



CL-THERM PANELS



INNOVATIVE AND POWERFUL

CL-Therm panels: a solution for modern timber construction

OUR PRODUCT

- A structural and insulating product
- In dimensions up to 3,450 x 16,000 mm
- Thicknesses between 160 and 320 mm (other thicknesses on request)
- High capacity automated production, calibrated and sanded
- Certified (ETA, DTA, CE marking, FDES...)
- Extremely stable thanks to Side gluing.
- Customized Cutting on request
- Surface treatment on request

YOUR BENEFITS

- Numerous possible geometries
- Optimized logistics, regardless of the size of the project
- Faster assembly thanks to a 2-in-1 product that performs both structural and insulating functions.
- Expert Technical support

AND ABOVE ALL ...

CL-Therm, CLT, glulam, solid wood, planed goods, wood fibre insulation boards – all from a single source

Wood Species	Spruce/fir; other types of wood on request
Origin	Vosges/Black Forest
Appearance classification	D (not visible): for constructions that are not visible
Construction	Multi-layered. Number of insulation layers depending on the thermal and structural requirements to be achieved.
Panel thicknesses	160 - 320 mm, depending on the number of insulation layers (thickness 40mm), (other thicknesses on request, up to 500mm)
Format sizes	• Wall height: up to 3.45m. Billing according to production standard • Wall width: up to 16.00m • Grain direction of the outer layer in height, rotation of the grain direction on request
Wood moisture	10 % ± 2 %
Building physics	The thermal resistance, water vapour diffusion and heat capacity are dependent on the thickness. See table on page 6
Fire protection class	D-s2,d0 (EN 13501.1)
Gluing	• Polyurethane (PUR), adhesive type I according to EN 15425 • Solvent-free, (formaldehyde-free) • colorless glue joint

< View of the modern CL-Therm hall. All production steps take place here under one roof - from sorting and finger jointing of the lamellas to drying, gluing and intermediate storage to sanding and cutting.

LOCAL WOOD

In our factory in Volgelsheim, we only process wood from the forests of the Vosges and the Black Forest. In this way, we strengthen regional forestry, minimise transport routes and make an important contribution to a positive ecological balance for your construction project.



QUALITY CRITERIA CL-THERM

Each panel is characterized by the quality of its two main finishes.

CHARACTERISTICS

Scope

Wood species mixture

Structure, color & texture

Knots

- healthy firmly grown knots
- other branches (black knots)
- Knotholes

Resin Pockets

Bark Ingrowth

Pith

Compression Wood

Discolorations (bluestain / redstreaking / tan)

