

## about us

Skanda Acoustics Limited are the UK & Irelands leading supplier of wood wool boards and acoustic panels for the building industry. Our specialist knowledge has been gained by working in association with the leading manufacturers across Europe with over 80 years manufacturing experience in wood wool products.

Our specialist team provides a full technical service advising on the best cost effective design for any project. As we exclusively specialise in wood wool systems we can offer impartial advice on the wide range of renders and plasters available for wood wool board construction.

## SKANDA

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# SKANDA

natural building boards  
for sustainable construction

**savolit plus**  
wood wool building boards

**savotherm**  
external wall insulation

**trolldtekt**  
natural ceiling & wall panels





# environmental vision and policy

At Skanda we believe the future quality of human life is dependent on both economic vitality and a healthy, sustainable natural environment.

We do not see these goals as mutually exclusive, but inextricably linked. Mankind's future depends on meeting the needs and aspirations of a growing global population, while enhancing and protecting the ecosystem on which all life depends.

## Environmental product statement

- Savolit Plus wood wool boards are genuine natural products.
- The main component is spruce wood obtained from sustainable managed forests. The wood fibres are mineralized and bonded into panels with Portland cement.
- There are no VOC's (Volatile Organic Compound), heavy metals, asbestos, formaldehyde and other harmful substances or allergens.
- Savolit Plus boards in their lifecycle from production, installation, lifespan and decomposition (recycling), do not pose a risk to the environment. Waste can be disposed of at landfills for general construction materials.
- The production process strives to minimise the burden on the environment during the production process. Woodmass waste is used as a renewable source of thermal energy.
- Savolit Plus wood wool boards are 100% recyclable.



# contents

## savolit plus

wood wool building boards

- applications
- composition
- ecological and health aspects
- technical advantages
- frame wall and ceiling constructions
- installation
- edge bonding
- frame wall and ceiling constructions

## savotherm

external wall insulation

- savotherm advantages
- energy conservation and environmental protection through effective thermal insulation
- savotherm external wall insulation system
- installation guide

## troldtekt

natural ceiling & wall panels

- documented sustainability
- healthy indoor climate
- good acoustics
- troldtekt installation
- troldtekt advantages
- installation instructions

## technical data





# savolit plus

## wood wool boards

Savolit Plus is the result of continuous research and the desire to provide the best environmentally friendly products and solutions. Savolit Plus wood wool boards are genuine natural panels and consist of long, strong wood fibres which are mineralised and bonded into panels.

The raw timber originates from sustainably managed forests and is PEFC labelled. From production, installation, lifespan and decomposition (recycling) Savolit Plus panels do not pose a risk to the environment. Savolit Plus wood wool boards are 100% recyclable.

### Why choose Savolit Plus:

Savolit Plus multi purpose wood wool building boards have all the advantages of standard boards with the additional benefits:

- High resistance to moisture and frost
- High flexural strength
- High compressive strength
- Low environmental impact
- PEFC certified timber from sustainably managed forests
- Wide range of panel sizes and thickness



## applications

- External cladding of timber frame walls
- Internal lining of timber frame walls
- Base Board for plastered ceilings and walls
- Internal partition walls
- Carrier board for render

## composition

Savolit Plus wood wool boards consist of long strong wood fibres, stabilised by chemical impregnation and bound by cement-binding agent into a compact coherent structure.

The mineralisation process strongly increases the fire resistance of wood wool. The composition and performance of the boards make them ideal for many different applications in building constructions.

As a result of Plus panels composition, tests have shown that they are unaffected by moisture and frost.

Produced in accordance to standard EN 13168 and are CE marked.

Savolit Plus timber comes from forests certified PEFC that are sustainably managed.

## ecological and health aspects

- Many sustainable benefits
- Boards are made of natural materials
- No waste disposal problem
- Ideal for buildings comfortable for people sensitive to allergies
- Recommended for healthy living environments
- No harmful gases or vapours given off
- No toxic fumes if burned
- Diffusion permeable
- Hygroscopic - levels out humidity level changes
- Naturally resistant to fungus and insects

