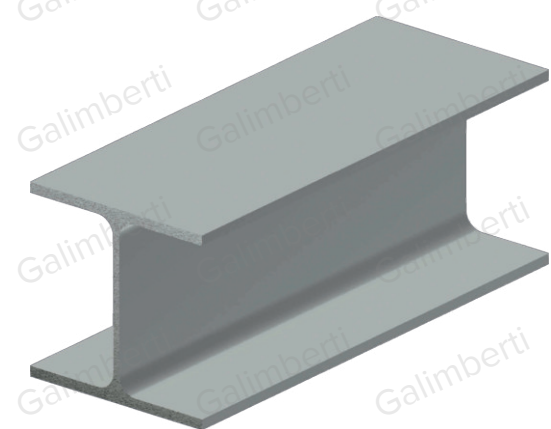




NODI TIPOLOGICI

GALIMBERTI
LEGNO E BIOEDILIZIA

Costruzioni in legno, ibride e off-site

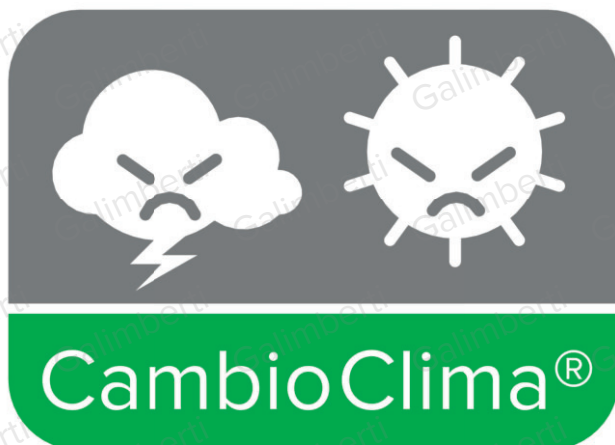
CambioClima®

CONTRO GLI EVENTI METEOREOLOGICI ESTREMI

CambioClima® è la linea Galimberti di elementi per coperture adatte a eventi meteorologici estremi.

Prodotti che semplificano il raccordo dei corpi emergenti con lo strato impermeabile in accordo con le seguenti normative:

- Tetti a Falde: SIA 232/1 (CH) e UNI 11470 (IT). Continuità impermeabile dello strato sottostante.
- Tetti Piani: SIA 271 (CH) e UNI 8178-2 (IT). Raccordo con il telo impermeabile.



Per maggiori informazioni, visita la sezione *Innovazione* su galimberti.eu.

Gli elementi contrassegnati con * sono *patent pending*

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FACCIATE

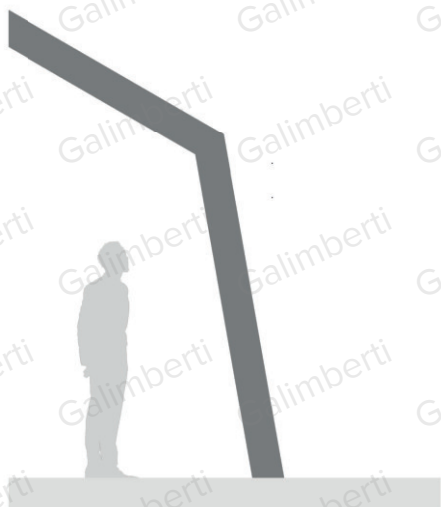
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Con aggetto



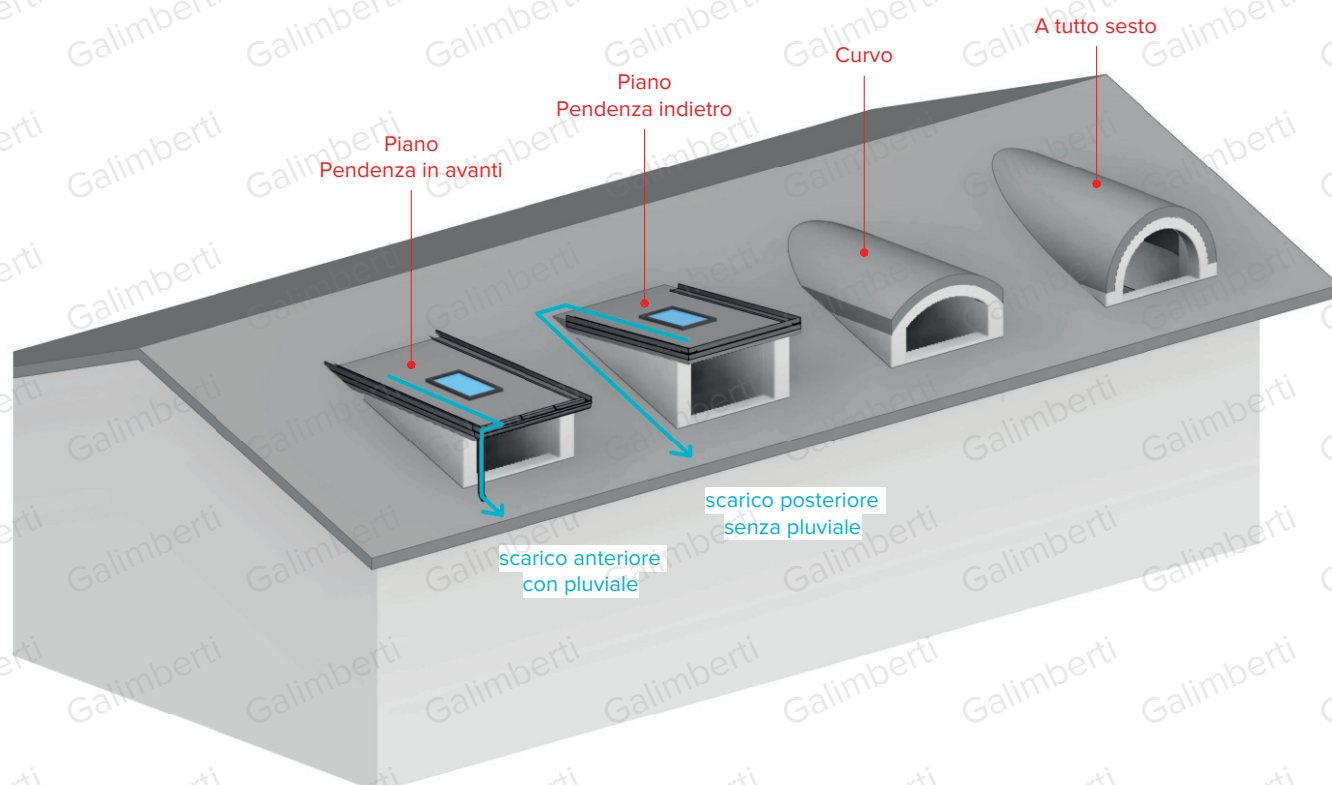
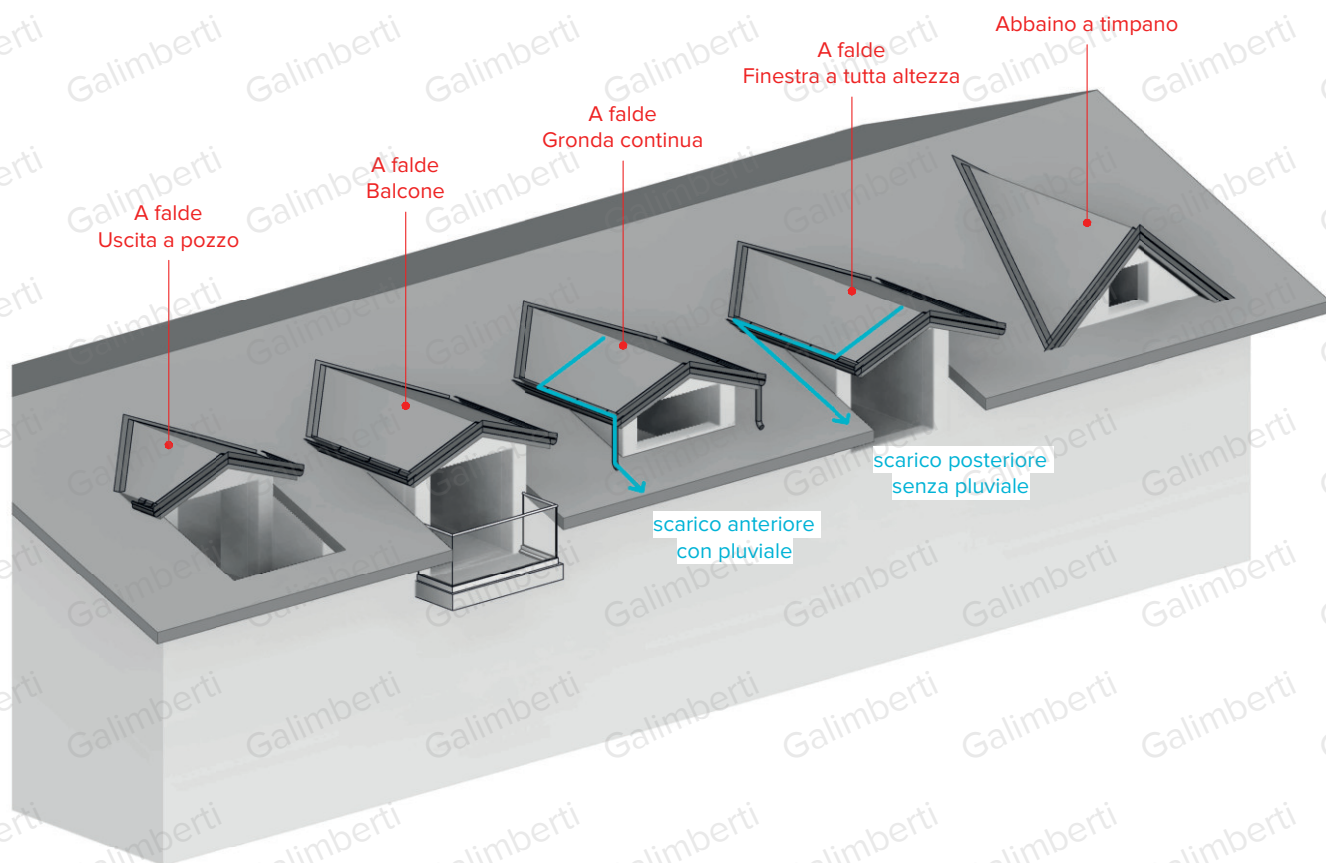
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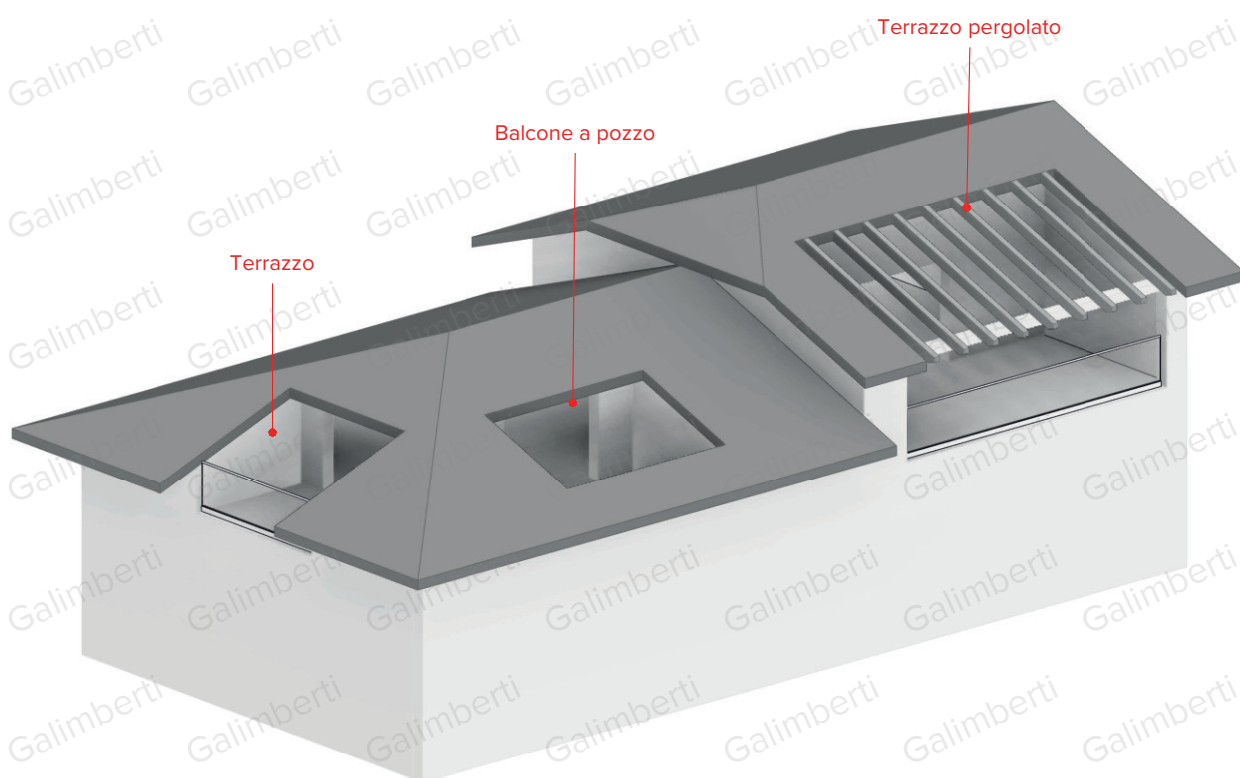
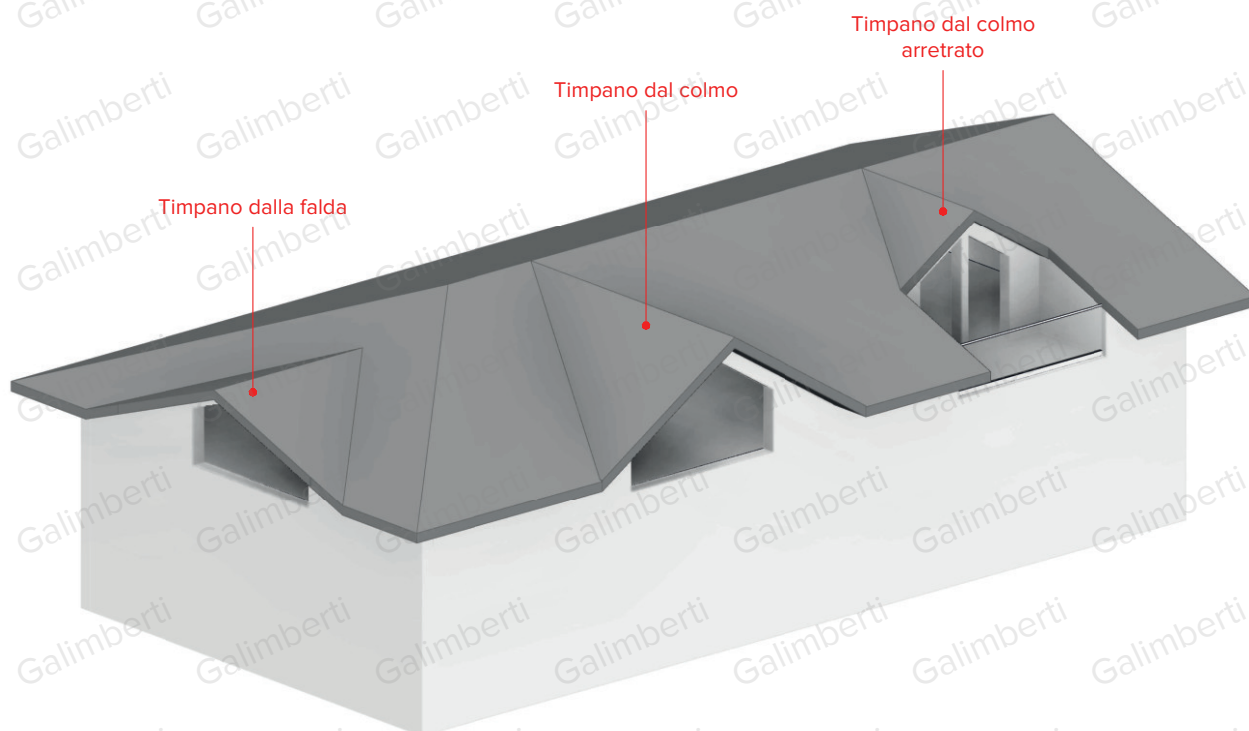


Alla francese

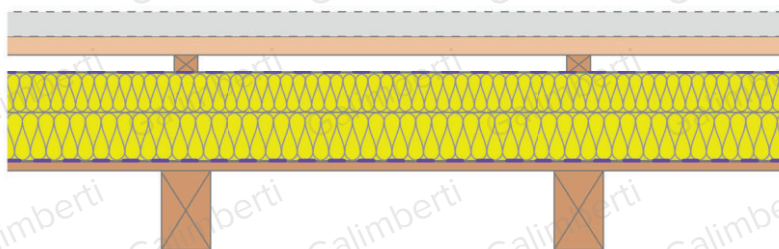


Falda su cordolo

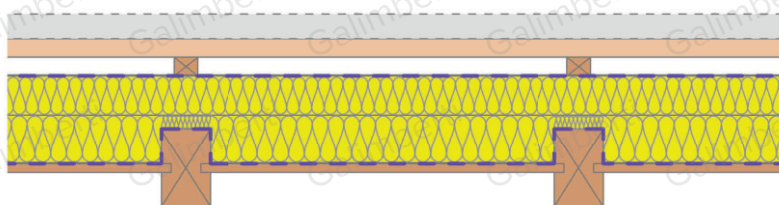




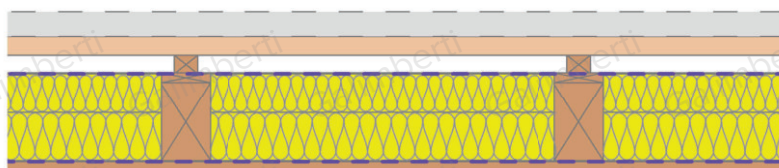
TRAVETTO A VISTA



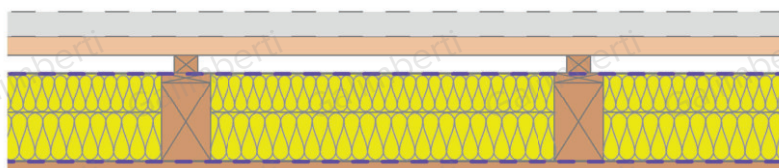
IS01 - Isolante sopra travetti



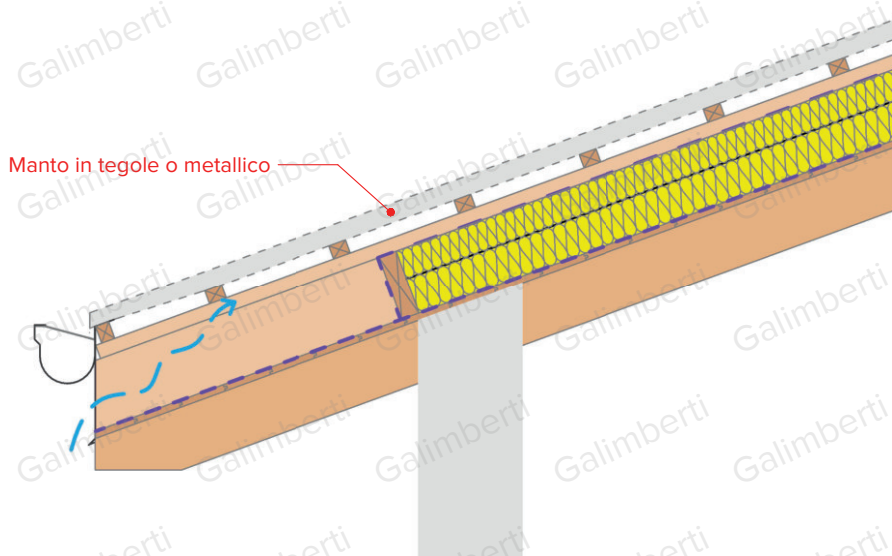
IS02 - Travetto parzialmente incassato nell'isolante



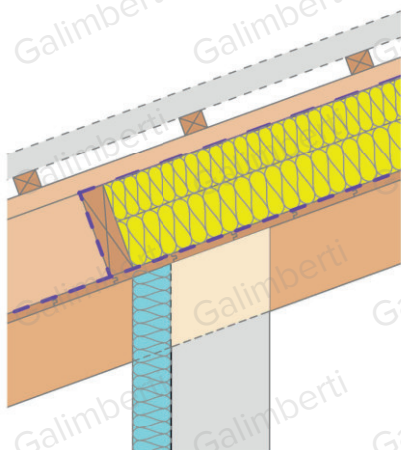
TRAVETTO NASCOSTO



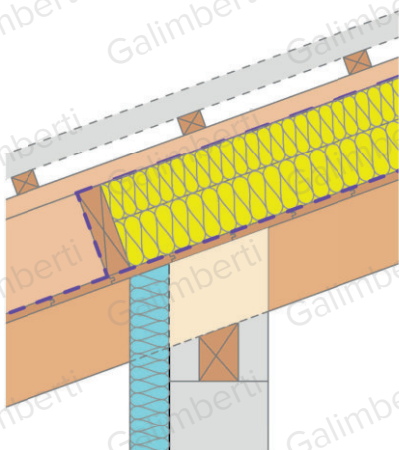
IS03 - Travetto incassato nell'isolante



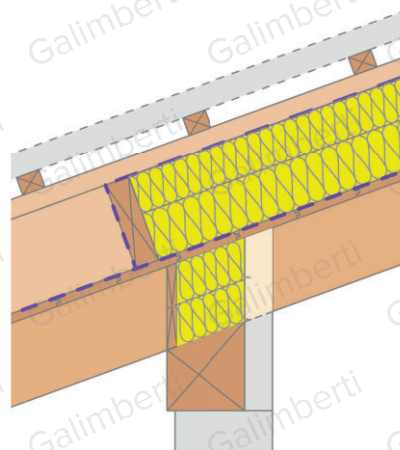
Nodo tipo



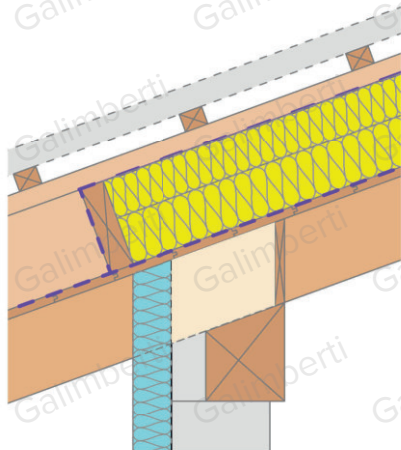
TE.100 - Travetto annegato nella correa



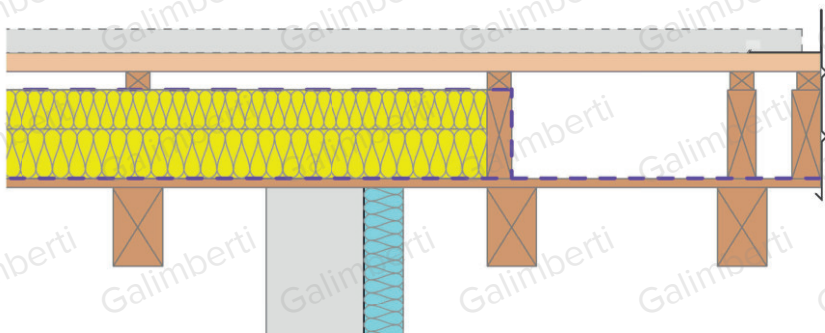
TE.101 - Radice di appoggio
Appoggio continuo



TE.102 - Correa esterna
Appoggio su pilastro

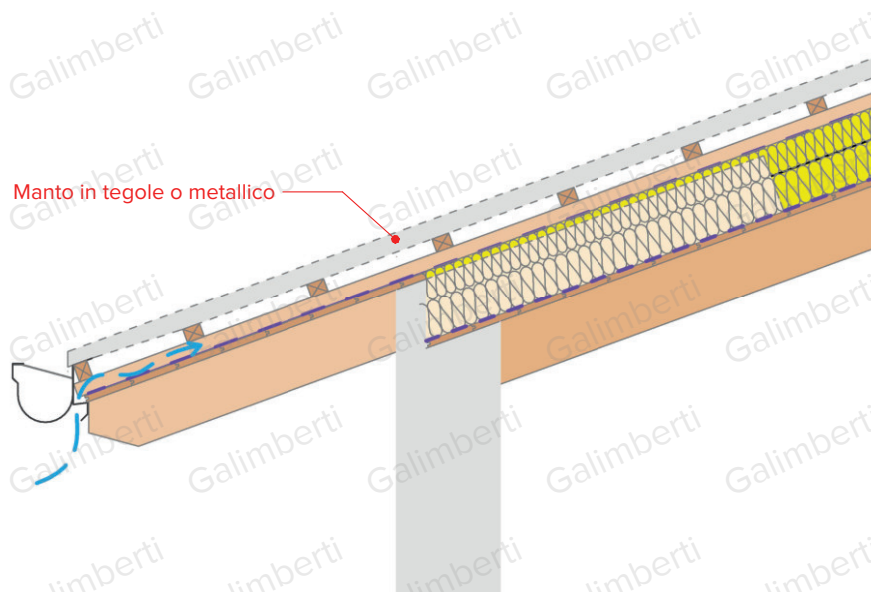


TE.103 - Correa interna
Appoggio su pilastro

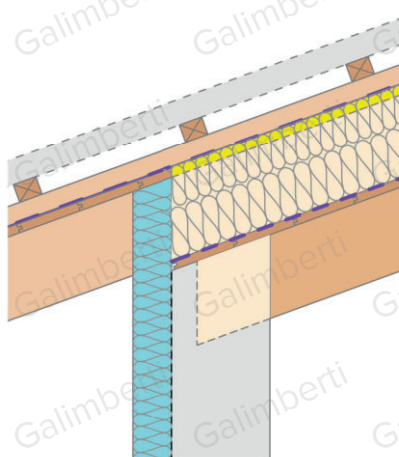


TE.150 - Sezione longitudinale

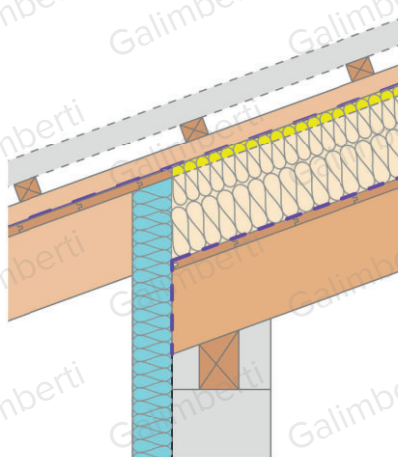
TRAVETTO A VISTA - GRONDA RIBASSATA



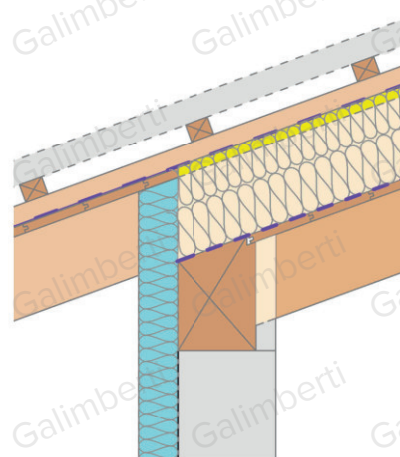
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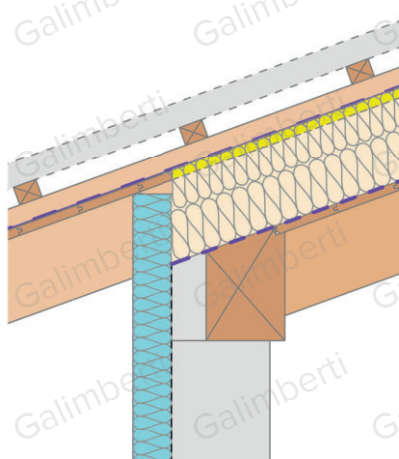
TE.200 - Travetto annegato nella correa