Decay

Insect Infestation

Cracks

Lamella width

Quality of the Panel edges

Surface

Average wood moisture

Wooden patches

Synthetic Patches

QUALITY D

Buildings that are not visible or without aesthetic requirements

softwoods Spruce/Fir/Douglas Fir/Pine/Larch

no requirements

permitted

permitted

permitted

permitted

permitted

permitted

permitted

permitted

not permitted

permitted

permitted

Lamella width < 250 mm ; several Lamella widths possible in the outer folds

All layers Narrow sides glued, open joints locally permissible

calibrated*, no requirements, finger-jointed fins

10% ± 2%

not necessary

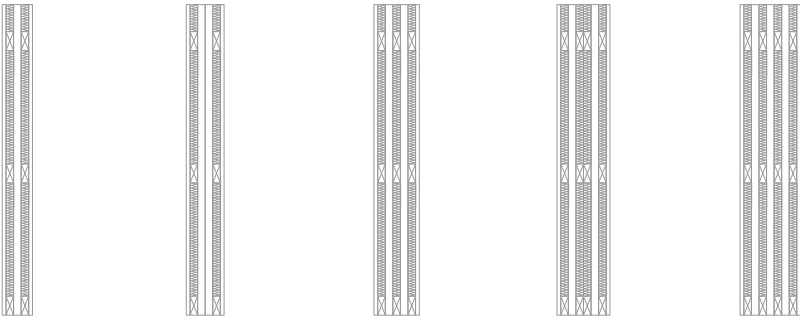
not necessary

The specified quality characteristics apply only to the top layer, not to middle layers and not to the edges of the panels. The specified quality features are met upon delivery. As with all solid wood products, particularly in variable climatic conditions, cracks/joints can occur during use. The use of the product in special climatic conditions must be taken into account at the time of enquiry and communicated accordingly. Unless otherwise stated on the order confirmation, the panels are manufactured as standard for use in service class 1 and 2 applications.

*Depending on the panel size and orientation of the outer layer, the direction of sanding can be transverse to the grain due to production

STANDARD CL-THERM PANELS

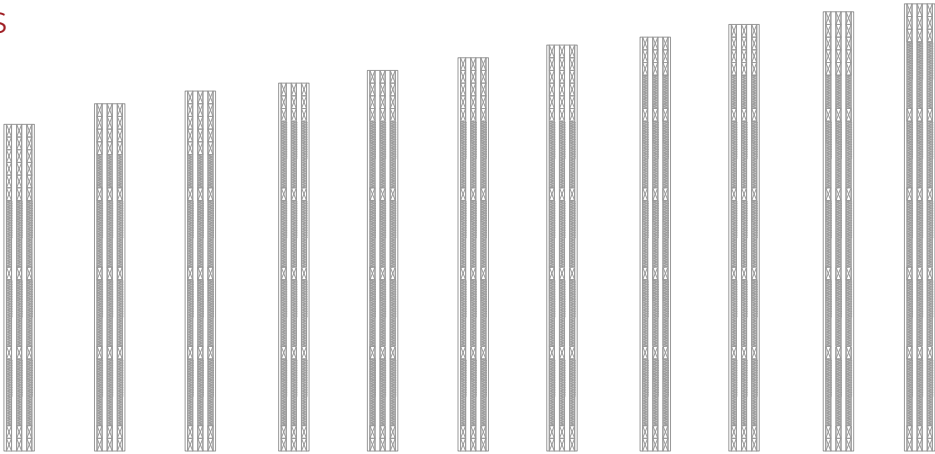
Nominal thickness (mm)	Number of layers	Coating (mm)								
		1	2	3	4	5	6	7	8	9
160	5	20	40	40	40	20				
200	6	20	40	40+40		40	20			
240	7	20	40	40	40	40	40	20		
280	8	20	40	40	40+40		40	40	20	
320	9	20	40	40	40	40	40	40	40	20



Nominal thickness (mm)	160	200	240	280	320
Number of layers	5	6	7	8	9
R [(m² · K)/W]	2,73	3,53	4,35	5,12	5,95
U [W/(m² · K)]	0,366	0,283	0,230	0,195	0,168
μeq	18,50	15,40	13,33	11,86	10,75
Ceq [Wh/(kg.K)]	0.495	0.501	0.505	0.509	0.511

The table only takes into account the CL-Therm element without cladding and without the Rse and Rsi coefficients.

STANDARD HEIGHTS



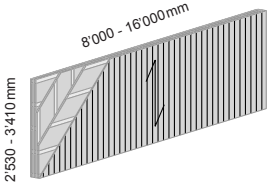
Minimum height (mm)	2160	2530	2590	2690	2790	2850	2950	3050	3150	3210	3310
Maximum height (mm)	2530	2590	2690	2790	2850	2950	3050	3150	3210	3310	3410

Other panel thicknesses and special superstructures on request.

Grain direction
CL-Therm panels with vertically aligned outer layers (in height Training). On request, a version with horizontally aligned outer layers (in the width direction) is also possible.

