



Owner: No.: Issued: Valid to:

[Hørning Parket A/S] MD-22072-EN 31-03-2023 31-03-2028

3<sup>rd</sup> PARTY VERIFIED



VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | ISO 14025 & EN 15804





FLOORS FOR GENERATIONS



### Owner of declaration

Hørning Parket A/S Christiansmindevej 12 8660 Skanderborg, Denmark CVR-nr.: 33965362

#### Programme EPD Danmark

www.epddanmark.dk

□ Industry EPD ☑ Product EPD

### Declared product(s):

- Solid Parquet Block (DK) 15/20 mm thickness (Untreated)
- Solid Parquet Block (EU) 16/22 mm thickness (Untreated)
- Whalebone 16/20 mm thickness (Untreated)
- Chevron 16/20 mm thickness (Untreated)
- Solid Line 10/15 mm thickness (Untreated)
- Industrial parquet 10/23 mm thickness (Untreated)
- End Grain Floor 15/22 mm thickness (Untreated)
- Mosaic parquet 8/10 mm thickness (Untreated)

The EPD covers two hardwood types - oak and ash. The moisture content of the products is  $8\% \pm 2\%$ 

Number of declared datasets/product variations: 8

#### **Production site**

Production site of Skanderborg in Denmark

#### Product(s) use

Solid wood pattern floors, which is ready to be installed in accordance with the instructions of Hørning Parket A/S. Results are listed for floors with no surface treatment. Supplementary datasheets for optional surface treatment at suppliers (A1) can be found in the section, *Additional Information*.

The floor is intended for indoor use.

#### **Declared unit**

1 m<sup>2</sup> solid hardwood floor in oak or ash.

Year of data 2021

## EPD version

[2], March 2023

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FLOORS FOR GENERATIONS

## **K**epddanmark

**Issued:** 31-03-2023

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**Basis of calculation** This EPD is developed in accordance with the European standard EN 15804:2012+A2:2019.

### Comparability

EPDs of construction products may not be comparable if they do not comply with the requirements in EN 15804:2012+A2:2019. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804:2012 +A2:2019 and if the background systems are not based on the same database.

### Validity

This EPD has been verified in accordance with ISO 14025:2010 and is valid for 5 years from the date of issue.

#### Use

The intended use of an EPD is to communicate scientifically based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

#### EPD type

Cradle-to-gate with modules C1-C4 and D
 Cradle-to-gate with options, modules C1-C4 and D
 Cradle-to-grave and module D
 Cradle-to-gate
 Cradle-to-gate with options

CEN standard EN 15804:2012+A2:2019 serves as the core PCR Independent verification of the declaration and data, according to EN ISO 14025:2010

internal



⊠ external

Martha Katrine Sørensen EPD Danmark

Life	cycle	e sta	ges a	nd mo	odule	s (MN	ID = 1	modu	le no	t decl	ared)					
F	roduc	t	Consti pro	ruction cess		Use			End of life			Beyond the system boundary				
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and 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	MND	MND	MND	MND	MND	X	X	X	x	x



# Product Information

## **Product Description:**

The products assessed in this study are solid wood pattern floors, which is ready to be installed in accordance with the instructions of Hørning Parket A/S. <u>LCA Results</u> are listed for untreated floors without surface treatment. Because of this, supplementary datasheets for two types of generic coating can be found in the section, <u>Additional Information</u>, and subsequently added to the results to account for the optional surface treatment during the raw material supply stage (A1). Datasheets for the declared products (untreated) can be found here:

- Solid Parquet Block (DK) 15/20 mm thickness
- Solid Parquet Block (EU) 16/22 mm thickness
- Whalebone 16/20 mm thickness
- <u>Chevron 16/20 mm thickness</u>
- Solid Line 10/15 mm thickness
- Industrial Parquet 10/23 mm thickness
- End Grain Floor 15/22 mm thickness
- <u>Mosaic Parquet 8/10 mm thickness</u>

The main product components are shown in the table below excluding the optional surface treatment (See <u>Additional Information</u>). Materials account for 100% of the mass of the declared product.

Material	Weight-% of product
Wood (Untreated)	98-100%
Holding Material*	0-2%
Total	100%

Table 1: Mass distribution of declared products. \*e.g. PET tape, BOPP film, PVA adhesive, or wood strips

The product packaging is shown in the table below. Materials account for 100% of the mass of the product packaging.

Material	Weight-% of packaging
EUR Pallet, reusable	41.0%
Cardboard	42.6%
Packaging film	16.4%
Total	100%

Table 2: Mass distribution of product packaging

### **Representativity:**

This declaration, including data collection and the modelled foreground system including results, represents the production of the declared products by Hørning Parket A/S in Skanderborg, Denmark, which is also the representative geographical area. Product specific data are based on average values collected at the production site for the year 2021. Background data are based on ecoinvent 3.8 (Released 09-2021) and complies with the EN 15804:2012 +A2:2019, Section 6.3.8.2, by being less than 10 years old. Generally, the background datasets used are of high quality with a reference year of 2021 in line with release of the database. Almost all datasets are locally and/or regionally representative (e.g. Denmark or Europe), and electricity is country specific. In processes deemed particularly important (e.g. sawmill activities), the electricity mix has been modified to reflect local production conditions.

### **Hazardous Substances:**

The solid wooden floors by Hørning Parket A/S, that are analyzed in this study, do not contain any substances listed in the "Candidate List of Substances of Very High Concern for Authorisation"

(http://echa.europa.eu/candidate-list-table)

## **Essential characteristics:**

Hørning Parket A/S products are generally CE certified in accordance with the EC declaration regarding wooden floors for indoor usage EN 14342:2013.

Thermal conductivity, [W/m°K]:

• Oak and Ash: 0.16

Thermal resistance, [m<sup>2</sup> °K/W]:

- 8 mm wooden oak or ash floor 0.050
- 10 mm wooden oak or ash floor 0.063
- 15 mm wooden oak or ash floor 0.094
- 16 mm wooden oak or ash floor 0.100
- 20 mm wooden oak or ash floor 0.125
- 22 mm wooden oak or ash floor 0.138
- 23 mm wooden oak or ash floor 0.144
- 28 mm wooden oak or ash floor 0.175

Further technical information can be obtained by contacting the manufacturer, Hørning Parket A/S, or on the manufacturers website:

https://www.horningfloor.dk/

## **Reference Service Life (RSL):**

No reference service life (RSL) is declared since the scope of this EPD is cradle-to-gate with modules C1-C4 and D. As a result, the use stage (B1-B7) of the declared products is not included.





**Picture of Products:** 



Figure 1: Solid Parquet Block (DK)



Figure 2: Solid Parquet Block (EU)



Figure 3: Whalebone



Figure 4: Chevron



Figure 5: Solid Line



Figure 7: End Grain Floor



Figure 6: Industrial Parquet



Figure 8: Mosaic Parquet



# LCA Background

## Declared unit (DU):

The declared unit of this EPD is:  $1 m^2$  of solid hardwood floor in oak or ash. The product variations include two different wood species (oak and ash) and the highest and lowest options for floor thickness. The properties of each product variation are presented in the tables below:

Product	Thickness [mm]	Adhesive [g]	Tape [g]	BOPP film [g]	Strips [g]	Wood [kg]	Total weight [kg]	Scaling factor
Called Davrante Dia als (DIA)	15	-	-	-	-	9.75	9.75	1.00
Solid Parquet Block (DK)	20	-	-	-	-	13.00	13.00	1.25
	16	-	-	-	-	10.40	10.40	1.00
Solid Parquet Block (EU)*	22	-	-	-	-	14.30	14.30	1.38
Whalebone*	16	-	-	-	-	10.40	10.40	1.00
	20	-	-	-	-	13.00	13.00	1.25
	16	-	-	-	-	10.40	10.40	1.00
Chevron*	20	-	-	-	-	13.00	13.00	1.25
Calid Line*	10	-	-	-	127	6.50	6.63	1.00
Solid Line*	15	-	-	-	127	9.75	9.88	1.50
To do a batal a success b	10	-	-	4	-	6.50	6.50	1.00
Industrial parquet	23	-	-	4	-	14.95	14.95	2.30
Fuel Casia Flaga	15	-	14	-	-	9.75	9.76	1.00
End Grain Floor	22	-	21	-	-	14.30	14.32	1.47
M	8	23	-	-	-	5.20	5.22	1.00
Mosaic parquet	10	23	-	-	-	6.50	6.52	1.25

Table 3: Product properties and scaling factor for each declared product. \*Optional surface treatment at supplier

The scaling factor can be applied to the results to account for an alternative thickness. See the section, <u>Additional Information</u>, for further guidance concerning scaling factors. The total weight per declared unit  $(1 \text{ m}^2)$  is calculated based on the measurements of the various floor components. The density of oak and ash are both 650 kg/m<sup>3</sup> at 8 % moisture content. The amount of holding materials (i.e. tape, BOPP film and adhesive) for the floor is minimal compared to the use of wood.

## **Product Category Rules (PCR):**

This EPD is developed according to the core rules for the product category of construction products in EN 15804:2012+A2:2019 (2019-11-04), and cPCR EN 16485:2014 (2014-05-02) concerning wood and wood-based products for use in construction.

## Guarantees of Origin (GOs):

The declared products are <u>not</u> produced using guarantees of origin (GOs) for the energy consumption during the manufacturing stage at the facilities of Hørning Parket A/S in Skanderborg (A3).

## **Foreground System:**

The production at Hørning Parket A/S (A3) is modelled based on site-specific data for the year 2021. The electricity consumption is modelled as an average supply mix in Denmark. The remaining activities are likewise modelled with average supply mixes representing the individual countries (e.g. FR & PL) or regions (e.g. EU) pertaining to the specific processes in the value chain.

## Background System:

The database, ecoinvent 3.8. (published in 09-2021) is utilized for the background system. As a result both upstream- and downstream activities are based on average supply mixes for the specific country or region depending on the given dataset.

## System Boundary:

This study is cradle-to-gate with modules C1-C4 and D, in which 100 weight-% has been accounted for. The general rules for the exclusion of inputs and outputs follows the requirements specified in EN 15804:2012+A2:2019, Section





6.3.6, where the total of neglected input flows per module shall be a maximum of 5 % of energy usage and mass and 1 % of renewable and nonrenewable primary energy usage and mass for unit processes. In addition, particular care has been taken to include materials and flows known to have the potential to cause significant emissions into air, water and soil related to the environmental indicators assessed in this study. In this respect, conservative assumptions in combination with plausibility considerations and expert judgement has been used to demonstrate compliance with this criterion.

It should be noted, that the surface treatment is assessed as an optional product activity for certain solid wood pattern floors. The rules and criteria of the declared products are hence extended to the supplementary datasets, which should not be applied to any other products than indicated in this EPD.

## Product stage (A1-A3):

The product stage comprises the acquisition of all raw materials, products and energy, transport to the production site, packaging and waste processing up to the "end-of-waste" state or final disposal. The LCA results are declared in aggregated form for the product stage, which means, that the sub-modules A1, A2, and A3 are declared as one module A1-A3. All the floor products in this study consist of wooden planks made of either oak or ash. For the premanufactured solid wooden some floors additional tape or oak strips are used to hold the planks together. As prescribed by EN 15804:2012 +A2:2019. material flows carrying specific inherent properties i.e. energy content or elementary composition (e.g. biogenic carbon content), shall always be allocated reflecting the physical flow, irrespective of the allocation chosen for the process. Consequently, all by products resulting in downstream processes (e.g. boards and sawdust) are attributed the burdens of the forestry activities and transport from forests to the sawmill by mass allocation, which has required modifications to the generic datasets.