## technical advantages

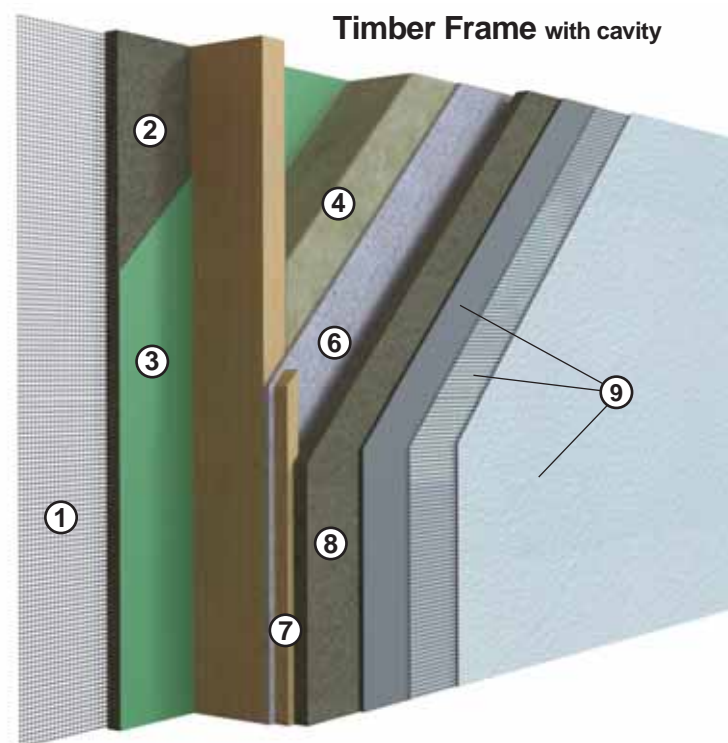
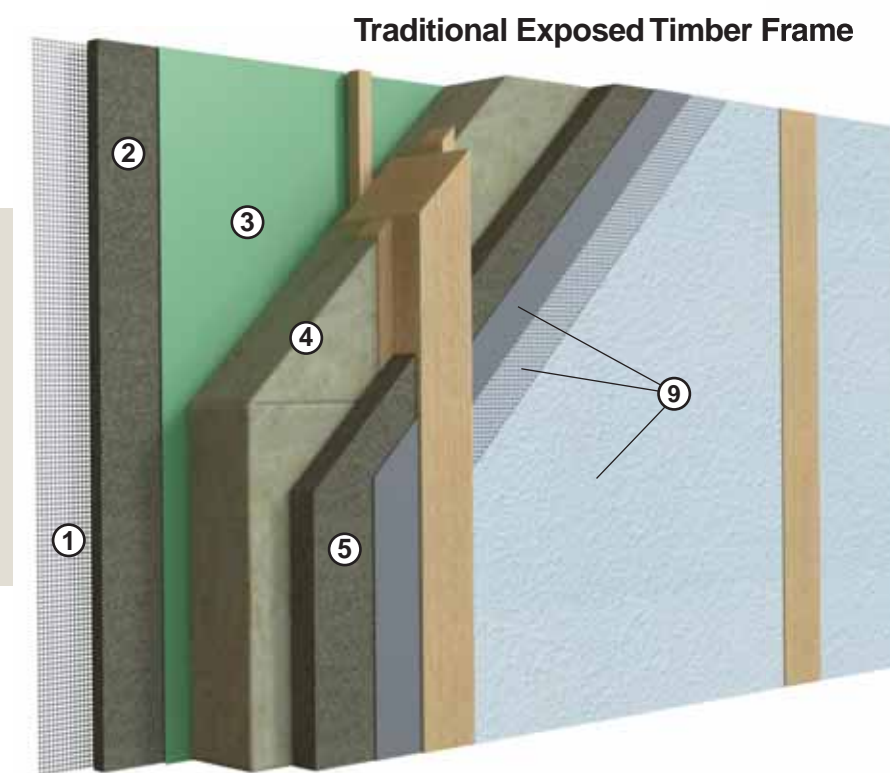
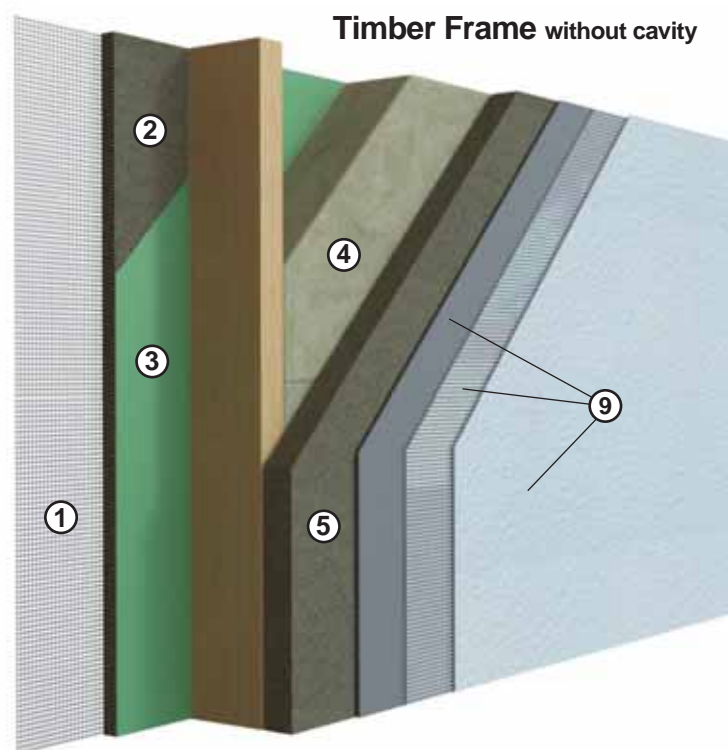
- Unaffected by humidity and frost
- Durable
- Non flammable and self extinguishing
- Thermally insulating
- Compatible with all normal construction materials
- High compression resistance and flexural strength
- Stable
- Surface offers good mechanical key for renders and plasters
- Sound absorbing and noise insulating
- Vapour permeable
- Easy and safe to handle, cut and work
- Proven performance in over 80 years in all climates
- Available in wide range of board sizes
- Low environmental impact
- PEFC certified







# frame wall and ceiling constructions



## Number Key:

- |   |  |
|---|--|
| 1. Interior plaster glass fibre mesh                            | 5. SAVOLIT Plus board 50 mm              |
| 2. SAVOLIT Plus board 25 or 35 mm or Plasterboard (alternative) | 6. Sheathing board                       |
| 3. Vapour check   | 7. Battens (vent cavity)                 |
| 4. Frame construction and insulation                            | 8. SAVOLIT Plus board 25 or 35 mm        |
|   | 9. Exterior render with glass fibre mesh |





installation

Mechanically fixed with screws and savolit washers

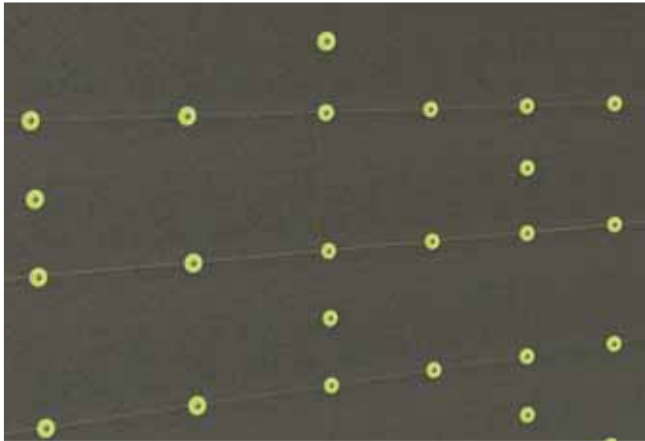
Board		screw (length, diameter)
15mm	-	min. 45mm, Ø4.8
25mm	-	min. 50mm, Ø4.8
35mm	-	min. 70mm, Ø5
50mm	-	min. 90mm, Ø5

