

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 and EN 15804

Owner of the declaration	Verband der Deutschen Parkettindustrie e.V.
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-VDP-20150263-IBG1-DE
Issue date	27/11/2015
Valid to	26/11/2021

Multilayer parquet

Verband der Deutschen Parkettindustrie e.V.

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



1. General information

Verband der Deutschen Parkettindustrie e.V.

Programme holder

IBU - Institut Bauen und Umwelt e.V.
Panoramastrasse 1
10178 Berlin
Germany

Declaration number

EPD-VDP-20150263-IBG1-DE

This declaration is based on the following product category rules:

Floor coverings, 07/2014
(PCR-tested and approved by the independent advisory board (SVR))

Issue date

27/11/2015

Valid to

26/11/2021

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

Dr. Burkhard Lehmann
(Executive Director IBU)

Multilayer parquet

Owner of the declaration

Verband der Deutschen Parkettindustrie e.V.
Flutgraben 2
53604 Bad Honnef

Declared product/declared unit

1m² multilayer parquet

Scope:

The two-layer and multilayer parquet flooring described in this EPD is manufactured by the members of the Verband der deutschen Parkettindustrie e.V. (vdp). The declaration is based on information from almost 100% of members; the technology represented here is representative for all members. The LCA results determined here are average values for an average product from several plants of several manufacturers. Due to the diversity of the possible surface coatings these were not included in the multilayer parquet examined here. Since little can be said about the use of the products behind the factory gates, phases A4 to C1 in accordance with /EN 15804/ have been ignored. The environmental effect of the respective disposal stage of Modules C2 to D were included. The owner of the declaration is liable for the basic information and supporting evidence; any liability of the IBU in relation to manufacturer's information, LCA data and supporting evidence is excluded. This document is a translation from German to English. It is based on the original declaration number EPD-VDP-20150263-IBG1-DE.

Verification

CEN standard /EN 15804/ serves as the core PCR

Verification of the EPD by an independent third party in accordance with /ISO 14025/

Internal external

Prof. Dr. Birgit Grahl,
Independent verifier appointed by SVR

2. Product

2.1 Product description

Multilayer parquet flooring is wooden flooring built up in layers which has a covering layer of at least 2.5 mm thickness. It can be two-layer products with underlayers made of solid wood or engineered wood-based panels with a decorative top layer or three-layer products equipped with an additional counter layer. The products comply with the requirements of the product standards stated in 2.4. The average formation for the products declared here is oriented towards the weighted production volume of the manufacturers.

2.2 Application

Multilayer parquets are wooden floor coverings for private and commercial use in indoor areas which are installed as a floating floor, glued down or held in place with other fixings either on floor screed or on existing other subfloors such as wood, tiles or PVC. The manufacturer's instructions must be followed in all cases.

2.3 Technical data

The following technical data for multilayer parquet needs to be stated:

constructional data

Name	Value	Unit
Product thickness	8 - 21	mm
Wear layer thickness	≥ 2.5	mm
surface weight	4000 - 20000	g/m ²

Further technical parameters depend on various factors such as the top layer wood species, surface treatment, structure and design, etc. and should be enquired about by contacting individual manufacturers.

2.4 Putting on to the market/application rules

/EU Directive no. 305/2011/ (Building products directive) applies to putting this product on to the market in the European Union /EFTA/ (excluding Switzerland). The products require a declaration of performance including the harmonised /DIN EN 14342:2013/ and also CE labelling.

DIN EN 13489:2003-05/ is relevant as a further product-specific standard.

The respective national regulations apply to use of the product.

2.5 Delivery status

All products are supplied in packaging units. The following is specified as a minimum in the accompanying delivery documents:

- Statement of quantity in m²
- Measurements (length, width and thickness of the elements) in mm
- Wood type
- Grading

The product and manufacturer-specific measurements/statements of quantity for the declared products in delivery state lie within the following bandwidths:

- Width: 50 - 300 mm
- Length: 70 - 7000 mm
- Thickness: 9 - 23 mm
- m²/VPE: 0.2 - 4.0 m²

2.6 Basic materials/ancillary materials

The shares determined for the environmental product declaration for contents per m² of product amount to:

- Wood, mainly deciduous wood 63.61 %
- Plywood 4.1%
- High-density fibre board 21.68%
- Water 6.66%
- Urea formaldehyde resin adhesives 3.57%
- Poly vinyl acetate 0.2%
- Polyurethane 0.1%
- Emulsion polymer isocyanate 0.08%

2.7 Manufacture

Round wood, freshly cut wood, kiln-dried timber or planed goods are used to manufacture multilayer parquet. In addition, plywood and HDF boards are deployed. The layers are first manufactured separately.

