

## Geoprotex Bioedil - squared modules and rolls – Technical characteristics

The product is a multifunction one with the following features:

- Ability to protect from natural radiation and from artificial
- Ability to get optimum the distribution of heat
- Insulating capacity both thermal and acoustic

Parameter	Units	Data
Structure	-	See back
Raw materials	-	See back
Modules and rolls thickness	mm.	40 (type base) – 20 (type A) – 1 (type B)
Kenaf density	Kg/m <sup>3</sup>	50
Geoprotex density	Kg/m <sup>3</sup>	2.730
Kenaf thermal conductivity	W/m <sup>°k</sup>	0.039 ISO 8302/91
Modules size	cm.	50x50 (base and A) – rolls 100 (or 200) x5000 (B)
Modules weight	Kg.	0,600 (base) – 0,300 (A) – 0,400/m <sup>2</sup> (B)
Kenaf fire reaction	class	B2 (DIN 4102)
Metal component fire reaction	Cat.	1
Modules fire reaction	-	Not classified because usually installed between floor layers or anyway protected (on walls and ceilings) than never in contact with flames
Humidity absorption	%	7
Smoke emissions	-	Not toxic smoke emissions due to absence of resins or chemical bonding agents
Resistance to traction	N/mm <sup>2</sup>	0,180
Steam transpiration capacity	mu	1-2
Moth-repellent treatment	-	Not required
Functional temperature range	°C	From – 45 to + 80
Geoprotex reflecting ability	%	97-98
Linear stretching	-	NONE
Fungus and bacteria resistance	-	Does not favour development
Health warnings	-	NONE No effects from inhalation and from skin or eye contact
Flexibility	-	Free of breackage
Electromagnetic field shielding ability at all frequencies	V/m	> 90%
Geoprotex magnetic field shielding	microT	> 50% if coupled with Fe360B
Radon shielding capacity	Bq/m <sup>3</sup>	> 90% with addition of sealing of modules with aluminium tape > 60% without use of aluminium tape sealing
Polonium,radioactive decay shielding ability	MicroSv/h Bq/m <sup>3</sup>	> 90%
Acoustic dampening	dB	Average increment of acoustic insulation from noise caused by steps on traditional floor tiles/cement DeltaLw = 33 dB
Toxic data	microM	Not necessary precautions from cutting or use on buiding sites; rot-proof with no fibre dispersion. <b>The product is CONSIDERED SAFE.</b>

Structure: Geoprotex has a grid composed of grating in copper and carbon fibre, aluminium plastic film treated with silver nitrate.

In the models base and A it is combined with kenaf pressed fibres.

Raw materials: copper and carbon micro fibres; silver nitrate with 70 my plasticized aluminium; cuprum D1000; silicia; silicon D1000; propolis; oak moss resin; natural bonding agents without toxic substances; kenaf vegetable pressed fibres.

The product resolves not only problems of thermal-acoustic insulation but also protects from natural and artificial radiation (very dangerous for every living being). It is furthermore able to optimise the thermal flux and to diminish eventual heat losses.

It can be employed both in new buildings and during the restructuring phase of other existing.

It is easy to work with, as it can be cut with a normal cutter and does not give off dust or fibres.

So it is also suitable for use in which non-toxic and dust free products are essential, mainly when positioned in an inspectable “floating” floor.

The application of the panels is carried out simply as they can be applied with either side facing outwards. They can be glued upon walls and ceilings (from which the protection may be extended to the floor above).

#### Main characteristics of Geoprotex Bioedil:

- 1) Eco-sustainable and bio-compatible according to principles of bio architecture.
- 2) It is in part (90%) biodegradable and for the remaining part all recyclable.
- 3) It is able to protect from thermal leakage and can distribute heat evenly in a room.
- 4) It is completely non toxic.
- 5) Optimal for acoustic insulation (model base and model A).
- 6) It can shield electromagnetic fields.
- 7) It can shield natural emissions, including Radon gas, Polonium and radiations caused by subsoil anomalies such as earth faults, water running in underground layers and so on.
- 8) Easy to apply on building sites, also by “Do It Yourself” (only a cutter with blade long enough required, glue and aluminium stripes if necessary).
- 9) It is not subject to atmospheric corrosion.
- 10) The materials employed are certified and patented.