ENVIRONMENTAL PRODUCT DECLARATION

as per /ISO 14025/ and /EN 15804/

Owner of the Declaration	**FunderMax GmbH**
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-FMX-20190036-IBA2-EN
Issue date	18.04.2019
Valid to	17.04.2024

MAX Compact Panels

FunderMax GmbH

Institut Bauen und Umwelt e.V.

www.ibu-epd.com / https://epd-online.com

1. General Information

FunderMax GmbH	MAX Compactplatten
Programme holder IBU - Institut Bauen und Umwelt e.V. Panoramastr. 1 10178 Berlin Germany	**Owner of the declaration** FunderMax GmbH Klagenfurter Straße 87-89 9300 St. Veit/Glan Österreich
Declaration number EPD-FMX-20190036-IBA2-EN	**Declared product / declared unit** 1 m² Compactplatte
This declaration is based on the product category rules: Laminates, 10.2018 (PCR checked and approved by the SVR)	**Scope:** This LCA is based on data for the 2017 financial year and was collected in the Wiener Neudorf plant. 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.
Issue date 18.04.2019	
Valid to 17.04.2024	**Verification** The standard /EN 15804/ serves as the core PCR Independent verification of the declaration and data according to /ISO 14025:2010/ ☐ internally ☒ externally
Prof. Dr.-Ing. Horst J. Bossenmayer (President of Institut Bauen und Umwelt e.V.)	
Dr. Alexander Röder (Managing Director IBU)	Juliane Franze (Independent verifier appointed by SVR)

2. Product

2.1 Product description / Product definition

FunderMax Compact panels are high-pressure decorative laminate panels (HPL) in accordance with /EN 438 – Part 4/ (MAX Compact Interior) and /EN 438 – Part 6/ (MAX Compact Exterior) for use as wall and ceiling panelling as well as furniture panels in interior and exterior applications.

High-pressure decorative laminates are manufactured from cellulosic fibrous material and thermosetting resins. They can be produced in various colours, patterns and surface textures.
MAX Compact Interior and MAX Compact Exterior can be glued, screwed or riveted to metal and wood substructures. A variety of other fastening and connecting materials can also be used.

Directive (EU) No. 305/2011 (CPR) applies for placing the product on the market in the EU/EFTA (with the exception of Switzerland). The product requires a Declaration of Performance taking consideration of the /EN 438-7:2005/, High-pressure decorative laminates (HPL) – Sheets based on thermosetting resins (laminates) – Part 7: Compact panels and HPL composites for internal and external wall and ceiling finishes, and the CE marking.
Use is governed by the respective national regulations. A full list of all valid approvals and test reports is available at www.Fundermax.at.

2.2 Application

Compact panels can be used in both public and private applications. They are particularly suitable for residential applications, hospitals, public buildings, train stations and airports, for public transport, hotels, schools, business premises, sports facilities and industrial applications. Their special features enable the use of HPL in interior applications as wall panelling, railing infills, furniture, tables, column cladding, laboratory facilities, cabins, ceilings, window sills, worktops, business consoles, washstands etc.

2.3 Technical Data

Bautechnische Daten

Name	Value	Unit
Reaction to fire (standard quality) acc. to /EN 13501-1/	D - s2, d0	Class
Reaction to fire (standard quality) acc. to /EN 13501-1/	B - s2, d0	Class
Resistance to fixings acc. to /EN 438-7, section 4.5/	>= 2000	N
Flexural strength acc. to /ISO 178/	>= 80	MPa
Flexural modulus acc. to /ISO 178/	>= 9000	MPa
Release of formaldehyde acc. to /EN 717-1/	E1	Class
Resistance to climatic shock acc.	passed	-

to /EN 438-2, section 19/		
Durability – Resistance to immersion in boiling water acc. to /EN 438-2, section 12/	passed	-
Durability – Resistance to wet conditions acc. to /EN 438-2, section 15/	passed	-
Density acc. to /ISO 1183/	>= 1350	kg/m³

The product's performance values correspond with the Declaration of Performance in terms of its essential properties in accordance with EN 438-7:2005, High-pressure decorative laminates (HLP) – Sheets based on thermosetting resins – Part 7: Compact panels and HPL composite panels for internal and external wall and ceiling finishes.

2.4 Delivery status
FunderMax Compact panels are available as full-size panels or cut-to-size panels with a maximum length of 4100 mm and a maximum width of 1850 mm. MAX Compact Interior panels are available in thicknesses of 2–25 mm while MAX Compact Exterior panels can be produced in thicknesses of 2–20 mm.