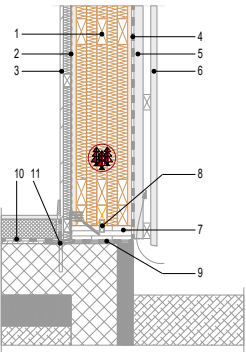
Invoicing Dimensions
Width: between 8.00 m and 16.00 m (every 100 mm according to the production schedule). Height: Standard height from 2.53 to 3.41 m, see table above.

The reference surface is always the production-related optimised raw board, including any cut-outs/ cut-outs. Larger extensions and sections are supplied on request.



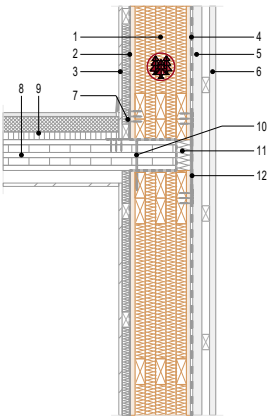
EXAMPLES OF CONSTRUCTION DETAILS

ANCHORING ON CONCRETE SLABS



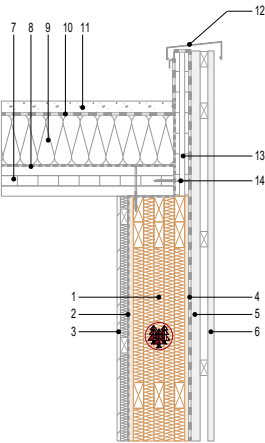
- 1 CL-Therm Panel
- 2 Vapor Barrier (according to building physics)
- 3 Plasterboard and technical cavity
- 4 Weather Barrier
- 5 Rear ventilation, battens
- 6 Exterior formwork
- (Profiles see www.schilliger.fr)
- 7 Sill Plate
- 8 Tongue
- 9 Waterproofing and mortar bed
- 10 Floor Plate
- 11 Angels and anchoring (according to statistics)

INTERMEDIATE FLOOR



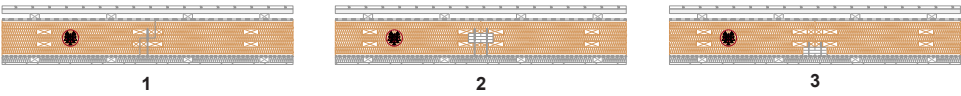
- 1 CL-Therm Panel
- 2 Vapor Barrier (according to building physics)
- 3 Plasterboard and technical cavity
- 4 Weather Barrier
- 5 Rear ventilation, battens
- 6 Exterior formwork
- (Profiles see www.schilliger.fr)
- 7 Angels and anchoring (according to statistics)
- 8 CLT Floor
- 9 Floor structure
- 10 Connecting screws
- 11 Supplemental Insulation
- 12 Tension plate (according to statistics)

ROOF TERRACE



- 1 CL-Therm Panel
- 2 Vapor Barrier (according to building physics)
- 3 Plasterboard and technical cavity
- 4 Weather Barrier
- 5 Rear ventilation, battens
- 6 Exterior Formwork
- (Profiles see www.schilliger.fr)
- 7 CLT Roof
- 8 Vapor Barrier
- 9 Insulation with a slope
- 10 Sealant
- 11 Protective Coating
- 12 Cover
- 13 CLT Roof edge
- 14 Binding screws

JOINTS IN PLANE



- 1 Face joint
- 2 Tongue and Groove / internal Spline
- 3 Joint Board / surface Spline

These details serve as an aid and do not replace a constructive concept. They must be adapted to the static, structural and fire protection requirements. If you have any questions, please do not hesitate to contact our technical office. For more information, please visit: www.schilliger.fr

TWO IN ONE PRODUCT

With CL-Therm structural walls, you can build faster with a product that is suitable for any project.

A VARIETY OF DETAILS AVAILABLE

On the www.schilliger.fr website, you will find a comprehensive collection of design details, along with the necessary technical data sheets and product certificates.