Furthermore, the following declared products have the option to receive surface treatment during the raw material supply stage (A1):

- Solid Parquet Block (EU) 16/22 mm thickness
- Whalebone 16/20 mm thickness
- Chevron 16/20 mm thickness

• Solid Line 10/15 mm thickness

The optional surface treatment assumes that coating is subsequently not necessary during installation of the floor (A5). The optional surface treatment come in two variations: (i) Lacquer which is a wood finish commonly used for wooden floors due to its protective properties and limited maintenance required. Additionally, lacquer is fast drying, impervious to water, and maintains its transparency as it ages. (ii) Oil treatment which is a type of wood finish that is commonly used to protect and enhance the appearance of wooden surfaces. The coating is designed to penetrate into the wood, providing a durable, water-resistant finish that enhances the natural beauty of the wood grain. Due to the scope of this EPD, additional surface treatment during the use stage (B1-B7) is not accounted for in the supplementary datasets and should consequently be added when assessing the full life cycle of the products since it will affect the reference service life (RSL). Curing and hardening of both types of surface treatment is done with ultraviolet (UV) light. It should be noted, that the same amount of surface treatment is applied regardless of floor thickness. Because of this, scaling factors (See Table 3) should always be applied before adding the supplementary datasets to the results of the declared product. For additional information regarding the a supplementary datasets, please refer to the section, Additional Information.

Concerning the production at the Hørning Parket A/S facilities (A3), electricity, district heating, diesel and propane (for forklifts) are used as energy sources. Due to the disparity between processing of locally produced and premanufactured products, economic allocation is applied to the energy consumption on the site. Consequently, the share of gross profit is used as an allocation key since the difference in profit represents the additional energy and work that has gone into drying, splitting, and planning, compared to the pre-manufactured products. Electricity is the main source for the operation of the facilities, whereas district heat are used for drying planks and maintaining a comfortable working environment. Hørning Parket A/S uses water for both sanitary purposes and for the process of maintaining the humidity of all solid wooden floors in storage.





### End-of-Life Stage (C1-C4):

The deconstruction of the products covered by this study is assumed to be done manually, and thus does not require any processes with an environmental impact. Solid floors are assumed to be transported from the demolition site to a waste facility where they are shredded. After this, the wood chips are transported to a municipal plant where they are incinerated for energy recovery. 100% of the product is processed by energy recovery through municipal incineration. As specified in the cPCR, EN 16485:2014, Section 6.3.4.5, page 18, the default attribution of endof-life processes of wood and wood-based products does not include landfilling (C4) after energy recovery.

#### **Flowchart:**

## Re-use, Recovery, & Recycling Potential (D):

All of the materials used in the production and maintenance of pallets have potential benefits and load beyond the system boundary. Primarily this consists of the waste wood, which is sent for energy recovery through municipal incineration with fly ash extraction. Electricity generated through the waste incineration at the CHP plant is assumed to replace the average Danish electricity mix, while thermal energy is utilized as district heating. Due to the constrained conditions of the technologies on the market, it is assumed that thermal energy replaces heating from natural gas.

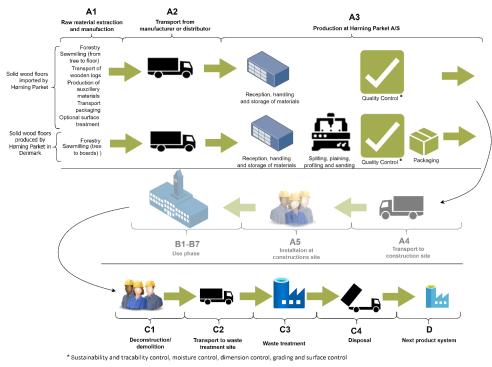


Figure 9: Product life cycle illustrated as a flowchart

## LCA Results

Due to the multiple declared products covered by this EPD, a series of results for each product is presented. Note, that the additional indicator for soil quality (SQP) is not declared (ND), which is why results are denoted as *Indicator not assessed (INA)*. The datasets for each of the declared products can be found on the following pages:

- Page 8-9: <u>Solid Parquet Block (DK) 15/20 mm thickness (Untreated)</u>
- Page 10-11: Solid Parquet Block (EU) 16/22 mm thickness (Untreated)
- Page 12-13: <u>Whalebone 16/20 mm thickness (Untreated)</u>
- Page 14-15: Chevron 16/20 mm thickness (Untreated)
- Page 16-17: Solid Line 10/15 mm thickness (Untreated)
- Page 18-19: Industrial Parquet 10/23 mm thickness (Untreated)
- Page 20-21: End Grain Floor 15/22 mm thickness (Untreated)
- Page 22-23: Mosaic Parquet 8/10 mm thickness (Untreated)



## Solid Parquet Block (DK) 15 mm thickness (Untreated):

	Soli			m thickness (						
		ENVIRON	IMENTAL IMP	PACTS PER 1	m²					
Parameter	Unit	A1-A3	C1	C2	C3	C4	D			
GWP-total	[kg CO <sub>2</sub> eq.]	-1.31E+01	0.00E+00	1.62E-01	1.55E+01	0.00E+00	-1.47E+00			
GWP-fossil	[kg CO <sub>2</sub> eq.]	2.18E+00	0.00E+00	1.62E-01	1.86E-01	0.00E+00	-1.43E+00			
GWP-biogenic	[kg CO <sub>2</sub> eq.]	-1.53E+01	0.00E+00	1.38E-04	1.53E+01	0.00E+00	-3.17E-02			
GWP-luluc	[kg CO <sub>2</sub> eq.]	1.49E-02	0.00E+00	6.36E-05	1.43E-04	0.00E+00	-1.33E-03			
ODP	[kg CFC 11 eq.]	3.39E-07	0.00E+00	3.75E-08	1.17E-08	0.00E+00	-6.50E-08			
AP	[mol H⁺ eq.]	1.02E-02	0.00E+00	6.58E-04	1.74E-03	0.00E+00	-2.93E-03			
EP-freshwater	[kg PO₄ eq.]	8.55E-04	0.00E+00	1.04E-05	8.86E-05	0.00E+00	-4.82E-04			
EP-marine	[kg N eq.]	3.13E-03	0.00E+00	1.98E-04	8.69E-04	0.00E+00	-8.26E-04			
EP-terrestrial	[mol N eq.]	3.44E-02	0.00E+00	2.16E-03	8.39E-03	0.00E+00	-9.06E-03			
POCP	[kg NMVOC eq.]	1.26E-02	0.00E+00	6.63E-04	2.05E-03	0.00E+00	-2.20E-03			
ADPm <sup>1</sup>	[kg Sb eq.]	7.53E-06	0.00E+00	5.63E-07	5.62E-07	0.00E+00	-3.51E-06			
ADPf <sup>1</sup>	[MJ]	3.24E+01	0.00E+00	2.45E+00	1.85E+00	0.00E+00	-2.34E+01			
WDP <sup>1</sup>	[m <sup>3</sup> world eq. deprived]	3.00E-01	0.00E+00	7.34E-03	3.31E-02	0.00E+00	-2.20E-01			
	GWP-total = Globale V									
Caption	Potential - biogenic; GWP freshwater = Eutrophicati									
Capilon										
	POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water use									
Diceloimer	<sup>1</sup> The results of this en	vironmental indicat				ults are high or as tl	nere is limited			
Disclaimer			experience	ed with the indicato	r.					

Table 4: Core environmental impact indicators for 1 m<sup>2</sup> of Solid Parquet Block (DK) 15mm

	Solid Parquet Block (DK) 15 mm thickness (Untreated) ADIDITIONAL ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>										
Parameter	A Unit	A1-A3				C4	D				
PM	[Disease incidence]	1.73E-07	0.00E+00	1.40E-08	1.76E-08	0.00E+00	-1.53E-08				
IRP <sup>2</sup>	[kBq U235 eq.]	3.27E-01	0.00E+00	1.26E-02	1.71E-02	0.00E+00	-1.62E-01				
ETP-fw <sup>1</sup>	[CTUe]	3.96E+01	0.00E+00	1.91E+00	3.21E+00	0.00E+00	-1.43E+01				
HTP-c <sup>1</sup>	[CTUh]	1.52E-09	0.00E+00	6.19E-11	4.04E-10	0.00E+00	-2.90E-10				
HTP-nc <sup>1</sup>	[CTUh]	3.66E-08	0.00E+00	2.00E-09	1.78E-08	0.00E+00	-8.36E-09				
SQP	-	INA	INA	INA	INA	INA	INA				
Caption	PM = Particulate Matte		lonizing radiation – ic = Human toxicity -				Human toxicity –				
	<sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.										
Disclaimer	<sup>2</sup> This impact category not consider effects due Potential ionizing	to possible nuclea		ional exposure nor o	lue to radioactive wa	aste disposal in unde	erground facilities				

Table 5: Additional environmental impact indicators for 1 m<sup>2</sup> of Solid Parquet Block (DK) 15mm

		Solid Parque	t Block (DK) 1	5 mm thicknes	s (Untreated)						
			<b>RESOURCE</b> U	JSE PER 1 m <sup>2</sup>							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D				
PERE	[MJ]	6.52E+01	0.00E+00	3.46E-02	6.79E-01	0.00E+00	-7.55E+00				
PERM	[MJ]	1.83E+02	0.00E+00	0.00E+00	-1.83E+02	0.00E+00	0.00E+00				
PERT	[MJ]	2.49E+02	0.00E+00	3.46E-02	-1.83E+02	0.00E+00	-7.55E+00				
PENRE	[MJ]	3.24E+01	0.00E+00	2.45E+00	1.85E+00	0.00E+00	-2.34E+01				
PENRM	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
PENRT	[MJ]	3.24E+01	0.00E+00	2.45E+00	1.85E+00	0.00E+00	-2.34E+01				
SM	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
RSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
NRSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
FW	[m <sup>3</sup> ]	3.55E-02	0.00E+00	2.73E-04	4.16E-03	0.00E+00	-2.56E-02				
Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of the primary energy resources; PENRE = Use of the primary energy excluding non renewable primary energy resources; PENRE = Use of the primary energy excluding non renewable primary energy resources; PENRE = Use of the primary energy excluding non renewable primary energy resources; PENRE = Use of the primary energy excluding non renewable primary energy resources; PENRE = Use of the primary energy										

Table 6: Parameters describing resource use for 1 m<sup>2</sup> of Solid Parquet Block (DK) 15mm





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			t Block (DK) 1 EGORIES AND				
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	7.18E-05	0.00E+00	6.40E-06	1.98E-05	0.00E+00	-2.08E-05
NHWD	[kg]	1.39E+00	0.00E+00	1.26E-01	7.16E-02	0.00E+00	-6.38E-02
RWD	[kg]	1.87E-04	0.00E+00	1.66E-05	5.70E-06	0.00E+00	-4.12E-05
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	[kg]	6.47E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	[MJ]	0.00E+00	0.00E+00	0.00E+00	8.24E+00	0.00E+00	0.00E+00
EET	[MJ]	0.00E+00	0.00E+00	0.00E+00	3.09E+01	0.00E+00	0.00E+00
Caption					posed; RWD = Rac erials for energy reco		

