
Geom. Davide Barbato

Il Direttore Tecnico / *Technical Manager*
Ing. Antonio D'Albo

LABORATORIO TECNOLOGICO
LEGNOLEGNO

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Testing Laboratory
Notified Body number 1709
n. albo artigiani 900037
n. albo coop.ve A106083
REA 170723

C.F. P.IVA e N.ISCRIZ. REG.IMPRESE REGGIO E. 01244480354

SINTESI DI RAPPORTO DI PROVA N° 0028R/19
SUMMARY OF THE TEST REPORT No.

Luogo, data: *Place, date* — Correggio, 18/07/2019

Committente: *Client* — UNIFORM SPA
VIA DELL'AGRICOLTURA, 36 - MINERBE (VR)

Per conto della Ditta: *On behalf of the Company* — UNIFORM SPA
VIA DELL'AGRICOLTURA, 36 - MINERBE (VR)

Denominazione commerciale del modello / *Product trade name*:
UNI_ONE FORMAT38 VETRATA FISSA / UNI_ONE FORMAT38 FIXED LIGHT

Dimensioni campione / *Sample dimensions*:
Superficie totale / *Overall area*: 1,95 m²

PROVE ESEGUITE E RISULTATI CONSEGUITI
PERFORMED TESTS AND RESULTS

Indice di valutazione del potere fonoisolante: R_w (C; C_{tr}) = 46 (-3; -8) dB
(UNI EN ISO 10140-2:2010 - UNI EN ISO 717-1:2013)
Weighted sound reduction index

Tutti i risultati di prova, con valori misurati sperimentalmente, indicati nella presente sintesi sono contenuti nel rapporto di prova n° 0028R/19 del 18/07/2019 emesso da questo Laboratorio.
All test results, with experimentally measured values, listed in this test report summary are included in the test report No. 0028R/19 dated 18/07/2019 issued by this Laboratory.

Il Responsabile Prove / *Test Technician*
Geom. Davide Barbato

Il Direttore Tecnico / *Technical Manager*
Ing. Antonio D'Albo

REMARKS ON THERMAL PERFORMANCE TEST
The present calculatıon ıs for analysıs purpose and for ınternal verıfıcatıon only: ıt has been made upon the basıs of the norms ın force (below reported) at the tıme of the calculatıon.
The real test result shall be certıfıed only by a notıfıed ınstıute.
Unıform S.p.A. can not take any responsıbılıty for the values ındıcated.

Norms of reference: UNI EN 10077/1-2007, UNI EN 10077/2-2004, EN ISO 12524-2001.
Dımensıons used for calculatıon sıngle sash Wındow 1230x1480mm
Psıg=0.04 W/mK

NOTE SUI TEST DI PRESTAZIONI TERMICHE
Il presente calcolo è stato effettuato sulla base delle normatıve dı seguıto rıportate a puro tıtolo dı analısı e verıfıca ınterna.Il rısultato reale potrà essere certıfıcato solamente da un ıstıtuto notıfıcato.
Unıform spa non può assumersı alcuna responsabılità per ı valorı ın esso rıportatı.

Normatıve dı rıferımento: UNI EN 10077/1-2007, UNI EN 10077/2-2004, EN ISO 12524-2001.
*Mısura dı rıferıme*nto Fınestra 1 anta 1230x1480mm.
Psıg=0.04 W/mK

REMARKS ON ACOUSTIC PERFORMANCE TESTS
All test results, wıth experımentally measured values, lısted ın thıs test report summary are ıncluded ın the test report No. 0028R/19 dated 18/07/2019 and No. 0054R/19 dated 04/12/2019 ıssued by the Technologıc Laboratory "LEGNO LEGNO" dı Correggıo (RE) Italıa

Norms of reference: *UNI* EN ISO 10140-2:2010 - UNI EN ISO 717-1:2013
Dımensıons used for calculatıon: fıxed lıght 1.95sqm; top hung unıt 1.68sqm

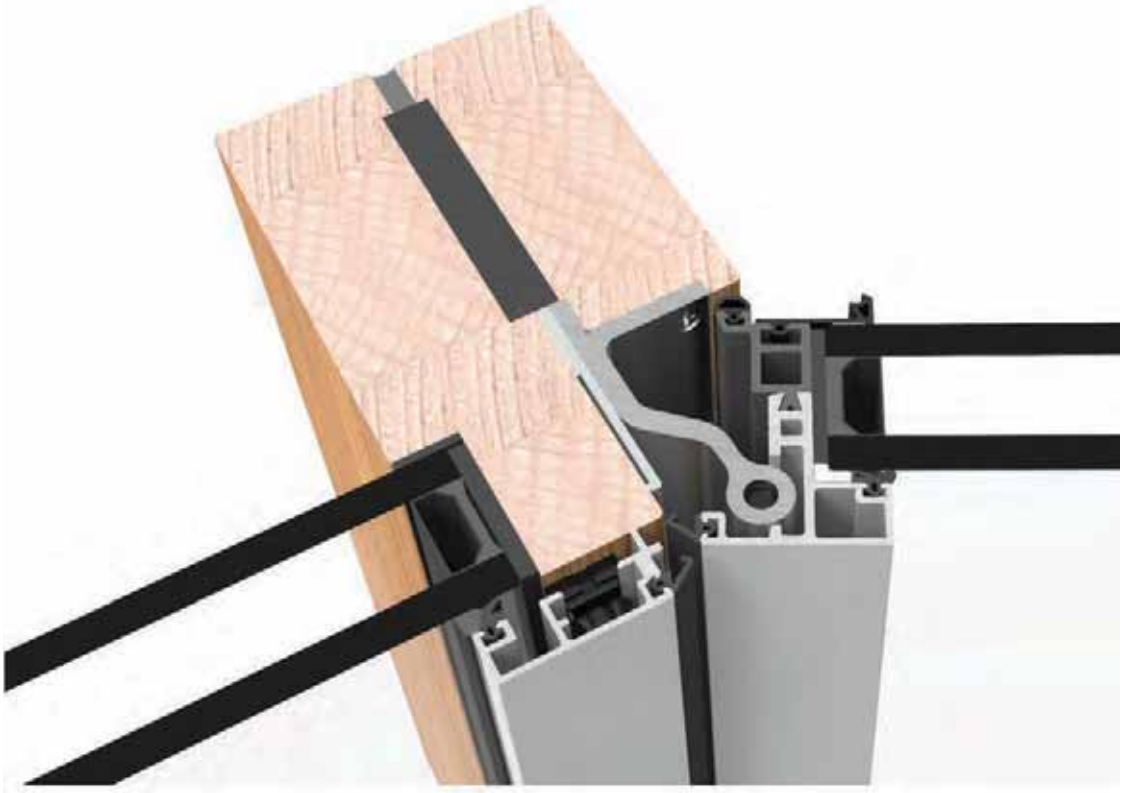
NOTE SUI TEST DI PRESTAZIONI ACUSTICHE
Tutti ı rısultatı dı prova, ottenutı con valorı mısuratı sperımentalmente e ındıcatı nelle sıntesı precedentemente rıportate, sono contenutı neı rapporti dı prova n° 0028R/19 del 18/07/2019 e n° 0054R/19 del 04/12/19 emessı dal Laboratorıo Tecnologıco "LEGNO LEGNO" dı Correggıo (RE) Italıa.

Normatıve dı rıferımento: UNI EN ISO 10140-2:2010 - UNI EN ISO 717-1:2013
*Mısura dı rıferıme*nto: fısso 1.95mq; top hung 1.68mq

uniform

uni_one format38

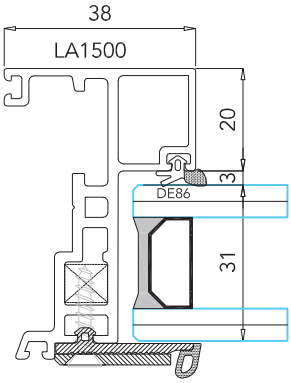
Sezioni di porte e finestre

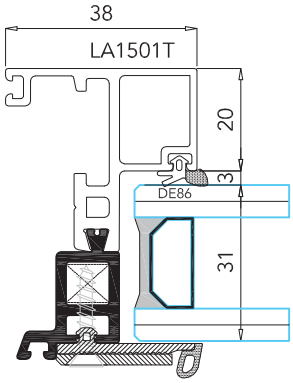


uniform

vetro da 31mm

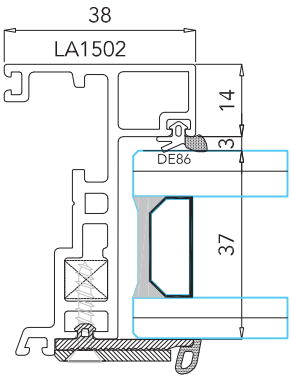
AL	TB*

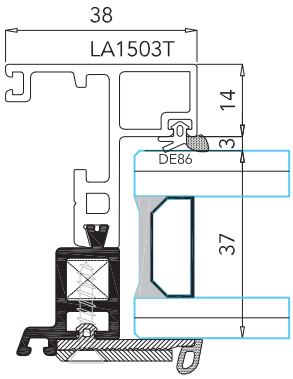




vetro da 37mm

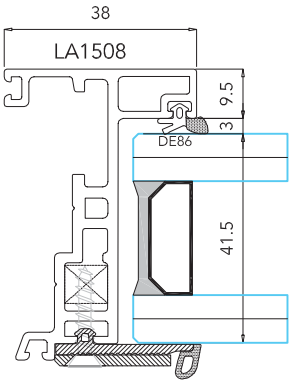
AL	TB*

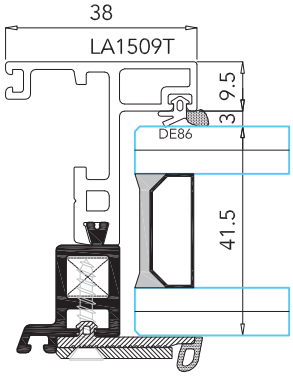




vetro da 41.5mm

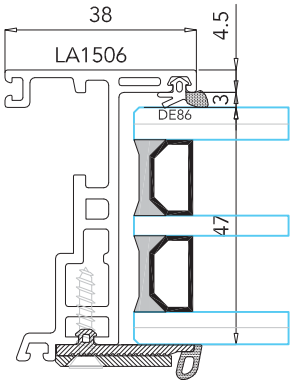
AL	TB*

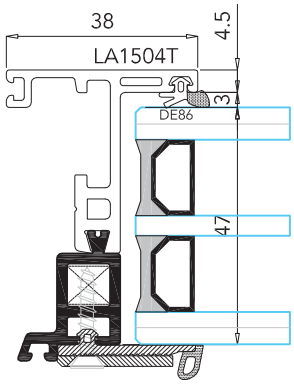




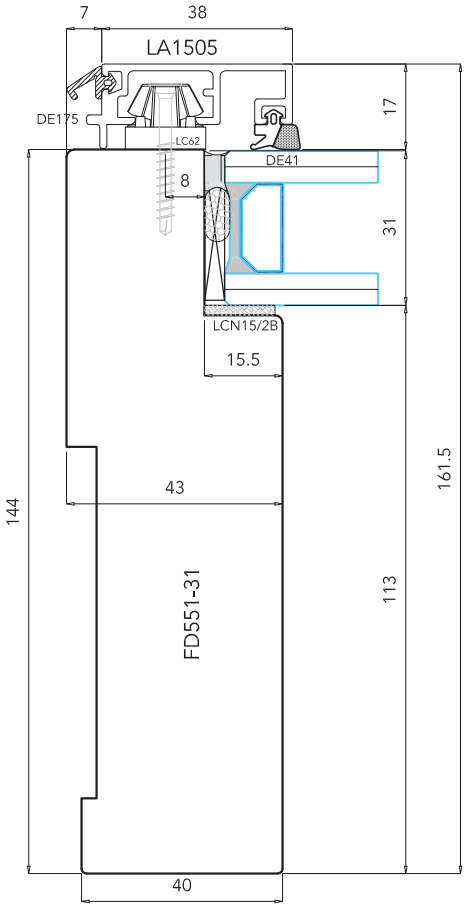
vetro da 47mm

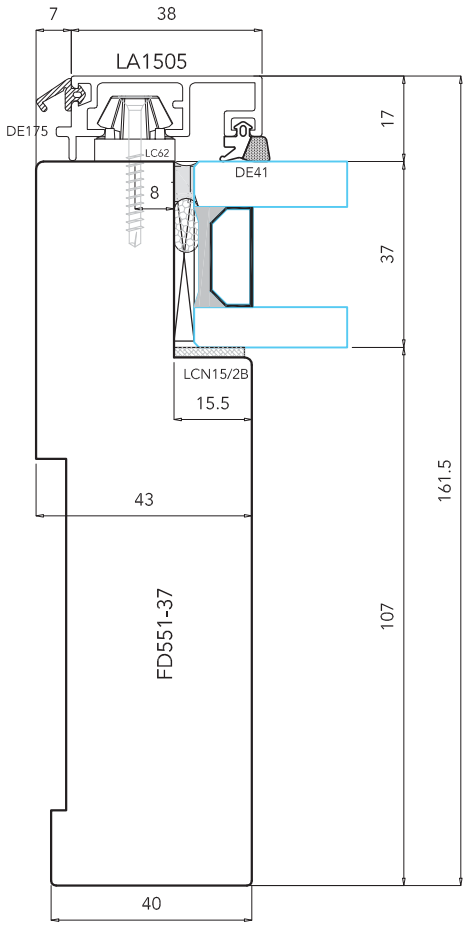
AL	TB*

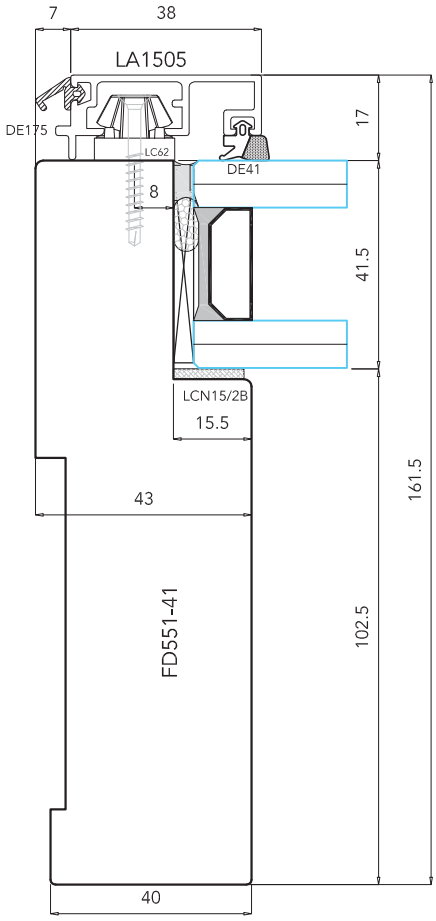


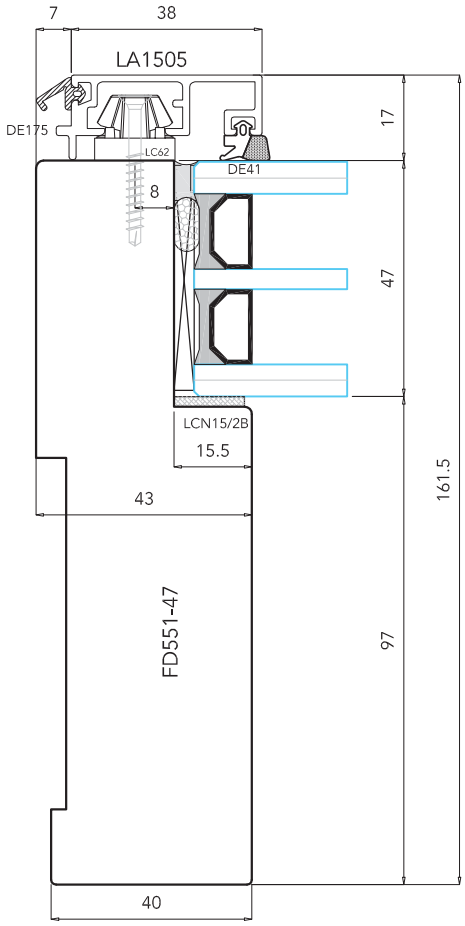


* : questi profili saranno disponibili a partire dal 2021









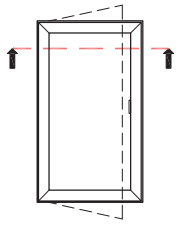
uni_one format38

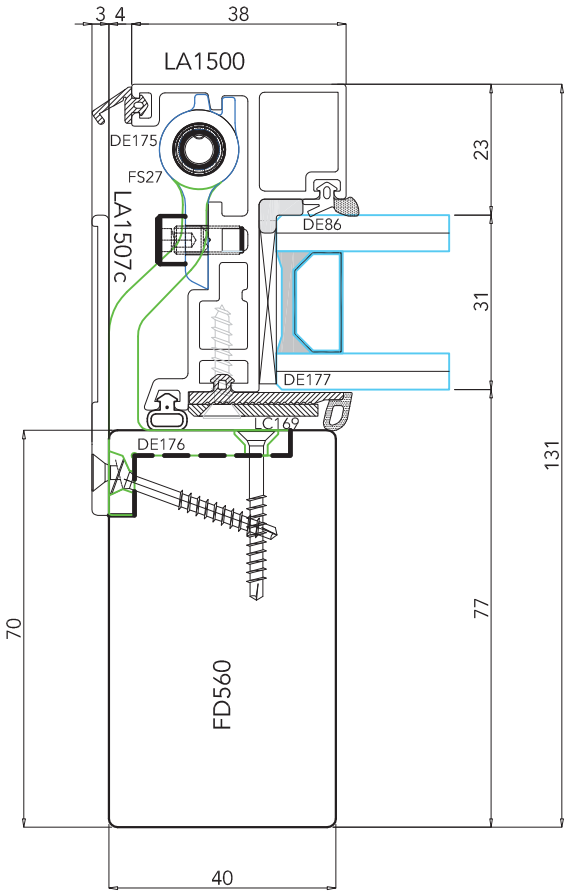
uniform

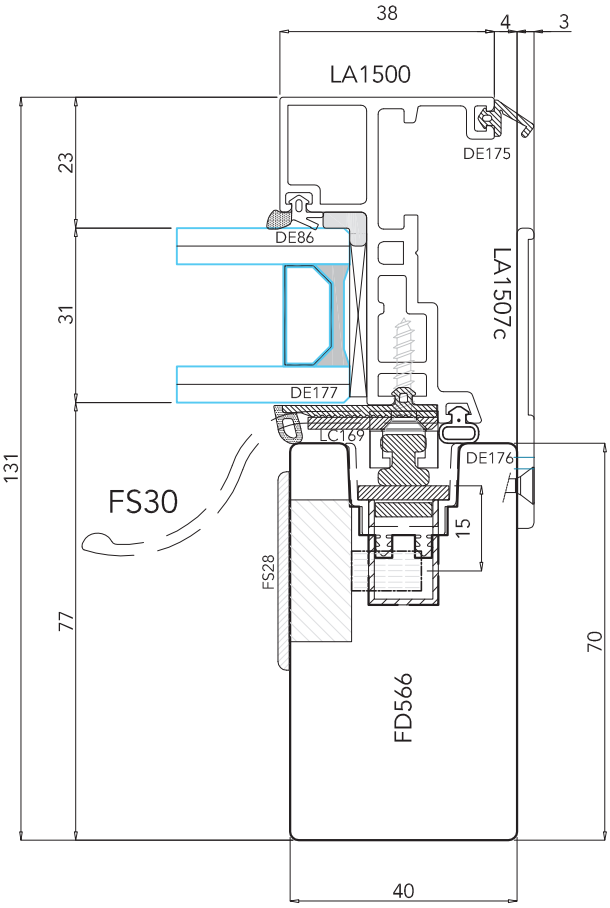
Scala 1:1.5

IT Tipologie vetri per fisso standard

UK Standard fixed light and glass types







uni_one format38

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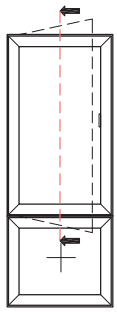
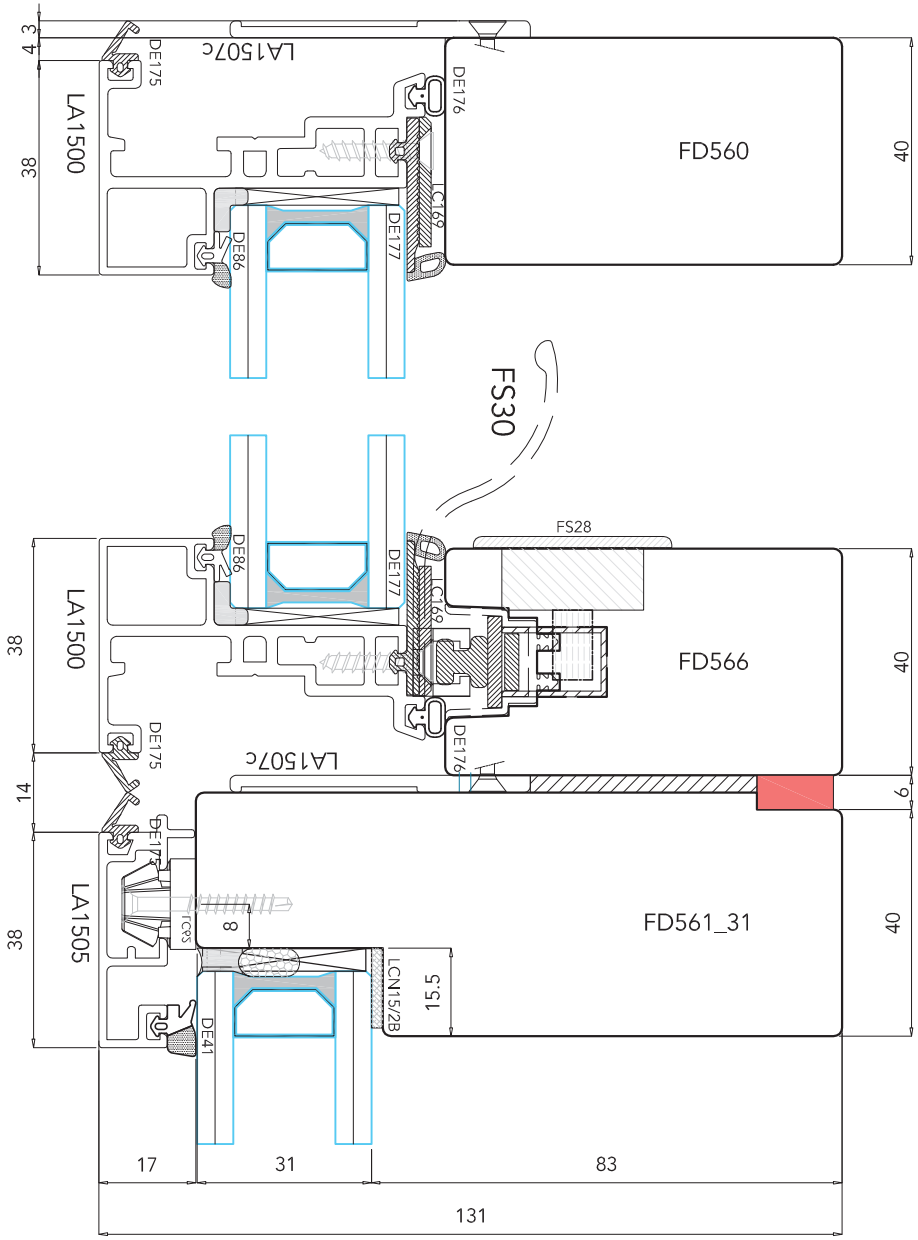
Scala 1:1.5

