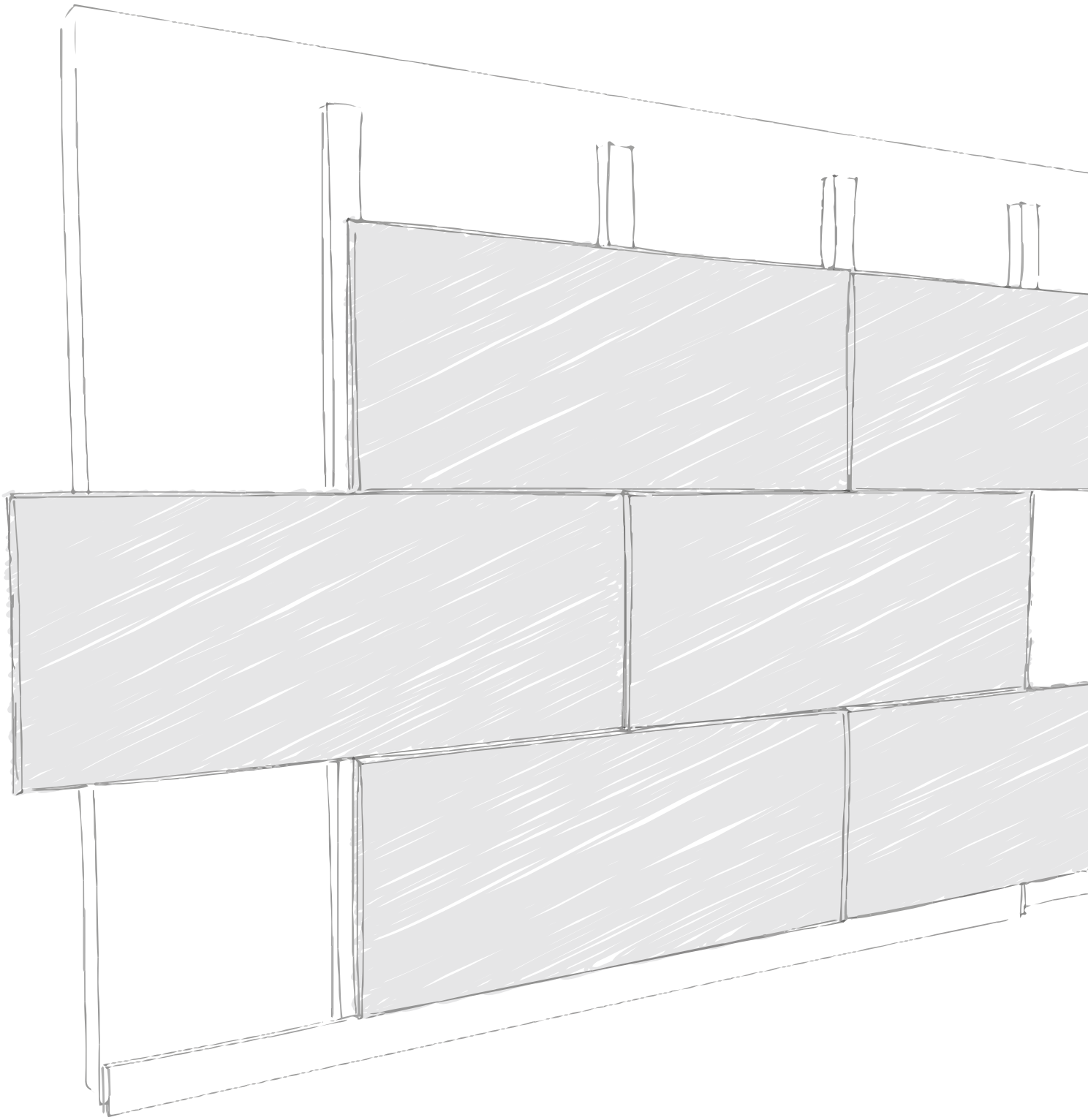
ACOUSTIC | DESIGN
Installation

WALL COVERINGS HIDDEN WOODEN STRUCTURE



CELENIT
NATURAL INSULATORS

CADORAGO SPORTS HALL Como, IT
design: Marco Castelletti architetto | photo: Filippo Simonetti