 Caption
 Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EE = Exported energy

 Table 7: End-of-life (waste categories and output flows) for 1 m<sup>2</sup> of Solid Parquet Block (DK) 15mm

	Solid Parquet Block (DK) 15 mm thickness (Untreated) BIOGENIC CARBON CONTENT PER 1 m <sup>2</sup>									
Parameter	Unit	At the factory gate								
Biogenic carbon content in product	[kg C]	4.51								
Biogenic carbon content in accompanying packaging	[kg C]	0.10								
Note		1 kg biogenic carbon is equivalent to 44/12 kg of $CO_2$								

Table 8: Biogenic carbon content at factory gate for 1 m<sup>2</sup> of Solid Parquet Block (DK) 15mm



## Solid Parquet Block (EU) 16 mm thickness (Untreated):

	Solid		ck (EU) 16 mr						
Parameter	Unit	A1-A3	MENTAL IMP. C1	C2	m² C3	C4	D		
GWP-total	[kg CO <sub>2</sub> eq.]	-1.29E+01	0.00E+00	1.73E-01	1.65E+01	0.00E+00	-1.57E+00		
GWP-fossil	[kg CO <sub>2</sub> eq.]	3.37E+00	0.00E+00	1.73E-01	1.98E-01	0.00E+00	-1.53E+00		
GWP-biogenic	[kg CO <sub>2</sub> eq.]	-1.63E+01	0.00E+00	1.47E-04	1.64E+01	0.00E+00	-3.38E-02		
GWP-luluc	[kg CO <sub>2</sub> eq.]	1.43E-02	0.00E+00	6.79E-05	1.53E-04	0.00E+00	-1.42E-03		
ODP	[kg CFC 11 eq.]	4.38E-07	0.00E+00	4.00E-08	1.25E-08	0.00E+00	-6.93E-08		
AP	[mol H <sup>+</sup> eq.]	2.24E-02	0.00E+00	7.02E-04	1.85E-03	0.00E+00	-3.13E-03		
EP-freshwater	[kg PO <sub>4</sub> eq.]	1.94E-03	0.00E+00	1.11E-05	9.45E-05	0.00E+00	-5.14E-04		
EP-marine	[kg N eq.]	6.11E-03	0.00E+00	2.11E-04	9.27E-04	0.00E+00	-8.81E-04		
EP-terrestrial	[mol N eq.]	6.52E-02	0.00E+00	2.31E-03	8.95E-03	0.00E+00	-9.66E-03		
POCP	[kg NMVOC eq.]	2.10E-02	0.00E+00	7.07E-04	2.19E-03	0.00E+00	-2.34E-03		
ADPm <sup>1</sup>	[kg Sb eq.]	8.79E-06	0.00E+00	6.01E-07	5.99E-07	0.00E+00	-3.74E-06		
ADPf <sup>1</sup>	[MJ]	4.54E+01	0.00E+00	2.61E+00	1.97E+00	0.00E+00	-2.50E+01		
WDP <sup>1</sup>	[m <sup>3</sup> world eq. deprived]	4.25E-01	0.00E+00	7.83E-03	3.53E-02	0.00E+00	-2.34E-01		
Caption	GWP-total = Globale Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = Acidifcation; EP-								
Disclaimer	<sup>1</sup> The results of this env	ironmental indicato	r shall be used with	,	ainties on these resu	ults are high or as th	nere is limited		

Table 9: Core environmental impact indicators for 1 m<sup>2</sup> of Solid Parquet Block (EU) 16mm

Solid Parquet Block (EU) 16 mm thickness (Untreated) ADIDITIONAL ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>											
Parameter	Unit	A1-A3	C1	C2	C3	C4	D				
PM	[Disease incidence]	7.51E-07	0.00E+00	1.49E-08	1.88E-08	0.00E+00	-1.63E-08				
IRP <sup>2</sup>	[kBq U235 eq.]	2.54E-01	0.00E+00	1.34E-02	1.82E-02	0.00E+00	-1.73E-01				
ETP-fw <sup>1</sup>	[CTUe]	8.27E+01	0.00E+00	2.04E+00	3.42E+00	0.00E+00	-1.53E+01				
HTP-c <sup>1</sup>	[CTUh]	2.36E-09	0.00E+00	6.61E-11	4.31E-10	0.00E+00	-3.10E-10				
HTP-nc <sup>1</sup>	[CTUh]	7.07E-08	0.00E+00	2.14E-09	1.89E-08	0.00E+00	-8.92E-09				
SQP	-	INA	INA	INA	INA	INA	INA				
Caption	PM = Particulate Matte			n – human health; ET ity – non cancer effec			Human toxicity –				
	<sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.										
Disclaimer	<sup>2</sup> This impact category not consider effects due	e to possible nu	th the eventual impac clear accidents, occu	ct of low dose ionizing	radiation on human	vaste disposal in unc	lerground facilities.				

Table 10: Additional environmental impact indicators for 1 m<sup>2</sup> of Solid Parquet Block (EU) 16mm

	Solid Parquet Block (EU) 16 mm thickness (Untreated)										
RESOURCE USE PER 1 m <sup>2</sup>											
Parameter	Unit	A1-A3	C1	C2	C3	C4	D				
PERE	[MJ]	4.73E+01	0.00E+00	3.69E-02	7.25E-01	0.00E+00	-8.05E+00				
PERM	[MJ]	1.96E+02	0.00E+00	0.00E+00	-1.96E+02	0.00E+00	0.00E+00				
PERT	[MJ]	2.43E+02	0.00E+00	3.69E-02	-1.95E+02	0.00E+00	-8.05E+00				
PENRE	[MJ]	4.54E+01	0.00E+00	2.61E+00	1.97E+00	0.00E+00	-2.50E+01				
PENRM	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
PENRT	[MJ]	4.54E+01	0.00E+00	2.61E+00	1.97E+00	0.00E+00	-2.50E+01				
SM	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
RSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
NRSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
FW	[m <sup>3</sup> ]	5.26E-02	0.00E+00	2.91E-04	4.44E-03	0.00E+00	-2.73E-02				
Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy energy excluding non-renewable primary resources used as raw materials; PENRM = Use of the primary energy energy excluding non-renewable primary resources used as raw materials; PENRM = Use of the primary energy e										

Table 11: Parameters describing resource use for 1 m<sup>2</sup> of Solid Parquet Block (EU) 16mm



	Solid Parquet Block (EU) 16 mm thickness (Untreated) WASTE CATEGORIES AND OUTPUT FLOWS PER 1 m <sup>2</sup>										
Parameter Unit A1-A3 C1 C2 C3 C4 D											
HWD	[kg]	9.61E-05	0.00E+00	6.83E-06	2.11E-05	0.00E+00	-2.22E-05				
NHWD	[kg]	2.28E+00	0.00E+00	1.34E-01	7.64E-02	0.00E+00	-6.80E-02				
RWD	[kg]	2.14E-04	0.00E+00	1.77E-05	6.08E-06	0.00E+00	-4.39E-05				
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
MFR	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
MER	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
EEE	[MJ]	0.00E+00	0.00E+00	0.00E+00	8.78E+00	0.00E+00	0.00E+00				

 EEE
 [MJ]
 0.00E+00
 0.00E+00

	Solid Parquet Block (EU) 16 mm thickness (Untreated) BIOGENIC CARBON CONTENT PER 1 m <sup>2</sup>								
Parameter	Unit	At the factory gate							
Biogenic carbon content in product	[kg C]	4.81							
Biogenic carbon content in accompanying packaging	[kg C]	0.11							
Note		1 kg biogenic carbon is equivalent to $44/12$ kg of CO <sub>2</sub>							

Table 13: Biogenic carbon content at factory gate for 1 m<sup>2</sup> of Solid Parquet Block (EU) 16mm



## Whalebone 16 mm thickness (Untreated):

	Whalebone 16 mm thickness (Untreated) ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>										
Parameter	Unit	A1-A3	C1	C2	C3	C4	D				
GWP-total	[kg CO <sub>2</sub> eq.]	-1.30E+01	0.00E+00	1.73E-01	1.65E+01	0.00E+00	-1.57E+00				
GWP-fossil	[kg CO <sub>2</sub> eq.]	3.30E+00	0.00E+00	1.73E-01	1.98E-01	0.00E+00	-1.53E+00				
GWP-biogenic	[kg CO <sub>2</sub> eq.]	-1.63E+01	0.00E+00	1.47E-04	1.64E+01	0.00E+00	-3.38E-02				
GWP-luluc	[kg CO <sub>2</sub> eq.]	1.46E-02	0.00E+00	6.79E-05	1.53E-04	0.00E+00	-1.42E-03				
ODP	[kg CFC 11 eq.]	4.38E-07	0.00E+00	4.00E-08	1.25E-08	0.00E+00	-6.93E-08				
AP	[mol H <sup>+</sup> eq.]	2.17E-02	0.00E+00	7.02E-04	1.85E-03	0.00E+00	-3.13E-03				
EP-freshwater	[kg PO <sub>4</sub> eq.]	1.81E-03	0.00E+00	1.11E-05	9.45E-05	0.00E+00	-5.14E-04				
EP-marine	[kg N eq.]	6.02E-03	0.00E+00	2.11E-04	9.27E-04	0.00E+00	-8.81E-04				
EP-terrestrial	[mol N eq.]	6.44E-02	0.00E+00	2.31E-03	8.95E-03	0.00E+00	-9.66E-03				
POCP	[kg NMVOC eq.]	2.08E-02	0.00E+00	7.07E-04	2.19E-03	0.00E+00	-2.34E-03				
ADPm <sup>1</sup>	[kg Sb eq.]	8.77E-06	0.00E+00	6.01E-07	5.99E-07	0.00E+00	-3.74E-06				
ADPf <sup>1</sup>	[MJ]	4.49E+01	0.00E+00	2.61E+00	1.97E+00	0.00E+00	-2.50E+01				
WDP <sup>1</sup>	[m <sup>3</sup> world eq. deprived]	4.18E-01	0.00E+00	7.83E-03	3.53E-02	0.00E+00	-2.34E-01				
Caption	GWP-total = Globale W Potential - biogenic; GWP-I freshwater = Eutrophicatio POCP = Photochemical z	uluc = Global Warn n – aquatic freshwa	ning Potential - land ater; EP-marine = E Pm = Abiotic Deple	use and land use outrophication – aqu	change; ODP = Ozc atic marine; EP-terr erals and metals; A	one Depletion; AP = restrial = Eutrophica	Acidifcation; EP-				
Disclaimer	<sup>1</sup> The results of this env	ironmental indicato		care as the uncerta		ults are high or as th	nere is limited				

Table 14: Core environmental impact indicators for 1 m<sup>2</sup> of Whalebone 16mm

Whalebone 16 mm thickness (Untreated) ADIDITIONAL ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>										
Parameter	Unit	A1-A3	C1	C2	C3	C4	D			
PM	[Disease incidence]	7.50E-07	0.00E+00	1.49E-08	1.88E-08	0.00E+00	-1.63E-08			
IRP <sup>2</sup>	[kBq U235 eq.]	2.68E-01	0.00E+00	1.34E-02	1.82E-02	0.00E+00	-1.73E-01			
ETP-fw <sup>1</sup>	[CTUe]	8.15E+01	0.00E+00	2.04E+00	3.42E+00	0.00E+00	-1.53E+01			
HTP-c <sup>1</sup>	[CTUh]	2.34E-09	0.00E+00	6.61E-11	4.31E-10	0.00E+00	-3.10E-10			
HTP-nc <sup>1</sup>	[CTUh]	6.91E-08	0.00E+00	2.14E-09	1.89E-08	0.00E+00	-8.92E-09			
SQP	-	INA	INA	INA	INA	INA	INA			
Caption	PM = Particulate Matte			human health; ETP- - non cancer effects			Human toxicity –			
	<sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.									
Disclaimer	<sup>2</sup> This impact category not consider effects due Potential ionizing	e to possible nuclea		ional exposure nor o	lue to radioactive wa	aste disposal in unde	erground facilities.			