(IT) Anta su profili a sezione ridotta per cellule isolate

(UK) Sash on compressed section profiles for single standing units





uni_one format38

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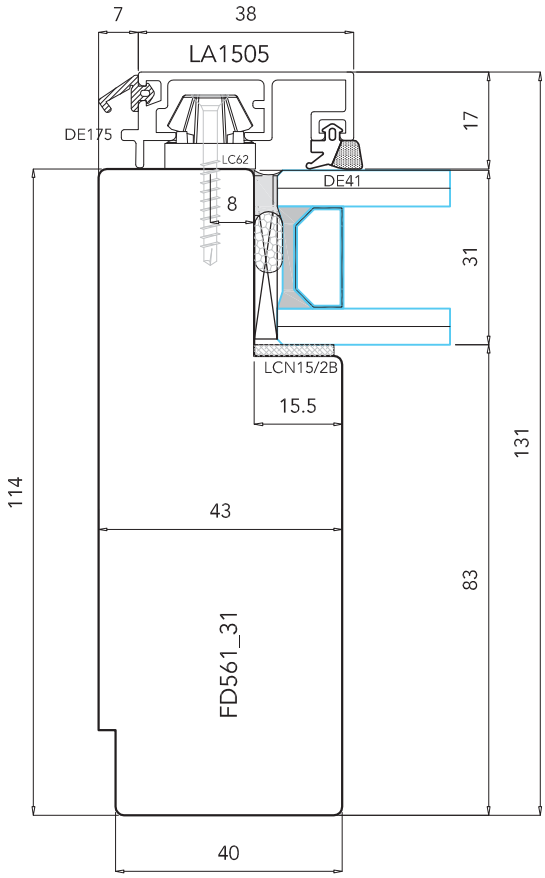
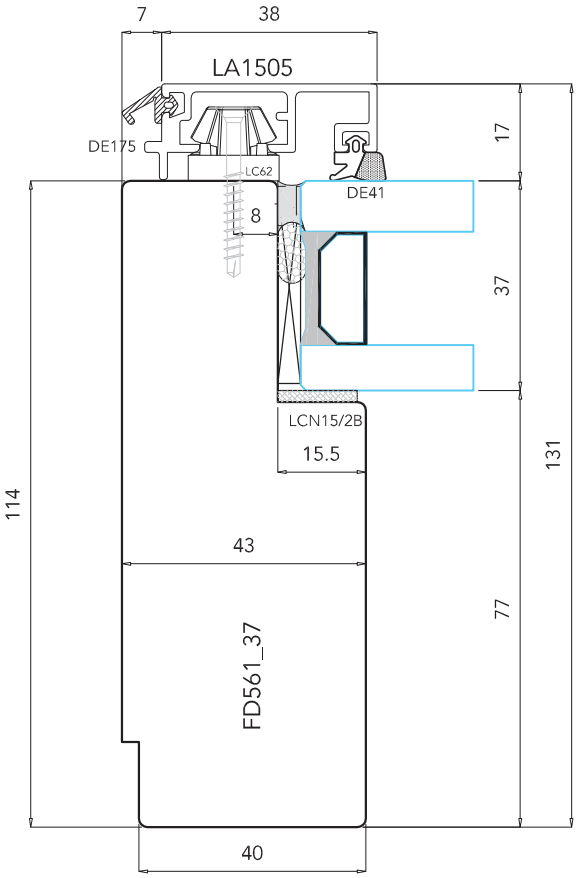
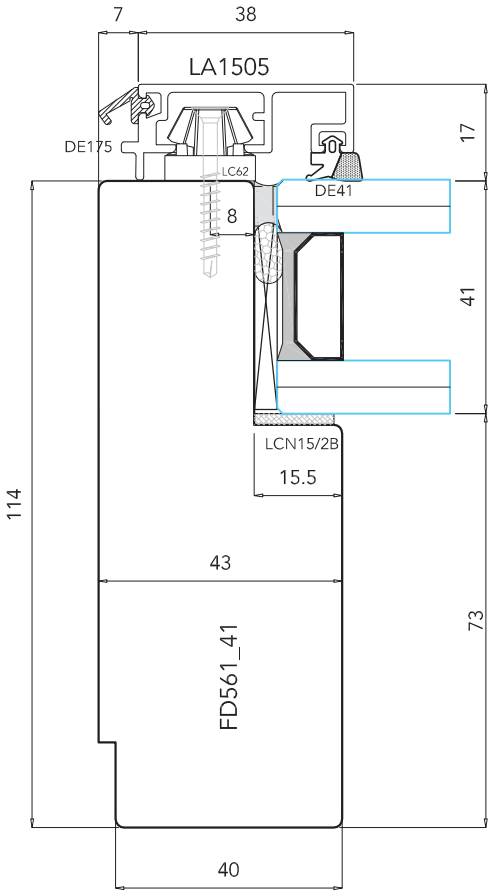
Scala 1:1.5

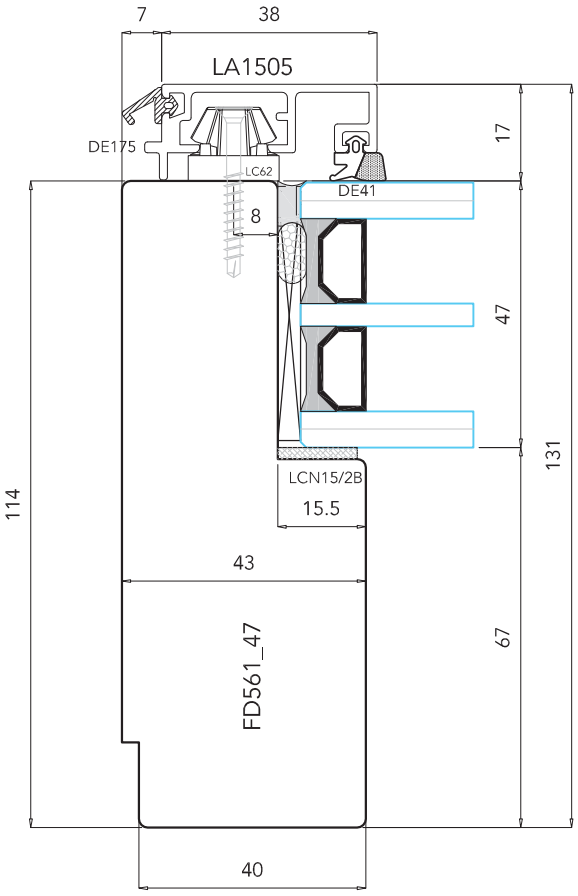
IT Profili a sezione ridotta su cellula isolata

UK Compressed section profiles on a single standing unit









uni_one format38

uniform

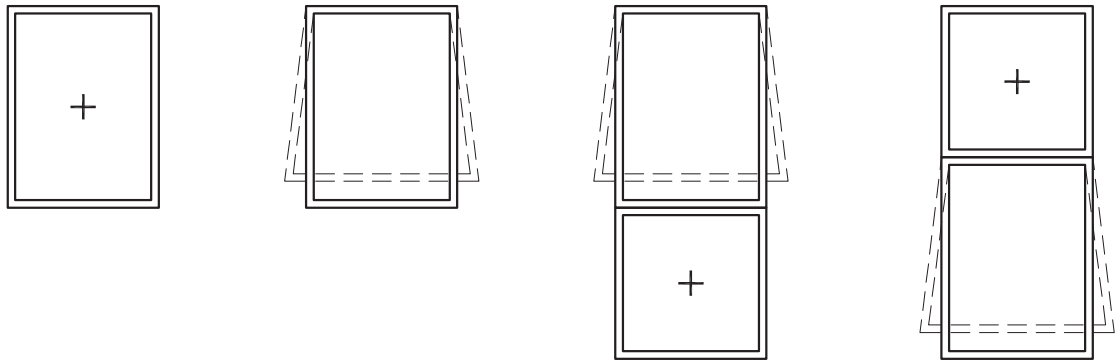
Scala 1:1.5

IT Tipologie vetri per fisso a sezione ridotta

UK Compressed section fixed light: glass types

CONFIGURAZIONI REALIZZABILI
CON PROFILI IN LEGNO A SEZIONE RIDOTTA

SI



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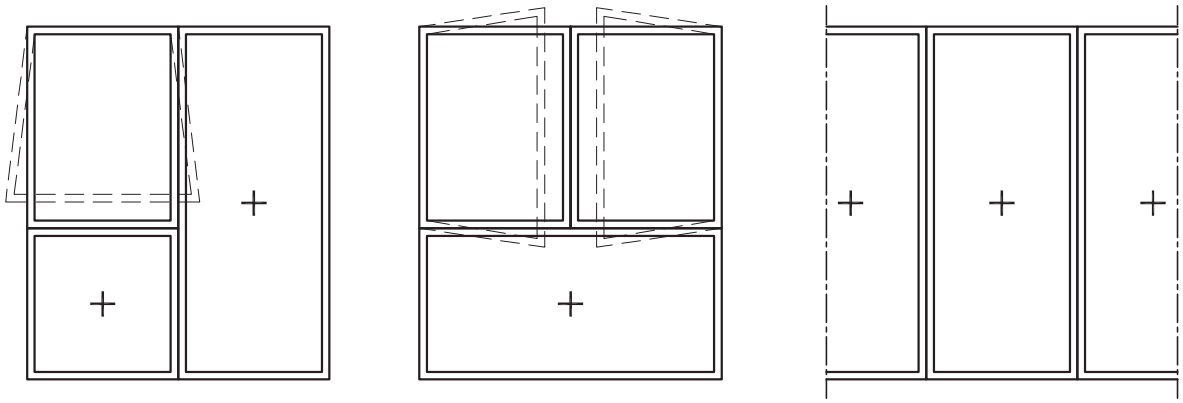
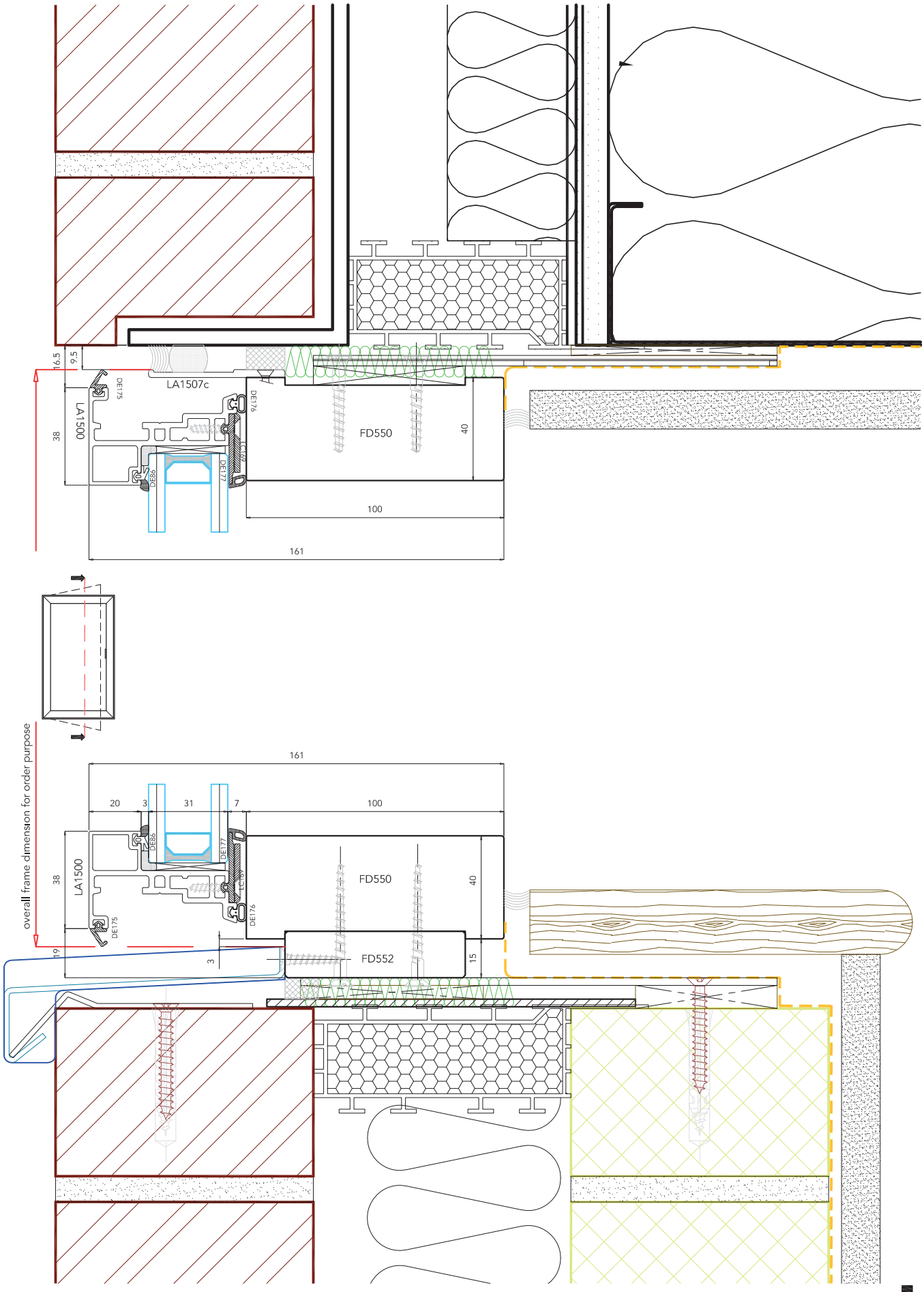




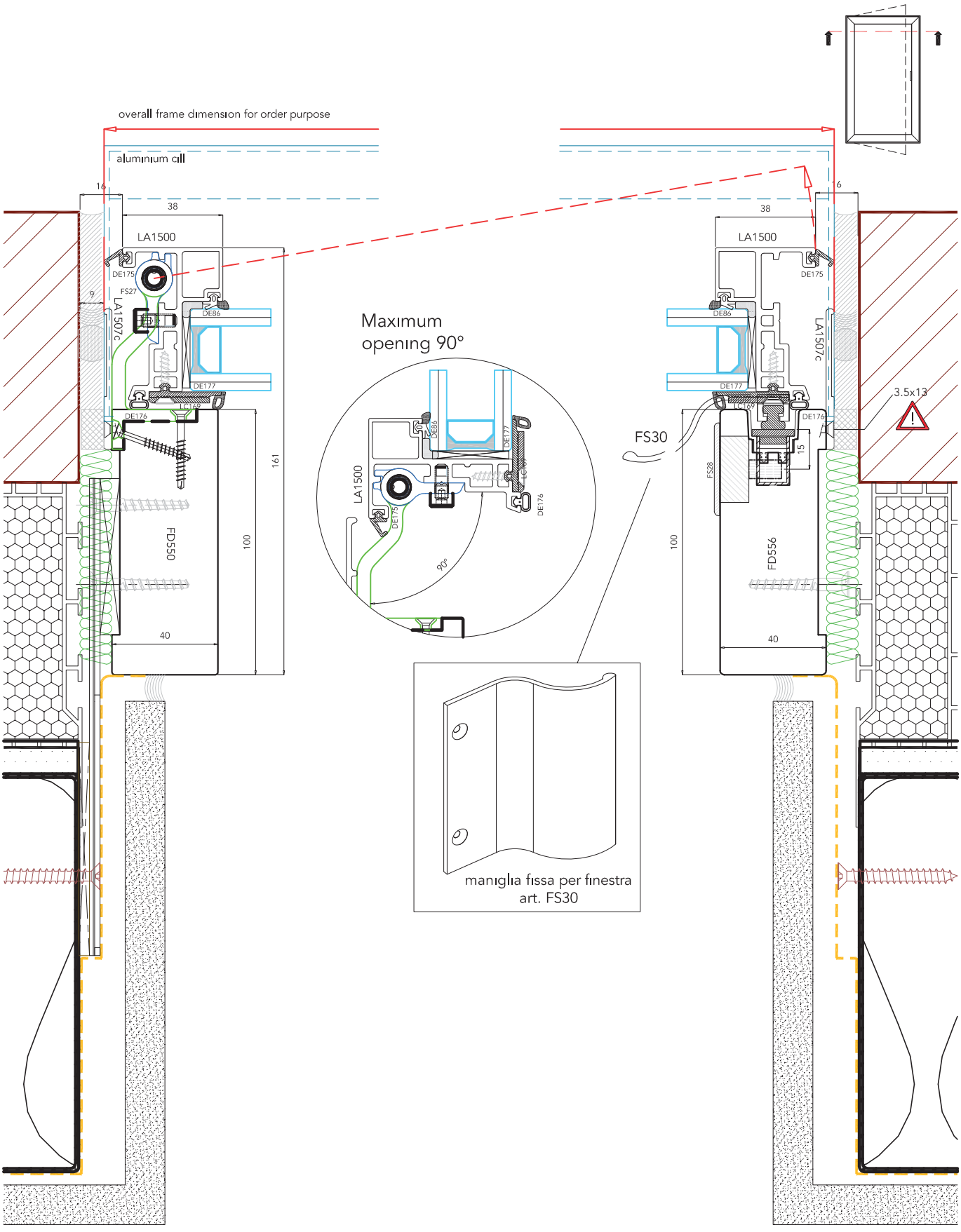
uni_one format38

uniform

Scala 1:2

IT Sezione verticale finestra side-hung

UK Side-hung window - vertical section



uni_one format38

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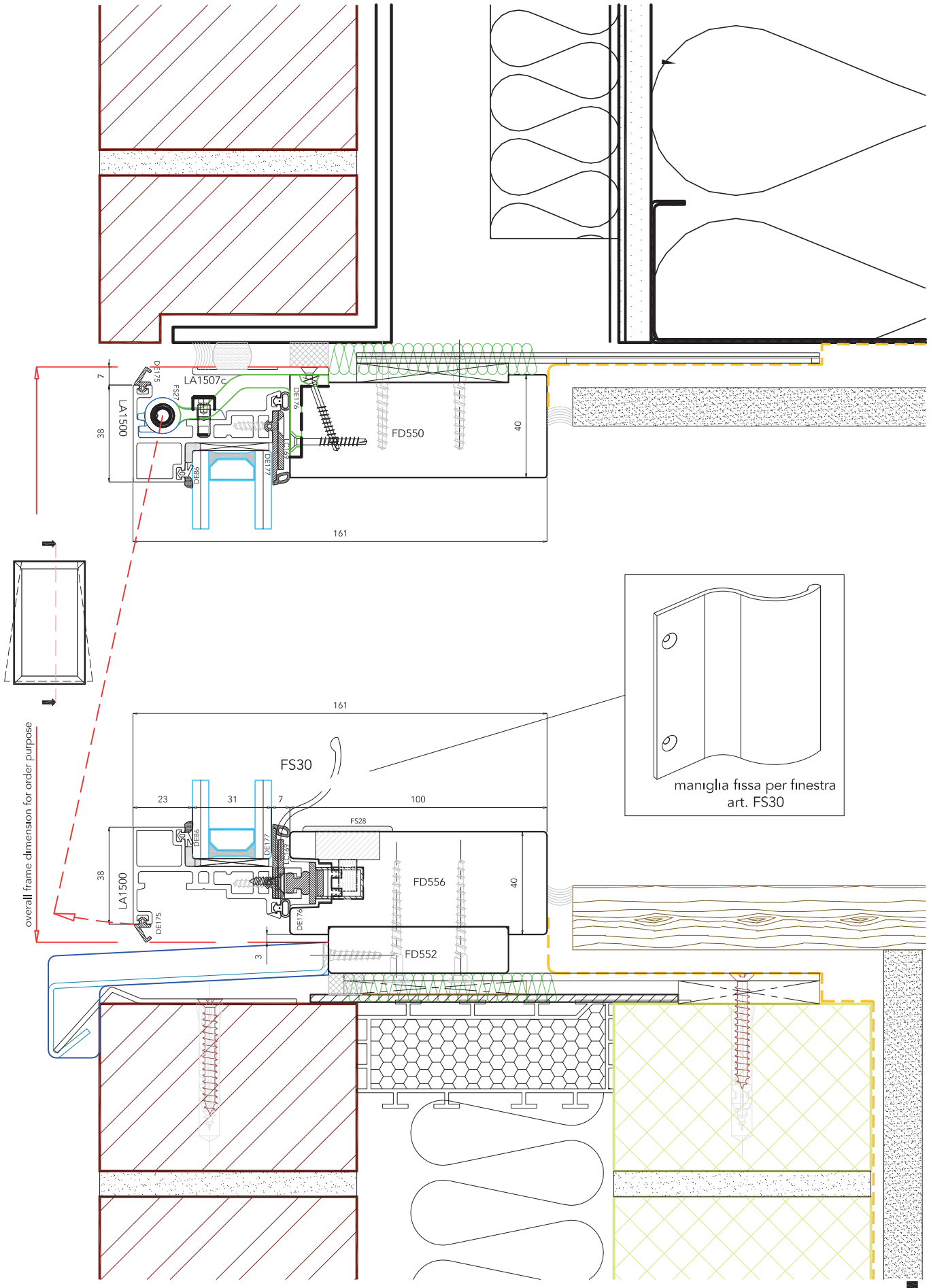
Scala 1:2