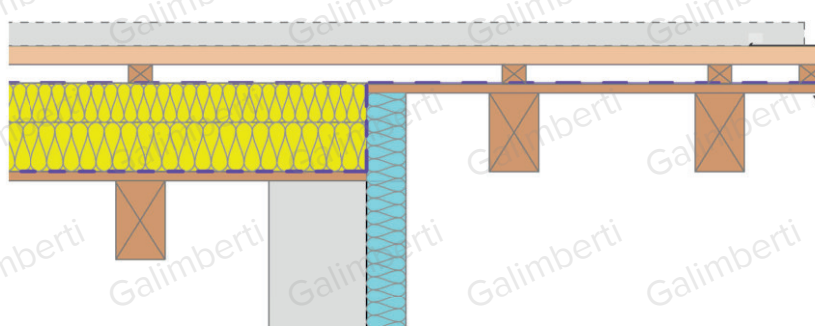
TE.201 - Radice di appoggio
Appoggio continuo



TE.202 - Correa non a vista
Appoggio su pilastro

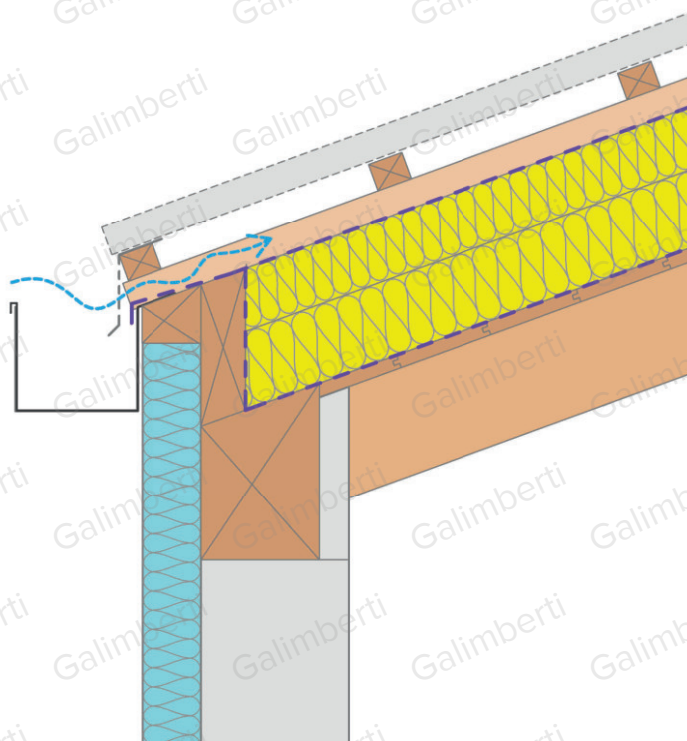


TE.203 - Correa interna
Appoggio su pilastro

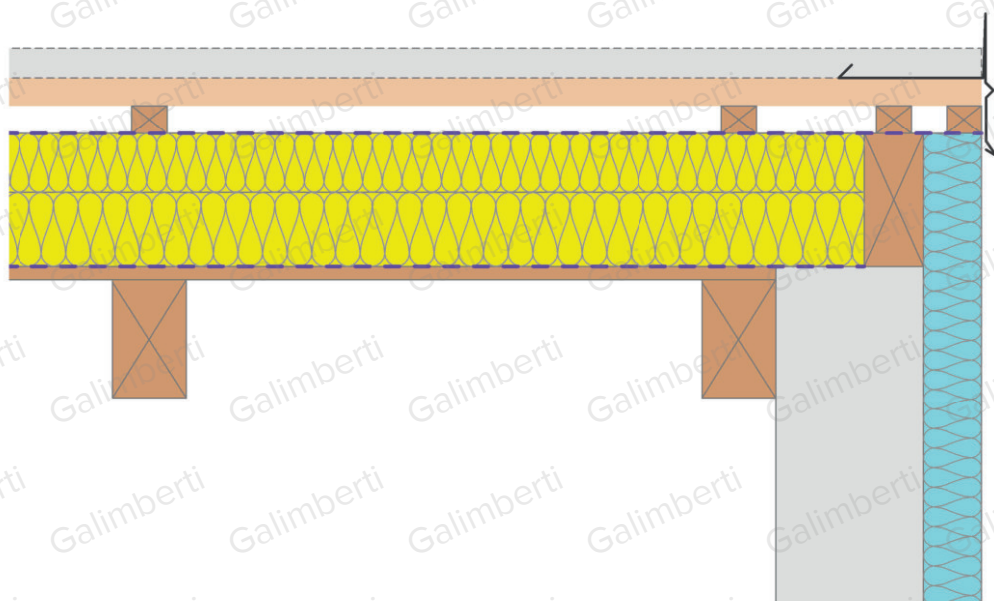


TE.250 - Sezione longitudinale

TRAVETTO A VISTA - SENZA GRONDA

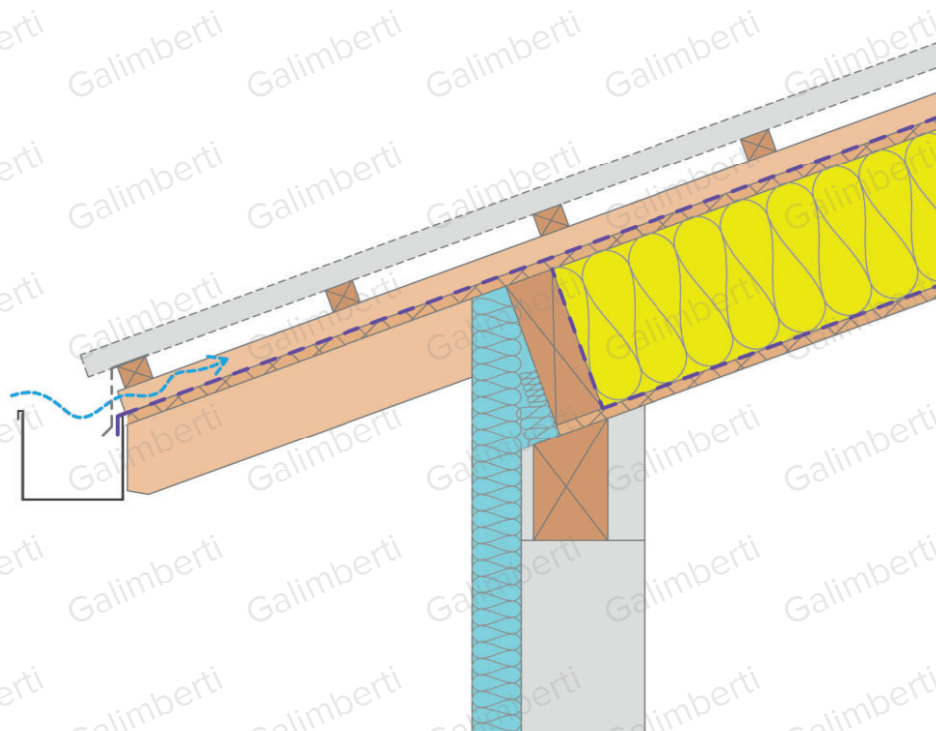


TE.503 - Senza gronda

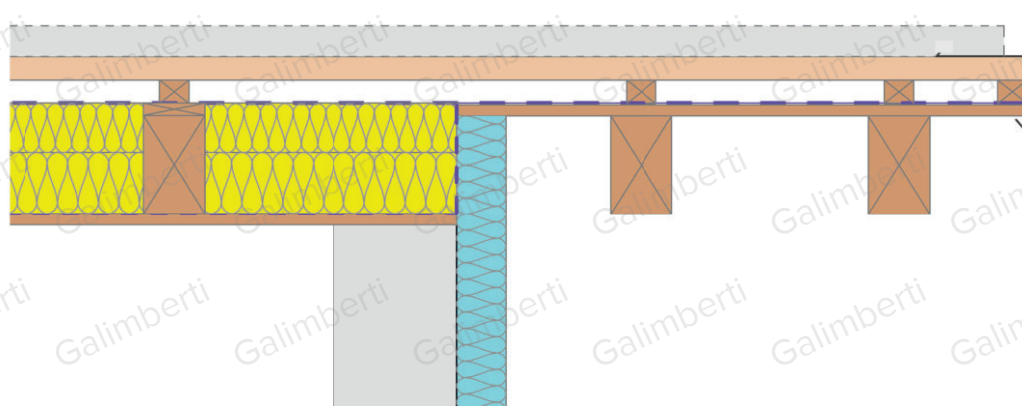


TE.554 - Sezione longitudinale

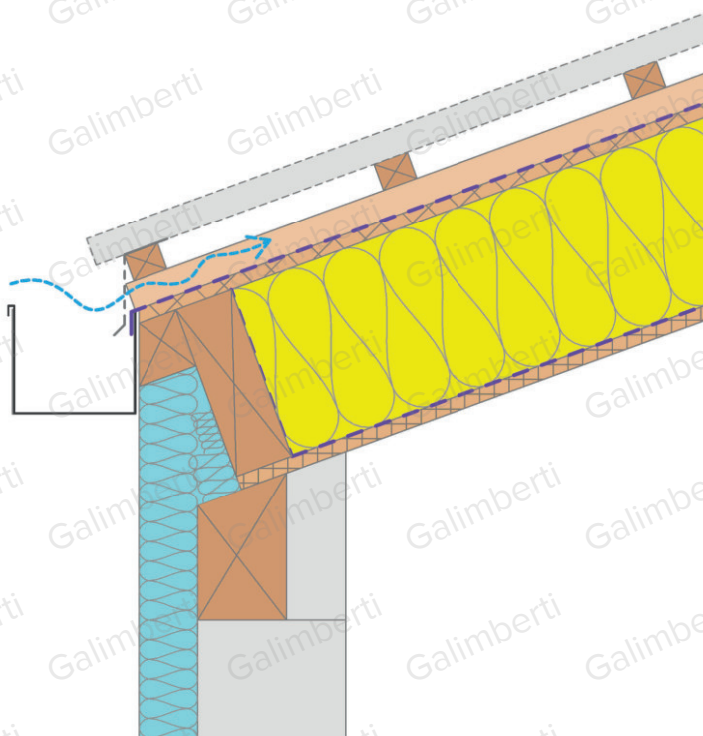
TRAVETTO NASCOSTO - GRONDA RIBASSATA



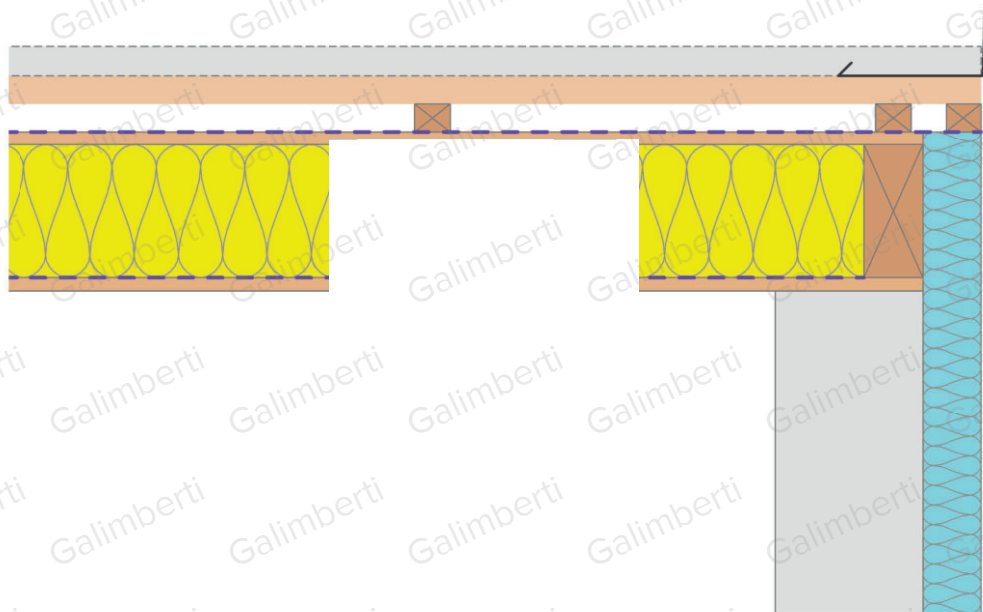
TE.702 - Gronda ribassata



TE.752 - Sezione longitudinale

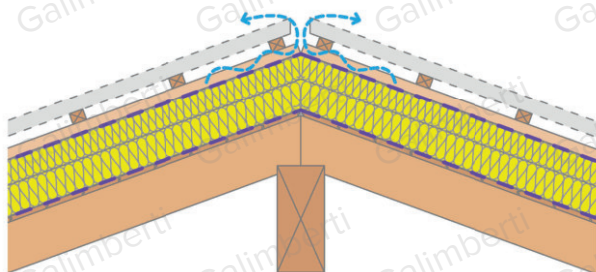


TE.700 - Senza gronda

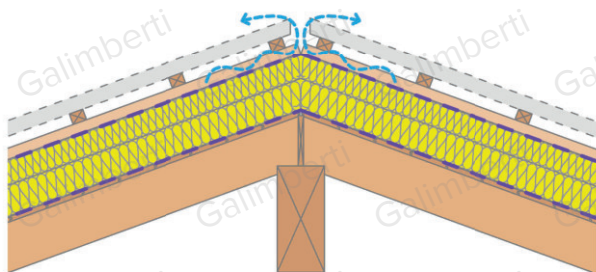


TE.750 - Sezione trasversale

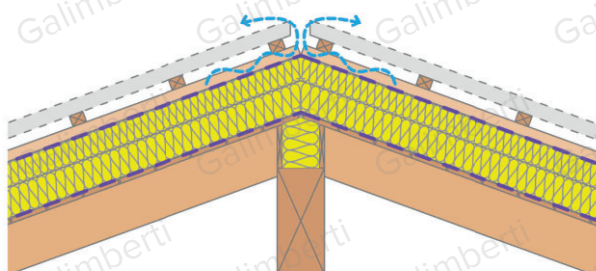
TRAVETTI IN APPOGGIO



TE.300 - Senza tavoletta

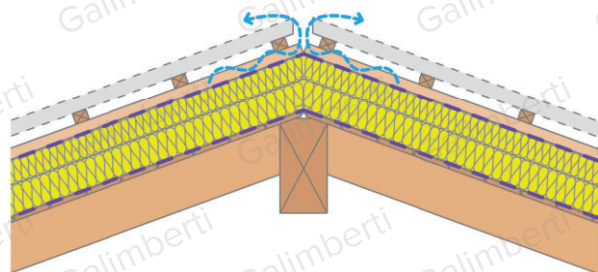


TE.301 - Tavoletta singola

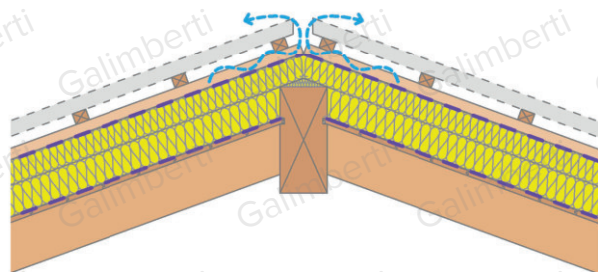


TE.302 - Tavoletta doppia

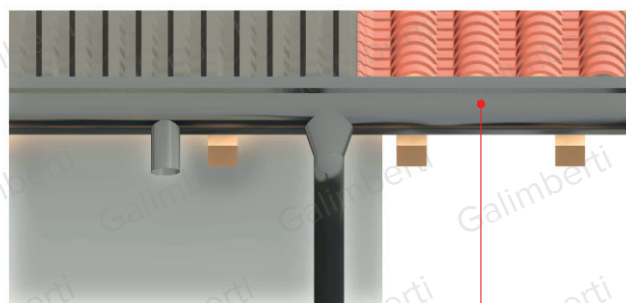
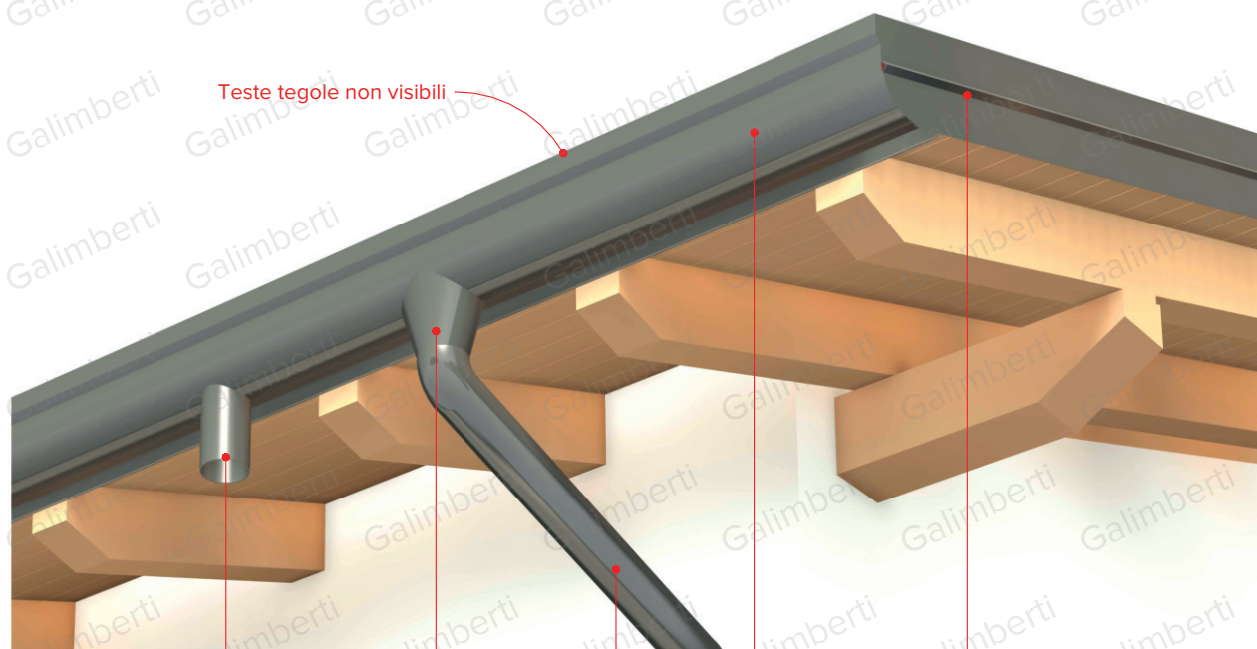
TRAVETTI SUL FIANCO



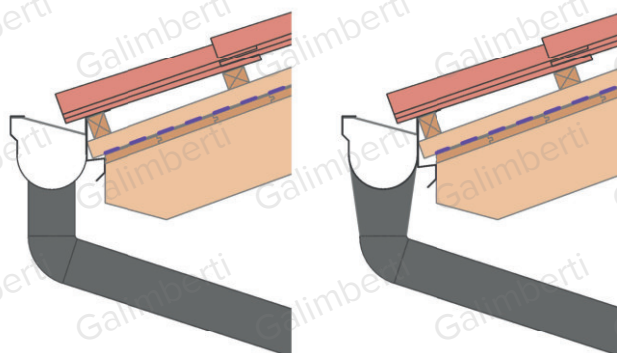
TE.330 - Colmo non incassato



TE.331 - Colmo incassato



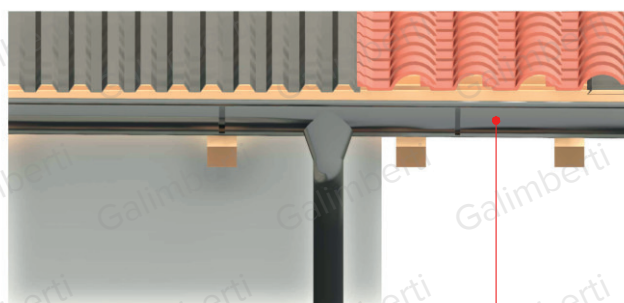
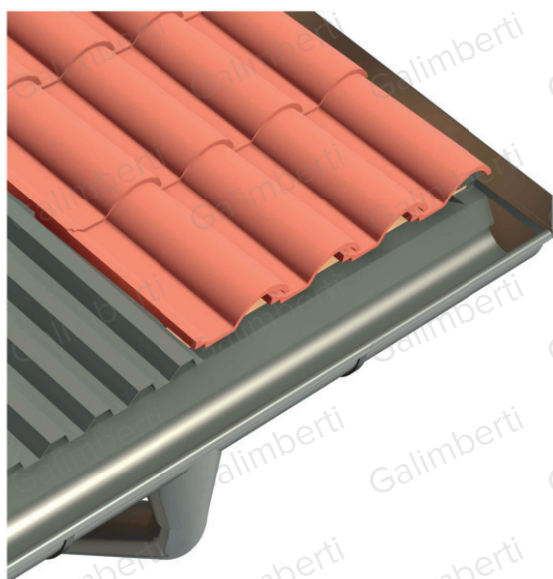
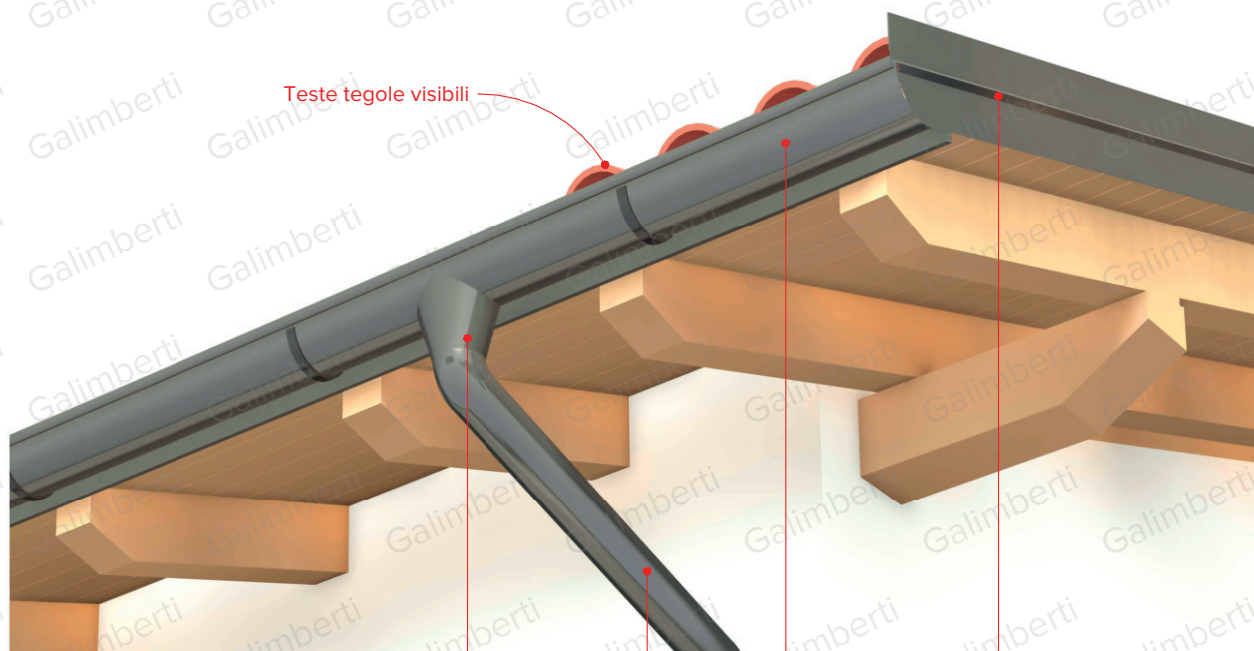
Canale senza pendenza



