ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804

Owner of the Declaration	**Unilin bvba, division Flooring**
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-UNI-20160016-IBC1-EN
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Valid to	26.10.2021

Multi-layer parquet flooring

Unilin bvba, division Flooring

Institut Bauen und Umwelt e.V.

www.bau-umwelt.com / https://epd-online.com

1. General Information

Unilin bvba, division Flooring

Programme holder
IBU - Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Declaration number
EPD-UNI-20160016-IBC1-EN

This Declaration is based on the Product Category Rules:
Solid wood products, 07-2012
(PCR tested and approved by the independent expert committee)

Issue date
27.10.2016

Valid to
26.10.2021

Prof. Dr.-Ing. Horst J. Bossenmayer
(President of Institut Bauen und Umwelt e.V.)

Dr. Burkhart Lehmann
(Managing Director IBU)

Multi-layer parquet flooring

Owner of the Declaration
Unilin bvba, division Flooring
Ooigemstraat 3
B-8710 Wielsbeke
Belgium

Declared product / Declared unit
1m² of Multilayer parquet flooring with Hevea-core (14mm and weight of 9.5 kg/m2)

Scope:
This declaration is an environmental product declaration according to ISO 14025 - Type III and EN 15805 describing the environmental performances of 1m² of a 3-layer parquet flooring produced by Unilin bvba, division Flooring in the production plant in Malaysia - Syarikat Malaysia Wood Industries Sdn. Bhd, 864 - V Syarikat.

The product is available with two different core:

- Hevea-core product
- HDF-core product

And with 2 brandnames:

- Quickstep
- Pergo

In this EPD the LCA results for the Hevea-core products are declared (grammage 9.5 kg/m² and thickness 14mm). In order to enable the user of this EPD to calculate the LCA results for the HDF-core (grammage 10.4 kg/m² and thickness 12,5mm) this EPD contains the respective calculation rules.

The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Verification

The CEN Norm EN 15804 serves as the core PCR
Independent verification of the declaration according to ISO 14025
☐ internally ☒ externally

Mr Carl-Otto Neven
(Independent tester appointed by SVA)

2. Product

2.1 Product description

This environmental product declaration refers to the production of 1m² multi-layer parquet flooring (MLP)
The product consists of

- a top coating of lacquer or oil
- a surface layer of 2.5-3mm oak,
- a core layer of 8.5 - 9mm
- a backing of 1.35-2 mm spruce

The multilayer parquet is produced in the Unilin production facilities in Malaysia and meets the requirements of /EN 14342/ and /EN 13489/.
The panels have a mechanical and patented connection (multifit).
The surface layer of the product consists of 7 layers UV-curing acrylic layer or 2 layers of UV-curing oil.
The multi-layer parquet contains at least 70% PEFC certified wood.

2.2 Application

The multi-layer parquet floorings are intended to be used indoors, in new buildings as well for renovation purposes. The parquet meets the requirements of/ EN 13489/ and /EN 14342/.
The flooring can be used in residential applications. For commercial areas conditional use is possible according to the manufacturer's instructions.
Detailed manufacturer's installation instructions are available on request and on the website: http://www.quick-step.co.uk/Articles/How-to-install-your-hardwood-floor.
On this website additional technical information (technical data sheets) is available as well.

2.3 Technical Data

Constructional data

Name	Value	Unit
Gross density /EN 13489/	500 - 850	kg/m^3
Grammage /EN 13489/	9.5	kg/m^2
Thickness /EN 13489/	14	mm
Length of the surface layer /EN 13489/	1820	mm
Width of the surface layer /EN 13489/	145	mm

The density of the parquet flooring panels is between 500 and 850 kg/m3.

2.4 Placing on the market / Application rules

For the placing on the market in the EU/EFTA (with the exception of Switzerland) the Regulation (EU) No. 305/2011 applies. The product needs a Declaration of Performance taking into consideration /EN 14342:2013 Wood flooring and parquet — Characteristics, evaluation of conformity and marking/ and the CE-marking.

The product complies with the requirements of the following standard, too:

- /EN 13489/: Wood Flooring - Multi-layer parquet elements

For the application and use the respective national provisions apply.

