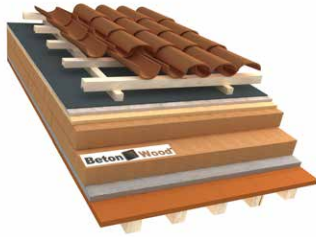


## 18. ROOFS

### Roof E plus - therm, isorel and cement boards

Ecological roof systems for thermo-acoustic insulation with cement boards density 1350 kg/m<sup>3</sup> and wood fibers density 160 kg/m<sup>3</sup> and 230 kg/m<sup>3</sup> on terracotta tiles



Complete dry system for high-displacement thermal roofs with BetonWood cement bonded particle boards, Therm and Isorel wood fiber insulation panels on terracotta tiles. Excellent system for thermo-acoustic insulation of roofs.

STRATIGRAPHY	DESCRIPTION	QUANTITY m <sup>2</sup>	PRICE €/m <sup>2</sup>	AMOUNT	
1	Roof tiles	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.			
4	Anti-steam barrier 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>		0	
5	Cement bonded particle boards BetonWood available thicknesses: 16 mm 22 mm	Pressed cement bonded particle boards with high compactness, density and hardness, resistant to fire, to atmospheric agents, with excellent thermal and acoustic insulation characteristics. The panels are made of Portland-type concrete conglomerate and high-density debarked Pine wood fiber ( $\delta=1350 \text{ Kg/m}^3$ ) and with the following thermodynamic characteristics: coefficient of thermal conductivity $\lambda=0,26 \text{ W/mK}$ , specific heat $c=1.88 \text{ KJ / Kg K}$ , coefficient of resistance to vapor penetration $\mu=22,6$ and fire reaction class A2-fl-s1, according to EN 13501-1. The dimensions are ... mm for a thickness of ... mm. The wood comes from forests controlled by FSC reforestation cycles and pressed with water and hydraulic binder (Portland cement) with high cold compression ratios.		0	
6	Wood fiber panels Fibertherm Isorel 230 thickness 19 mm	The panels are made of wood ber with density $\sigma=230 \text{ Kg/m}^3$ , 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: 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.		0	
7	Wood fiber panels Fibertherm 160 (2 layers) available thicknesses: 60+60 mm 80+80 mm 100+100 mm	The panels are made of wood ber 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 are ... mm for a thickness of ... mm. The wood comes from forests controlled by FSC reforestation cycles.		0	
8	Concrete	Concrete layer		0	
9	Terracotta tiles	Terracotta tiles thickness 30 mm		0	
		TAX IVA 22%	0	TAXABLE	0
		TOTAL AMOUNT		0	