2.5 Base materials / Ancillary materials
Compact panels with a thickness of 8.2 mm and an average density of 1450 kg/m³ comprise the following (figures as % by mass per 1m² production):

- Decorative paper 2–12%
- Kraft paper 55–62%
- Melamine resin 2–12%
- Phenol resin 20–32%
- Aluminium 16%

The flame-retardant version also contains up to 4% flame retardant based on phosphorous.

All panels and laminates supplied by FunderMax are products in accordance with the REACH Directive EC No. 1907/2006, Article 3 (3).

1) The product contains substances on the List of Candidates (date: 15.01.2019) exceeding 0.1% by mass: no
2) The product contains other CMR substances in categories 1A or 1B which are not on the candidate list, exceeding 0.1% by mass in at least one partial product: no
3) Biocide products were added to this construction product or it has been treated with biocide products (this then concerns a treated product as defined by the (EU) Ordinance on Biocide Products No. 528/2012): no

2.6 Manufacture
Compact panels are manufactured by pressing cellulosic fibrous material impregnated with thermosetting resins while applying consistent heat (temperature ≥ 120 °C) and high pressure (≥ 5 MPa) to create a homogenous, non-porous material of increased density (≥ 1.35 g/cm³) and the requisite surface quality.

2.7 Environment and health during manufacturing
Waste heat is recovered via heat exchangers.

2.8 Product processing/Installation
The processing properties displayed by FunderMax Compact panels are similar to those when processing hardwood. Tools with carbide tips are essential. Compact panels can be used on substrates or can even be self-supporting if they are of the corresponding thickness. For this, they are fixed using screws or rivets, or glued to substructures. Standard safety guidelines concerning dust precipitation, dust extraction, fire prevention etc. must be observed during processing.

2.9 Packaging
On wooden pallets with base and cover panels (particle board or polypropylene web plate), wrapped in polyethylene foil if required, secured by steel or plastic hoops. Plastic hoops are made of PET.

2.10 Condition of use
The resins and therefore the Compact panels remain permanently stable even when used outdoors. No substances are leached. The mechanical properties remain constant.

2.11 Environment and health during use
FunderMax Compact panels are a crosslinked, duroplastic material. Emissions of formaldehyde or VOC are extremely low and fall significantly short of statutory requirements. They are approved for contact with food in everyday use. Owing to their extremely low level of permeability, they are suitable as a seal against emissions (e.g. formaldehyde) released by the substrate. The decorative surfaces are largely resistant to all household solvents and chemicals; the material has therefore been used for many years in applications in which cleanliness and hygiene are imperative. The closed surface can be easily disinfected using hot water, steam or any disinfectants used in hospitals and commercial applications.

2.12 Reference service life
No uniform reference service life can be indicated on account of the multiple application possibilities. However, the life cycle can exceed 50 years even in areas subject to high levels of wear such as facades /life cycle costs of facades/.

2.13 Extraordinary effects

Fire
Fire safety (tests acc. to EN 13823 and ISO 11925-2 in compliance with the ÖNORM EN 13501-1)
FunderMax Compact panels are difficult to set fire to and tend to delay the propagation of flames, thereby extending the escape time. Like any other organic material, toxic substances can be contained in the smoke if the panels are not incinerated in full. At the customer's request, FunderMax Compact panels are available in F-quality and containing halogen-free flame retardants. In fires involving FunderMax Compact panels, the same fire-fighting techniques can be applied as for other building materials containing wood.

Fire protection

Name	Value
Building material class	B
Burning droplets	s1 (Max Compact F

	Qualität), s2 (MAX Exterior FQualität)
Smoke gas development	d0

Water
FunderMax Compact panels are waterproof. Trapped moisture should be avoided. No ingredients are leached which could be hazardous to health.

Mechanical destruction
FunderMax Compact panels are distinguished by their very high level of mechanical resistance. If however the panels break, sharp-edged fragments can form.

2.14 Re-use phase
Material reuse is not generally possible. Energetic utilisation in industrial firing plants is recommended on account of the high calorific value.

2.15 Disposal
Energy recovery
Waste codes in accordance with the ÖNORM S 2100:18702
Waste code in accordance with the European Waste Catalogue: 17 02 01/03

2.16 Further information
Further information on the properties and processing of FunderMax Compact panels is available at www.fundermax.at.

