PRODINEX

Environmental Product Declaration

According to EN15804+A2

This declaration is for:
SPC CLICK flooring

Provided by:
Prodinex BV

MRPI® registration
1.1.00810.2025

program operator
Stichting MRPI®
publisher
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www.mrpi.nl

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ECO PLATFORM EPD VERIFIED

MRPI milieu relevante product informatie

COMPANY INFORMATION

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MRPI® REGISTRATION

1.1.00810.2025

DATE OF THIS ISSUE

24-4-2025

EXPIRY DATE

24-4-2030

SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by Gert-Jan Vroege, Eco-intelligence. The LCA study has been done by Bram Klerkx, SGS INTRON. The certificate is based on an LCA-dossier according to EN15804+A2. It is verified according to the 'MRPI®-EPD verification protocol November 2020.v4.0'. EPDs of construction products may not be comparable if they do not comply with EN15804+A2. Declaration of SVHC that are listed on the 'Candidate list of Substances of Very High Concern for authorisation' when content exceeds the limits for registration with ECHA.

PROGRAM OPERATOR

Stichting MRPI®
Kingsfordweg 151
1043 GR
Amsterdam

PRODUCT

SPC CLICK flooring

DECLARED UNIT / FUNCTIONAL UNIT

1 Productiveness (m2)

DESCRIPTION OF PRODUCT

Prodinex's SPC CLICK flooring is a high-quality, durable option designed for both residential and commercial spaces. It offers the aesthetic appeal of natural materials like wood or stone while being sound-absorbing and waterproof. SPC CLICK floors can be installed floating on the substrate. The floor covering is intended for indoor use in dry conditions. The use class (class of use) of the floor tiles is: 23, 34 and 42.

VISUAL PRODUCT

MORE INFORMATION

https://www.prodinex.com/

Ing. L. L. Oosterveen MSc. MBA Managing Director MRPI	DEMONSTRATION OF VERIFICATION
	CEN standard EN15804 serves as the core PCR [1]
	Independent verification of the declaration an data according to EN15804+A2 internal: external: X
	Third party verifier: Gert-Jan Vroege, Eco-intelligence
	[1] PCR = Product Category Rules

DETAILED PRODUCT DESCRIPTION (PART 1)

The manufacturing of the SPC floor starts with mixing the raw materials. The mix is then pressed through a die by means of extrusion. At the same time the decor film and wearlayer are fixed on the SPC board. After the product has cooled down, a UV+PUR coating is applied. The product is cut to size and the click system is applied. Then the IXPE layer is added and the product is packed. The product consists of: Decor film, Wearlayer, UV coating, PVC, Stone powder, IXPE. The lifespan (RSL) of the flooring is at least 10 years. Prodinex gives a warranty period of 25 years for domestic use and 10 years for commercial use.

Composition (A1)	Amount per m2 [kg]
Decor film	0,097
Wearlayer	0,644
UV	0,03
PVC	1,85
Stone powder	6,15
IXPE	1,05
Hot melt glue	0,037

Composition (A1) - continued	Amount per m2 [kg]
Stabilizer	0,37
Plasticizer	0,148
Toughener	0,185
Lubricant	0,111

DETAILED PRODUCT DESCRIPTION (PART 3)

The production figures (A1-A3) exclude the use of packaging materials and processing of production waste (due to edge materials and B grade products). The production loss is calculated at 15,73% for the SPC CLICK floor. The losses are either used for other customers or burned at the production site in China.

