

# Roof therm D isorel

Ecological systems for thermo-acoustic insulation of wood fiber Therm and wood fiber Isorel roofs

Complete isolation systems for high performance wooden roofs



## | DESCRIPTION

The complete natural insulating system for wood roof with high performances Roof **SolutionD isorel** is ideal for home wellness and comfort in all climatic zones.

The Roof **SolutionD isorel** system is characterized by excellent thermal, acoustic and breathability insulation values which reduces mold and moisture formation better than the traditional systems.

The materials used are completely natural and made with sustainable raw materials and life cycles.

The stratigraphy consists of FSC® certified **FiberTherm** wood fiber panels with a density of 160Kg/m<sup>3</sup> and a single layer of **FiberTherm Isorel** wood fiber panels with a density of 230Kg/m<sup>3</sup>, between the matchboard and the wood fiber insulation the **FiberTherm multi membra5** perfectly airtight steam brake is applied, while, on the external side below the roof tiles **FiberTherm multi UDB** must be installed, a high performance sheath, breathable and UV resistant.

The system is applicable for roofs with a minimum slope of 15° and up to 900 m s.l.m.

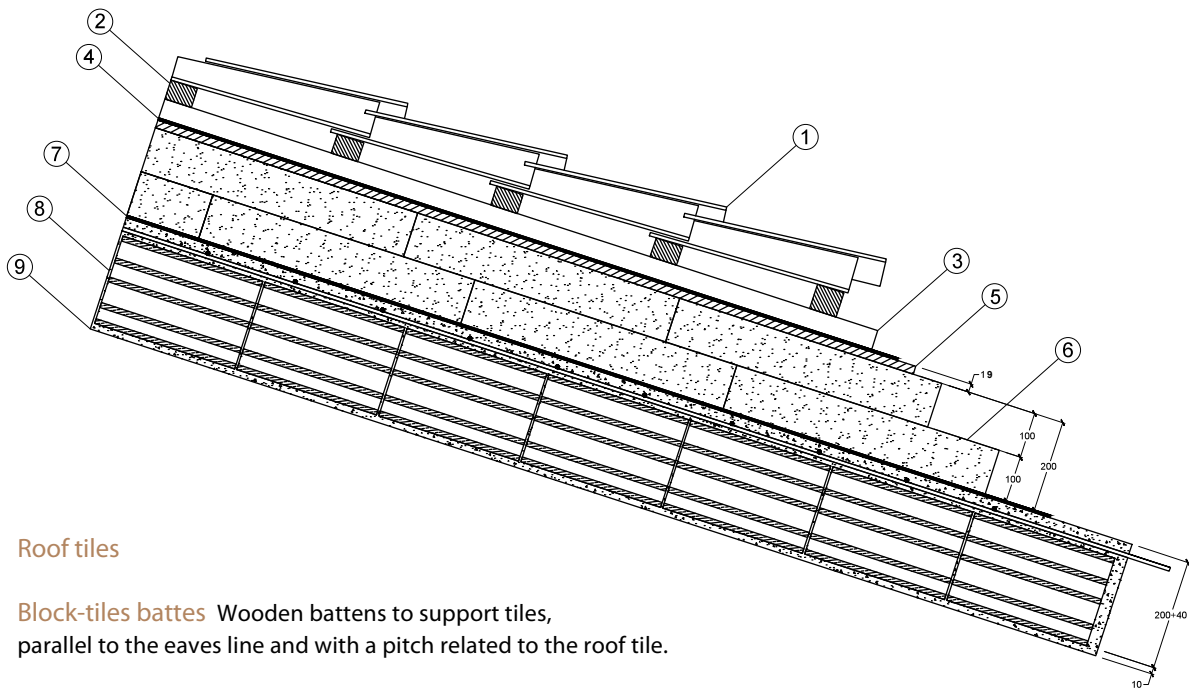
### Advantages

- Construction permeable to steam and resistant to driving rain
- For highly inclined roofs with slopes starting at 15°, resistant to UV rays
- Complete system: insulation, under cloth and waterproofing without condensation
- Excellent protection against cold and summer heat, improved acoustic insulation thanks to the porosity of the panels
- High performance thanks to rational installation and without waste

For more informations about the uses and the installation, our offices are ready to answer your questions on [www.betonwood.com](http://www.betonwood.com)