Table 15: Additional environmental impact indicators for 1 m<sup>2</sup> of Whalebone 16mm

	Whalebone 16 mm thickness (Untreated)									
RESOURCE USE PER 1 m <sup>2</sup>										
Parameter	Unit	A1-A3	C1	C2	C3	C4	D			
PERE	[MJ]	4.74E+01	0.00E+00	3.69E-02	7.25E-01	0.00E+00	-8.05E+00			
PERM	[MJ]	1.96E+02	0.00E+00	0.00E+00	-1.96E+02	0.00E+00	0.00E+00			
PERT	[MJ]	2.43E+02	0.00E+00	3.69E-02	-1.95E+02	0.00E+00	-8.05E+00			
PENRE	[MJ]	4.49E+01	0.00E+00	2.61E+00	1.97E+00	0.00E+00	-2.50E+01			
PENRM	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
PENRT	[MJ]	4.49E+01	0.00E+00	2.61E+00	1.97E+00	0.00E+00	-2.50E+01			
SM	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
RSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
NRSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
FW	[m <sup>3</sup> ]	4.98E-02	0.00E+00	2.91E-04	4.44E-03	0.00E+00	-2.73E-02			
Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of pop renewable primary energy resources used as raw materials; PERM = Use of the primary energy resources used as raw materials; PENRE = Use of the pop renewable primary energy resources used as raw materials; PERM = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources used as raw materials; PENRE = Use of the primary energy resources use									

Table 16: Parameters describing resource use for 1 m<sup>2</sup> of Whalebone 16mm

## HŰRNING



FLOORS FOR GENERATIONS

	Whalebone 16 mm thickness (Untreated) WASTE CATEGORIES AND OUTPUT FLOWS PER 1 m <sup>2</sup>										
Parameter	Unit	A1-A3	C1	C2	C3	C4	D				
HWD	[kg]	9.61E-05	0.00E+00	6.83E-06	2.11E-05	0.00E+00	-2.22E-05				
NHWD	[kg]	2.26E+00	0.00E+00	1.34E-01	7.64E-02	0.00E+00	-6.80E-02				
RWD	[kg]	2.16E-04	0.00E+00	1.77E-05	6.08E-06	0.00E+00	-4.39E-05				
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
MFR	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
MER	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
EEE	[MJ]	0.00E+00	0.00E+00	0.00E+00	8.78E+00	0.00E+00	0.00E+00				
EET	[MJ]	0.00E+00	0.00E+00	0.00E+00	3.29E+01	0.00E+00	0.00E+00				
Caption				hazardous waste dis cycling; MER = Mate							

 Caption
 Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EE = Exported energy

 Table 17: End-of-life (waste categories and output flows) for 1 m<sup>2</sup> of Whalebone 16mm

	Whalebone 16 mm thickness (Untreated) BIOGENIC CARBON CONTENT PER 1 m <sup>2</sup>								
Parameter	Unit	At the factory gate							
Biogenic carbon content in product	[kg C]	4.81							
Biogenic carbon content in accompanying packaging	[kg C]	0.11							
Note		1 kg biogenic carbon is equivalent to 44/12 kg of $CO_2$							

 Table 18: Biogenic carbon content at factory gate for 1 m<sup>2</sup> of Whalebone 16mm



## Chevron 16 mm thickness (Untreated):

	Chevron 16 mm thickness (Untreated) ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>										
Parameter	Unit	A1-A3	C1	C2	C3	C4	D				
GWP-total	[kg CO <sub>2</sub> eq.]	-1.29E+01	0.00E+00	1.73E-01	1.65E+01	0.00E+00	-1.57E+00				
GWP-fossil	[kg CO <sub>2</sub> eq.]	3.36E+00	0.00E+00	1.73E-01	1.98E-01	0.00E+00	-1.53E+00				
GWP-biogenic	[kg CO <sub>2</sub> eq.]	-1.63E+01	0.00E+00	1.47E-04	1.64E+01	0.00E+00	-3.38E-02				
GWP-luluc	[kg CO <sub>2</sub> eq.]	1.43E-02	0.00E+00	6.79E-05	1.53E-04	0.00E+00	-1.42E-03				
ODP	[kg CFC 11 eq.]	4.35E-07	0.00E+00	4.00E-08	1.25E-08	0.00E+00	-6.93E-08				
AP	[mol H <sup>+</sup> eq.]	2.23E-02	0.00E+00	7.02E-04	1.85E-03	0.00E+00	-3.13E-03				
EP-freshwater	[kg PO <sub>4</sub> eq.]	1.93E-03	0.00E+00	1.11E-05	9.45E-05	0.00E+00	-5.14E-04				
EP-marine	[kg N eq.]	6.10E-03	0.00E+00	2.11E-04	9.27E-04	0.00E+00	-8.81E-04				
EP-terrestrial	[mol N eq.]	6.50E-02	0.00E+00	2.31E-03	8.95E-03	0.00E+00	-9.66E-03				
POCP	[kg NMVOC eq.]	2.10E-02	0.00E+00	7.07E-04	2.19E-03	0.00E+00	-2.34E-03				
ADPm <sup>1</sup>	[kg Sb eq.]	8.76E-06	0.00E+00	6.01E-07	5.99E-07	0.00E+00	-3.74E-06				
ADPf <sup>1</sup>	[MJ]	4.52E+01	0.00E+00	2.61E+00	1.97E+00	0.00E+00	-2.50E+01				
WDP <sup>1</sup>	[m <sup>3</sup> world eq. deprived]	4.24E-01	0.00E+00	7.83E-03	3.53E-02	0.00E+00	-2.34E-01				
Caption	GWP-total = Globale Wa Potential - biogenic; GWP-lu freshwater = Eutrophicatio	uluc = Global Warn	ning Potential - land	use and land use of	hange; ODP = Ozo	one Depletion; AP =	Acidifcation; EP-				
·	POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water use										
Disclaimer	<sup>1</sup> The results of this env	ironmental indicato		care as the uncerta		ults are high or as th	here is limited				

Table 19: Core environmental impact indicators for 1 m<sup>2</sup> of Chevron 16mm

Chevron 16 mm thickness (Untreated) ADIDITIONAL ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>										
Parameter	Unit	A1-A3	C1	C2	C3	C4	D			
PM	[Disease incidence]	7.50E-07	0.00E+00	1.49E-08	1.88E-08	0.00E+00	-1.63E-08			
IRP <sup>2</sup>	[kBq U235 eq.]	2.53E-01	0.00E+00	1.34E-02	1.82E-02	0.00E+00	-1.73E-01			
ETP-fw <sup>1</sup>	[CTUe]	8.25E+01	0.00E+00	2.04E+00	3.42E+00	0.00E+00	-1.53E+01			
HTP-c <sup>1</sup>	[CTUh]	2.36E-09	0.00E+00	6.61E-11	4.31E-10	0.00E+00	-3.10E-10			
HTP-nc <sup>1</sup>	[CTUh]	7.05E-08	0.00E+00	2.14E-09	1.89E-08	0.00E+00	-8.92E-09			
SQP	-	INA	INA	INA	INA	INA	INA			
Caption	PM = Particulate Matte		lonizing radiation – ic = Human toxicity -				Human toxicity –			
	<sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited									
				nced with the indicat						
Disclaimer	<sup>2</sup> This impact category	deals mainly with th	e eventual impact of	f low dose ionizing ra	adiation on human h	ealth of the nuclear	fuel cycle. It does			
	not consider effects due									
	Potential ionizing	radiation from the s	oil, from radon and f	from some construct	ion materials is also	not measured by th	nis indicator.			

Table 20: Additional environmental impact indicators for 1 m<sup>2</sup> of Chevron 16mm

	Chevron 16 mm thickness (Untreated)									
RESOURCE USE PER 1 m <sup>2</sup>										
Parameter	Unit	A1-A3	C1	C2	C3	C4	D			
PERE	[MJ]	4.73E+01	0.00E+00	3.69E-02	7.25E-01	0.00E+00	-8.05E+00			
PERM	[MJ]	1.96E+02	0.00E+00	0.00E+00	-1.96E+02	0.00E+00	0.00E+00			
PERT	[MJ]	2.43E+02	0.00E+00	3.69E-02	-1.95E+02	0.00E+00	-8.05E+00			
PENRE	[MJ]	4.52E+01	0.00E+00	2.61E+00	1.97E+00	0.00E+00	-2.50E+01			
PENRM	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
PENRT	[MJ]	4.52E+01	0.00E+00	2.61E+00	1.97E+00	0.00E+00	-2.50E+01			
SM	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
RSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
NRSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			
FW	[m <sup>3</sup> ]	5.26E-02	0.00E+00	2.91E-04	4.44E-03	0.00E+00	-2.73E-02			
Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of por renewable primary energy energy excluding non renewable primary energy resources used as raw materials; PENRE = Use of the primary energy en									

Table 21: Parameters describing resource use for 1 m<sup>2</sup> of Chevron 16mm

# HŰRNING



FLOORS FOR GENERATIONS

	Chevron 16 mm thickness (Untreated) WASTE CATEGORIES AND OUTPUT FLOWS PER 1 m <sup>2</sup>										
Parameter	Unit	A1-A3	C1	C2	C3	C4	D				
HWD	[kg]	9.56E-05	0.00E+00	6.83E-06	2.11E-05	0.00E+00	-2.22E-05				
NHWD	[kg]	2.26E+00	0.00E+00	1.34E-01	7.64E-02	0.00E+00	-6.80E-02				
RWD	[kg]	2.12E-04	0.00E+00	1.77E-05	6.08E-06	0.00E+00	-4.39E-05				
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
MFR	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
MER	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
EEE	[MJ]	0.00E+00	0.00E+00	0.00E+00	8.78E+00	0.00E+00	0.00E+00				
EET	[MJ]	0.00E+00	0.00E+00	0.00E+00	3.29E+01	0.00E+00	0.00E+00				
Caption			sed; NHWD = Non h R = Materials for rec								

 Caption
 Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EE = Exported energy

 Table 22: End-of-life (waste categories and output flows) for 1 m<sup>2</sup> of Chevron 16mm

	Chevron 16 mm thickness (Untreated) BIOGENIC CARBON CONTENT PER 1 m <sup>2</sup>					
Parameter	Unit	At the factory gate				
Biogenic carbon content in product	[kg C]	4.81				
Biogenic carbon content in accompanying packaging	[kg C]	0.11				
Note		1 kg biogenic carbon is equivalent to $44/12$ kg of CO <sub>2</sub>				

Table 23: Biogenic carbon content at factory gate for 1 m<sup>2</sup> of Chevron 16mm