Minimum Fixings per m2

25mm board - 15 min. Screws / m2
35mm board - 12 min. Screws / m2
50mm board - 9 min. Screws / m2

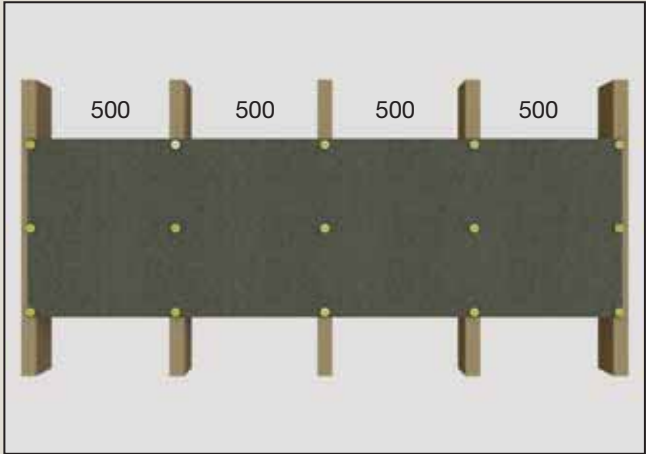
Savolit Plus boards may also be fixed without centre fixing with the following minimum fixings per board:

2000 x 600mm	1200 x 600mm
25mm board - 14 screws /board	10 screws/board
35mm board - 14 screws /board	8 screws/board
50mm board - 10 screws /board	6 screws/board

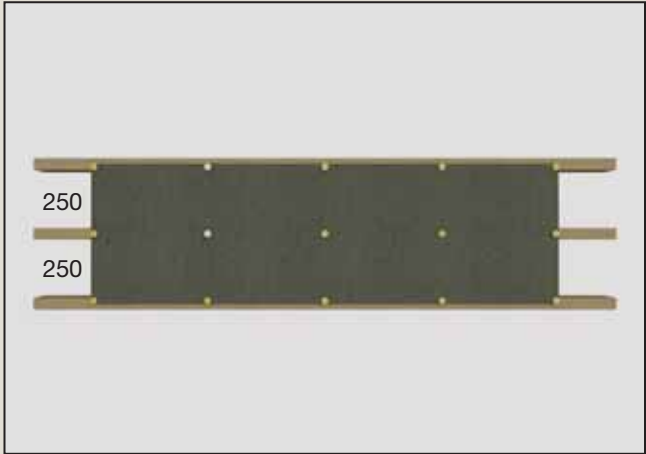


SAVOLIT Plus wood wool boards are installed in broken bond pattern and fastened to timber structures with timber screws and Savolit washers:

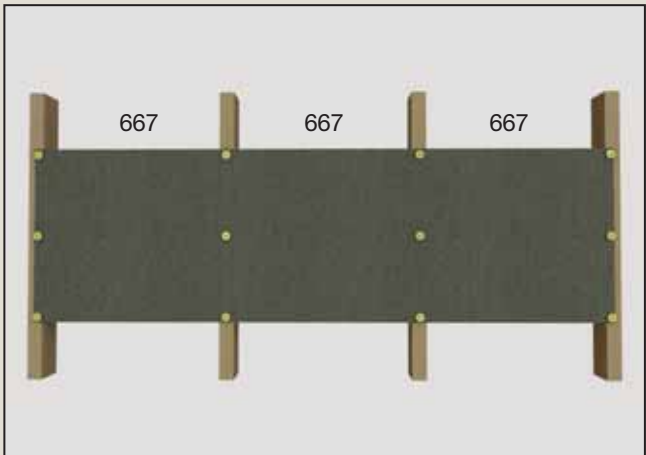
Savolit Plus 25mm



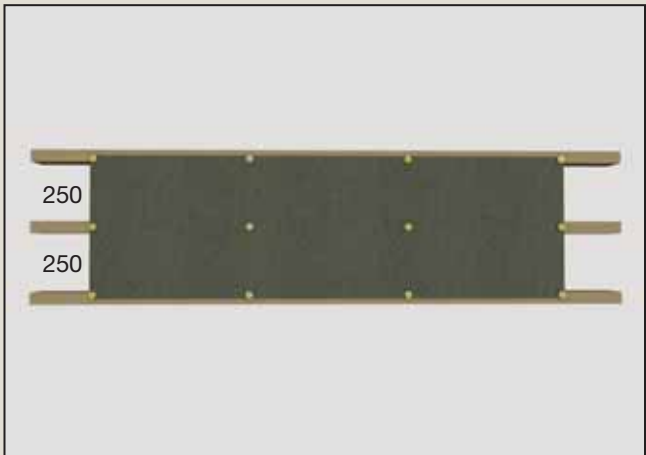
Savolit Plus 25mm



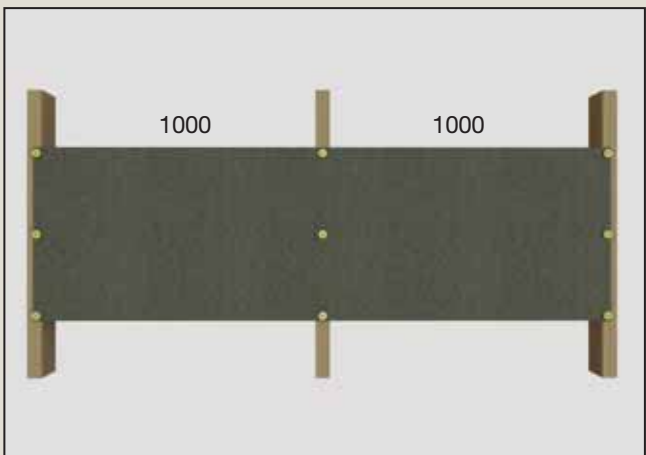
Savolit Plus 35mm



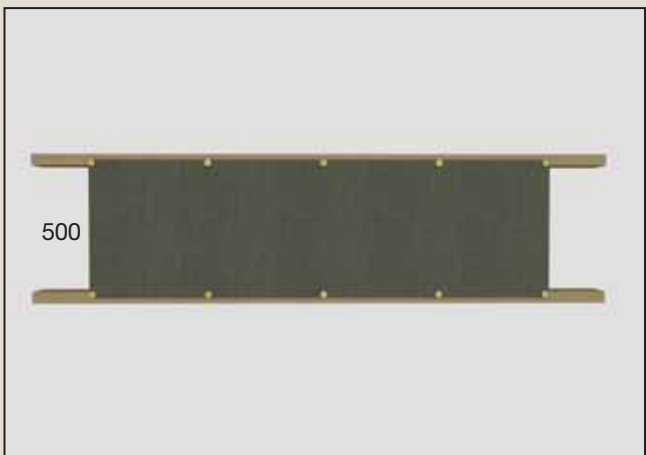
Savolit Plus 35mm



Savolit Plus 50mm



Savolit Plus 50mm





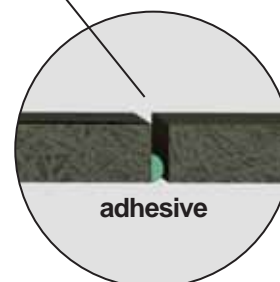
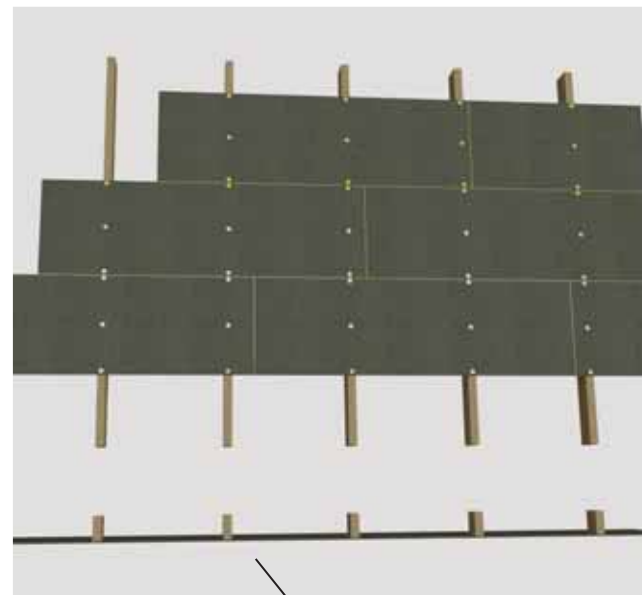


## edge bonding

If boards are fully edge bonded one to another it is not then necessary for board ends to occur at supports and allowing increased spans as follows:

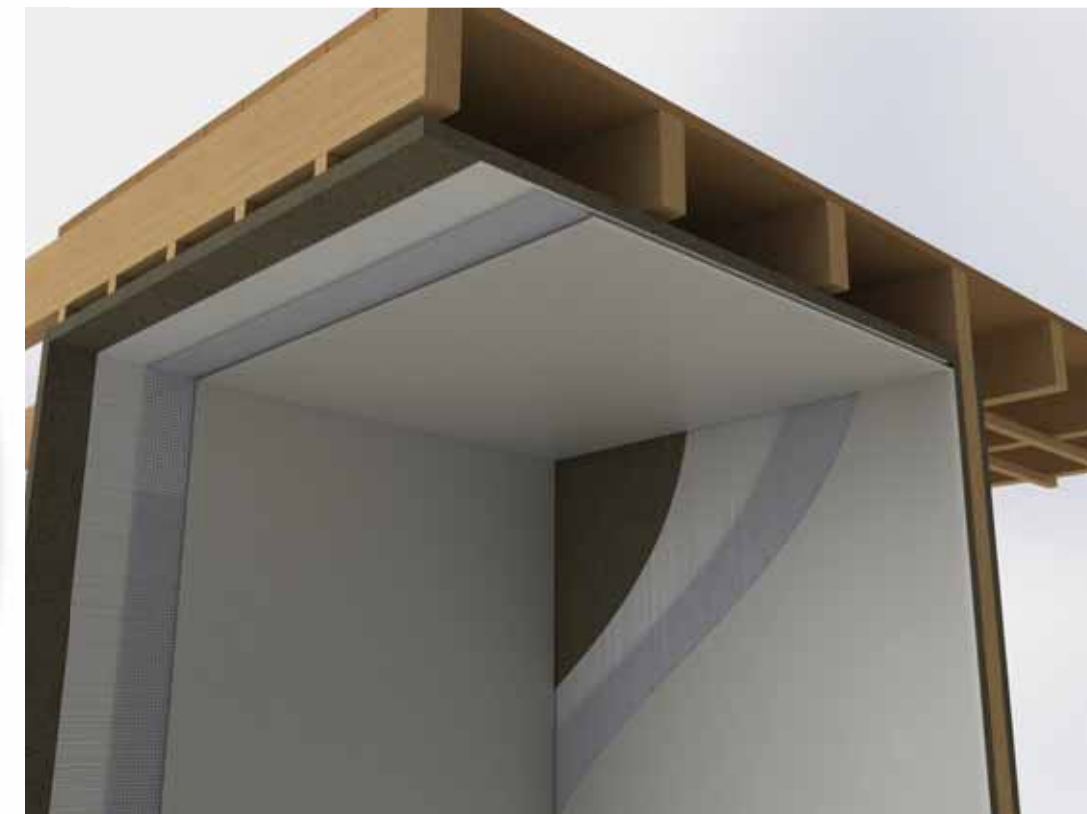
Board thickness 25mm	Board thickness 35, 50mm
Maximum span 666mm	Maximum span 1000 mm

SAVOLIT Plus boards 25, 35 and 50mm thick are fully edge bonded with a bead of Savolit P010 adhesive.