Use of packaging materials (A3)	Amount per m2
Pallets	0,0103
Cardboard boxes	0,226

DETAILED PRODUCT DESCRIPTION (PART 4)

Production requirements: Water, electricity & steam (A3)

Production requirements (A3)	Amount per m2
Water	0,00313 m3
Electricity	4,6 kWh
Steam	5,81 kg

DETAILED PRODUCT DESCRIPTION (PART 5)

Loss at construction site for flooring (5%) (A5)

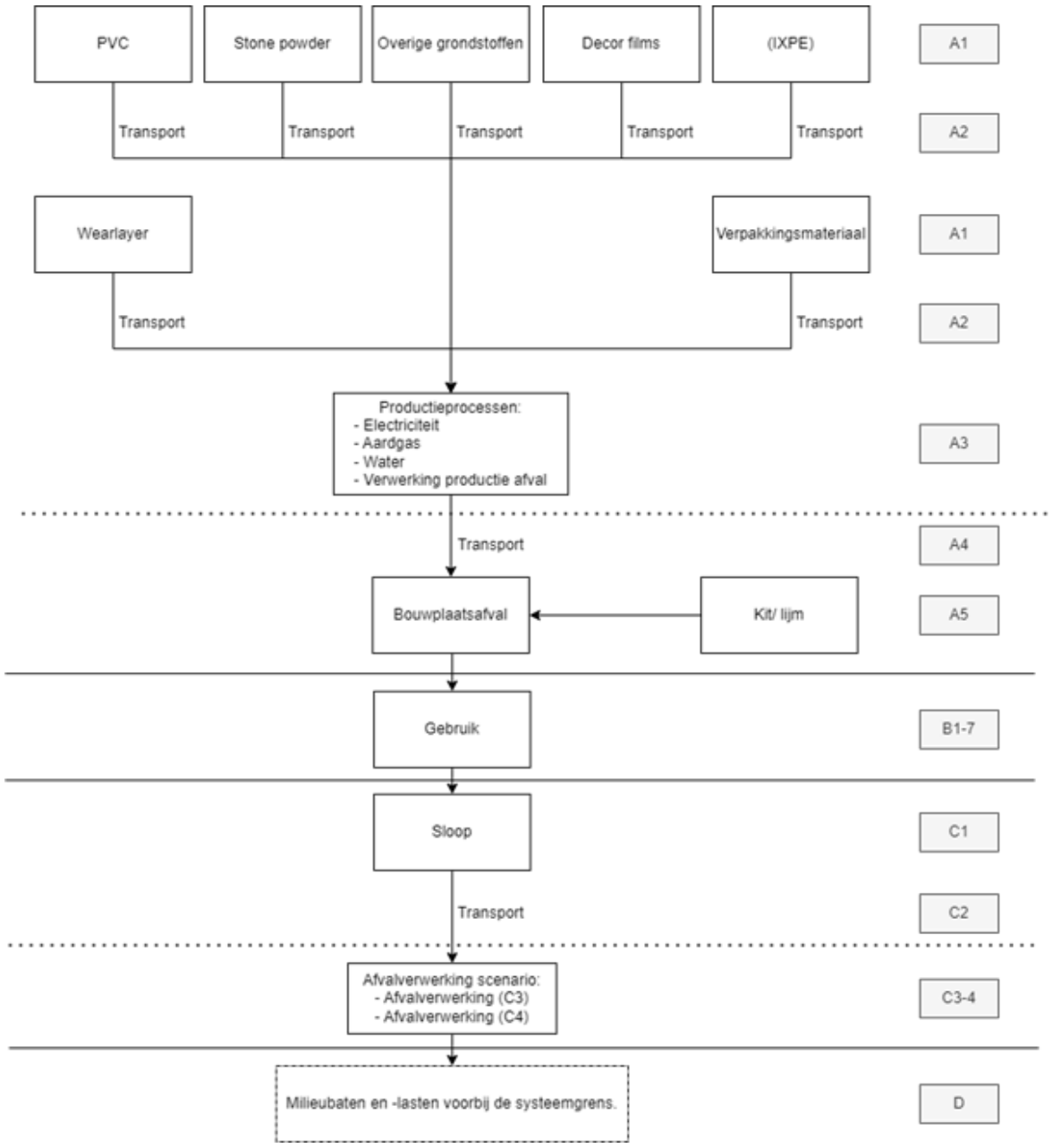
SCOPE AND TYPE

Production location: Shandong province, China; Distribution location: Asten, Netherlands; market: Netherlands/ Europe (B2B); End-of-life: Netherlands; Background Database: Ecoinvent 3.9; LCA software: SimaPro; Type of EPD: according to EN15804+A2; EPD: specific.