2.5 Delivery status

Typical standard dimensions are as follows (length - width - thickness)

- 1820mm x 145mm x 14mm
- 1820mm x 190mm x 12.5mm

2.6 Base materials / Ancillary materials

The multilayer flooring elements have the composition presented below:

Material	Multi-layer parquet flooring HDF-core product - general compostion Mass [%]	Multi-layer parquet flooring Hevea-core product - general compostion Mass [%]
Core layer	71% (incl. wood dry weight 79%)	56% (incl. wood dry weight 90%)
Top layer (oak) 10% water content	18%	24%
Bottem layer (Spruce) 7,5% water content	6%	10%
HDF layer	0%	4%
Glue	4%	5%
Others (lacquer & multifit)	1%	1%

Core layer
The core of the multilayer flooring elements consists of wooden core boards of a High-density fibreboard or Hevea.

Surface layer
On top of the core board, serving as the visible side of the panel after installation, is a layer of solid oak. The surface layer is glued to the core.

Backing layer
The bottom part of the parquet panels is a thin layer of solid spruce wood. This layer is added for dimensional stability.

Glue
The surface layer and the backing is glued to the substrate with low emitting ureum-formaldehyde resins.

Others
The surface layer is sanded, eventually provided with a bevel and finished with UV-curing acrylic lacquers or natural or mineral oils.
The multifit system is installed to ensure a strong connection between the MLP flooring elements.
The product contains no substance which are included in the current “Candidate List of Very High Concern for Authorization” /REACH/.

2.7 Manufacture

At the production site in Malaysia core, surface and backing layers are glued together in a hot press.
The next step is sawing the planks to lamellae.
Then panels are sanded, lacquered or oiled, profiled (applying the tongue and groove) and packed.
In production a certified ISO 9001 quality control is in place.

2.8 Environment and health during manufacturing

The constitutional valid regulations and provisions of the national law are observed and respected.
All coatings and adhesives are water-based solvent-free. All wood waste and cutting and sanding dust is fully heat-recycled.
Water: There is no waste water.
Soil: There is no impact on soil.
Air: The constitutional valid regulations are observed. The emissions to air are far below the legally required thresholds.

2.9 Product processing/Installation

All production machines comply with all regulations in place. The machines are optimized in respect to energy consumption and are equipped with all

necessary equipment for safety precautions, dust extraction and noise reduction.

Installation
The flooring panels are mechanically clicked together without using glue. The installation can be floating or glued down. In case of a floating installation an appropriate underlay must be used in order to achieve levelling effect, thermal or acoustical insulation or protection against rising dampness. The following type of underlay materials can be used:

- Polyolefin foams
- wood fibre panels
- Polyethylene damp proof membranes

In case of glueing down it is strongly recommended to use hybrid elastic mono component-polymer glue which is solvent- and water-free.
The materials used as underlay or glue are not considered in this study.
Appropriate measures for protection against saw dust must be taken.
Information about the installation of Quick-Step parquet floors can be downloaded from the website http://www.quick-step.co.uk/Articles/How-to-install-your-hardwood-floor.

2.10 Packaging
A well-defined number of multilayer parquet flooring panels are packed together, putting them with the surface layer onto each other. The packs are edge-protected using cardboard and shrink-wrapped in PE foil. The packaging materials are fully recyclable.
The packs are palletized on wooden pallets using wood from controlled origin. The pallets can be re-used (Euro pallets) or recycled as wood category 03 01 05 according to the European Waste Catalogue.

2.11 Condition of use
The product fulfills the legal requirements for the use stage (see additional information in chapter 7 of this EPD).

2.12 Environment and health during use
All multi-layer parquet floorings of Quick-Step comply with the health, safety and energy-saving requirements as described in the harmonised standard /EN 14342/, type 3. All panels are CE marked.
Once the flooring has been installed only very low emissions of volatile compounds occur (see chapter 7 of this EPD). These emissions originate from the wood. Floorings with a lacquered surface do not need to be re-lacquered in domestic use and normal conditions of use. In case of oiled floors, re-oiling should be done once or twice a year in function of the intensity of use.

2.13 Reference service life
The parquet floorings benefit from a lifetime warranty for domestic life. Lifetime is usually considered as 40 years total lifetime, code no. 352.812 in Table of /BNB/.
The use stage in this EPD is declared per year.

