epddanmark

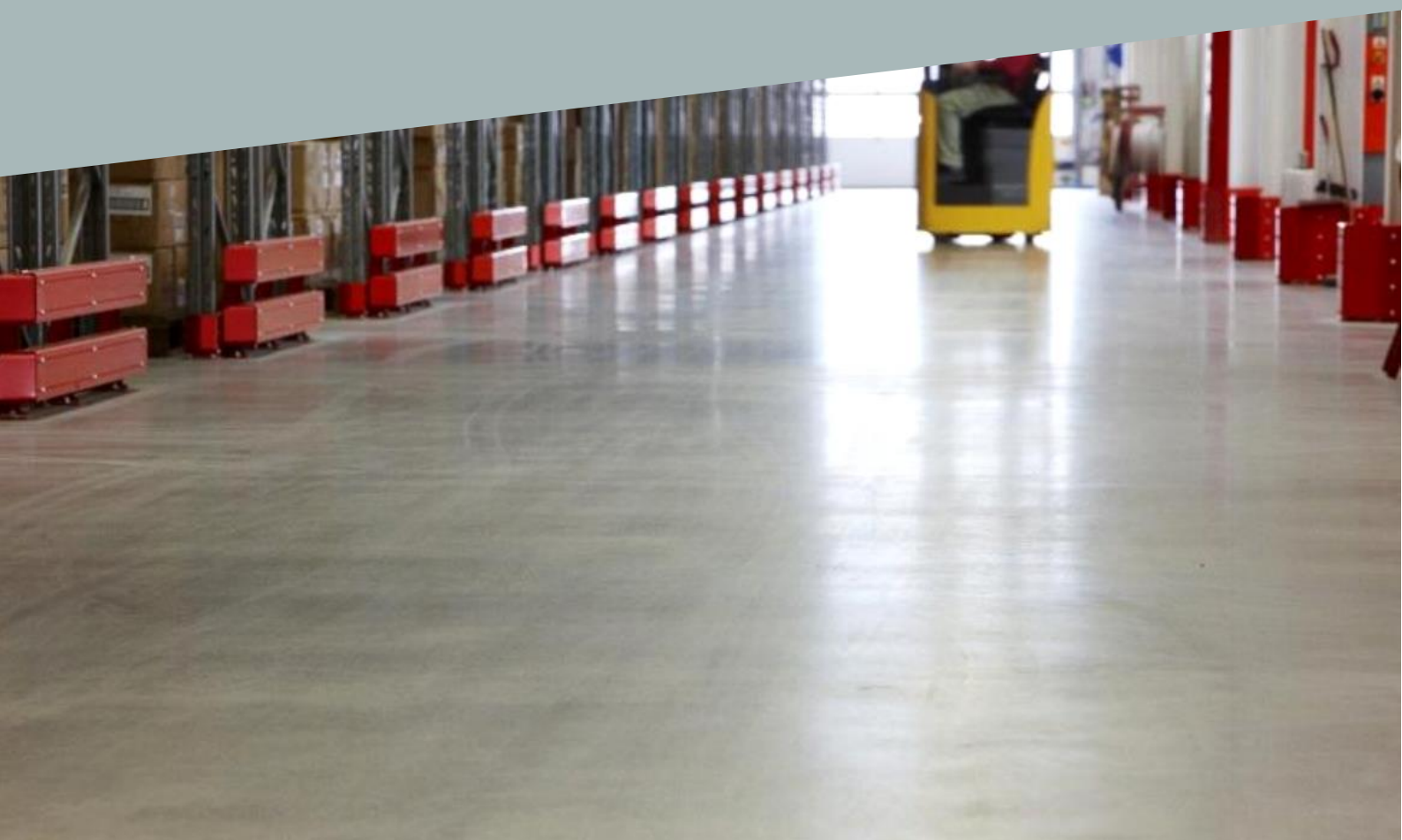
ECO PLATFORM EPD VERIFIED

Owner: Teqton Danmark A/S
No.: MD-24144-EN
Issued: 01-11-2024
Valid to: 01-11-2024

3rd PARTY **VERIFIED**

EPD

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | **ISO 14025 & EN 15804**



Owner of declaration
Teqton Danmark A/S
Kristensmindevej 2
4250 Fuglebjeg

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

Declared product(s)
Teqplan System Floor as well as the following two products which the floor is composed of:

- Teqplan
- Teqbase

The two individual components are declared as products well as the completed Teqplan flooring system, which is composed of a 2cm layer of Teqplan on top of 18cm of Teqbase. As such the results can be used to represent specific flooring solutions where the required thickness of the baselayer (i.e. Teqbase) may vary. Guidance on how the results can be tailored to a specific flooring solution is given in the introduction of the section titled "LCA Results".

Number of declared datasets/product variations: 2

Production site
Produced at construction site in Denmark

Use of Guarantees of Origin
☒ No certificates used
☐ Electricity covered by GoO
☐ Biogas covered by GoO

Declared/ functional unit
1m^2

Year of production site data (A3)
2023

EPD version
v2

Issued: 01-11-2024
Valid to: 01-11-2029

Basis of calculation
This EPD is developed and verified in accordance with the European standard EN 15804+A2.

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

Validity
This EPD has been verified in accordance with ISO 14025 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 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third party verifier:

Mirko Miseljic

Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (MND = module not declared)																
Product			Construction process		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	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Product information

Product description

Teqton System Floor is made as a joint free roller compacted concrete floor with a polymer reinforced wear layer on top. The base layer is an 18cm thick roller compacted concrete with no iron reinforcements. The top wear layer is a 2cm thick polymer reinforced concrete consisting of granite, sand, cement and liquid polymer.

Thicknesses of 18cm for Teqbase and 2cm for Teqplan have been declared specifically as this is the standard thickness required by the specifications of most constructions. With a total standard thickness of 20cm the Teqton System floor is made without any dilatation joints and with no fiber or iron reinforcement.

The main product components are shown in the table below.

Material	Weight % of Declared Product		
	Teqbase	Teqplan	Teqplan-Floor System
Sand; Granit; Dispersion polymer; Water	-	82,8%	-
Gravel; Water	92,6%	-	-
Gravel; Sand; Granit; Dispersion polymer; Water	-	-	91,6%
Cement	7,4%	17,2%	8,4%
Total (%)	**100**	**100**	**100**
Mass (kg)	**438,6**	**48,9**	**487,5**

Product packaging:

No sales or transport packaging to declare.

