



# CELENIT AB

## Technical data sheet



Thermal and acoustic insulation board, consisting of mineralized thin fir wood wool bound with white Portland cement. Wood wool is 2 mm wide. High quality boards for design acoustic absorption systems. It complies with EN 13168 and EN 13964 standards.

The boards are certified by ANAB-ICEA and natureplus for eco-compatibility of materials and manufacturing process. CELENIT AB is PEFC™ certified. Also available with FSC® certification.

Also available with grey Portland cement [CELENIT A].

### Edges detail

D - SC - SL - S4 - RD - FR - DT - T - RDT - RST - PS - PM

### Colours

standard acrylic water-based colours, liquid potassium silicate colours

### Applications

false ceilings, wall coverings, baffles, acoustic rafts and design solutions

## Technical data

|   |  |      |      |      |  |
|---|--|------|------|------|--|
| Standard  | EN 13168 - EN 13964                      |      |      |      |  |
| Designation code CELENIT AB                               | WW-EN13168-L3-W2-T2-S2-CS(10)200-CI3     |      |      |      |  |
| Designation code CELENIT A                                | WW-EN13168-L3-W2-T2-S2-CS(10)200-CI1     |      |      |      |  |
| Dimensions [mm]   | 2400x600 - 2000x600 - 1200x600 - 600x600 |      |      |      |  |
| Thickness [mm]  | 15                                       | 25   | 35   | 50   |  |
| Weight [kg/m <sup>2</sup> ]                               | 7.8                                      | 11.5 | 15.0 | 20.0 |  |
| Declared thermal conductivity $\lambda_D$ [W/mK]          | 0.070                                    |      |      |      |  |
| Declared thermal resistance $R_D$ [m <sup>2</sup> K/W]    | 0.20                                     | 0.35 | 0.50 | 0.70 |  |
| Compressive stress at 10% deformation $\sigma_{10}$ [kPa] | ≥ 200                                    |      |      |      |  |
| Water vapour transmission $\mu$                           | 5  |      |      |      |  |
| Specific heat $c_p$ [kJ/kgK] <sup>1</sup>                 | 1.81                                     |      |      |      |  |
| Reaction to fire <sup>2</sup>                             | Euroclass B-s1, d0                       |      |      |      |  |
| Chloride content CELENIT AB [%]                           | ≤ 0.06                                   |      |      |      |  |
| Chloride content CELENIT A [%]                            | ≤ 0.35                                   |      |      |      |  |
| Sound absorption  | $\alpha_w$ up to 0.95 - NRC up to 0.90   |      |      |      |  |
| Durability  | Class C                                  |      |      |      |  |
| Light reflection CELENIT AB [%]                           | 50.7 - 74.0 (painted white 05/15)        |      |      |      |  |
| Light reflection CELENIT A [%]                            | 31.2                                     |      |      |      |  |
| Release of formaldehyde                                   | Class E1                                 |      |      |      |  |
| Release of asbestos                                       | it does not contain asbestos             |      |      |      |  |

<sup>1</sup> Certified by the University of Bologna - LEBSC no. 809 | rev. 07.05.2009

<sup>2</sup> The reaction to fire does not change for painted products

## Logistic data

| Dimensions [mm] | Pallet                    | 15 mm  | 25 mm  | 35 mm | 50 mm |
|-----------------|---------------------------|--------|--------|-------|-------|
| 2400x600        | boards per pallet         | 130    | 88     | 64    | 44    |
|                 | m <sup>2</sup> per pallet | 187.20 | 126.72 | 92.16 | 63.36 |
| 2000x600        | boards per pallet         | 130    | 88     | 64    | 44    |
|                 | m <sup>2</sup> per pallet | 156.00 | 105.60 | 76.80 | 52.80 |
| 1200x600        | boards per pallet         | 130    | 88     | 64    | 44    |
|                 | m <sup>2</sup> per pallet | 93.60  | 63.36  | 46.08 | 31.68 |
| 600x600         | boards per pallet         | 260    | 176    | 128   |       |
|                 | m <sup>2</sup> per pallet | 93.60  | 63.36  | 46.08 |       |