2.14 Extraordinary effects

Fire
In function of the composition of the parquet panel the fire class according to /EN 13501-1/ is Cfl-s1 or Dfl-s1. The core board is determinative in this respect

- panels are classified as Cfl-s1

The fire classification goes for glued down installation and for floating installation on the associated Quick-Step or Pergo underlays.

Fire protection

Name	Value
Building material class	Cfl
Smoke gas development	s1

Water
In case of a floating installation an appropriate DPM (damp proof membrane) needs to be installed in order to hold back potential rising dampness. Most underlays of the Quick-Step or Pergo sales program have a built-in DPM and do not need an extra DPM. The DPM is not a part of this study.
In case of a leak or a flood where the flooring has been soaked for a longer period of time (days) the flooring will most probably be a total loss. In case of short(er) time exposure and after drying, no visible damage may be expected. If the water came under the floorcovering (floating installation) it might be necessary to unclick the panels and let them dry. The subfloor will most probably also be wet and should be given the time to come to equilibrium moisture content before re-installation of the dry panels.

Mechanical destruction
Small(er) damages in the flooring surface can be repaired using coloured solvent-free melt waxes. In case of more severe damage the damaged panels can be replaced. The damaged panels go into the normal end-of-life treatment.

2.15 Re-use phase
A multi-layer parquet floorcovering which is not at the end of life stage and which is not fully glued down, may be un-installed and be re-used as parquet floor.
At the end of life stage, the panels can be used as biomass and be recycled for example in wood based panels.The panels are shredded and reused as raw material in wood based panels. It can also be incinerated in power plants.

2.16 Disposal
Post-installation and post-consumer flooring panels are considered as wood waste. The European Waste Code /EWC/ is 030105. It can be disposed in any regulated municipal waste collection point as wood waste.

2.17 Further information
All information about the product composition, technical performance, instructions for installation and maintenance, precautionary instructions for use, CE-marking and relevant DOP (declaration of performance) documents, are available either in the packs or can be found on the homepages www.quick-step.com or www.pergo.com or can be requested at Uniliin bvba division flooring www.unilin.com or info@unilin.com

3. LCA: Calculation rules

3.1 Declared Unit
The declared unit is 1 m² of floor covering (thickness 14mm, grammage 9.5 kg/m²)

Declared unit

Name	Value	Unit
Declared unit	1	m²
Conversion factor to 1 kg	0.105	-

3.2 System boundary
This is an EPD of the type 1a) Declaration of a specific product from a manufacture's plant.
The **production stage** includes all relevant processes from "cradle to factory gate" within the cut-off rules. This includes for example the extraction and manufacture of all raw materials and their delivery to the production site. The top layer and back layer material is dried in Europe and then transported to Malaysia. the manufacturing of the floorcovering panels from raw material to storage and transport. Packaging is included.
The **constructional process stage** includes the delivery of the parquet floor covering to the point of installation (A4). The transport distance from the plant in Malaysia to the European market via the plant of UNILIN in Wielsbeke is considered in this EPD.
A5 is not declared, underlayment and glue in case of a glued down installation is not included.

The **use stage** (B2) includes the cleaning of the laminate floor covering for 1 year. The cleaning frequencies are described in chapter 4. For the calculation of an average cleaning scenario 90% domestic and 10% commercial level of use is assumed, according to the market shares of distribution. Provision of water, cleaning agent and electricity for the cleaning of the floor covering is considered, incl. waste water treatment.

In module C3 only the release of biotic CO2 is declared in order to guarantee carbon neutrality within the product system.

Module D includes benefits from all net flows in the end-of-life stage that leave the product boundary system after having passed the end-of-waste state. It is assumed that post-consumer flooring waste reaches the end-of-waste state after dismantling from the building and is 100% combusted in a European biomass power plant. Loads from material incineration and resulted energy credits are declared within module D.

3.3 Estimates and assumptions
Specific life cycle inventories are available for nearly all input materials. Data-gaps are filled with approximated LCIs. MLP flooring elements reach the end-of waste state after being dismantled in a building. It is assumed that post-consumer MPL floorings are 100% incinerated in a European biomass power plant.
For Hevea wood data for timber spruce wood were used and although the lacquer is <1% in the final product it has not been cut-off but calculated with an adequate approximation.

3.4 Cut-off criteria
In the assessment, all available data from production process are considered, i.e. all raw materials used, utilised thermal energy, and electric power consumption using best available LCI datasets. Thus material and energy flows contributing less than 1% of mass or energy are also considered. The only exception are wooden pallets used as packaging materials. The wood pallets are not considered in this study due to negligible amounts. All reported data are considered and modelled using best available LCI data.