IT Sezione orizzontale montanti laterali side-hung

UK Side-hung window - horizontal section



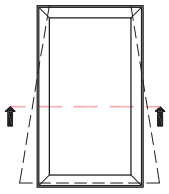
uni_one format38

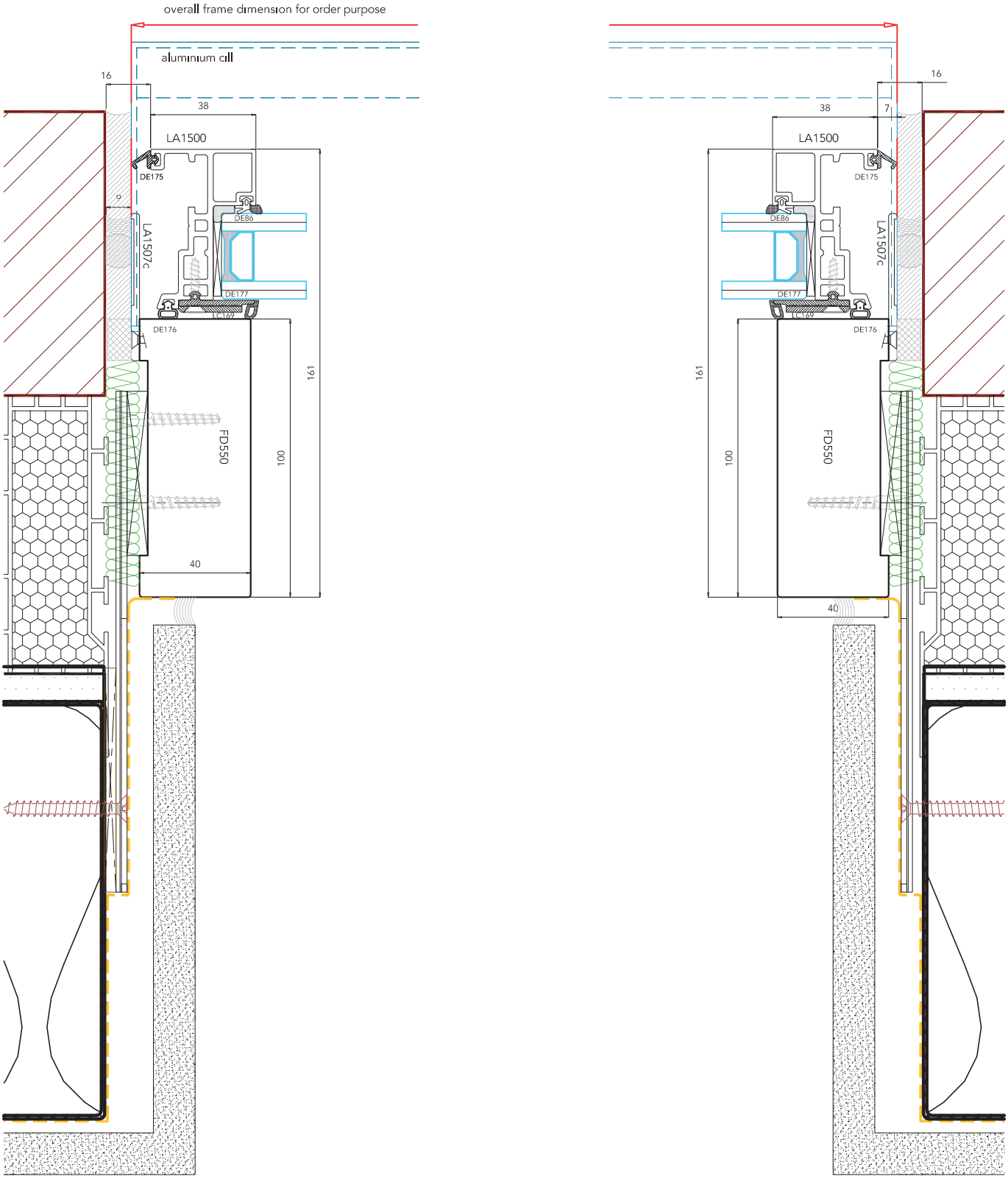
uniform

Scala 1:2

IT Sezione verticale finestra Top-hung

UK Top-Hung window - vertical section





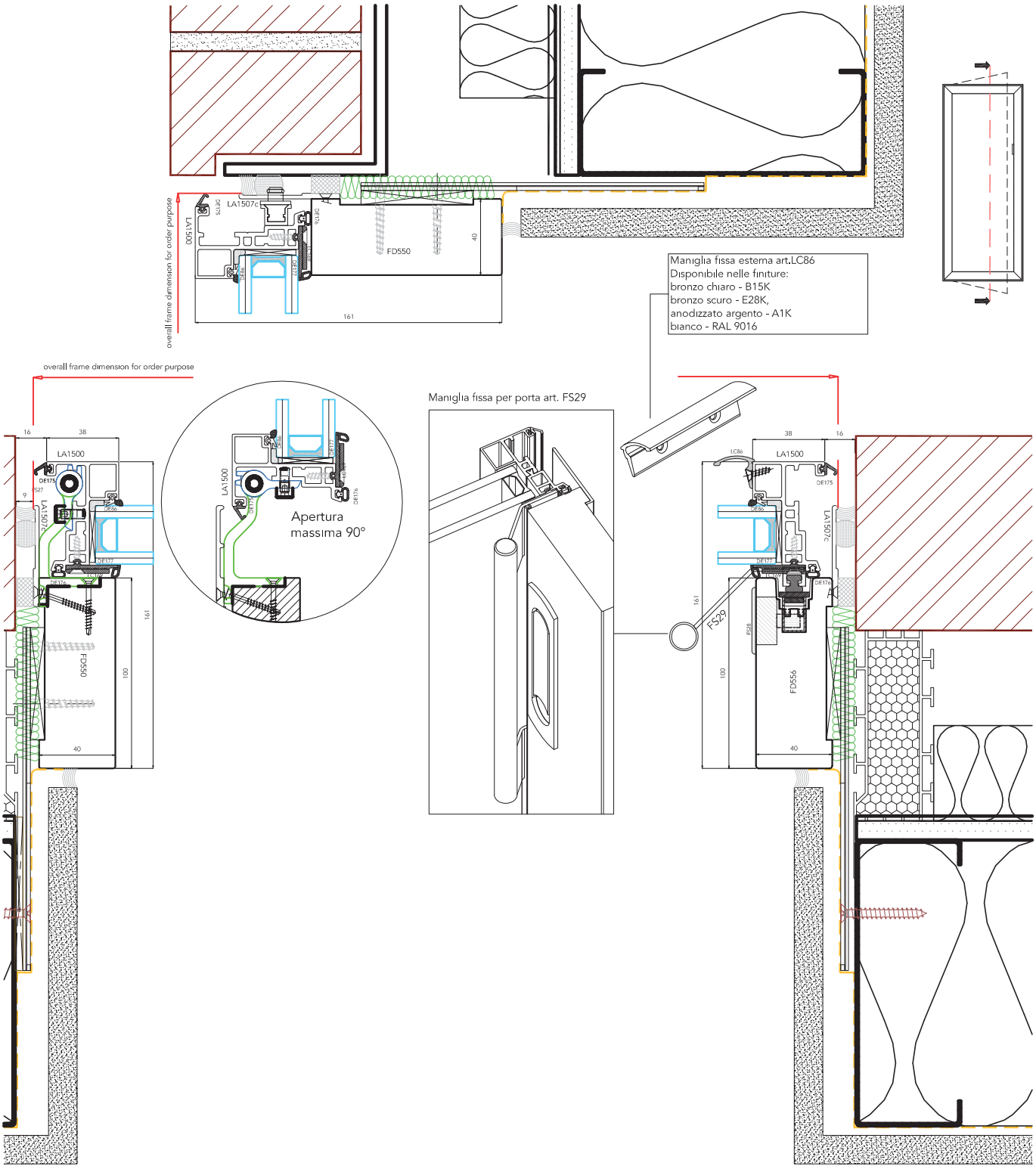
uni_one format38

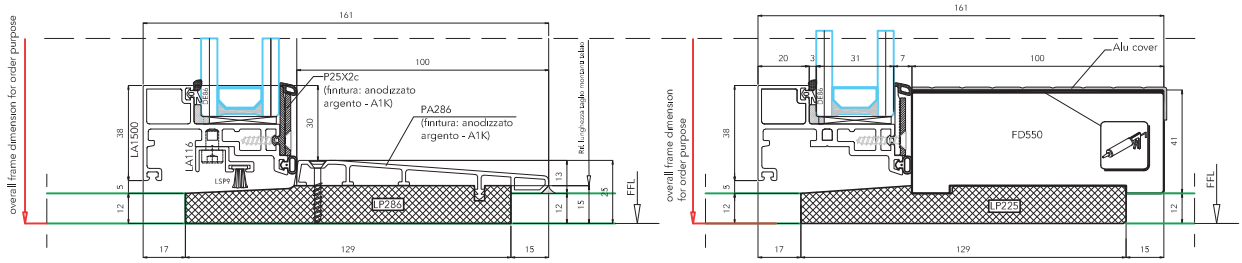
uniform

Scala 1:2

IT Sezione orizzontale finestra top-hung

UK Top-Hung window - horizontal section





uni_one format38

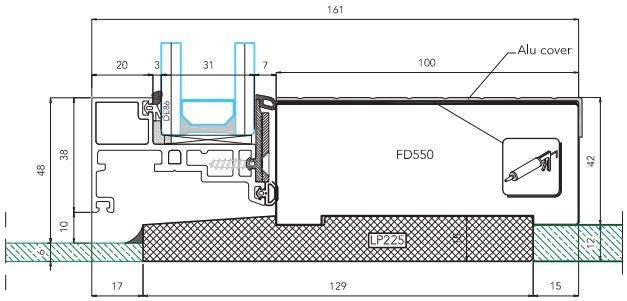
uniform

Scala 1:3

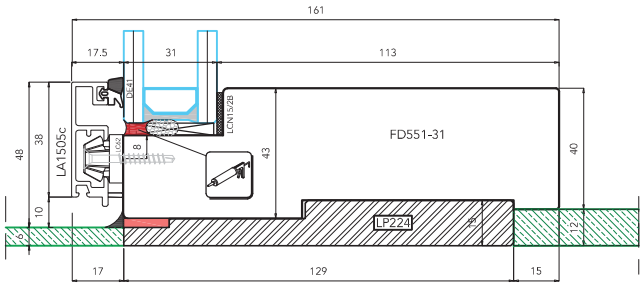
IT Sezioni porta finestra

UK Side-hung window door

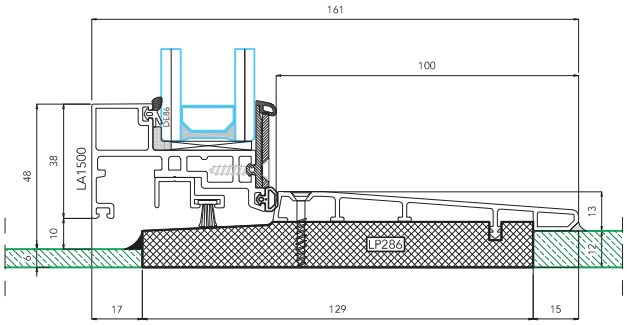
PORTAFINESTRA



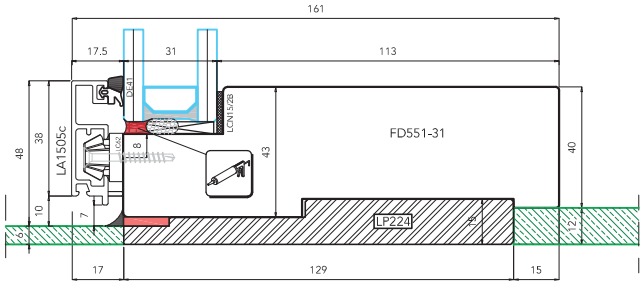
FISSO ALLINEATO ALLA SOGLIA DELLA PORTA



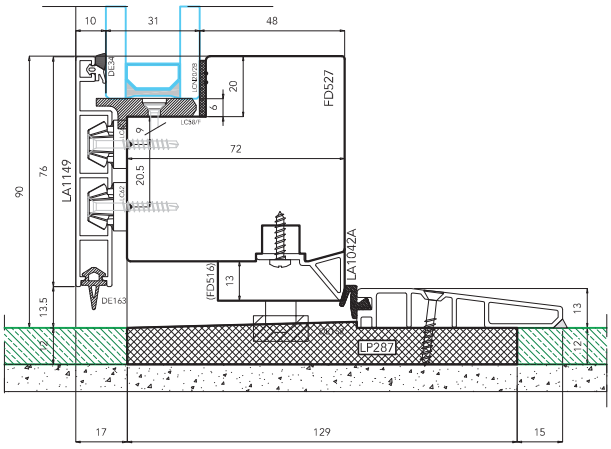
PORTA BALCONE CON SOGLIA



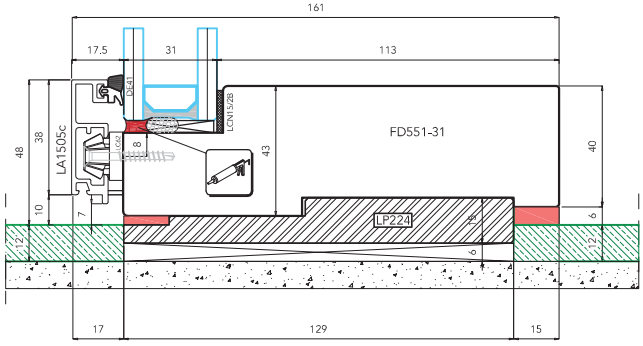
FISSO ALLINEATO ALLA SOGLIA DELLA PORTA

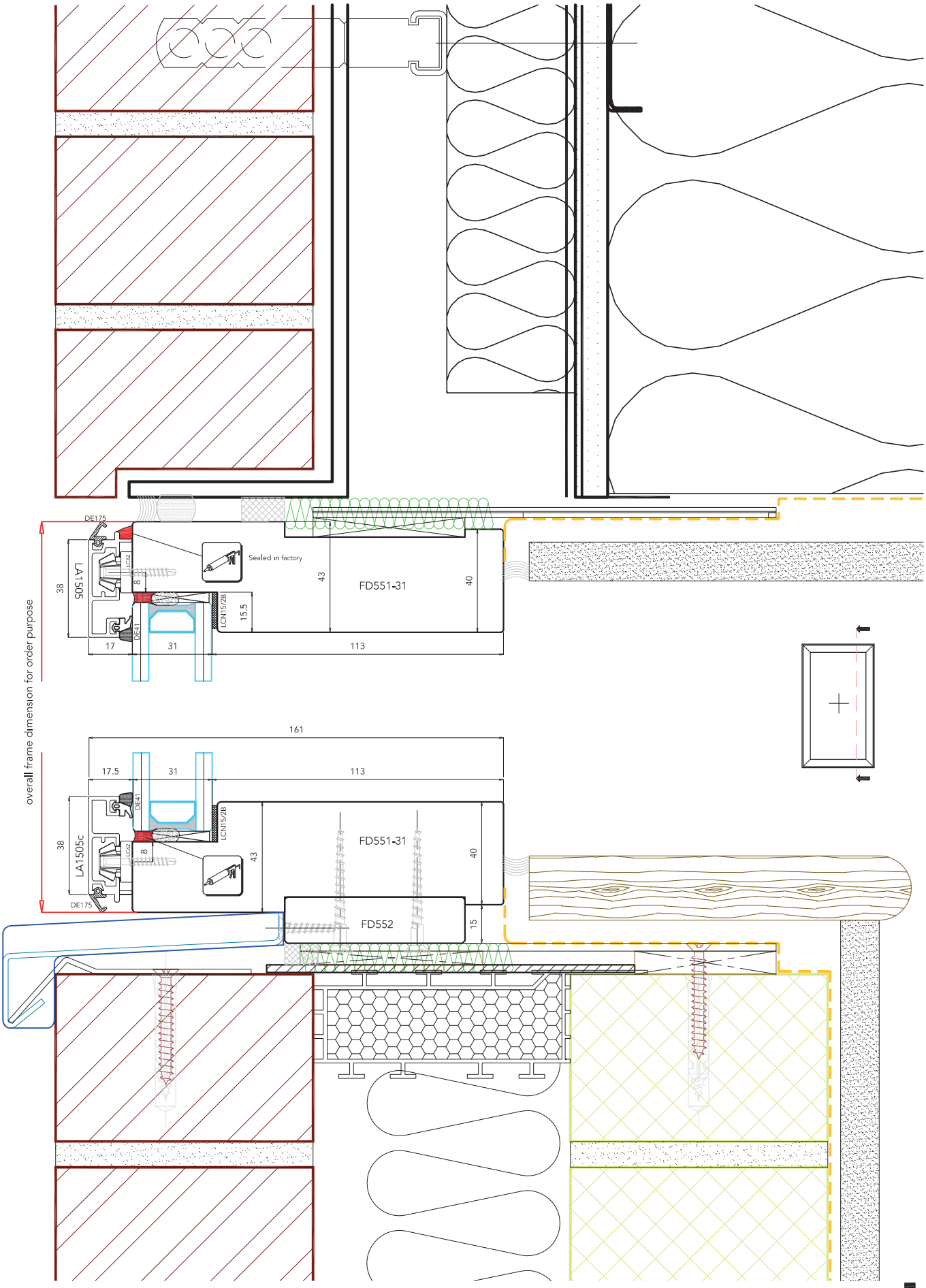


PORTONCINO DI INGRESSO CON SOGLIA



FISSO ALLINEATO ALLA SOGLIA DELLA PORTA





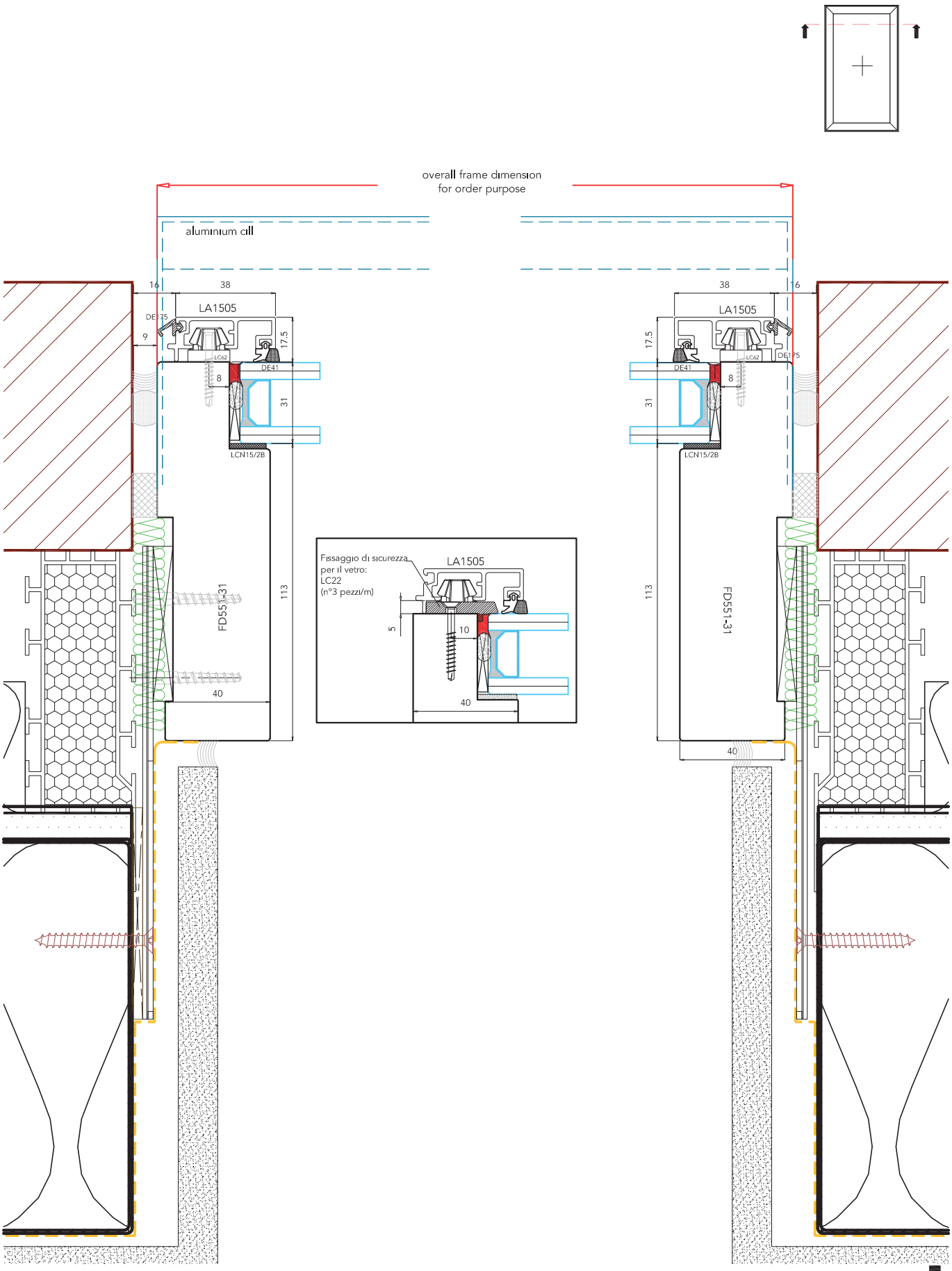
uni_one format38

uniform

Scala 1:2

IT Sezione verticale fisso

UK Vertical section of the fixed light



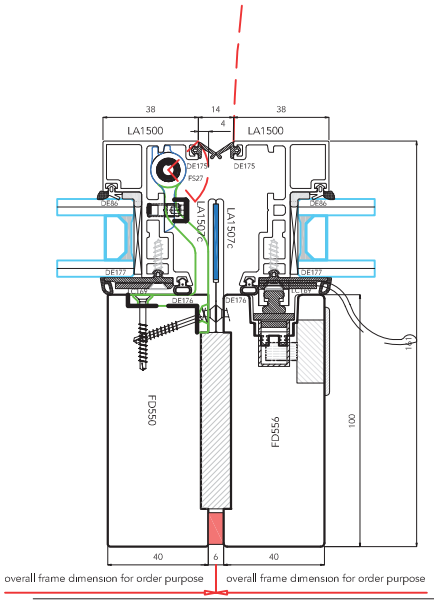
uni_one format38

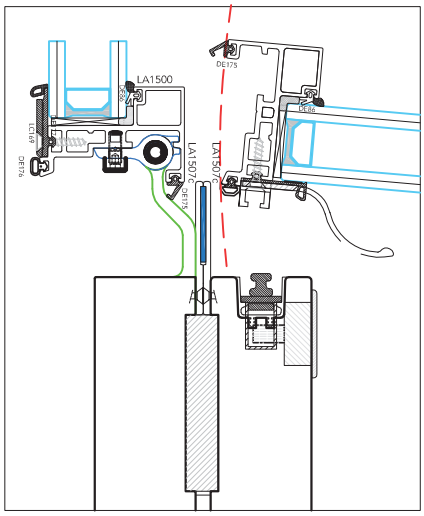
uniform

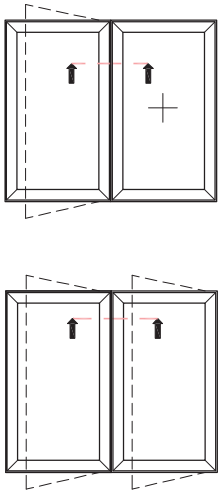
Scala 1:2

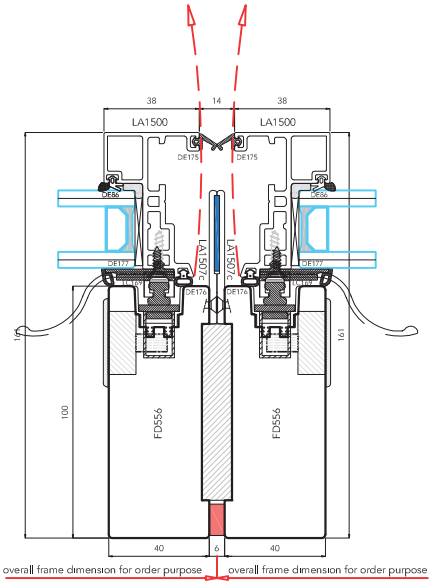
IT Sezione orizzontale montanti laterali fisso

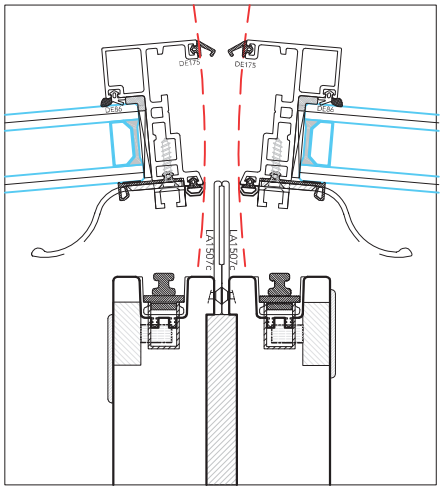
UK Horizontal section of the lateral jambs fixed light

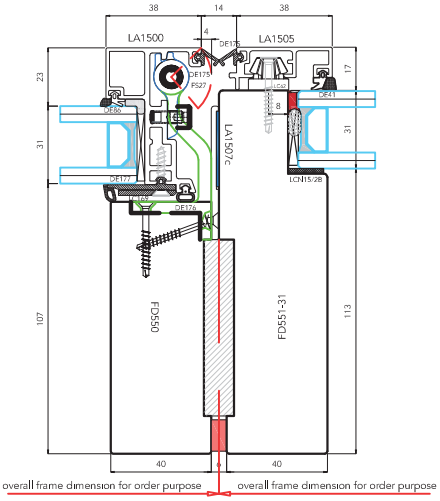


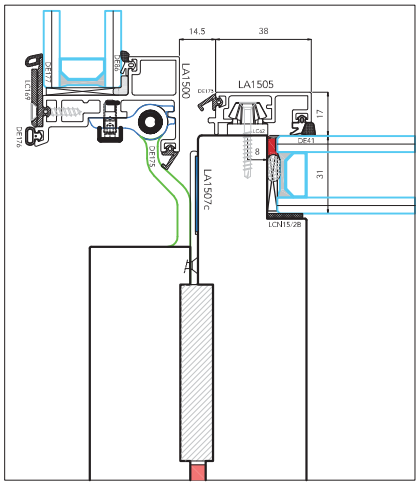












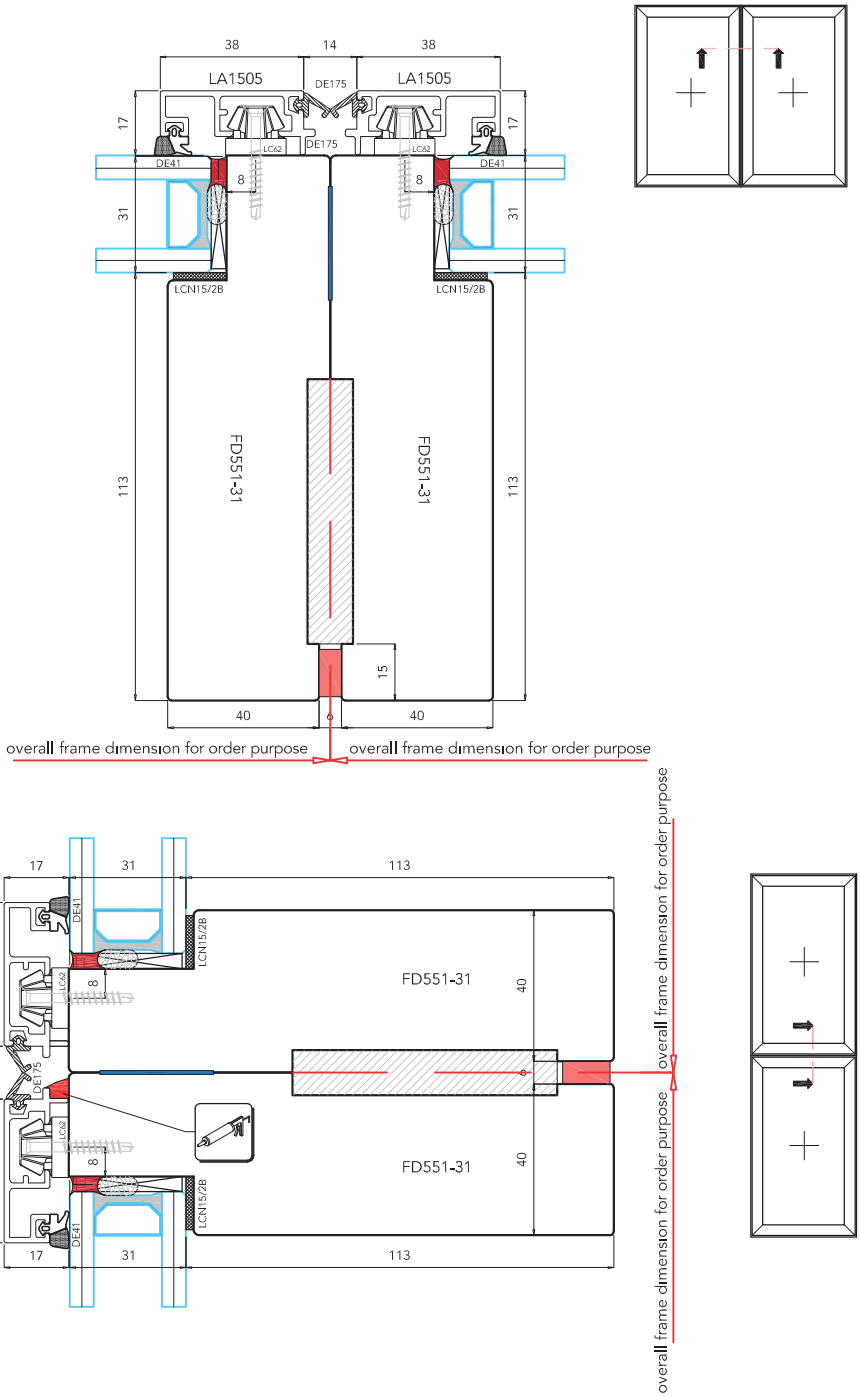
uni_one format38

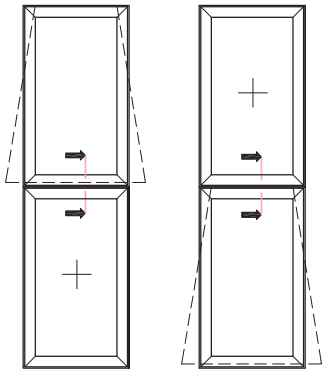
uniform

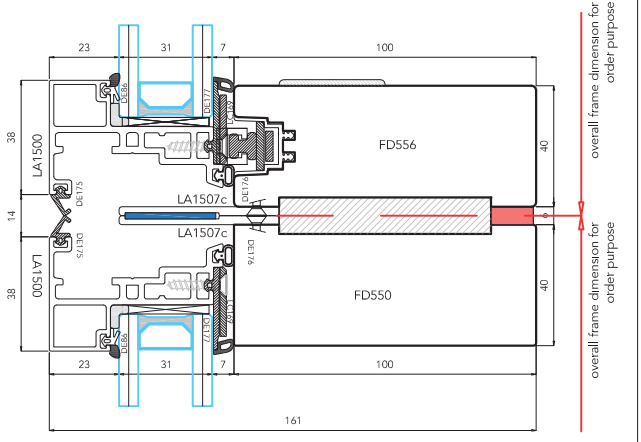
Scala 1:3

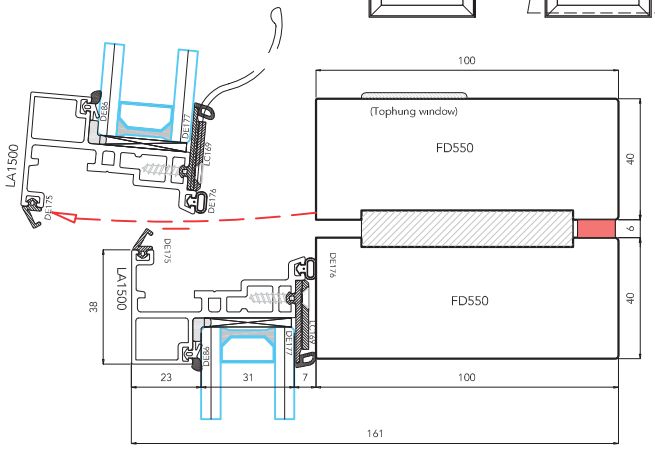
IT Sezione orizzontale finestra side-hung con fisso laterale/Finestre side-hung accoppiate