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

X = Modules Assessed

ND = Not Declared



REPRESENTATIVENESS

This EPD is representative for SPC-flooring produced by Prodinex in China and distributed in Asten (Netherlands). There is only 1 production site and plant in the Shandong province in China and 1 distribution site in the Netherlands.

ENVIRONMENTAL IMPACT per functional unit or declared unit (indicators A1)

	Eenheid	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADPE	kg Sb eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ADPF	MJ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
GWP	kg CO2 eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ODP	kg CFC11 eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
POCP	kg ethene eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AP	kg SO2 eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
EP	kg (PO4) 3- eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Toxicity indicators and ECI (Dutch market)

HTP	kg DCB eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FAETP	kg DCB eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAETP	kg DCB eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TETP	kg DCB eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ECI	euro	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ADPF	kg Sn eq.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ADPE = Abiotic Depletion Potential for non-fossil resources
ADPF = Abiotic Depletion Potential for fossil resources
GWP = Global Warming Potential
ODP = Depletion potential of the stratospheric ozone layer
POCP = Formation potential of tropospheric ozone photochemical oxidants
AP = Acidification Potential of land and water
EP = Eutrophication Potential
HTP = Human Toxicity Potential
FAETP = Fresh water aquatic ecotoxicity potential
MAETP = Marine aquatic ecotoxicity potential
TETP = Terrestrial ecotoxicity potential
ECI = Environmental Cost Indicator
ADPF = Abiotic Depletion Potential for fossil resources

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ENVIRONMENTAL IMPACT per functional unit or declared unit (core indicators A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO2 eq	1,29E+01	7,93E-01	7,49E+00	2,12E+01	3,03E+00	2,06E+00	0,00E+00	1,40E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,98E-01	3,51E+00	8,40E+00	-4,15E-01
GWP-fossil	kg CO2 eq	1,34E+01	7,89E-01	7,50E+00	2,17E+01	3,03E+00	1,70E+00	0,00E+00	1,36E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,97E-01	3,52E+00	8,37E+00	-4,12E-01
GWP-biogenic	kg CO2 eq	-5,72E-01	1,23E-03	-1,91E-02	-5,90E-01	9,45E-04	3,58E-01	0,00E+00	3,45E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,07E-04	-8,29E-03	2,04E-02	-2,81E-03
GWP-luluc	kg CO2 eq	3,09E-02	2,81E-03	3,21E-03	3,69E-02	3,96E-03	2,15E-03	0,00E+00	6,36E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,03E-04	2,29E-03	3,12E-03	-1,99E-04
ODP	kg CFC11 eq	4,19E-06	1,40E-08	1,96E-07	4,40E-06	5,05E-08	2,66E-07	0,00E+00	2,86E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,51E-09	3,33E-08	8,83E-07	-1,21E-07
AP	mol H+ eq.	6,48E-02	3,78E-03	2,90E-02	9,75E-02	6,34E-02	5,99E-03	0,00E+00	7,86E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,44E-04	9,23E-03	1,06E-02	-1,18E-03
EP-fresh water	kg PO4 eq.	5,68E-04	7,85E-06	1,24E-04	7,00E-04	1,76E-05	4,26E-05	0,00E+00	1,34E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,96E-06	5,98E-05	8,89E-05	-9,54E-06
EP-marine	kg N eq.	1,20E-02	1,44E-03	5,63E-03	1,91E-02	1,65E-02	1,26E-03	0,00E+00	1,04E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,59E-04	2,73E-03	2,42E-03	-2,28E-04
EP-terrestrial	mol N eq.	1,32E-01	1,53E-02	6,18E-02	2,09E-01	1,82E-01	1,38E-02	0,00E+00	1,17E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,83E-03	2,94E-02	2,68E-02	-2,50E-03
POCP	kg NMVOC eq.	4,98E-02	5,23E-03	1,85E-02	7,35E-02	5,08E-02	4,78E-03	0,00E+00	3,74E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,31E-03	1,11E-02	8,05E-03	-1,09E-03
ADP-minerals & metals	kg Sb eq.	1,05E-04	2,47E-06	5,91E-06	1,13E-04	5,24E-06	7,04E-06	0,00E+00	1,62E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,17E-07	1,23E-05	1,44E-05	-2,72E-06
ADP-fossil	MJ, net calorific value	2,93E+02	1,13E+01	7,18E+01	3,77E+02	3,94E+01	2,19E+01	0,00E+00	3,06E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,82E+00	3,46E+01	2,29E+01	-9,92E+00
WDP	m3 world eq. Deprived	3,53E+00	6,17E-02	9,60E-01	4,55E+00	1,31E-01	3,29E-01	0,00E+00	4,36E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,54E-02	4,30E-01	1,43E+00	-4,10E-01