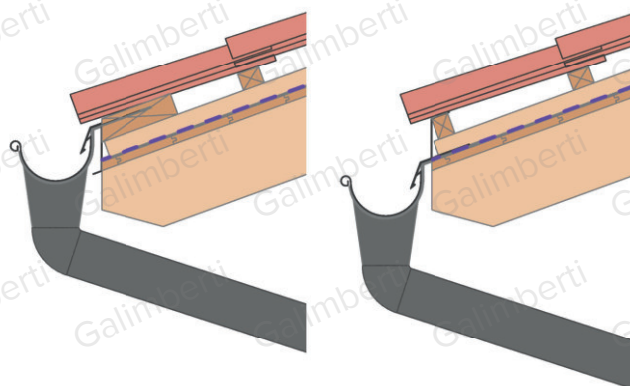
Bocchetta cilindrica

Bocchetta a imbuto

CANALE TONDO



Canale con pendenza 3cm/10m

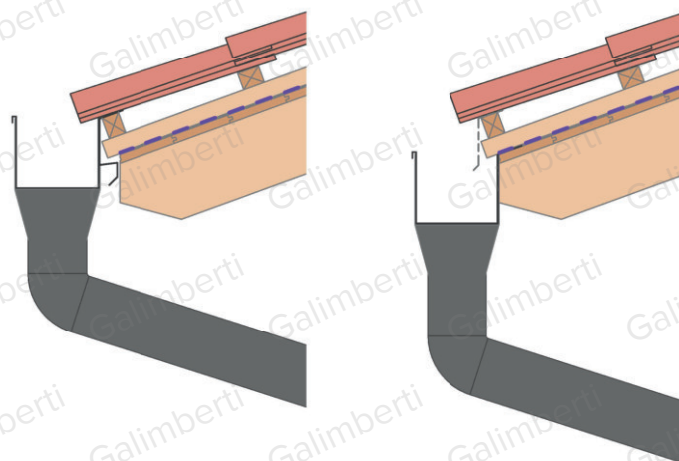
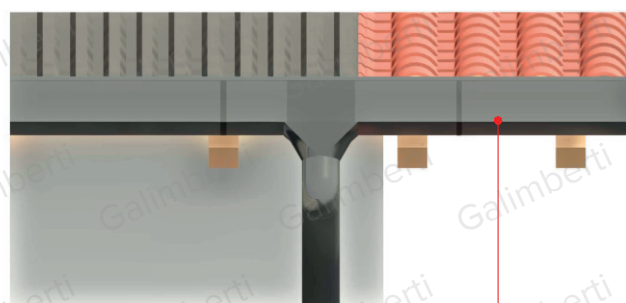
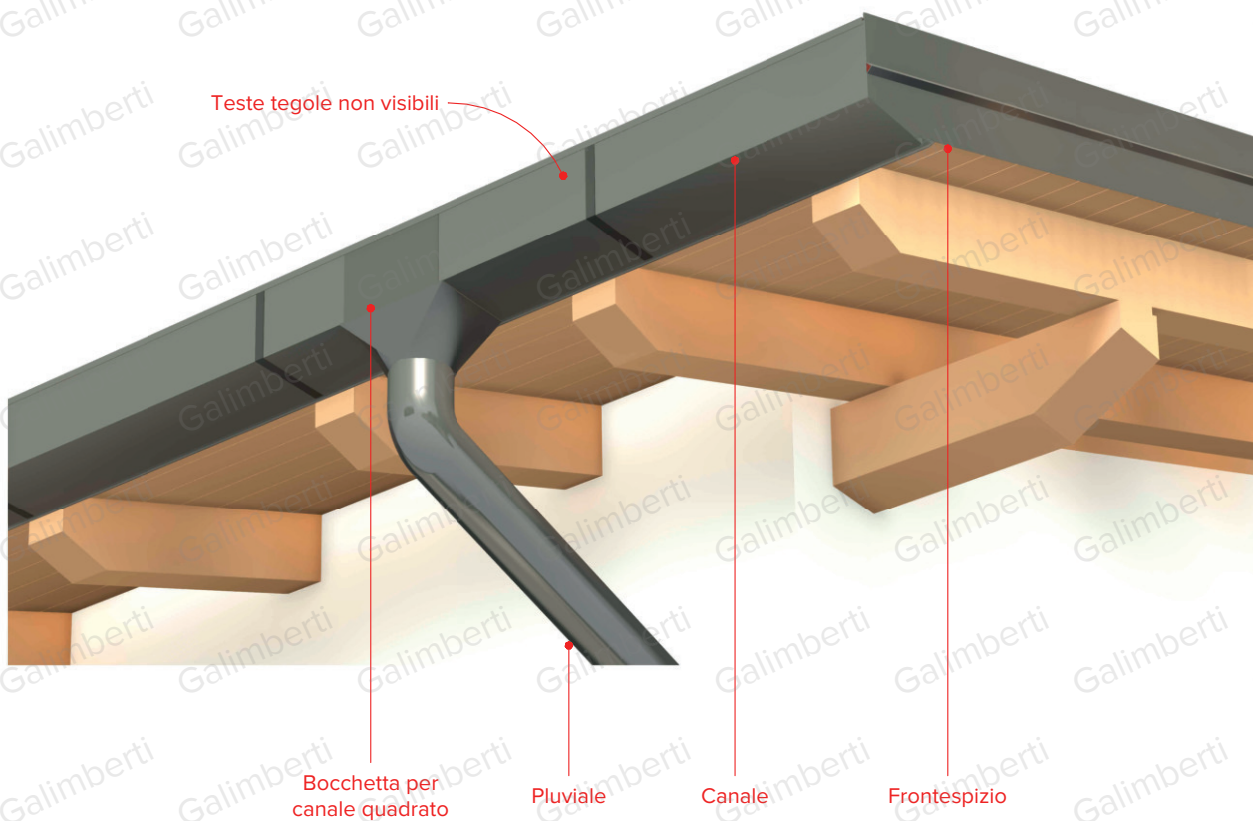


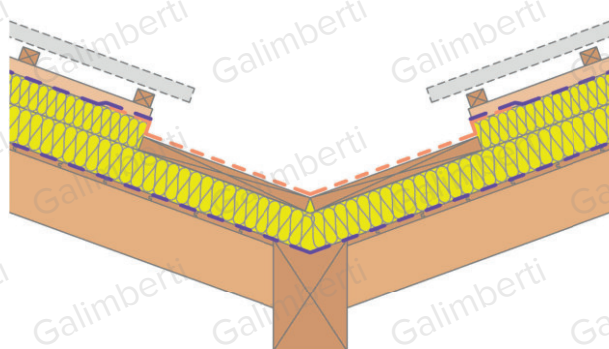
Canale tondo alto

Canale tondo basso (per neve)

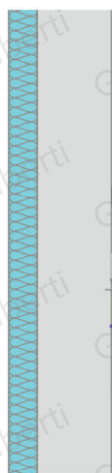
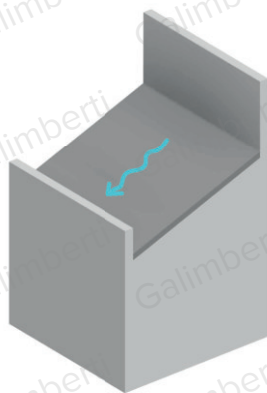
tetto a falde / smaltimento acque
CANALE QUADRATO

TETTO A FALDE
smaltimento acque

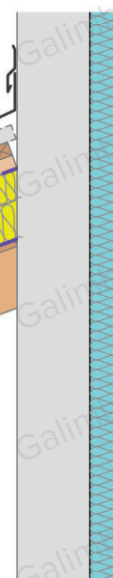




Conversa in EPDM

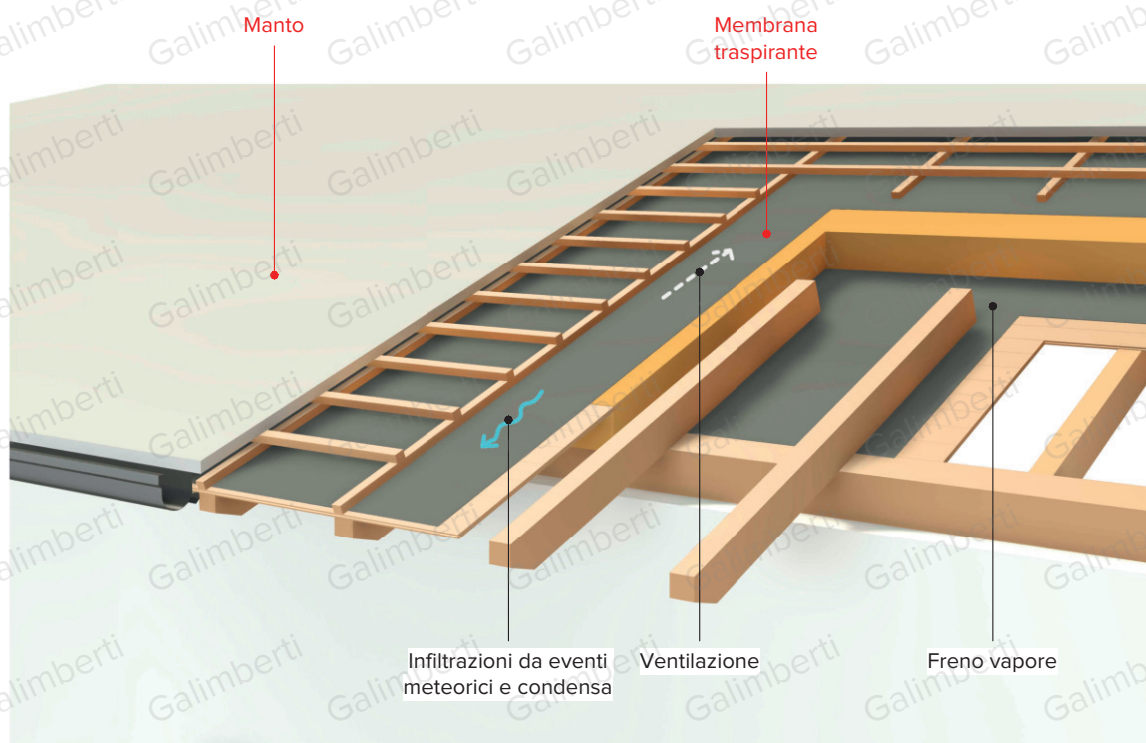


Contromuro basso



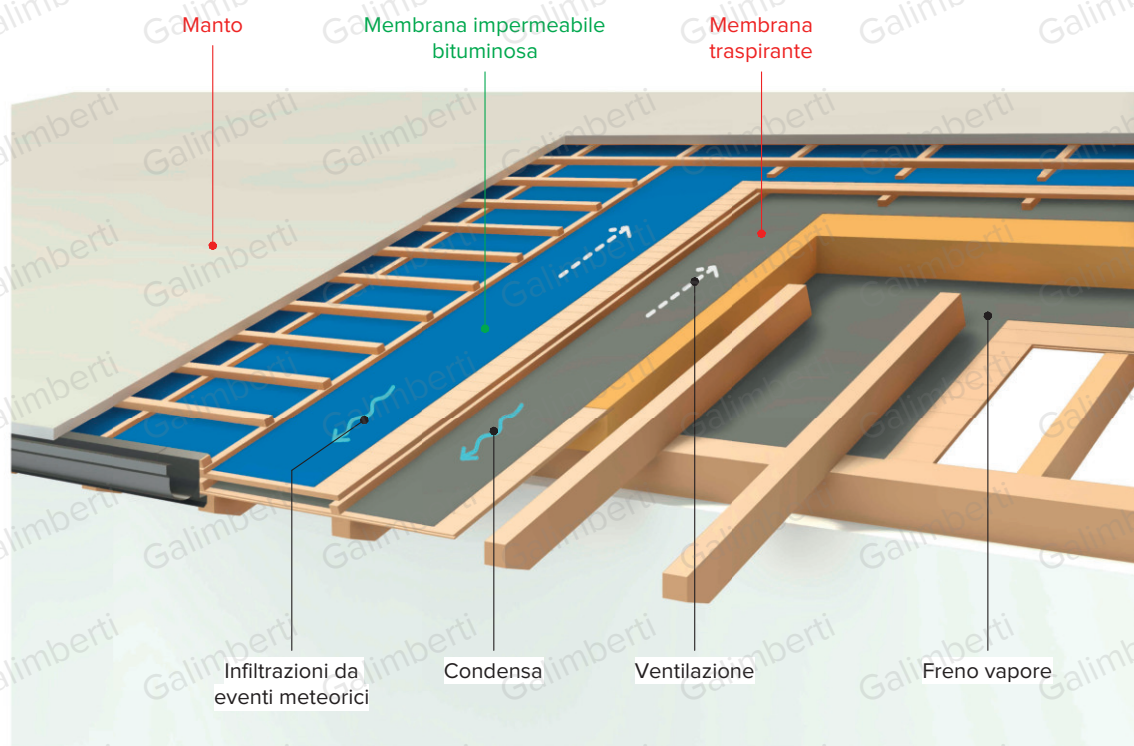
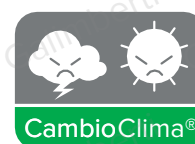
Contromuro alto

tetto a falde / smaltimento acque
STRATO DI VENTILAZIONE



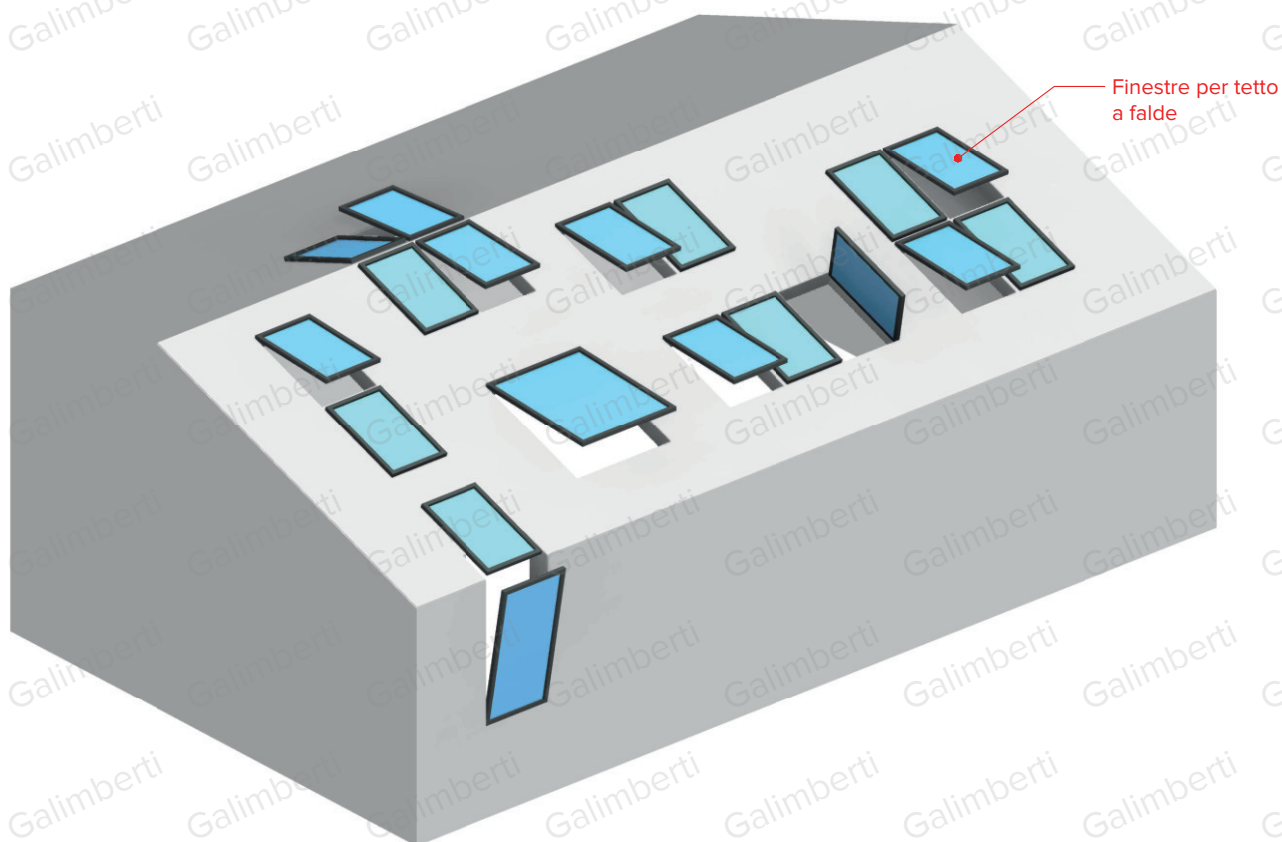
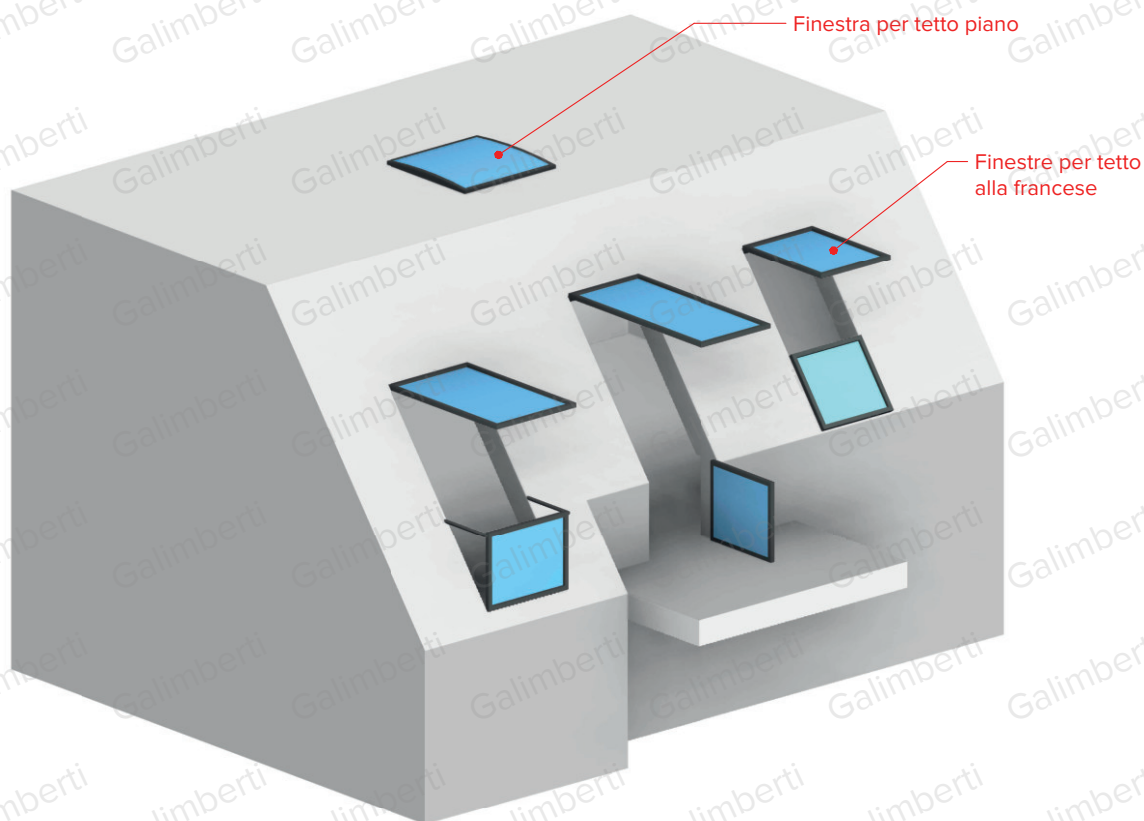
TETTO A FALDE
smaltimento acque

Ventilazione singola



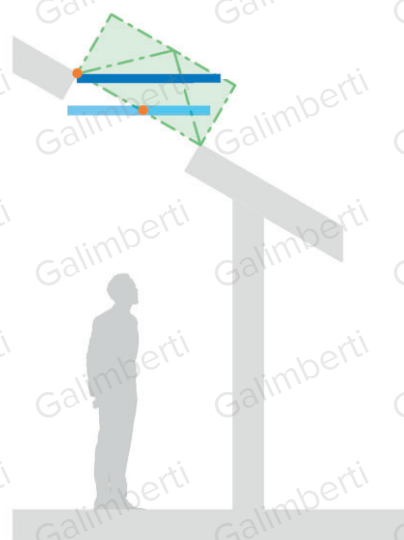
Ventilazione doppia

FINESTRE A TETTO

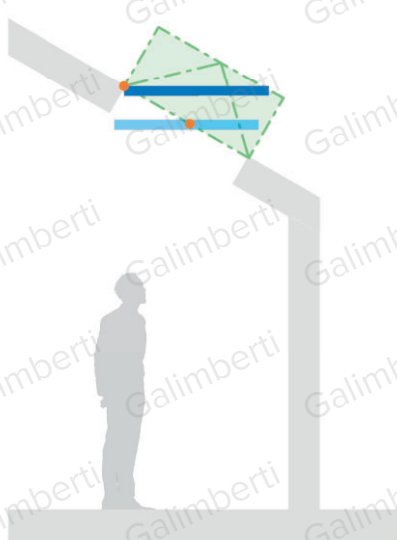


FINESTRE A TETTO

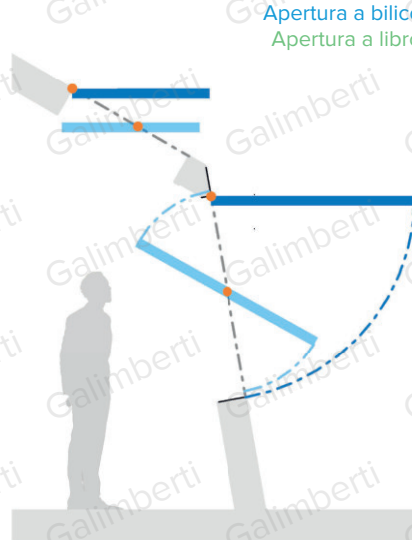
Apertura a vasistas
Apertura a bilico
Apertura a libro



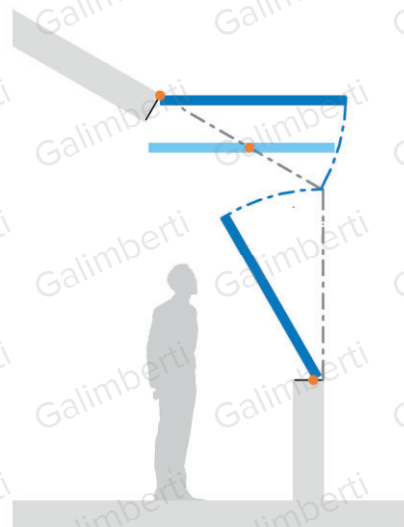
Con aggetto
Finestra semplice



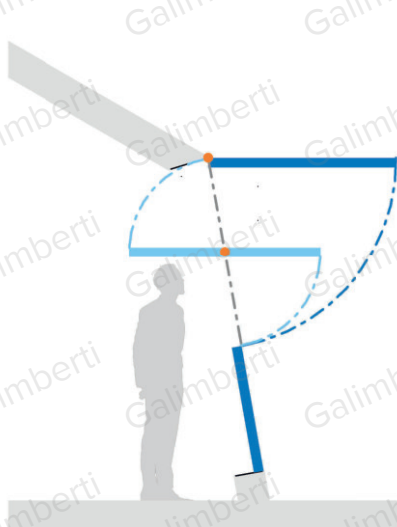
Senza aggetto
Finestra semplice



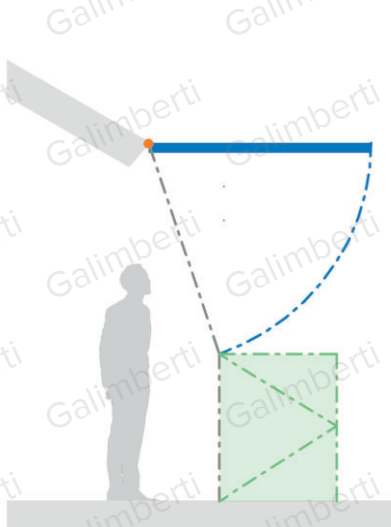
Alla francese
Finestra semplice + Vasistas



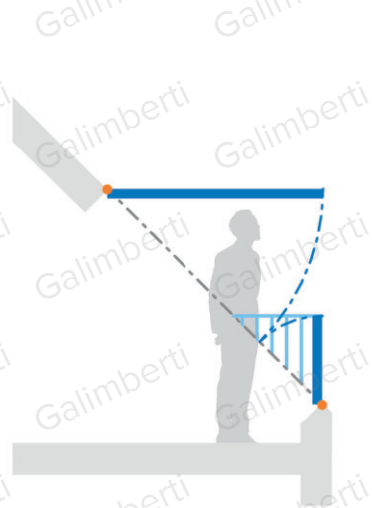
Senza aggetto
Continuità tetto-parete



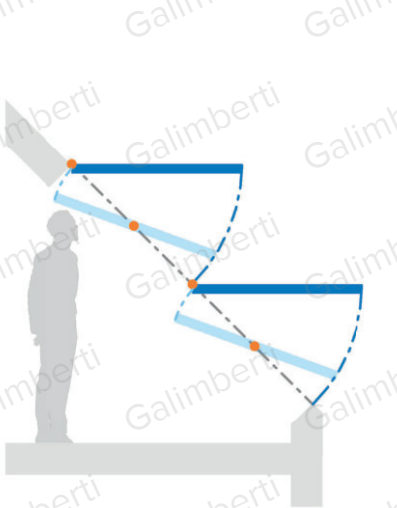
Alla francese
Sottofinestra fisso



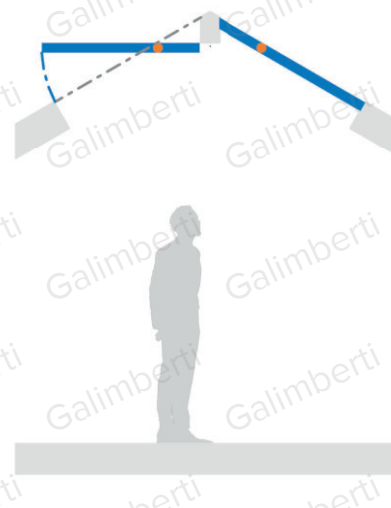
Alla francese su muro verticale
Accesso su esterno