3. LCA: Calculation rules

3.1 Declared Unit
The declared unit is one square metre of FunderMax Compact panel (8.21 mm thick and density of approx. 1450 kg/m3).

In accordance with the PCR, the declared unit comprises one Compact panel (excluding packaging) with a basis weight of 11.9 kg/m2.

The packaging and transport of packaging is analysed but is not part of the declared unit.

Declared unit

Name	Value	Unit
Declared unit	1	m^2
Grammage	11.9	kg/m^2
Conversion factor to 1 kg	-	-

3.2 System boundary
This is a “cradle-to-gate, with options” EPD. This LCA addresses the life cycle stages A1 – A3, C3 and D in accordance with /EN 15804/.
The product stage comprises the production of all requisite raw materials including all upstream chains as well as CO2 absorption by raw materials (wood growth through photosynthesis). The next processes involve production of the Compact panel including the provision of energy taking consideration of the corresponding upstream chains. All necessary transport for raw materials and ancillaries is considered in the LCA.
The emission of biogenic C02 bound in the product is listed in Module C3, thereby safeguarding CO2 neutrality within the product system.
After use, the product is disposed of in a waste incineration plant which generates thermal energy and electricity. The ensuing effects are declared in Module C3 and the potential energy substitution is declared in Module D.

3.3 Estimates and assumptions
The Compact panels are incinerated in a waste incineration plant (the laminates are generally burned along with the wood-based substrate in such plants). Fundermax Compact panels can be collected in full. It was therefore assumed that 100% are incinerated and thermal evaluation was also assessed with a 100% preparation rate for the products.

Fundermax panels (calorific value: 19 MJ/kg) are recycled in an incineration plant which complies with the EU average. The ensuing emissions are modelled in C3 and the energy coupled by incineration is substituted and allocated to Module D.

3.4 Cut-off criteria
All operating data was taken into consideration. Accordingly, material flows accounting for < 1% have also been analysed. Some of the waste incurred during production was not considered in the study (waste oil, paper). These mass flows are very small. Flows which were not considered account for less than 1% of overall mass. It can therefore be assumed that the total of all neglected processes does not exceed 5% in the impact categories. Accordingly, the cut-off criteria according to /EN 15804/ are complied with.

3.5 Background data
The background data originates from the /GaBi 8.0:2018a/ data base by thinkstep. The respective data base is the /GaBi 2018/, version 8.0.

3.6 Data quality
Data on the products under review was collated at the production facility on the basis of a questionnaire drawn up by thinkstep. The input and output data was made available by FunderMax and examined for plausibility with the result that good data representativity can be assumed.
Data sets are largely available in the /GaBi 8.0:2018a/ data base for the basic materials used in the corresponding formulae. The data base used here was last updated in early 2018.
Other data sets on the upstream chain associated with the manufacture of basic materials are approximated with data sets of similar chemicals or estimated by merging existing data sets.

3.7 Period under review
The primary data collated concerns the period of 2017 (annual average / extrapolated to annual volumes / period of 12 months) and was collected taking consideration of the following data sources:
- Measurements at the plants
- Statistics from in-plant EDP systems
- Piece lists

3.8 Allocation
No co-product allocation is necessary for the LCA of the Compact panels produced by FunderMax as no

coupled products arise during production. In this study, disposal of the material residue from production in incineration plants count as “allocation for multi-input processes”. Taking consideration of the elementary composition and calorific value, substitution is calculated for the energy recovered in the waste incineration plant. This recovered energy following electrical and thermal energy substitution is allocated directly to the production stage. This is possible as the volume does not exceed the energy requirements on the input side for the provision of energy during production and preliminary product manufacturing. The energy under review is of the same quality. No allocation processes were applied for reuse, recycling or recovery in this LCA study of the Compact panel.

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.

The used background database has to be mentioned.

4. LCA: Scenarios and additional technical information

End of Life (C3)

Name	Value	Unit
Collected separately waste type	11.9	kg
Collected as mixed construction waste	0	kg
Reuse	0	kg
Recycling	0	kg
Energy recovery	11.9	kg
Landfilling	0	kg

Name	Value	Unit
Calorific value of Compact panels	19	MJ/kg
Incineration plant efficiency	0,48	
R1-value	>0.6	

After use, the product is disposed of in a waste incineration plant which generates thermal energy and electricity. The ensuing effects are declared in Module C3 and potential credits (energy substitution) are declared in Module D.