GWP-total	=	Global Warming Potential total
GWP-fossil	=	Global Warming Potential fossil fuels
GWP-biogenic	=	Global Warming Potential biogenictotal
GWP-luluc	=	Global Warming Potential land use and land use change
ODP	=	Depletion potential of the stratospheric ozone layer
AP	=	Acidification Potential, Accumulated Exceedence
EP-freshwater	=	Eutrophication Potential, fraction of nutrients reaching freshwater end compartment
EP-marine	=	Eutrophication Potential, fraction of nutrients reaching marine end compartment
EP-terrestrial	=	Eutrophication Potential, Accumulated Exceedence
POCP	=	Formation potential of tropospheric ozone photochemical oxidants
ADP-minerals & metals	=	Abiotic Depletion Potential for non-fossil resources [1]
ADP-fossil	=	Abiotic Depletion for fossil resources potential [1]
WDP	=	Water (user) deprivation potential, deprivation-weighted water consumption [1]

Disclaimer [1]:

- The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ECO PLATFORM EPD VERIFIED

MRPI milieu relevante product informatie

ENVIRONMENTAL IMPACT per functional unit or declared unit (additional indicators A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PM	Disease inci-dence	6,34E-07	7,79E-08	3,84E-07	1,10E-06	1,63E-07	7,15E-08	0,00E+00	2,72E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,95E-08	1,97E-07	1,06E-07	-9,81E-09
IRP	kBq U235 eq.	3,66E-01	4,41E-03	1,53E-01	5,23E-01	1,18E-02	3,23E-02	0,00E+00	2,67E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,10E-03	4,36E-02	7,69E-02	-1,19E-02
ETP-fw	CTUe	7,80E+01	8,34E+00	8,47E+01	1,71E+02	2,16E+01	2,84E+01	0,00E+00	5,75E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,08E+00	1,40E+01	3,72E+02	-1,19E+00
HTP-c	CTUh	8,38E-09	4,18E-10	1,62E-09	1,04E-08	1,42E-09	8,34E-10	0,00E+00	6,53E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,04E-10	3,49E-09	2,19E-09	-1,57E-10
HTP-nc	CTUh	1,56E-07	9,08E-09	5,08E-08	2,16E-07	1,91E-08	1,53E-08	0,00E+00	2,52E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,27E-09	3,06E-08	4,04E-08	-4,08E-09
SQP	-	7,00E+01	8,92E+00	1,02E+01	8,91E+01	1,37E+01	6,28E+00	0,00E+00	6,42E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,23E+00	2,54E+01	8,41E+00	-1,24E+00

PM = Potential incidence of disease due to PM emissions

IRP = Potential Human exposure efficiency relative to U235 [1]

ETP-fw = Potential Comparative Toxic Unit for ecosystems [2]

HTP-c = Potential Comparative Toxic Unit for humans [2]

HTP-nc = Potential Comparative Toxic Unit for humans, non-cancer [2]

SQP = Potential soil quality index [2]

Disclaimer [1]:

- 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.