Representativity

This declaration, including data collection and the modeled foreground system including results, represents the production of Teqplan flooring systems on construction sites in Denmark. Product-specific data are based on average values collected from Teqton Danmark A/S for the year 2023. Background data are based on the GaBi 10.8 database (2024.1) and Ecoinvent v3.9 (2023). Generally, the background data sets used are of high quality and up to date, reflecting current technologies and processes. The geographical scope of the background data primarily covers European averages, which are considered representative for the Danish context. This EPD is thus considered to have good representativity for Teqplan flooring systems produced and installed in Denmark under current practices.

Hazardous substances

The declared products do not contain in quantities greater than 0,1%, any substances listed on the "Candidate List of Substances of Very High Concern for authorisation"

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

Product(s) use

Teqton System Floor can be used in any sheltered environment that has high demands for wear resistance and load handling.

It is traditionally used in industry, logistics, warehousing, transport, auto stores, heavy production, and the likes.

Essential characteristics

TEQBASE is suitable for creating a stable sub-base with portable backfilling materials and can facilitate anchorage for heavy equipment installations.

TEQPLAN offers a thinner layer solution with high compressive strength and excellent wear resistance, suitable for environments requiring precise flatness and resistance to static charge.

For both products, adherence to German DIN standards ensures compliance with industry regulations for construction quality and safety.

Technical specification	TEQBASE	TEQPLAN
Sub-base	Portable backfilling of sand, nut stones or stable gravel, possibly hard lagging.	Teqbase or concrete (min. 25 MPa.)
Fixing agent	-	Synthetic material dispersion and concrete
Aggregates	-	Granite gravel and sand

Joints	Normally a jointless surface. Separation joints in Teqbase by all foundations and adjacent building elements as well as thin cold joints. System solutions are created for connections.	Normally jointless. Statically determined joints in tower blocks must be secured using joint profile 1
Normal / Layer thickness	On average 18 cm – can be made thicker if needed.	1,0 – 3,0 cm
Working temperature	Frost-free.	Min. +5°C. The building must be closed (windows and doors installed, waterproof roof)
Load capacity	Depending on sub-base and construction thickness: Surface loads of up to 200 kN/m² Point loads of up to 100 kN on 0,1 x 0,1 m When dealing with special loads and complicated sub-bases, special geotechnical tests on consolidation conditions should be carried out.	Point load up to 100 kN on 0,1 x 0,1 m. Tested according to German regulation DIN 18560
Flatness	In accordance with German DIN 18202, table 3, line 2.	In accordance with German regulation DIN 18202, table 3, line 3 or 4. Extreme flatness possible in accordance with German regulation DIN 15185 for utilization with positive drive trucks
Anchorage	Teqbase facilitates anchorage of bearings and element supports. When dealing with heavy loads, pull tests should be carried out. Suitable for installing machines and shelves.	-
Laying Down Procedure	-	Manual or mechanical work.
Daily Output	Around 1.500 m² per day per work team.	Around 800 m² per day per work team
Curing Time	-	Usable after about 2 days (depending on temperature). Loadable after about 4 days
Density	-	Around 2,0 – 2,2 t/m³
Wear Resistance	-	In accordance with regulation HUS AMA, table ESE/6, class A. Very high standards
Compressive Strength	-	Min. 50 N/mm²
Tension	-	Around 10 N/mm²
Electrical Discharge Ability	-	Spark-free and inflammable (in accordance with German regulation DIN 51953) between 104 and 107 ohms. No static charge
Colour	-	Light concrete grey
Warranty	-	5 years
Resistibility	-	Water-resistant and to a great extent resistant to oil and chemicals

Note: "-" indicates that the information is not specified for that product.

PRODUCT STANDARDS

The declared products are covered by the following harmonized technical specifications. Declaration of performance according to EU regulation 305/2011 is available for all declared product variations.

- In accordance with DIN 18202/Din 15185
- In accordance with DIN 18 560
- In accordance with HUS AMA, table ESE/6, class A. Very high standards.
- In accordance with DIN 51 953) between 104 and 107 ohm. No static charge
- Joint free.

Further technical information can be obtained by contacting the manufacturer or on the manufacturer's website:

https://www.teqton.com/
https://www.teqton.com/en/products/teqbase-and-teqplan/

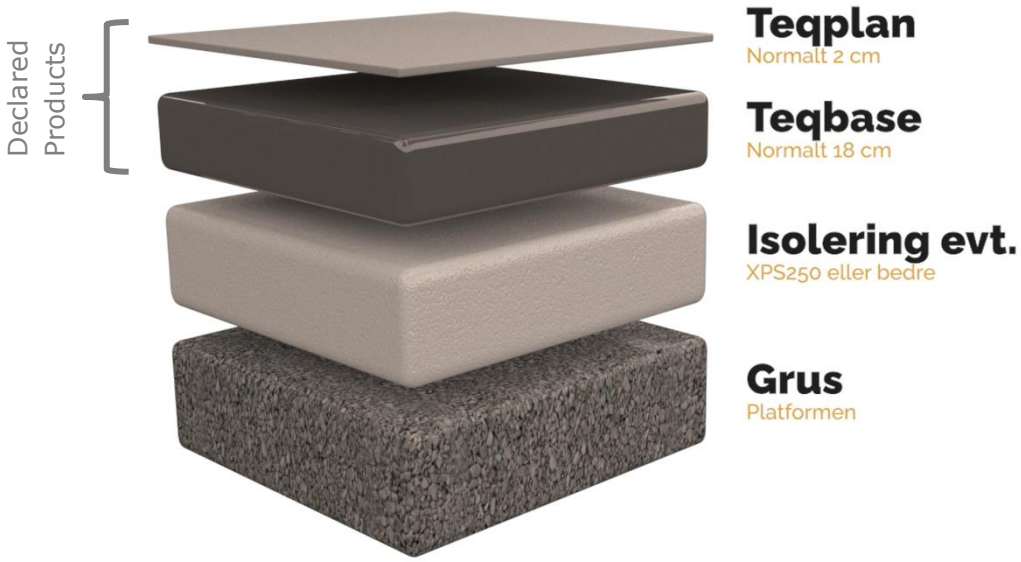
Reference Service Life (RSL)

The Teqton System Floor is assigned a reference service life (RSL) of 50 years, in accordance with the Danish Building Regulations BR18 (§§ 250 - § 298) pertaining to energy consumption and climate impact assessments, and the guidelines

outlined in EN16757:2022. Although the manufacturer indicates that the floor's lifespan will significantly exceed 50 years, there is no available documentation to substantiate this extended service life.