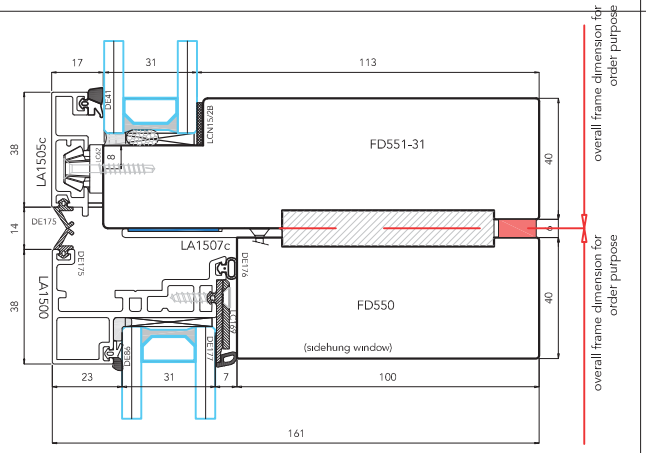
UK Side-Hung window with Fixed light - horizontal section/Side-Hung window double sash - horizontal section

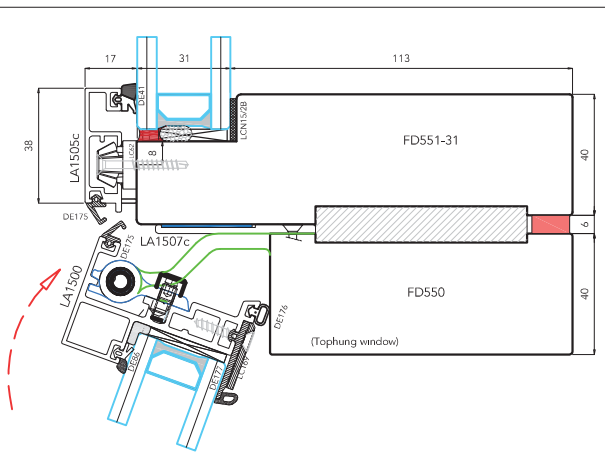

38
14
38
LA1505
DE175
LA1505
17
17
DE41
LC62
DE175
LC62
DE41
8
8
31
31
LCN15/2B
LCN15/2B
FD551-31
FD551-31
113
113
15
40
40
overall frame dimension for order purpose
overall frame dimension for order purpose
17
31
113
38
LA1505c
14
LA1505
38
DE41
LCN15/2B
LC62
8
DE175
DE175
FD551-31
40
FD551-31
40
overall frame dimension for order purpose
overall frame dimension for order purpose
17
31
113

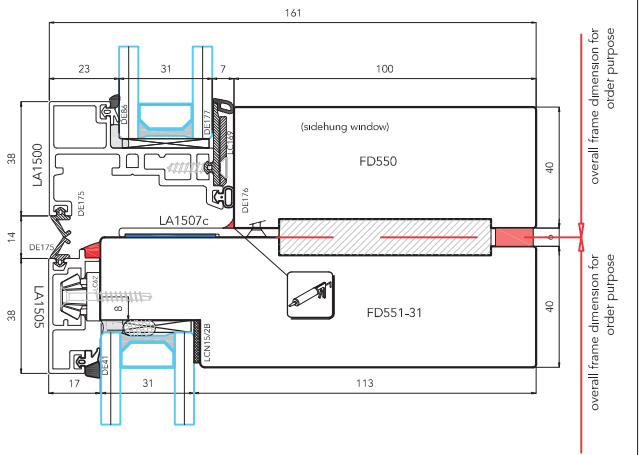


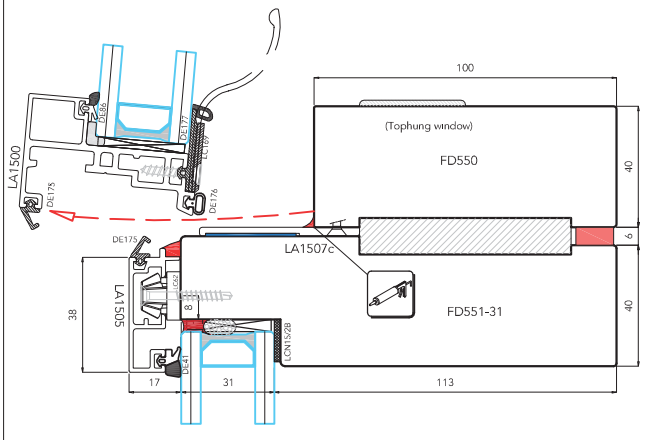












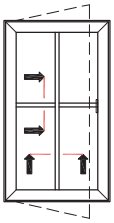
uni_one format38

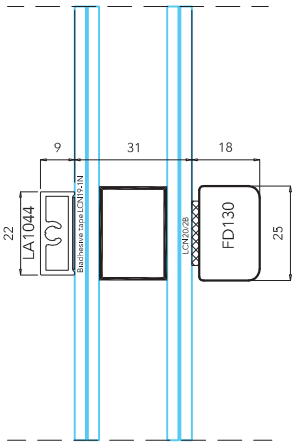
uniform

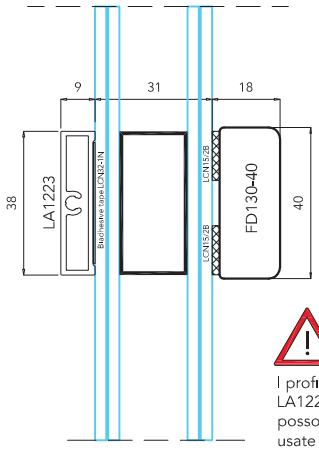
Scala 1:2.5

IT Sezione verticale accoppiamento finestra top-hung con fisso superiore/inferiore

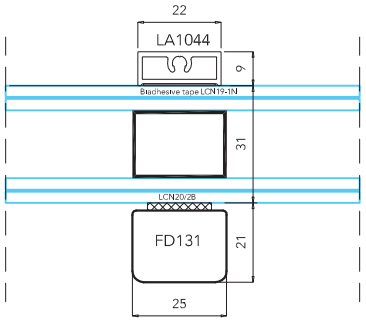
UK Top-Hung window with Fixed light - vertical section

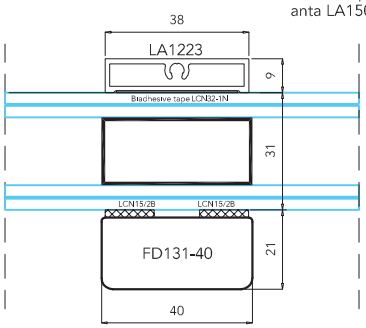


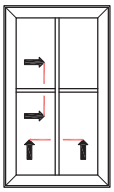


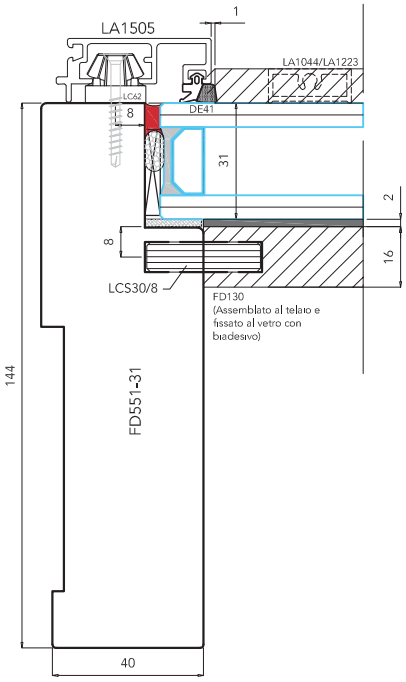


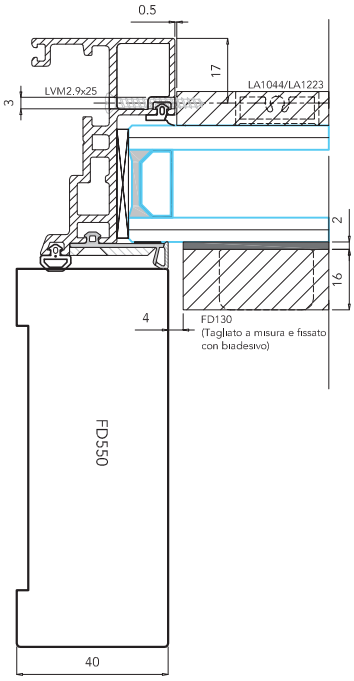
I profili LA1044 e LA1223 non possono essere usate sul profilo anta LA1504T.

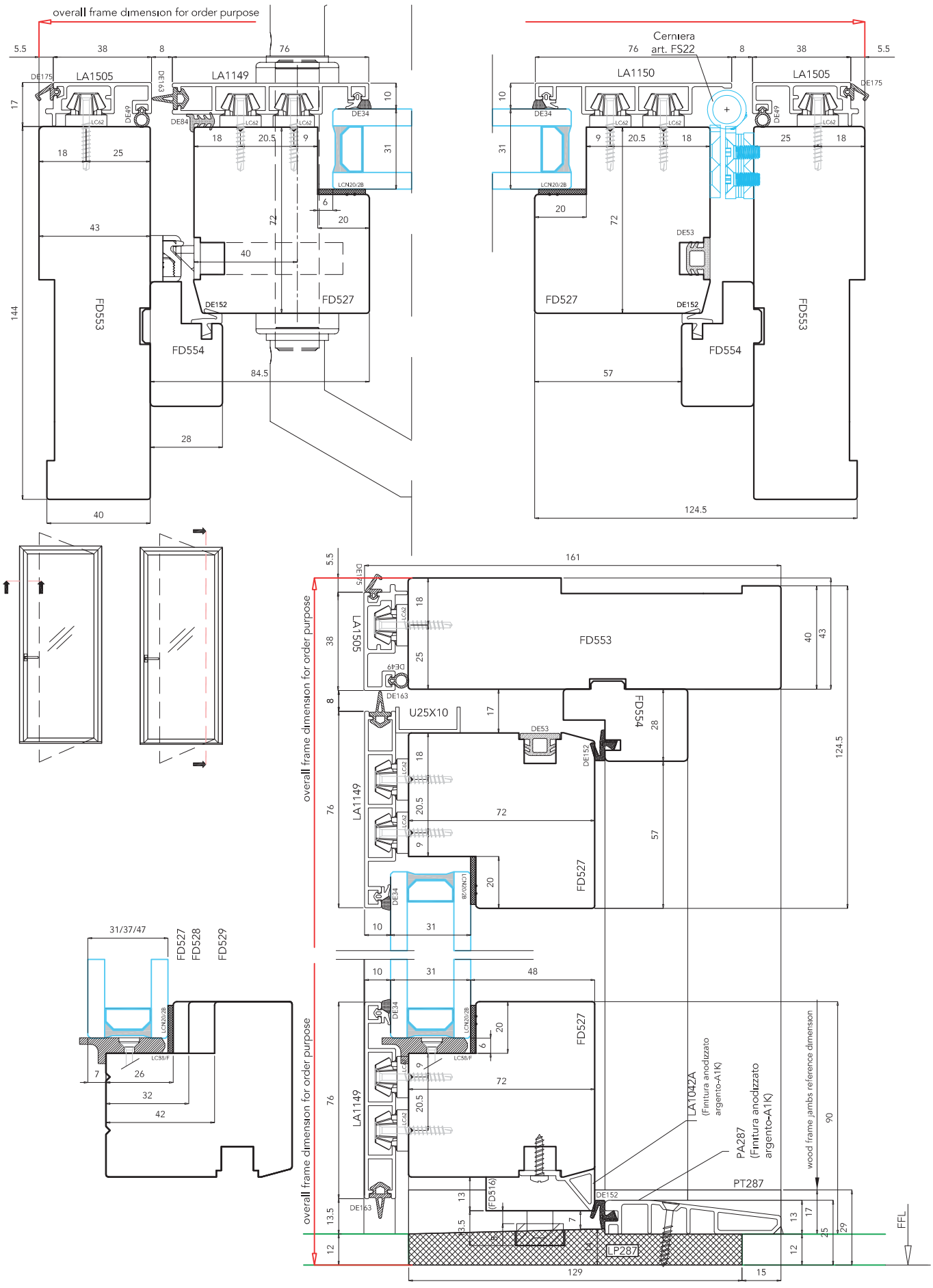












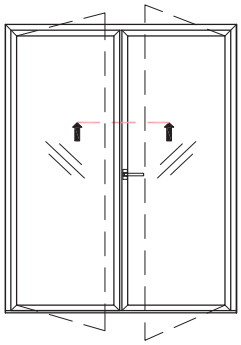
uni_one format38

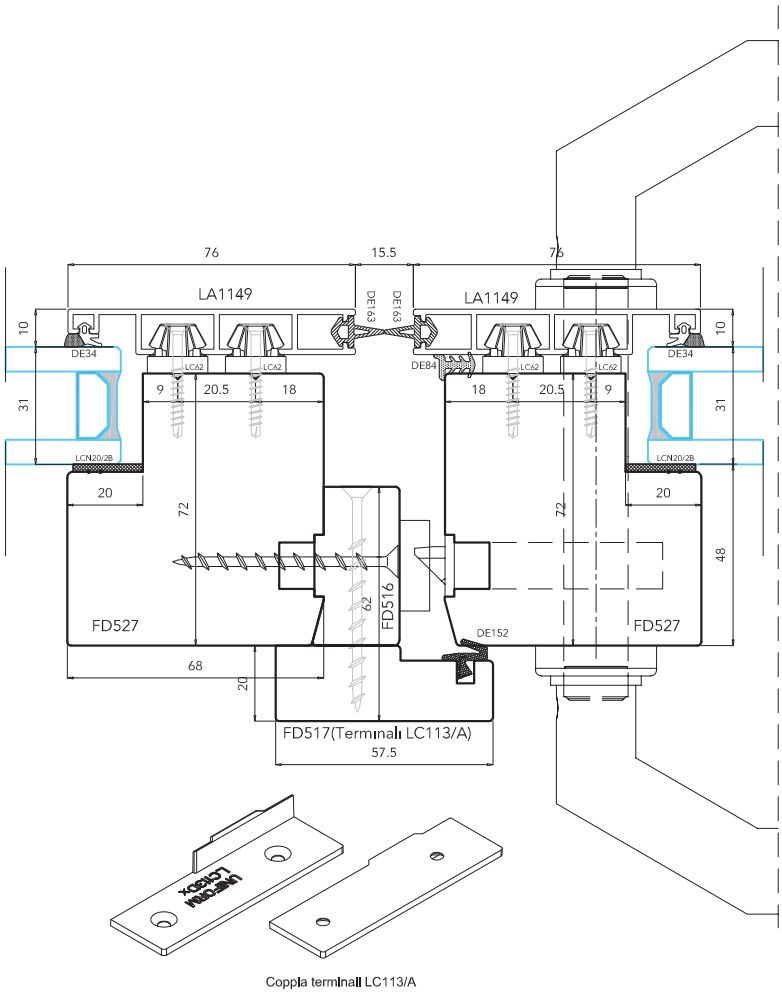
uniform

Scala 1:2

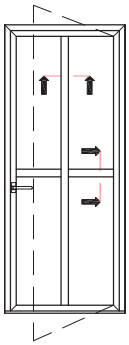
IT Porta ad 1 anta con serratura

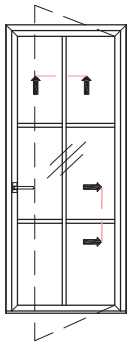
UK Door with multi point lock

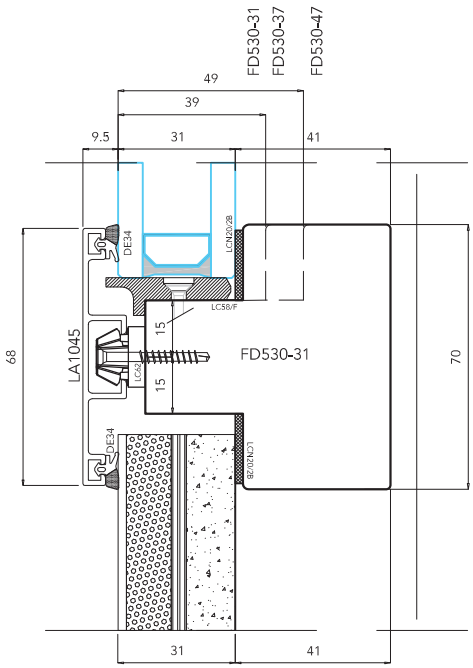


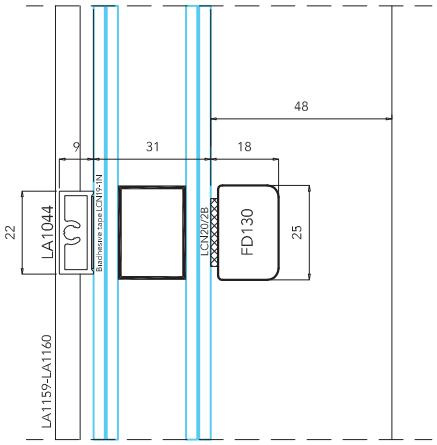


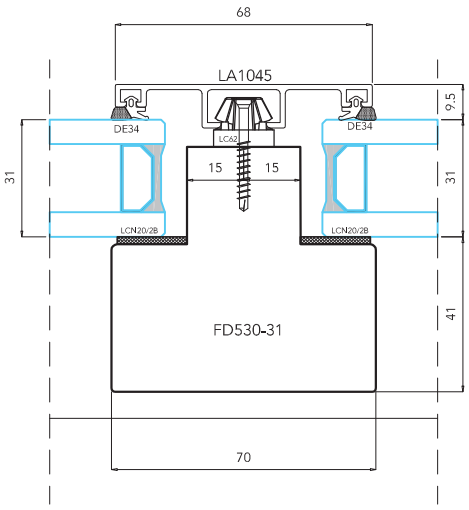
Coppia terminali LC113/A

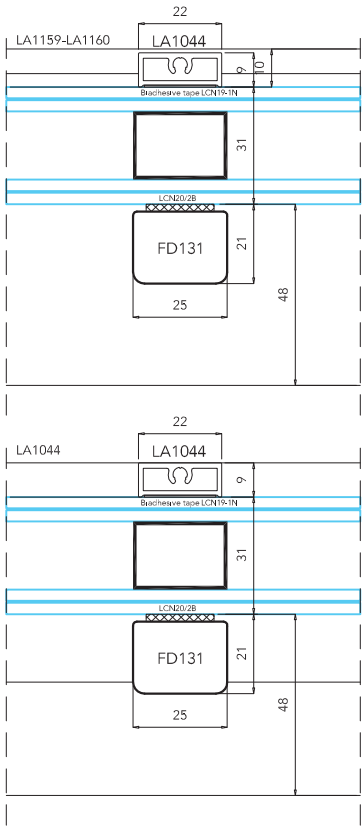












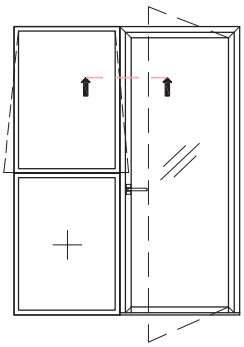
uni_one format38

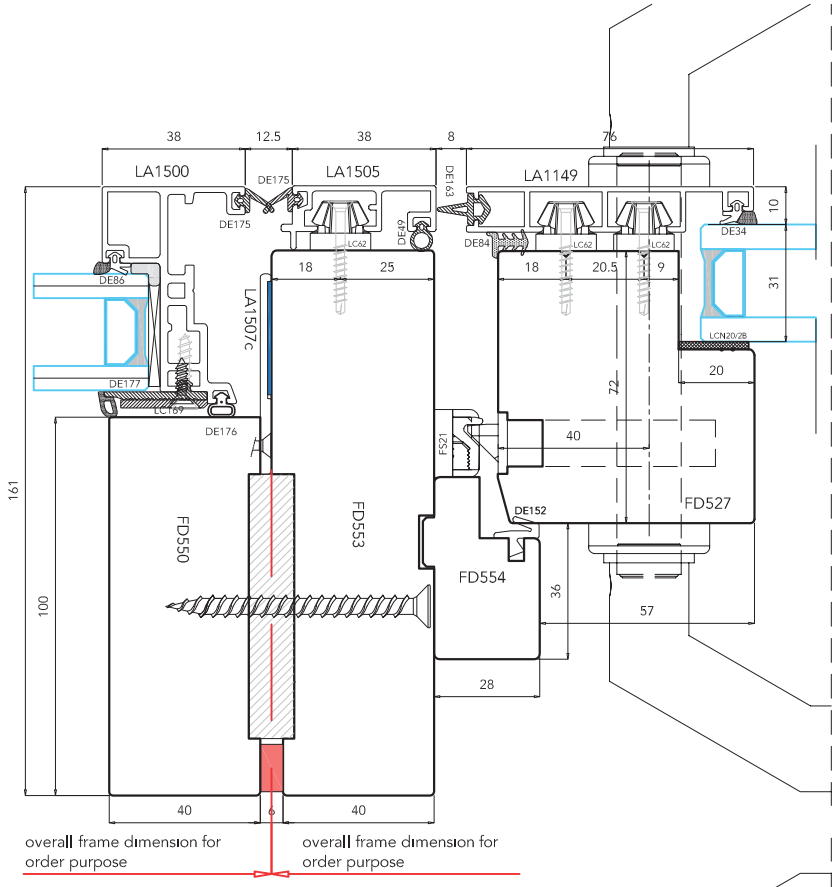
uniform

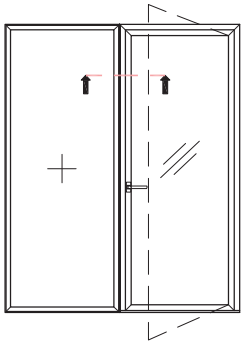
Scala 1:2

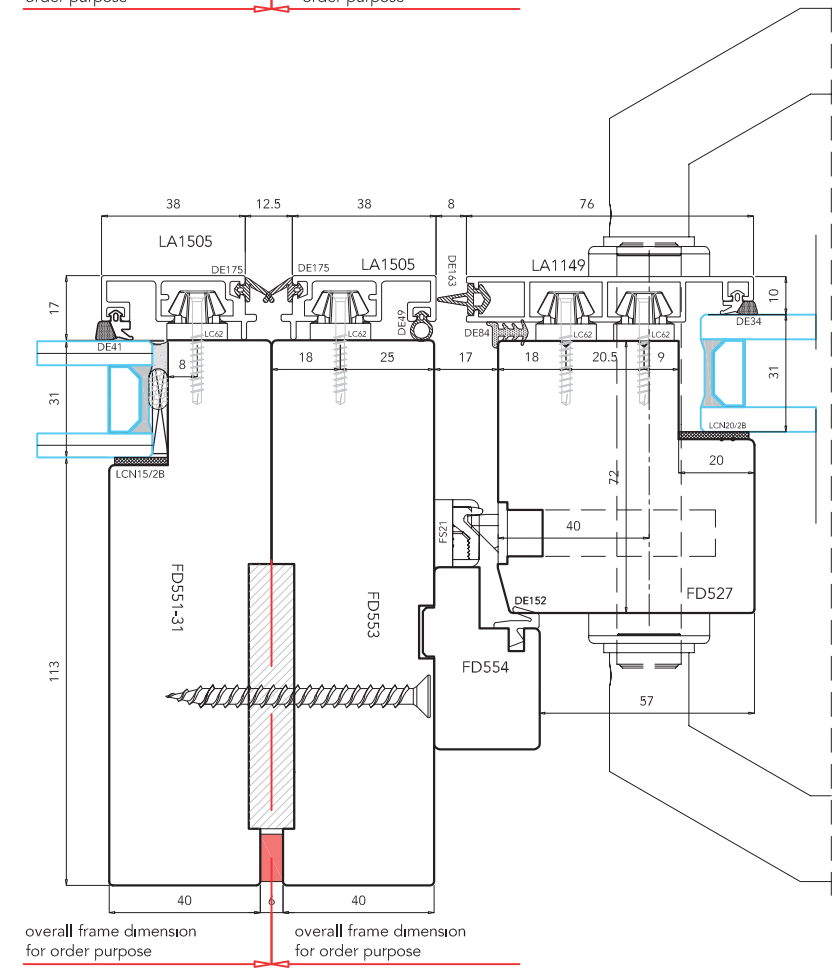
IT Sezioni traversi vetro(inglesine)

