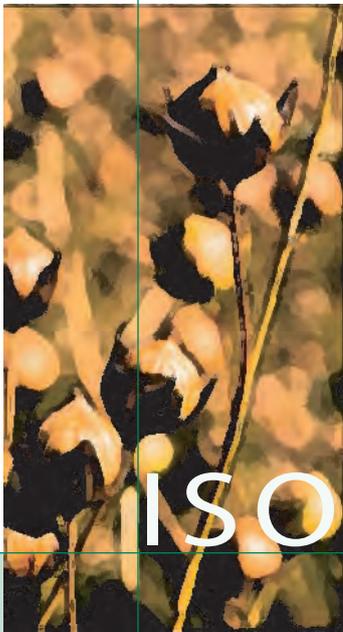


Isolina company develops, manufactures and markets a broad range of products based on linen fibres from the flax plant. This natural fibre combines many elements that make it an ideal insulating material.

In the old days, most houses were poorly insulated but they were able to “breathe” freely. As a consequence, a lot of heat was lost, but the interior air quality was typically better than nowadays. On the positive side, current houses are generally much better thermally insulated than before. The downside results from the plastic foils necessary in combination with traditional insulating materials: First of all, they may have a negative influence on the indoor air quality. Secondly, moisture getting trapped in the construction can create big problems. Flax insulation offers the best of both worlds: a good thermal and acoustical insulation combined with the ability to exhale excess humidity from the wall and roof construction.

Our products are made of linen and manufactured in an environmentally conscious way.



ISOLINA THE NATURAL CHOICE FOR INSULATION

The main product line consists of thermal and acoustical insulation products.

We regularly develop application-specific solutions that benefit from the extraordinary properties of flax fibre for and together with our customers.

Some of these innovative products are also offered to the general market.

PRODUCTS

- * thermal and acoustical insulation solutions
- * bands for using between logs
- * unique system for door and window frame sealing
- * (walking-) noise reduction
- * humidity regulating air-blocking building papers
- * hand saw for the fast and easy cutting of all linen products

PROPERTIES

- * breathing construction
- * natural renewable fibre
- * sustainable construction
- * small environmental footprint

I S O L I N A

Flax insulation products and properties:

Range of application: thermal and acoustical insulation for walls, ceilings, floors and roofs

Application type: W and WL, according DIN 18165-1

Flax insulation consists of: Linen fibre, recycled textile binder fibre and safe & environmentally friendly flame retardant

Thermal conductivity:
 $\lambda_{10} = 0.038 \text{ W/mK}$,
 acc. ISO 8301 / DIN 52616 and WLG 040 acc. DIN 18165

Treated with environmentally friendly flame retardant for fire protection according EN-ISO 11925-2 and class B2 according DIN 4102-1 for building materials and meets Euroclass E acc. EN13501-1

Environmental advantages:

- * small environmental footprint:
 - no pollution of air and water,
 - no emission of harmful chemicals like formaldehydes, isocyanates, organohalogens, (H)CFCs, etc.,
 - total process: good energy balance;
- * the annually regrowing crop flax is an inexhaustible resource that does not contribute to global warming; on the contrary: during its growth, it converts the greenhouse gas CO_2 into oxygen, the source of human life;
- * sustainable construction contribution.

Application advantages:

- * roll-form reduces the amount of seams (points of heat loss) and speeds up the installation process (one piece from ceiling to floor), while plate-form can be easier in places that are difficult to reach;
- * no need to wear various inconvenient personal protection means to avoid potentially harmful irritation of the eyes, skin and lungs;
- * areas need not be forced ventilated during installation.

Physical advantages:

- * good thermal and acoustical insulating properties;
- * comfortable indoor climate due to gradual temperature changes;
- * linen's hollow-fibre structure ensures natural "breathing" characteristics, which can have beneficial effects on surrounding structures as well.

Products	Thickness	Width	Length	Applications
Insulation - roll	30 - 150 mm	565 / 865 mm	10 / 7.5 / 5 m	thermal and acoustical insulation product range, breathing, form-stabile, flexible, good R-value
Insulation - plate	50 - 150 mm	565 / 870 mm	1170 mm	
Felt band	4 / 6 / 8 mm	10 - 300 mm	21 m	log, joist and sill band (pressure/noise/temperature)
Insulation band	10 - 150 mm	30 - 300 mm	5 - 15 m	insulating band to close seams between logs and materials to deal with settling constructions
Frame sealing	30 mm	20 - 300 mm	10 m	door and window frame expansion-band system
Contact/walking -noise insulation	6 / 8 mm	10 - 2400 mm	21 m	layer of linen felt under parquet and wooden floors
Building papers	0.3 mm	1300 mm	46 m	humidity regulating, air blocking paper & sealing tape

ISOLINA THE NATURAL CHOICE FOR INSULATION

Specific heat capacity:
 $c = 1600 \text{ J/kgK}$

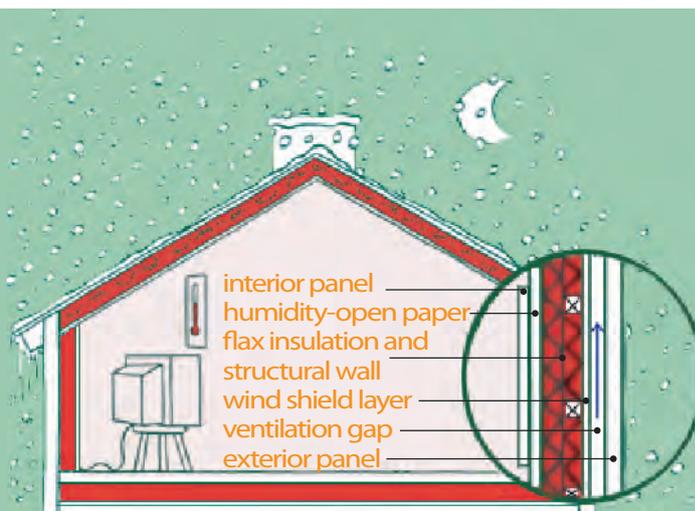
Water vapour diffusion coefficient: $\mu = 1-2$ according DIN 52615 / DIN 4108-5

Humidity sorption:
 according EN-ISO 12571 / DIN 52620

Air permeability ι_{\perp} :
 $230 \times 10^{-6} \text{ m}^3/\text{m.s.Pa}$

Estimated service life:
 minimum 75 years

NIBE environmental classification: class 1a (best achievable, reference)



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