Given that the Teqton System Floor is constructed using polymer-reinforced concrete without steel reinforcement, a conservative 50-year estimate is applied to ensure compliance with industry standards as well as adhering to EN16757's guidance of using a RSL of 50 years for Non-structural concrete elements for buildings. This conservative RSL aligns with BR18's mandated 50-year assessment period, providing a reliable foundation for this assessment, and ensuring that the environmental impacts are comprehensively evaluated within a standardized timeframe.

Picture of product(s)



Functional unit

Not defined

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804+A2, and the cPCR EN16757:2022

Energy modelling principles

Foreground system:

The product is produced on-site at construction locations using a combination of energy sources. The energy mix in the foreground system consists of:

LCA background

Declared unit

The LCI and LCIA results in this EPD relates to 1m^2 of Teqplan floor system, made up of a 2cm top layer of Teqplan, and a 18cm bottom layer of Teqbase.

Name	Value	Unit
Declared unit	1	m^2
Density	487,5	kg/m^2
Depth	0,2	m
Volume	0,2	m^3
Conversion factor to 1 kg.	0,002	-

Fuel: Used for most heavy machinery and transport, and modelled with appropriate datasets for Europeans gasoline and diesel mix at filling stations.

Electricity: Used for the cement mixing plant in production. This electricity consumption is modelled using a dataset for residual grid mix in Denmark.

Background system:

For both upstream and downstream processes in the system, the background data for electricity

consumption is based on average electrical grid mix consumptions as apposed to a residual grid-mix as with the foreground system that was modelled in this assessment. This approach is applied consistently where electricity is used in the background datasets. So all electricity used in the foreground data was specified as a residual grid mix. This was not possible to do for background data within the background LCA datasets, as is the case for all EPDs.

No Guarantees of Origin (GO) certificates are used for any energy processes in this EPD.

the ratio of the declared product's annual production to the total annual production. This method allocates the total raw materials, energy consumption, packaging materials, and waste generated among the declared products.

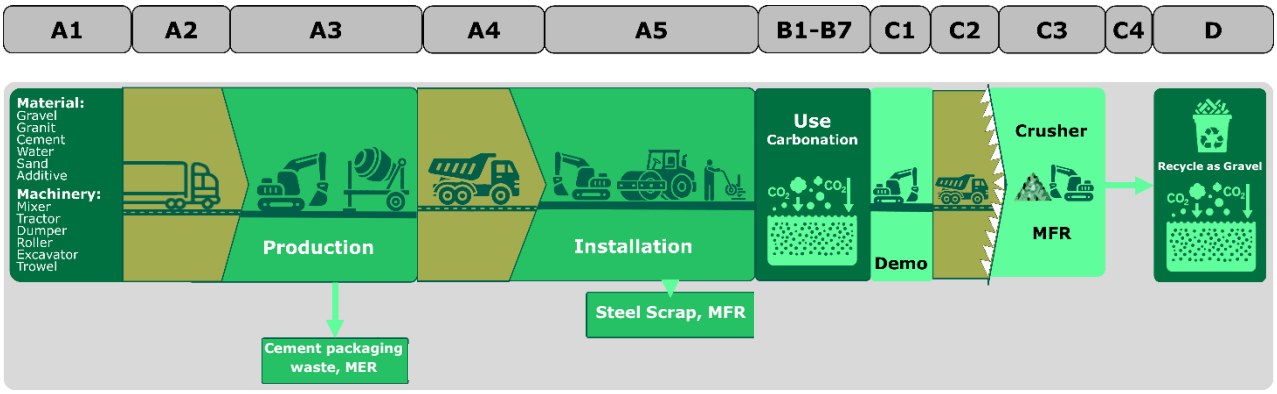
Product stage (A1-A3) includes:

A1 – Extraction and processing of raw materials

A2 – Transport to the production site

A3 – Manufacturing processes

Flow diagram



System boundary

This EPD is based on a cradle-to-grave LCA, in which <99,9% weight-% has been accounted for.

The general rules for the exclusion of inputs and outputs follows the requirements in EN 15804, 6.3.5, where the total of neglected input flows per module shall be a maximum of 5 % of energy usage and mass and 1 % of energy usage and mass for unit processes.

Allocation

The inventory values for 1 square meter of concrete are calculated by considering the total produced square meters per year and kilometers transported, where data is available. The type of concrete produced is consistent across all building sites, with only location varying.

Since the production process and economic value of the products are similar, allocation is performed based on mass. The annual production percentages are used for allocation, considering

floor begins with testing the level of compression of the gravel layer underneath. If sufficient strength is achieved, the production of the floor itself commences.

For the Base layer, Teqbase, the mixing plant is set up on site and materials for the floor are delivered in free weight on site, without packing materials. The raw materials are loaded into the mixing plant using an excavator.

Only the cement is delivered in paper bags on wood pallets. The materials are mixed outside the building in a cement mixer, before being transported into the building by dumper.

The top layer is mixed on site in a mixer before being driven into the building and delivered by dumper.

The use of materials and fuels for powering the mixing plant, as well as the excavator loading and unloading material, is declared in stage A3.

The only waste generated during manufacturing in A3, comes from the packaging material the cement is delivered in. The bags are taken to incineration and used in the general production of district heating for housing.

The wood pallets are part of a recycling scheme where all used pallets are collected and taken back into the system to be reused. Only in the case of a pallet being destroyed during production, is it taken to incineration.

A pallet is calculated as 25kg. 9 pallets are used in producing 10.000m² of floor. 96% of used pallets are taken back into recycling and 4% is destroyed during production. this adds up to 0,001kg of waste wood /m² of standard floor.

Construction process stage (A4-A5) includes:

Impacts occurring from the transportation of the products from the mixing plant to the construction where the products are to be installed are declared under A4. This transportation is carried out using a dumper.

Teqbase

Once the product has been unloaded, the material is evened out by a laser-controlled tractor grater, to achieve the required level.