## Solid Line 10 mm thickness (Untreated):

Solid Line 10 mm thickness (Untreated) ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>									
Parameter	Unit	A1-A3	C1	C2	C3	C4	D		
GWP-total	[kg CO <sub>2</sub> eq.]	-8.49E+00	0.00E+00	1.08E-01	1.03E+01	0.00E+00	-9.79E-01		
GWP-fossil	[kg CO <sub>2</sub> eq.]	1.69E+00	0.00E+00	1.08E-01	1.24E-01	0.00E+00	-9.56E-01		
GWP-biogenic	[kg CO <sub>2</sub> eq.]	-1.02E+01	0.00E+00	9.21E-05	1.02E+01	0.00E+00	-2.11E-02		
GWP-luluc	[kg CO <sub>2</sub> eq.]	9.34E-03	0.00E+00	4.24E-05	9.54E-05	0.00E+00	-8.85E-04		
ODP	[kg CFC 11 eq.]	2.77E-07	0.00E+00	2.50E-08	7.81E-09	0.00E+00	-4.33E-08		
AP	[mol H <sup>+</sup> eq.]	9.81E-03	0.00E+00	4.39E-04	1.16E-03	0.00E+00	-1.95E-03		
EP-freshwater	[kg PO <sub>4</sub> eq.]	6.51E-04	0.00E+00	6.96E-06	5.91E-05	0.00E+00	-3.21E-04		
EP-marine	[kg N eq.]	3.36E-03	0.00E+00	1.32E-04	5.80E-04	0.00E+00	-5.51E-04		
EP-terrestrial	[mol N eq.]	3.71E-02	0.00E+00	1.44E-03	5.59E-03	0.00E+00	-6.04E-03		
POCP	[kg NMVOC eq.]	1.20E-02	0.00E+00	4.42E-04	1.37E-03	0.00E+00	-1.47E-03		
ADPm <sup>1</sup>	[kg Sb eq.]	5.81E-06	0.00E+00	3.76E-07	3.74E-07	0.00E+00	-2.34E-06		
ADPf <sup>1</sup>	[MJ]	2.48E+01	0.00E+00	1.63E+00	1.23E+00	0.00E+00	-1.56E+01		
WDP <sup>1</sup>	[m <sup>3</sup> world eq. deprived]	2.11E-01	0.00E+00	4.89E-03	2.21E-02	0.00E+00	-1.46E-01		
Caption	GWP-total = Globale Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = Acidifcation; EP- freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential –								
Disclaimer	<sup>1</sup> The results of this env	ironmental indicato	r shall be used with	; WDP = water use care as the uncerta ed with the indicator	ainties on these res	ults are high or as th	nere is limited		

Table 24: Core environmental impact indicators for 1 m<sup>2</sup> of Solid Line 10mm

	Solid Line 10 mm thickness (Untreated) ADIDITIONAL ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>									
Parameter	Unit	A1-A3	C1	C2	C3	C4	D			
PM	[Disease incidence]	4.71E-07	0.00E+00	9.32E-09	1.17E-08	0.00E+00	-1.02E-08			
IRP <sup>2</sup>	[kBq U235 eq.]	2.10E-01	0.00E+00	8.40E-03	1.14E-02	0.00E+00	-1.08E-01			
ETP-fw <sup>1</sup>	[CTUe]	4.24E+01	0.00E+00	1.27E+00	2.14E+00	0.00E+00	-9.55E+00			
HTP-c <sup>1</sup>	[CTUh]	1.34E-09	0.00E+00	4.13E-11	2.69E-10	0.00E+00	-1.94E-10			
HTP-nc <sup>1</sup>	[CTUh]	3.55E-08	0.00E+00	1.34E-09	1.18E-08	0.00E+00	-5.57E-09			
SQP	-	INA	INA	INA	INA	INA	INA			
Caption	PM = Particulate Matte			human health; ETP- - non cancer effects;			Human toxicity –			
	<sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.									
Disclaimer	<sup>2</sup> This impact category not consider effects due Potential ionizing	e to possible nuclea		ional exposure nor c	lue to radioactive wa	aste disposal in unde	erground facilities.			

Table 25: Additional environmental impact indicators for 1 m<sup>2</sup> of Solid Line 10mm

	Solid Line 10 mm thickness (Untreated)								
RESOURCE USE PER 1 m <sup>2</sup>									
Parameter	Unit	A1-A3	C1	C2	C3	C4	D		
PERE	[MJ]	3.29E+01	0.00E+00	2.31E-02	4.53E-01	0.00E+00	-5.03E+00		
PERM	[MJ]	1.25E+02	0.00E+00	0.00E+00	-1.25E+02	0.00E+00	0.00E+00		
PERT	[MJ]	1.57E+02	0.00E+00	2.31E-02	-1.24E+02	0.00E+00	-5.03E+00		
PENRE	[MJ]	2.48E+01	0.00E+00	1.63E+00	1.23E+00	0.00E+00	-1.56E+01		
PENRM	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
PENRT	[MJ]	2.48E+01	0.00E+00	1.63E+00	1.23E+00	0.00E+00	-1.56E+01		
SM	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
RSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
NRSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
FW	[m <sup>3</sup> ]	1.96E-02	0.00E+00	1.82E-04	2.78E-03	0.00E+00	-1.70E-02		
Caption PERE = Use of renewable primary energy esources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy resources used as raw materials; PERT = Total use of non renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; NRSF = Use									

Table 26: Parameters describing resource use for 1 m<sup>2</sup> of Solid Line 10mm

# HŰRNING



FLOORS FOR GENERATIONS

	Solid Line 10 mm thickness (Untreated) WASTE CATEGORIES AND OUTPUT FLOWS PER 1 m <sup>2</sup>								
Parameter	Unit	A1-A3	C1	C2	C3	C4	D		
HWD	[kg]	6.07E-05	0.00E+00	4.27E-06	1.32E-05	0.00E+00	-1.39E-05		
NHWD	[kg]	1.38E+00	0.00E+00	8.40E-02	4.78E-02	0.00E+00	-4.25E-02		
RWD	[kg]	1.44E-04	0.00E+00	1.10E-05	3.80E-06	0.00E+00	-2.75E-05		
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
MFR	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
MER	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
EEE	[MJ]	0.00E+00	0.00E+00	0.00E+00	5.47E+00	0.00E+00	0.00E+00		
EET	[MJ]	0.00E+00	0.00E+00	0.00E+00	2.06E+01	0.00E+00	0.00E+00		
Caption			sed; NHWD = Non h R = Materials for rec						

 Caption
 Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EE = Exported energy

 Table 27: End-of-life (waste categories and output flows) for 1 m<sup>2</sup> of Solid Line 10mm

	Solid Line 10 mm thickness (Untreated) BIOGENIC CARBON CONTENT PER 1 m <sup>2</sup>					
Parameter	Unit	At the factory gate				
Biogenic carbon content in product	[kg C]	3.01				
Biogenic carbon content in accompanying packaging	[kg C]	0.07				
Note		1 kg biogenic carbon is equivalent to 44/12 kg of $\mbox{CO}_2$				

 Table 28: Biogenic carbon content at factory gate for 1 m<sup>2</sup> of Solid Line 10mm



## Industrial Parquet 10 mm thickness (Untreated):

	Industrial Parquet 10 mm thickness (Untreated) ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>									
Parameter	Unit	A1-A3	C1	C2	m² C3	C4	D			
GWP-total	[kg CO <sub>2</sub> eq.]	-8.01E+00	0.00E+00	1.08E-01	1.03E+01	0.00E+00	-9.79E-01			
GWP-fossil	[kg CO <sub>2</sub> eq.]	2.17E+00	0.00E+00	1.08E-01	1.24E-01	0.00E+00	-9.56E-01			
GWP-biogenic	[kg CO <sub>2</sub> eq.]	-1.02E+01	0.00E+00	9.21E-05	1.02E+01	0.00E+00	-2.11E-02			
GWP-luluc	[kg CO <sub>2</sub> eq.]	9.49E-03	0.00E+00	4.24E-05	9.54E-05	0.00E+00	-8.85E-04			
ODP	[kg CFC 11 eq.]	3.52E-07	0.00E+00	2.50E-08	7.81E-09	0.00E+00	-4.33E-08			
AP	[mol H <sup>+</sup> eq.]	1.44E-02	0.00E+00	4.39E-04	1.16E-03	0.00E+00	-1.95E-03			
EP-freshwater	[kg PO <sub>4</sub> eq.]	5.65E-04	0.00E+00	6.96E-06	5.91E-05	0.00E+00	-3.21E-04			
EP-marine	[kg N eq.]	4.21E-03	0.00E+00	1.32E-04	5.80E-04	0.00E+00	-5.51E-04			
EP-terrestrial	[mol N eq.]	4.65E-02	0.00E+00	1.44E-03	5.59E-03	0.00E+00	-6.04E-03			
POCP	[kg NMVOC eq.]	1.47E-02	0.00E+00	4.42E-04	1.37E-03	0.00E+00	-1.47E-03			
ADPm <sup>1</sup>	[kg Sb eq.]	6.54E-06	0.00E+00	3.76E-07	3.74E-07	0.00E+00	-2.34E-06			
ADPf <sup>1</sup>	[MJ]	3.71E+01	0.00E+00	1.63E+00	1.23E+00	0.00E+00	-1.56E+01			
WDP <sup>1</sup>	[m <sup>3</sup> world eq. deprived]	3.14E-01	0.00E+00	4.89E-03	2.21E-02	0.00E+00	-1.46E-01			
Caption	GWP-total = Globale Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = Acidifcation; EP- freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADP = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water use									
Disclaimer	<sup>1</sup> The results of this env	ironmental indicato		care as the uncerta		ults are high or as th	here is limited			

Table 29: Core environmental impact indicators for 1 m<sup>2</sup> of Industrial Parquet 10mm

Industrial Parquet 10 mm thickness (Untreated) ADIDITIONAL ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>									
Parameter	Unit	A1-A3	C1	C2	C3	C4	D		
PM	[Disease incidence]	5.08E-07	0.00E+00	9.32E-09	1.17E-08	0.00E+00	-1.02E-08		
IRP <sup>2</sup>	[kBq U235 eq.]	5.14E-01	0.00E+00	8.40E-03	1.14E-02	0.00E+00	-1.08E-01		
ETP-fw <sup>1</sup>	[CTUe]	5.61E+01	0.00E+00	1.27E+00	2.14E+00	0.00E+00	-9.55E+00		
HTP-c <sup>1</sup>	[CTUh]	1.50E-09	0.00E+00	4.13E-11	2.69E-10	0.00E+00	-1.94E-10		
HTP-nc <sup>1</sup>	[CTUh]	4.33E-08	0.00E+00	1.34E-09	1.18E-08	0.00E+00	-5.57E-09		
SQP	-	INA	INA	INA	INA	INA	INA		
Caption	PM = Particulate Matte			human health; ETP- - non cancer effects;			Human toxicity –		
	<sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.								
Disclaimer	not consider effects due	<sup>2</sup> This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.							

