

## Ekovilla thermal insulation materials

### Ekovilla Oy

Katajaharjuntatu 8, FIN-45720 Kuusankoski

Tel. + 358 5 750 7500

[www.ekovilla.com](http://www.ekovilla.com)



## 1. PRODUCT SPECIFICATION

### Object definition

This RT Environmental Declaration describes the Ekovilla thermal insulation material.

### Product description

Ekovilla is an insulation product made from certain types of newspaper. During the production process, fire retardants are added to the insulation material. The material is used as insulation in roofs, walls and floors. When used for walls, the Ekovilla insulation material is sprayed with hose and an Eko adhesive is added to the material at the same time.

The installation can be done by either the builders themselves or an authorised contractor.

RT K-36873.



### Conversion factors

Density	Package density 120 kg/m <sup>3</sup> Installation density 30 kg/m <sup>3</sup>
Volume weight	kg/m <sup>3</sup>
Loft insulation	30
Floor insulation	45
Vertical cavity wall insulation	65
Sprayed frame construction wall insulation	35
Slanting or sloping cavity insulation	45

### Technical properties

Type approval resolution YM36/6221/2005

Type approval resolution YM36/6221/2004

Normal thermal conductivity: 0.41 W/M<sup>2</sup>K depending on the structure of the casing.

The U value depends on the strength and structure of the insulation.

RT Environmental Declaration is based on the national methodology following the basic principles stated in the ISO standard series 14040 and 14020. The method also considers also the preliminary results achieved within ISO CD 21930. It is developed in cooperation with Confederation of Finnish Construction Industries RT, The Building Information Foundation RTS, VTT Technical Research Centre of Finland and companies of construction business companies.

## 2. ECO-PROFILE OF THE PRODUCT

The eco-profile includes the life cycle stages from the acquisition of raw materials to the factory gate.

### 2.1 USE OF RESOURCES

#### Energy

Use of energy	MJ/kg
Non-renewable energy resource consumption	3.0
Renewable energy resource consumption	0.25
Energy resource consumption in pros.+ transp.	3.25

Energy in transport *	MJ/kg
Energy resource consumption in transports	Not specified

Process energy *	MJ/kg
Consumption of electric energy in processes	0.33
Consumption of fossil energy in processes	Not specified
Consumption of biotic energy in processes	Not specified
Total energy in processes	Not specified

Feedstock energy of raw materials	MJ/kg
Fossil feedstock energy of raw materials	Not specified
Biotic energy in raw materials	0.34
Feedstock energy of raw materials	Not specified

\* Optional information

#### Raw materials

Consumption of raw materials <sup>1</sup>	g/kg
Non-renewable natural materials	202
Renewable natural materials	18.9
Hidden material flows	Not specified
Total consumption of raw materials	220.9

<sup>1</sup> calculations do not include paper consumption

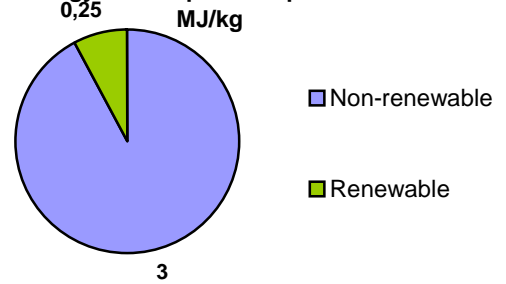
### 2.2 EMISSIONS

Emissions to air	g/kg
CO <sub>2</sub>	180
CO	0.12
SO <sub>2</sub>	1.1
NO <sub>x</sub>	1.2
CH <sub>4</sub>	0.075
NM VOC	44×10 <sup>-3</sup>
N <sub>2</sub> O	7.5×10 <sup>-3</sup>
PM <sub>10</sub>	0.23
Heavy metals (Hg, Cd, Pb, As, Cr, Zn, Ti)	0.054×10 <sup>-3</sup>
Dust	0.56
Other particles	Not defined

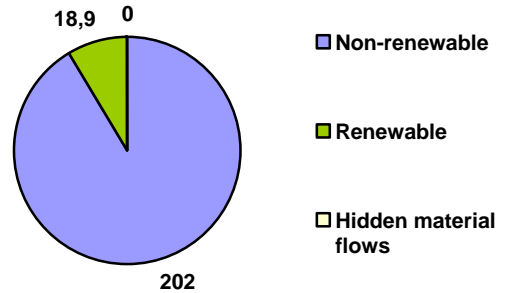
Emissions to water	g/kg
COD	0.49
BOD	0.14
P <sub>tot</sub>	0.48 ×10 <sup>-3</sup>
N <sub>tot</sub>	0.003
Solids	Not defined

Process waste	g/kg
Waste to dumping area	Not defined
Hazardous waste	Not defined

Energy in transport and processes



Consumption of raw materials g/kg



## 3. OTHER ENVIRONMENTAL ASPECTS

### CONSTRUCTION Product transport

#### Loss at site

#### Indoor air emissions

- Ekovilla materials that belong to the emission group M1 are listed on the Building Information Foundation RTS website at [www.rts.fi](http://www.rts.fi).

### RISKS

#### SERVICE LIFE

#### SERVICE AND MAINTENANCE

#### FINAL DISPOSAL

#### Recycling

- The product can be reused as thermal insulation as such, or as soil amendment when weakened, in which case it should be made sure that the concentration of boric minerals is not too high. Empty paper sacks are used to produce Ekovilla insulation material.

#### Utilised energy

- Fuel value: Not defined

#### Treatment of waste

- Location and quality: Not defined

### ADDITIONAL INFORMATION