## frame wall and ceiling constructions

### Interior wall and ceiling applications



SAVOLIT Plus 25 mm either direct fixed to joists (studs) or via supporting battens. Lime or gypsum plaster with glass fibre mesh.





## savotherm external wall insulation

The purpose designed, **Savotherm** laminated insulation board forms the heart of an external wall insulation system that is simple to install. The boards, trims and sections are easy to cut and fasten and the application of render only requires the skill of a competent plasterer.

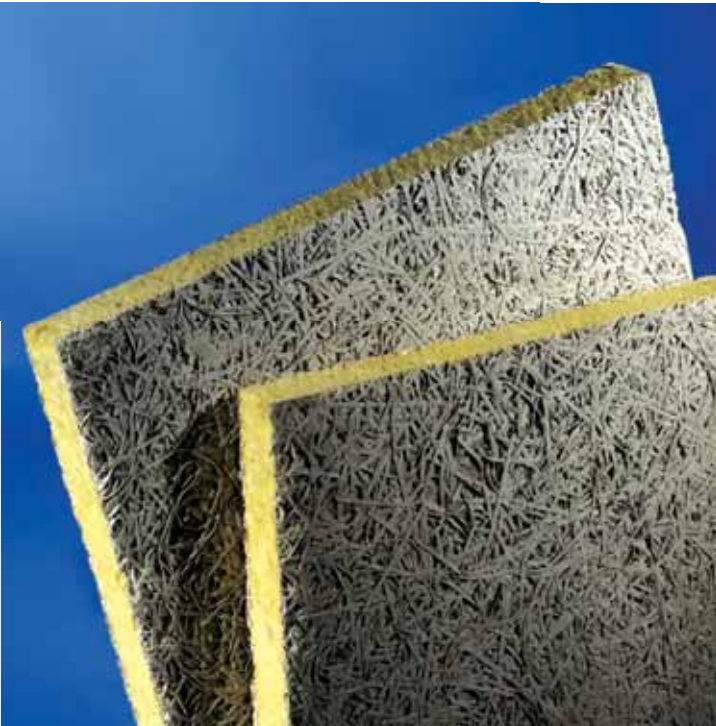
Originally designed for the external insulation of solid masonry walls **Savotherm** insulation boards can span up to 1000mm and so may also be applied to timber or steel frame walls.

Traditional lime renders and other render products may be applied on **Savotherm** boards but approval should be sought prior to application.

### Board Sizes

The Savotherm insulation board consists of non combustible rockwool core sandwiched between two layers of wood cement composite. It is available in the following sizes:

- 2000 x 600 x 50 mm
- 2000 x 600 x 75 mm
- 2000 x 600 x 100 mm
- 2000 x 600 x 125 mm



## savotherm advantages

- Resistant to impact and compression damage
- Tough, rigid, easily cut and fix insulation boards
- Secure mechanical fastening
- Can install over existing rendered walls
- Insulation boards can span over irregularities
- “Breathing” system allowing moisture diffusion
- Sound insulation and fire resistant
- Good render bonding board surface
- Well-proven, through-colour render system available
- User friendly system available direct for building contractors
- Full technical support and site instruction available