5. LCA: Results

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 BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	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	MND	MND	MND	MND	MNR	MNR	MNR	MND	MND	MND	MND	X	MND	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: 1 m² Compactplatte

Parameter	Unit	A1-A3	C3	D
Global warming potential	[kg CO_2-Eq.]	2.09E+1	1.89E+1	-8.74E+0
Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	1.29E-10	2.95E-13	-6.44E-12
Acidification potential of land and water	[kg SO_2-Eq.]	4.37E-2	1.72E-2	-8.28E-3
Eutrophication potential	[kg $(PO_4)^{3-}$-Eq.]	9.76E-3	4.52E-3	-1.12E-3
Formation potential of tropospheric ozone photochemical oxidants	[kg ethene-Eq.]	5.33E-3	1.10E-3	-8.96E-4
Abiotic depletion potential for non-fossil resources	[kg Sb-Eq.]	1.01E-5	2.32E-6	-1.10E-6
Abiotic depletion potential for fossil resources	[MJ]	5.22E+2	1.53E+1	-1.38E+2

RESULTS OF THE LCA - RESOURCE USE: 1 m² Compactplatte

Parameter	Unit	A1-A3	C3	D
Renewable primary energy as energy carrier	[MJ]	1.41E+2	1.23E+0	-1.02E+1
Renewable primary energy resources as material utilization	[MJ]	1.34E+2	0.00E+0	0.00E+0
Total use of renewable primary energy resources	[MJ]	2.75E+2	1.23E+0	-1.02E+1
Non-renewable primary energy as energy carrier	[MJ]	4.04E+2	1.60E+1	-1.49E+2
Non-renewable primary energy as material utilization	[MJ]	1.35E+2	0.00E+0	0.00E+0
Total use of non-renewable primary energy resources	[MJ]	5.39E+2	1.60E+1	-1.49E+2
Use of secondary material	[kg]	0.00E+0	0.00E+0	0.00E+0
Use of renewable secondary fuels	[MJ]	0.00E+0	0.00E+0	0.00E+0
Use of non-renewable secondary fuels	[MJ]	0.00E+0	0.00E+0	0.00E+0
Use of net fresh water	[m³]	1.27E-1	5.79E-2	-1.39E-2

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: 1 m² Compactplatte

Parameter	Unit	A1-A3	C3	D
Hazardous waste disposed	[kg]	4.99E-6	3.34E-8	-5.44E-8
Non-hazardous waste disposed	[kg]	1.75E+0	1.19E+0	-3.58E-2
Radioactive waste disposed	[kg]	6.73E-3	2.60E-4	-4.42E-3
Components for re-use	[kg]	0.00E+0	0.00E+0	IND
Materials for recycling	[kg]	0.00E+0	0.00E+0	IND
Materials for energy recovery	[kg]	0.00E+0	1.19E+1	IND
Exported electrical energy	[MJ]	0.00E+0	0.00E+0	-1.26E+1
Exported thermal energy	[MJ]	0.00E+0	0.00E+0	-1.10E+2

6. LCA: Interpretation

In all impact categories under review, the provision of raw materials plays a significant role (approx. 39–103%) except for the GWP where C3 is the largest contributor (CO2 emissions by the waste incineration plant).
The greenhouse warming potential is the result of carbon dioxide during production. The inclusion of CO2 by using wood in paper production is countered by other CO2 emissions from the provision of raw materials which have an impact on greenhouse warming.
The net balance of C stored in the product and the emissions from production accounts for 20.9 kg CO2 equivalent. All other GWP-relevant emissions are caused by incineration. These (biogenic) CO2 emissions are declared in C3 (18.9 kg CO2 equivalent).
Production including waste treatment and the production of auxiliaries reveal a minimum influence in all impact categories.
Transport contributes only 4.7% to the GWP.

Ozone Depletion Potential
The ozone depletion potential is primarily incurred by the use of paper in the production of Fundermax panels where organic emissions into the air containing halogens are responsible for the ozone depletion potential.
Substituting the ensuing energy utilisation of Fundermax panels at the end-of-life reduces the

overall ozone depletion potential. Here too, organic emissions into the air containing halogens are the main drivers for the ozone depletion potential.

Acidification Potential
Acidification is primarily caused by the provision of raw materials (61.42%) (Kraft liner and phenol). Other contributors are sulphur dioxide and nitrogen oxide emissions from the provision of energy. Here too, Kraft liner and phenol are the main contributors accounting for more than 68% of the overall impact within the modules under review (A1-A3).