Table 30: Additional environmental impact indicators for 1 m<sup>2</sup> of Industrial Parquet 10mm

		Industrial	Parquet 10 m	m thickness (l	Intreated)				
RESOURCE USE PER 1 m <sup>2</sup>									
Parameter	Unit	A1-A3	C1	C2	C3	C4	D		
PERE	[MJ]	3.08E+01	0.00E+00	2.31E-02	4.53E-01	0.00E+00	-5.03E+00		
PERM	[MJ]	1.22E+02	0.00E+00	0.00E+00	-1.22E+02	0.00E+00	0.00E+00		
PERT	[MJ]	1.53E+02	0.00E+00	2.31E-02	-1.22E+02	0.00E+00	-5.03E+00		
PENRE	[MJ]	3.71E+01	0.00E+00	1.63E+00	1.23E+00	0.00E+00	-1.56E+01		
PENRM	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
PENRT	[MJ]	3.71E+01	0.00E+00	1.63E+00	1.23E+00	0.00E+00	-1.56E+01		
SM	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
RSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
NRSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
FW	[m <sup>3</sup> ]	1.80E-02	0.00E+00	1.82E-04	2.78E-03	0.00E+00	-1.70E-02		
Caption PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water									

Table 31: Parameters describing resource use for 1 m<sup>2</sup> of Industrial Parquet 10mm





	Industrial Parquet 10 mm thickness (Untreated) WASTE CATEGORIES AND OUTPUT FLOWS PER 1 m <sup>2</sup>								
Parameter	Unit	A1-A3	C1	C2	C3	C4	D		
HWD	[kg]	7.27E-05	0.00E+00	4.27E-06	1.32E-05	0.00E+00	-1.39E-05		
NHWD	[kg]	1.86E+00	0.00E+00	8.40E-02	4.78E-02	0.00E+00	-4.25E-02		
RWD	[kg]	2.45E-04	0.00E+00	1.10E-05	3.80E-06	0.00E+00	-2.75E-05		
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
MFR	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
MER	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
EEE	[MJ]	0.00E+00	0.00E+00	0.00E+00	5.47E+00	0.00E+00	0.00E+00		
EET	[MJ]	0.00E+00	0.00E+00	0.00E+00	2.06E+01	0.00E+00	0.00E+00		
Caption					sposed; RWD = Rac erials for energy rec				

 Caption
 Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EE = Exported energy

 Table 32: End-of-life (waste categories and output flows) for 1 m<sup>2</sup> of Industrial Parquet 10mm

	Industrial Parquet 10 mm thickness (Untreated) BIOGENIC CARBON CONTENT PER 1 m <sup>2</sup>					
Parameter	Unit	At the factory gate				
Biogenic carbon content in product	[kg C]	3.01				
Biogenic carbon content in accompanying packaging	[kg C]	0.07				
Note		1 kg biogenic carbon is equivalent to 44/12 kg of $CO_2$				

Table 33: Biogenic carbon content at factory gate for 1 m<sup>2</sup> of Industrial Parquet 10mm



## End Grain Floor 15 mm thickness (Untreated):

	End Grain Floor 15 mm thickness (Untreated) ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>									
Parameter	Unit	A1-A3	C1	C2	C3	C4	D			
GWP-total	[kg CO <sub>2</sub> eq.]	-1.29E+01	0.00E+00	1.62E-01	1.65E+01	0.00E+00	-1.47E+00			
GWP-fossil	[kg CO <sub>2</sub> eq.]	3.36E+00	0.00E+00	1.62E-01	1.86E-01	0.00E+00	-1.43E+00			
GWP-biogenic	[kg CO <sub>2</sub> eq.]	-1.63E+01	0.00E+00	1.38E-04	1.64E+01	0.00E+00	-3.17E-02			
GWP-luluc	[kg CO <sub>2</sub> eq.]	1.35E-02	0.00E+00	6.36E-05	1.43E-04	0.00E+00	-1.33E-03			
ODP	[kg CFC 11 eq.]	4.55E-07	0.00E+00	3.75E-08	1.17E-08	0.00E+00	-6.50E-08			
AP	[mol H <sup>+</sup> eq.]	2.18E-02	0.00E+00	6.58E-04	1.74E-03	0.00E+00	-2.93E-03			
EP-freshwater	[kg PO <sub>4</sub> eq.]	1.84E-03	0.00E+00	1.04E-05	8.86E-05	0.00E+00	-4.80E-04			
EP-marine	[kg N eq.]	5.98E-03	0.00E+00	1.98E-04	8.69E-04	0.00E+00	-8.30E-04			
EP-terrestrial	[mol N eq.]	6.39E-02	0.00E+00	2.17E-03	8.39E-03	0.00E+00	-9.06E-03			
POCP	[kg NMVOC eq.]	2.06E-02	0.00E+00	6.63E-04	2.05E-03	0.00E+00	-2.20E-03			
ADPm <sup>1</sup>	[kg Sb eq.]	8.73E-06	0.00E+00	5.63E-07	5.62E-07	0.00E+00	-3.50E-06			
ADPf <sup>1</sup>	[MJ]	4.57E+01	0.00E+00	2.45E+00	1.85E+00	0.00E+00	-2.34E+01			
WDP <sup>1</sup>	[m <sup>3</sup> world eq. deprived]	4.11E-01	0.00E+00	7.34E-03	3.31E-02	0.00E+00	-2.20E-01			
Caption	GWP-total = Globale Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = Acidifcation; EP- freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential –									
Disclaimer	<sup>1</sup> The results of this envir	onmental indicator	shall be used with	WDP = water use care as the uncertaid with the indicator.	nties on these resu	lts are high or as th	nere is limited			

Table 34: Core environmental impact indicators for 1 m<sup>2</sup> of End Grain Floor 15mm

	End Grain Floor 15 mm thickness (Untreated) ADIDITIONAL ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>										
Parameter	Unit	A1-A3				C4	D				
PM	[Disease incidence]	7.26E-07	0.00E+00	1.40E-08	1.76E-08	0.00E+00	-1.50E-08				
IRP <sup>2</sup>	[kBq U235 eq.]	2.57E-01	0.00E+00	1.26E-02	1.71E-02	0.00E+00	-1.62E-01				
ETP-fw <sup>1</sup>	[CTUe]	8.02E+01	0.00E+00	1.91E+00	3.21E+00	0.00E+00	-1.43E+01				
HTP-c <sup>1</sup>	[CTUh]	2.29E-09	0.00E+00	6.19E-11	4.04E-10	0.00E+00	-2.90E-10				
HTP-nc <sup>1</sup>	[CTUh]	6.89E-08	0.00E+00	2.00E-09	1.78E-08	0.00E+00	-8.40E-09				
SQP	-	INA	INA	INA	INA	INA	INA				
Caption	PM = Particulate Matte			human health; ETP- - non cancer effects			Human toxicity –				
	<sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.										
Disclaimer	<sup>2</sup> This impact category not consider effects due Potential ionizing	e to possible nuclea		ional exposure nor o	lue to radioactive wa	aste disposal in unde	erground facilities.				

Table 35: Additional environmental impact indicators for 1 m<sup>2</sup> of End Grain Floor 15mm

		End Grai	in Floor 15 mm	n thickness (U	ntreated)				
			<b>RESOURCE</b> U	JSE PER 1 m <sup>2</sup>					
Parameter	Unit	A1-A3	C1	C2	C3	C4	D		
PERE	[MJ]	4.46E+01	0.00E+00	3.46E-02	6.79E-01	0.00E+00	-7.55E+00		
PERM	[MJ]	1.83E+02	0.00E+00	0.00E+00	-1.83E+02	0.00E+00	0.00E+00		
PERT	[MJ]	2.28E+02	0.00E+00	3.46E-02	-1.83E+02	0.00E+00	-7.55E+00		
PENRE	[MJ]	4.57E+01	0.00E+00	2.45E+00	1.85E+00	0.00E+00	-2.34E+01		
PENRM	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
PENRT	[MJ]	4.57E+01	0.00E+00	2.45E+00	1.85E+00	0.00E+00	-2.34E+01		
SM	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
RSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
NRSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
FW	[m <sup>3</sup> ]	5.03E-02	0.00E+00	2.73E-04	4.16E-03	0.00E+00	-2.56E-02		
Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials;								

Table 36: Parameters describing resource use for 1 m<sup>2</sup> of End Grain Floor 15mm





FLOORS FOR GENERATIONS

	End Grain Floor 15 mm thickness (Untreated) WASTE CATEGORIES AND OUTPUT FLOWS PER 1 m <sup>2</sup>										
Parameter	Unit	A1-A3	C1	C2	C3	C4	D				
HWD	[kg]	9.72E-05	0.00E+00	6.40E-06	1.98E-05	0.00E+00	-2.08E-05				
NHWD	[kg]	2.41E+00	0.00E+00	1.26E-01	7.16E-02	0.00E+00	-6.38E-02				
RWD	[kg]	2.21E-04	0.00E+00	1.66E-05	5.70E-06	0.00E+00	-4.12E-05				
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
MFR	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
MER	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
EEE	[MJ]	0.00E+00	0.00E+00	0.00E+00	8.24E+00	0.00E+00	0.00E+00				
EET	[MJ]	0.00E+00	0.00E+00	0.00E+00	3.09E+01	0.00E+00	0.00E+00				
Caption			sed; NHWD = Non h R = Materials for rec								

Caption Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EE = Exported energy Table 37: End-of-life (waste categories and output flows) for 1 m<sup>2</sup> of End Grain Floor 15mm

	End Grain Floor 15 mm thickness (Untreated) BIOGENIC CARBON CONTENT PER 1 m <sup>2</sup>								
Parameter	Unit	At the factory gate							
Biogenic carbon content in product	[kg C]	4.51							
Biogenic carbon content in accompanying packaging	[kg C]	0.10							
Note		1 kg biogenic carbon is equivalent to 44/12 kg of $\mbox{CO}_2$							

Table 38: Biogenic carbon content at factory gate for 1 m<sup>2</sup> of End Grain Floor 15mm



## Mosaic Parquet 8 mm thickness (Untreated):

Mosaic Parquet 8 mm thickness (Untreated) ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>										
Parameter	Unit	A1-A3	C1	C2	C3	C4	D			
GWP-total	[kg CO <sub>2</sub> eq.]	-6.20E+00	0.00E+00	8.65E-02	8.27E+00	0.00E+00	-7.83E-01			
GWP-fossil	[kg CO <sub>2</sub> eq.]	1.94E+00	0.00E+00	8.64E-02	9.91E-02	0.00E+00	-7.65E-01			
GWP-biogenic	[kg CO <sub>2</sub> eq.]	-8.15E+00	0.00E+00	7.37E-05	8.18E+00	0.00E+00	-1.69E-02			
GWP-luluc	[kg CO <sub>2</sub> eq.]	7.52E-03	0.00E+00	3.39E-05	7.63E-05	0.00E+00	-7.08E-04			
ODP	[kg CFC 11 eq.]	2.48E-07	0.00E+00	2.00E-08	6.25E-09	0.00E+00	-3.47E-08			
AP	[mol H <sup>+</sup> eq.]	1.23E-02	0.00E+00	3.51E-04	9.27E-04	0.00E+00	-1.56E-03			
EP-freshwater	[kg PO <sub>4</sub> eq.]	1.08E-03	0.00E+00	5.57E-06	4.73E-05	0.00E+00	-2.57E-04			
EP-marine	[kg N eq.]	3.34E-03	0.00E+00	1.06E-04	4.64E-04	0.00E+00	-4.40E-04			
EP-terrestrial	[mol N eq.]	3.59E-02	0.00E+00	1.15E-03	4.48E-03	0.00E+00	-4.83E-03			
POCP	[kg NMVOC eq.]	1.14E-02	0.00E+00	3.54E-04	1.10E-03	0.00E+00	-1.17E-03			
ADPm <sup>1</sup>	[kg Sb eq.]	5.71E-06	0.00E+00	3.01E-07	3.00E-07	0.00E+00	-1.87E-06			
ADPf <sup>1</sup>	[MJ]	2.71E+01	0.00E+00	1.31E+00	9.85E-01	0.00E+00	-1.25E+01			
WDP <sup>1</sup>	[m <sup>3</sup> world eq. deprived]	2.86E-01	0.00E+00	3.91E-03	1.76E-02	0.00E+00	-1.17E-01			
Caption	Potential - biogenic; GWP-li freshwater = Eutrophicatio	GWP-total = Globale Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = Acidifcation; EP- freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADP = Abiotic Depletion Potential – fossil fuels; WDP = water use								
Disclaimer	<sup>1</sup> The results of this env	ironmental indicato		care as the uncerta		ults are high or as th	here is limited			