Item specifications

CELENIT sound absorbing wall coverings with hidden wooden structure, model ACOUSTIC ..., with thermal and acoustic insulation, eco-friendly and sound absorbing boards - CELENIT ... product range, CELENIT ... item No. ... - made of mineralized ... fir wood wool bound with white Portland cement, it complies with EN 13168 and EN 13964 standards, it can be coupled with rock wool (ACOUSTIC MINERAL product range); dim.: ... x ... mm; th.: ... mm; texture: ...; straight edges (code: D) or chamfered edges (code: S4); weight: ... kg/m²; λ_D: ... W/mK; R_D: ... m²K/W; compressive stress σ_{10}: ≥ ... kPa; water vapour transmission μ: 5; reaction to fire: Euroclass B-s1, d0 or A2-s1, d0 (EN 13501-1 standard); sound absorption: α_w ... / NRC ...; durability: class C; light reflection: 50.7 o 74.0% (painted white 05/15); release of formaldehyde: class E1; it does not contain asbestos.

Wood wool boards must be certified by ANAB-ICEA and natureplus for eco-compatibility of materials and manufacturing process, PEFC™ or FSC® for the sustainability of wood raw material, ICEA for the content of recycled material and for the attestation of LEED credits, EPD for the environmental statement.
Wood laths dimensions ... x ... mm; spacing between primary laths: ... mm; spacing between secondary laths: ... mm; fixings per boards: ...; screws diameter: 3.5 mm; screws spacing: ... x ... mm.

Products

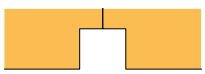
CELENIT ACOUSTIC range
ABE - AB

CELENIT ACOUSTIC A2 range
ABE/A2 - AB/A2

Boards made of mineralized wood wool bound with white Portland cement

Straight edges
D *for all thicknesses*

Chamfered edges
S4 *for all thicknesses*



Shiplap edges
RD10 *for thicnesses 25 - 35 mm*
RD20 *for thicnesses 25 - 35 mm*

CELENIT ACOUSTIC MINERAL range
L2ABE25 - L2AB25 - L2ABE25C

CELENIT ACOUSTIC MINERAL A2 range
L2ABE25/A2 - L2AB25/A2 - L2ABE25C/A2

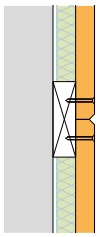
Boards made of mineralized wood wool bound with white Portland cement coupled to a layer of rock wool

Straight edges
D *for all thicknesses*

Chamfered edges
S4 *for all thicknesses*

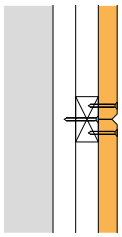
The boards are supplied with dimensions 1200x600 mm with rock wool 1200x500 mm, for direct application to the structure.
Except for **L2ABE25C** and **L2ABE25C/A2** which are supplied with rock wool 1200x600 mm and sufficient compression strength to avoid crushing during the laying. They can be screwed directly to the structure, either with orthogonal or parallel installation.

Single structure



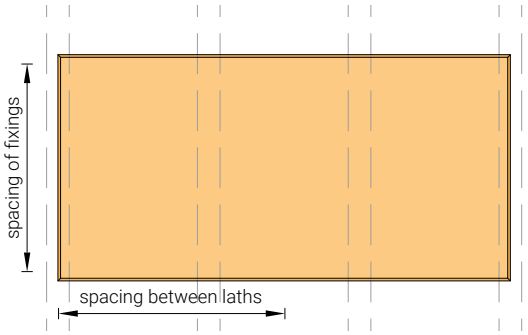
• System used to minimize the total thickness.
• Wood laths anchored to the wall with suitable fixings depending on the type of the support, or with adjustable brackets.
• Wood laths dimensions:
  - for CELENIT ACOUSTIC panels, recommended section (BxH) 60x40 mm or 80x40 mm
  - for CELENIT ACOUSTIC MINERAL panels, max. width 95 mm, min. height 30 mm
• Boards fixed directly to the wood laths according to the fixing schemes (page 7).