UK Sections of Georgian bars on the glass









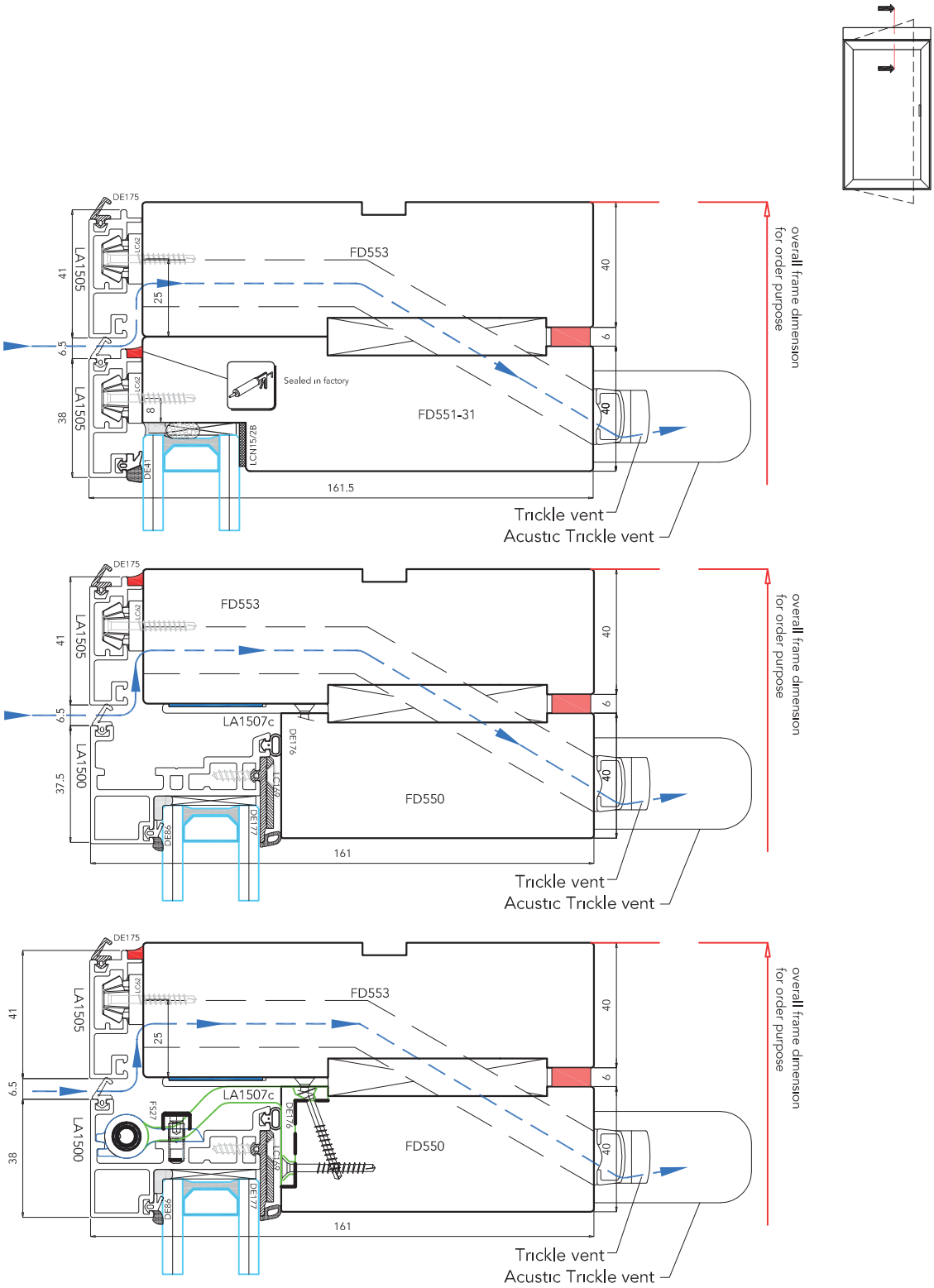
uni_one format38

uniform

Scala 1:2

IT Porta con serratura,fisso e finestra apribile esterno

UK Door with multi point lock, fixed light and top-hung window



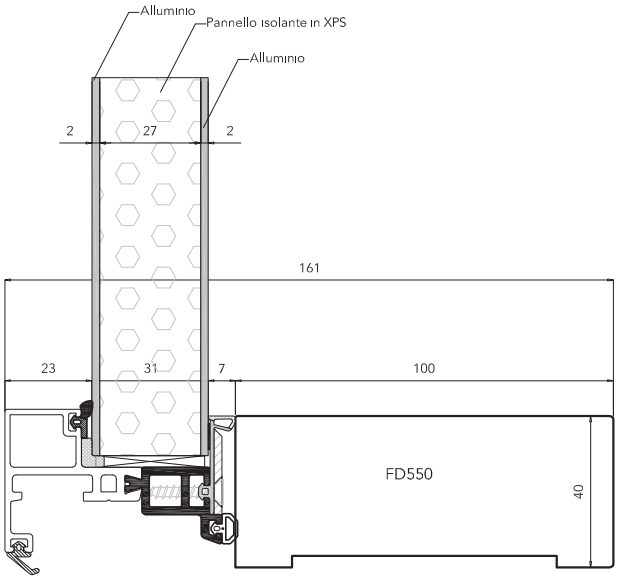
uni_one format38

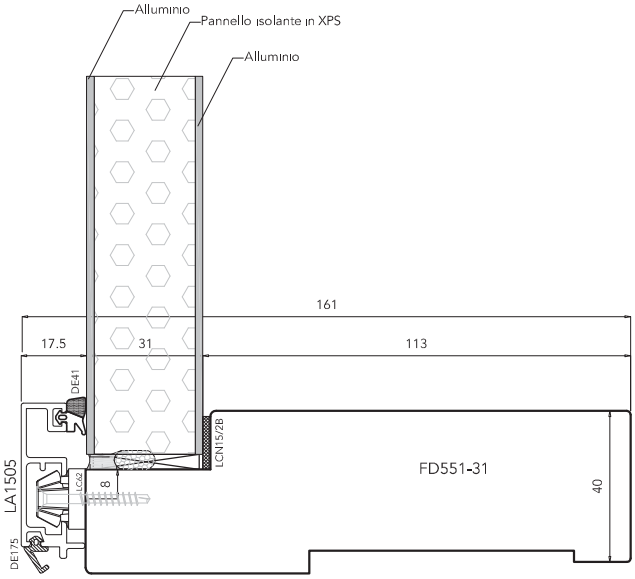
uniform

Scala 1:2

IT Sezione verticale traverso superiore finestra con areatore

UK Window with slot ventilation - vertical section head


Alluminio
Pannello isolante in XPS
Alluminio
2
27
2
161
23
31
7
100
FD550
40


Alluminio
Pannello isolante in XPS
Alluminio
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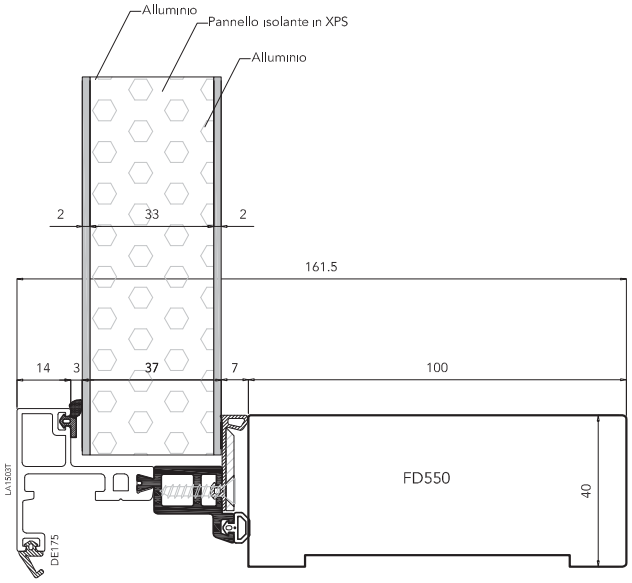
17.5
31
113
DE41
LCN15/2B
LA1505
LCG2
8
DE175
FD551-31
40


Alluminio
Pannello isolante in XPS
Alluminio
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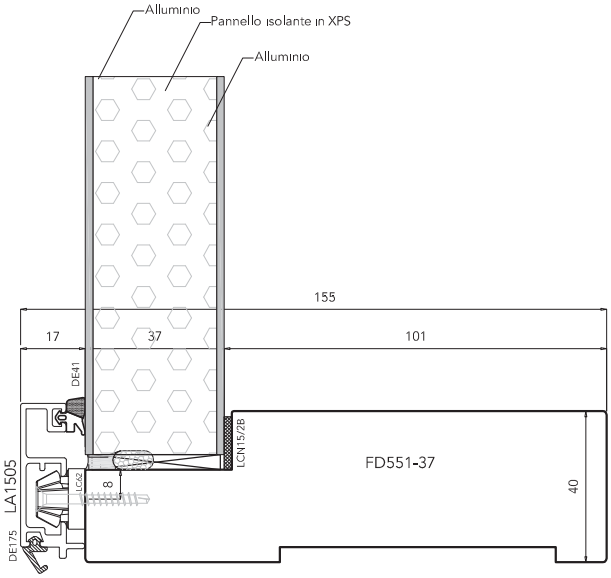
2
161.5
14
3
37
7
100
LA1503T
DE175
FD550
40


Alluminio
Pannello isolante in XPS
Alluminio
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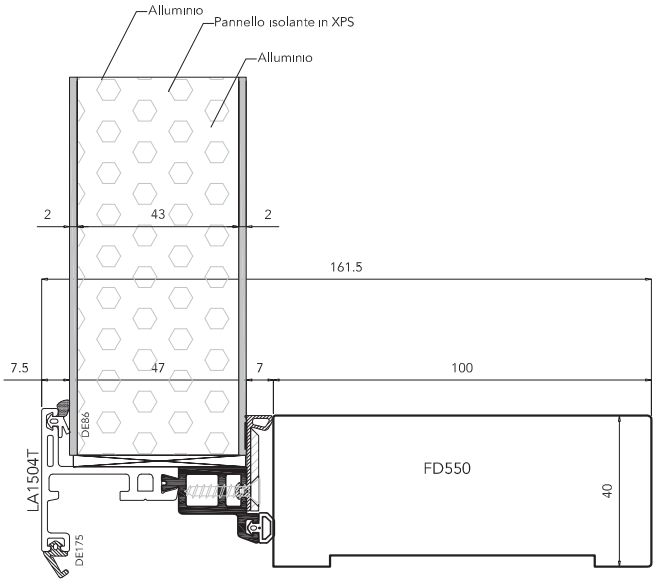
37
101
DE41
LCN15/2B
LA1505
LCG2
8
DE175
FD551-37
40


Alluminio
Pannello isolante in XPS
Alluminio
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2
161.5
7.5
47
7
100
DE86
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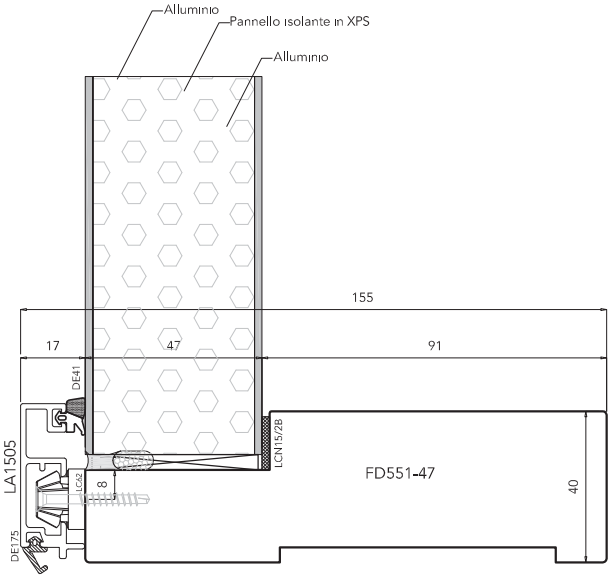
DE175
FD550
40


Alluminio
Pannello isolante in XPS
Alluminio
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DE41
LCN15/2B
LA1505
LCG2
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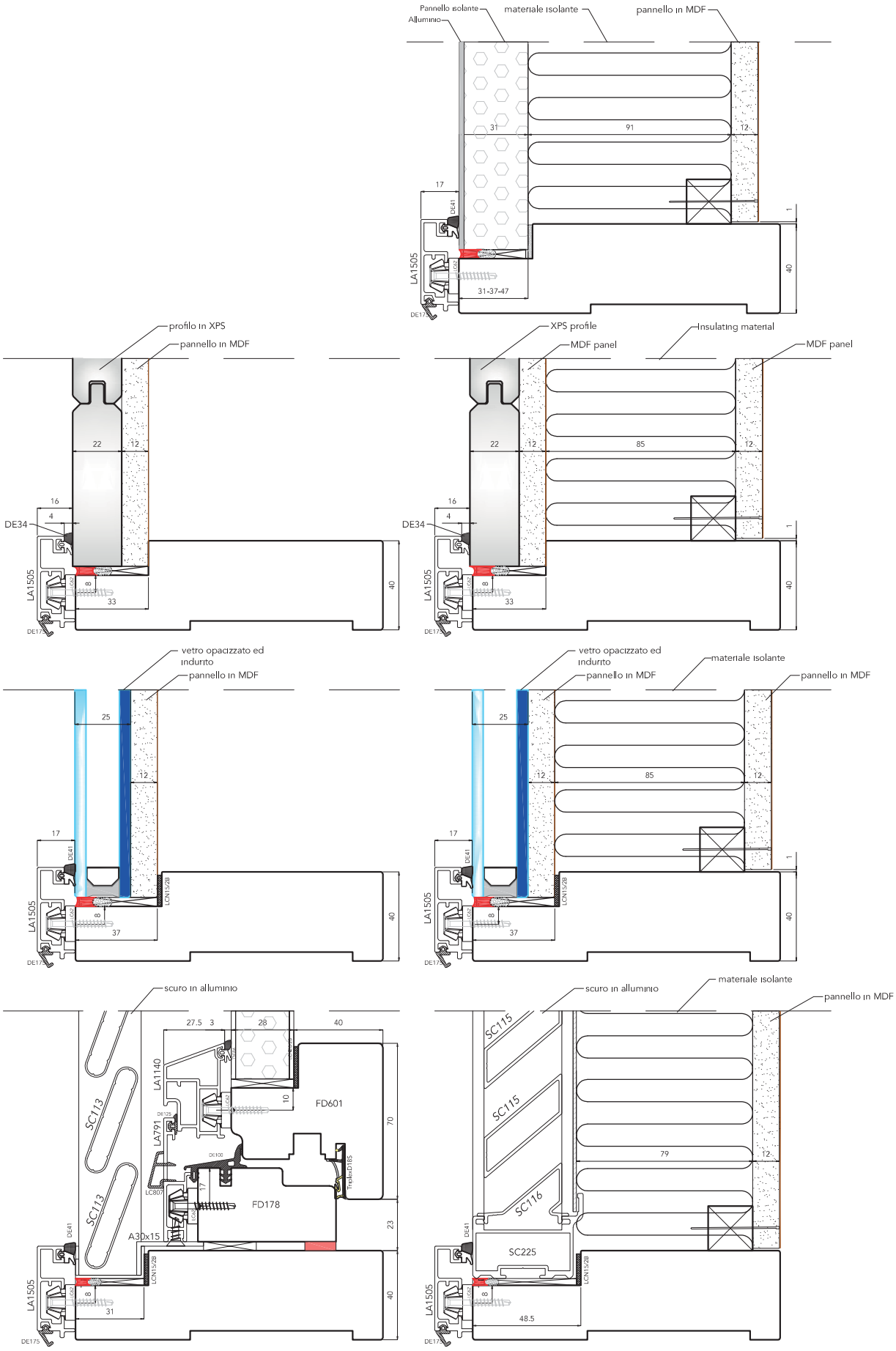
DE175
FD551-47
40



uni_one format38

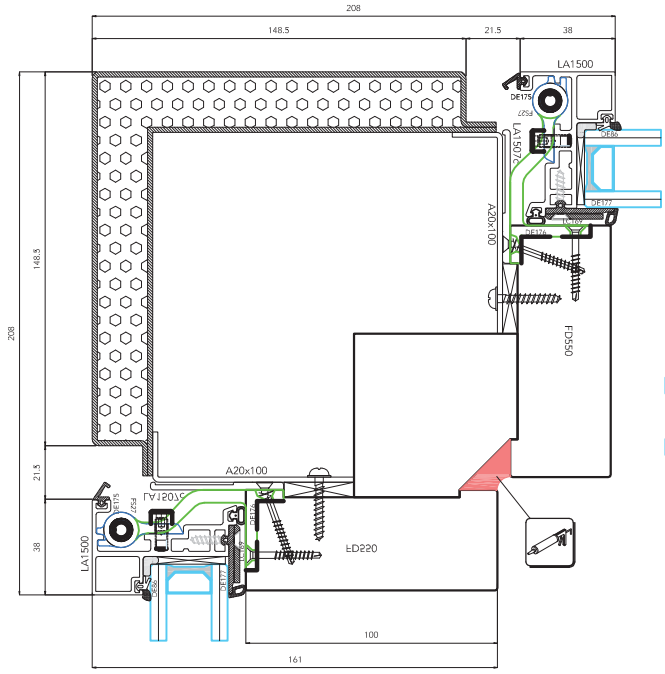
uniform

Scala -

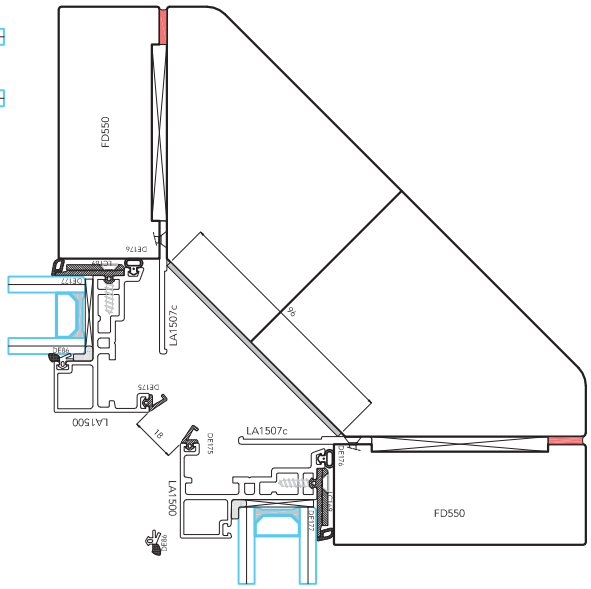
IT Soluzioni per pannelli ciechi e grigliati