The covering layer is composed of solid wood elements. The centre can consist of wood materials or solid individual parts. In the case of the three-layer structure a counter layer is used. The individual layers

are pressed together and separated after adhesive has been applied.

2.8 The environment and health during production

Due to the manufacturing conditions, no environmental and health-related measures which go beyond current EU regulations and national, statutory and other regulations are required. This also includes compliance with or going below workplace threshold values (AGW) within the production process.

2.9 Product processing /installation

Multilayer parquet can be sawn, milled, planed and drilled with the usual stationary machinery and (electric) manual machines. Hard metal-equipped tools are to be given preference. Breathing protection should be worn when using manual equipment without extraction. Necessary tools and machines may only be deployed in accordance with the intended purpose and corresponding to the instructions of the respective manufacturer.

The necessary safety precautions (for example hearing protection depending on the machine, protective glasses and dust masks for sawing) are to be taken into account. The sawdust which accrues should be exhausted.

The products are to be stored in a dry place.

Two-layer floors must be glued to the subsurface; three-layer floors can be either glued or laid as a floating floor. Furthermore, the parquet manufacturer's instructions must be followed.

The normal safety regulations for processing (protective glasses, dust mask in case of dust formation and hearing protection) must be observed during processing/installation. The regulations of the employer's liability insurance company are to be adhered to for commercial processing.

Residual material which collects on the construction site (offcuts and packaging) is to be collected separately according to refuse categories. During disposal the regulations of the local disposal authorities and the instructions in 2.15 End-of-life phase are to be adhered to.

2.10 Packaging

Metals, paper and cardboard, wood, polyethylene and other plastics are used. Packaging materials are to be collected separately and recycled in accordance with local statutory regulations. If Euro-pallets are used these can be reused many times or recycled as mature timber with thermal recycling.

2.11 Condition of use

The composition for the period of use corresponds to the basic material composition according to Section 2.6. Basic materials. During use, some 3,854 kg of carbon are bound up in the product. For complete oxidation this corresponds to some 14.1 kg carbon dioxide.

2.12 Environment and health during use

No damage or impairment to health is to be expected with normal appropriate use. The effect relationship between parquet and health consists of the positive indoor climate caused by the special natural properties of wood.

Hazards for water, the air/atmosphere and the soil cannot occur if multilayer parquet is used appropriately.

Multilayer parquet stores CO₂ naturally. It can be

sanded down and surface-treated again at least twice. Multiple use in other rooms is also possible. Multilayer parquet can also be recycled. Thermal recycling at the end-of-life stage of the use cascade is CO₂-neutral.

2.13 Reference period of use

The period of use for multilayer parquet is 40 years according to /Code No 352.812/, Useful life of building components for lifecycle analyses according to the /BNB/ sustainable building assessment system dated 11/2011.

2.14 Extraordinary influences

Fire

The fire behaviour of multilayer parquet corresponds to the classifications in Table 1 - Classes for the fire behaviours of wooden floors in accordance with /DIN EN 14342:2013/ in conjunction with /Delegated EU Regulation no. 1292/2014/. Multilayer parquets with or without surface coating are classified into classes C_{fi}-s1, D_{fi}-s1 or E_{fi} depending on the type of wood and end use conditions (gluing to the subsurface, with or without an air space underneath). Product-related tests and their results may differ in individual cases.

Water

No ingredients which could be a hazard to water are flushed out on exposure to water. The floor covering is not resistant to permanent exposure to water.

Mechanical destruction

Mechanical damage can be repaired in situ. The fracture pattern of multilayer parquet depends on the type of wood. Splinters and slivers of wood may form along the breaking edge (injury hazard).