Double structure



• The system is compatibles to wall coverings with ball-impact resistant certification with CELENIT ABE boards (page 7).
• Primary structure anchored to the wall with suitable fixings depending on the type of the support, or with lovering elements.
• Wood laths dimensions:
  - for CELENIT ACOUSTIC panels, recommended section (BxH) 60x40 mm or 80x40 mm
  - for CELENIT ACOUSTIC MINERAL panels, max. width 95 mm, min. height 30 mm
• Boards fixed directly to the wood laths according to the fixing schemes (page 7).

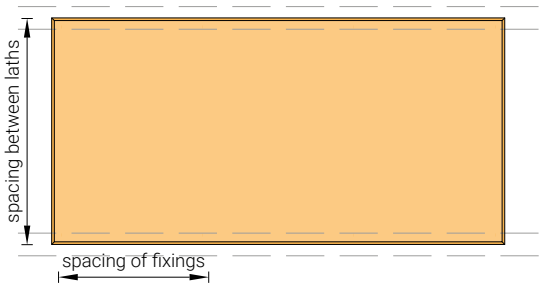
Orthogonal installation to the structure



Only for CELENIT ACOUSTIC panels.

Board thickness [mm]	Dimensions [mm]	Spacing between laths [mm]
15	600x600	300
	1200x600	400
25 / 35	600x600	600
	1200x600	600
	2000x600	500
	2400x600	600

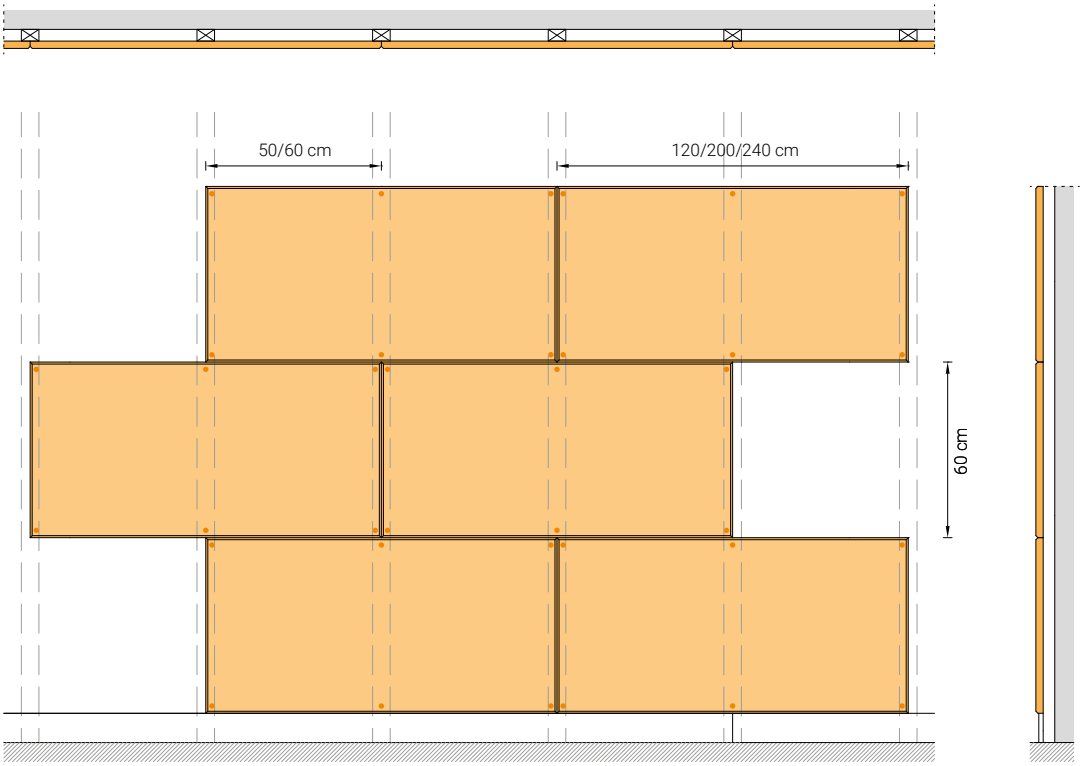
Parallel installation to the structure

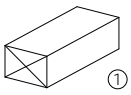


Available for CELENIT ACOUSTIC MINERAL boards or CELENIT ACOUSTIC boards.

Wood laths fixed every 600 mm (boards width).