PLANNING SUPPORT

Our team can assist with 2D and 3D planning, the selection of design details, and the preparation of precise assembly plans. We use RFEM and RSTAB for structural design and Cadwork for 2D and 3D drawings. On request, we can also import other 3D file formats, wherever possible. We look forward to helping you bring your project to life.

PRECISE MACHINING

Thanks to our high-performance CNC systems, we can produce even the most complex profiles and details with outstanding precision – from simple formatting to bevel cuts, from rebates to face joints for panel connections, and from drillings to a wide variety of recesses and openings. This not only simplifies connections but also reduces assembly time.

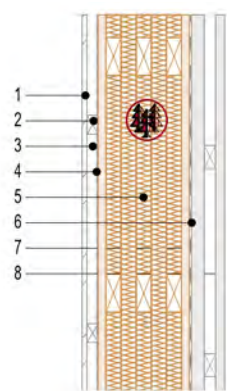
SAFE INSTALLATION

On request, we can equip panels with lifting devices, allowing them to be safely unloaded from the truck and precisely positioned on site.

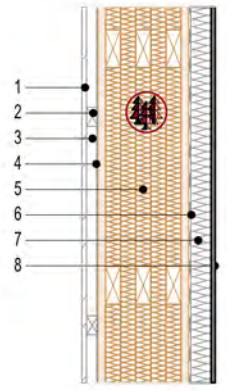
PROTECTION DURING THE CONSTRUCTION PHASE

The protection of CL-Therm panels during the construction phase is essential for the longevity of your structures. That's why we recommend using a water-proof protective film, specially designed to safeguard the CL-Therm elements during construction, until they are finally integrated into the building envelope.

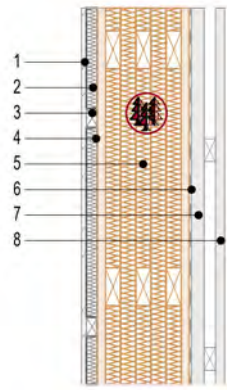
EXAMPLES OF CONSTRUCTION SOLUTIONS



1	Plasterboard	13	mm
2	Technical cavity	30	mm
3	Screwed Battens		
4	Vapor barrier (according to building physics)	0	mm
5	CL-Therm 240mm to 320mm	240 to 320	mm
6	Weather Barrier	0	mm
7	Rear ventilation, battens	60	mm
8	Exterior from work	20	mm
Wall thickness		363 to 443	mm
U-value _ CL-Therm 240 mm		0.22	W/(m² · K)
U-value _ CL-Therm 280 mm		0.19	W/(m² · K)
U-value _ CL-Therm 320 mm		0.16	W/(m² · K)

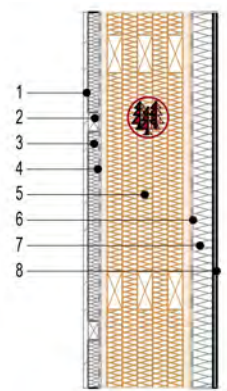


1	Plasterboard	13	mm
2	Technical cavity	30	mm
3	Screwed Battens		
4	Vapor barrier (according to building physics)	0	mm
5	CL-Therm 240mm to 320mm	240 to 320	mm
6	Weather Barrier	0	mm
7	Wood fibre insulation	60	mm
8	Exterior plaster/render	0	mm
Wall thickness		343 to 423	mm
U-value _ CL-Therm 240 mm		0.17	W/(m² · K)
U-value _ CL-Therm 280 mm		0.15	W/(m² · K)
U-value _ CL-Therm 320 mm		0.13	W/(m² · K)