2.15 End of life phase

In case of selective dismantling at the end of the use phase, the product can be easily reused or continue to be used. Residues and waste from multilayer parquet are to be recycled in accordance with /EWC 17 02 01/ and /EWC 03 01 05/.

Should repeat use as a floor covering no longer be possible, the wood can still be used as material, for example as raw material for making wooden composite boards, where in turn several use cascades are possible. If the product cannot be reused, it is recycled thermally to produce process heat and electricity due to its high thermal value of approximately 19 MJ/kg.

2.16 Disposal

Disposal of waste wood in landfill is not permissible in accordance with the /Waste Wood Ordinance/ and /EWC 17 02 01/ and also not necessary according to 2.15 End of life phase.

2.17 Further information

Further information is available at www.parkett.de and from the various manufacturers as well as in /Rüter, S; Diederichs, S: 2012/.

3. LCA: Calculation rules

3.1 Declared unit

The declared unit is 1m² of layered parquet from the cradle to the manufacturer's factory gate. An average product averaged out across several of the federation's factories is declared.

Declared unit

Name	Value	Unit
Declared unit	1	m ²
Conversion factor to 1 kg	0.113	-
Surface weight	8.878	kg /m ²

3.2 System boundary

The type of declaration corresponds to an EPD, from the cradle to the factory gate with options. It contains the production stage from the provision of raw materials up to the factory gate (cradle-to-gate, Modules A1 to A3) and parts of the end of life stage (Modules C2 to C4). Beyond this, there is an examination of the benefits and loads beyond the product's useful life (Module D).

The provision of the wood from the forest and the provision of further pre-processed wood products is balanced in detail in Module A. The transport of these materials is included in Module A2. Module A3 covers the provision of fuels, operating materials and electricity and also the manufacturing processes on-site. These consist mainly of debarking, cutting and drying.

Module C2 includes transport to the disposal company, Module C3 deals with the preparation and sorting of old wood and Module D balances out thermal recycling as well as benefits and loads beyond the system boundary.

3.3 Estimations and assumptions

In principle, all material and energy flows for the processes needed for production were specifically determined in situ. The emissions from combustion and other processes occurring in situ could, however, only be estimated based on references in literature. All other data is based on average values. Detailed information on all estimates and assumptions carried out is documented in /Rüter, S; Diederichs, S: 2012/.

3.4 Cut-off rules

The selection of the material and energy flows examined is oriented towards the deployment of renewable and non-renewable primary energy per unit process. A decision on the flows to be examined results from existing studies on balancing wood products. As a minimum, those material and energy flows which constitute 1% of the deployment of renewable or non-renewable primary energy were examined, whereby the total number of flows not examined is not greater than 5% of the indicators listed. No already known material or energy flows which lay below the 1% threshold were ignored. The inputs and outputs determined which resulted from the company information were checked for plausibility. The costs of providing the infrastructure (i.e. machines, buildings, etc.) for the entire foreground system were not included. This is based on the assumption that the costs for setting up and maintaining the infrastructure above do not exceed the described 1% of the total costs. The energy costs necessary to operate the infrastructure in the form of heat and electricity were included. Detailed information on all estimates and assumptions carried out is documented in /Rüter, S; Diederichs, S: 2012/.

3.5 Background data

All background data was taken from the /GaBi/ Professional database.

3.6 Data quality

The background data used for wood raw materials used for material and energy with the exception of forest wood originates from 2008 to 2010. The electricity mix originates from 2009 and the provision of forest wood was taken from a publication from 2008 which is mainly based on data from 1994 to 1997. All other information was taken from the GaBi Professional database which does not permit any precise limitation of quality. Since the main information originate from primary data collections with a high degree of representativeness, the data quality can be judged as being extremely good.

3.7 Period under review

The data was collected across a period from 2009 to 2011, whereby data for the completed calendar year was determined in each case. The data is therefore based on 2008 to 2010. All information is based on the averaged data from 12 consecutive months.

