Aluthermo®- Technical data sheet

DENSIMA

Insulation, vapour barrier and breather membrane combined in one product. Made thicker to comply with European standards, it is the perfect insulation for your roof renovation.

HOW DOES IT WORK?

DENSIMA is non symmetric and composed of the following compressible successive layers:

1. an upper reflective and highly vapour permeable membrane
2. a 37 mm thick layer of moisture-proof polyester fiber
3. a layer of bubbles of dry air enclosed in polyethylene
4. a lower film of pure aluminium, 30 microns thick, treated against oxidation

The upper reflective membrane reflects the solar radiation in summer and improves comfort by reducing the risk of overheating whereas the lower film of aluminium returns the thermal radiation in winter. The core of the insulation, composed of a polyester wadding and a layer of dry, stable air trapped in a bubble film effectively slow the transfer of energy by conduction.
DENSIMA is used as a reflective breather membrane for roofs when there is no insulation material between the rafters.

TECHNICAL CARACTERISTICS

Dimensions of the roll	1,20 x 10 m
Surface area per roll	12 m^2
Weight	± 1050 g/m^2
Thickness	± 37 mm (EN823 at 25Pa)
Operating temperature range	-40°C to +80°C
Fire resistance classification	E (EN 13501)
Resistance to water penetration	Tight W1 (EN 1928)
Thermal core resistance	R = 1,02 m^2.K/W (EN 12667)
Thermal resistance, installed as a breather membrane between 2 layers of air with a ventilated outer air layer and a non-ventilated inner air layer	R = 1,77 m^2.K/W (EN 16012)
Thermal conductivity	λ = 0,036 W/(m.K) (EN 12667)
Thermal performance	**Up to 25% more effective than 200 mm of mineral wool (*)(**)**
Emissivity of the upper membrane	0,18
Emissivity of the lower aluminium	0,05
Tensile strength:	
in longitudinal direction	340 (± 13) N/50 mm (EN 12311-1)
in transverse direction	515 (± 10) N/50 mm (EN 12311-1)
Tear resistance:	
in longitudinal direction	340 N (± 6) (EN 12310-1)
in transverse direction	415 N (± 10) (EN 12310-1)
Water vapour resistance	Zp > 33000 (± 7000) (m^2.s.Pa)/kg
- Top layer	Sd = 0,061 m
- Bottom layer	Zp = 33753.109 m^2.s.Pa/kg

(*) Performance data only valid for the installation between 2 air gaps without direct contact (see installation instructions of the product).
(**) Thermal performance measured by the Eliosys laboratory, comparing the energy consumption of a structure insulated once with Aluthermo and once with 200 mm of mineral wool (λ 0.040 W/m.K.).
In the absence of consensus on the standard, this result is not considered in the calculation of the EPC or the obtaining of a subsidy. See the Eliosys test report on www.aluthermo.com.

APPLICATIONS

- On the roof, from the outside

ADVANTAGES

- EPC & 2020 certified
- Breather membrane, insulation and vapour barrier all in one
- Multi-reflective and multi-layer with a reinforced thermal and acoustic performance
- Reduces thermal bridges
- Easy to install as it is welded across its entire surface
- Self-adhesive overlap included

10 YEARS WARRANTY 10 YEARS
MADE IN BELGIUM
ECO-RESPONSIBLE