Falda su cordolo
Balcone



Falda su cordolo
Doppia verticale

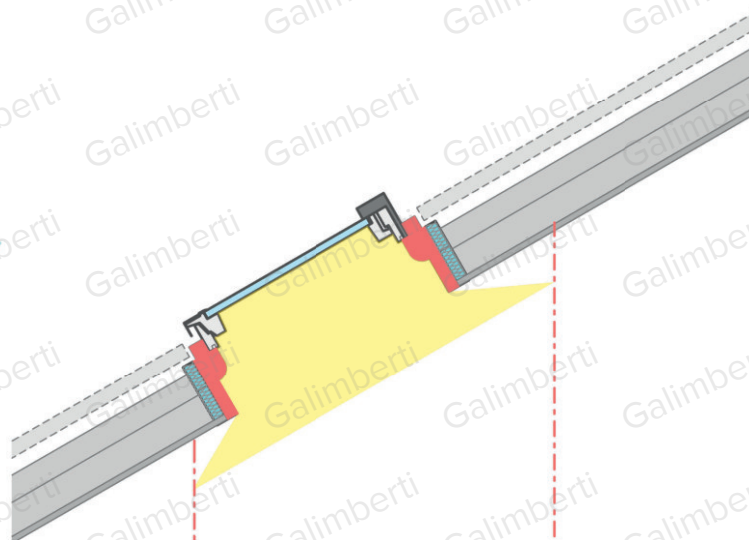


Colmo
Finestra al colmo

TETTO A FALDE
elementi passanti



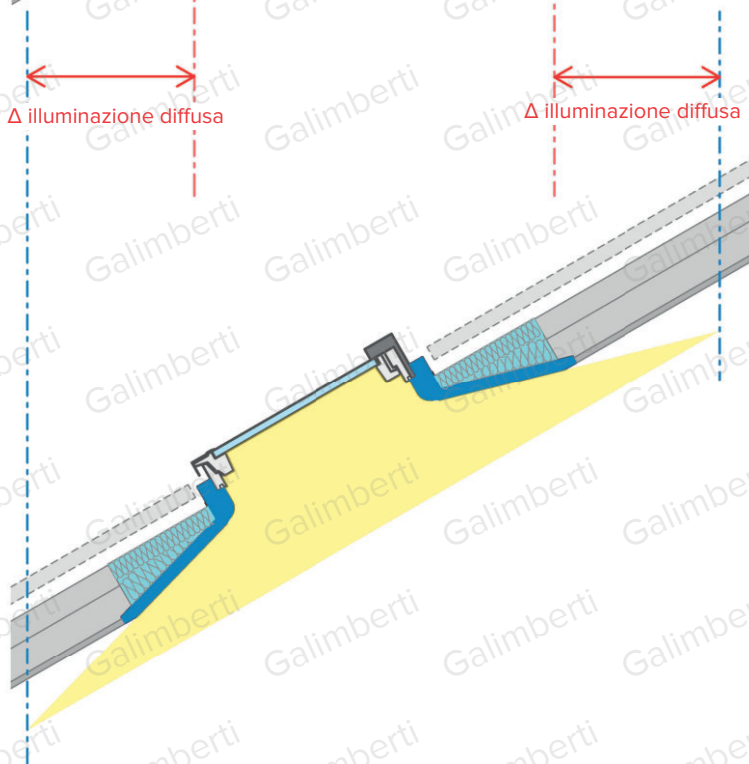
Cornice chiusa



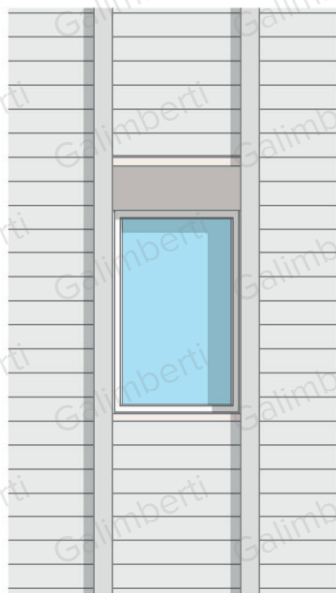
Δ illuminazione diffusa



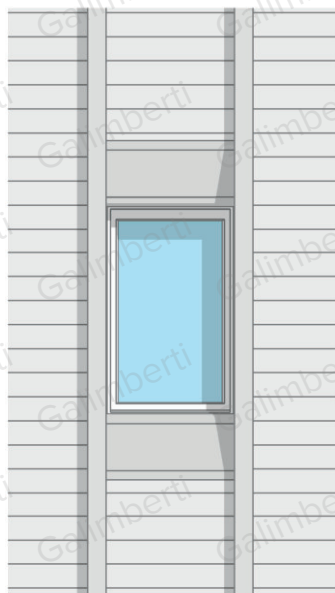
Cornice aperta



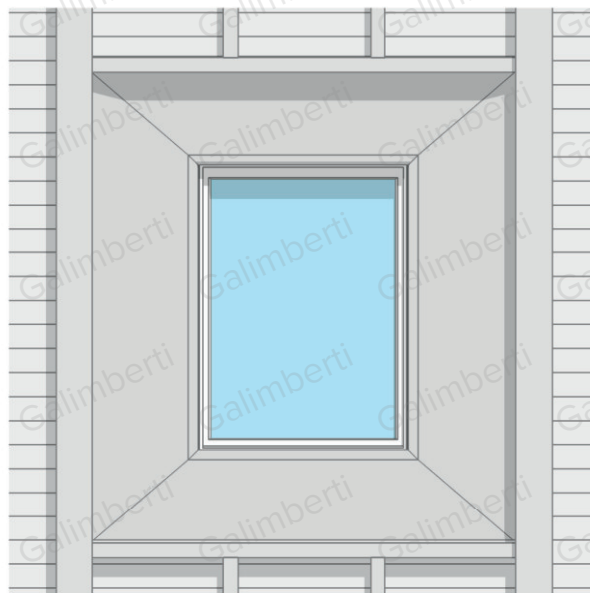
Δ illuminazione diffusa



*FT.100 - Finestra a una apertura

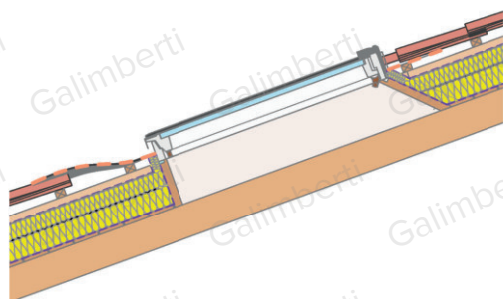


*FT.200 - Finestra a due aperture

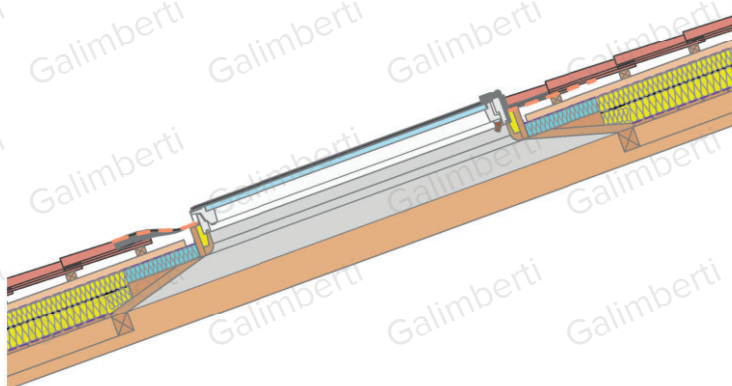


*FT.300 - Finestra a quattro aperture

TETTO A FALDE
elementi passanti



*FT.100
sezione longitudinale



*FT.200 e *FT.300
sezione longitudinale



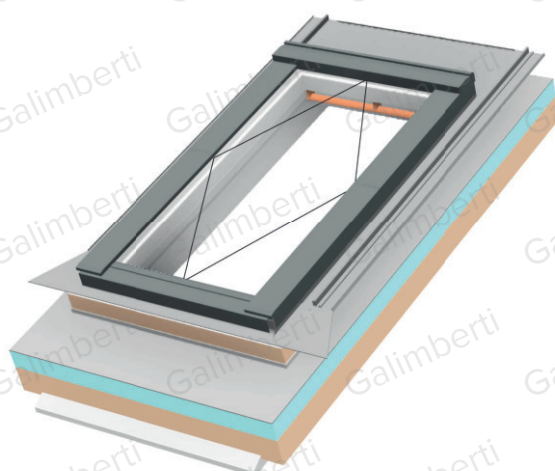
*FT.100 e *FT.200
sezione trasversale



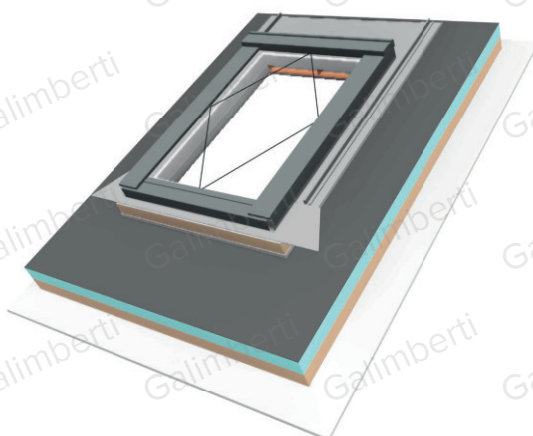
*FT.300
sezione trasversale



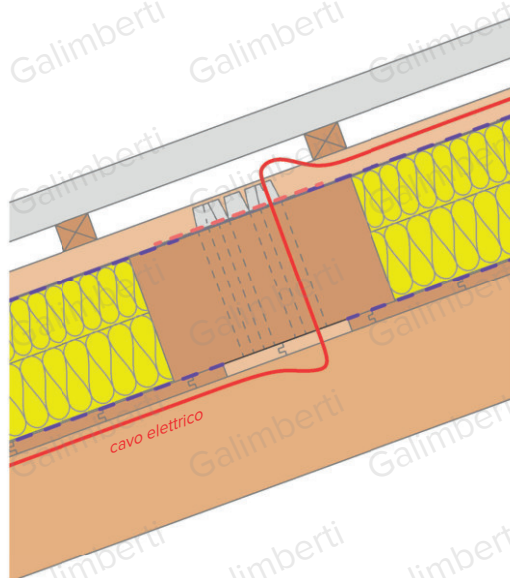
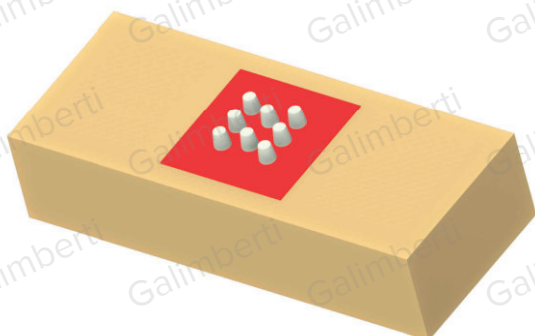
*FT.100 - Finestra ad una apertura



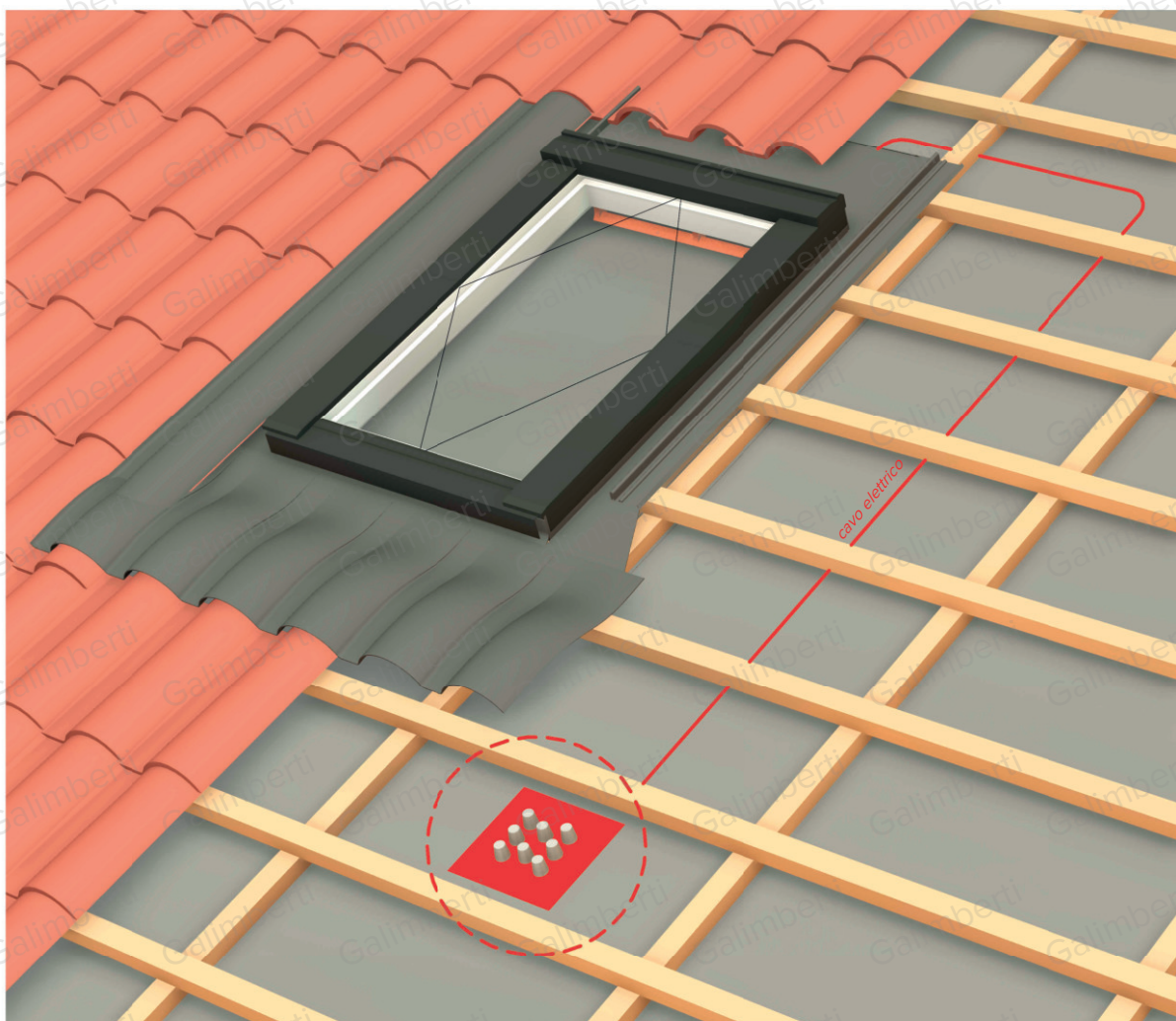
*FT.200 - Finestra a due aperture



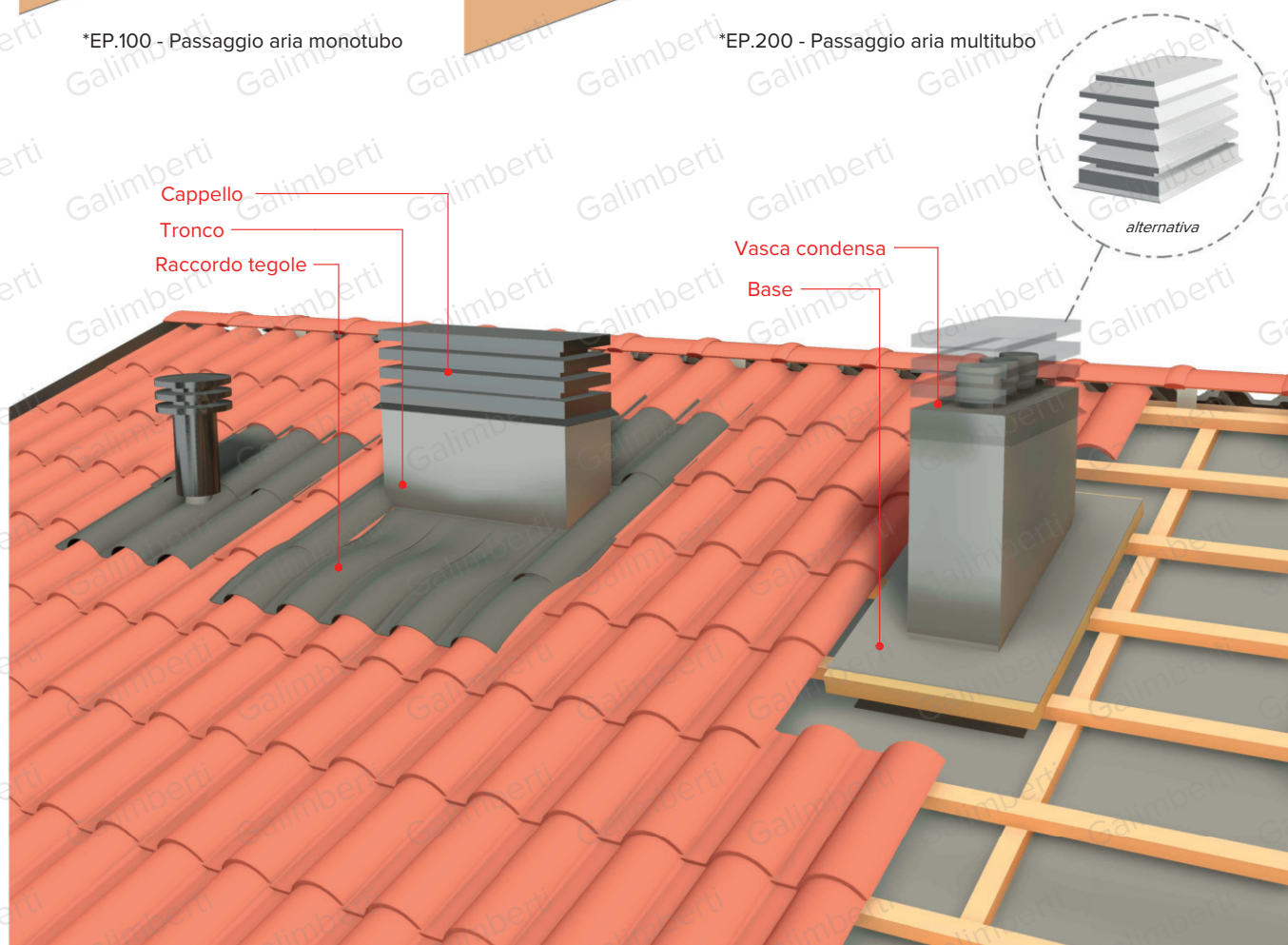
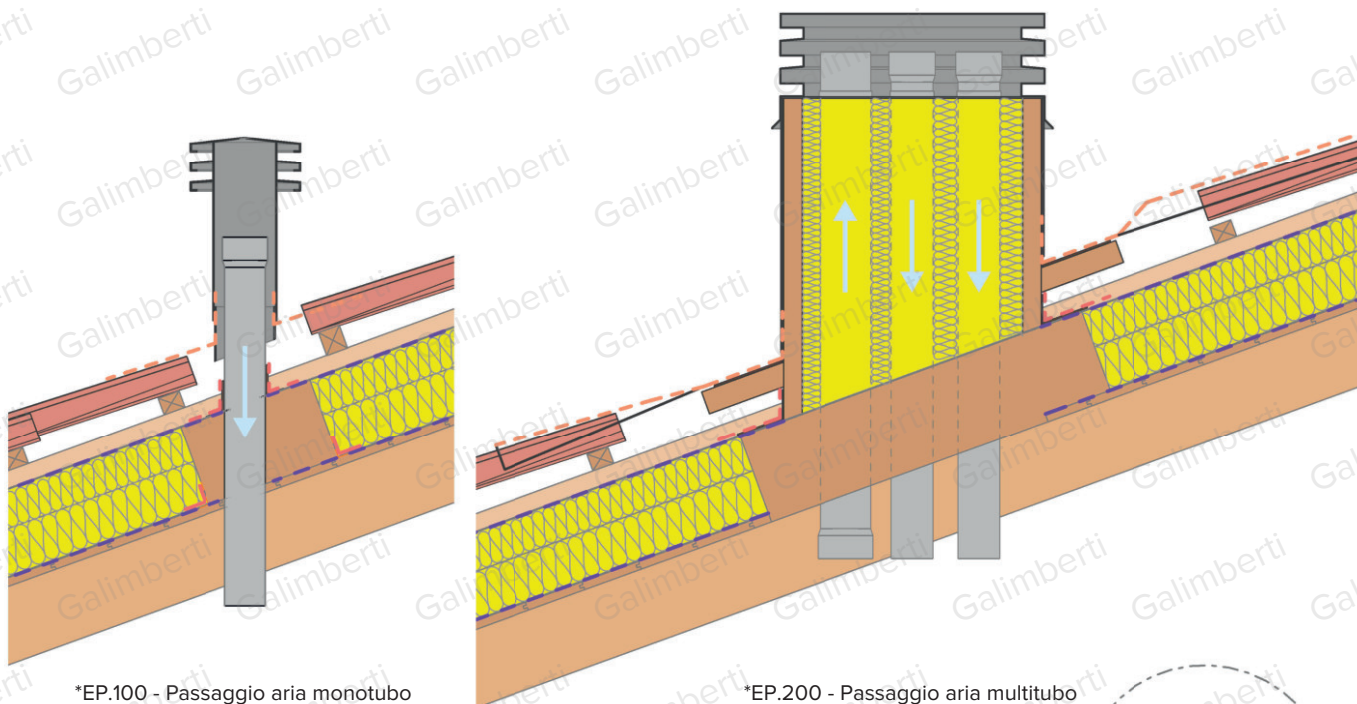
*FT.300 - Finestra a quattro aperture

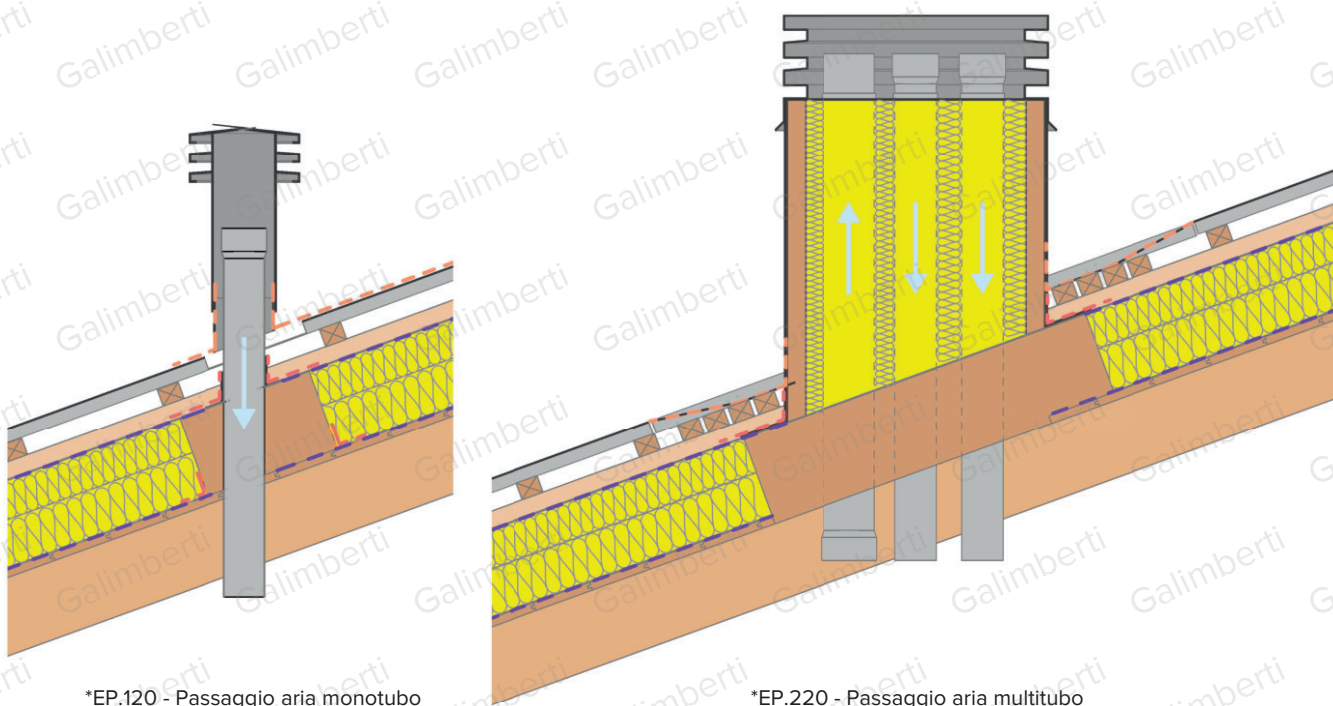


*EP.400 - Passaggio elettrico

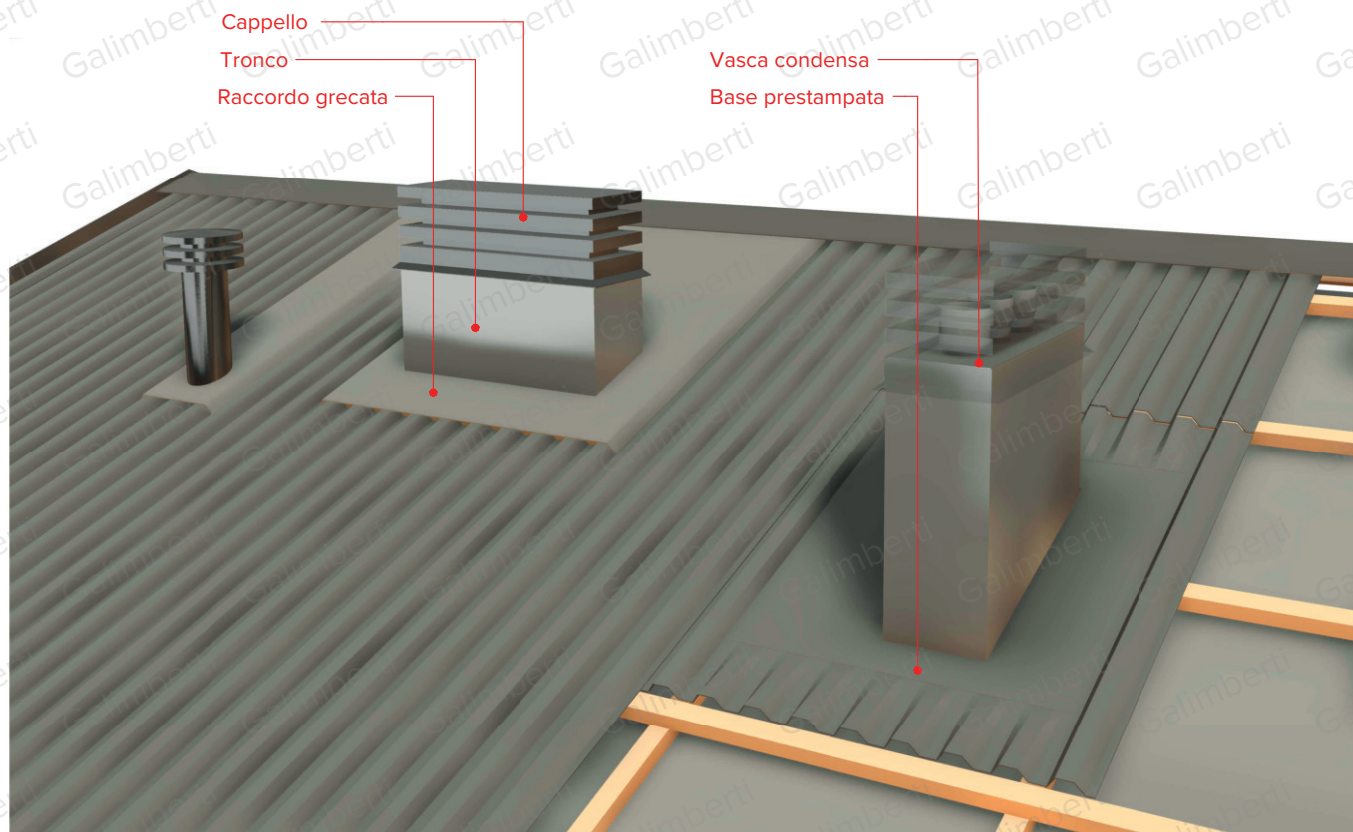


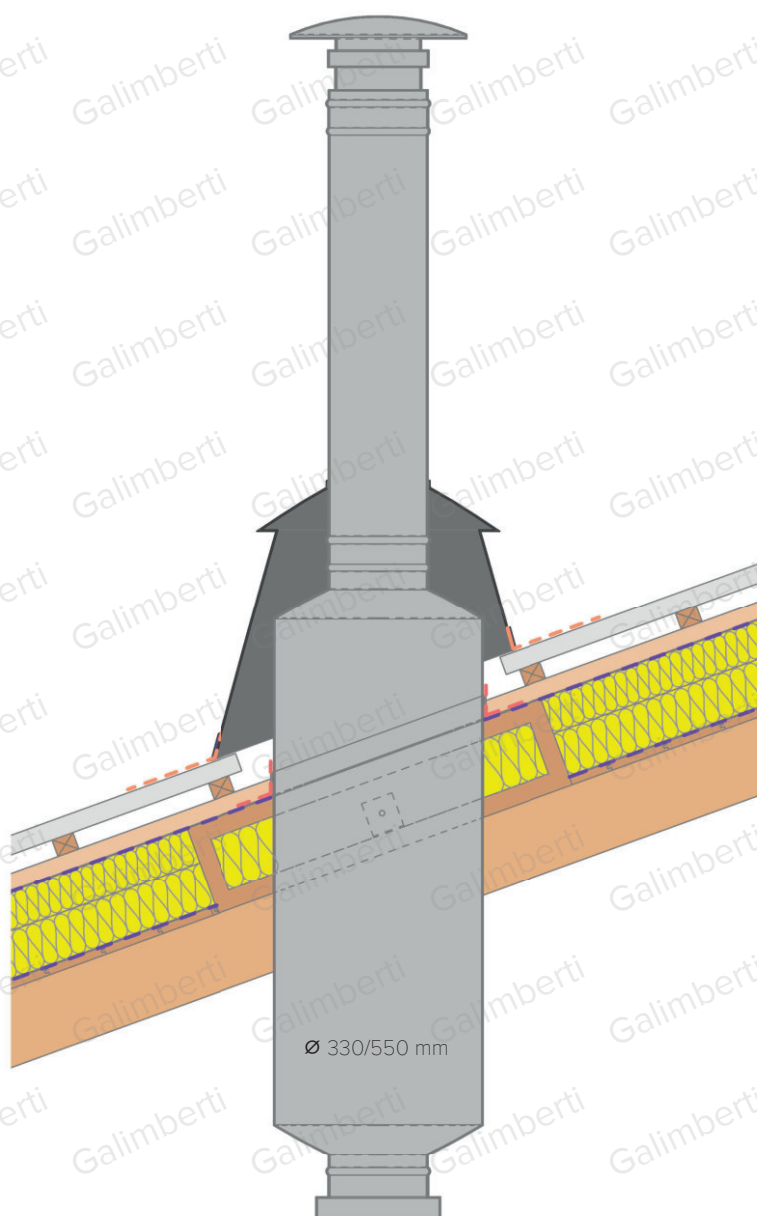
EP.440 per l'alimentazione di una finestra a tetto