Eutrophication Potential
Eutrophication is primarily influenced by the provision of raw materials and in particular the NOx emissions in the upstream chains. During transport, the influence is also primarily attributable to NOx emissions where Kraft liner is the main contributor accounting for approx. 46% of overall impact within the product system under review (A1-A3).

Photochemical Ozone Creation Potential
POCP is dominated by the provision of raw materials. The main contributors here are NMVOC, nitrogen oxide and sulphur dioxide emissions from the provision thereof. POCP indicates a negative value for transport (trucks). This is the result of NO emissions during transport. NO counters POCP in the calculation here.

Abiotic Depletion of Resources (fossil)
ADP primarily arises through the consumption of non-renewable fossil energy resources such as natural gas and pit coal.
The primary contributors here are the phenol and Kraft liners used.

Abiotic Depletion of Resources (elementary)
ADP elementary primarily arises here through non-regenerative material resources such as metals or rock salt.
The phenol (38.6%) and paper (31%) used in A1-A3 make particular contributions here.

The results indicated in the following table were calculated by applying the Traci method (Traci 2.1).

LCA RESULTS – ENVIRONMENTAL IMPACT: 1 m² Compact panel (11.9 kg)				
		Compact panel		
		Production stage	Waste processing	Net credits and loads
Parameter	**Unit**	**A1-A3**	**C3**	**D**
Global warming potential (GWP)	[kg CO_2 equiv.]	2.09E+01	1.89E+01	-8.74E+00
Ozone depletion potential (ODP)	[kg CFC11 equiv.]	1.29E-10	2.95E-13	-6.44E-12
Acidification potential of soil and water (AP)	[kg SO_2 equiv]	5.48E-02	2.37E-02	-9.19E-03
Eutrophication potential (EP)	[kg PO_4^3 equiv.]	1.10E-02	1.67E-03	-5.70E-04
Photochemical ozone creation potential (POCP)	[kg O_3 equiv.]	1.03E+00	7.89E-01	-1.87E-01
Resources - Fossil resources	MJ	7.19E+01	1.89E+00	-1.91E+01

LCA RESULTS – USE OF RESOURCES: 1 m² Compact panel (11.9 kg)				
		Compact panel		
		Production stage	Waste processing	Net credits and loads
Parameter	**Unit**	**A1-A3**	**C3**	**D**
Renewable primary energy as energy carrier (PERE)	MJ	1.41E+02	1.23E+00	-1.02E+01
Renewable primary energy as material utilisation (PERM)	MJ	1.34E+02	0.00E+00	0.00E+00
Total use of renewable primary energy sources (PERT)	MJ	2.75E+02	1.23E+00	-1.02E+01
Non-renewable primary energy as energy carrier (PERE)	MJ	4.0360E+02	1.6000E+01	-1.4900E+02
Non-renewable primary energy as material utilisation (PENRM)	MJ	1.354E+02	0.00E+00	0.00E+00
Total use of non-renewable primary energy sources (PENRT)	MJ	5.3900E+02	1.60E+01	-1.49E+02
Use of secondary materials (SM)	[kg]	0.00E+00	0.00E+00	0.00E+00
Renewable secondary fuels (RSF)	MJ	0.00E+00	0.00E+00	0.00E+00
Non-renewable secondary fuels (NRSF)	MJ	0.00E+00	0.00E+00	0.000E+00
Net use of fresh water (FW)	[m³]	1.27E-01	5.79E-02	-1.39E-02

LCA RESULTS – OUTPUT FLOWS AND WASTE CATEGORIES: 1 m² Compact panel (11.9 kg)				
		Compact panel		
		Production stage	Waste processing	Net credits and loads
Parameter	**Unit**	**A1-A3**	**C3**	**D**
Hazardous waste for disposal (HWD)	[kg]	4.99E-06	3.34E-08	-5.44E-08
Non-hazardous waste for disposal (NHWD)	[kg]	1.75E+00	1.19E+00	-3.58E-02
Radioactive waste for disposal (RWD)	[kg]	6.73E-03	2.60E-04	-4.42E-03
Components for re-use (CRU)	[kg]	0.00E+00	0.00E+00	IND
Materials for recycling (MFR)	[kg]	0.00E+00	0.00E+00	IND
Materials for energy recovery (MER)	[kg]	0.00E+00	1.19E+01	IND
Exported energy per type (electricity)	MJ	0.00E+00	0.00E+00	IND
Exported energy per type (thermal energy)	MJ	0.00E+00	0.00E+00	IND

7. Requisite evidence

7.1 Formaldehyde
Measuring agency: ISEGA- Forschungs- und Untersuchungs-Gesellschaft mbH, 63704 Aschaffenburg; Postfach 100565 63741 Aschaffenburg, Zeppelinstr. 3-5, Germany
Test reports, date: 29.08.2011
Overall migration result:

Sample 1: 3.8 mg/dm2
Sample 2: 2.7 mg/dm2
GC-MS screening result: No links could be found.