Disclaimer [2]:

- The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

OUTPUT FLOWS AND WASTE CATEGORIES per functional unit or declared unit (A1 en A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	kg	4,43E-04	7,21E-05	1,54E-04	6,69E-04	2,17E-04	4,47E-05	0,00E+00	5,43E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,80E-05	1,23E-04	7,84E-05	-1,87E-05
NHWD	kg	1,44E+00	7,47E-01	3,98E-01	2,59E+00	1,06E+00	2,93E-01	0,00E+00	1,26E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,87E-01	1,73E+00	1,25E+00	-2,43E-02
RWD	kg	2,55E-04	2,59E-06	1,13E-04	3,71E-04	6,85E-06	2,29E-05	0,00E+00	2,15E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,46E-07	3,22E-05	5,41E-05	-9,49E-06
CRU	kg	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	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,31E-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	4,62E-01	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	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	0,00E+00	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,50E+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	0,00E+00	1,58E+01	0,00E+00
ETE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,58E+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	0,00E+00	2,72E+01	0,00E+00

HWD = Hazardous Waste Disposed
NHWD = Non Hazardous Waste Disposed
RWD = Radioactive Waste Disposed
CRU = Components for reuse
MFR = Materials for recycling
MER = Materials for energy recovery
EEE = Exported Electrical Energy
ETE = Exported Thermal Energy

RESOURCE USE per functional unit or declared unit (A1 and A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	1,91E+01	1,60E-01	3,11E+00	2,24E+01	3,98E-01	1,34E+00	0,00E+00	6,77E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,99E-02	1,74E+00	2,59E+00	-4,81E-01
PERM	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	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	1,91E+01	1,60E-01	3,11E+00	2,24E+01	3,98E-01	1,34E+00	0,00E+00	6,77E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,99E-02	1,74E+00	2,59E+00	-4,81E-01
PENRE	MJ	2,93E+02	1,13E+01	7,18E+01	3,77E+02	3,94E+01	2,19E+01	0,00E+00	3,06E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,83E+00	3,46E+01	2,29E+01	-9,92E+00
PENRM	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	2,93E+02	1,13E+01	7,18E+01	3,77E+02	3,94E+01	2,19E+01	0,00E+00	3,06E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,83E+00	3,46E+01	2,29E+01	-9,92E+00
SM	kg	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	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NSRF	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	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	m3	7,01E-02	2,73E-03	2,43E-02	9,72E-02	5,06E-03	7,77E-03	0,00E+00	2,63E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,83E-04	1,29E-02	3,88E-02	-3,46E-03

PERE = Use of renewable energy excluding renewable primary energy resources
PERM = Use of renewable energy resources used as raw materials
PERT = Total use of renewable primary energy resources
PENRE = Use of non-renewable primary energy resources excluding non-renewable 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 materials
RSF = Use of renewable secondary fuels
NSRF = Use of non-renewable secondary fuels
FW = Use of net fresh water

BIOGENIC CARBON CONTENT per functional unit or declared unit (A1 and A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
BBCpr	kg C	ND	ND	ND	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BCCpa	kg C	ND	ND	ND	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

BCCpr = Biogenic carbon content in product
BCCpa = Biogenic carbon content in packaging

CALCULATION RULES (PART 1)

Process data were collected by Prodinex from the production location in China. The data were collected using the questionnaire drawn up by SGS INTRON for the base year 2024. Input and output data were collected for the following data categories:
- Raw materials and processes;
- Energy use;
- Production waste.

The LCA calculations are made using the Ecoinvent database v3.9 Infrastructure processes in Ecoinvent processes have been included, long term emissions in Ecoinvent processes have been excluded from the LCA calculations. The validation of data made available by Prodinex has been validated at process and company level.

Capital goods at the production location have not been specifically investigated for the production location in China and therefore not explicitly included in the LCA study. Within the EcoInvent/NMD processes, capital goods have been included, for example for the extrusion of PVC. The products on pallets are wrapped in 1-2 layers of PE foil for shipping. This PE foil has not been included in the LCA calculation, because its environmental impact will be <1%. For basic processes, the SimaPro file of the National Environmental Database 3.9 and Ecoinvent 3.9.1 were used. • The environmental interventions were determined using the methods described in the Bepalingsmethode. The LCA calculations were performed in accordance with EN 15804+A2:2019.
• When calculating the energy flows, the fuels and electricity sources used, extraction and transport of the fuels, efficiency of the conversion and the distribution of the energy flow were taken into account. The calorific net value (LHV) was also calculated.
• The rules for allocation in multi-input, -output, recycling and reuse processes from the Determination Method were followed for all materials.