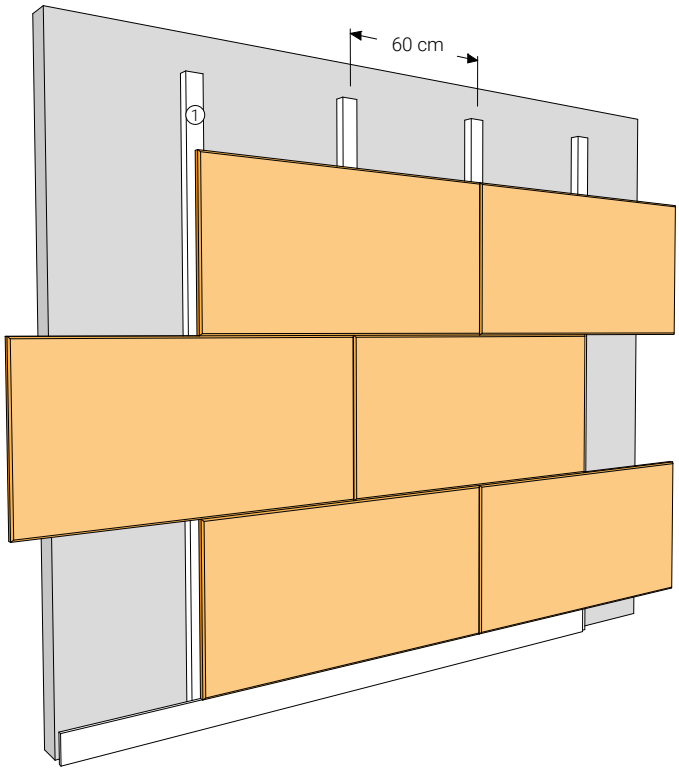
Orthogonal installation to the structure