After that the floor is roller compacted into place. For a minimum of three weeks, the base layer is left to cure. During this period other works commence, and the buildings are finished using the roller compacted concrete floor as a mounting platform.

When the building is done, the base layer is high pressure cleaned. The water used in this process is absorbed by the material and used by the left-over cement to harden, and to add moisture to the top layer as this hardens. No water from the cleaning goes into the drains.

Teqplan

Once the base layer has sufficiently cured, the top layer, Teqbase, is delivered as mixed concrete. It is then levelled out by machine and finally evened out by a double disk trowelling machine.

When trowelled to its final level, helicopter trowellers with dual metal discs are used. The largest discs weigh 28kg. 10 discs are worn out making 10.000m² of floor. Thus, adding up to 0,028kg of metal used /m² of floor. This metal is sent for recycling as steel scrap.

Use stage (B1-B7) includes:

Module B1 declares carbonation occurring over a 50 year reference service life.

No other processes are declared in modules B1-B7, as no maintenance, refurbishment, repair, or replacement processes are expected to be required during the use of the product.

End of Life (C1-C4) includes:

At the end-of-life, in the demolition phase 100% of the waste is assumed to be collected as mixed construction waste. The demolition process (C1) consumes energy in the form of diesel fuel used by excavators, and electricity used by jackhammers.

The dismantled floor is delivered to the nearest construction waste treatment site. It is estimated that there is no mass loss during the use of the product, therefore the end-of-life product is assumed that it has the same weight as the declared product. Transportation distance to the closest disposal area is estimated as 50 km and the transportation method is by dump truck (C2).

At the waste treatment plant, waste that can be reused, recycled or recovered for energy is separated and diverted for further use. It is assumed that 100% of the floor materials will be transported to a waste treatment plant, where the material is crushed and 97% is recycled as gravel aggregate. This assumption is because this is currently how concrete waste is processed according to the Danish Construction waste handler, RGS Nordic. The process losses of the waste treatment plant are set to 3% as a default in the datasets background data (C3).

Re-use, recovery and recycling potential (D) includes:

Due to the recycling potential of concrete, it can be used as secondary raw material, which avoids

the use of virgin raw materials. The concrete going to waste processing is converted into secondary raw materials after recycling, which are used as gravel aggregate. The recycled material content in the concrete itself on the input side, declared in module A1, has not been considered, as it could not be documented, even though it is likely that a portion of the gravel used comes from recycled crushed concrete (D).

LCA results

The results of the LCA are given by 36 indicators across 5 tables presented below for each of the two 1m^2 sections of flooring, Teqplan, and Teqbase, as well as final flooring solution composed of the two products. The impacts represented by the indicators for the two parts of the floor in the first two sections of the results, scale linearly. The values can therefore be divided by their respective depths of 2cm and 18cm before multiplying with a specific depth. For example the specifications of a construction may require greater structural integrity, where 25cm of Teqbase with a standard 2cm of Teqplan, instead of the standard 18cm of Teqbase declared in this EPD would be required. Eq. 1 below presents the calculation of the CO2 impact of this specific flooring solution.

$$GWP_{total} = \left(\frac{GWP_{Teqplan}}{t_{teqplan}} * st_{teqplan}\right) + \left(\frac{GWP_{Teqbase}}{t_{Teqbase}} * st_{Teqbase}\right) \quad \textit{Eq. 1}$$

Where:

GWP_{total}	= The total Global warming potential (kgCO2eq.) for the specific example flooring solution.
$GWP_{Teqplan}$	= The GWP-total of Teqplan for the declared thickness in the EPD (8,18 kg CO_2 eq.).
$t_{teqplan}$	= The declared thickness of Teqplan in the EPD (2 cm).
$st_{teqplan}$	= The specific thickness of Teqplan used in the example flooring solution (2 cm).
$GWP_{Teqbase}$	= The GWP-total of Teqbase for the declared thickness in the EPD (24,3 kg CO_2 eq.).
$t_{Teqbase}$	= The declared thickness of Teqbase in the EPD (18 cm).
$st_{Teqbase}$	= The specific thickness of Teqbase used in the example flooring solution (25 cm).

Calculation:

1. Calculate the GWP per centimeter of depth for each product:
    - Teqplan: 8,18 kg CO_2 eq. for 2 cm=4,09 kg CO_2 eq. per cm.
    - Teqbase: 24,3 kg CO_2 eq. for 18 cm=1,35 kg CO_2 eq. per cm.
2. Multiply the GWP per centimeter by the new thickness:
    - Teqplan: 4,09 kg CO_2 eq. per cm×2 =8,18 kg CO_2 eq.
    - Teqbase: 1,35 kg CO_2 eq. per cm×25 =33.75 kg CO_2 eq.
3. Sum the GWPs to find the total GWP: GWP – total = 8,18 kg CO_2 eq.+ 33,75 kg CO_2 eq.=41,93 kg CO_2 eq.

Therefore, the total GWP-total for the flooring solution with 2 cm of Teqplan and 25 cm of Teqbase is 41,93 kg CO_2 eq (Eq. 2).

$$41{,}93\ kgCO_2eq. = \left(\frac{8{,}18}{2} * 2\right) + \left(\frac{24{,}3}{18} * 25\right) \quad \textit{Eq. 2}$$