3.8 Allocation

The allocations performed correspond to the requirements of /EN 15804:2012/ and are explained in detail in /Rüter, S; Diederichs, S: 2012/:

General

All material-inherent properties were principally allocated according to physical causalities; all other allocations were made on an economic basis. One exception is the allocation of the necessary heat in combined heat and power units, which was allocated on the basis of the electricity and process heat produced.

Module A1

- Forest: Costs in the forest were allocated to the logs and pulp wood product classes based on their price.
- The provision of waste wood does not include any costs from the previous lifecycle.

Module A3

- Woodworking industry: Costs were allocated to the main products and residual materials based on their price.
- The waste accruing from disposal in production with the exception of wood-based materials was recycled thermally or materially. Heat and electricity produced and the recycling products are credited to the system in the form of costs of conventional systems for producing electricity, heat or primary material which have been avoided. The credits thus earned are significantly below 1% of the total costs.
- All fuel costs were allocated to both products according to availability in the case of combined production of heat and electricity.
- The provision of waste wood does not include any costs from the preceding lifecycle. (Identical to Module A1)

Module D

The substitution carried out in Module D corresponds to an energy-based recycling scenario for waste wood.

3.9 Comparability

In principle, a comparison or evaluation of EPD data is only possible if all data to be compared was created in accordance with /EN 15804/ and the building context or the product-specific performance characteristics are taken into account.

4. LCA: Scenarios and further technical information

The scenarios on which the LCA is based are described in more detail below.

End of life phase (C1-C4)

Name	Value	Unit
Scrap wood for energy recovery	8.878	kg

Name	Value	Unit
Electricity produced (per t atro scrap wood)	1231	kWh
Waste heat used (per t atro scrap wood)	2313	MJ

Reuse, recovery and recycling potential (D), relevant scenario information

The product is recycled in the form of scrap wood in the same composition as the declared unit described at the end of life. Thermal recycling in a biomass power plant with a total efficiency of 35% and an electrical efficiency of 23% is assumed. The burning of 1 t of wood (atro) (with approx. 18% humidity) produces approx. 1231 kWh of electricity and 2313 MJ of usable heat. The energy exported replaces fuels from fossil sources, whereby it is presumed that the thermal energy was produced from natural gas and the substituted electricity corresponded to the German electricity mix of 2009.

5. LCA: Results

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

Production stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacture	Transport from the gate to the site	Assembly	Use / application	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction / demolition	Transport	Waste processing	Disposal	Reuse, recovery or recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MNR	MNR	MNR	MND	MND	MND	X	X	X	X

RESULTS OF THE LCA – ENVIRONMENTAL IMPACTS: 1 m² layered parquet

Parameter	Unit	A1	A2	A3	C2	C3	C4	D
GWP	[kg CO ₂ eq.]	-1.26E+1	4.56E-1	6.87E+0	8.06E-3	1.46E+1	0.00E+0	-6.13E+0
ODP	[kg CFC11 eq.]	2.29E-7	7.15E-10	1.31E-6	1.61E-11	1.57E-8	0.00E+0	-1.44E-6
AP	[kg SO ₂ eq.]	7.95E-3	2.39E-3	3.41E-2	3.46E-5	8.20E-5	0.00E+0	-6.48E-3
EP	[kg (PO ₄) ₃ eq.]	2.13E-3	5.66E-4	7.14E-3	8.02E-6	9.56E-6	0.00E+0	-6.73E-5
POCP	[kg Ethen eq.]	1.74E-3	2.67E-4	4.83E-3	3.80E-6	6.17E-6	0.00E+0	-4.37E-4
ADPE	[kg Sb eq.]	1.66E-5	1.26E-8	2.51E-5	1.72E-10	1.54E-9	0.00E+0	-1.10E-7
ADPF	[MJ]	3.10E+1	6.36E+0	7.65E+1	1.13E-1	5.97E-1	0.00E+0	-7.12E+1
Key	GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential for tropospheric ozone; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources							