TETTO A FALDE
elementi passanti

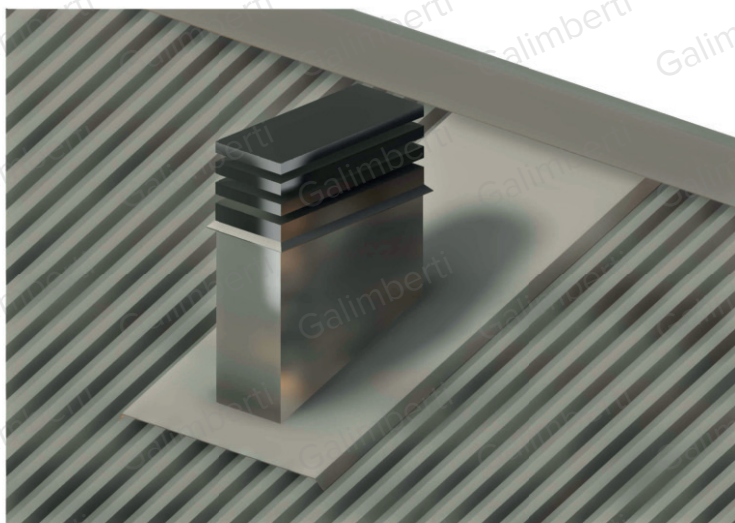




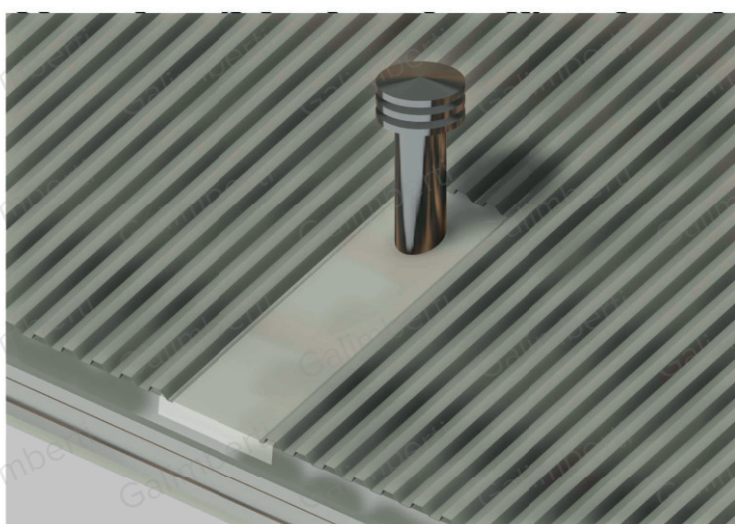
*EP.300 - Passaggio fumi su tegole



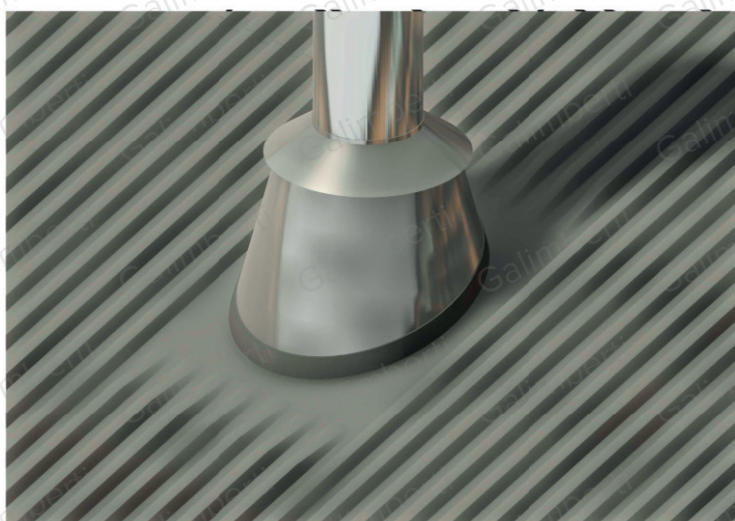
*EP.320 - Passaggio fumi su lamiera grecata



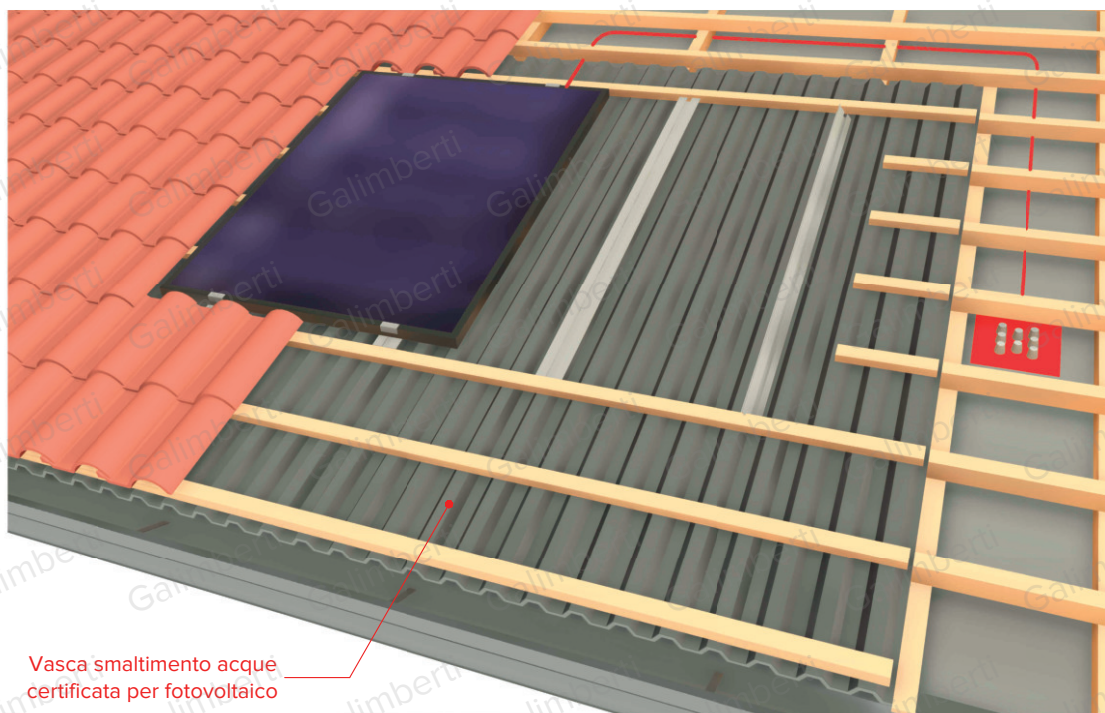
RM.120 - Sella



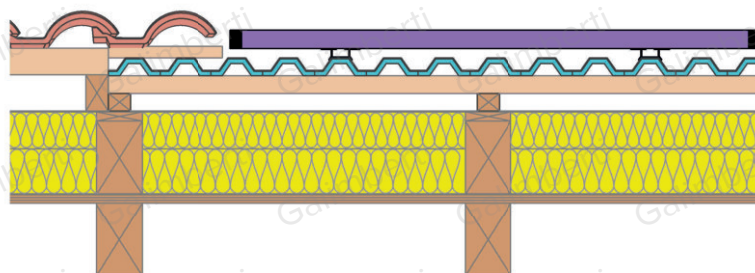
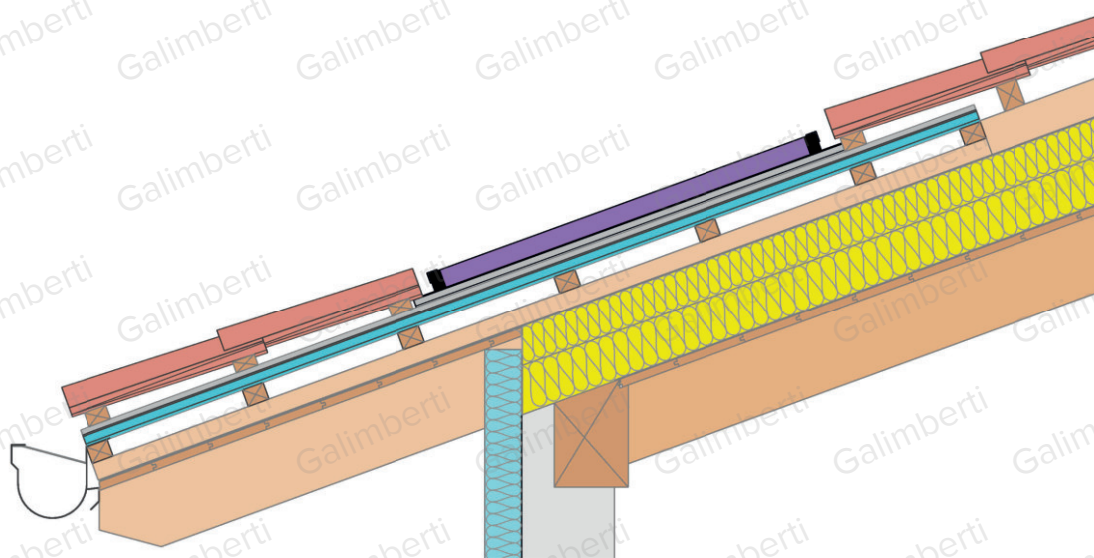
RM.220 - Canale sotto manto

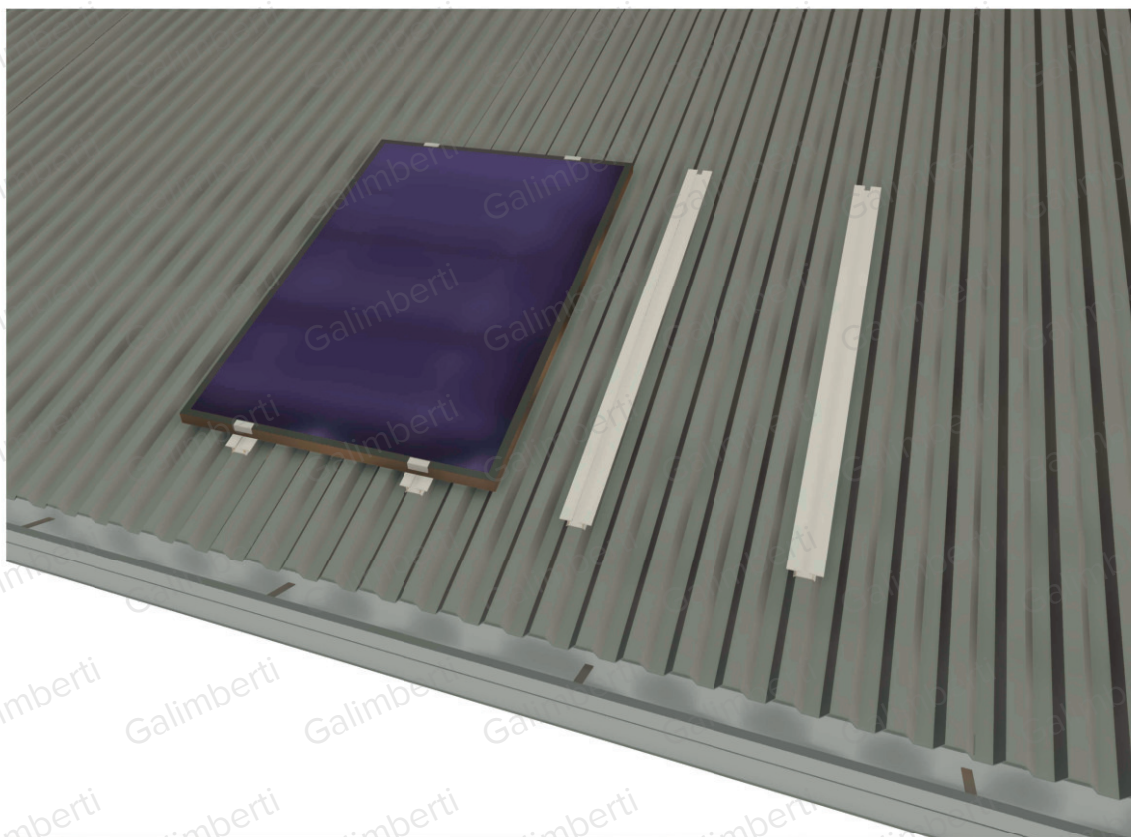


RM.320 - Base prestampata

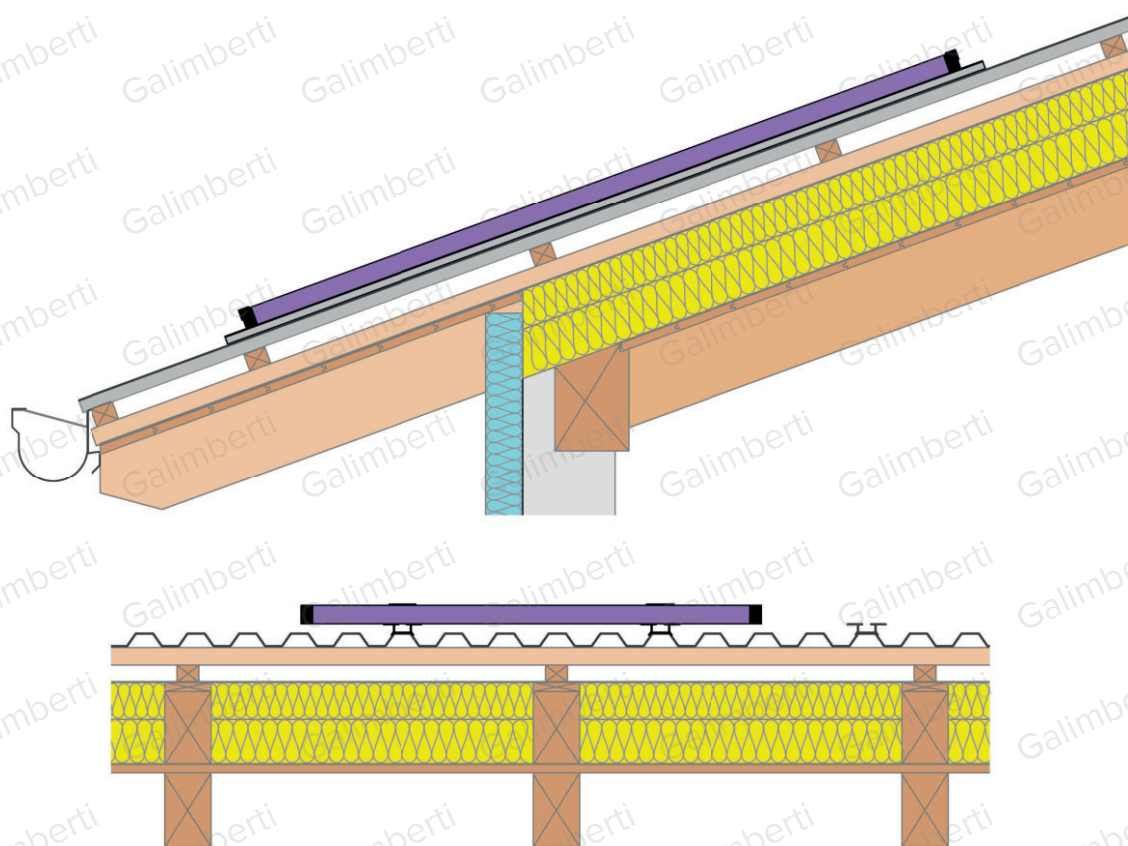


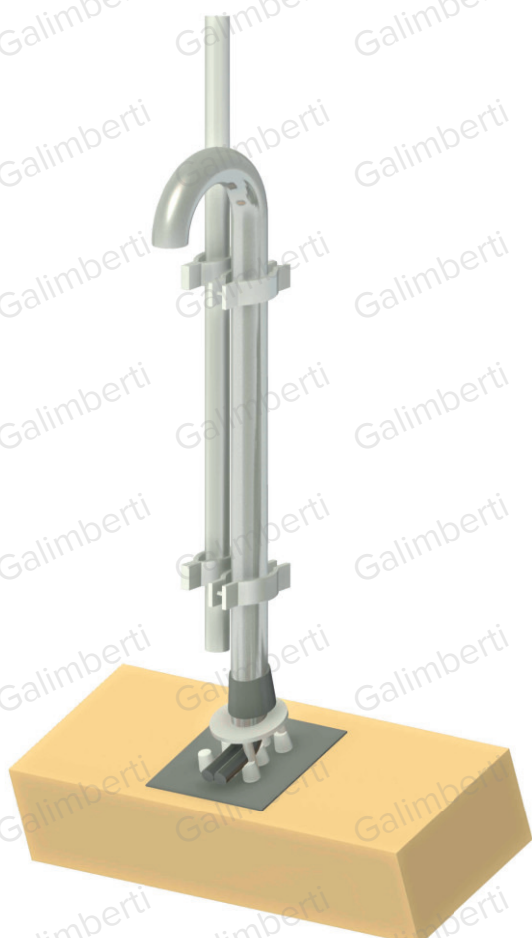
FV.100 - Pannello fotovoltaico incassato su tegole





FV.220 - Pannello fotovoltaico su lamiera grecata

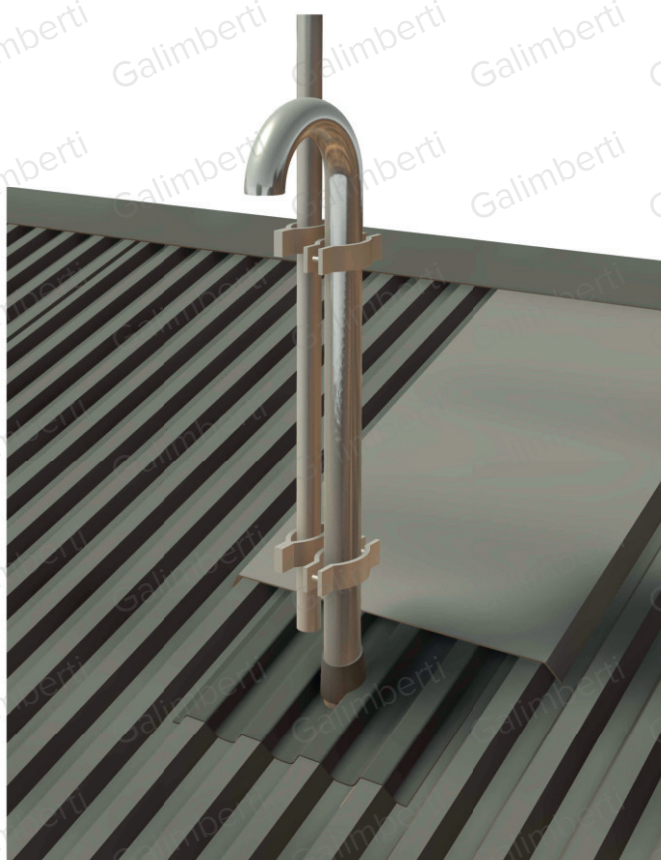




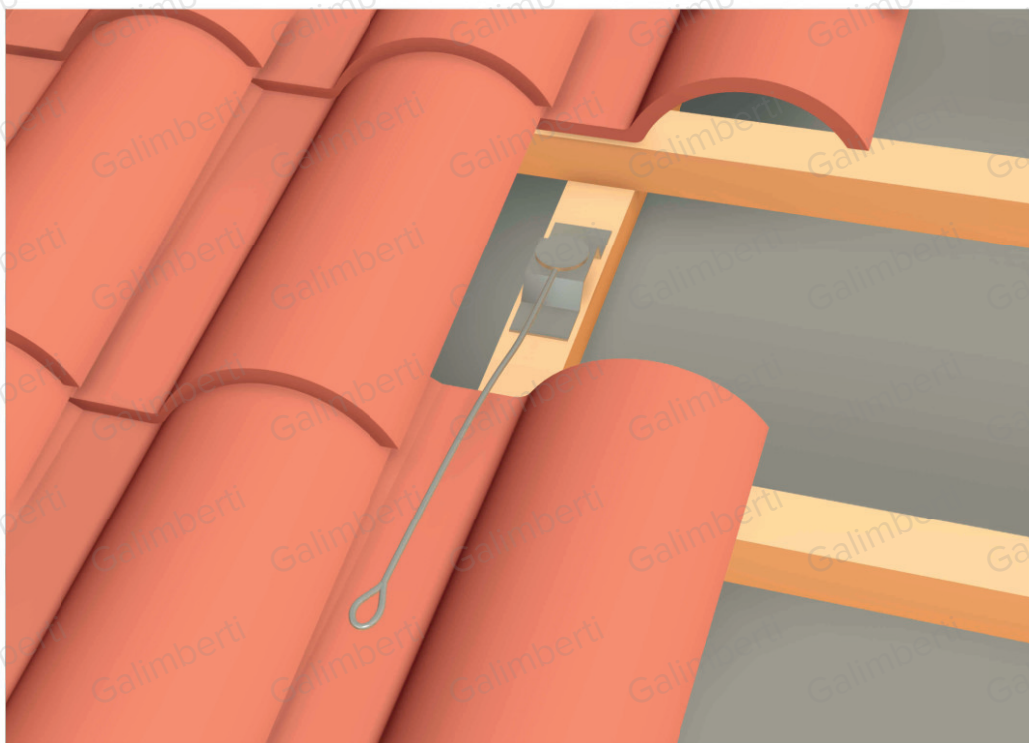
*EP.500 - Palo antenna



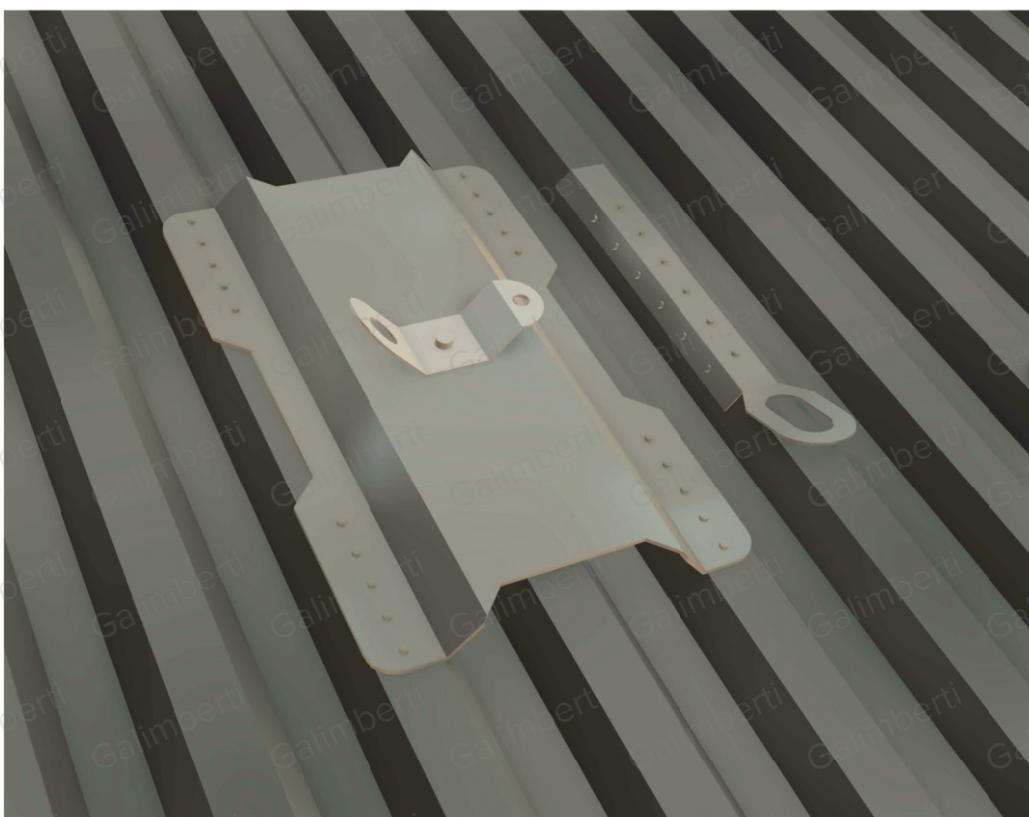
*EP.500 - Palo antenna su tegole



*EP.520 - Palo antenna su grecata



LV.100 - Punto di ancoraggio su tegole



LV.120 - Supporto e punto di ancoraggio su grecata

Coperture piane: Criticità e soluzioni

Tetti e terrazzi piani vengono impermeabilizzati con membrane giuntate in cantiere, che formano un unico strato continuo e impermeabile. Pur essendo una soluzione ideale per determinate applicazioni, queste membrane possono presentare un'aspettativa di vita inferiore ai manti di copertura inclinati in metallo o in tegole.