ENVIRONMENTAL IMPACTS PER 1M2x2cm of Teqplan											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	8,18E+00	7,22E-02	2,64E-01	-2,19E+00	0,00E+00	4,20E-02	1,42E-01	2,75E-03	0,00E+00	-1,50E+00
GWP-fossil	[kg CO_2 eq.]	8,16E+00	7,10E-02	2,57E-01	-2,19E+00	0,00E+00	4,15E-02	1,39E-01	2,76E-03	0,00E+00	-1,50E+00
GWP-biogenic	[kg CO_2 eq.]	1,18E-02	-3,58E-06	6,13E-03	0,00E+00	0,00E+00	-1,14E-06	2,84E-06	-5,24E-05	0,00E+00	2,02E-03
GWP-luluc	[kg CO_2 eq.]	6,88E-03	1,17E-03	6,80E-04	0,00E+00	0,00E+00	5,15E-04	2,33E-03	3,74E-05	0,00E+00	-7,54E-04
ODP	[kg CFC 11 eq.]	7,80E-08	1,22E-14	3,91E-12	0,00E+00	0,00E+00	1,02E-13	2,43E-14	4,99E-15	0,00E+00	-6,87E-13
AP	[mol H^+ eq.]	1,47E-02	2,90E-04	4,21E-04	0,00E+00	0,00E+00	1,64E-04	7,76E-04	1,38E-05	0,00E+00	-4,81E-04
EP-freshwater	[kg P eq.]	1,12E-04	2,99E-07	4,23E-07	0,00E+00	0,00E+00	1,32E-07	5,95E-07	1,08E-08	0,00E+00	-3,73E-07
EP-marine	[kg N eq.]	5,82E-03	1,34E-04	1,01E-04	0,00E+00	0,00E+00	7,69E-05	3,80E-04	6,37E-06	0,00E+00	-1,72E-04
EP-terrestrial	[mol N eq.]	6,74E-02	1,48E-03	1,43E-03	0,00E+00	0,00E+00	8,49E-04	4,20E-03	7,04E-05	0,00E+00	-1,90E-03
POCP	[kg NMVOC eq.]	1,94E-01	3,76E-04	3,67E-04	0,00E+00	0,00E+00	2,17E-04	7,58E-04	1,76E-05	0,00E+00	-4,68E-04
ADPm[1]	[kg Sb eq.]	2,59E-06	6,09E-09	1,18E-08	0,00E+00	0,00E+00	3,23E-09	1,21E-08	2,90E-09	0,00E+00	-1,02E-08
ADPf[1]	[MJ]	8,99E+01	9,28E-01	3,15E+00	0,00E+00	0,00E+00	5,42E-01	1,85E+00	5,17E-02	0,00E+00	-1,42E+00
WDP[1]	[m^3 world eq. de-prived]	3,22E-01	1,11E-03	2,05E-03	0,00E+00	0,00E+00	5,84E-04	2,21E-03	5,29E-04	0,00E+00	-1,13E-02
Caption	GWP-total = Global 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 = Acidification; 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 depletion potential										
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.										
Disclaimer	[1] 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.										

ADDITIONAL ENVIRONMENTAL IMPACTS PER 1M2x2cm of Teqplan											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	3,89E-07	3,38E-09	4,72E-09	0,00E+00	0,00E+00	1,96E-09	3,64E-09	2,72E-10	0,00E+00	-2,85E-08
IRP[2]	[kBq U235 eq.]	1,32E-01	2,53E-04	1,76E-03	0,00E+00	0,00E+00	8,71E-04	5,04E-04	1,03E-04	0,00E+00	-1,53E-02
ETP-fw[1]	[CTUe]	2,40E+02	6,85E-01	2,00E+00	0,00E+00	0,00E+00	3,13E-01	1,36E+00	3,60E-02	0,00E+00	-7,30E-01
HTP-c[1]	[CTUh]	6,16E-09	1,38E-11	1,18E-10	0,00E+00	0,00E+00	7,13E-12	2,76E-11	7,88E-13	0,00E+00	-2,38E-11
HTP-nc[1]	[CTUh]	5,87E-08	6,23E-10	1,45E-09	0,00E+00	0,00E+00	3,02E-10	1,24E-09	2,89E-11	0,00E+00	-9,60E-10
SQP[1]	-	1,57E+01	4,53E-01	3,67E-01	0,00E+00	0,00E+00	2,03E-01	9,01E-01	1,62E-02	0,00E+00	-5,82E-01
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)										
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.										
Disclaimers	[1] 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.										
	[2] 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.										

RESOURCE USE PER 1M2x2cm of Teqplan											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	9,93E+00	8,01E-02	1,92E-01	0,00E+00	0,00E+00	6,82E-02	1,59E-01	5,52E-03	0,00E+00	-5,25E-01
PERM	[MJ]	-1,78E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	8,31E+00	8,01E-02	1,92E-01	0,00E+00	0,00E+00	6,82E-02	1,59E-01	5,52E-03	0,00E+00	-5,25E-01
PENRE	[MJ]	6,18E+01	9,28E-01	3,15E+00	0,00E+00	0,00E+00	5,42E-01	1,85E+00	-3,83E+01	0,00E+00	-1,42E+00
PENRM	[MJ]	3,83E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,83E+01	0,00E+00	0,00E+00
PENRT	[MJ]	9,14E+01	9,28E-01	3,15E+00	0,00E+00	0,00E+00	5,42E-01	1,85E+00	5,17E-02	0,00E+00	-1,42E+00
SM	[kg]	1,45E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	6,93E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	2,13E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	1,61E-02	9,00E-05	1,75E-04	0,00E+00	0,00E+00	5,70E-05	1,79E-04	1,54E-05	0,00E+00	-4,62E-04
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; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = 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										

	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.

WASTE CATEGORIES AND OUTPUT FLOWS PER 1M2x2cm of Teqplan											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2-B7**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	1,59E-01	3,69E-11	3,75E-10	0,00E+00	0,00E+00	1,02E-10	7,36E-11	7,48E-12	0,00E+00	-9,20E-10
NHWD	[kg]	3,42E+00	1,53E-04	1,10E-03	0,00E+00	0,00E+00	1,24E-04	3,05E-04	1,42E-05	0,00E+00	-1,98E+00
RWD	[kg]	6,95E-04	1,77E-06	1,55E-05	0,00E+00	0,00E+00	7,66E-06	3,53E-06	6,51E-07	0,00E+00	-9,39E-05
CRU	[kg]	1,72E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	3,74E-02	0,00E+00	2,80E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,74E+01	0,00E+00	0,00E+00
MER	[kg]	5,11E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	7,01E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	[MJ]	1,33E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy										
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.										