RESULTS OF THE LCA – RESOURCE USE: 1 m² layered parquet

Parameter	Unit	A1	A2	A3	C2	C3	C4	D
PERE	[MJ]	5.09E+1	1.08E-1	2.79E+2	1.51E-4	5.99E-2	0.00E+0	1.47E+2
PERM	[MJ]	1.53E+2	0.00E+0	6.66E-1	0.00E+0	-1.54E+2	0.00E+0	0.00E+0
PERT	[MJ]	2.04E+2	1.08E-1	2.80E+2	1.51E-4	-1.54E+2	0.00E+0	1.47E+2
PENRE	[MJ]	3.67E+1	6.40E+0	1.23E+2	1.14E-1	1.15E+0	0.00E+0	-1.28E+2
PENRM	[MJ]	3.55E+0	0.00E+0	0.00E+0	0.00E+0	-3.55E+0	0.00E+0	0.00E+0
PENRT	[MJ]	4.02E+1	6.40E+0	1.23E+2	1.14E-1	-2.40E+0	0.00E+0	-1.28E+2
SM	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
RSF	[MJ]	5.96E+0	0.00E+0	5.26E+0	0.00E+0	0.00E+0	0.00E+0	1.54E+2
NRSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.55E+0
FW	[m ³]	1.03E-1	6.38E-3	2.70E+0	2.14E-6	4.25E-2	0.00E+0	6.34E-2
Key	PERE = Renewable primary energy as energy carrier; PERM = Renewable primary energy as material utilisation; PERT = Total use of renewable primary energy resources; PENRE = Non-renewable primary energy sources as energy carrier; PENRM = Non-renewable primary energy as material utilisation; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water							

RESULTS OF THE LCA: OUTPUT FLOWS AND WASTE CATEGORIES: 1 m² layered parquet

Parameter	Unit	A1	A2	A3	C2	C3	C4	D
HWD	[kg]	2.86E-3	0.00E+0	2.01E-3	0.00E+0	0.00E+0	0.00E+0	2.54E-2
NHWD	[kg]	7.05E-4	0.00E+0	9.72E-4	0.00E+0	0.00E+0	0.00E+0	7.73E-7
RWD	[kg]	2.86E-3	1.07E-5	1.62E-2	2.01E-7	1.98E-4	0.00E+0	-1.78E-2
CRU	[kg]	0.00E+0						
MFR	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	8.95E+0	0.00E+0	0.00E+0
MER	[kg]	0.00E+0	0.00E+0	3.45E-2	0.00E+0	8.95E+0	0.00E+0	-8.99E+0
EEE	[MJ]	0.00E+0						
EET	[MJ]	0.00E+0						
Key	HWD = Hazardous waste disposal; NHWD = Non-hazardous waste disposal; RWD = Radioactive waste disposal; CRU = Components for reuse; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy							

6. LCA: Interpretation

The focus of the interpretation is mainly on the production phase (Modules A1 to A3) as these are based on concrete information from the companies.

Global warming potential (GWP):

Overall, of the fossil greenhouse gases balanced in Modules A1 to A3, 21% from the provision of raw materials and 74% from manufacture are counted. The provision of heat (32%) and electricity consumption

(39%) play a major role here.

Acidification potential (AP):

Especially the burning of wood leads to emissions with high acidification potential. The emission of nitrogen oxides and also sulphur dioxide play a major role. The provision and burning of fuels for drying comprise 63% of the indicator value.

Summer smog (POCP):

The formation of low-lying ozone is caused above all by not fully oxidised hydrocarbons from combustion processes but also by carbon monoxide and nitrogen oxides. In the production of engineered parquet, these originate from the drying process and from burning wood and diesel. The provision and burning of fuels for drying comprise 59% of the indicator value.

Eutrophication potential (EP):

The burning of wood to produce heat is to the fore here, although nitrogen oxides represent the largest proportion of the relevant emissions. The burning of diesel and the production of electricity also play a role.

Ozone depletion potential (ODP):

Corresponding emissions originate above all from combustion and the production of electricity.

Spread of results:

The individual results from participating companies differ from the average results in the environmental product declaration. For the FWP indicator (without biogenic emissions), the results for the total of Modules in A can lie a maximum of 12 kg/m² higher or 3.5 kg/m² lower. For all other indicators, the deviations lie

between a maximum of +246 % and -48 % compared to the average values. The reason for these deviations is mainly differences in the fuels used, their quantities and the specific electricity consumptions of the processes.