Criticità di tetti e terrazzi piani

- **Una sola barriera di tenuta** Ogni singolo errore di progetto, di posa o di giunzione, può causare infiltrazioni nel pacchetto isolante
- **Condense interne** Un'errata progettazione termoigrometrica può intrappolare l'umidità, portando alla formazione di condense interstiziali
- **Infiltrazioni** Sono causate da danni accidentali durante le manutenzioni (es. impianti fotovoltaici) o dall'invecchiamento del manto impermeabile soprattutto in zone delicate quali angoli o attraversamenti di impianti
- **Ristagni d'acqua** La ridotta pendenza favorisce il ristagno di acqua e l'eventuale infiltrazione
- **Origine infiltrazioni** Individuare la posizione e la causa dell'infiltrazione può essere difficoltoso

Criticità del legno

Infiltrazioni o condense sono da eliminare su tutte le coperture ed in particolare sul legno perché le soffre maggiormente.

Soluzione per strutture portanti nascoste o x-lam

Condense

Oltre al diagramma di Glaser, utilizziamo il calcolo termoigrometrico **dinamico** in conformità alla norma UNI EN 15026:2023. Questo metodo simula il comportamento della stratigrafia per diversi anni, tenendo conto di fattori specifici come località, esposizione solare e ombreggiature.

Progettazione e posa

Progettare i nodi costruttivi e le operazioni di posa del manto, ci permette di realizzare manti di copertura durevoli.

Sensori infiltrazioni

Integriamo in fase di produzione un sistema di **monitoraggio** che rileva eventuali infiltrazioni permettendo di intervenire prima che si verifichino danni significativi.

Soluzione tramite strutture portanti a vista

La struttura portante a vista con assito discontinuo (perline) è una stratigrafia che permette di rilevare eventuali infiltrazioni evitando il sistema di monitoraggio

Allungare la vita utile

In accordo con la desiderata architettonica, è a volte possibile adottare soluzioni a bassa pendenza, visivamente simili a una copertura piana ma estremamente durevoli ed altrettanto economici perché basati su **manti ventilati in alluminio**.

La stratigrafia ventilata è robusta per tre motivi:

1. Evita condense interstiziali
2. Permette l'evaporazione di eventuali infiltrazioni
3. Fornisce un secondo strato impermeabile.

➔ **Il nostro team di ingegneri è a vostra disposizione per individuare la soluzione più adatta al vostro progetto** ←



Senza gronda



Gronda alta



Gronda ribassata



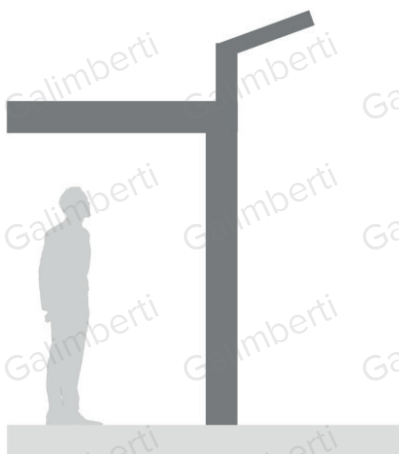
Muretto a filo



Muretto su aggetto



Aggetto su muretto



Aggetto rampante



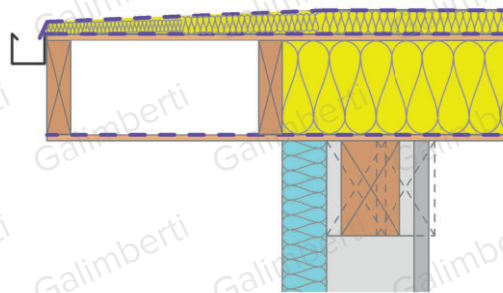
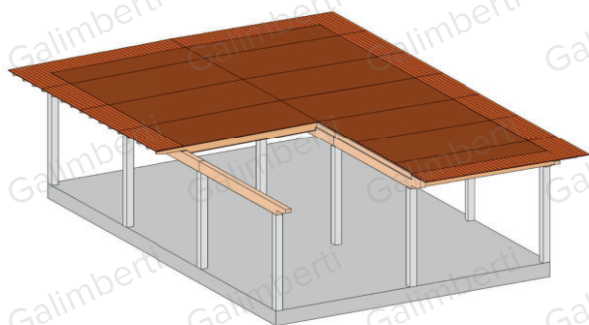
Alla francese

LA TUA IDEA:

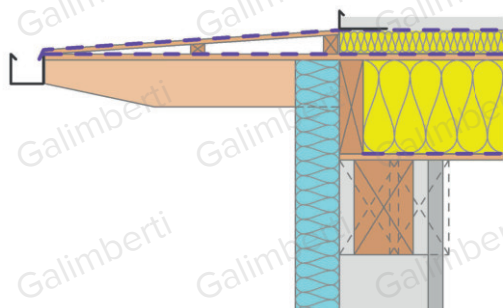


Puoi utilizzare anche linee
curve, spezzate e free form

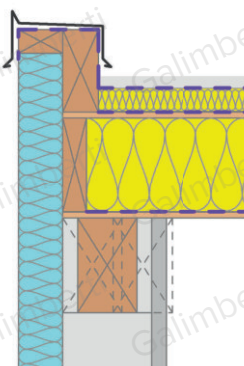
CORREA IN LEGNO - TRAVETTO NASCOSTO



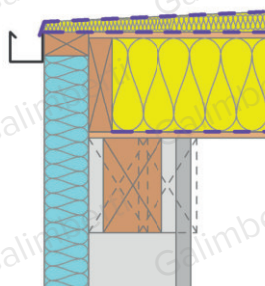
TE.601 - Correa annegata o interna
GR.101 - Gronda alta
Canale esterno



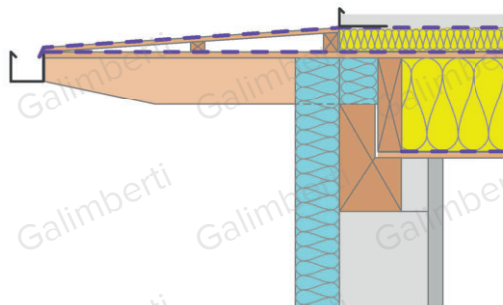
TE.600 - Correa annegata o interna
GR.200 - Gronda ribassata
Canale esterno



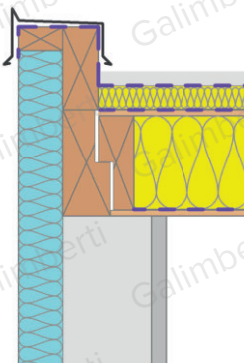
TE.600 - Correa annegata o interna
GR.201 - Muretto
Smaltimento acque interno



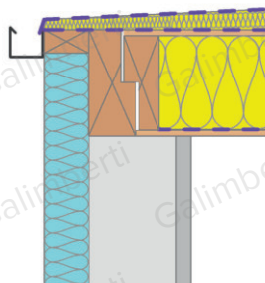
TE.600 - Correa annegata o interna
GR.202 - Senza gronda
Canale esterno



TE.602 - Correa incassata
GR.200 - Gronda ribassata
Canale esterno

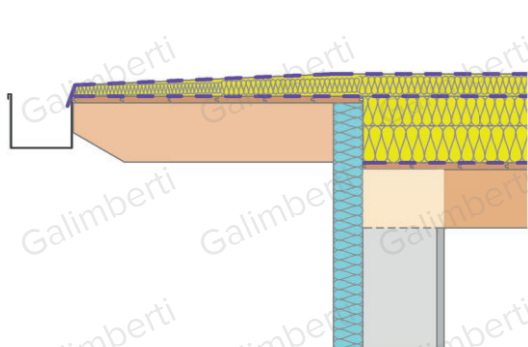


TE.602 - Correa incassata
GR.201 - Muretto
Smaltimento acque interno

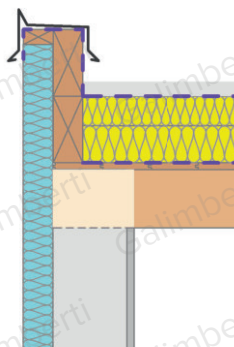


TE.602 - Correa incassata
GR.202 - Senza gronda
Canale esterno

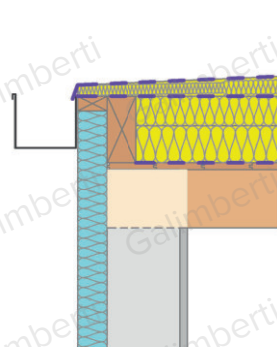
CORREA IN LEGNO - TRAVETTO A VISTA



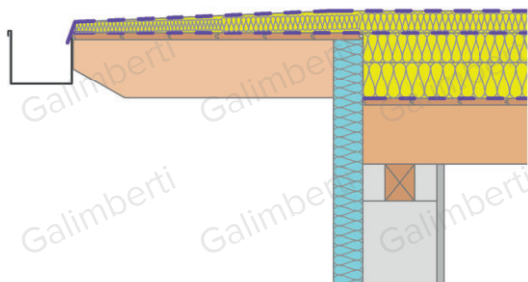
TE.260 - Travetto annegato
GR.200 - Gronda ribassata
Canale esterno



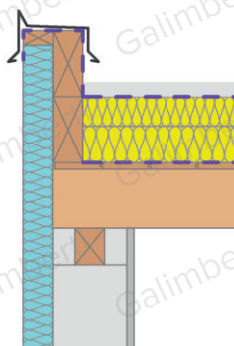
TE.260 - Travetto annegato
GR.201 - Muretto
Smaltimento acque interno



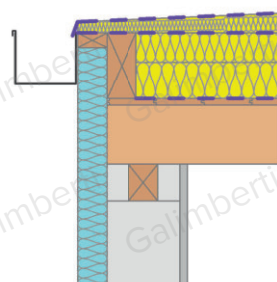
TE.260 - Travetto annegato
GR.202 - Senza gronda
Canale esterno



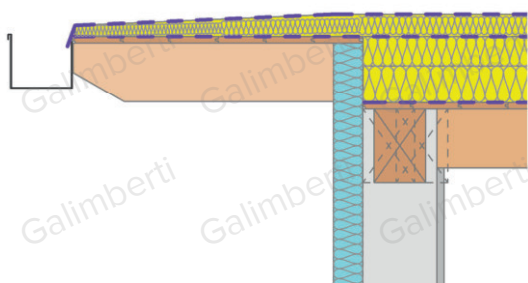
TE.261 - Radice
GR.200 - Gronda ribassata
Canale esterno



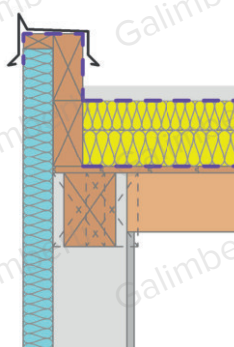
TE.261 - Radice
GR.201 - Muretto
Smaltimento acque interno



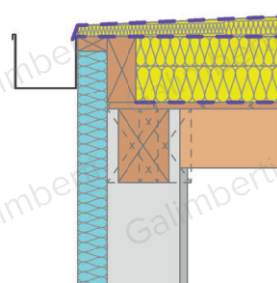
TE.261 - Radice
GR.202 - Senza gronda
Canale esterno



TE.262 - Correa annegata
o interna
GR.200 - Gronda ribassata
Canale esterno

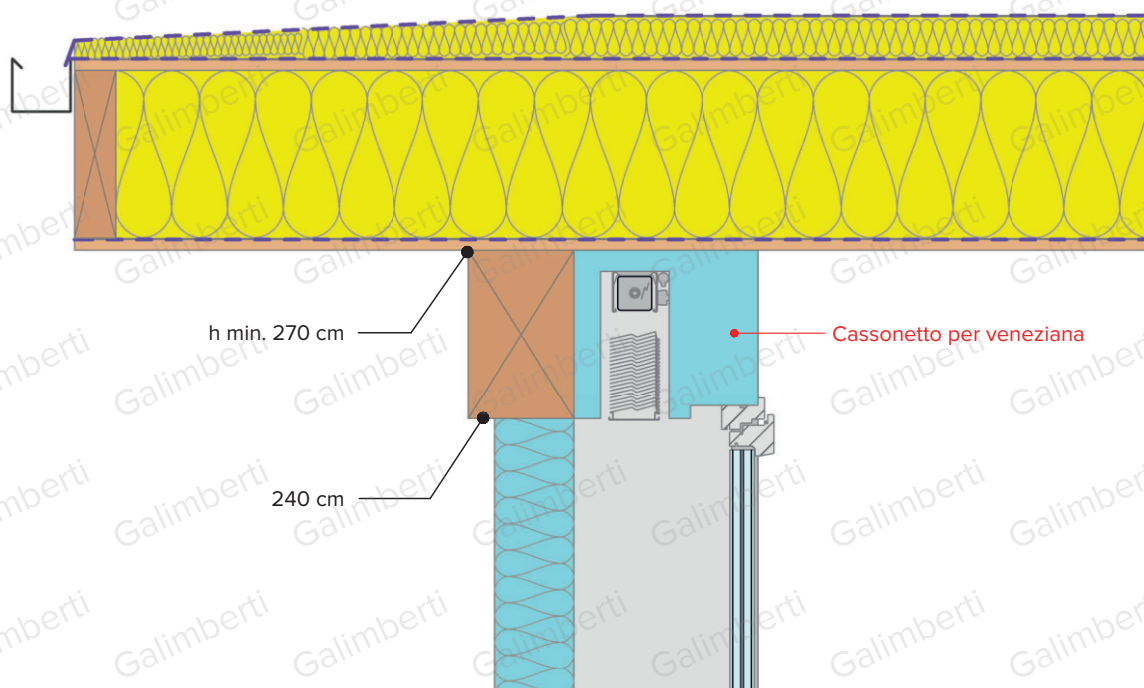
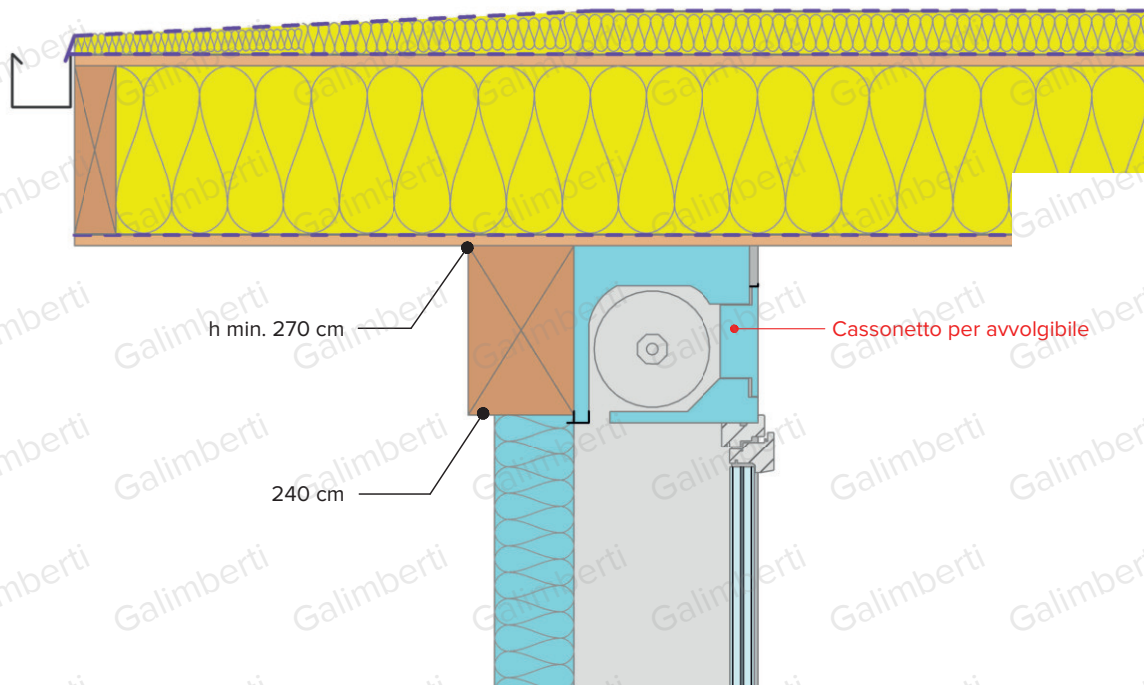


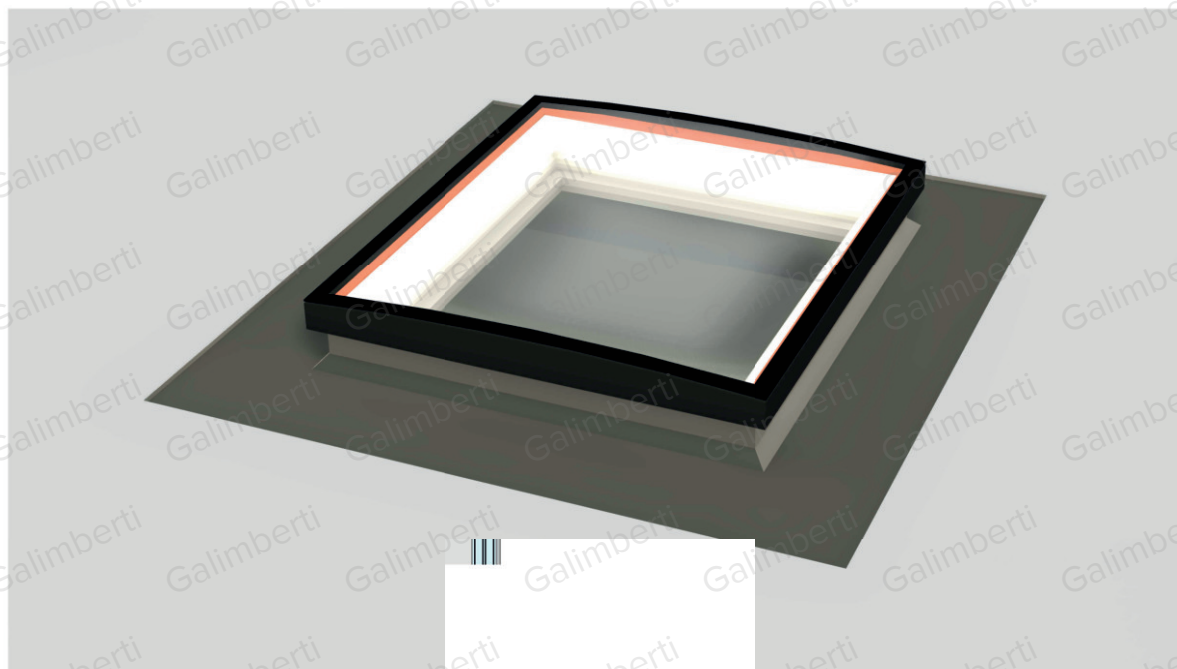
TE.262 - Correa annegata
o interna
GR.201 - Muretto
Smaltimento acque interno



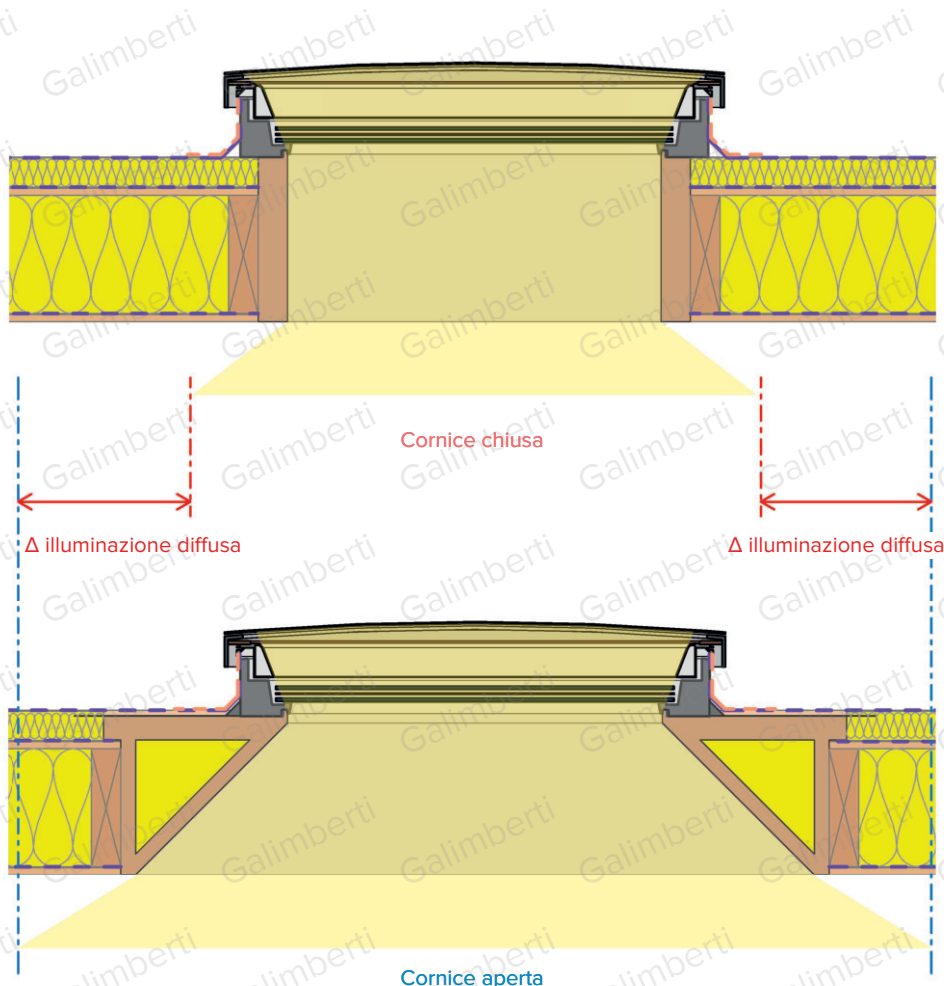
TE.262 - Correa annegata
o interna
GR.202 - Senza gronda
Canale esterno

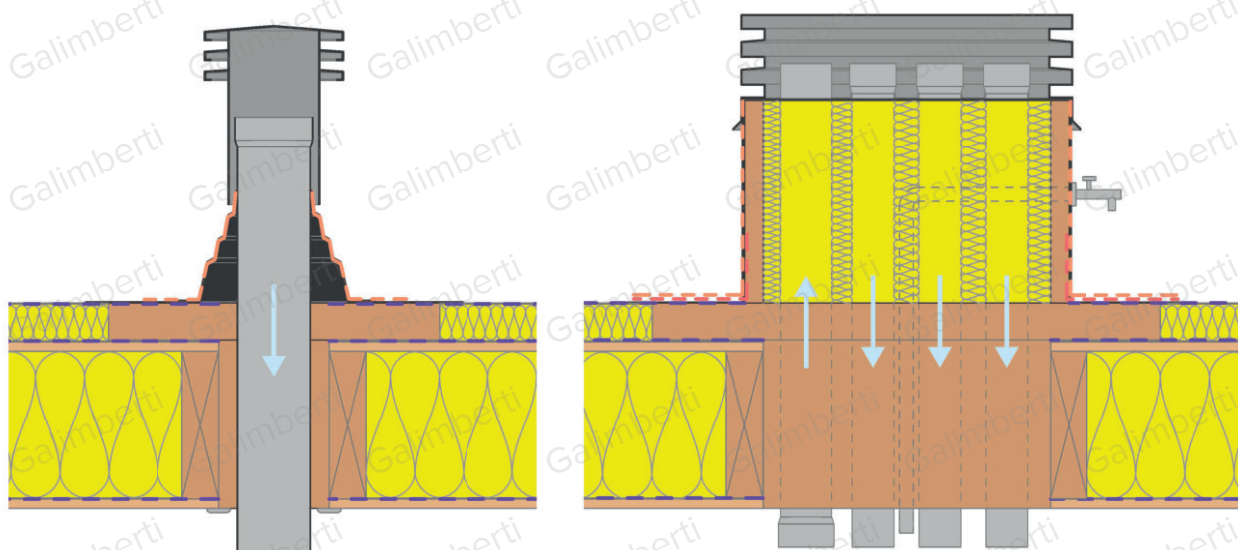
tezzo piano / geometrie
**CORREA IN LEGNO - CASSONETTO
PER OSCURANTI**