3.5 Background data
The used background data are from the GABI software and the /GABI 6/ background database.

3.6 Data quality
The used data refer to the year 2013. The data of the foreground processes is based on input-output analyses at the Malaysian production site and Belgian distribution facilities. The primary data collection was done thoroughly, all flows were considered.
For the drying process of the backlayer the Finnish energy data was used, for the drying process of the toplayer European data was used.

3.7 Period under review
The period under review is 2013.

3.8 Allocation
The overall production of UNILIN comprises further products beside the product considered in this study. Data for thermal and electrical energy as well as auxiliary material refers to the declared product. During data collection the allocation is done via area (m²). Specific information on allocation within the background data is given in the GaBi dataset documentation.
(http://www.gabi-software.com/databases/).

3.9 Comparability
Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to /EN 15804/ and the building context, respectively the product-specific characteristics of performance, are taken into account.

3.10 Factors for product type: Compact (HDF-core)
Multilayer parquet floorings are available in two product types:. A version with Hevea-core and a version with HDF-core.
The product type with Hevea-core is declared in the EPD.
In order to enable the architect or planer to calculate the results for the HDF-core version the factors in the following table can be used for the calculation.
For A1-A3, A4, and D the values of the declared product (MLP Hevea-core) have to be multiplied with these factors.

Factors to calculate the results for MLP wiht HDF-core					
Parameter	A1-A3	A4	B2	C4	D
ADP	1,50	1,10	1,00	1,10	1,10
ADP fossil	1,28	1,10	1,00	1,10	1,10
AP	1,10	1,10	1,00	1,10	1,10
EP	1,27	1,10	1,00	1,10	1,10
GWP 100 years	8,77	1,10	1,00	1,10	1,10
ODP	5,45	1,10	1,00	1,10	1,10
POCP	1,63	1,10	1,00	1,10	1,10
PE non renewable	0,78	1,10	1,00	1,10	1,10
PE renewable	0,52	1,10	1,00	1,10	1,10

4. LCA: Scenarios and additional technical information

The following technical information is a basis for the declared modules or can be used for developing specific scenarios in the context of a building assessment.

Transport to the building site (A4)

Name	Value	Unit
Litres of fuel	0.00015	l/100km
Transport distance	15254	km
Capacity utilisation (including empty runs)	85	%
Gross density of products transported	800	kg/m^3
Capacity utilisation volume factor	-	-

Maintenance (B2)

Name	Value	Unit
Maintenance cycle	112	Number/RSL
Auxiliary (detergent)	0.0034	kg
Electricity consumption	0.83	kWh
Water consumption	3,37	Kg

Reference service life

Name	Value	Unit
Reference service life	40	a

Reuse, recovery and/or recycling potentials (D), relevant scenario information

Scenario: 100% of floor covering (9.5 kg/m²) to energy recovery in a European biomass power plant.

5. LCA: Results

The LCA results for the MLP-flooring declared in this EPD refer to a MLP-flooring with a thickness of 14mm, which meets the requirements of /EN 14342/.
The results for module B2 refer to a period of one year.
In module C3 only the release of biotic CO2 is declared. Loads from material incineration (excluding biotic CO2 emissions) and resulted energy credits are declared within module D.

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE NOT DECLARED)

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARYS
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement[1)]	Refurbishment[1)]	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
X	X	X	X	MND	MND	X	MND	MND	MND	MND	MND	MND	MND	X	MND	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: 1m² Multi-layer parquet flooring

Parameter	Unit	A1-A3	A4	B2	C3	D
Global warming potential	[kg CO_2-Eq.]	2.16E-1	2.23E+0	2.95E-1	1.44E+1	-8.34E+0
Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	1.20E-9	8.49E-12	2.29E-10	IND	-4.70E-9
Acidification potential of land and water	[kg SO_2-Eq.]	1.22E-1	6.15E-2	2.09E-3	IND	-9.08E-3
Eutrophication potential	[kg $(PO_4)^{3-}$- Eq.]	1.16E-2	6.40E-3	4.33E-4	IND	-1.58E-5
Formation potential of tropospheric ozone photochemical oxidants	[kg Ethen Eq.]	8.77E-3	3.27E-3	1.01E-4	IND	-7.56E-4
Abiotic depletion potential for non fossil resources	[kg Sb Eq.]	1.37E-6	6.27E-8	2.87E-7	IND	-1.24E-6
Abiotic depletion potential for fossil resources	[MJ]	2.09E+2	2.76E+1	4.09E+0	IND	-1.33E+2