UK Louvred panel

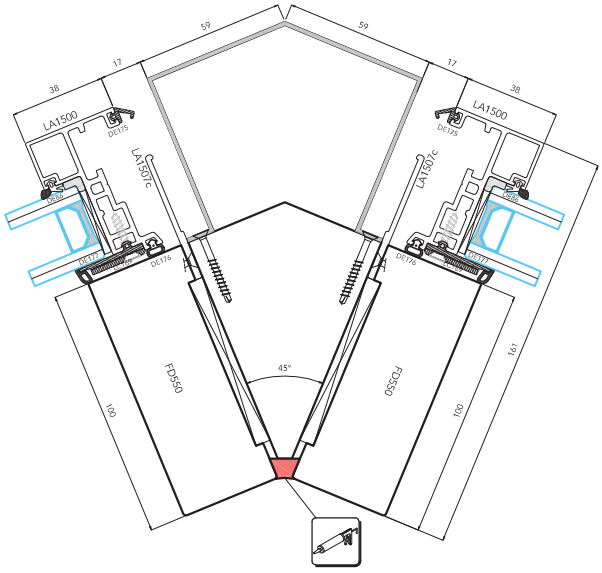
angolo esterno a 90°



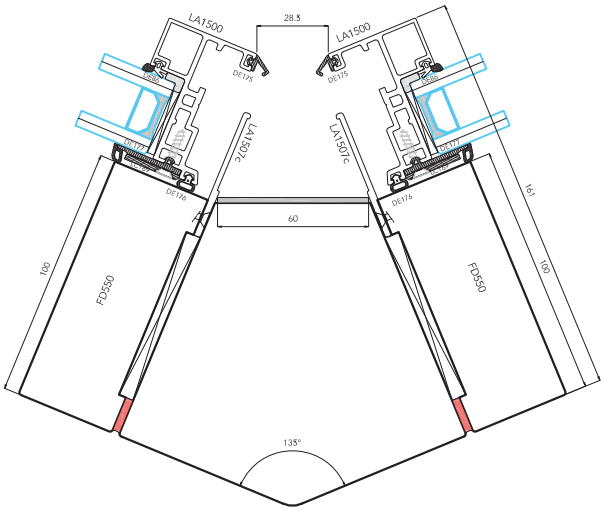
angolo interno a 90°



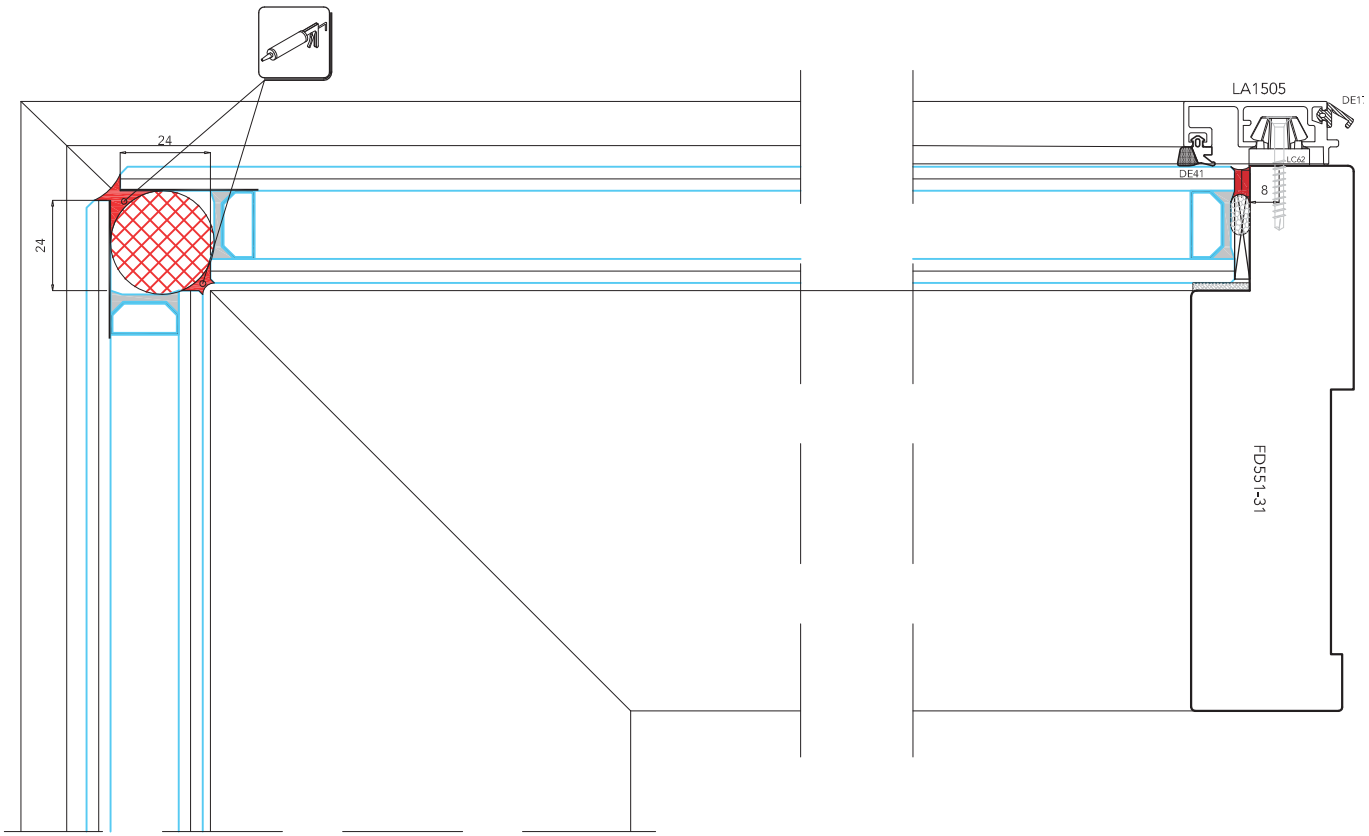
angolo esterno a 45°

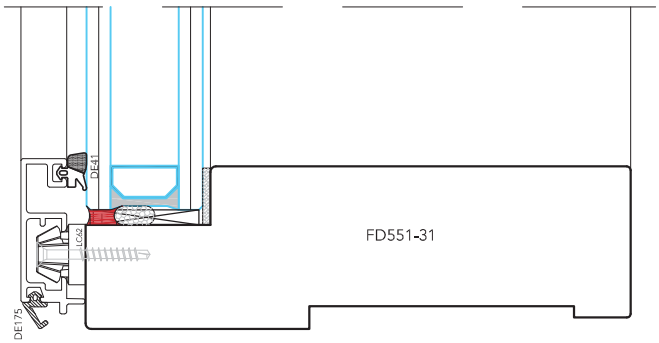


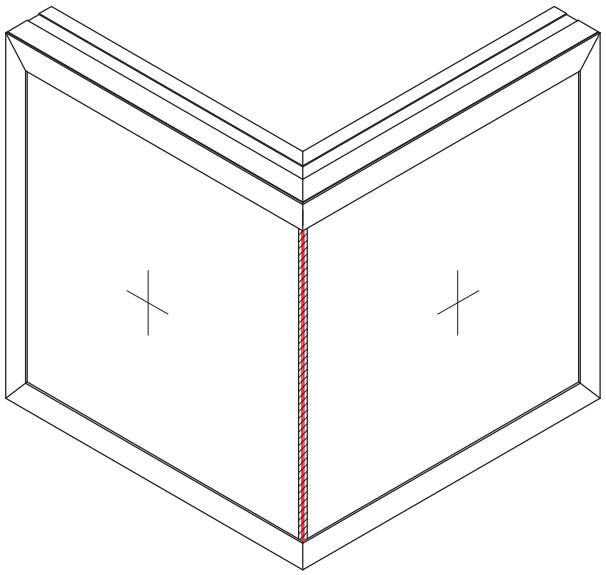
angolo interno a 45°



angolo vetro - vetro esterno a 90°







uni_one format38

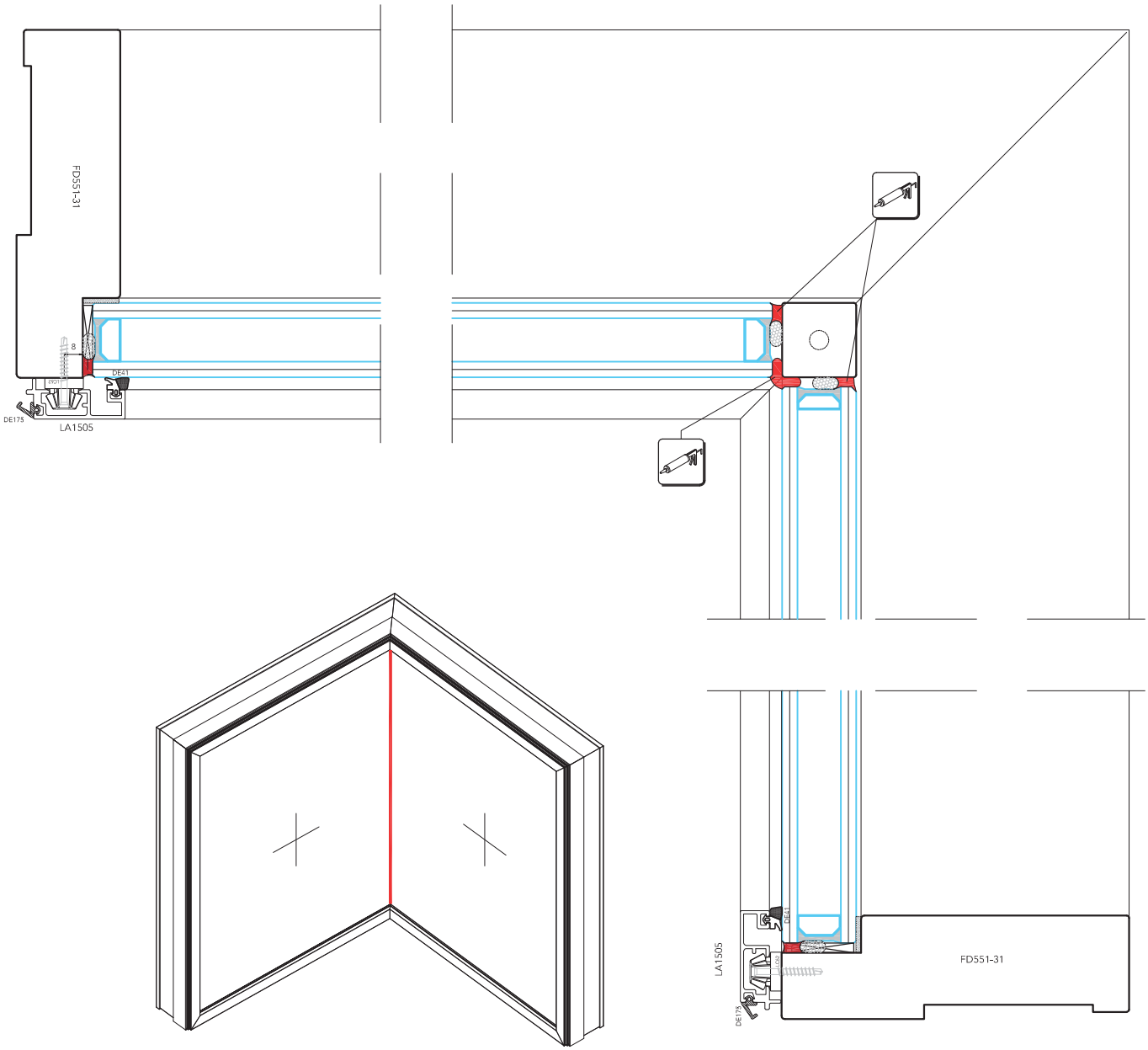
uniform

Scala 1:3

IT Sezioni accoppiamenti ad angolo

UK Corner solutions(Glass to glass)

angolo vetro - vetro
interno a 90°

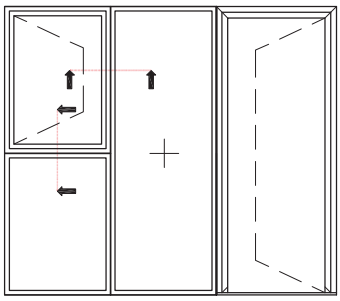


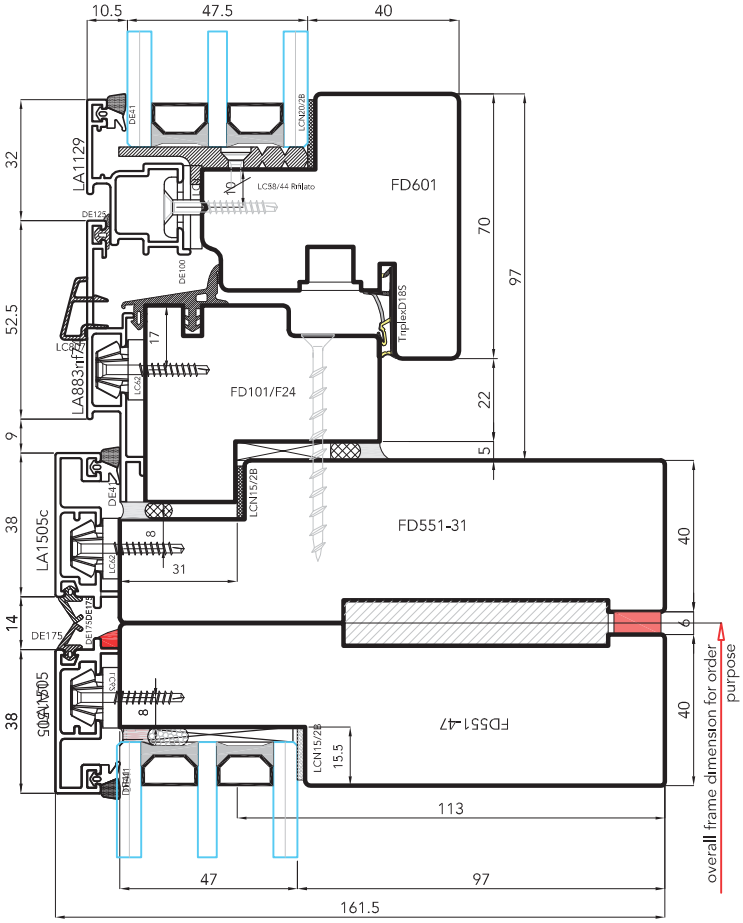
uni_one format38

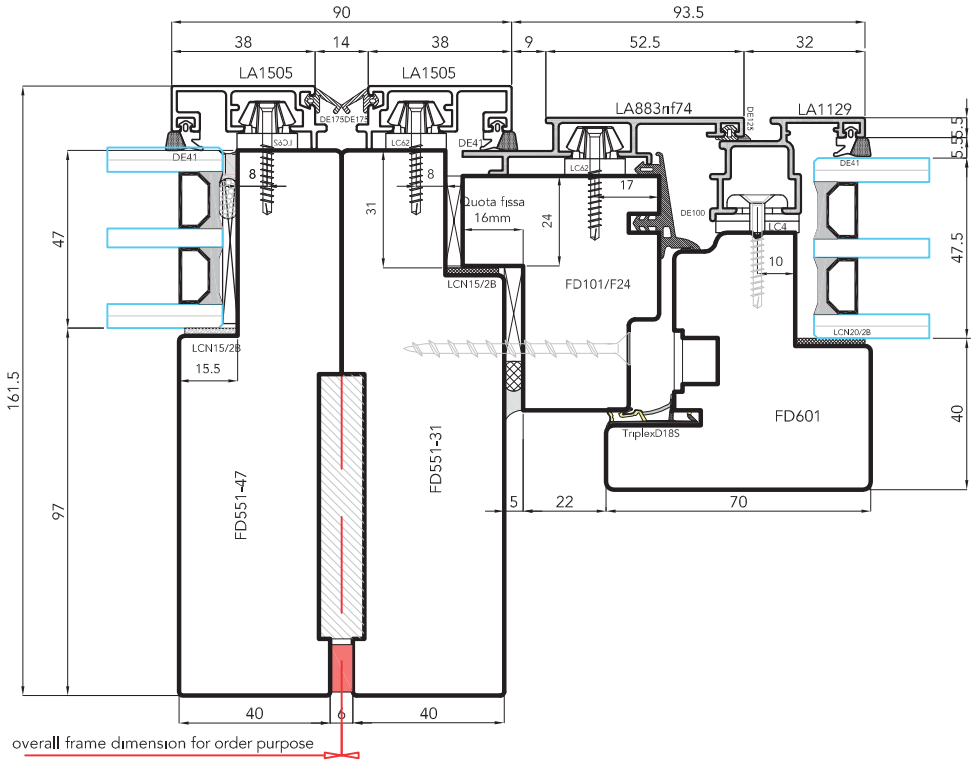
uniform

Scala -

IT Sezioni accoppiamenti ad angolo
UK Corner solutions(Glass to glass)







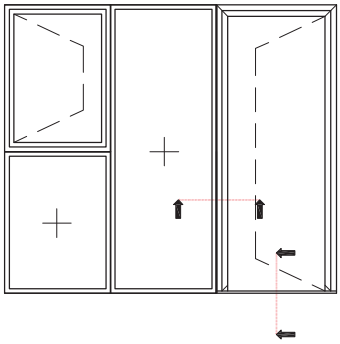
uni_one format38

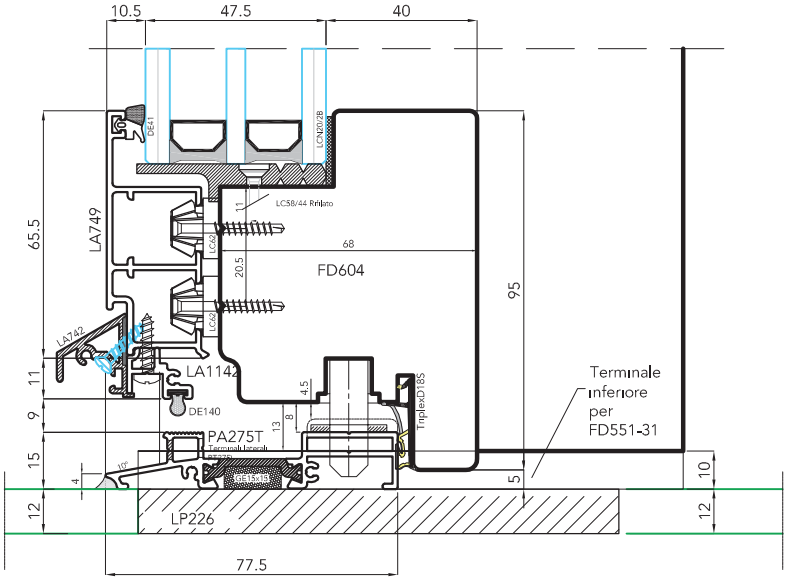
uniform

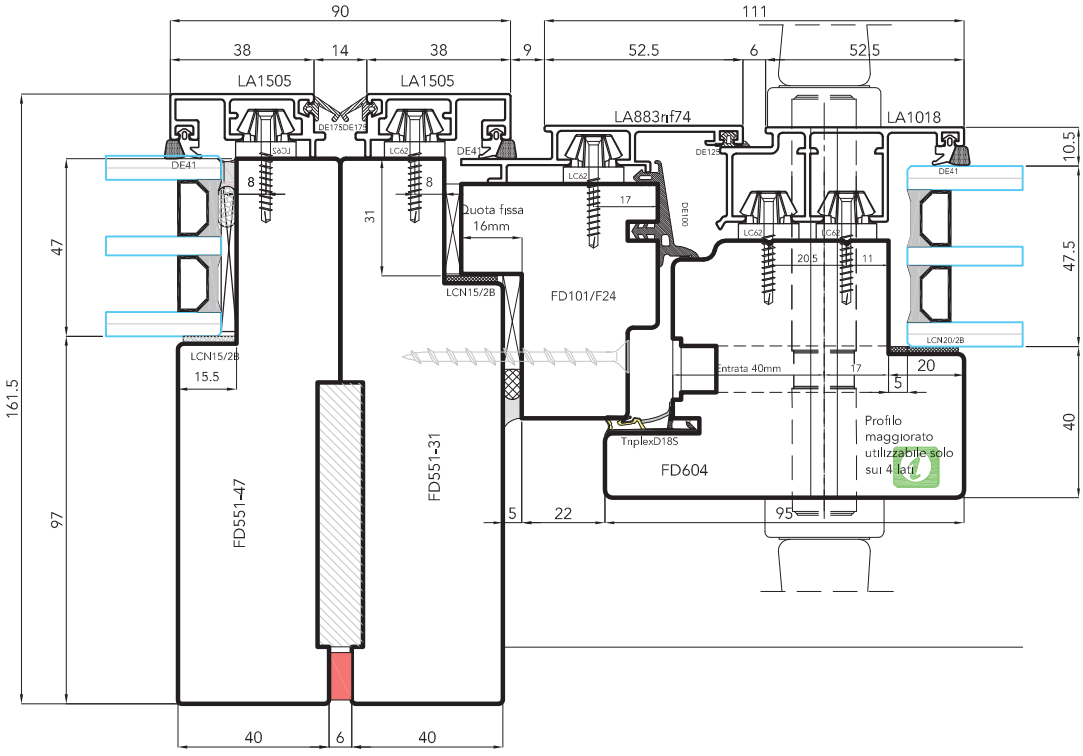
Scala 1:2

IT Finestra ad apertura interna su FORMAT38

UK Regular open-in window on FORMAT38







overall frame dimension for order purpose

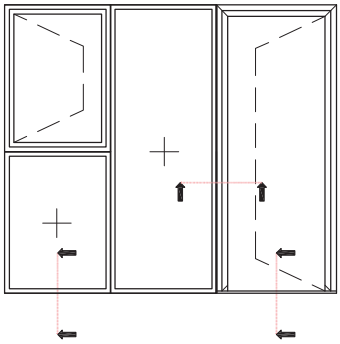
uni_one format38

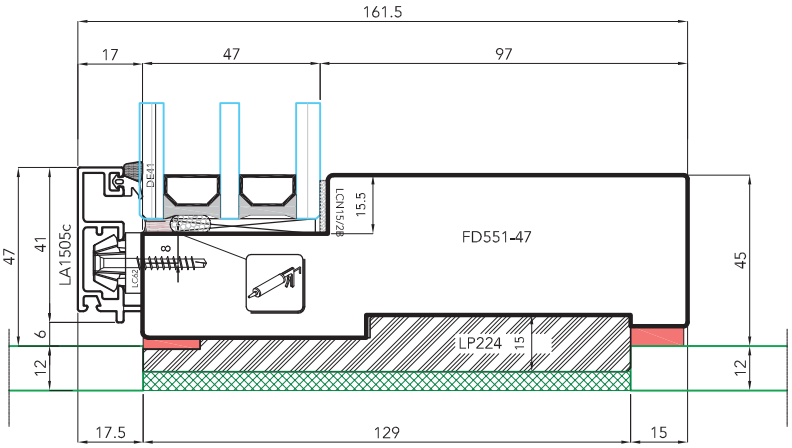
uniform

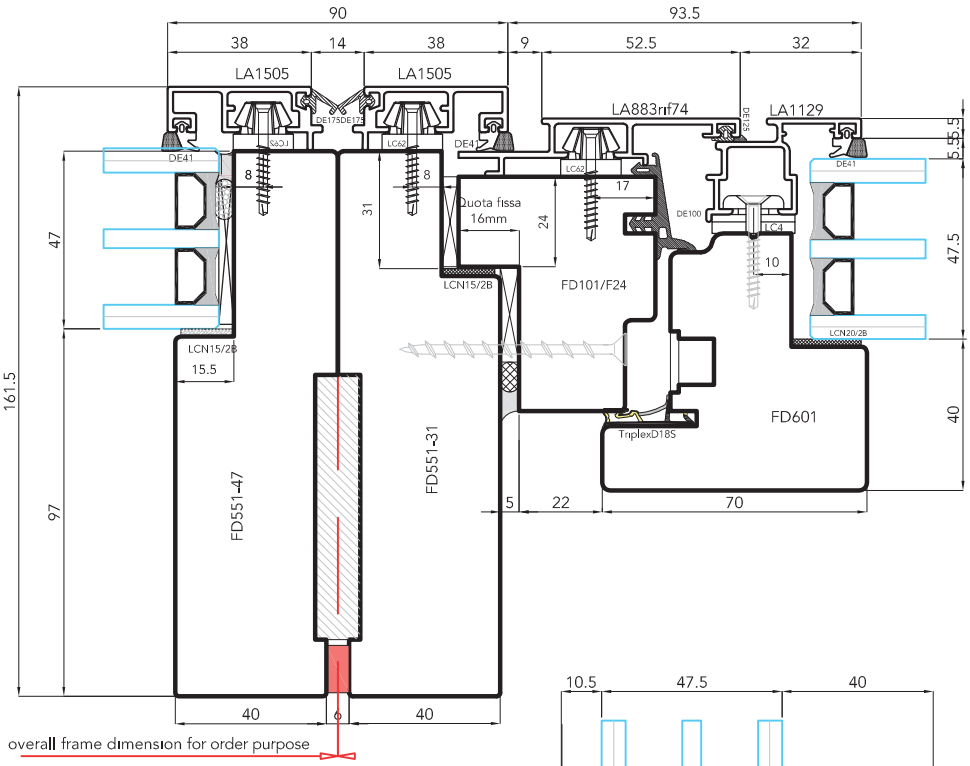
Scala 1:2

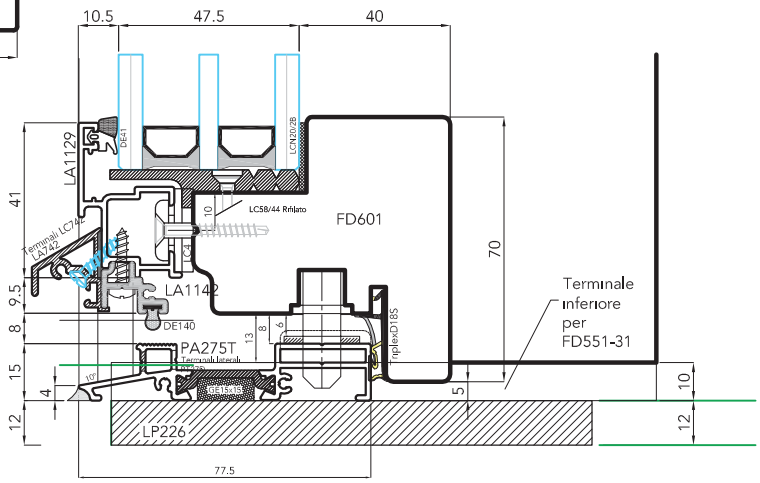
IT Portaad apertura interna con anta maggiorata su FORMAT38 e fisso FORMAT38 standard

UK Open-in entrance door with enlarged sash on FORMAT38 and regular FORMAT38 fixed light









uni_one format38

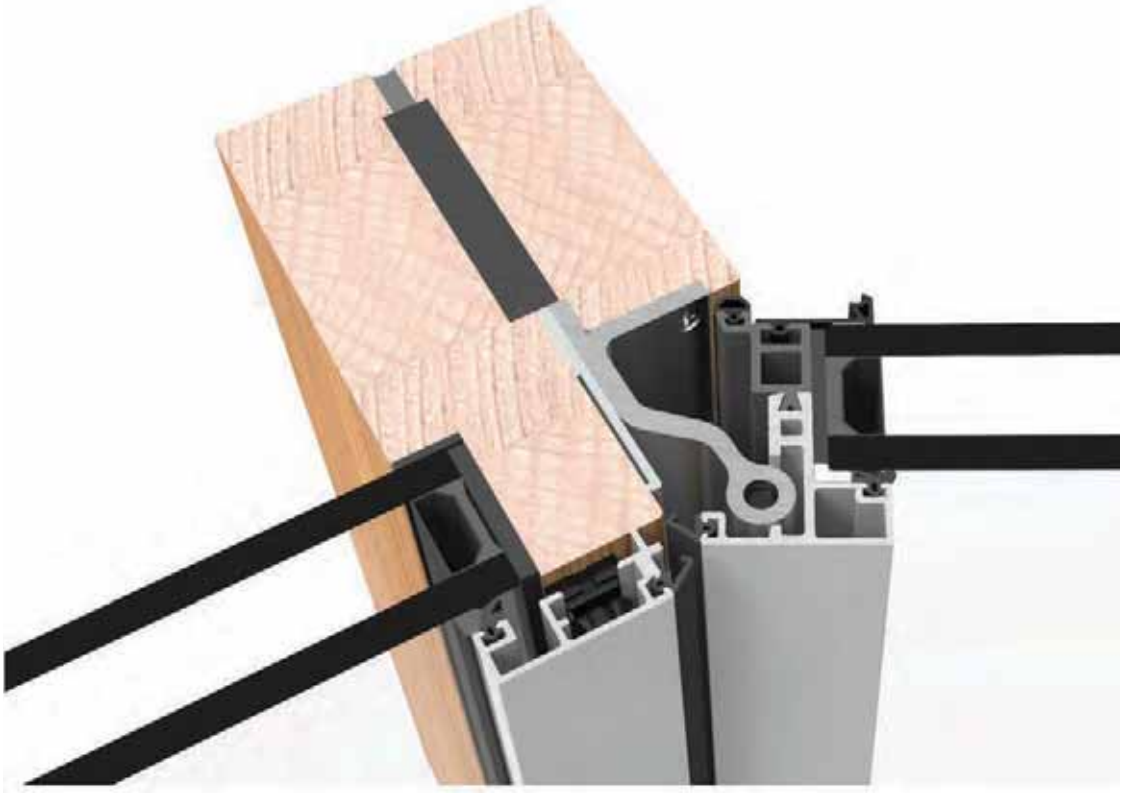
uniform

Scala 1:2

IT Portafinestra ad apertura interna su FORMAT38 e fisso FORMAT38 standard

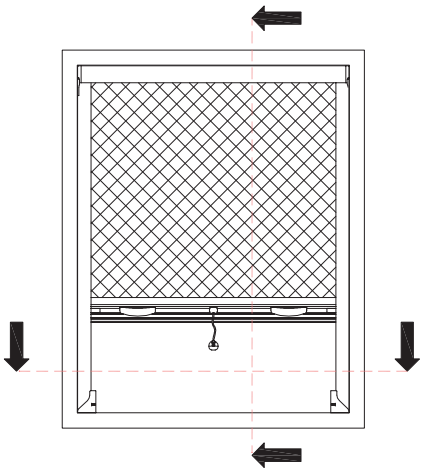
UK Regular open-in balcony door on FORMAT38 and regular FORMAT38 fixed light