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION (PART 1)

The wall and floor panels will be demolished after use and then taken to certified processors. The waste scenario is considered to be the same for the different types of flooring/ walling: PVC/LVT dryback floor, SPC CLICK floor and SPC walls. The only differences are that the IXPE layer of the SPC CLICK floor and the fastening materials (leveling compound, sealant/floor adhesive) are processed separately. For the waste scenario of the LCA, a flat-rate value has been used per type of material. A distinction has been made between 4 different materials: PVC, stone-like material, fastening materials (floor adhesive/ sealant) and (IX)PE for the SPC CLICK floor. All materials that fall within phase A1, except stone powder and IXPE, are considered to be processed as PVC. The fixed value of the determination method (Bepalingsmethode) of 62 for PVC, foils is used for the waste scenario. This scenario states that 10% is dumped, 85% is incinerated and 5% is recycled. The same values are applied for PVC/PE as for stone powder (10% dumped, 85% incinerated and 5% recycled), but different processing processes are used. The waste scenario for stone powder is modelled in the same way as for plastics, but the landfill/incineration processes have been adjusted as stone powder has a lower LHV compared to plastics. The SPC CLICK floor has no mounting materials (A5) unlike the PVC flooring or SPC wall panels. In addition, a processing scenario was used for the packaging materials (cardboard and wooden pallets) in which 100% combustion was assumed. The packaging materials were modelled within module A5, as the material is released on the construction site. For the demotion processes (C1) it is assumed that the demolition labour is done manually and therefore has a value of 0. All material is processed (C3) before being transported and processed at a recycling (5%) or incineration plant (85%) or dumped (10%) (C4). The following LHV's were used: PVC 21,51MJ/kg, Stone powder 0,046MJ/kg*, PE 42,47MJ/kg, PUR/ floor glue and leveling compound 30,67MJ/kg, Pallet (wood) 13,99MJ/kg and Cardboard packaging (boxes) 15,92MJ/kg. For stone powder only a LHV is used for the C4 process and no benefits for the burning of stone powder (D) are calculated. For the recycled PVC and PE the production of an equivalent of virgin material is avoided (D). For the burning of the PVC, PE, packaging and mounting materials an equivalent of energy production is avoided (D). The Dutch incenaration values of 18% electric and 31% thermic have been adhered to.

Dumping of PVC	5%
Dumping of PE	5%
Dumping of stone powder	5%
Incineration PVC	85%
Incineration PE	85%
Incineration stone powder	85%
Incineration packaging materials: pallets	100%
Incineration packaging materials: cardboard	100%

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION (PART 2)