## energy conservation and environmental protection through effective thermal insulation

### Wall Construction

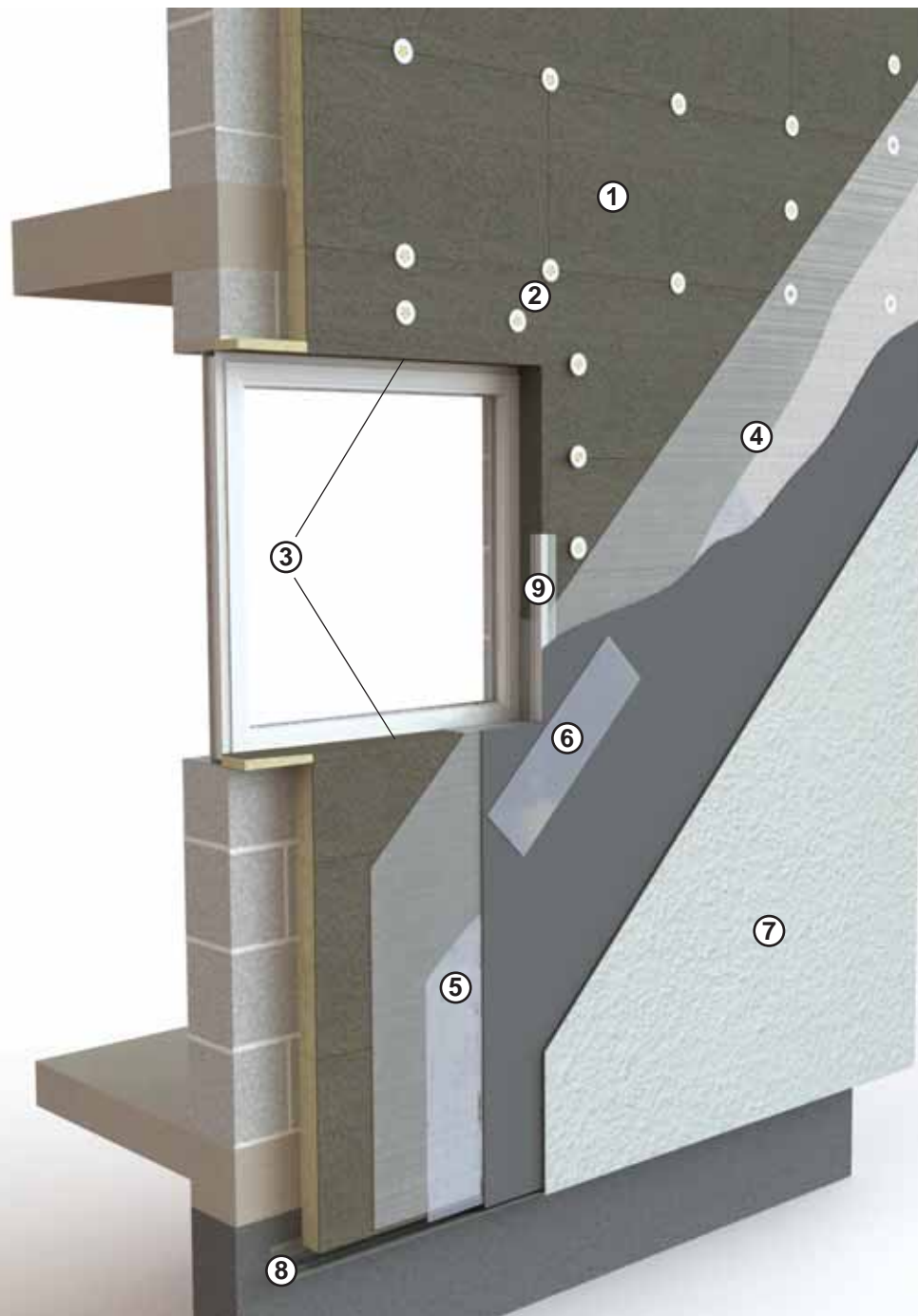
### U-Value

Solid 220mm (9") brick wall	2.08 W/m2K
+ 50mm Savotherm and render	0.59 W/m2K
+ 75mm Savotherm and render	0.43 W/m2K
+ 100mm Savotherm and render	0.33 W/m2K
+ 125mm Savotherm and render	0.28 W/m2K





# savotherm external wall insulation system



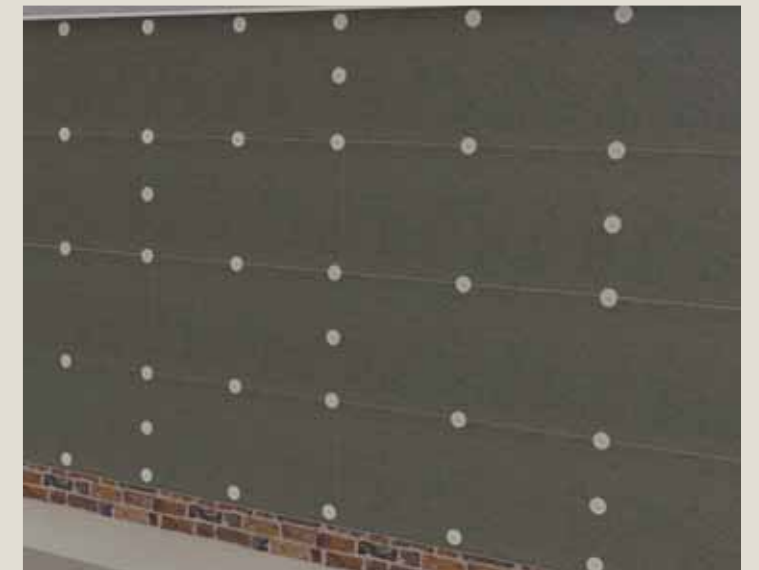
1. Savotherm
2. Dowel fixings
3. Window reveal insulation
4. Render base coat
5. Render reinforcement scrim
6. Reinforcement scrim bandage
7. Render top coat
8. Base/eave drip trim
9. Corner bead trim

## External wall insulation

- Converts external walls from heat radiators to heat stores
- Reduces heating costs
- Provides stable and constant interior temperatures
- Eliminates water penetration
- Eliminates condensation on interior walls
- Improves building appearance
- Extends the life of buildings



Dowel layout  
at base wall



External  
wall corner



Wall opening  
(window)





# installation guide



## Base Profile

Base / eave drip sections are aligned horizontally and fixed with suitably plated screws and plugs to the wall. The minimum distance from the edge of the base profile to the ground surface should not be less than 200mm and the base profile should not be positioned below any damp course. The base profile section seals off the bottom edges of the **Savotherm** board and also forms a render drip edge.

## Savotherm Insulation Boards

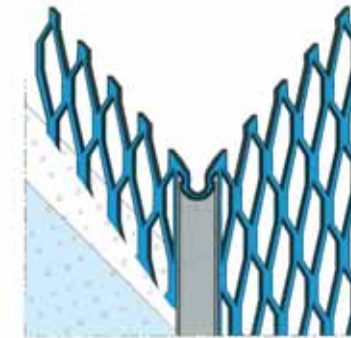
The first course of **Savotherm** boards is placed on the base profile and each board is initially fixed in the centre with a dowel. The boards are placed horizontally, in broken bond, butted tightly together and fixed with dowels at the board butt joints. Board end joints are alternated at building corners. Any narrow cut board pieces should additionally be fixed with **P010 Adhesive**. Prior to installation **Savotherm** boards should be stored dry and flat. Boards are cut with hand or circular saw. Small pieces are best cut with the board laid flat and both pieces installed immediately to minimise wastage.

## Dowels

Dowels are placed at board joints at maximum 600mm centres. Extra dowels are used at corners, along the base profile and around openings (see diagrams). The number and length of dowels will depend upon the type of masonry, building height, wind loadings and render weight. It is the responsibility of the installer to ensure the correct number and length of dowels are used and, if necessary, to carry out drilling and dowel pull-out tests.

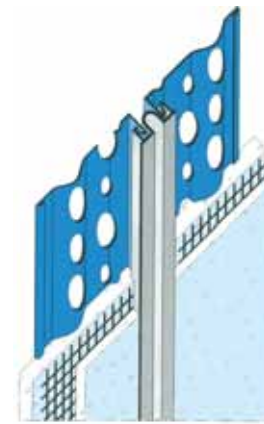
### Dowels Required

Minimum	6 no. / m <sup>2</sup>
Average	8 no. / m <sup>2</sup>



## Corner Bead

Corner beads ensure the render is true and are cemented to the **Savotherm** board surface with **P010 Adhesive** at external corners of walls, doors and window reveals and aligned and positioned to suit the render thickness. The glass fibre render reinforcement mesh is taken up tight to the corner trim.