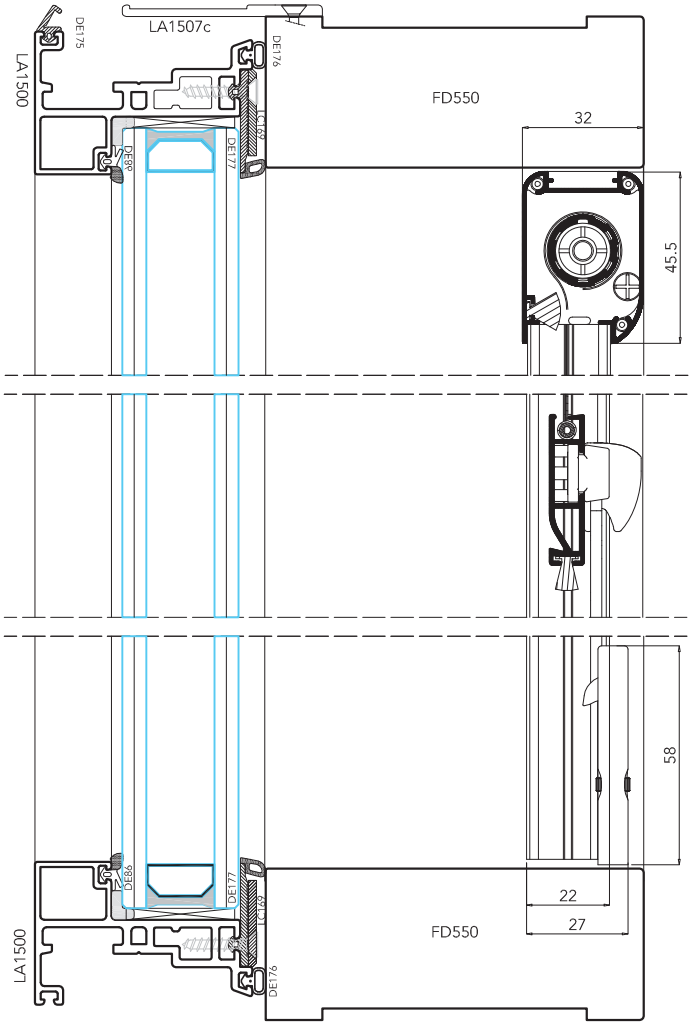
uni_one format38
Forniture supplementari



uniform

ZANZARIERA VERTICALE





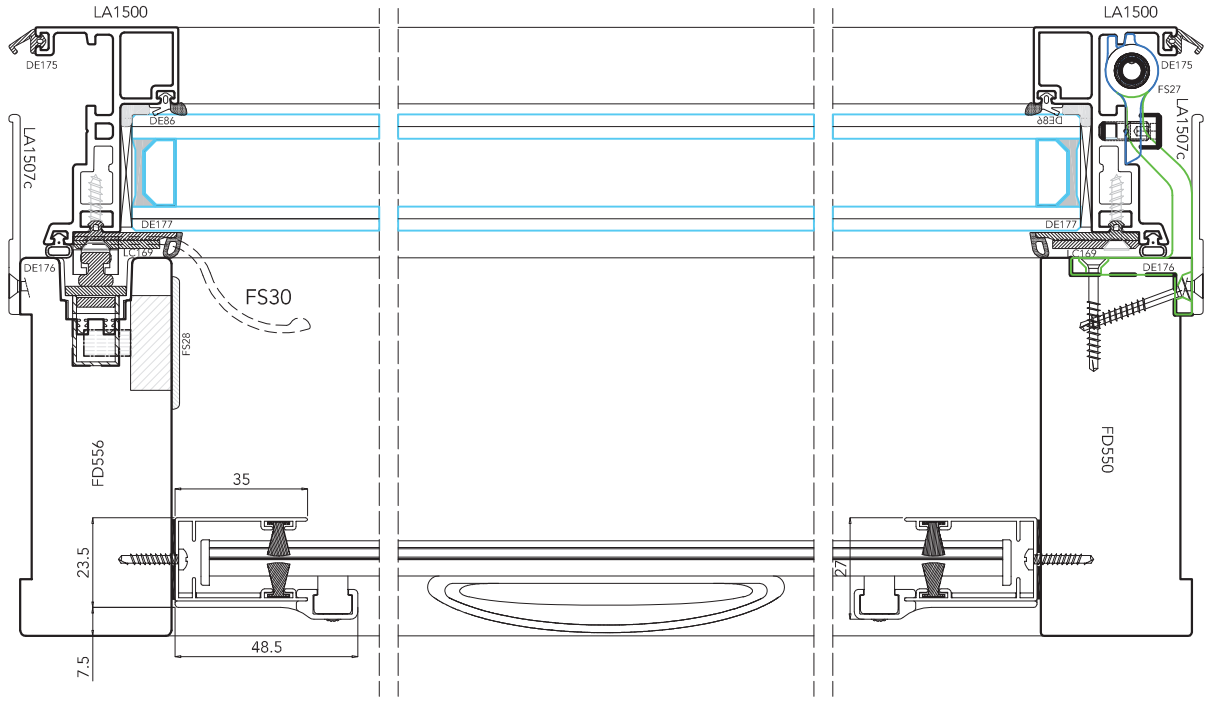
MISURE RACCOMANDATE

	MIN (mm)	MAX (mm)
larghezza	450	1600
altezza	-	1500

PRINCIPALI COLORI DISPONIBILI

	RAL9010 bianco	RAL1013 avorio	RAL9005 nero	RAL7012 grigio
telaio	X	X	-	-
access.	X	X	X	-
telo	-	-	X	X

ulteriori colori per il telaio disponibili a richiesta



uni_one format38

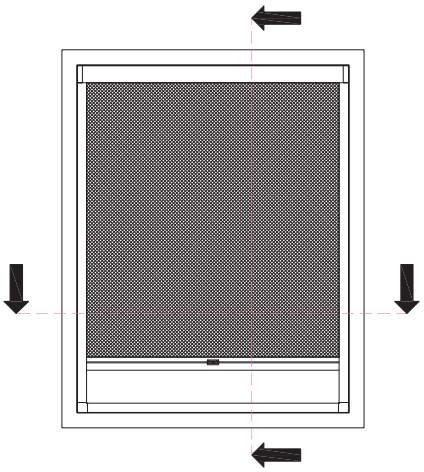
uniform

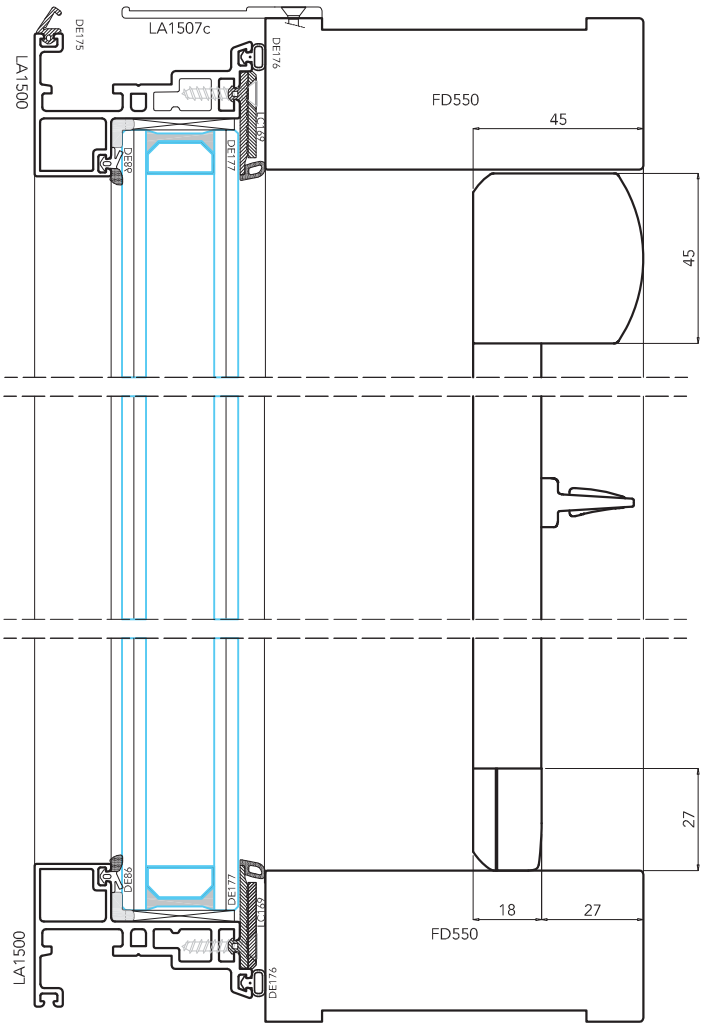
Scala 1:2

IT Zanzariera verticale su FORMAT38

UK Vertical mosquitos net on FORMAT38

OSCURANTE VERTICALE A RULLO





MISURE RACCOMANDATE

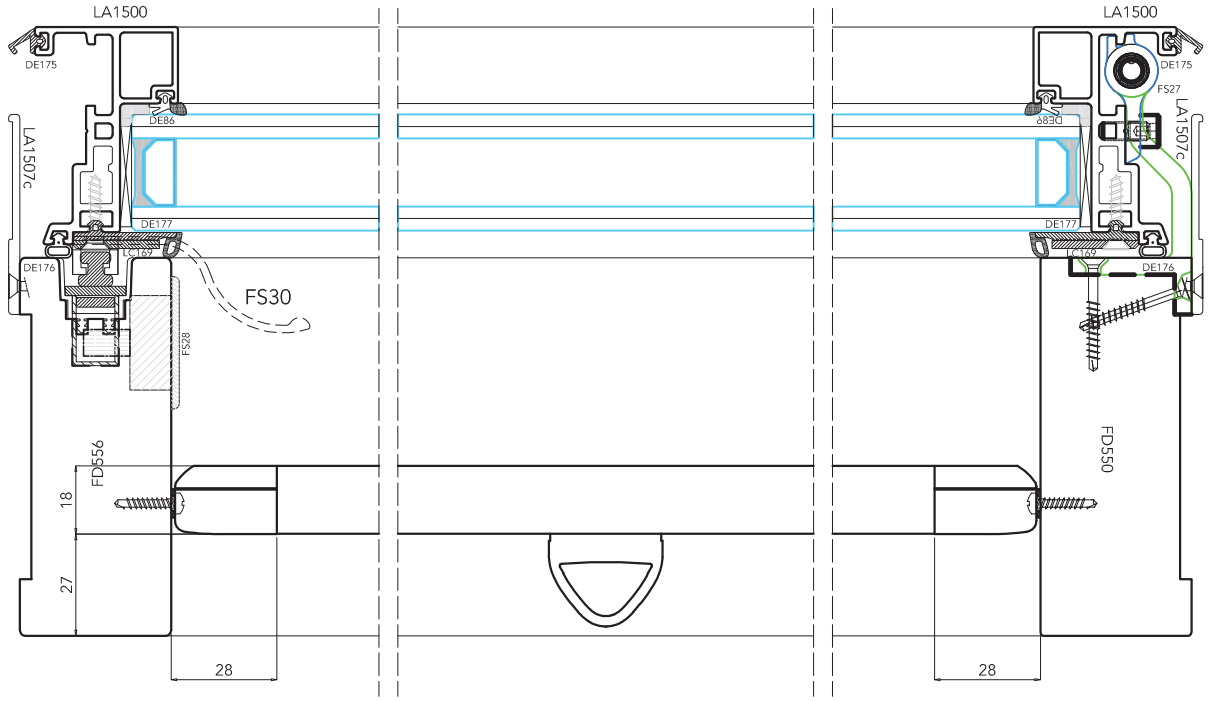
	MIN (mm)	MAX (mm)
larghezza	-	1400
altezza	-	1400

PRINCIPALI COLORI DISPONIBILI

	bianco	anodizz. argento	vaniglia	marrone
telaio	X	X	X	X
telo	SU RICHIESTA			

TIPOLOGIE

* filtrante
* oscurante parziale
* oscurante totale



uni_one format38

uniform

Scala 1:2

IT Tenda avvolgibile verticale su FORMAT38

UK Vertical boxed roller blind on FORMAT38

Actuator Installation Details: Uniform Architectural Format38

Environmental Ventilation

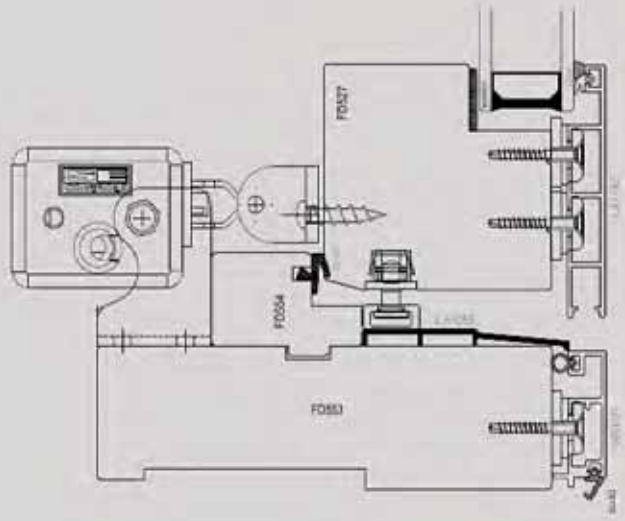
FRAME REF. NO.	OPENING VENT REF. NO.	ADDITIONAL REF.	SERIES 40 BRACKET KIT NO.
FD553	FD527	FD554	[illegible]

System Parameters

SYSTEM NAME	MAX WIDTH	MAX HEIGHT	MAX WEIGHT
TOP HUNG OPEN OUT ON BUTT HINGE	[illegible]	[illegible]	[illegible]
SIDE HUNG OPEN OUT ON BUTT HINGE	[illegible]	[illegible]	[illegible]

Please note, the actuators alone will not act as 'window restrictors'. The façade contractor/fabricator should consider the installation of suitable restrictors relative to the orientation of the vent, so that stability is provided should the actuator be removed, or the vent is subjected to high external forces whilst in the open position. The restrictor should be set such that the actuator can open to it's full stroke without being impeded in set 50mm past the actuator stroke length. If the vent is not fitted with a restrictor and subsequent damage occurs due to the lack of restriction SE Controls will not be liable for any replacement actuators or damage to the vent.

Standard installation detail of SERIES 40 actuator.



uni_one format38

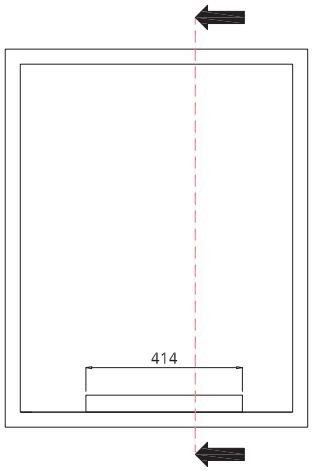
uniform

Scala -

IT Motorizzazione per porte di uscita di sicurezza

UK Fire egress actuator for balcony doors

MOTORIZZAZIONE PER TOP HUNG

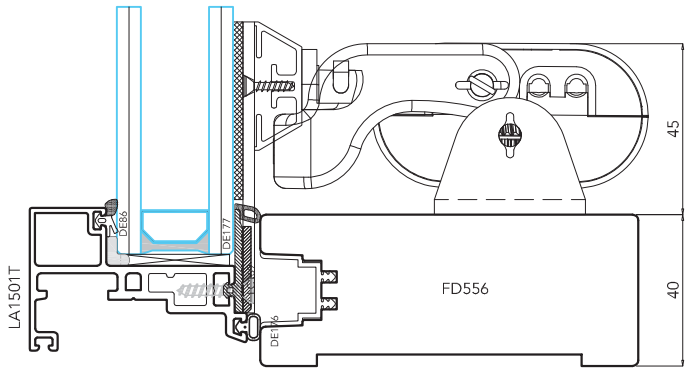


MISURE RACCOMANDATE

	MIN (mm)	MAX (mm)
larghezza	N.D.	N.D.
altezza	N.D.	N.D.

PRINCIPALI COLORI DISPONIBILI

	RAL9010 bianco	RAL1013 avorio	RAL9005 nero	RAL7035 grigio
cover	X	X	X	X
access.	X	X	X	X

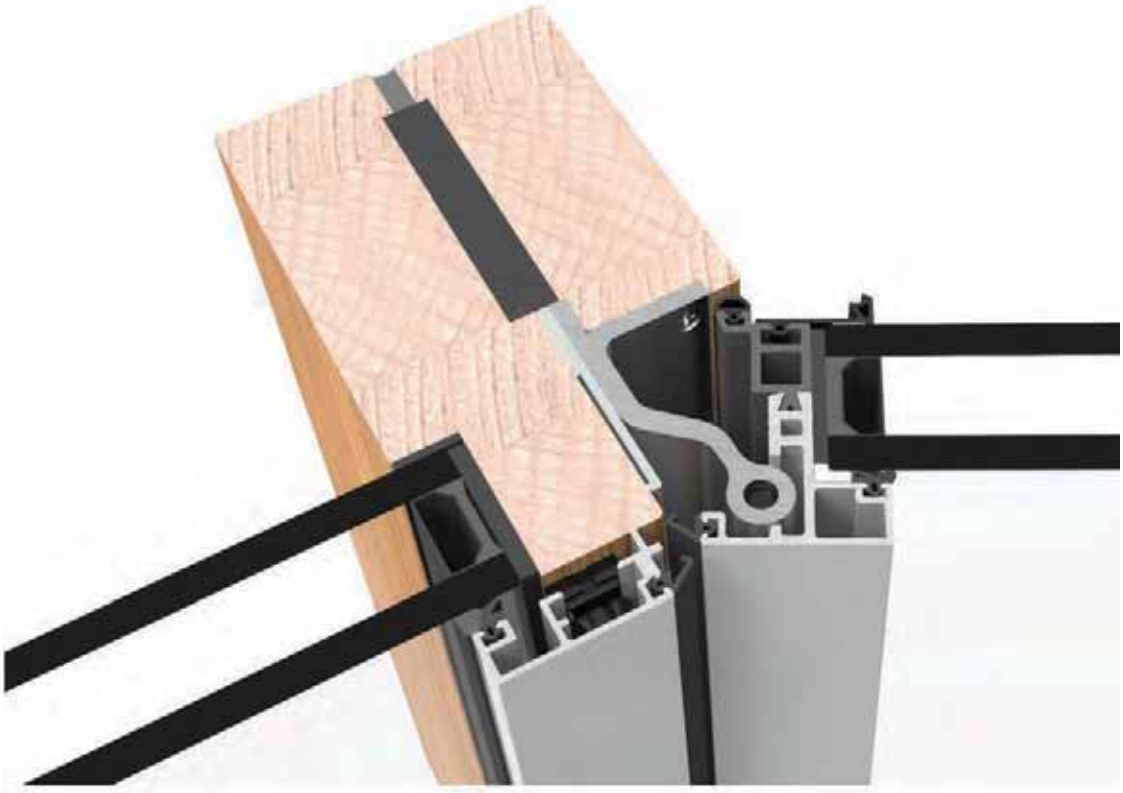


I PARTICOLARI DI INSTALLAZIONE
SARANNO DISPONIBILI ONLINE A BREVE!

uniform

uni_one format38

Riepilogo di profili ed accessori

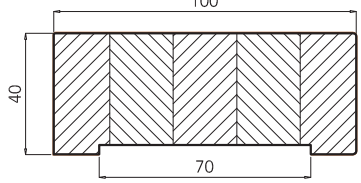


uniform

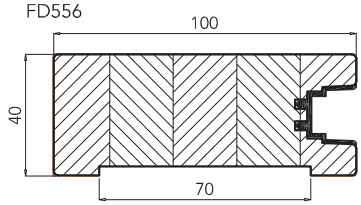
PROFILI A SEZIONE STANDARD

telaio finestra (materiale: legno)

FD550

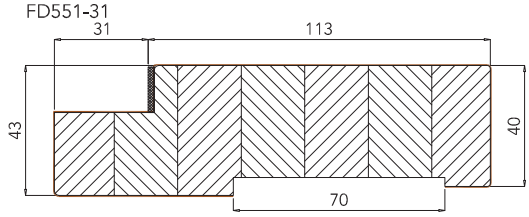


FD556

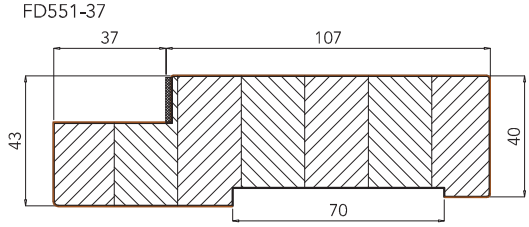


fisso (materiale: legno)

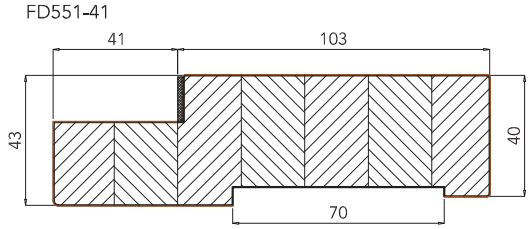
FD551-31



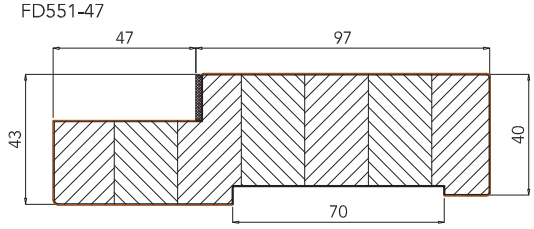
FD551-37



FD551-41

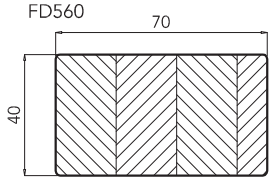


FD551-47

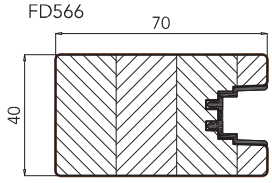


PROFILI A SEZIONE RIDOTTA

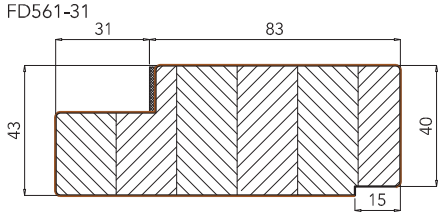
FD560



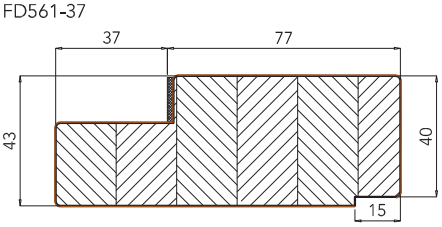
FD566



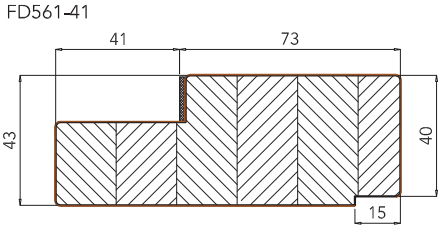
FD561-31



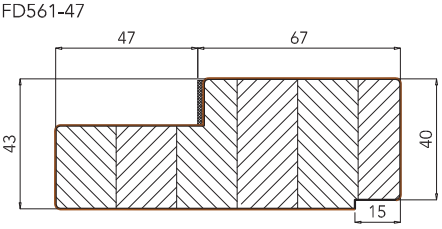
FD561-37



FD561-41



FD561-47



uni_one format38

uniform

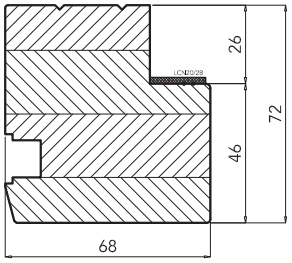
Scala 1:2.5

IT Profili in legno rivestito

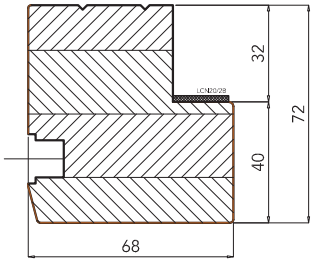
UK Veneered wood profiles

Portoncine d'entrata - anta (Materiale: legno)