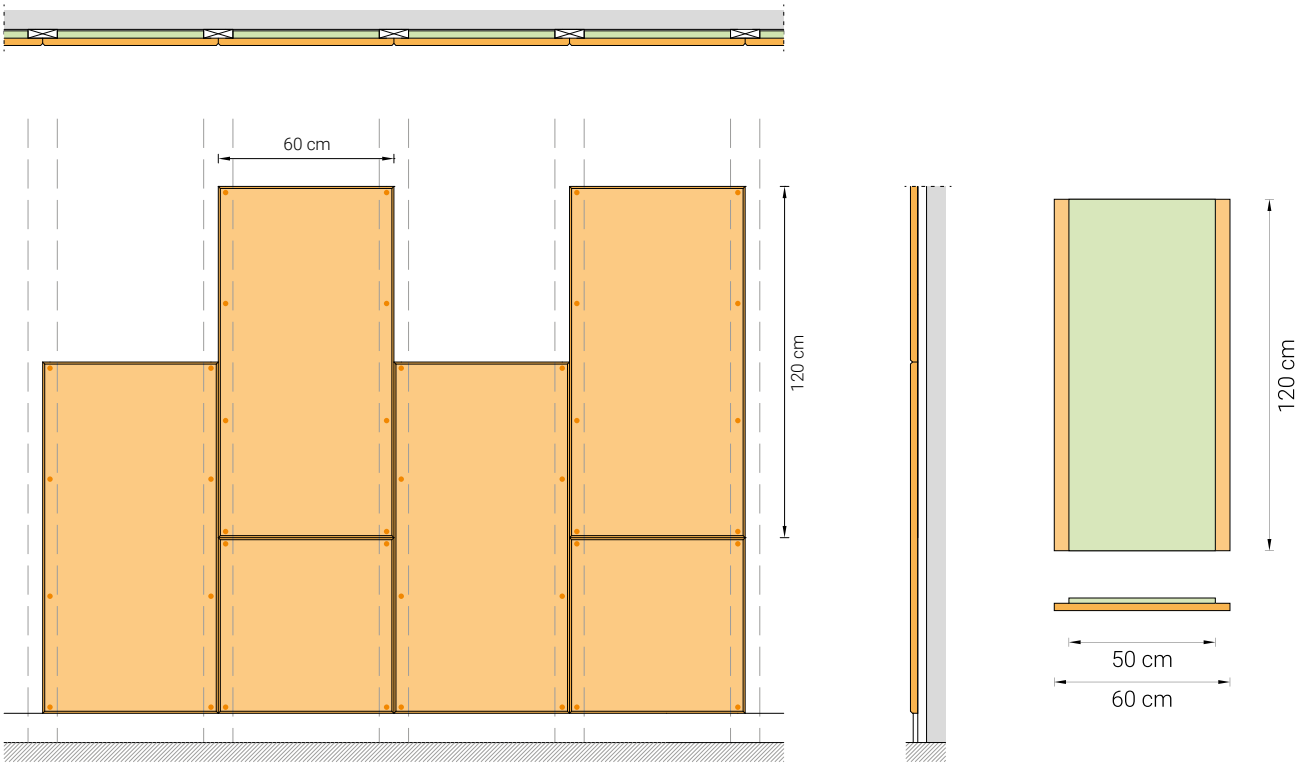


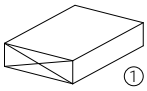
Wood laths
Recommended sections (BxH): 60x40 mm or 80x40 mm

Self-tapping screw for wood
White zinc-plated
Countersunk head with cross, fully threaded, professional lubricant covering
Dimensions 4.5x35 - 4.5x45 - 4.5x60



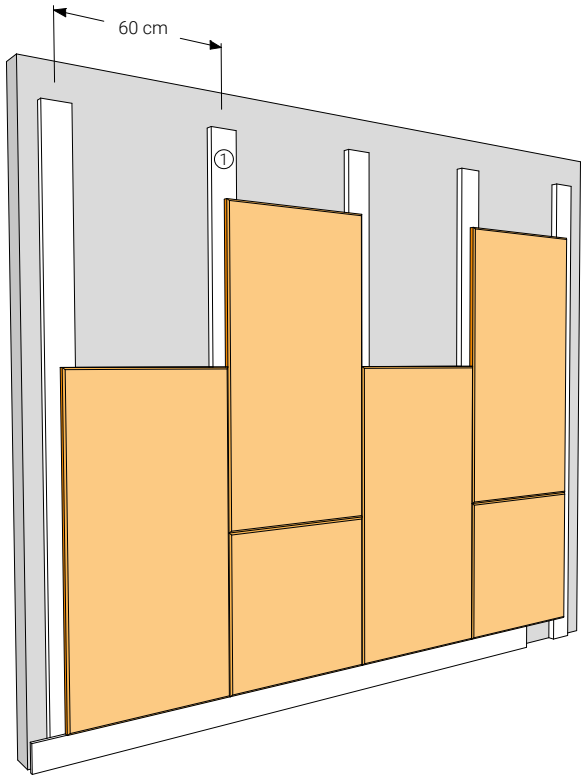
Parallel installation to the structure





Wood laths
Wood laths dimensions:
- with CELENIT ACOUSTIC panels the recommended sections (BxH) are 60x40 mm or 80x40 mm
- with CELENIT ACOUSTIC MINERAL panels, width max. 95 mm, height min. 30 mm

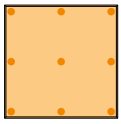
Self-tapping screw for wood
White zinc-plated
Countersunk head with cross, fully threaded, professional lubricant covering
Dimensions 4.5x35 - 4.5x45 - 4.5x60



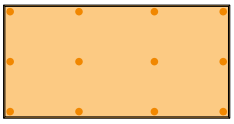
Fixings schemes

CELENIT ACOUSTIC range

• thickness 15 mm

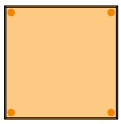


600x600 mm - 9 screws
Orthogonal installation:
Spacing of fixings 300 mm
Wood laths fixed every 300 mm

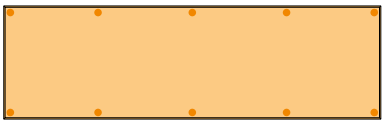


1200x600 mm - 12 screws
Orthogonal installation:
Spacing of fixings 300 mm
Wood laths fixed every 400 mm

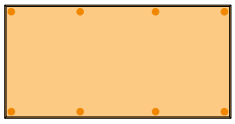
• thicknesses 25/35 mm



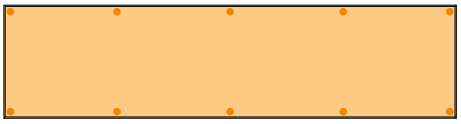
600x600 mm - 4 screws
Orthogonal/parallel installation:
Spacing of fixings 600 mm
Wood laths fixed every 600 mm