## Expansion Joint / Movement Joint Bead

Large uninterrupted areas of render should be divided at intervals of approximately 5 metres with movement/ expansion joint beads and these also should be installed at connections to existing structures and structural expansion joints. Where expansion/movement joint beads are fitted the **Savotherm** boards should be cut through to the substructure. Expansion/movement joint beads are cemented to the Savotherm board surface using **P010 Adhesive**.



## Reveals

Reveal insulation pieces are cut from **Savotherm** or Savolit board and stuck around door and window reveals with **P010 Adhesive** and additionally fixed with dowels at 500mm centres. Reveal pieces prevent heat transfer and so with old buildings it is important to remove any existing render to gain space for the thermal insulation. At the window jamb the render must be cut with the trowel edge and the joint filled with suitable flexible filler.



## Render Reinforcement Mesh

It is recommended that render reinforcement mesh is incorporated within renders applied to **Savotherm** and Savolit boards to absorb stresses. The mesh edges must be overlapped at least 100mm (coverage approx. 1.2m<sup>2</sup> for each square metre of wall surface). In addition, strips of mesh 600 x 200mm, should be placed diagonally as reinforcement to absorb stresses at corners of doors and windows.





# trolldtekt

## natural ceiling and wall panels

**Trolldtekt®**   
Natural acoustic solutions

Trolldtekt acoustic ceiling and wall panels are made from 100% natural materials; wood and cement. The combination of wood and cement creates Trolldtekt's unique sound absorbing properties, ensuring good acoustics in any room. The material has a natural resilience and can handle moist environments, while also providing effective fire resistance. Trolldtekt is a natural product with documented sustainability throughout its entire life cycle.



## documented sustainability

Trolldtekt cement-bonded wood wool panels are made of 100% natural materials; wood and cement. We use Norway spruce grown in Denmark. With FSC® certification it ensures that the wood comes from responsibly managed forests.



## healthy indoor climate

Trolldtekt A/S have gained 'The Danish Building Industry Environment Award' for the entire product life cycle and panels are Indoor Climate Labelled 'Best' category. They are also 'Cradle to Cradle' silver certification and 'Allergy UK-friendly product' certified, with documented sustainability.



## good acoustics

Good acoustics are important to our well-being, whether at home, at work or at a leisure centre or public building. You can use Trolldtekt's acoustics calculator to quickly get an overview of the acoustics in a room. Once you have entered the data for a room (dimensions and materials) into the calculator, a report is generated showing reverberation times, absorption area and other useful acoustic information.

[www.trolldtekt.com/Product-properties/Good-acoustics](http://www.trolldtekt.com/Product-properties/Good-acoustics)

## trolldtekt installation

Trolldtekt panels are installed directly on wooden battens on ceiling and walls. Trolldtekt screws are specially developed for installing Trolldtekt panels and are coated in colours to complement the panels. Screw heads are designed to pattern match the panels making them less visible on ceilings and wall surfaces.





## troldtekt advantages

### Attractive in appearance -

fine wood fibre surfaces

### Sound absorbing -

all absorber classes achievable

### Durable -

retain their strength and appearance for decades

### Robust and impact resistant -

even resist thrown sports balls

### Fire resistant -

Class "O", Euro class B-s1, d0 or A2

### Free of any toxic chemicals or mineral fibre particles

### Versatile and easy to install -

direct screw fastened to battens or installation as a suspended ceiling

### Removable without damage

### User-friendly installation

### Unaffected by high humidity

### Ecologically and biologically sound

### Low life cycle cost

**Troldtekt®**   
Natural acoustic solutions

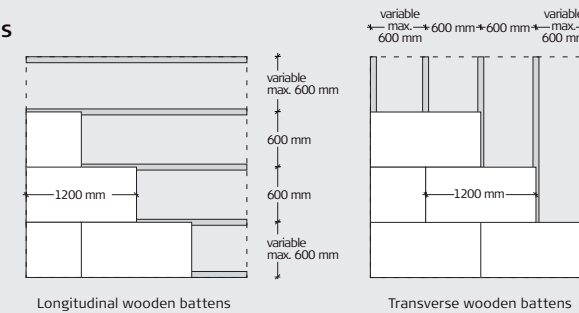


## wooden battens - ceilings

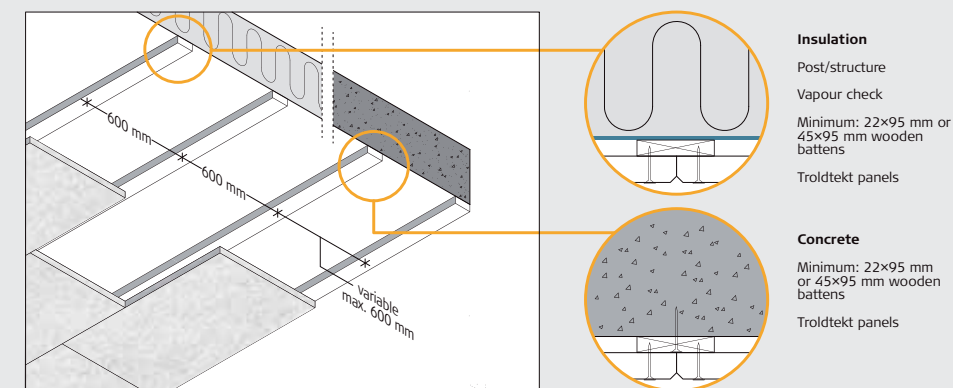
### INSTALLATION OF WOODEN BATTENS

Troldtekt panels are most often installed on longitudinal wooden battens, but transversal battens are just as applicable (except for Plus panels).

Note, however, the tolerances of the Troldtekt panels. If the panels are very dry, they could be undersized, which could cause problems on very large surfaces with transversal wooden battens.