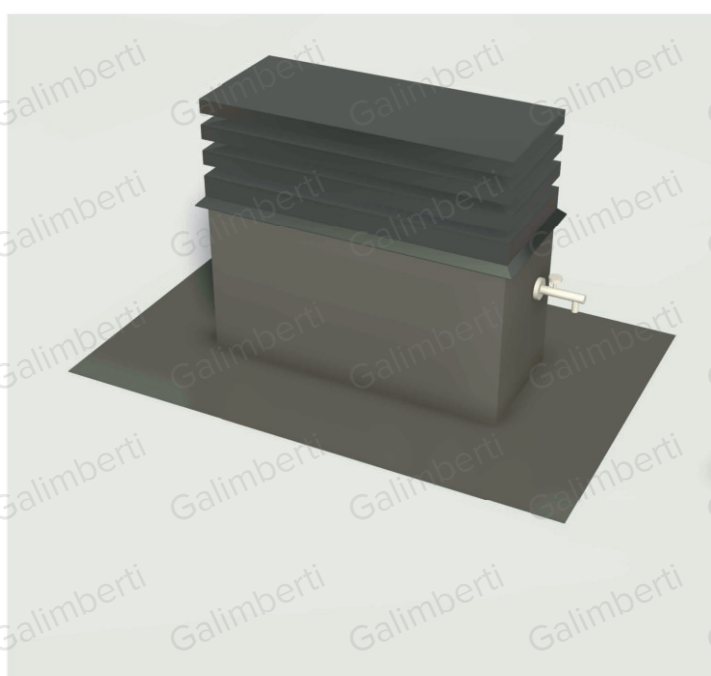


*FT.340 - Finestra per tetto piano con cornice aperta

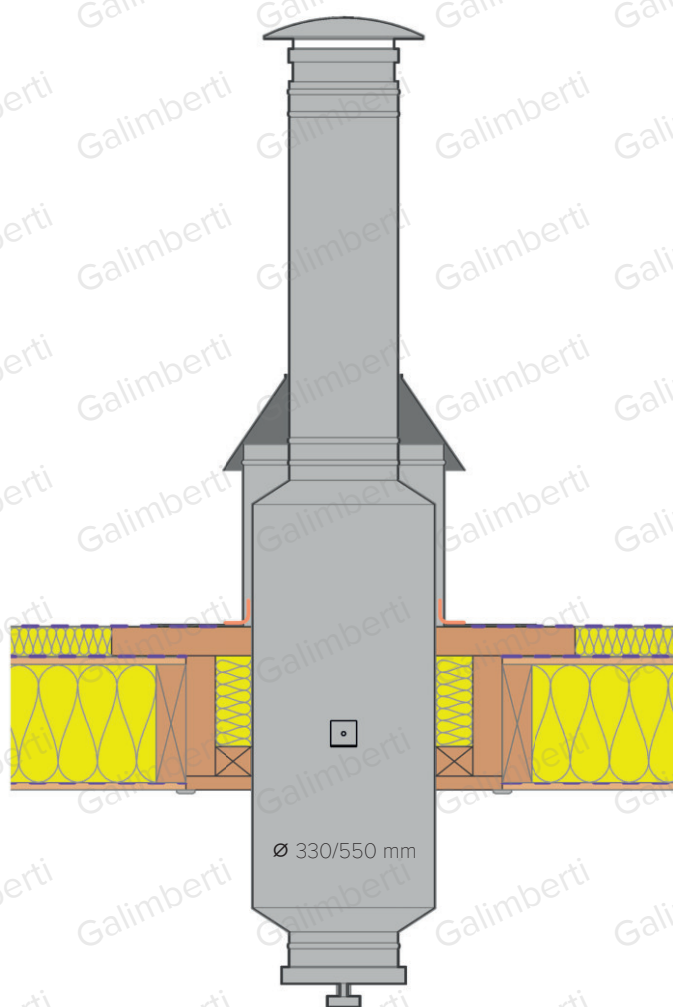




*EP.140 - Passaggio aria monotubo

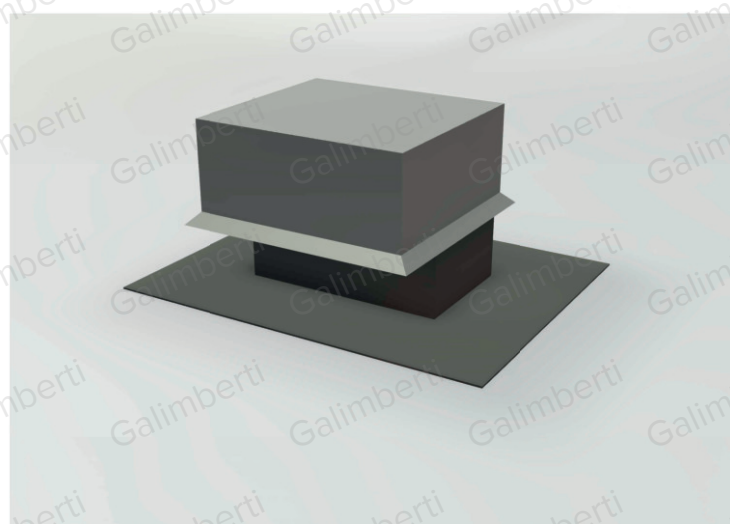
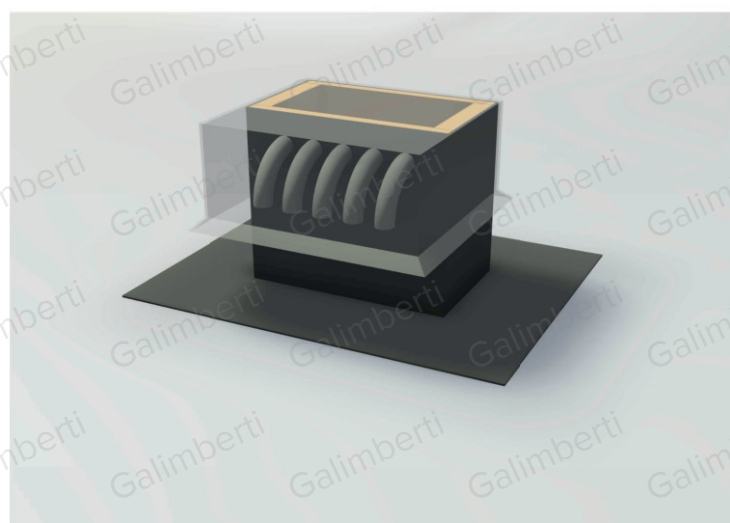
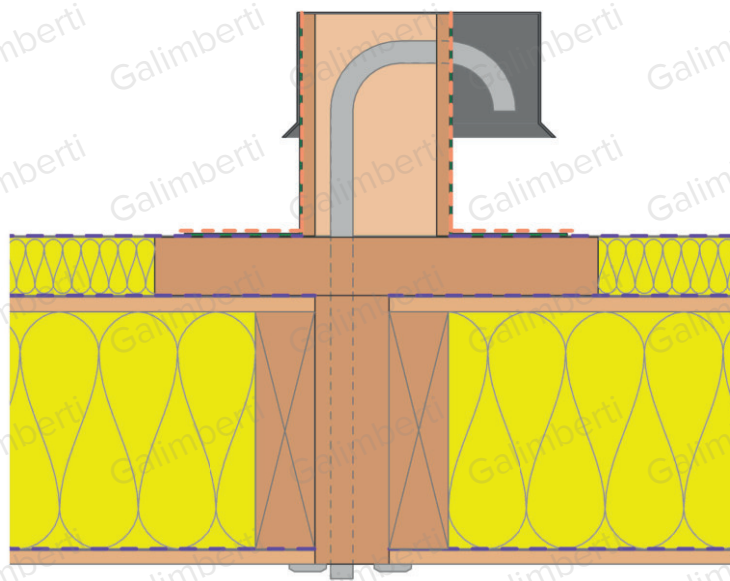


*EP.240 - Passaggio aria multitubo

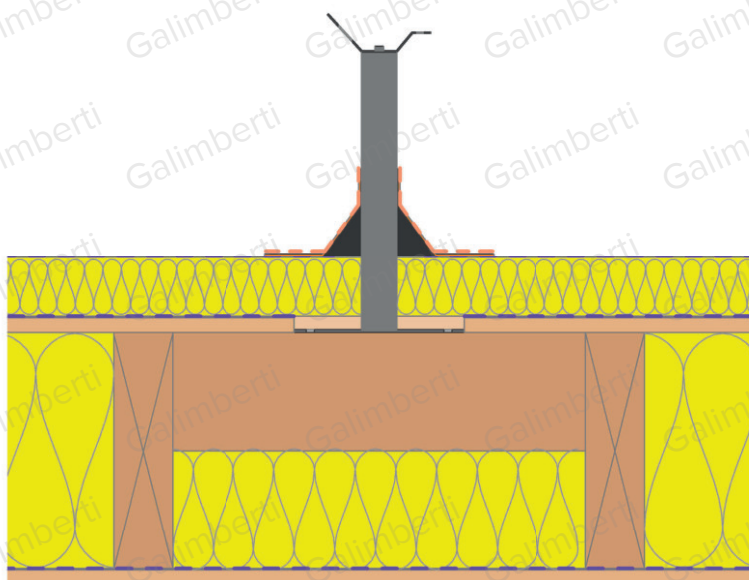


TETTO PIANO

*EP.340 - Passaggio fumi caldi

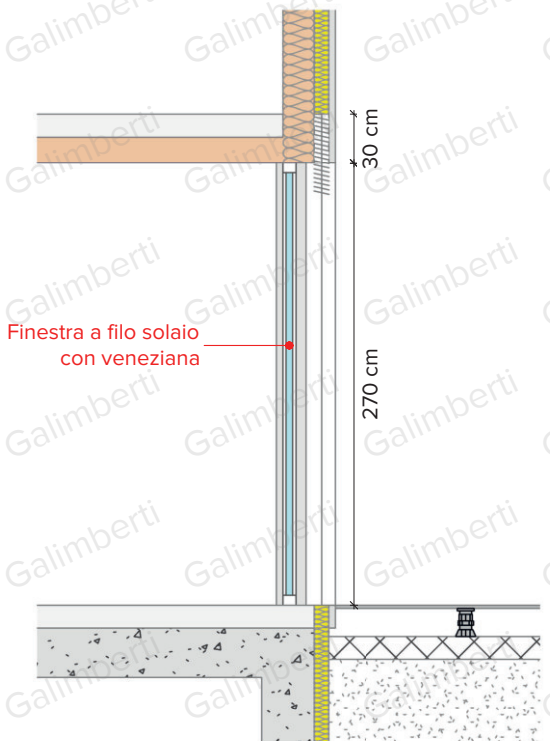
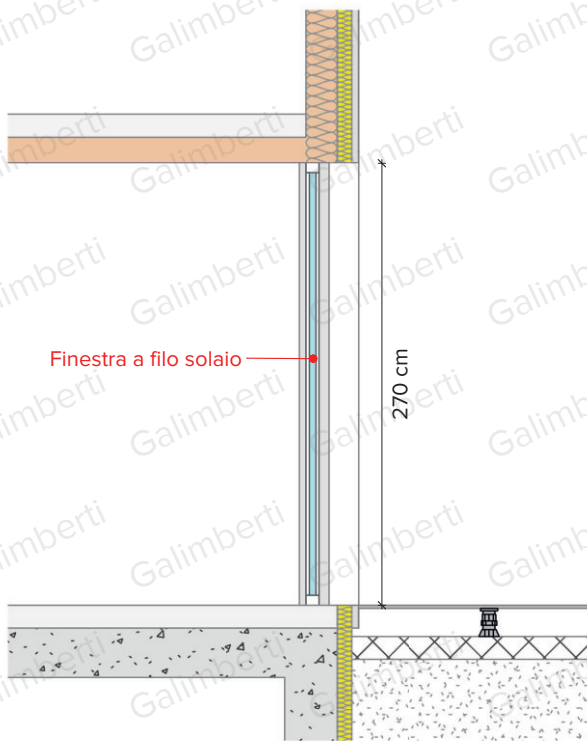
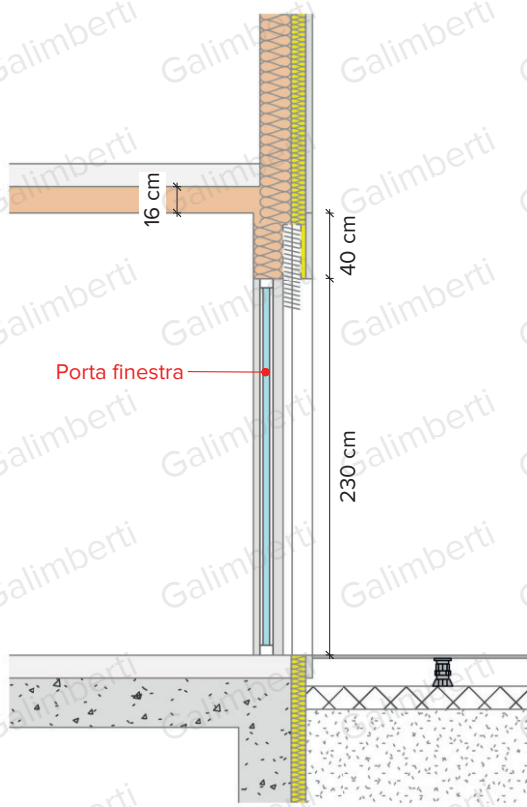
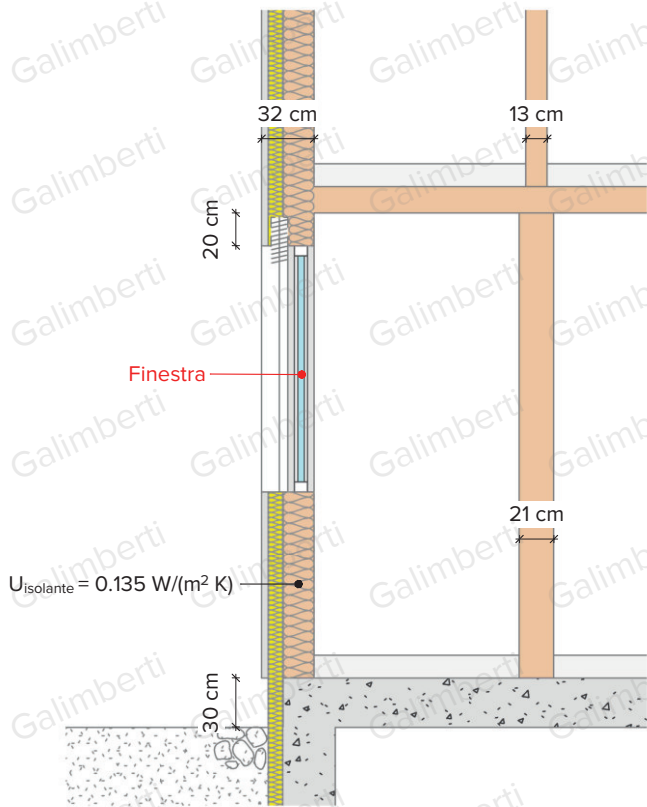


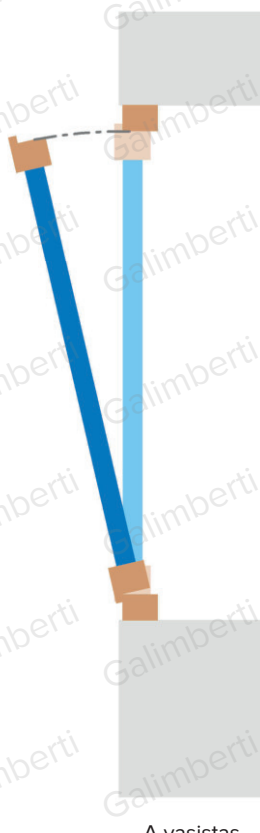
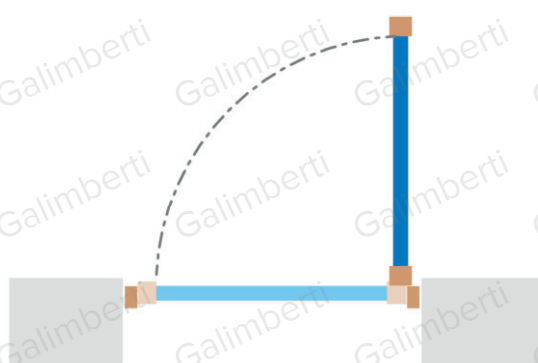
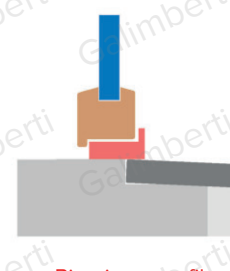
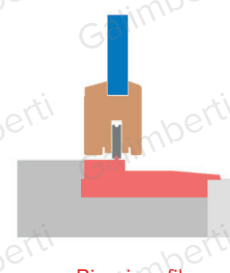
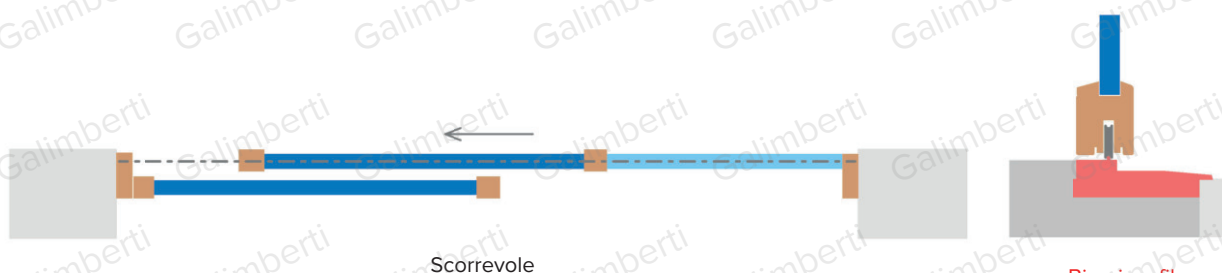
*EP.440 - Passaggio elettrico

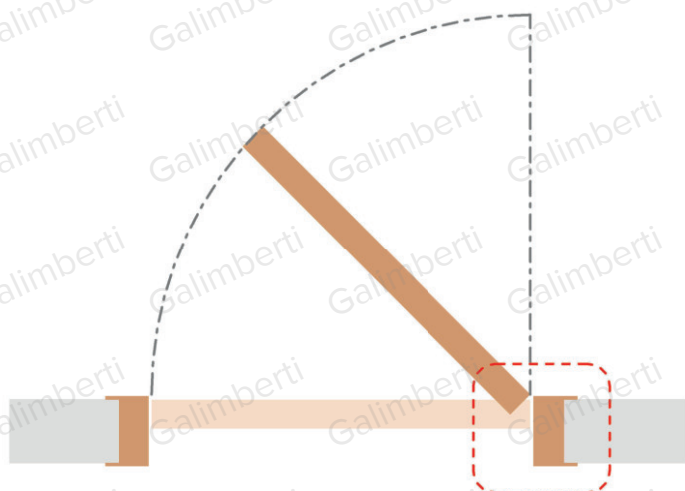


LV.240 - Palo linea vita

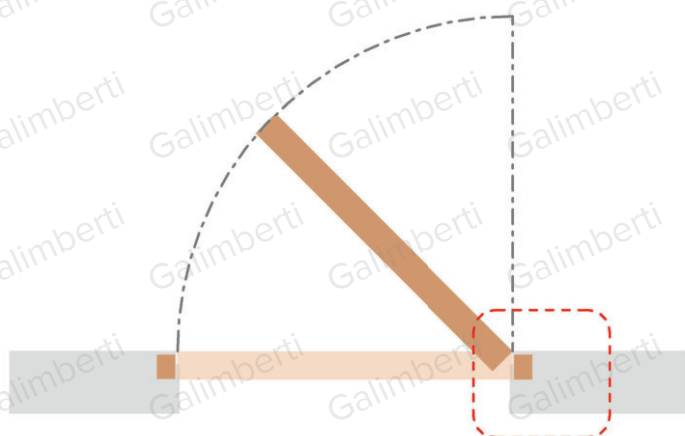
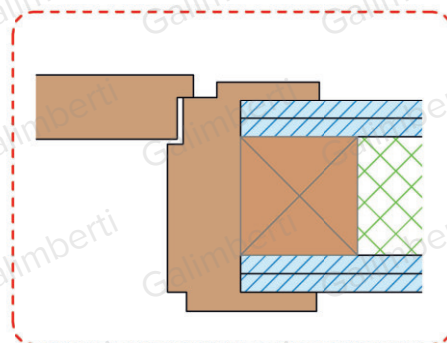
PARETI IN LEGNO



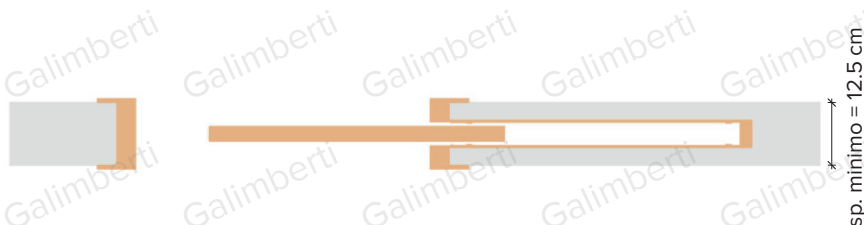
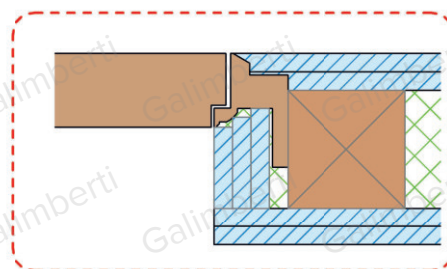




Porta battente

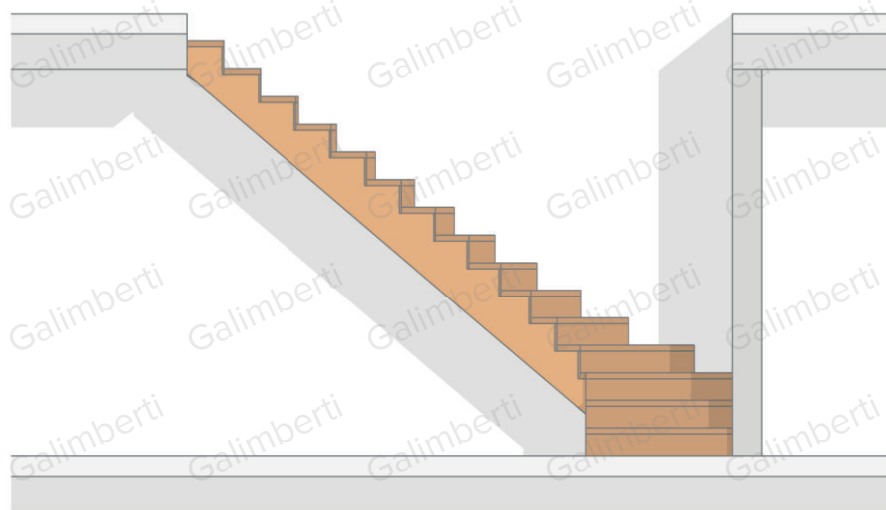


Porta battente a filo muro



Porta scorrevole

sp. minimo = 12.5 cm



Scala di cantiere rivestita a fine lavori



Scala a sbalzo



Impianto elettrico



Impianto ventilazione meccanica



Impianto idraulico

Lato interno parete

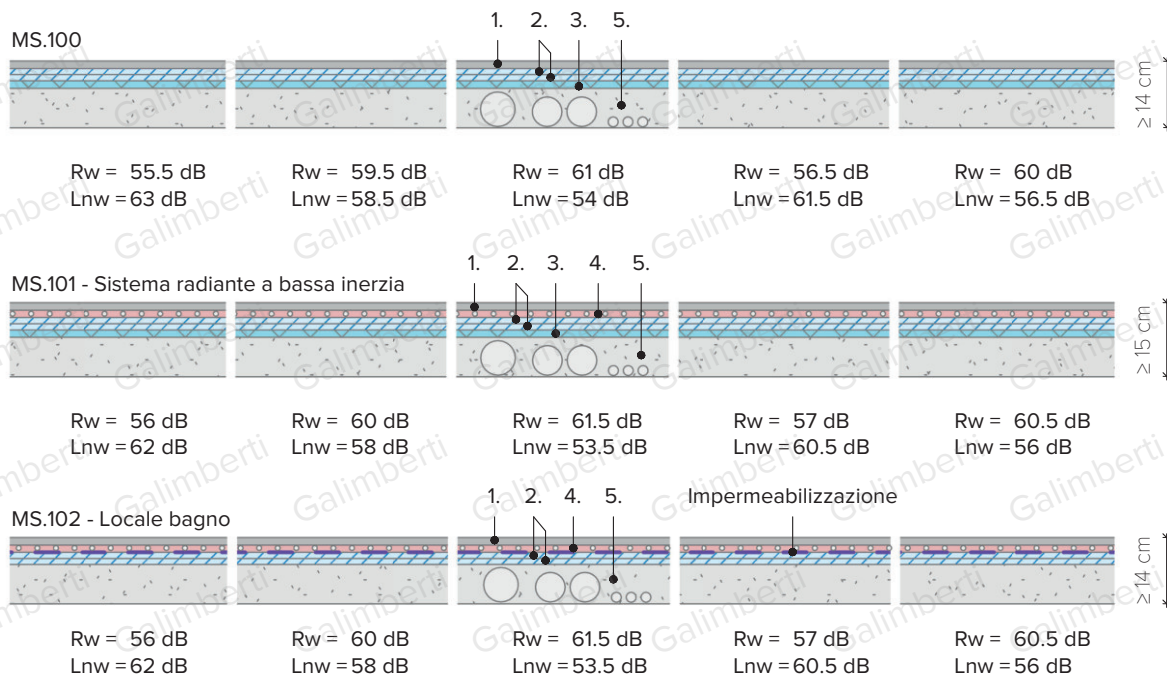


Lato esterno parete

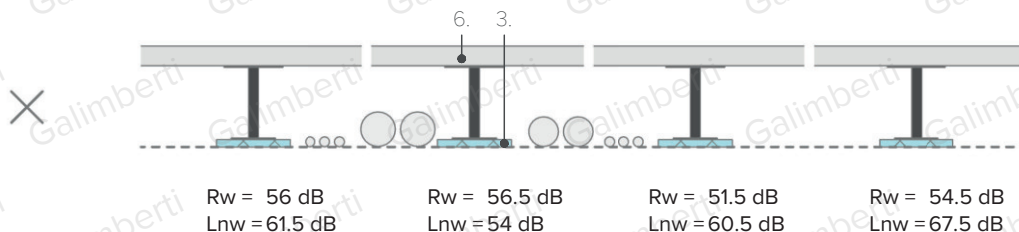
Pesi, misure e valori di abbattimento acustico di massima in ambito residenziale; Locale bagno = permanenza temporanea

Indice del potere fonoisolante per via aerea: $R_w \geq 50$ dB - Indice di valutazione del livello di rumore da calpestio: $L_{nw} \leq 63$ dB

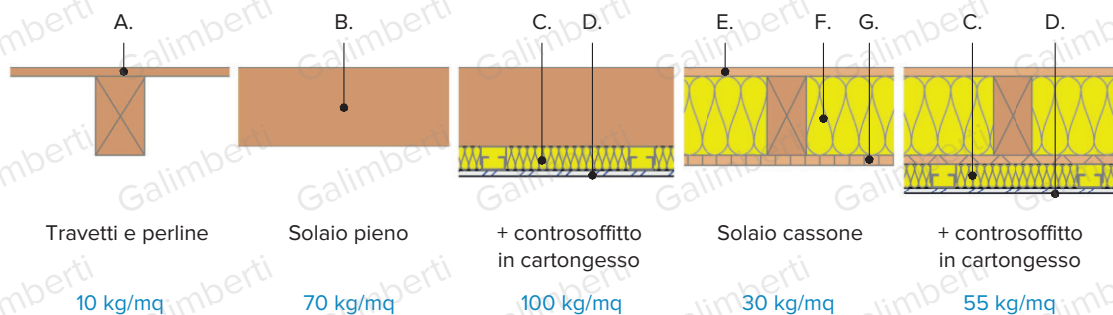
PACCHETTO PAVIMENTAZIONE - 160/200 kg/mq



PAVIMENTO GALLEGGIANTE - 50/70 kg/mq



STRUTTURA



MATERIALE

	SP. cm	kg/m ³	kg/m ²
1. Pavimento	1.2/1.5	600/1800	10/25
2. Lastra in fibrogesso	1.3	1150	15
3. Strato anticalpestio / isolante	0.9/4	80/320	0.5/12
4. Pannello radiante a secco	1.5	800	12
5. Granulato sfuso naturale	8	1500	120
6. Pavimento galleggiante	4	1250	50