## Certifications

CERTIQUALITY no. 1351 | rev. 10.04.2015

ANAB no. EDIL 2009\_004 Ed. 02 Rev. 00 | rev. 07.01.2015

NATUREPLUS no. 1007-1511-134-1 | rev. 12.11.2015

FSC® no. ICILA-COC-002789 | rev. 14.10.2014

PEFC™ no. ICILA-PEFCCOC-000117 | rev. 14.10.2014

ICEA no. LEED 2015\_001 Ed. 00 Rev. 00 | rev. 19.01.2015

ICEA no. REC 2015\_001 Ed. 00 Rev. 00 | rev. 19.01.2015

CPR EN 13168 no. 0407-CPR-755

CPR EN 13964 no. 0407-CPR-1165





## Sound absorption

| Type of board <sup>1</sup>               | Test specifications <sup>2</sup> |         |         | Certificate <sup>3</sup> |            | Sound absorption            |      |      |      |      |            |            |      |       |      |
|--|----------------------------------|---------|---------|--------------------------|------------|-----------------------------|------|------|------|------|------------|------------|------|-------|------|
|  | Thickness [mm]                   | MW [mm] | TH [mm] | No.                      | Date       | Frequencies $\alpha_p$ [Hz] |      |      |      |      | $\alpha_w$ | NRC        | SAA  | Class |      |
|  |                                  |         |         |                          |            | 125                         | 250  | 500  | 1000 | 2000 |            |            |      |       | 4000 |
| <b>Application in adherence</b>          |                                  |         |         |                          |            |                             |      |      |      |      |            |            |      |       |      |
| CELENIT AB                               | 15                               |         | 15      | 324212-A                 | 30.04.2015 | 0.05                        | 0.10 | 0.20 | 0.35 | 0.75 | 0.60       | 0.30 (H)   | 0.35 | 0.35  | D    |
| CELENIT AB                               | 25                               |         | 25      | 331332-A                 | 11.02.2016 | 0.10                        | 0.20 | 0.40 | 0.85 | 0.80 | 0.85       | 0.45 (M-H) | 0.55 | 0.56  | D    |
| CELENIT AB                               | 35                               |         | 35      | 333105-A                 | 20.04.2016 | 0.15                        | 0.25 | 0.50 | 0.95 | 0.70 | 0.85       | 0.50 (M-H) | 0.60 | 0.60  | D    |
| CELENIT AB                               | 50                               |         | 50      | 324219-A                 | 30.04.2015 | 0.15                        | 0.30 | 0.65 | 0.95 | 0.70 | 0.85       | 0.60 (M-H) | 0.65 | 0.64  | C    |
| <b>Empty air gap</b>                     |                                  |         |         |                          |            |                             |      |      |      |      |            |            |      |       |      |
| CELENIT AB                               | 15                               |         | 45      | 324213-A                 | 30.04.2015 | 0.10                        | 0.15 | 0.40 | 0.75 | 0.45 | 0.55       | 0.40 (M-H) | 0.45 | 0.43  | D    |
| CELENIT AB                               | 15                               |         | 115     | 324213-B                 | 30.04.2015 | 0.15                        | 0.40 | 0.65 | 0.45 | 0.45 | 0.70       | 0.50 (H)   | 0.50 | 0.48  | D    |
| CELENIT AB                               | 15                               |         | 215     | 324213-E                 | 30.04.2015 | 0.25                        | 0.55 | 0.50 | 0.40 | 0.50 | 0.70       | 0.50 (L-H) | 0.50 | 0.49  | D    |
| CELENIT AB                               | 25                               |         | 55      | 333104-A                 | 20.04.2016 | 0.10                        | 0.15 | 0.45 | 0.65 | 0.50 | 0.65       | 0.45 (H)   | 0.45 | 0.44  | D    |
| CELENIT AB                               | 25                               |         | 125     | 331332-B                 | 11.02.2016 | 0.25                        | 0.75 | 0.65 | 0.50 | 0.85 | 0.90       | 0.60 (L-H) | 0.70 | 0.70  | C    |
| CELENIT AB                               | 25                               |         | 200     | 331332-C                 | 11.02.2016 | 0.35                        | 0.75 | 0.55 | 0.55 | 0.80 | 0.90       | 0.60 (L-H) | 0.65 | 0.67  | C    |
| CELENIT AB                               | 25                               |         | 225     | 331332-D                 | 11.02.2016 | 0.25                        | 0.65 | 0.60 | 0.65 | 0.85 | 1.00       | 0.65 (H)   | 0.70 | 0.69  | C    |