RESULTS OF THE LCA - RESOURCE USE: 1m² Multi-layer parquet flooring

Parameter	Unit	A1-A3	A4	B2	C3	D
Renewable primary energy as energy carrier	[MJ]	1.11E+2	IND	IND	IND	IND
Renewable primary energy resources as material utilization	[MJ]	1.62E+2	IND	IND	IND	IND
Total use of renewable primary energy resources	[MJ]	2.73E+2	2.18E-1	2.50E+0	IND	-2.37E+1
Non renewable primary energy as energy carrier	[MJ]	2.11E+2	IND	IND	IND	IND
Non renewable primary energy as material utilization	[MJ]	9.00E+0	IND	IND	IND	IND
Total use of non renewable primary energy resources	[MJ]	2.20E+2	2.77E+1	6.17E+0	IND	-1.76E+2
Use of secondary material	[kg]	0.00E+0	0.00E+0	0.00E+0	IND	0.00E+0
Use of renewable secondary fuels	[MJ]	0.00E+0	0.00E+0	0.00E+0	IND	0.00E+0
Use of non renewable secondary fuels	[MJ]	0.00E+0	0.00E+0	0.00E+0	IND	0.00E+0
Use of net fresh water	[m³]	1.63E-1	4.24E-4	3.15E-3	IND	-3.42E-2

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: 1m² Multi-layer parquet flooring

Parameter	Unit	A1-A3	A4	B2	C3	D
Hazardous waste disposed	[kg]	4.08E-4	1.89E-6	2.96E-6	IND	-6.17E-3
Non hazardous waste disposed	[kg]	2.20E-1	5.51E-4	1.19E-2	IND	1.00E-1
Radioactive waste disposed	[kg]	4.55E-3	3.55E-5	8.31E-4	IND	-1.68E-2
Components for re-use	[kg]	0.00E+0	0.00E+0	0.00E+0	IND	IND
Materials for recycling	[kg]	0.00E+0	0.00E+0	0.00E+0	IND	IND
Materials for energy recovery	[kg]	0.00E+0	0.00E+0	0.00E+0	IND	IND
Exported electrical energy	[MJ]	0.00E+0	0.00E+0	0.00E+0	4.75E+1	IND
Exported thermal energy	[MJ]	0.00E+0	0.00E+0	0.00E+0	5.68E+1	IND

6. LCA: Interpretation

Global warming potential:
The positive value in the production stage is determined by the production related consumptions in A3. It is the sum of the CO2 uptake (negative value) locked in the wooden raw materials and the loads (positive value) from energy consumption and fossil resources.
The CO2 is locked in the MLP flooring until it is released into the atmosphere in the EOL-incineration process (carbon neutrality within the system boundary). The release of CO2 in the end of life is declared in C3.

The GWP value in life cycle stage D is the sum of loads and benefits for the next product system. In this stage the loads are determined by the incineration process of the MLPF and the benefits by energy substitution of fossil fuels.

Production stage (A1-A3):
Within the production stage the energy consumption has a relevant to significant contribution in all impact categories. .
The environmental impact categories and the non-renewable primary energy demand are mainly

determined by the energy consumption needed for the production process. Transport has a little to fairly contribution to the environmental impact categories AP, EP and POCP.
The wood plays an important role in GWP. The negative contribution for GWP in A1-A3 results from the greenhouse gas carbon dioxide which is incorporated via photosynthesis and locked in the wood during the use stage of the product. In the category GWP the environmental impact (positive value) of energy consumption in the production stage is very important. The overall CO2 balance for A1-A3 is nearly carbon neutral.
The MUF-glue, energy and the lacquer are the main contributors to ODP.
Primary energy renewable is mainly determined by the wood and thermal energy from renewable resources

7. Requisite evidence

7.1 Formaldehyde. T
Determination of the VOC and formaldehyde release of 3 Layers Wood Flooring based on the test chamber method DIN EN 717-1
EPH – Test Report Order no. 2516006- Zellescher Weg 24 - Dresden - Germany.