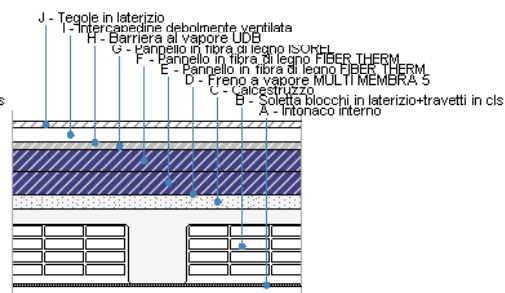
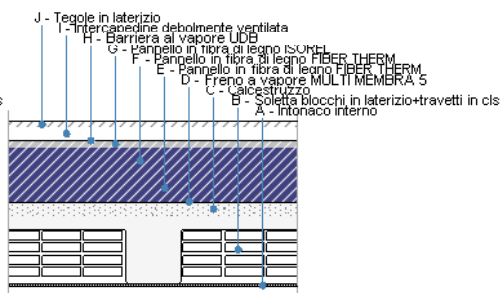
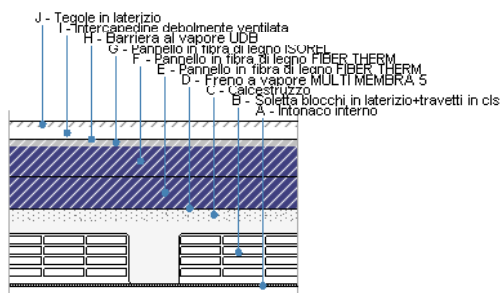


## STRATIGRAPHY



- 1 **Roof tiles**
- 2 **Block-tiles battes** Wooden battens to support tiles, parallel to the eaves line and with a pitch related to the roof tile.
- 3 **Battens for ventilation** Battens perpendicular to the gutter line directly on the insulating panel, the strips will have suitable fastening all'assito adhesion with the underlying wood, the distance of the strips is to be assessed according to the load of its own structure and the external loading actions. Thanks to the air gap, the air enters the eaves and rises to the surface, absorbing most of the heat produced by the sun's rays.
- 4 **FiberTherm multi UDB** High airtight sealant vapor barrier for renovation solutions. Extreme ease of installation for safe and simple use. It has an integrated adhesive strip to secure joints and can be used as a temporary cover. Size: 1,50 m x 50 m Roll surface: 75m<sup>2</sup> Weight approx.160 g/m<sup>2</sup>
- 5 **Wood fiber FiberTherm Isorel 230** | thickness 19 mm Panel in wood fiber density 230 Kg/m<sup>3</sup> with high compressive strenght and excellent insulating properties. Panel dimensions 2500 x 1200 mm. Edge with sharp edge
- 6 **Wood fiber FiberTherm 160** | thickness 100+100 mm Panel in wood fiber density 160 Kg/m<sup>3</sup> is offered as an excellent insulation for both the summer heat and the winter frost. Depending on requirements, the thickness can be varied with panels with thickness 80 + 80 mm or 60 + 60 mm. Panel dimensions 1350 x 600 mm. Edge with sharp edge
- 7 **FiberTherm multi membra5** Steam brake for better airtightness on the outer side of the roof, resistant to UVrays, excellent adhesion properties and tear resistance. Size: 1,50 mx50 m Roll surface: 75m<sup>2</sup> Weight approx.110 g/m<sup>2</sup>
- 8 **Concrete structure roof** | thickness 200+40 mm
- 9 **Plaster** | thickness 10 mm

## THERMAL DISPLACEMENT



### ZONE C

#### Solution DI - type C1

FiberTherm 100 + 100 mm  
Fibertherm Isorel 19 mm

Transmittance  $U = 0,158 \text{ W} / (\text{m}^2\text{K})$   
Resistance  $R = 6,345 (\text{m}^2\text{K}) / \text{W}$   
Displacement 21,26 hours  
Climatic zone C

#### Solution DI - type C2

FiberTherm 80 + 80 mm  
Fibertherm Isorel 19 mm

Transmittance  $U = 0,189 \text{ W} / (\text{m}^2\text{K})$   
Resistance  $R = 5,293 (\text{m}^2\text{K}) / \text{W}$   
Displacement 18,42 hours  
Climatic zone C

#### Solution DI - type C3

FiberTherm 60 + 60 mm  
Fibertherm Isorel 19 mm

Transmittance  $U = 0,236 \text{ W} / (\text{m}^2\text{K})$   
Resistance  $R = 4,240 (\text{m}^2\text{K}) / \text{W}$   
Displacement 15,56 hours  
Climatic zone C