| CELENIT AB                               | 25                               |         | 425     | 331332-E                 | 11.02.2016 | 0.45                        | 0.55 | 0.50 | 0.65 | 0.80 | 1.00       | 0.60 (H)   | 0.60 | 0.62  | C    |
| CELENIT AB                               | 35                               |         | 135     | 333105-B                 | 20.04.2016 | 0.20                        | 0.60 | 0.70 | 0.50 | 0.80 | 0.80       | 0.60 (H)   | 0.65 | 0.64  | C    |
| CELENIT AB                               | 35                               |         | 300     | 324217-D                 | 30.04.2015 | 0.40                        | 0.55 | 0.45 | 0.55 | 0.80 | 0.80       | 0.55 (H)   | 0.60 | 0.59  | D    |
| CELENIT AB                               | 35                               |         | 435     | 333105-C                 | 20.04.2016 | 0.45                        | 0.55 | 0.50 | 0.65 | 0.85 | 0.90       | 0.60 (H)   | 0.65 | 0.64  | C    |
| <b>Background filling with rock wool</b> |                                  |         |         |                          |            |                             |      |      |      |      |            |            |      |       |      |
| CELENIT AB                               | 15                               | 30 (1)  | 45      | 324212-B                 | 30.04.2015 | 0.20                        | 0.50 | 1.00 | 0.95 | 0.65 | 0.75       | 0.70 (M)   | 0.80 | 0.77  | C    |
| CELENIT AB                               | 15                               | 30 (1)  | 115     | 324213-C                 | 30.04.2015 | 0.30                        | 0.80 | 1.00 | 0.90 | 0.75 | 0.75       | 0.85       | 0.85 | 0.86  | B    |
| CELENIT AB                               | 15                               | 50 (2)  | 200     | 324213-D                 | 30.04.2015 | 0.45                        | 0.90 | 0.95 | 0.95 | 0.75 | 0.75       | 0.85 (L)   | 0.90 | 0.89  | B    |
| CELENIT AB                               | 15                               | 40 (1)  | 290     | 324213-F                 | 30.04.2015 | 0.50                        | 0.90 | 0.95 | 0.95 | 0.75 | 0.80       | 0.85 (L)   | 0.90 | 0.88  | B    |
| CELENIT AB                               | 25                               | 30 (4)  | 55      | 324214-B                 | 30.04.2015 | 0.20                        | 0.55 | 1.00 | 0.90 | 0.70 | 0.90       | 0.75 (M-H) | 0.80 | 0.79  | C    |
| CELENIT AB                               | 25                               | 30 (1)  | 85      | 324215-B                 | 30.04.2015 | 0.25                        | 0.70 | 1.00 | 0.80 | 0.75 | 0.90       | 0.80       | 0.80 | 0.82  | B    |
| CELENIT AB                               | 25                               | 60 (1)  | 125     | 324215-D                 | 30.04.2015 | 0.40                        | 0.90 | 0.95 | 0.90 | 0.80 | 0.90       | 0.90       | 0.90 | 0.88  | B    |
| CELENIT AB                               | 25                               | 30 (4)  | 200     | 324215-E                 | 30.04.2015 | 0.40                        | 0.90 | 0.95 | 0.90 | 0.80 | 0.90       | 0.90       | 0.90 | 0.88  | A    |
| CELENIT AB                               | 25                               | 50 (3)  | 300     | 324215-F                 | 30.04.2015 | 0.50                        | 0.90 | 0.95 | 0.95 | 0.85 | 0.95       | 0.95       | 0.90 | 0.91  | A    |
| CELENIT AB                               | 35                               | 30 (4)  | 65      | 324216-B                 | 30.04.2015 | 0.30                        | 0.75 | 1.00 | 0.85 | 0.85 | 0.95       | 0.90       | 0.90 | 0.89  | A    |
| CELENIT AB                               | 35                               | 60 (1)  | 135     | 324217-B                 | 30.04.2015 | 0.50                        | 1.00 | 0.95 | 0.85 | 0.85 | 0.95       | 0.90 (L)   | 0.90 | 0.92  | A    |
| CELENIT AB                               | 35                               | 40 (4)  | 200     | 324217-C                 | 30.04.2015 | 0.50                        | 0.90 | 0.95 | 0.95 | 0.85 | 0.95       | 0.95       | 0.90 | 0.92  | A    |
| CELENIT AB                               | 35                               | 40 (1)  | 320     | 324217-E                 | 30.04.2015 | 0.55                        | 0.90 | 0.95 | 0.95 | 0.90 | 1.00       | 0.95       | 0.90 | 0.92  | A    |