MATERIALE

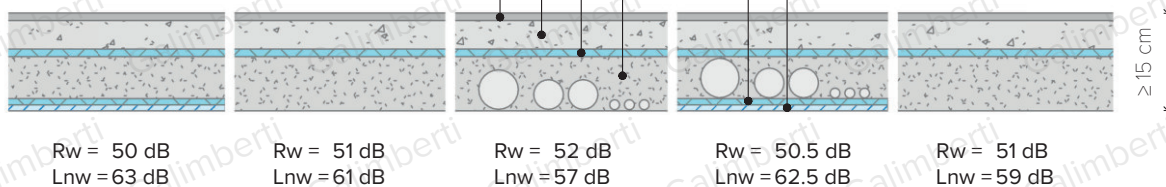
	SP. cm	kg/m ³	kg/m ²
A. Perline	2	450	9
B. Solaio in legno pieno	16	450	72
C. Isolamento controsoffitto	5	110	5.5
D. Lastra di gesso rivestito	2.5	750	19
E. Pannello in OSB	2	600	12
F. Isolamento in cellulosa	16	50	8
G. Pannello multistrato abete	2	450	9

Pesi, misure e valori di abbattimento acustico di massima in ambito residenziale

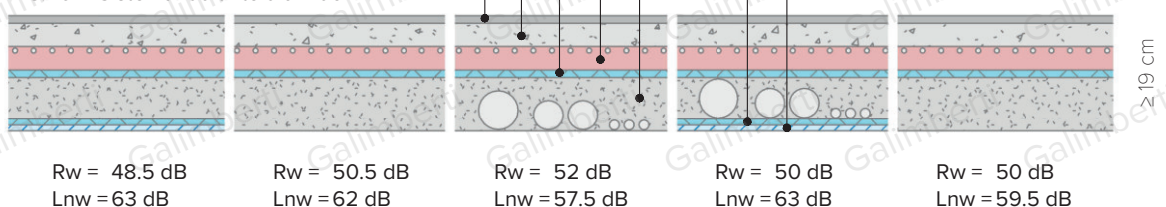
Indice del potere fonoisolante per via aerea: $R_w \geq 50$ dB - Indice di valutazione del livello di rumore da calpestio: $L_{nw} \leq 63$ dB

PACCHETTO PAVIMENTAZIONE - 170/240 kg/mq

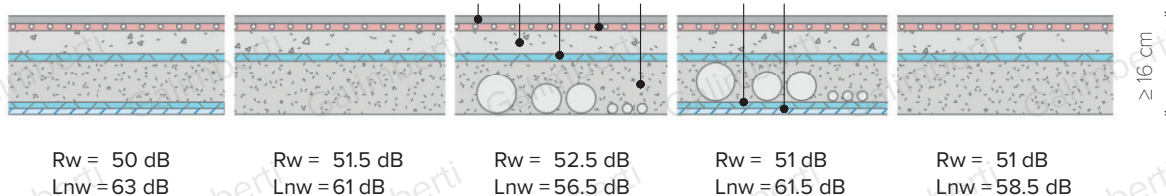
MS.200



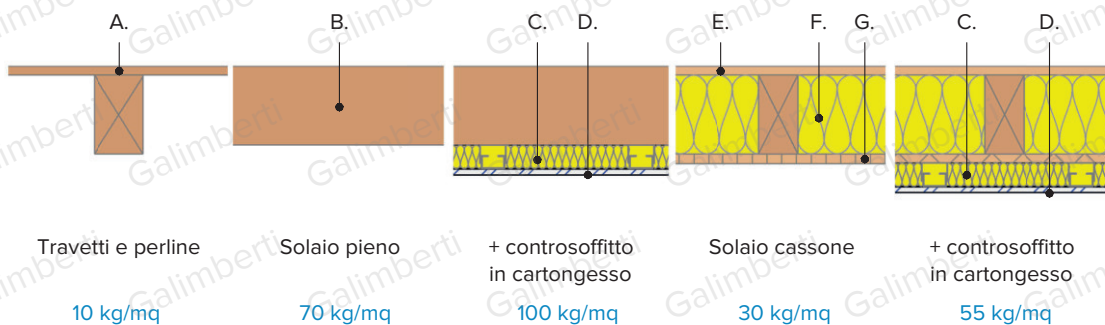
MS.201 - Sistema radiante a umido



MS.202 - Sistema radiante a secco



STRUTTURA



MATERIALE

	SP. cm	kg/m ³	kg/m ²
1. Pavimento	1.2/1.5	600/1800	10/25
2. Massetto portante	3+	1600	96
3. Strato anticalpestio / isolante	0.9/4	80/320	0.5/12
4. Pannello radiante a umido	5	30	1.5
5. Pannello radiante a secco	1.5	800	12
6. Sottofondo alleggerito	8+	600	66
7. Lastra in fibrogesso	1.3	1150	15

MATERIALE

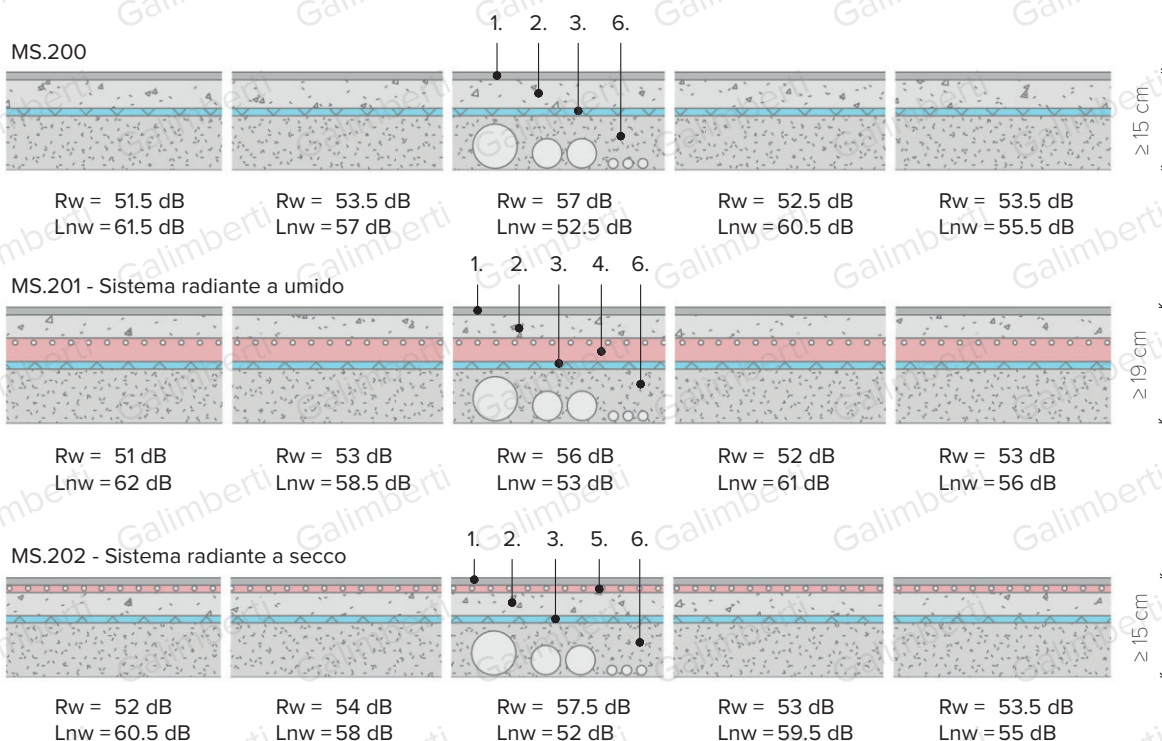
	SP. cm	kg/m ³	kg/m ²
A. Perline	2	450	9
B. Solaio in legno pieno	16	450	72
C. Isolamento controsoffitto	5	110	5.5
D. Lastra di gesso rivestito	2.5	750	19
E. Pannello in OSB	2	600	12
F. Isolamento in cellulosa	16	50	8
G. Pannello multistrato abete	2	450	9

A UMIDO CON GETTO COLLABORANTE

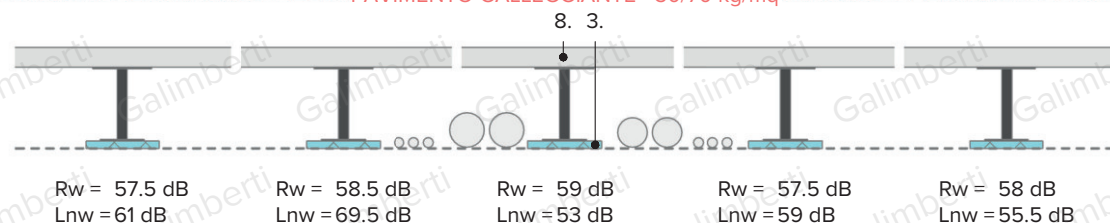
Pesi, misure e valori di abbattimento acustico di massima in ambito residenziale

Indice del potere fonoisolante per via aerea: $R_w \geq 50$ dB - Indice di valutazione del livello di rumore da calpestio: $L_{nw} \leq 63$ dB

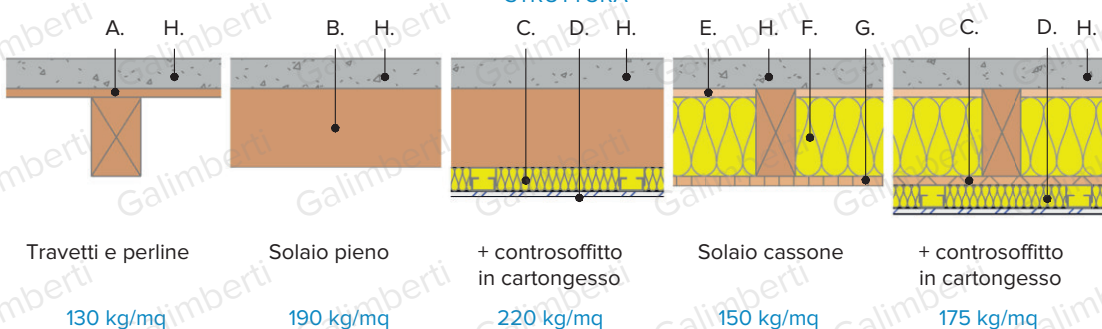
- PACCHETTO PAVIMENTAZIONE - 170/210 kg/mq -



- PAVIMENTO GALLEGGIANTE - 50/70 kg/mq -



STRUTTURA

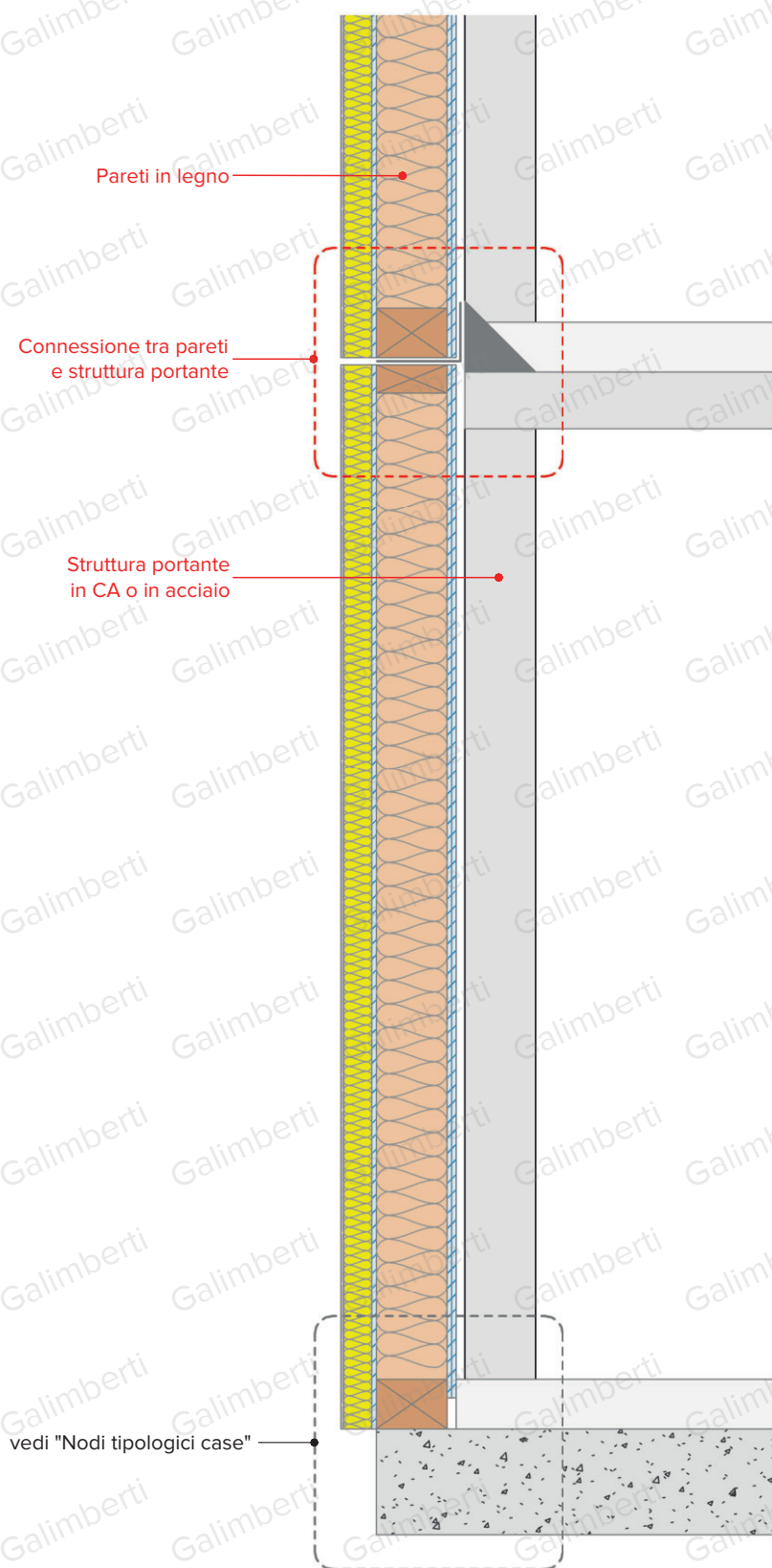


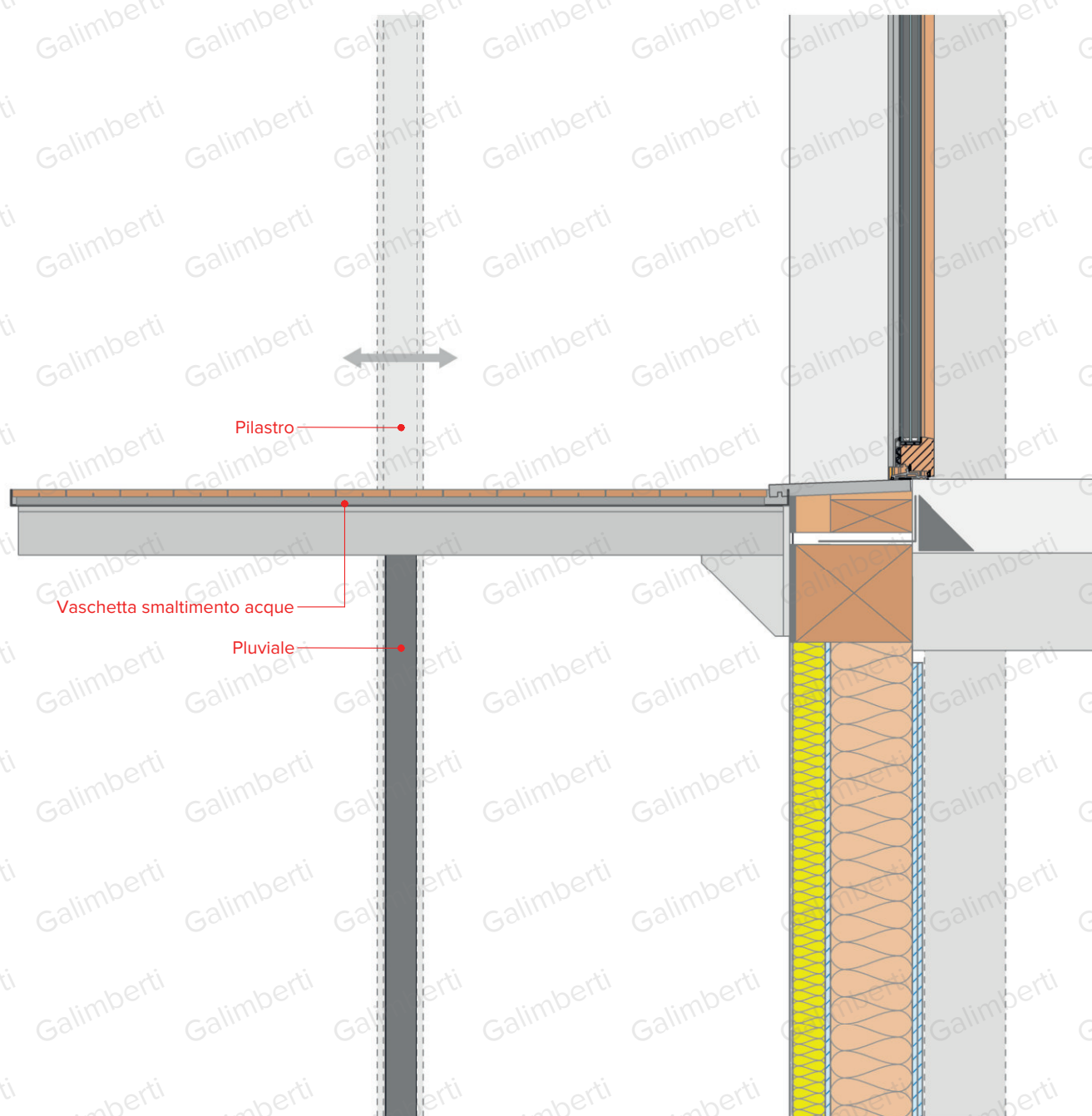
MATERIALE

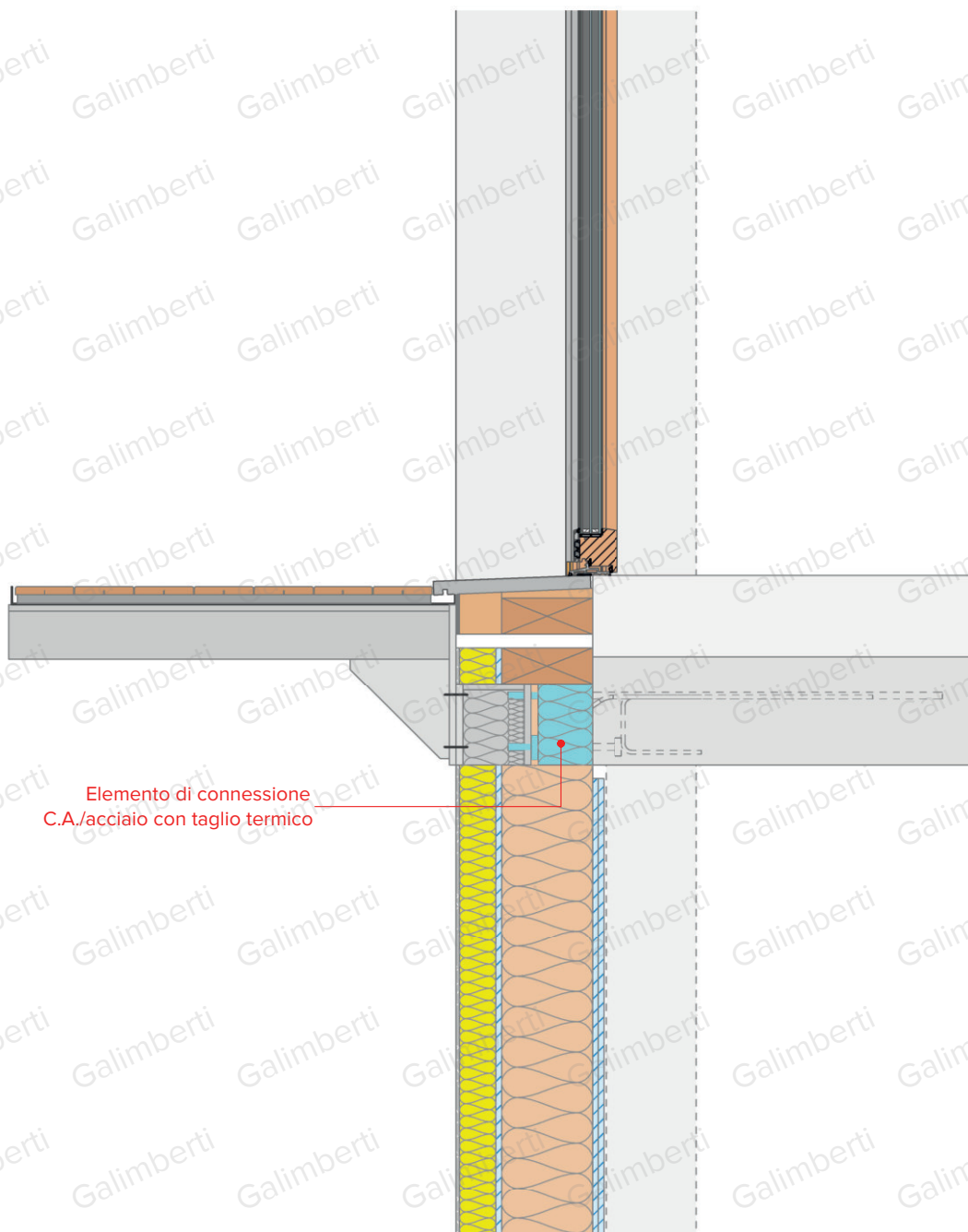
	SP. cm	kg/m ³	kg/m ²
1. Pavimento	1.2/1.5	600/1800	10/25
2. Massetto portante	3+	1600	96
3. Strato anticalpestio / isolante	0.9/4	80/320	0.5/12
4. Pannello radiante a umido	5	30	1.5
5. Pannello radiante a secco	1.5	800	12
6. Sottofondo alleggerito	8+	600	66
7. Lastra in fibrogesso	1.3	1150	15
8. Pavimento galleggiante	4	1250	50

MATERIALE

	SP. cm	kg/m ³	kg/m ²
A. Perline	2	450	9
B. Solaio in legno pieno	16	450	72
C. Isolamento controsoffitto	5	110	5.5
D. Lastra di gesso rivestito	2.5	750	19
E. Pannello in OSB	2	600	12
F. Isolamento in cellulosa	16	50	8
G. Pannello multistrato abete	2	450	9
H. Getto collaborante	6	2000	120

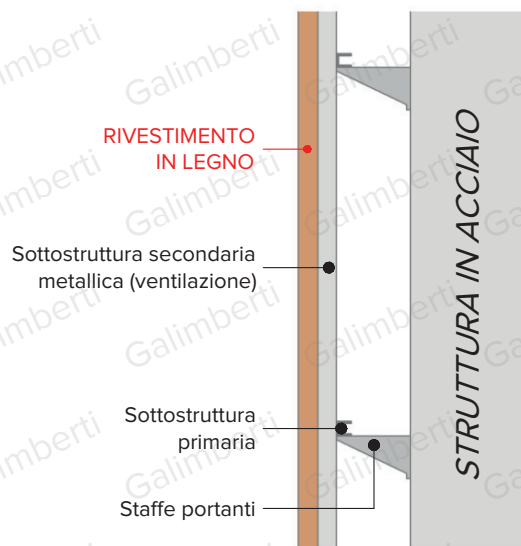
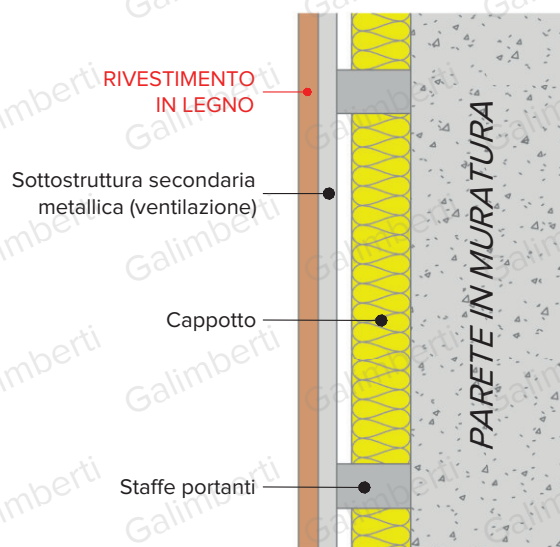
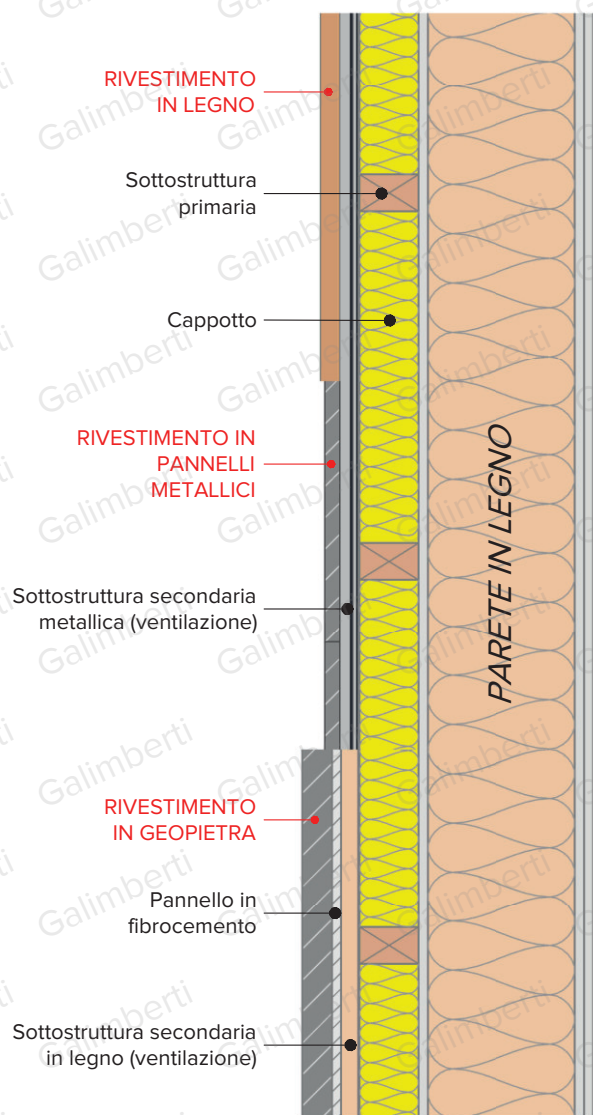






Elemento di connessione
C.A./acciaio con taglio termico

RIVESTIMENTO DI FACCIATA



GALIMBERTI
LEGNO E BIOEDILIZIA