2000x600 mm - 10 screws
Parallel installation:
Spacing of fixings 500 mm
Wood laths fixed every 600 mm
Orthogonal installation:
Spacing of fixings 600 mm
Wood laths fixed every 500 mm



1200x600 mm - 6 screws
Parallel installation:
Spacing of fixings 600 mm
Wood laths fixed every 600 mm
Orthogonal installation:
Spacing of fixings 600 mm
Wood laths fixed every 600 mm

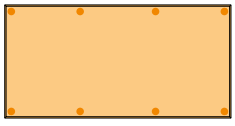


2400x600 mm - 10 screws
Orthogonal/parallel installation:
Spacing of fixings 600 mm
Wood laths fixed every 600 mm

Board thickness [mm]	Dimensions [mm]	Screws per board [No.]	Screws per m² [No./m²]	Screw dimensions [mm]
15	600x600	9	25.0	4.5x35
	1200x600	12	16.7	
25	600x600	4	11.2	4.5x45
	1200x600	6	8.4	
	2000x600	10	8.4	
	2400x600	10	7.0	
35	600x600	4	11.2	4.5x60
	1200x600	6	8.4	
	2000x600	10	8.4	
	2400x600	10	7.0	

CELENIT ACOUSTIC MINERAL range

• wood wool thikness 25 mm



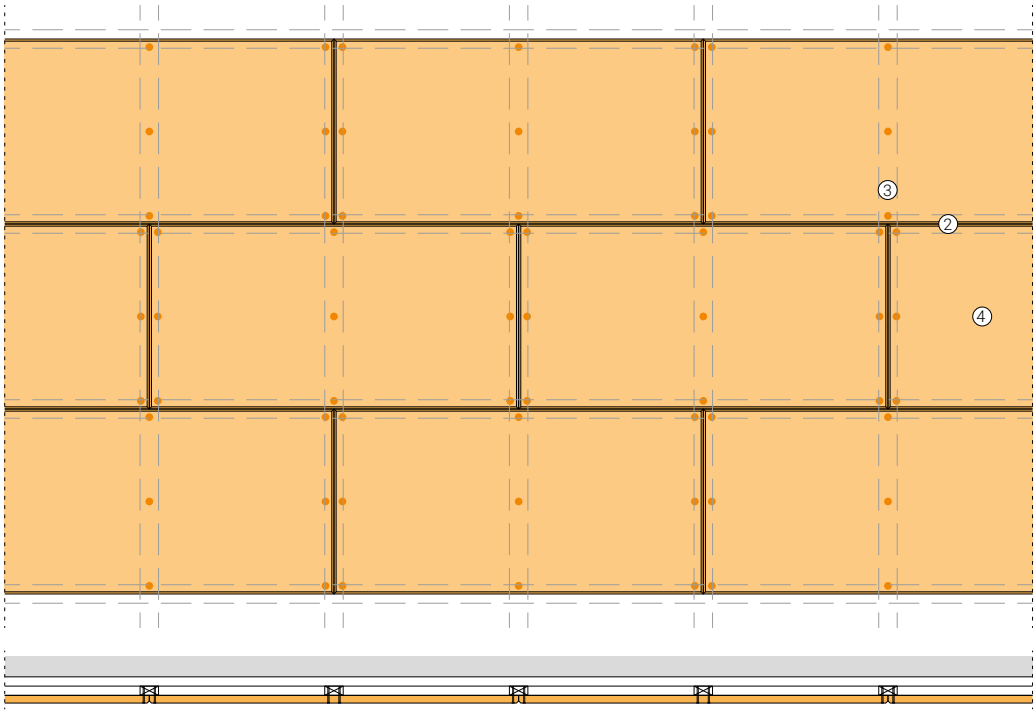
1200x600 mm - 8 screws
Parallel installation:
Spacing of fixings 400 mm
Wood laths fixed every 600 mm