Table 39: Core environmental impact indicators for 1 m<sup>2</sup> of Mosaic Parquet 8mm

	Mosaic Parquet 8 mm thickness (Untreated) ADIDITIONAL ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>										
Parameter	Unit	A1-A3	C1	C2	C3	C4	D				
PM	[Disease incidence]	3.91E-07	0.00E+00	7.46E-09	9.40E-09	0.00E+00	-8.14E-09				
IRP <sup>2</sup>	[kBq U235 eq.]	1.70E-01	0.00E+00	6.72E-03	9.10E-03	0.00E+00	-8.64E-02				
ETP-fw <sup>1</sup>	[CTUe]	4.70E+01	0.00E+00	1.02E+00	1.71E+00	0.00E+00	-7.64E+00				
HTP-c <sup>1</sup>	[CTUh]	1.29E-09	0.00E+00	3.30E-11	2.16E-10	0.00E+00	-1.55E-10				
HTP-nc <sup>1</sup>	[CTUh]	3.90E-08	0.00E+00	1.07E-09	9.47E-09	0.00E+00	-4.46E-09				
SQP	-	INA	INA	INA	INA	INA	INA				
Caption	PM = Particulate Matte		lonizing radiation – c = Human toxicity -				Human toxicity –				
	<sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.										
Disclaimer	<sup>2</sup> This impact category not consider effects due Potential ionizing	to possible nuclea		ional exposure nor o	lue to radioactive wa	aste disposal in unde	erground facilities.				

Table 40: Additional environmental impact indicators for 1 m<sup>2</sup> of Mosaic Parquet 8mm

		Mosaic	Parquet 8 mm	thickness (Un	treated)				
			<b>RESOURCE</b> U	JSE PER 1 m <sup>2</sup>					
Parameter	Unit	A1-A3	C1	C2	C3	C4	D		
PERE	[MJ]	2.57E+01	0.00E+00	2.16E+00	3.62E-01	0.00E+00	-2.59E+00		
PERM	[MJ]	9.78E+01	0.00E+00	0.00E+00	-9.78E+01	0.00E+00	0.00E+00		
PERT	[MJ]	1.23E+02	0.00E+00	2.16E+00	-9.74E+01	0.00E+00	-2.59E+00		
PENRE	[MJ]	2.71E+01	0.00E+00	1.31E+00	9.85E-01	0.00E+00	-1.25E+01		
PENRM	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
PENRT	[MJ]	2.71E+01	0.00E+00	1.31E+00	9.85E-01	0.00E+00	-1.25E+01		
SM	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
RSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
NRSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		
FW	[m <sup>3</sup> ]	3.25E-02	0.00E+00	1.46E-04	2.22E-03	0.00E+00	-1.36E-02		
Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding pop renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding pop renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding pop renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy excluding pop renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy excluding pop renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy excluding pop renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy excluding pop renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy excluding pop renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; P								

Table 41: Parameters describing resource use for 1 m<sup>2</sup> of Mosaic Parquet 8mm





FLOORS FOR GENERATIONS

			Parquet 8 mm EGORIES AND				
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	5.27E-05	0.00E+00	3.41E-06	1.05E-05	0.00E+00	-1.11E-05
NHWD	[kg]	1.27E+00	0.00E+00	6.72E-02	3.82E-02	0.00E+00	-3.40E-02
RWD	[kg]	1.26E-04	0.00E+00	8.84E-06	3.04E-06	0.00E+00	-2.20E-05
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	[MJ]	0.00E+00	0.00E+00	0.00E+00	4.39E+00	0.00E+00	0.00E+00
EET	[MJ]	0.00E+00	0.00E+00	0.00E+00	1.65E+01	0.00E+00	0.00E+00
Caption					sposed; RWD = Rac erials for energy rec		

 Caption
 Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EE = Exported energy

 Table 42: End-of-life (waste categories and output flows) for 1 m<sup>2</sup> of Mosaic Parquet 8mm

	Mosaic Parquet 8 mm thickness (Untreated) BIOGENIC CARBON CONTENT PER 1 m <sup>2</sup>								
Parameter	Unit	At the factory gate							
Biogenic carbon content in product	[kg C]	2.41							
Biogenic carbon content in accompanying packaging	[kg C]	0.05							
Note		1 kg biogenic carbon is equivalent to 44/12 kg of $CO_2$							

Table 43: Biogenic carbon content at factory gate for 1 m<sup>2</sup> of Mosaic Parquet 8mm





# Additional Information

## Supplementary Datasets & Scaling Factors:

The following section provides a two supplementary datasets that can be added onto the <u>LCA results</u> in order to account for an optional surface treatment at Hørning Parket A/S' suppliers during the raw material supply stage (A1). The following declared products have the option to receive surface treatment. The supplementary datasets should <u>NOT</u> be added to any declared product absent from the list.

- Solid Parquet Block (EU) 16/22 mm thickness
- Whalebone 16/20 mm thickness
- Chevron 16/20 mm thickness
- Solid Line 10/15 mm thickness

It should be noted, that the same amount of surface treatment is applied regardless of floor thickness. Because of this, scaling factors (See Table 3) should <u>always</u> be applied before adding the supplementary datasets to the results of the declared product. When applying a scaling factor to adjust the floor thickness or adding the optional surface treatment, the results of a specific module should hence be calculated using the following linear equation:

$$y = a * x + b \tag{Eq. 1}$$

Where...

y = the impact results of the solid wooden floor. The specific results of a given floor variation depends on the thickness and optional surface treatment (See Table 3).

a = the impact of the untreated floor at the default thickness as listed in the <u>LCA results</u>, which are displayed in Table 4 - Table 43.

x = the scaling factor for adjusting the thickness of the solid wooden floor (See Table 3), if it deviated from the default value of a given floor.

b = the impact of the optional surface treatment for the relevant products as listed in the supplementary datasets of Table 44 - Table 51.

The optional surface treatment come in two variations: (i) **Lacquer treatment** with supplementary datasheets listed from Table 44 - Table 47. (ii) **Oil treatment** with supplementary datasets listed from Table 48 - Table 51. Results are listed for surface treatment of  $1 \text{ m}^2$  of solid wood floor.

## 1) Supplementary Datasets – Lacquer Treatment

	Lacquer Treatment ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>									
Parameter	Unit	A1-A3	C1	C2	C3	C4	D			
GWP-total	[kg CO <sub>2</sub> eq.]	7.32E-01	0.00E+00	1.29E-03	4.78E-01	0.00E+00	-1.97E-01			
GWP-fossil	[kg CO <sub>2</sub> eq.]	7.28E-01	0.00E+00	1.29E-03	4.78E-01	0.00E+00	-1.92E-01			
GWP-biogenic	[kg CO <sub>2</sub> eq.]	3.10E-03	0.00E+00	1.15E-06	4.87E-05	0.00E+00	-4.16E-03			
GWP-luluc	[kg CO <sub>2</sub> eq.]	4.15E-04	0.00E+00	4.89E-07	9.44E-07	0.00E+00	-1.70E-04			
ODP	[kg CFC 11 eq.]	6.23E-08	0.00E+00	3.01E-10	3.61E-10	0.00E+00	-8.80E-09			
AP	[mol H⁺ eq.]	3.36E-03	0.00E+00	5.27E-06	3.99E-05	0.00E+00	-3.90E-04			
EP-freshwater	[kg PO₄ eq.]	1.94E-04	0.00E+00	8.18E-08	5.58E-07	0.00E+00	-6.30E-05			
EP-marine	[kg N eq.]	5.65E-04	0.00E+00	1.59E-06	1.84E-05	0.00E+00	-1.10E-04			
EP-terrestrial	[mol N eq.]	5.97E-03	0.00E+00	1.74E-05	2.02E-04	0.00E+00	-1.20E-03			
POCP	[kg NMVOC eq.]	6.26E-03	0.00E+00	5.43E-06	4.98E-05	0.00E+00	-2.90E-04			
ADPm <sup>1</sup>	[kg Sb eq.]	6.20E-06	0.00E+00	3.93E-09	1.24E-08	0.00E+00	-4.60E-07			
ADPf <sup>1</sup>	[MJ]	1.55E+01	0.00E+00	1.96E-02	3.17E-02	0.00E+00	-3.14E+00			
WDP <sup>1</sup>	[m <sup>3</sup> world eq. deprived]	6.16E-01	0.00E+00	6.20E-05	1.06E-03	0.00E+00	-2.94E-02			
Caption	GWP-total = Globale Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = Acidifcation; EP- freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels: WDP = water use									
Disclaimer	<sup>1</sup> The results of this en	vironmental indicato		o care as the uncerta ed with the indicator		ults are high or as th	nere is limited			

Table 44: Core environmental impact indicators for 1 m<sup>2</sup> of floor surface treatment with lacquer

## HŰRNING



FLOORS FOR GENERATIONS

	Lacquer Treatment ADIDITIONAL ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>									
Parameter	Unit	A1-A3	C1	C2	C3	C4	D			
PM	[Disease incidence]	3.22E-08	0.00E+00	1.25E-10	3.27E-10	0.00E+00	-2.00E-09			
IRP <sup>2</sup>	[kBq U235 eq.]	5.57E-02	0.00E+00	1.00E-04	1.41E-04	0.00E+00	-2.13E-02			
ETP-fw <sup>1</sup>	[CTUe]	1.80E+01	0.00E+00	1.53E-02	1.28E-01	0.00E+00	-1.88E+00			
HTP-c <sup>1</sup>	[CTUh]	2.63E-10	0.00E+00	4.70E-13	3.44E-10	0.00E+00	-3.80E-11			
HTP-nc <sup>1</sup>	[CTUh]	8.11E-09	0.00E+00	1.63E-11	1.46E-09	0.00E+00	-1.10E-09			
SQP	-	INA	INA	INA	INA	INA	INA			
Caption					fw = Eco toxicity – fro ; SQP = Soil Quality		luman toxicity –			
	<sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.									
Disclaimer	<sup>2</sup> This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not									
					e to radioactive wast tion materials is also					

Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator. Table 45: Additional environmental impact indicators for 1 m<sup>2</sup> of floor surface treatment with lacquer