BIOGENIC CARBON CONTENT PER 1M2x2cm of Teqplan		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0,00E+00
Biogenic carbon content in accompa-nying packaging	[kg C]	0,00E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

Teqbase

ENVIRONMENTAL IMPACTS PER 1M2x18cm of Teqbase											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	2,43E+01	8,90E-02	1,57E-01	0,00E+00	0,00E+00	3,77E-01	1,27E+00	1,17E+00	0,00E+00	-1,10E+01
GWP-fossil	[kg CO_2 eq.]	2,42E+01	8,76E-02	1,54E-01	0,00E+00	0,00E+00	3,72E-01	1,25E+00	1,18E+00	0,00E+00	-1,09E+01
GWP-biogenic	[kg CO_2 eq.]	-1,32E-02	-3,84E-06	-6,01E-05	0,00E+00	0,00E+00	-1,02E-05	2,55E-05	-2,23E-02	0,00E+00	-1,82E-02
GWP-luluc	[kg CO_2 eq.]	5,55E-02	1,42E-03	2,54E-03	0,00E+00	0,00E+00	4,62E-03	2,10E-02	1,59E-02	0,00E+00	6,77E-03
ODP	[kg CFC 11 eq.]	3,82E-07	1,48E-14	1,46E-11	0,00E+00	0,00E+00	9,16E-13	2,18E-13	2,13E-12	0,00E+00	6,16E-12
AP	[mol H^+ eq.]	8,21E-02	1,08E-03	1,77E-04	0,00E+00	0,00E+00	1,47E-03	6,97E-03	5,90E-03	0,00E+00	4,31E-03
EP-freshwater	[kg P eq.]	5,83E-04	3,62E-07	9,31E-07	0,00E+00	0,00E+00	1,19E-06	5,34E-06	4,59E-06	0,00E+00	3,35E-06
EP-marine	[kg N eq.]	1,79E-02	5,44E-04	6,31E-05	0,00E+00	0,00E+00	6,91E-04	3,41E-03	2,72E-03	0,00E+00	1,55E-03
EP-terrestrial	[mol N eq.]	2,01E-01	5,98E-03	7,23E-04	0,00E+00	0,00E+00	7,62E-03	3,77E-02	3,00E-02	0,00E+00	1,71E-02
POCP	[kg NMVOC eq.]	5,37E-02	1,49E-03	2,03E-04	0,00E+00	0,00E+00	1,95E-03	6,80E-03	7,52E-03	0,00E+00	4,20E-03
ADPm[1]	[kg Sb eq.]	5,53E-05	7,39E-09	1,60E-08	0,00E+00	0,00E+00	2,90E-08	1,09E-07	1,24E-06	0,00E+00	9,16E-08
ADPf[1]	[MJ]	1,25E+02	1,13E+00	2,03E+00	0,00E+00	0,00E+00	4,87E+00	1,66E+01	2,21E+01	0,00E+00	1,27E+01
WDP[1]	[m^3 world eq. deprived]	7,07E-01	1,35E-03	2,60E-03	0,00E+00	0,00E+00	5,24E-03	1,99E-02	2,25E-01	0,00E+00	1,01E-01
Caption	GWP-total = Global 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 = Acidification; 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 depletion potential										
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.										
Disclaimer	[1] 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.										

ADDITIONAL ENVIRONMENTAL IMPACTS PER 1M2x18cm of Teqbase											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	1,00E-06	1,26E-08	2,53E-09	0,00E+00	0,00E+00	1,76E-08	3,26E-08	1,16E-07	0,00E+00	2,55E-07
IRP[2]	[kBq U235 eq.]	3,23E-01	3,07E-04	5,82E-04	0,00E+00	0,00E+00	7,82E-03	4,53E-03	4,41E-02	0,00E+00	1,37E-01
ETP-fw[1]	[CTUe]	2,71E+02	8,31E-01	1,49E+00	0,00E+00	0,00E+00	2,81E+00	1,22E+01	1,54E+01	0,00E+00	6,55E+00
HTP-c[1]	[CTUh]	1,72E-08	1,68E-11	4,11E-11	0,00E+00	0,00E+00	6,40E-11	2,48E-10	3,36E-10	0,00E+00	2,14E-10
HTP-nc[1]	[CTUh]	1,11E-07	7,58E-10	1,37E-09	0,00E+00	0,00E+00	2,71E-09	1,11E-08	1,23E-08	0,00E+00	8,61E-09
SQP[1]	-	6,04E+01	5,49E-01	9,83E-01	0,00E+00	0,00E+00	1,83E+00	8,09E+00	6,90E+00	0,00E+00	5,22E+00
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)										
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1{,}95*10^{2}$ or 195, while 1,12E-11 is the same as $1{,}12*10^{-11}$ or 0,0000000000112.										
Disclaimers	[1] 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.										
	[2] 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.										

RESOURCE USE PER 1M2x18cm of Teqbase											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	3,38E+01	9,71E-02	1,74E-01	0,00E+00	0,00E+00	6,13E-01	1,43E+00	2,35E+00	0,00E+00	4,71E+00
PERM	[MJ]	-7,96E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	2,29E+01	9,71E-02	1,74E-01	0,00E+00	0,00E+00	6,13E-01	1,43E+00	2,35E+00	0,00E+00	4,71E+00
PENRE	[MJ]	2,00E+02	1,13E+00	2,03E+00	0,00E+00	0,00E+00	4,87E+00	1,66E+01	-1,63E+01	0,00E+00	1,27E+01
PENRM	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,83E+01	0,00E+00	0,00E+00
PENRT	[MJ]	1,25E+02	1,13E+00	2,03E+00	0,00E+00	0,00E+00	4,87E+00	1,66E+01	2,21E+01	0,00E+00	1,27E+01
SM	[kg]	1,46E-03	0,00E+00	0,00E+00	0,00E+00	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	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	2,07E-02	1,09E-04	2,00E-04	0,00E+00	0,00E+00	5,12E-04	1,61E-03	6,57E-03	0,00E+00	4,14E-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 non renewable primary energy excluding non renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = 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										

	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.

WASTE CATEGORIES AND OUTPUT FLOWS PER 1M2x18cm of Teqbase											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2-B7**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	6,12E-01	4,48E-11	8,01E-11	0,00E+00	0,00E+00	9,20E-10	6,60E-10	3,19E-09	0,00E+00	8,25E-09
NHWD	[kg]	2,96E+01	1,86E-04	3,32E-04	0,00E+00	0,00E+00	1,11E-03	2,74E-03	6,06E-03	0,00E+00	1,77E+01
RWD	[kg]	1,09E-03	2,15E-06	3,84E-06	0,00E+00	0,00E+00	6,88E-05	3,17E-05	2,78E-04	0,00E+00	8,42E-04
CRU	[kg]	6,64E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	1,40E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,81E+05	0,00E+00	0,00E+00
MER	[kg]	1,97E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	2,69E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	[MJ]	4,92E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy										
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.										