### ZONE D

#### Solution DI - type D1

FiberTherm 100 + 100 mm  
Fibertherm Isorel 19 mm

Transmittance  $U = 0,158 \text{ W} / (\text{m}^2\text{K})$   
Resistance  $R = 6,345 (\text{m}^2\text{K}) / \text{W}$   
Displacement 21,26 hours  
Climatic zone D

#### Solution DI - type D2

FiberTherm 80 + 80 mm  
Fibertherm Isorel 19 mm

Transmittance  $U = 0,189 \text{ W} / (\text{m}^2\text{K})$   
Resistance  $R = 5,293 (\text{m}^2\text{K}) / \text{W}$   
Displacement 18,42 hours  
Climatic zone D

#### Solution DI - type D3

FiberTherm 60 + 60 mm  
Fibertherm Isorel 19 mm

Transmittance  $U = 0,236 \text{ W} / (\text{m}^2\text{K})$   
Resistance  $R = 4,240 (\text{m}^2\text{K}) / \text{W}$   
Displacement 15,56 hours  
Climatic zone D

### ZONE E

#### Solution DI - type E1

FiberTherm 100 + 100 mm  
Fibertherm Isorel 19 mm

Transmittance  $U = 0,158 \text{ W} / (\text{m}^2\text{K})$   
Resistance  $R = 6,345 (\text{m}^2\text{K}) / \text{W}$   
Displacement 21,26 hours  
Climatic zone E

#### Solution DI - type E2

FiberTherm 80 + 80 mm  
Fibertherm Isorel 19 mm

Transmittance  $U = 0,189 \text{ W} / (\text{m}^2\text{K})$   
Resistance  $R = 5,293 (\text{m}^2\text{K}) / \text{W}$   
Displacement 18,42 hours  
Climatic zone E

#### Solution DI - type E3

FiberTherm 60 + 60 mm  
Fibertherm Isorel 19 mm

Transmittance  $U = 0,236 \text{ W} / (\text{m}^2\text{K})$   
Resistance  $R = 4,240 (\text{m}^2\text{K}) / \text{W}$   
Displacement 15,57 hours  
Climatic zone E



## | SYSTEM'S PRODUCTS



FiberTherm **multiUDB** Membrana sigillante in polipropilene (PP) multi-strato non-tessuto ad alta traspirabilità ed ottima resistenza allo strappo. Densità 160 g / m<sup>2</sup>



FiberTherm **isorel** The FiberTherm Isorel 230 wood fiber is produced with wet system, the unique which guarantee the complete compatibility with the criteria of green building, because it is free from any type of toxic substance, according to EN 13986 and EN 622-4 under constant quality control. The panel is recyclable and realized exclusively with wood which comes from forests controlled by FSC reforestation cycles.

The material is characterized by the following thermodynamic characteristics: density  $\sigma=230 \text{ Kg/m}^3$ , thermal conductivity coeff.  $\lambda=0,05 \text{ W/mK}$ , specific heat  $c=2100 \text{ J/Kg K}$ , resistance to vapor penetration coeff.  $\mu=5$  and reaction to fire class E, according to EN 13501-1 standard.

The panel dimensions are ... mm for a thickness of ... mm.



FiberTherm The panels are made of wood fiber with density  $\delta=160 \text{ Kg/m}^3$ , are produced with a wet system, in compliance with EN 13171 and EN 13986 standards under constant quality control.

The material is characterized by the following thermodynamic characteristics: coefficient of thermal conductivity  $\lambda=0.039 \text{ W/mK}$ , specific heat  $c=2100 \text{ J/Kg K}$ , coefficient of resistance to vapor penetration  $\mu=5$  and reaction to fire class E, according to EN 13501-1 standard.

The dimensions of the panels correspond to ... mm for a thickness of ... mm. The wood used in the processing of the panels comes from forests controlled by FSC reforestation cycles.



FiberTherm **multi membrata 5** Steam brake for better airtightness on the outer side of the roof, resistant to UV rays, excellent adhesion properties and tear resistance.

BETONWOOD Srl

Head offices :  
Via Falcone e Borsellino, 58  
I-50013 Campi Bisenzio (FI)

T: +39 055 8953144  
F: +39 055 4640609

info@betonwood.com  
www.betonwood.com

TDI - ST R.18.9

## | CERTIFICATIONS

The Solution D isorel roof insulation system is produced with CE certified materials in accordance with the regulations in force.

The certificates of the individual products are available on request.

**Beton**  **Wood**

