Environmental declaration

Based on life cycle assessment in accordance with Finnish national method (Anon 2004)

upofloor Hardwood Floors

Pre-finished parquet

Product

Pre-finished multilayer parquet

Production year **2009**

Manufacturer

Karelia-Upofloor Oy

Product name

3-strip parquet and Long Plank parquet

End use

Floor covering material

Product dimensions

2266 x 188 x 14 mm

Humidity

Humidity at time of delivery 7% ± 2% of dry-weight.

Composition

Parquet consists of a veneer base made from coniferous wood (2 mm), with a coniferous wood middle layer (spruce wood lath 8,5 mm) and a hard wood surface (hard wood layer 3,5 mm). The surface is treated with UV-hardening polyurethane-acrylate varnish or with blend of oil and wax. End strengthening is done with spruce plywood.

Service life

The estimated surface life in dwellings is more than 50 years* and in places with heavier abrasion, such as offices or hotels, approximately 10 - 30 years*.

Conditions and limitations

Indoor air relative humidity should stay between 40 - 60% during every season. Additionally, the temperature on the floor surface should not exceed + 28 °C. To achieve this service life, the parquet must have been sanded and surface treated 2 - 3 times.

* depending on regularity of care and cleaning

Energy and raw materials

Non-renewable energy	90	MJ/m^2
Renewable energy	230	MJ/m^2
Non-renewable raw materials	1060	g/m^2
Renewable raw-materials	8200	g/m^2

Emissions

Greenhouse gases	4,4	(kg CO_2 eq/m^2)
Acidification	0,3	(g H^+ ekv/m^2)
Formation of oxidants	21	(g POCP ekv/m^2)

Emissions to indoor air

None important

Classification of finishing materials (M1, M2 or M3) M1

Recycling and final location

Product recycling

Product could be recycled for land use or could be used in energy production by burning.

Energy released from combustion of product 120 MJ/m^2

Package recycling

Packing materials could be re-utilised 100% for energy production. Wrapping plastic used in packaging is polyethene, which also could be recycled or could be incinerated.

Status of information

The environmental profile of parket is based on data from Karelia-Upofloor Oy factories (Kuopio, Tuupovaara, Nastola and Heinola) regarding materials and energy consumption during parket production. The calculation is done using the LCA-parket tool (Vares, 2004). The results are presented as weighted averages of Upofloor and Karelia parket factories. Environmental impacts such as greenhouse gases, acidification and oxidant formation are weighted according to the DAIA method (Seppälä, 1999).

The report covers all stages of the principal material's life cycle, such as manufacturing and transporting the parquet's raw materials, manufacturing and transporting the actual parquet and manufacturing and transporting the packing materials. The calculations are based on the Finnish national method for environmental profiling of building materials (Anon 2004).

Environmental profiles for fuels and electricity used in parket production are taken from the data presented in the Finnish national method (Anon 2004). The heat used in parquet production is produced by incineration of saw-dust and product waste where the furnace capacity is under 5 MW. The environmental profile for the heat production is from VTT database. Environmental profiles for parquet raw-materials such as plywood, veneer and sawn timber are based on average plywood, veneer and sawn timber production in Finland. It has been assumed that the environmental profile for wood used in the surface layer is the same as for the average sawn timber produced in Finland in 2002. The calculations assume that the environmental profile for the flooring surface layer is the same as for Finnish sawn timber. Transportation of the flooring surface layer to the factory has been taken into account. The environmental profile for urea-formaldehyde resin (glue) is based on resin production in 2002 and as given by a Finnish producer. The environmental profiles for packing materials includes: the pallet which is based on sawn timber production in Finland; the wrapping paper based on the life cycle inventory of Finnish paper industry made by KCL; and the wrapping plastic and strap based on literature (Boustead 1999).

Sources:

Anon 2004. Methods for environmental impacts calculations of building materials and buildings (in Finnish). The Confederation of Finnish Construction Industries (RT), Helsinki, 56 p. + app. 28 p.

Boustead, I. 1999. Eco profiles of the European plastic Industry. - Polyethylene. PWMI. (Data refers to 1989-1992) - APME web pages: http://lca.apme.org/reports/htm/alphabetical.htm

Seppälä J. 1999. Calculation of Impact Classes in Environmental Assessment – Comparison of DAIA and Eco-indicator Methods (in Finnish), Finland's Environmental Administration, Print 172, Helsinki, 38 p.

Vares, S. 2004. LCA-Parket: Tool for Environmental Impact Calculation, VTT Technical Research Centre of Finland, 3rd Edition.