Use of primary energy:

Renewable energy carriers mainly in the form of wood were used to produce process heat. Of the total of 330 MJ, less than 11 MJ originate from burning scrap wood.

Non-renewable energy (166 MJ) is mainly used to produce electricity.

Depletion of abiotic resources:

Resources grown for material utilisation are mainly used to produce processing tools. This takes place in the wood raw material chains (39%) and in the production of locally used tools and lubricants (10%). Resources used for energy are mainly depleted to provide electricity.

Waste:

Hazardous waste mainly accrues during the provision of operating materials.

7. Requisite evidence

This EPD describes an average product from several manufacturers. The necessary evidence as part of the declaration of performance in accordance with the building products directive (/EU Directive no. 305/2011/) and /DIN EN 14342/ is provided by the respective manufacturer and can be obtained from them as well as the names of the inspection bodies and the test procedures used.

Requisite evidence:

System for evaluating and testing consistency of performance

Performance characteristics

- Breaking strength
- Fire behaviour

- Formaldehyde emission
- Pentachlorophenol content
- Sliding resistance
- Thermal conductivity
- Biological durability

Evidence of VOC emissions was provided in accordance with the rules in force in the respective country of use and are also stored by the manufacturer.

8. References

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

General principles for the Institut Bauen und Umwelt e.V. (IBU) EPD programme, 2013-04.

Product category rules for building products

Part A: Calculation rules for the LCA and requirements for the background report. 2013-04.

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.

Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) (Ed.):

2011: Service life of components for lifecycle analyses according to Sustainable Building Assessment System (BNB). 11/2011.

Delegated Regulation (EU) No 1292/2014 of 17th July 2014 on the conditions for classification, without testing, of certain uncoated wood floorings under EN 14342 with regard to their reaction to fire.

DIN EN 13489:2003-05 Wood flooring and parquet - Multi-layer parquet elements

DIN EN 13501-1:2007+A1:2009 Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests.

DIN EN 14342:2013 Wood flooring - characteristics, evaluation of conformity and marking.

GaBi Professional database, Version 6.412.

PCR instructions for building-related products and services Part B: Requirements of the EPD for floor coverings. 2014-07.

Rüter, S; Diederichs, S:2012, Basic LCA data for wooden building products, Hamburg, Johann Heinrich von Thünen Institut, Institut für Holztechnologie und Holzbiologie, Final report .

Directive (EU) No 305/2011 of the European Parliament and of the Council of 9th March 2011 laying down harmonised conditions for the marketing of

construction products and repealing Council Directive 89/106/EEC.

Ordinance on Requirements for the Recycling and Disposal of Scrap Wood (Waste Wood Ordinance), 15th August 2002 (Federal Legal Gazette I p. 3302) last modified by Article 5 Paragraph 26 of the Act of 24th February 2012 (Federal Legal Gazette I p. 212).

European Waste Catalogue (EWC): European Waste Catalogue dated 10th December 2001 (Federal Legal Gazette I p. 3379) last modified by Article 5 Paragraph 22 of the Act of 24th February 2012 (Federal Legal Gazette I p. 212).

**Publisher**

Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Tel. +49 (0)30 3087748- 0
Fax +49 (0)30 3087748- 29
Mail info@bau-umwelt.com
Web www.bau-umwelt.com

**Programme holder**

Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Tel. +49 (0)30 3087748- 0
Fax +49 (0)30 3087748- 29
Mail info@bau-umwelt.com
Web www.bau-umwelt.com

**Author of the lifecycle assessment**

Thünen Institut für Holzforschung
Leuschnerstr. 91
21031 Hamburg
Germany

Tel +49 (0)40 73962-600
Fax +49 (0)40 73962-699
Mail holzundklima@ti.bund.de
Web www.ti.bund.de

**Owner of the declaration**

Verband der Deutschen Parkettindustrie e.V.
Flutgraben 2
53604 Bad Honnef
Germany

Tel 02224 - 9377-0
Fax 02224 - 9377-77
Mail info@parkett.de
Web <http://www.parkett.de>