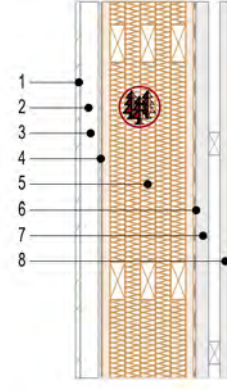


1	Plasterboard	13	mm
2	Rock wool insulation	30	mm
3	Screwed Battens		
4	Vapor barrier (according to building physics)	0	mm
5	CL-Therm 240mm to 320mm	240 bis 320	mm
6	Weather Barrier	0	mm
7	Wood fibre insulation	60	mm
8	Exterior cladding	20	mm
Wall thickness		363 bis 443	mm
U-value _ CL-Therm 240 mm		0.18	W/(m² · K)
U-value _ CL-Therm 280 mm		0.16	W/(m² · K)
U-value _ CL-Therm 320 mm		0.14	W/(m² · K)

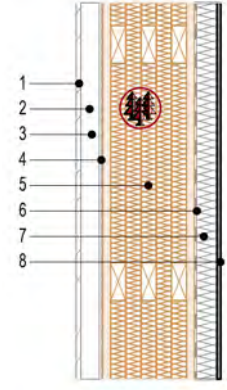
EXAMPLES OF CONSTRUCTION SOLUTIONS



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3	Screwed Battens		
4	Vapor barrier (according to building physics)	0	mm
5	CL-Therm 240mm to 320mm	240 to 320	mm
6	Weather Barrier	0	mm
7	Wood fibre insulation	60	mm
8	Exterior plaster/render	0	mm
Wall thickness		343 to 423	mm
U-value _ CL-Therm 240 mm		0.14	W/(m² · K)
U-value _ CL-Therm 280 mm		0.13	W/(m² · K)
U-value _ CL-Therm 320 mm		0.12	W/(m² · K)



1	Plasterboard (e > 12,5mm)	13	mm
2	Technical cavity	48	mm
3	Stud and batten 48mm, separate		
4	Vapor barrier (according to building physics)	0	mm
5	CL-Therm 240mm to 320mm	240 to 320	mm
6	Weather Barrier	0	mm
7	Rear ventilation, battens	60	mm
8	Exterior cladding	20	mm
Wall thickness		38 to 461	mm
U-value _ CL-Therm 240 mm		0.22	W/(m² · K)
U-value _ CL-Therm 280 mm		0.19	W/(m² · K)
U-value _ CL-Therm 320 mm		0.16	W/(m² · K)



1	Plasterboard	13	mm
2	Technical cavity	48	mm
3	Stud and batten 48mm, separate		
4	Vapor barrier (according to building physics)	0	mm
5	CL-Therm 240mm to 320mm	240 bis 320	mm
6	Weather Barrier	0	mm
7	Wood fibre insulation	60	mm
8	Exterior plaster/render	20	mm
Wall thickness		36 bis 441	mm
U-value _ CL-Therm 240 mm		0.17	W/(m² · K)
U-value _ CL-Therm 280 mm		0.15	W/(m² · K)
U-value _ CL-Therm 320 mm		0.13	W/(m² · K)

Remarks:
The values were selected arbitrarily for currently common materials and serve only as a guide. It is important to consider the actual characteristics of the materials used. The estimation of the U-value alone is not sufficient, the possible formation of condensate must also be checked. Depending on the climatic conditions and the components of the walls, a vapor barrier is not absolutely necessary. This must be confirmed by a building physics professional. All walls must be insulated, a single untreated wall significantly weakens the performance of the entire project. The type of insulation influences the thermal phase shift and thus the summer comfort. These tables serve as an aid to the composition of the elements in the preliminary design, but they are in no way a substitute for a specific study by a specialist. Special features are not covered on this page.



SCHILLIGER BOIS SAS – ALWAYS CLOSE TO YOU

Haltikon (CH)

Head office; Sawn timber, planed timber, Glulam, CLT panels, sawmill by-products



Küssnacht am Rigi (CH)

Wood fibre insulation boards



Perlen (CH)

Swan timber, sawn by-products



Volgelsheim (F)

Sawn timber, Glulam timber, CLT Panels, CL-Therm, sawmill by-products



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