7.2 Melamine

Measuring agency: ISEGA- Forschungs- und Untersuchungs-Gesellschaft mbH, 63704 Aschaffenburg; Postfach 100565 63741 Aschaffenburg, Zeppelinstr. 3-5, Germany
Test reports, date: 29.08.2011
Overall migration result:
Sample 1: 3.8 mg/dm2
Sample 2: 2.7 mg/dm2
GC-MS screening result: No links could be found.

7.3 Overall migration

Measuring agency: ISEGA- Forschungs- und Untersuchungs-Gesellschaft mbH, 63704 Aschaffenburg; Postfach 100565 63741 Aschaffenburg, Zeppelinstr. 3-5, Germany
Test reports, date: 29.08.2011
Overall migration result:
Sample 1: 3.8 mg/dm2
Sample 2: 2.7 mg/dm2
GC-MS screening result: No links could be found.

7.4 Eluate analysis

FUNDERMAX Compact panels have IIIa eluate classification as per ÖNORM S2072 and have waste code 57101 Phenol and melamine resin acc. to ÖN S2100. They are classified as being “similar to household waste”.

7.5 Phenol

Measuring agency: ISEGA- Forschungs- und Untersuchungs-Gesellschaft mbH, 63704 Aschaffenburg; Postfach 100565 63741 Aschaffenburg, Zeppelinstr. 3-5, Germany
Test reports, date: 29.08.2011
Overall migration result:
Sample 1: 3.8 mg/dm2
Sample 2: 2.7 mg/dm2
GC-MS screening result: No links could be found.

7.6 Formaldehyde

Measuring agency: Entwicklungs- und Prüflabor Holztechnologie GmbH, Zellescher Weg 24, 01217 Dresden, Germany
Test reports, date: 25.07.2011
Result: The test for formaldehyde content was carried out in accordance with the AgBB scheme for individual verification of formaldehyde.
Measurement 0.01 ppm after 3 days
Measurement 0.01 ppm after 7 days
The “Compact panel” product tested complies with the requirements of the AgBB scheme.

8. References

/IBU 2016/
IBU (2016): General Programme Instructions for the Preparation of EPDs at the Institut Bauen und Umwelt e.V., Version 1.1 Institut Bauen und Umwelt e.V., Berlin.
www.ibu-epd.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

/IBU, Part A/
PCR, Product Category Rules for building-related products and services – Part A: Calculation rules for the LCA and requirements on the Project Report, version 1.7, Institut Bauen und Umwelt e.V., www.ibu-epd.com, 2018

/IBU, Part B/
PCR, Product Category Rules for building-related products and services – Part B: Requirements on the EPD for laminates, version 1.1, Institut Bauen und Umwelt e.V., www.ibu-epd.com, 2018

/DIN EN 438-7:2005-04/
High-pressure decorative laminates (HPL) – Sheets based on thermosetting resins (laminates) – Part 7: Compact panels and HPL composite panels for internal and external wall and ceiling finishes; German version EN 438-7:2005

/DIN EN 438-2:2016-06/
High-pressure decorative laminates (HPL) – Sheets based on thermosetting resins (laminates) – Part 2: Determination of properties; German version EN 438-2:2016

/DIN EN 438-4:2016-06/
High-pressure decorative laminates (HPL) – Sheets based on thermosetting resins (laminates) – Part 4: Classification and specifications for compact laminates of thickness 2 mm and greater; German version EN 438-2:2016

/DIN EN 438-6:2016-06/
High-pressure decorative laminates (HPL) – Sheets based on thermosetting resins (laminates) – Part 4: Classification and specifications for exterior-grade compact laminates of thickness 2 mm and greater; German version EN 438-2:2016

/DIN EN 12721:2009-07/
Furniture – Assessment of surface resistance to wet heat; German version EN 12721:2009

/DIN EN 13823:2015-02/
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