BIOGENIC CARBON CONTENT PER 1M2x18cm of Teqbase		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0,00E+00
Biogenic carbon content in accompa-nying packaging	[kg C]	0,00E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

Teqplan system flooring

ENVIRONMENTAL IMPACTS PER 1M2x20cm of Teqplan system flooring											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	3,25E+01	1,61E-01	4,20E-01	-2,19E+00	0,00E+00	4,19E-01	1,41E+00	1,17E+00	0,00E+00	-1,25E+01
GWP-fossil	[kg CO_2 eq.]	3,24E+01	1,59E-01	4,11E-01	-2,19E+00	0,00E+00	4,14E-01	1,39E+00	1,18E+00	0,00E+00	-1,24E+01
GWP-biogenic	[kg CO_2 eq.]	-1,39E-03	-7,43E-06	6,07E-03	0,00E+00	0,00E+00	-1,14E-05	2,84E-05	-2,23E-02	0,00E+00	-1,61E-02
GWP-luluc	[kg CO_2 eq.]	6,24E-02	2,59E-03	3,22E-03	0,00E+00	0,00E+00	5,14E-03	2,33E-02	1,59E-02	0,00E+00	6,01E-03
ODP	[kg CFC 11 eq.]	4,60E-07	2,70E-14	1,85E-11	0,00E+00	0,00E+00	1,02E-12	2,42E-13	2,13E-12	0,00E+00	5,47E-12
AP	[mol H^+ eq.]	9,68E-02	1,37E-03	5,99E-04	0,00E+00	0,00E+00	1,64E-03	7,74E-03	5,90E-03	0,00E+00	3,83E-03
EP-freshwater	[kg P eq.]	6,95E-04	6,61E-07	1,35E-06	0,00E+00	0,00E+00	1,32E-06	5,93E-06	4,59E-06	0,00E+00	2,97E-06
EP-marine	[kg N eq.]	2,38E-02	6,78E-04	1,64E-04	0,00E+00	0,00E+00	7,68E-04	3,79E-03	2,72E-03	0,00E+00	1,37E-03
EP-terrestrial	[mol N eq.]	2,69E-01	7,46E-03	2,15E-03	0,00E+00	0,00E+00	8,47E-03	4,19E-02	3,00E-02	0,00E+00	1,52E-02
POCP	[kg NMVOC eq.]	2,48E-01	1,86E-03	5,69E-04	0,00E+00	0,00E+00	2,16E-03	7,56E-03	7,52E-03	0,00E+00	3,73E-03
ADPm[1]	[kg Sb eq.]	5,79E-05	1,35E-08	2,78E-08	0,00E+00	0,00E+00	3,22E-08	1,21E-07	1,24E-06	0,00E+00	8,14E-08
ADPf[1]	[MJ]	2,15E+02	2,05E+00	5,18E+00	0,00E+00	0,00E+00	5,41E+00	1,84E+01	2,21E+01	0,00E+00	1,13E+01
WDP[1]	[m^3 world eq. deprived]	1,03E+00	2,46E-03	4,65E-03	0,00E+00	0,00E+00	5,83E-03	2,21E-02	2,25E-01	0,00E+00	9,01E-02
Caption	GWP-total = Global 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 = Acidification; 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 depletion potential										
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.										
Disclaimer	[1] 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.										

ADDITIONAL ENVIRONMENTAL IMPACTS PER 1M2x20cm of Teqplan system flooring											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	1,39E-06	1,59E-08	7,26E-09	0,00E+00	0,00E+00	1,95E-08	3,63E-08	1,16E-07	0,00E+00	2,27E-07
IRP[2]	[kBq U235 eq.]	4,55E-01	5,60E-04	2,34E-03	0,00E+00	0,00E+00	8,69E-03	5,03E-03	4,41E-02	0,00E+00	1,22E-01
ETP-fw[1]	[CTUe]	5,11E+02	1,52E+00	3,49E+00	0,00E+00	0,00E+00	3,12E+00	1,36E+01	1,54E+01	0,00E+00	5,82E+00
HTP-c[1]	[CTUh]	2,34E-08	3,06E-11	1,59E-10	0,00E+00	0,00E+00	7,11E-11	2,75E-10	3,36E-10	0,00E+00	1,90E-10
HTP-nc[1]	[CTUh]	1,69E-07	1,38E-09	2,82E-09	0,00E+00	0,00E+00	3,01E-09	1,24E-08	1,23E-08	0,00E+00	7,65E-09
SQP[1]	-	7,61E+01	1,00E+00	1,35E+00	0,00E+00	0,00E+00	2,03E+00	8,99E+00	6,90E+00	0,00E+00	4,64E+00
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)										
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.										
Disclaimers	[1] 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.										
	[2] 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.										

RESOURCE USE PER 1M2x20cm of Teqplan system flooring											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	4,38E+01	1,77E-01	3,66E-01	0,00E+00	0,00E+00	6,81E-01	1,59E+00	2,35E+00	0,00E+00	4,18E+00
PERM	[MJ]	-9,75E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	3,12E+01	1,77E-01	3,66E-01	0,00E+00	0,00E+00	6,81E-01	1,59E+00	2,35E+00	0,00E+00	4,18E+00
PENRE	[MJ]	2,61E+02	2,05E+00	5,18E+00	0,00E+00	0,00E+00	5,41E+00	1,84E+01	-1,63E+01	0,00E+00	1,13E+01
PENRM	[MJ]	3,83E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,83E+01	0,00E+00	0,00E+00
PENRT	[MJ]	2,17E+02	2,05E+00	5,18E+00	0,00E+00	0,00E+00	5,41E+00	1,84E+01	2,21E+01	0,00E+00	1,13E+01
SM	[kg]	1,46E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	6,93E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	2,13E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	3,67E-02	1,99E-04	3,75E-04	0,00E+00	0,00E+00	5,68E-04	1,79E-03	6,57E-03	0,00E+00	3,68E-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 non renewable primary energy excluding non renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = 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										

	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.