<sup>1</sup> Paint doesn't affect sound absorption performances of CELENIT boards as described in the technical note provided by Giordano Institute dated 16.07.2015. Sound absorption values are also valid for products with grey cement

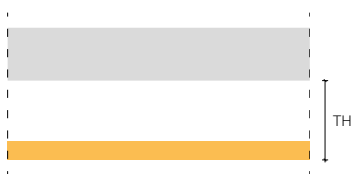
<sup>2</sup> Test specifications: "thickness" is relative to CELENIT board - "MW" is the thickness of rock wool in the background, (1) density 40 kg/m<sup>3</sup>; (2) density 50 kg/m<sup>3</sup>; (3) density 70 kg/m<sup>3</sup>; (4) density 80 kg/m<sup>3</sup> - "TH" is the total construction height from the lower edge of ceiling to lower edge of boards

<sup>3</sup> All certificate are based on tests carried out at the Giordano Institute (Bellaria - RN - Italy) according to EN ISO 354:2003 standard

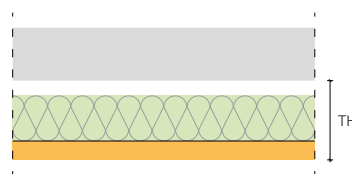
Application in adherence



Empty air gap



Background filling with rock wool





## Sound absorption

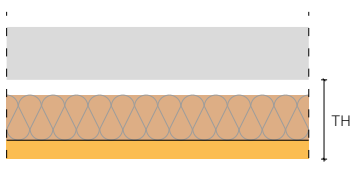
| Type of board <sup>1</sup>                              | Test specifications <sup>2</sup> |         |         | Certificate <sup>3</sup> |            | Sound absorption            |      |      |      |      |      |            |      |      |       |
|---|----------------------------------|---------|---------|--------------------------|------------|-----------------------------|------|------|------|------|------|------------|------|------|-------|
|   | Thickness [mm]                   | MW [mm] | TH [mm] | No.                      | Date       | Frequencies $\alpha_p$ [Hz] |      |      |      |      |      | $\alpha_w$ | NRC  | SAA  | Class |
|   |                                  |         |         |                          |            | 125                         | 250  | 500  | 1000 | 2000 | 4000 |            |      |      |       |
| <b>Background filling with wood fibre CELENIT FL/45</b> |                                  |         |         |                          |            |                             |      |      |      |      |      |            |      |      |       |
| CELENIT AB  | 25                               | 40 (2)  | 65      | 333104-B                 | 20.04.2016 | 0.25                        | 0.60 | 1.00 | 0.85 | 0.75 | 0.95 | 0.80 (H)   | 0.80 | 0.81 | B     |
| CELENIT AB  | 25                               | 60 (2)  | 200     | 333104-C                 | 20.04.2016 | 0.40                        | 0.90 | 0.85 | 0.85 | 0.80 | 0.95 | 0.85 (L)   | 0.85 | 0.86 | B     |
| CELENIT AB  | 25                               | 40 (2)  | 300     | 333104-D                 | 20.04.2016 | 0.50                        | 0.90 | 0.85 | 0.90 | 0.85 | 1.00 | 0.90       | 0.85 | 0.87 | A     |

<sup>1</sup> Paint doesn't affect sound absorption performances of CELENIT boards as described in the technical note provided by Giordano Institute dated 16.07.2015. Sound absorption values are also valid for products with grey cement

<sup>2</sup> Test specifications: "thickness" is relative to CELENIT board - "WF" is the thickness of wood fiber CELENIT FL/45 in the background, (2) density 50 kg/m<sup>3</sup> - "TH" is the total construction height from the lower edge of ceiling to lower edge of boards

<sup>3</sup> All certificate are based on tests carried out at the Giordano Institute (Bellaria - RN - Italy) according to EN ISO 354:2003 standard