Name	Value	Unit
Formaldehyde	0.03	mg/m³

7.2 VOC emissions.
Determination of the VOC and formaldehyde emission of a parquet according to AgBB-Scheme, ISO 16000 part 3, 6 and 9. EPH – Test Report Order no. 2715438/2 - Zellescher Weg 24 - Dresden - Germany.
Yearly surveillance of the Factory Production control in the Maleysian production plant is carried out by EPH in view of the "Allgemeiner bauaufsichtliche Zulassung".

Overview of Results (28 days)
test result of 3-layer 14mm parquet with oak surface layer and pine core. EPH - Dresden report number 2715438/2.

Name	Value	Unit
TVOC (C6 - C16)	0	µg/m³
R (dimensionless)	0	-
VOC without NIK	0	µg/m³
Carcinogenic Substances	0	µg/m³

Overview of results after 7 days (break-off)
Test result of 3-layer 14mm parquet with oak surface layer and Hevea core. Test report EPH-Dresden number 2715438/2.

Name	Value	Unit
TVOC (C6-C16)	0	ug/m3
Sum of SVOC (C16-C22)	0.139	ug/m3
R (dimensionless)	0	
VOC without NIK	0	ug/m3
Carginogenic Substances	0	ug/m3

8. References

Institut Bauen und Umwelt
Institut Bauen und Umwelt e.V., Berlin (pub.): Generation of Environmental Product Declarations (EPDs);

General principles
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www.bau-umwelt.de

PCR Part A
Institut Bauen und Umwelt e.V., Königswinter (pub.): Product Category Rules for Construction Products from the range of Environmental Product Declarations of Institut Bauen und Umwelt (IBU), Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Background Report. April 2013
www.bau-umwelt.de

ISO 14025
DIN EN ISO 14025:2011-10: Environmental labels and declarations — Type III environmental declarations — Principles and procedures

EN 15804
EN 15804:2012-04+A1 2013: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

ISO 14044: 2006
DIN EN ISO 14044: Environmental management – Life cycle assessment – Requirements and guidelines (ISO 14044:20

ISO 14040:2006
Environmental management - Life cycle assessment - Principles and framework (ISO 14040); German and English version EN ISO 14040

ISO 14025
DIN EN ISO 14025:2011-10: Environmental labels and declarations — Type III environmental declarations — Principles and procedures

CEN/TR 15941
Sustainability of construction works - Environmental product declarations - Methodology for selection and use of generic data; German version CEN/TR 15941.

EN 15804
EN 15804:2012-04+A1 2013: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

EN 13501-1
EN 13501-1: Fire classification of construction products and building elements, Part 1: Classification using data from reaction to fire tests, 2007

EN13489:2003
EN 13489:2003 - Wood Flooring - Multi-layer parquet elements.

EN 14342:2005+A1
EN 14342:2005+A1 - Wood Flooring - Characteristics, evaluation of conformity and marking

EN 120 : 1992
Wood-based panels – Determination of formaldehyde content – Extraction method called the perforator method.

EN 717
Wood–based panels – Determination of formaldehyde release

ISO 16000-3:2011
Indoor air -- Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air -- Active sampling method.

ISO 16000-6-2011
ISO 16000-6:2011 – Indoor air – part 6: Determination of volatile organic compounds in indoor and test chamber air by active sampling on Tenax A sorbent, thermal desorption an gas chro-matography using MS of MS-FID

ISO 16000-9-2006
ISO 16000-9:20006 – Indoor air – part 9: Determination of the emissions of volatile organic compounds from building products and furnishing – Emission test chamber method.

GaBi 6
Gabi Software –System and Databases for Life Cycle Engineering. Copyright, TM. Stuttgart, Echterdingen 1992-2015.

EWC - 94/3/EC Commission Decision of 20 December 1993 establishing a list of wastes pursuant to Article 1a of Council Directive 75/442/EEC on waste, 1993 - European Waste Catalogue and Hazardous Waste List Valid from 1 January 2002

PCR Guidance – Texts for Building-Related Products and Services – Part B: Requirements on the EPD for Solid wood products - IBU Published

PEFC certificate:
Chain of custody ofForest based Product - Requirements - /PEFC ST 2002:2010. Rapportnumber CTIB-TCHN 0380.
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