FD527



FD528



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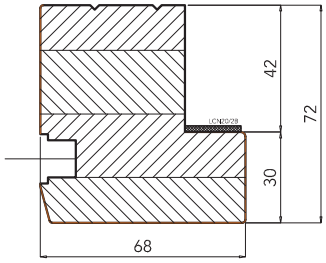

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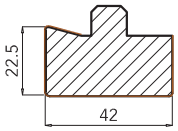
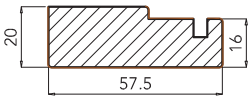
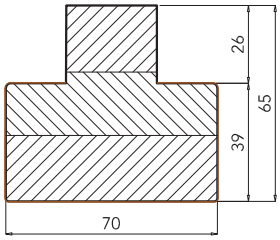


FD517

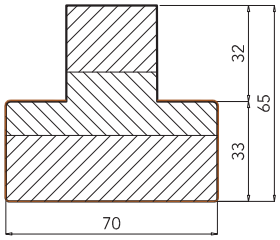


Portoncino d'entrata - traverso intermedio (Materiale: legno)

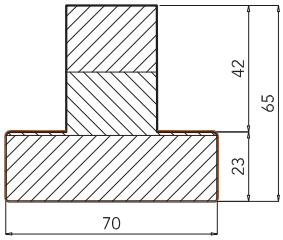
FD530-31



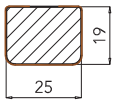
FD530-37



FD530-47

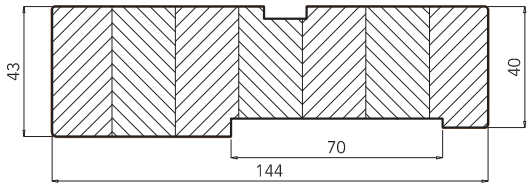


FD131

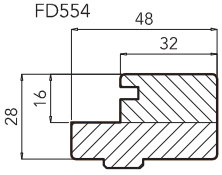


Portoncino d'entrata - telaio (Materiale: legno)

FD553

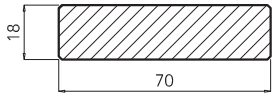


FD554

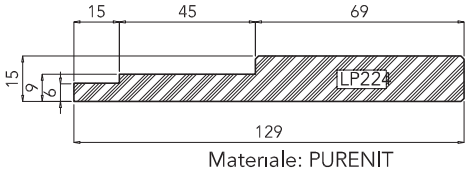


Packer (Materiale: legno)

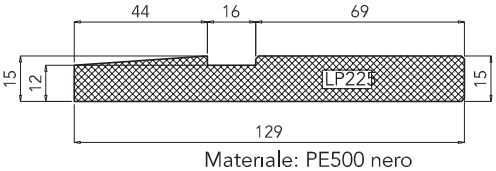
FD552



Packers



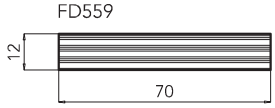
Materiale: PURENIT



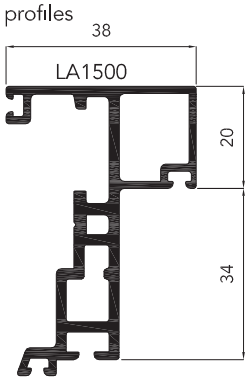
Materiale: PE500 nero

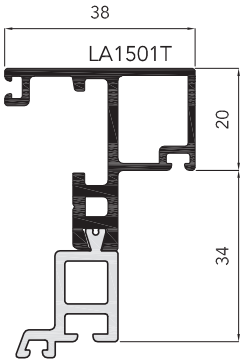
Profilo di accoppiamento (Materiale: OSB)

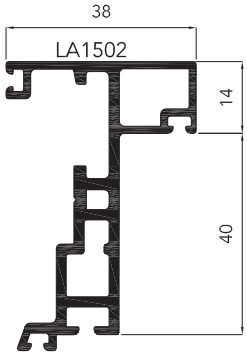
FD559

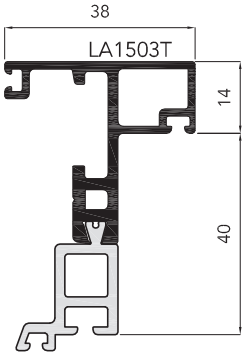


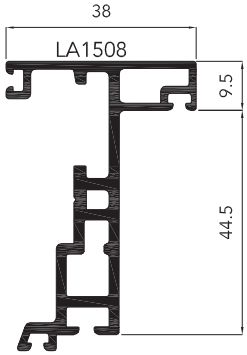
Sash profiles

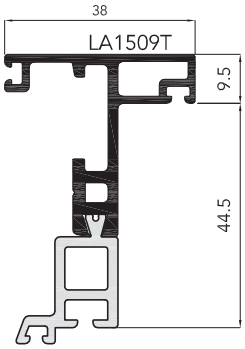


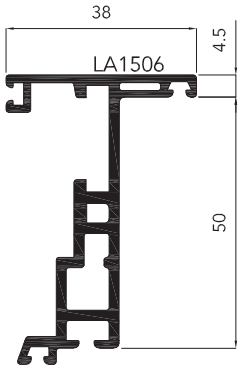


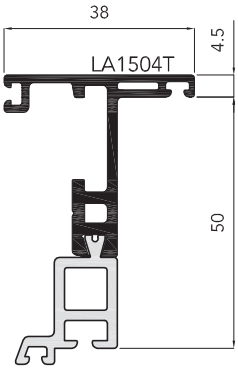


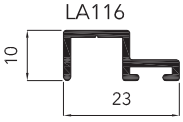


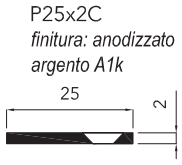




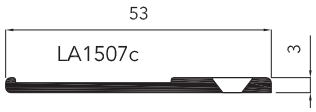




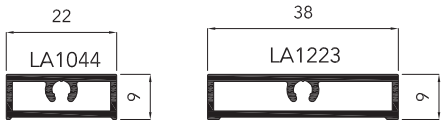




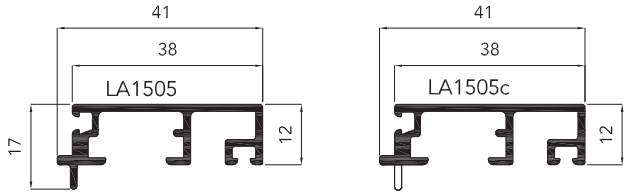
profilo anta



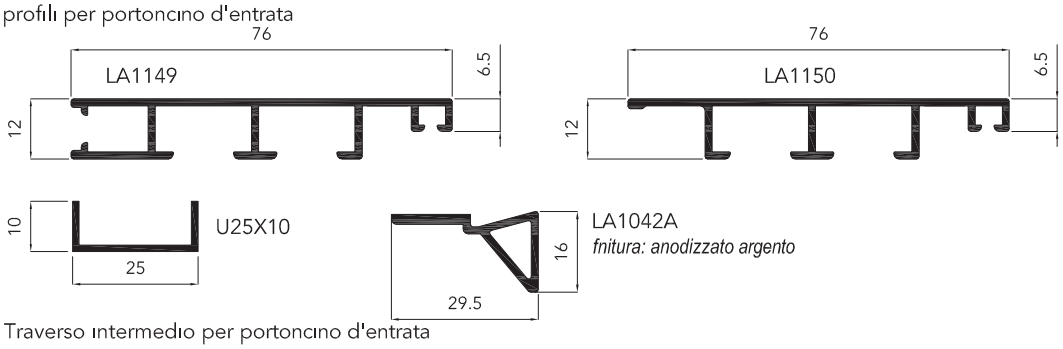
traverso intermedio



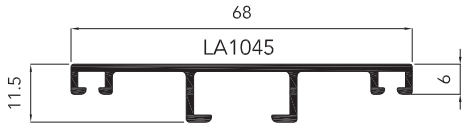
Fissi / profili telaio porte



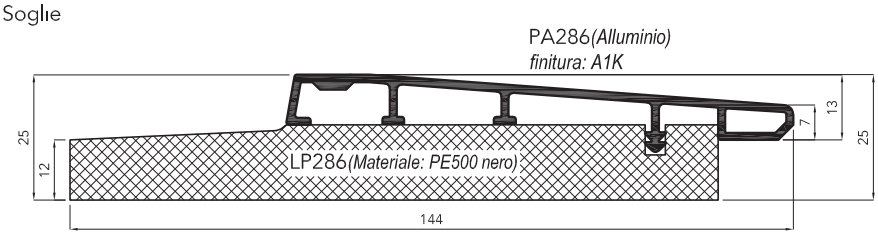
profili per portoncino d'entrata

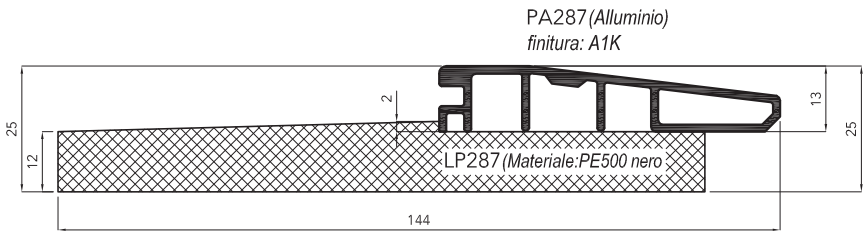


Traverso intermedio per portoncino d'entrata

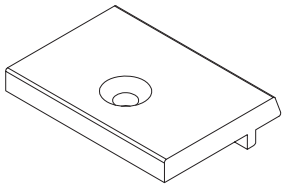


Soglie





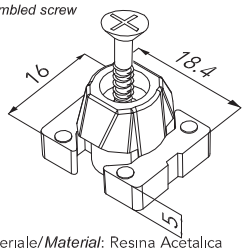
LC22



Materiale/*Material*: Nylon
Colore/*Colour*: Nero/*Black*
Fermo per vetro/ *Glass support*

LC62-V

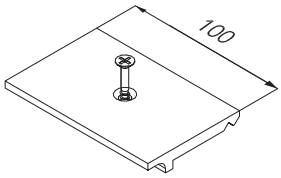
vite pre-montata
assembled screw



Materiale/*Material*: Resina Acetalica
Colore/*Colour*: Nero/*Black*
Clip a scatto/*Snap clip*

LC58/F

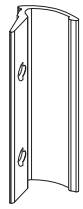
vite inclusa
screw included



Materiale/*Material*: Nylon
Colore/*Colour*: Nero/*Black*
Supporto vetro/ *Glass support*

LC86

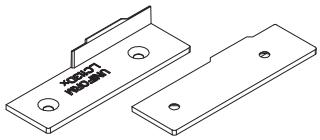
viti incluse
screws included



Materiale/*Material*: Alluminio/*Alluminium*
Colore/*Colour*: B15-B20-A1K-RAL9016
Maniglia fissa esterna/ *External fixed handle*

LC113A

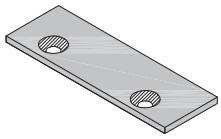
viti incluse
screws included



Materiale/*Material*: ABS
Colore/*Colour*: Nero/*Black*
Terminale per FD517/ *Endcap for FD517*

LC169

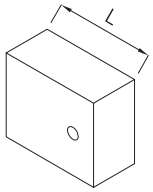
viti incluse
screws included



Materiale/*Material*: Alluminio/*Alluminium*
Colore/*Colour*: Nero/Black
Fermo per vetro/ *Glass support*

LC177-31 L=31mm
LC177-37 L=37mm
LC177-47 L=47mm

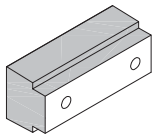
viti incluse
screws included



Materiale/*Material*: Legno/Wood
Colore/*Colour*: Grezzo/Raw
Terminale per FD551/ *Endcap for FD551*

LC178

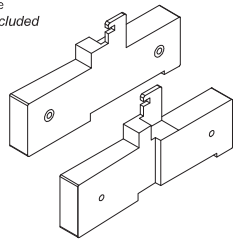
viti incluse
screws included



Materiale/*Material*: Alluminio/*Aluminium*
Colore/*Colour*: Nero/*Black*
Terminale laterale/ *Endcover*

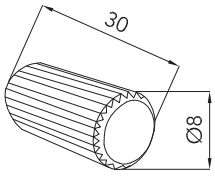
PT287(Dx-Sx)

viti incluse
screws included



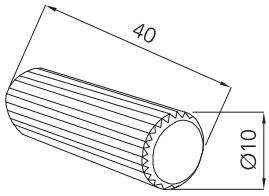
Materiale/*Material*: SEBS
Colore/*Colour*: Grigio/*Gray*
Coppia terminali per soglia/Threshold *endcover*

LCS30/8



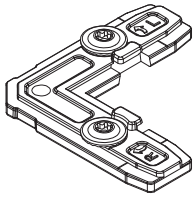
Materiale/*Material*: Legno/Wood
Colore/*Colour*: Grezzo/Raw
Spina in legno Ø8x30mm/ *Wood plug Ø8x30mm*

LCS40/10



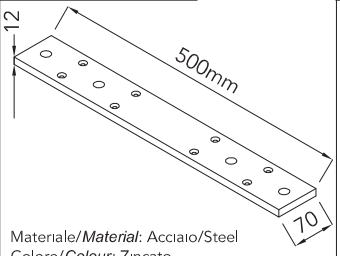
Materiale/*Material*: Legno/Wood
Colore/*Colour*: Grezzo/Raw
Spina in legno Ø10x40mm/ *Wood plug Ø10x40mm*

LS119



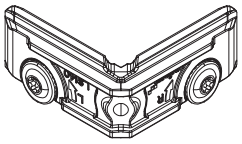
Materiale/*Material*: Alluminio/*Aluminium*
Colore/*Colour*: Grezzo/*Raw*
Squadretta assemblaggio a vite degli angoli/ *Corner joint to be screwed*

LS138



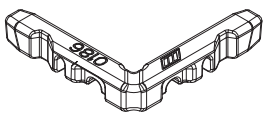
Materiale/*Material*: Acciaio/Steel
Colore/*Colour*: Zincato
Staffa di rinforzo/Bracket for reinforcement

LS140



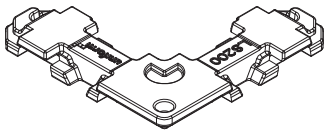
Materiale/*Material*: Alluminio/*Aluminium*
Colore/*Colour*: Grezzo/*Raw*
Squadretta assemblaggio a vite degli angoli/ *Corner joint to be screwed*

LS141



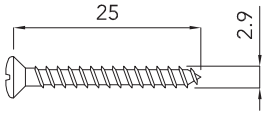
Materiale/*Material*: Alluminio/*Aluminium*
Colore/*Colour*: Grezzo/*Raw*
Squadretta di allineamento/ *Corner joint for alignment purpose*

LS200



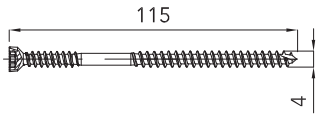
Materiale/*Material*: Alluminio/*Aluminium*
Colore/*Colour*: Grezzo/*Raw*
Squadretta cianfrinatura degli angoli/ *Corner joint to be crimping*

LVM2.9X25



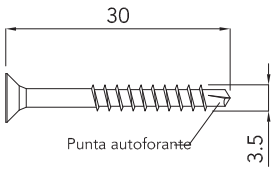
Materiale/*Material*: Acciaio Inox/ *Steel*
Colore/*Colour*: Nero/*Black*
Vite autofilettante 2.9x25mm svasata/ *Self-tapping screw*

LVP105



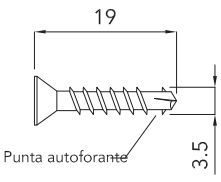
Materiale/*Material*: Acciaio zincato/ *Steel*
Colore/*Colour*: Inox
Vite 4x115mm giunzione 90°/ *4x115mm Screw*

LVP106



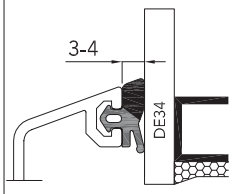
Materiale/*Material*: Acciaio zincato/ *Steel*
Colore/*Colour*: Inox
Vite 3.5x30mm testa svasata piana autoforante/ *3.5x30mm Screw*

LVP117



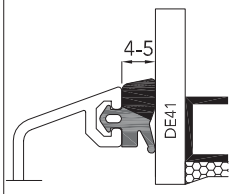
Materiale/*Material*: Acciaio zincato/ *Steel*
Colore/*Colour*: Inox
Vite 3.5x25mm testa svasata piana/ *3.5x35mm Screw*

DE34



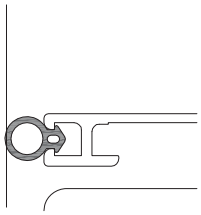
Materiale/*Material*: EPDM
Colore/Co*lour*: Nero/*Black*

DE41



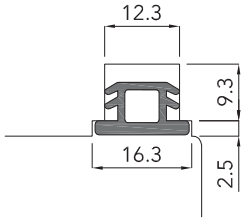
Materiale/*Material*: EPDM
Colore/Co*lour*: Nero/*Black*

DE49



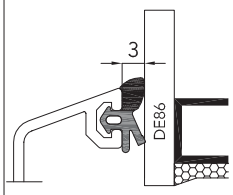
Materiale/*Material*: EPDM
Colore/*Colour*: Nero/*Black*

DE53



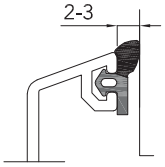
Materiale/*Material*: TPE
Colore/*Colour*: Nero-Marrone/*Black-Brown*

DE86



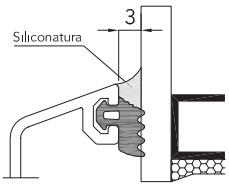
Materiale/*Material*: EPDM
Colore/Co*lour*: Nero/*Black*

DE117



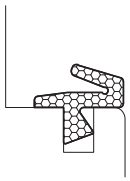
Materiale/*Material*: EPDM
Colore/Co*lour*: Nero/*Black*

DE146



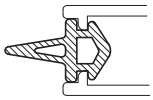
Materiale/*Material*: EPDM
Colore/*Colour*: Nero/*Black*

DE152



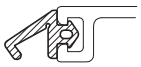
Materiale/*Material*: EPDM
Colore/*Colour*: Nero/*Black*

DE163



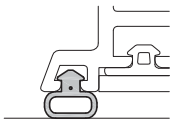
Materiale/*Material*: EPDM
Colore/*Colour*: Nero/*Black*

DE175



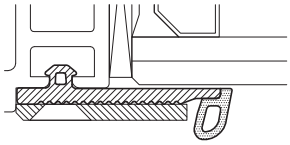
Materiale/*Material*: EPDM
Colore/*Colour*: Nero/*Black*

DE176



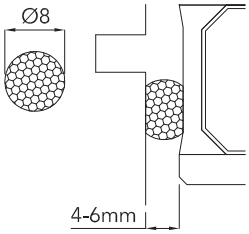
Materiale/*Material*: Silicone
Colore/*Colour*: Nero/*Black*

DE177



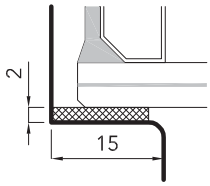
Materiale/*Material*: EPDM
Colore/*Colour*: Nero/*Black*

FG08



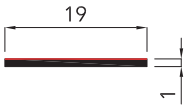
Materiale/*Material*: Polietilene espanso
Colore/*Colour*: Grigio/Gray

LCN15/2B



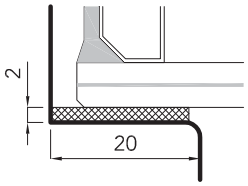
Materiale/*Material*: Biadesivo/*Biadhesive tape*
Colore/*Colour*:Nero/*Black*

LCN19-1N



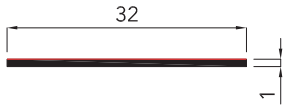
Materiale/*Material*: Biadesivo/*Biadhesive tape*
Colore/*Colour*:Nero/*Black*

LCN20/2B



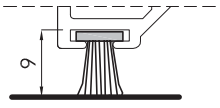
Materiale/*Material*: Biadesivo/*Biadhesive tape*
Colore/*Colour*:Nero/*Black*

LCN19-1N



Materiale/*Material*: Biadesivo/*Biadhesive tape*
Colore/Colour:Nero/Black

LSP-9



Materiale/*Material*: Polipropilene
Colore/*Colour*: Nero/*Black*

LC-RE

Colla cianoacrilica per l'incollaggio guarnizioni in EPDM/
Glue for EPDM gaskets

LC-COSMOFEN

Colla bicomponente per incollaggio squadrette
Corner joint glue

GB-COSMOFEN

Erogatore per LC-COSMOFEN

MR-COSMOFEN

Miscelatore di ricambio per LC-COSMOFEN

LC-SIMPCLEAR

Sigillante per profili alluminio
Aluminium sealing

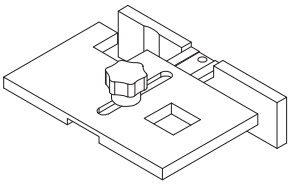
LC-LEVASIL

Pulitore per silicone
Silicone cleaner

LD46

Materiale/*Material*: Acciaio/*Steel*
Chiave per clips: LC26-LC50-LC62-LC80
Wrench for clips LC26-LC50-LC62-LC80

LD49



Materiale/*Material*: Alluminio/*Aluminium*
Dima regolabile per LC62/ *Adjustable template for LC62*

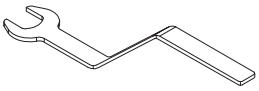
LF1

Forbice per taglio a 90° delle guarnizioni sull'anta/
Scissor for 90°cutting

LF4

Forbice per taglio a 45° delle guarnizioni sull'anta/
Scissor for 45°cutting

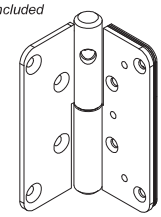
LD68



Materiale/*Material*: Acciaio/*Steel*
Chiave per smontaggio clips LC62 su fisso /
Wrench for demounting clips LC62 from the fixed

FS17

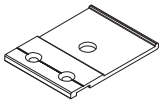
viti incluse
screws included



Materiale/***Material***: Acciaio/*Steel*
Colore/***Colour***: Inox
Cerniera portoncino 120Kg/ *Entrance door hinge120Kg*

FS21

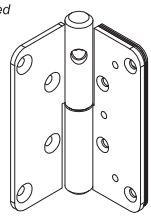
viti incluse
screws included



Materiale/***Material***: Alluminio/*Aluminium*
Colore/***Colour***: Nero/*Black*
Supporto restrictor

FS22

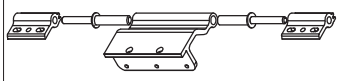
viti incluse
screws included



Materiale/***Material***: Acciaio/*Steel*
Colore/***Colour***: Inox
Cerniera portoncino/ *Entrance door hinge*

FS27

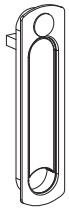
viti incluse
screws included



Materiale/***Material***: Alluminio/*Aluminium*
Colore/***Colour***: Nero/*Black*
Cerniera a 3 ali per anta/ *Three wings aluminium hinge*

FS28

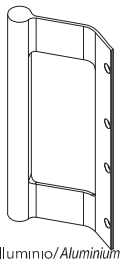
viti incluse
screws included



Materiale/***Material***: Acciaio/Steel
Colore/***Colour***: Argento/Silver
Maniglia interna per cremonese/ *Handle*

FS29

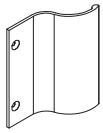
viti incluse
screws included



Materiale/***Material***: Alluminio/*Aluminium*
Colore/***Colour***: Argento/Silver
Maniglia fissa per porta/ *Door fix handle*

FS30

viti incluse
screws included



Materiale/***Material***: Alluminio/*Aluminium*
Colore/***Colour***: Argento/silver
Maniglia fissa per finestra/ *Window fix handle*

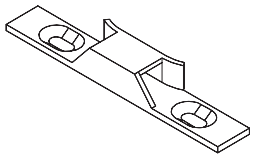
FS31

Materiale/***Material***: Alluminio/*Aluminium*
Colore/***Colour***: Argento/silver
Maniglia per finestra/ *Espagnolette*

FS32

Materiale/***Material***: Alluminio/*Aluminium*
Colore/***Colour***: Argento/silver
Maniglia con chiave per finestra/
Espagnolette with key lock

FS33



Materiale/***Material***: Acciaio inox/*Stainless steel*
Colore/***Colour***: Argento/silver
Riscontro per chiusura ferrfamenta/
Accessory for hardware locking

uniform