Background filling with wood fibre CELENIT FL/45




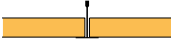
## Impact resistance tests according to EN 13964/Attached D - DIN 18032/Part 3

|                | Type of board  | Structure   | Certificate <sup>1</sup><br>No. / Date | Standard                | Results                             |
|----------------|--|---|--|-------------------------|-------------------------------------|
| <b>Ceiling</b> |  |   |  |                         |                                     |
|                | CELENIT AB<br>Thickness: 25 mm<br>Dimensions: 1200x600 mm<br>Edges: Chamfered - S4 | C metal section 27x60x27 mm<br>Distance between centers of cross joists: 600 mm<br>Distance between centers of main joists: 900 mm<br>Number of screws per board: 9 | 332601<br>31.03.2016                   | EN 13964                | Class 1A                            |
|                | CELENIT AB<br>Thickness: 35 mm<br>Dimensions: 1200x600 mm<br>Edges: Chamfered - S4 | C metal section 27x60x27 mm<br>Distance between centers of cross joists: 600 mm<br>Distance between centers of main joists: 900 mm<br>Number of screws per board: 9 | 332602<br>31.03.2016                   | EN 13964<br>DIN 18032-3 | Class 1A<br>Visual examination Pass |
|                | CELENIT AB<br>Thickness: 25 mm<br>Dimensions: 1200x600 mm<br>Edges: Straight - DT  | T metal profile 24x38 mm<br>Distance between centers of cross joists: 1200 mm<br>Distance between centers of main joists: 600 mm<br>Anti-lift pin: 2 per board      | 200535<br>22.08.2005                   | EN 13964                | Class 1A                            |
| <b>Wall</b>    |  |   |  |                         |                                     |
|                | CELENIT AB<br>Thickness: 25 mm<br>Dimensions: 1200x600 mm<br>Edges: Chamfered - S4 | C metal section 27x60x27 mm<br>Distance between centers of cross joists: 300 mm<br>Distance between centers of main joists: 600 mm<br>Number of screws per board: 9 | 324044<br>27.04.2015                   | DIN 18032-3             | Visual examination Pass             |
|                | CELENIT AB<br>Thickness: 35 mm<br>Dimensions: 1200x600 mm<br>Edges: Chamfered - S4 | C metal section 27x60x27 mm<br>Distance between centers of cross joists: 600 mm<br>Distance between centers of main joists: 600 mm<br>Number of screws per board: 9 | 324043<br>27.04.2015                   | DIN 18032-3             | Visual examination Pass             |

<sup>1</sup> All certificate are based on tests carried out at the Giordano Institute (Bellaria - RN - Italy)



## Ceiling's material accidental fallings loading strenght

|   | Type of board  | Structure   | Certificate <sup>1</sup><br>No. / Date | Results   |
|---|--|---|--|---|
|  | CELENIT AB<br>Thickness: 25 mm<br>Dimensions: 1200x600 mm<br>Edges: Chamfered - S4 | C metal section 27x50x27 mm<br>Distance between centers of cross joists: 400 mm<br>Distance between centers of main joists: 800 mm<br>Distance between centers of screws: 300 mm<br><b>Empty air gap up to 400 mm</b> | 324031<br>24.04.2015                   | No significant deformation, cracks or other damages of suspension structure and the false ceiling |
|  | CELENIT AB<br>Thickness: 25 mm<br>Dimensions: 595x595 mm<br>Edges: Straight - DT   | T metal profile 24x38 mm<br>Distance between centers of cross joists: 600 mm<br>Distance between centers of main joists: 600 mm<br>Distance between centers of screws: 800 mm<br><b>Empty air gap up to 200 mm</b>    | 332243<br>17.03.2016                   |   |

<sup>1</sup> All certificate are based on tests carried out at the Giordano Institute (Bellaria - RN - Italy)

## Storage, use and maintenance

The boards must be stored on a pallet placed in a flat surface, protected from rain and direct sun. Pallet handling on site will be performed with the necessary care. Bumps at the corners of the pallets can cause damage to the boards. For more information see the data "Storage, use and maintenance" available in the download area of the website [www.celenit.com](http://www.celenit.com).



CELENIT boards are dimensionally stables (EN 13168), however, they must be installed after acclimatization in the same room where they are going to be installed. After all concrete works are finished and the doors, windows, heating and ventilation systems installed. Room temperature must be kept constant before and after installation. Do not suddenly change the temperature of the room after installation.

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 CELENIT logo or shows marks of calibration. The front may be painted and/or has edges' works. In the absence of paint or edges it is possible to identify the front according to the pallet's layout: the front of the boards is towards the top and the back down towards the pallet.

Due to their natural production process and raw materials non painted boards may have a dis-homogeneous colour. The boards must be painted to have an homogeneous colour.