WASTE CATEGORIES AND OUTPUT FLOWS PER 1M2x20cm of Teqplan system flooring											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2-B7**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	7,71E-01	8,17E-11	4,55E-10	0,00E+00	0,00E+00	1,02E-09	7,34E-10	3,19E-09	0,00E+00	7,33E-09
NHWD	[kg]	3,30E+01	3,39E-04	1,44E-03	0,00E+00	0,00E+00	1,24E-03	3,05E-03	6,06E-03	0,00E+00	1,57E+01
RWD	[kg]	1,78E-03	3,92E-06	1,93E-05	0,00E+00	0,00E+00	7,65E-05	3,52E-05	2,78E-04	0,00E+00	7,48E-04
CRU	[kg]	8,36E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	1,77E-01	0,00E+00	2,80E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,81E+05	0,00E+00	0,00E+00
MER	[kg]	2,48E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	3,39E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	[MJ]	6,24E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy										
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.										

BIOGENIC CARBON CONTENT PER 1M2x20cm of Teqplan system flooring		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0,00E+00
Biogenic carbon content in accompa-nying packaging	[kg C]	0,00E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

Additional information

LCA interpretation

The life cycle assessment results reveal that the production stage (A1-A3) is the most significant contributor to environmental impacts across all three products: Teqplan (surface layer), Teqbase (base layer), and the complete Teqplan flooring system.

Cement production emerges as the primary driver of environmental impacts for most categories. This is consistent with typical findings in concrete-based products, as cement manufacturing is energy-intensive and involves the release of CO_2 from limestone calcination.

Key observations:

1. Climate Change: Cement production dominates the climate change impact, accounting for 40,1% in Teqplan, 51,3% in Teqbase, and 48,8% in the complete flooring system. This highlights the importance of optimizing cement use or exploring low-carbon cement alternatives.
2. Ozone Depletion: Cement production is the major contributor, responsible for 89,8% to 98,4% of impacts across the products. This suggests that improvements in cement manufacturing processes could significantly reduce ozone depletion potential.
3. Resource Use: For mineral and metal resources, cement is again the primary contributor (61,8% to 95,8%). However, for fossil resource use in Teqplan, the additive is the largest contributor (66,1%), indicating an area for potential improvement in the surface layer.
4. Other Impacts: For some categories like eutrophication and acidification, other processes such as granite transport (Teqplan) and machine operations also show significant contributions, suggesting areas for potential optimization.
5. Biogenic Carbon: Paper sacks used for packaging contribute significantly to biogenic carbon impacts (41,1% to 45,3%), indicating that packaging choices can have notable effects on certain environmental indicators.

In conclusion, efforts to reduce the environmental impact of Teqplan flooring should primarily focus on optimizing cement use and production, improving the efficiency of machine operations, and considering alternative cements with a lower carbon footprint. These findings can guide future product development and process improvement initiatives to enhance the overall sustainability of the Teqplan flooring system.

Technical information on scenarios

Transport to the building site (A4)

Scenario information	Value	Unit
Fuel type	Diesel	-
Vehicle type	Dumper/excavator	-
Transport distance	<1	km
Gross density of products transported	2437-2442	kg/m^3
Capacity utilisation volume factor*	-	-

*The dumper and excavator were modelled with a dataset for an excavator, as such, no utilization factor was defined.

Installation of the product in the building (A5)

Scenario information	Teqplan	Teqbase	Unit
Ancillary materials (steel trowel discs)	0,028	0	kg
Diesel Consumption	0	1,8	MJ
Gasoline Consumption	0,16	0	MJ
Waste materials (steel trowel discs)	0,028	0	kg
Output materials (product)	48,9	439	kg
Direct emissions to air, soil or water	0,74	3,3	kg

Reference service life

RSL information		Unit
Reference service Life	50	Years

Use (B1-B7)

Product	B1. Carbonation During Use	Unit
Teqplan	2,19	kgCO2eq.
Teqbase	0	kgCO2eq.
Teqplan system floor	2,19	kgCO2eq.

End of life (C1-C4)

Scenario information	Teqplan	Teqbase	Unit
Collected with mixed waste	48,9	439	kg
For recycling	48,9	439	kg

Re-use, recovery and recycling potential (D)

Scenario information/Materiel	Teqplan	Teqbase	Unit
Displaced Gravel Aggregate	47,4	425	kg
Energy recovery from waste incineration	0,20	0,76	MJ
Concrete Carbonation	0,86	11,8	kgCO2eq.
Displaced Steel	0,025	0	kg

Indoor air

The EPD does not give information on release of dangerous substances to indoor air because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A2 chapter 7.4.1.

Furthermore VOC tests have not been carried out as they are not relevant for this product.

Soil and water

The EPD does not give information on release of dangerous substances to soil and water because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A2 chapter 7.4.2.

References

Publisher	epddanmark www.epddanmark.dk Template version 2023.2
Programme operator	Danish Technological Institute Gregersensvej DK-2630 Taastrup www.teknologisk.dk
LCA-practitioner	*Daniel Gelardi Berman* *Danish Technological Institute* *Sustainable Construction* *Gregersensvej* *DK-2630 Taastrup* *www.teknologisk.dk*
LCA software /background data	Sphera LCA for Experts 10.8, 2024 Database version 2024.1 https://sphera.com Ecoinvent v3.9 2023 https://ecoinvent.org/ EN 15804 reference package 3.1
3rd party verifier	LCA Specialists Mirko Miseljic +45 23 48 83 78 lcaspecialists@outlook.com

General programme instructions
General Programme Instructions, version 2.0, spring 2020
www.epddanmark.dk

BR18
Bygningsreglements, 2024 – "Energiforbrug of klimapåvirkning (§ 250 - § 298) - Bygningsreglementets vejledning om bygningers klimapåvirkning.

EN 15804
DS/EN 15804 + A2:2019 - "Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products"

cPCR EN 16757
DS/EN 16757:2022 – "Bæredygtighed inden for byggeri og anlæg – Miljøvaredeklarationer – Produktkategoriregler for beton og betonelementer"

EN 15942

DS/EN 15942:2011 – ” Sustainability of construction works – Environmental product declarations – Communication format business-to-business”

EPD International
EPD, S-P-04906:2021 – “EPD – Teqplan System Floor, Teqton”

ISO 14025
DS/EN ISO 14025:2010 – ” Environmental labels and declarations – Type III environmental declarations – Principles and procedures”

ISO 14040
DS/EN ISO 14040:2008 – ” Environmental management – Life cycle assessment – Principles and framework”

ISO 14044
DS/EN ISO 14044:2008 – ” Environmental management – Life cycle assessment – Requirements and guidelines”