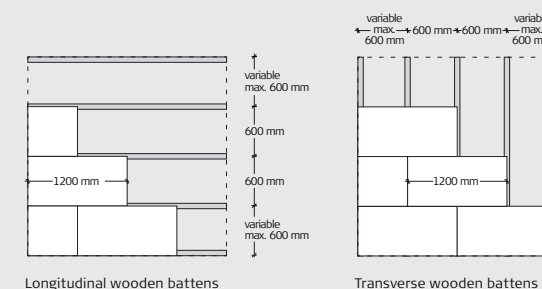


### STRUCTURAL SOFFIT



## wooden battens - walls

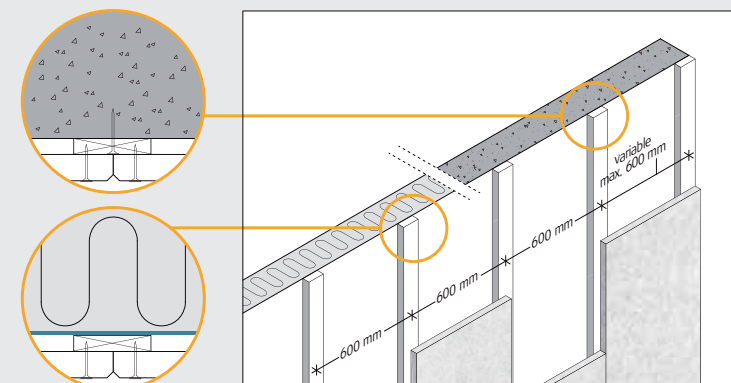
### INSTALLATION OF WOODEN BATTENS



### STRUCTURAL SOFFIT

**Concrete**  
Minimum: 22x95 mm or 45x95 mm wooden battens  
Troldtekt panels

**Insulation**  
Post/structure  
Vapour check  
Minimum: 22x95 mm or 45x95 mm wooden battens  
Troldtekt panels



## installation instructions



# technical data

## savolit plus

Technical Characteristics	Designation	Units	Data					Standard
Board thickness	d	(mm)	15	25	35	50	75	
Board length	l	(mm)	2400 2000 1200	2400 2000 1200	2400 2000	2400 2000	2000	
Board width	b	(mm)	600					
Average Specific Mass		(Kg/m²)	8	11.5	14	18	26	
Declared thermal resistance	RD	(m²K/W)	0,20	0,35	0,50	0,75	1,15	UNI EN 13168
Declared thermal conductivity	λD	(W/mK)	0.066					
Bending strength	σb	(kPa)	1650	2000	1450	1000	650	EN 12089, A
Compressive strength at 10% deformation	σ10	(kPa)	≥ 200			≥ 150	≥ 150	UNI EN 826
Water vapour diffusion resistance factor	μ	(-)	5					UNI EN 12086
Fire reaction			Euroclass B - s1, d0					UNI EN 13501-1
Thickness tolerance		(mm)	+3, -2					UNI EN 823
Width tolerance		(mm)	± 3					UNI EN 822
Orthogonality		(mm/m)	≥ 2					UNI EN 824
Specific heat		kJ/kgK	1,81					
Shear stress resistance		N/mm²	0,28					
Capacity for thermal accumulation		kJm³K	965-628					
Capacity for absorption of room humidity		l/m²	2 - 3,5					
Resistance to water and frost			No alteration and maintenance of bending resistance after 20 cycles of frosting and defrosting in water					

## savotherm

Technical Characteristics	Data			
Standard	EN 13168			
Length x Width (mm)	2000 x 600			
Thickness (mm)	50	75	100	125
Layers structure (mm)	5/40/5	5/65/5	5/90/5	5/115/5
Weight (kg/m²)	12.3	15.4	18.7	22.1
Declared thermal conductivity λD (W/mK)	WW 0.071 - MW 0.039			
Declared thermal resistance RD (m²K/W)	1.15	1.80	2.45	3.05
Thermal resistance R (m²K/W)	1.17	1.81	2.45	3.09
Compressive strength σm (kPa)	≥ 50			
Tensile strength perpendicular to faces σm (kPa)	≥ 15			
Water vapour transmission	WW 5 - MW 1			
Reaction to fire	Euroclass B-s1, d0			

troldekt

Troldekt®

Natural acoustic solutions

The table below indicates the tolerances declared by us in accordance with EN 13168, the standard for cement-bonded wood wool and double-layer panels with cement-bonded wood wool, and EN 13964, the standard for suspended ceilings.

Properties:			
DIMENSIONS		HEAT	
Width (mm)	600	Lambda value W/m-K	0.076
Length (mm)	600 / 1200 / 2400	FIRE	
Thickness (mm)	25      35	Reaction to fire	B / s1 / d0
Weight (kg/m 2)		IMPACT RESISTANCE	
Coarse	9,7      12,0	Ball impact certification	1A
Fine	9,7      12,0	SUBSTANCES	
Ultrafine	10,6      13,3	Chloride %	≤ 0.06
Extreme fine	11,7      14,2	Formaldehyde	E1
TOLERANCES		INDOOR CLIMATE	
Length (mm)	≥1.250 : ± 2.0 ≤1.250 : ± 1.0	Degassing	10 days
Width (mm)	± 1.0	Particle release	Low
Thickness (mm)	Length ≥ 1.250 : ± 2.0 Length ≤ 1.250 : ± 1.0	STANDARD	
% by weight	± 10	Declared in	EN 13168
Perpendicularity (mm/m)	± ≤ 2	accordance with	EN 13964
Planeness (mm)	± ≤ 3		

Skanda Acoustics Limited reserves the right to amend product specifications without prior notice. The information, fixing instructions and technical data included in this literature are provided in good faith and apply to uses described. Recommendations for use of all products should be verified for suitability and compliance with actual requirements from the product manufacturers. For other applications or conditions of use please contact Skanda Acoustics Limited.