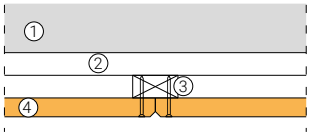
Wood wool board thickness [mm]	Dimensions [mm]	Screws per board [No.]	Screws per m² [No./m²]	Screw dimensions [mm]
25	1200x600	8	11.2	4.5x45

False wall with CELENIT ABE 35 mm thick, **ball impact resistant** according to DIN 18032/Part 3 standards

	Type of board	Structure	Certificate * No. / Date	Standard	Results
	CELENIT ABE Thickness: 35 mm Dimensions: 1200x600 mm Edges: Chamfered - S4	Wooden battens size 60x30 mm Distance between centers of cross laths: 600 mm Distance between centers of main laths: 600 mm Number of screws per board: 9	324042 27.04.2015	DIN 18032-3	Visual examination Pass

** The certificate is based on tests carried out at the Giordano Institute (Bellaria - RN - Italy)*





① support
② main laths
③ cross laths
④ CELENIT ABE

Description

CELENIT ABE boards dimensions 1200x600 mm, 25 mm thick, with chamfered edges on 4 sides (code S4) with staggered laying on the short side. Boards are optionally painted and directly fixed to the cross wood laths, section 60x30 mm, placed orthogonally with a distance between centers of 600 mm. Cross wood laths are supported by main wood laths, section 60x30 mm, placed orthogonally with a distance between centers of 600 mm. The boards are fixed on the underside to the cross wood laths using self-tapping screws, diameter 3.5 mm and spacing 300×600 mm (9 screws per board).

Test results

Impacts	Impact angle	Nominal velocity [m/s]	Visual examination [1]
30	90°	23.5 ± 1.2	Pass
12	45°		Pass
12	45° (opposite direction)		Pass

** After firing the shots in accordance with clause 7 "Auswertung" of standard DIN 18032-3:1997, the strength, function and safety of the wall elements are not adversely affected and their appearance has not changed.*

Storage, use and maintenance

The boards must be stored on a pallet placed on a flat surface, protected from rain and direct sunlight.
Pallets must be handled with care on site. Bumping the corners of the pallets can cause damage to the boards.
For more information see the “Storage, use and maintenance” information available in the download area of the website www.celenit.com.

CELENIT boards are dimensionally stable (EN 13168), however, they must be installed after acclimating to the same room they are going to be installed in, as well as after all concrete works are finished and the doors, windows, heating and ventilation systems have been installed.

Room temperature must be kept constant before and after installation. Do not suddenly change the temperature of the room after installation.

General installation instructions

• The boards have one side that should be visible (front of the board) and another side that should be placed against the structure (back of the board). The back of the board usually has the CELENIT logo or shows calibration marks. The front may be painted and/or has worked edges. In the absence of paint or edges, the front can be identified according to the pallet layout: the front of the boards faces the top and the back faces the pallet.
• Fix the bearing laths starting from the center of the wall to have a symmetric layout. Wood laths will be fixed directly to the wall with suitable screw or with adjustable brackets. With the aid of a laser lever fix the wood laths to the brackets with no. 2 screws per side.
• Fix the secondary structure to the primary with no. 2 screws per intersection.
• If a vapour barrier is necessary, it’ll install on the last laths with butyl double-sided adhesive tape. The tape also acts as a seal for the fixings of CELENIT boards.
• Fix the boards to the structure according to fixing schemes at page 7. Take maximum care while handling the panels. Corners and paint are easy to damage. Use clean gloves when installing the panels. Please find more information on stocking, use and maintenance at www.celenit.com.
• We recommend to fix the screws the screws to the wood laths with an inclination of about 5°-6° to give more tightness to the screws on the support.
• We recommend boards with chamfered edges and staggered laying on the short side to ensure a nicer visual effect. The installation of boards with straight edge may be possible anyway.
• It is possible to insert mineral wool panels or wood fiber panels on top of CELENIT panels to improve acoustic and thermal performances while laying CELENIT boards.
• After the installation please follow the recommendations in the section “Storage, use and maintenance” at www.celenit.com.

Important remarks

15 mm panels are not recommended for outdoor applications (with a roof protection) or in presence of high humidity.

CELENIT boards with DT edges code are not available becouse dimensions are not suitable for this system.

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CELENIT NATURAL INSULATORS

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