Module B2 (service/ cleaning per m2 per year)
The PCR (NEN-EN 16810) states that: "Floor covering during its lifetime in use has no environmental impact on normal (i.e. expected) use and is not repaired, replaced or revised (except at the end of the life cycle). As a result, floor coverings do not contribute to modules B1 and B3 to B7 and thus equal to zero." As a result, the contribution for module B1 to B7 within this LCA is equal to zero. Maintenance or replacements are only necessary as a result of incidents. Modules B1 and B3 to B5 have not been considered. The PCR for carpeting requires module B2 to be included within the LCA. Module B2 involves cleaning and maintenance of the floor. Module B2 comprises the provision of cleaning detergent, energy and water usage for cleaning floor coverings including waste water treatment. The PCR requires that 6 parameters be defined.
Below is a description of B2 for PVC floor and SPC flooring.
1)Cleaning and maintenance process – description or source:
On its site, Prodinex has brochures containing maintenance instructions. These maintenance instructions have been used to form a scenario for B2. Below are the sources:
SPC Click Floor: https://www.prodinex.com/wp-content/uploads/2024/04/Onderhoud-Reiniging-instructie-click-NL-2024-1.pdf
Dryback (PVC floor): https://www.prodinex.com/wp-content/uploads/2024/04/Onderhoud-Reiniging-instructie-dryback-NL-2024-1.pdf
2)For the cleaning and maintenance cycle, the following variables are included within the LCA:
•Daily: Vacuuming – Since no standard scenario or values are given in the PCR, it is estimated that 180m2 dust can be soaked per hour. Per m2 (functional unit) 1/3 minute of vacuuming is counted. Annually this amounts to (((1/3)/60)*365)*0.9 = 1.82 kWh per year per m2 with a power output of 900W applied to the cleaner. Since 2017, vacuum cleaners have only been allowed to power up to 900 watts. The maximum power output of 900W has been used as a worst-case scenario.
•Weekly: Mop in tepid water with a PH-neutral PVC cleaner or detergent. Before moping, 1L water is taken with 10ml PVC cleaner. The PVC cleaner consumption is set at 10ml based on the consumption information (https://neerlandia-houtenvloeren.nl/product/ph-neutraal-reiniger/?srsltid=AfmBOoqMERaFcvAGlVvbREcZif4ZEnSVmq2qN1ySsB7AVRoWaWK7kHXY). The mop is considered negligible, as it can be used many times. The water and detergent are taken for cleaning.
•Monthly: Use scrubbing machine with a PH neutral PVC cleaner. Before scrubbing, 1L water is taken along with 10ml PVC cleaner. Based on the following scrubber/piston: https://karcher-webshop-schoonex.nl/karcher-dweilmachine-br-30-1-c-bp-battery-power-300mm-1-liter-18v.html.
•Depending on the use, flooring may require intensive cleaning and treatment at least once a year. This includes a double cycle of the scrubber, including the water and PVC cleaner. Per m2 (functional unit) 1/3-minute use of the scrubber is calculated based on a performance of 180m2 hourly. Karcher's website details a theoretical surface performance of 200 m2/h. 180m2/you have been handled, as performance is expected to be slightly lower in practice.
In short, since there are no standard scenarios or values given in the PCR for B2 is for module B2 per m2 The LCA annual flooring scenario is as follows:
•1.82 kWh per year per m2 For the energy consumption of the cleaner
•0.52L PVC cleaner for weekly and monthly cleaning (10ml per week to 52 weeks = 0.52L)
•52L water for weekly and monthly cleaning (1L per week to 52 weeks = 52L)
•Energy consumption of the scrubber with 13 cycles – 11 monthly and 1 double cycle for annual intensive cleaning – included. Annually this amounts to (((1/3)/60)*365)*0.07*13 = 1.85 kWh per year per m2.

Vacuum (solely energy consumption)	**1,82 kWh/ m2**
PVC cleaner	0,52 L/ m2
Water	52L/ M2
Scrubber (solely energy consumption)	1,85 kWh/ m2

DECLARATION OF SVHC

No substances that are listed in the latest “Candidate List of Substances of Very High Concern for authorisation” are included in the product that exceeds the limit for registration.

REFERENCES

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[3] Nationale Milieudatabase, “NMD-Toetsingsprotocol opname data in de nationale milieudatabase”, augustus 2024

[4] EN 15804 (incl. A1:2013 en A2:2019), “Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products”

[5] ISO 14040, “Environmental management - Environmental management -- Life cycle assessment - Principles and framework”, ISO14040:2006

[6] ISO 14044, “Environmental management - Life cycle assessment - Requirements and guidelines”, ISO14044:2006

[7] International Organization for Standardization, ISO/DIS 21930, “Sustainability in building construction – Environmental declaration of building products”, ISO/DIS 21930:2007

[8] International Organization for Standardization, ISO/TR 14025, “Environmental labels and declarations – Type III environmental declarations”, ISO/TR 14025:2000

[9] EUROPEAN COMMITTEE FOR STANDARDIZATION, EN 16810:2017, “Resilient, textile and laminate floor coverings - Environmental product declarations - Product category rules”