	Lacquer Treatment RESOURCE USE PER 1 m <sup>2</sup>										
Parameter	Unit	A1-A3	C1	C2	C3	C4	D				
PERE	[MJ]	5.51E-01	0.00E+00	2.67E-04	1.47E-03	0.00E+00	-9.91E-01				
PERM	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
PERT	[MJ]	5.51E-01	0.00E+00	2.67E-04	1.47E-03	0.00E+00	-9.91E-01				
PENRE	[MJ]	9.92E+00	0.00E+00	1.96E-02	3.17E-02	0.00E+00	-3.14E+00				
PENRM	[MJ]	5.60E+00	0.00E+00	0.00E+00	-5.60E+00	0.00E+00	0.00E+00				
PENRT	[MJ]	1.55E+01	0.00E+00	1.96E-02	-5.57E+00	0.00E+00	-3.14E+00				
SM	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
RSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
NRSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
FW	[m <sup>3</sup> ]	1.56E-02	0.00E+00	2.24E-06	1.06E-04	0.00E+00	-3.36E-03				
Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of por renewable primary energy resources used as raw materials; PENRE = Use of por renewable primary energy resources used as raw materials; PENRE = Use of por renewable primary energy excluding non renewable primary energy resources used as raw materials; PENRE = Use of por renewable primary energy resources used as raw materials; PENRE = Use of por renewable primary energy resources used as raw materials; PENRE = Use of por renewable primary energy resources used as raw materials; PENRE = Use of porteo										

## Net use of fresh water Table 46: Parameters describing resource use for 1 m² of floor surface treatment with lacquer

Lacquer Treatment WASTE CATEGORIES AND OUTPUT FLOWS PER 1 m <sup>2</sup>							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	8.92E-06	0.00E+00	4.99E-08	1.02E-06	0.00E+00	-2.80E-06
NHWD	[kg]	9.59E-02	0.00E+00	1.31E-03	5.88E-03	0.00E+00	-8.40E-03
RWD	[kg]	2.79E-05	0.00E+00	1.33E-07	8.47E-08	0.00E+00	-5.40E-06
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	[MJ]	0.00E+00	0.00E+00	0.00E+00	1.12E+00	0.00E+00	0.00E+00
EET	[MJ]	0.00E+00	0.00E+00	0.00E+00	4.20E+00	0.00E+00	0.00E+00
Caption					sposed; RWD = Rac erials for energy rec		

Table 47: End-of-life (waste categories and output flows) for 1 m<sup>2</sup> of floor surface treatment with lacquer



## 2) Supplementary Datasets – Oil Treatment:

Oil Treatment ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	[kg CO <sub>2</sub> eq.]	4.43E-01	0.00E+00	1.29E-03	1.19E-01	0.00E+00	-6.55E-02
GWP-fossil	[kg CO <sub>2</sub> eq.]	1.30E-01	0.00E+00	1.29E-03	1.19E-01	0.00E+00	-6.40E-02
GWP-biogenic	[kg CO <sub>2</sub> eq.]	1.54E-01	0.00E+00	1.15E-06	1.22E-05	0.00E+00	-1.39E-03
GWP-luluc	[kg CO <sub>2</sub> eq.]	1.57E-01	0.00E+00	4.89E-07	2.36E-07	0.00E+00	-5.80E-05
ODP	[kg CFC 11 eq.]	2.44E-08	0.00E+00	3.01E-10	9.02E-11	0.00E+00	-2.90E-09
AP	[mol H⁺ eq.]	8.95E-04	0.00E+00	5.27E-06	9.97E-06	0.00E+00	-1.30E-04
EP-freshwater	[kg PO <sub>4</sub> eq.]	9.58E-04	0.00E+00	8.18E-08	1.39E-07	0.00E+00	-2.10E-05
EP-marine	[kg N eq.]	6.81E-04	0.00E+00	1.59E-06	4.60E-06	0.00E+00	-3.70E-05
EP-terrestrial	[mol N eq.]	2.39E-03	0.00E+00	1.74E-05	5.04E-05	0.00E+00	-4.00E-04
POCP	[kg NMVOC eq.]	7.63E-03	0.00E+00	5.43E-06	1.24E-05	0.00E+00	-9.70E-05
ADPm <sup>1</sup>	[kg Sb eq.]	1.40E-06	0.00E+00	3.93E-09	3.09E-09	0.00E+00	-1.50E-07
ADPf <sup>1</sup>	[MJ]	2.28E+00	0.00E+00	1.96E-02	7.92E-03	0.00E+00	-1.05E+00
WDP <sup>1</sup>	[m <sup>3</sup> world eq. deprived]	2.60E-01	0.00E+00	6.20E-05	2.64E-04	0.00E+00	-9.81E-03
Caption	GWP-total = Globale Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = Acidifcation; EP- freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water use						
Disclaimer	<sup>1</sup> The results of this en	vironmental indicato	or shall be used with			ults are high or as th	nere is limited

Table 48: Core environmental impact indicators for 1 m<sup>2</sup> of floor surface treatment with oil

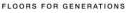
Oil Treatment ADIDITIONAL ENVIRONMENTAL IMPACTS PER 1 m <sup>2</sup>									
Parameter	Unit	A1-A3	C1	C2	C3	C4	D		
PM	[Disease incidence]	8.66E-09	0.00E+00	1.25E-10	8.17E-11	0.00E+00	-6.70E-10		
IRP <sup>2</sup>	[kBq U235 eq.]	3.16E-02	0.00E+00	1.00E-04	3.52E-05	0.00E+00	-7.09E-03		
ETP-fw <sup>1</sup>	[CTUe]	9.20E+00	0.00E+00	1.53E-02	3.20E-02	0.00E+00	-6.28E-01		
HTP-c <sup>1</sup>	[CTUh]	1.91E-10	0.00E+00	4.70E-13	8.60E-11	0.00E+00	-1.30E-11		
HTP-nc <sup>1</sup>	[CTUh]	4.60E-09	0.00E+00	1.63E-11	3.65E-10	0.00E+00	-3.70E-10		
SQP	-	INA	INA	INA	INA	INA	INA		
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)								
	<sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.								
Disclaimer	consider effects due	<sup>2</sup> This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil from radio and from some construction materials is also not measured by this indicator.							

Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator. **Table 49: Additional environmental impact indicators for 1 m<sup>2</sup> of floor surface treatment with oil** 

Oil Treatment RESOURCE USE PER 1 m <sup>2</sup>							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	2.26E-01	0.00E+00	2.67E-04	3.67E-04	0.00E+00	-3.30E-01
PERM	[MJ]	1.85E+00	0.00E+00	0.00E+00	-1.85E+00	0.00E+00	0.00E+00
PERT	[MJ]	2.08E+00	0.00E+00	2.67E-04	-1.85E+00	0.00E+00	-3.30E-01
PENRE	[MJ]	2.46E+00	0.00E+00	1.96E-02	7.92E-03	0.00E+00	-1.05E+00
PENRM	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	[MJ]	2.46E+00	0.00E+00	1.96E-02	7.92E-03	0.00E+00	-1.05E+00
SM	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	[m <sup>3</sup> ]	7.07E-03	0.00E+00	2.24E-06	2.64E-05	0.00E+00	-1.12E-03
Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERR = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy resources used as raw materials; PERT = Total use of non renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water						

Table 50: Parameters describing resource use for 1 m<sup>2</sup> of floor surface treatment with oil







Oil Treatment WASTE CATEGORIES AND OUTPUT FLOWS PER 1 m <sup>2</sup>							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	1.23E-04	0.00E+00	4.99E-08	2.54E-07	0.00E+00	-9.40E-07
NHWD	[kg]	3.91E-02	0.00E+00	1.31E-03	1.47E-03	0.00E+00	-2.80E-03
RWD	[kg]	1.39E-05	0.00E+00	1.33E-07	2.12E-08	0.00E+00	-1.80E-06
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	[MJ]	0.00E+00	0.00E+00	0.00E+00	3.70E-01	0.00E+00	0.00E+00
EET	[MJ]	0.00E+00	0.00E+00	0.00E+00	1.39E+00	0.00E+00	0.00E+00
о <i>і</i> :	HWD = Haza	ardous waste dispos	ed; NHWD = Non h	nazardous waste dis	sposed; RWD = Rac	lioactive waste disp	osed; CRU =

Caption Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EE = Exported energy

Table 51: End-of-life (waste categories and output flows) for 1 m<sup>2</sup> of floor surface treatment with oil

### **Interpretation:**

The <u>LCA results</u> for the declared products indicate, that the majority of environmental impacts are associated with raw material extraction and production of components (A1) particularly due to sawmill activities. In this respect, the electricity supply is considered one of the largest contributors within the dataset, which is why it was modified to reflect local conditions. For this reason, emissions for 1 m<sup>3</sup> of wooden boards will vary significantly depending on the geographical location of production. Conversely, the environmental impacts in the supplementary datasets for the optional surface treatment (See <u>Additional Information</u>) are quite evenly distributed between the raw material supply stage (A1) and municipal incineration during waste processing (C3).

**Technical Information on Scenarios:** 

End-of-life (C1-C4)		
Scenario information	Unit	Value
For reuse	%	0
For recycling	%	0
For incineration	%	100
For final disposal	%	0
Assumptions for scenario development	As appropriate	N/A

Table 52 Scenario information for the end-of-life stage (C1-C4)

#### Re-use, recovery, and recycling potential (D)

Scenario information	Unit	Value			
Electricity	%	20%			
Heat	%	75%			
Loss	%	5%			
Table 52 Converse information for measure, used requeling notantial (D)					

 Table 53 Scenario information for re-use, recovery, and recycling potential (D)

#### **Indoor Air:**

The EPD does not give information on release of dangerous substances to indoor air because the horizontal standards on measurement of release of regulated dangerous substances from construction products using harmonized test methods according to the provisions of the respective technical committees for European product standards are not available.

*Certificates for indoor Air Comfort can be found at Hørning Parket's webpage:* 

• <u>https://www.horningfloor.dk/miljoe/</u>

### Soil and Water:

The EPD does not give information on release of dangerous substances to soil and water because the horizontal standards on measurement of release of regulated dangerous substances from construction products using harmonized test methods according to the provisions of the respective technical committees for European product standards are not available.



## References

Danish Technological Institute Buildings & Environment Gregersensvej DK-2630 Taastrup www.teknologisk.dk
NIRAS A/S Østre Havnegade 12 9000 Aalborg, Denmark Project manager: Jesper Jakobsen LCA practitioners: Asbjørn Uldbjerg Bundgaard & Jesper Jakobsen QA/internal review: Ninkie Bendtsen
SimaPro 9.4 / ecoinvent 3.8
Life Cycle Assessment Consulting Linda Høibye

## **General Programme Instructions**

Version 2.0 www.epddanmark.dk

## ecoinvent 3.8

https://ecoinvent.org/

## EN 15804:2012+A2:2019

Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products

## EN 14342:2013

Wood flooring - Characteristics, evaluation of conformity and marking.

## EN 16449:2014

Wood and wood-based products – Calculation of the biogenic carbon content pf wood and conversion to carbon dioxide

## EN 16485:2014

Round and sawn timber – Environmental Product Declarations – Product category rules for wood and wood-based products for use in construction

## CEN/TC 16970

Sustainability of construction works – Guidance for the implementation of EN 15804





## ISO 14025:2010

Environmental labels and declarations - Type III environmental declarations - Principles and procedures

## ISO 14040:2008

Environmental management – Life cycle assessment – Principles and framework

## ISO 14044:2008

Environmental management - Life cycle assessment - Requirements and guidelines