

Environmental Product Declaration

according to ISO 14025 and EN 15804



This declaration is for:

Polyamide mat, PVC backing

Provided by:

Rinos BV



program operator

Stichting MRPI®

publisher

Stichting MRPI®

www.mrpi.nl

MRPI® registration

1.1.00331.2022

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COMPANY INFORMATION



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PRODUCT

Polyamide mat, PVC backing

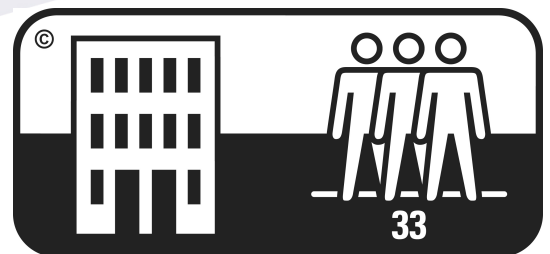
DECLARED UNIT/FUNCTIONAL UNIT

1 m²

DESCRIPTION OF PRODUCT

This EPD represents an average tufted entrance mat for commercial use, designed to absorb dirt and moisture at the entrance of buildings. It is made of a top cloth of regenerated Polyamide with an impermeable PVC compound backing.

VISUAL PRODUCT



MRPI® REGISTRATION

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SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by **Niels Jonkers, Pluksus**.

The LCA study has been done by **Bob Roijen, SGS INTRON**.

The certificate is based on an LCA-dossier according to ISO14025 and EN15804+A1. 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+A1. 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.

MORE INFORMATION

www.rinos.com

PROGRAM OPERATOR

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ir. J-P den Hollander, Managing director MRPI®

DEMONSTRATION OF VERIFICATION

CEN standard EN15804 serves as the core PCR[a]

Independent verification of the declaration and data,

according to EN ISO 14025:2010:

internal: external: X

Third party verifier:

Niels Jonkers, Pluksus

[a] PCR = Product Category Rules

DETAILED PRODUCT DESCRIPTION

Floor mats are a special category of floor covering that have the specific function of absorbing and storing adhering dirt and moisture from shoe soles at the entrance of a building. The materials and construction of this type of floor covering are optimized to withstand high mechanical stress, to retain dirt and to be easy to clean with a vacuum cleaner. The back of this floor covering is impermeable to moisture to protect the underlying floor.

The use of floor mats reduces cleaning costs in a building, contributes to safety by reducing the risk of slipping on a wet floor and improves the visual presentation of the room by hiding the dirt.

Product characteristics

Product thickness	8 mm
Wear layer / surface layer thickness	6 mm
Product weight	3,7 kg/m ²

COMPONENT >1% of total mass	[kg / m ²]
Regenerated polyamide (Econyl)	0.9
Backing PVC (including the following materials):	2.8
- Primary backing (PET / Nylon)	-
- Plasticizer: DOTP (non ortho phthalate)	-
- Filler (chalk)	-
- Other constituents	-
Packaging (LDPE foil)	0.017
Total (excl. packaging)	3.7

(*) > 1% of total mass

SCOPE AND TYPE

The EPD follows the European standard EN 15804:2012+A1:2013 en., Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.

The EPD also meets the criteria in PCR document: NBN EN 16810:2017.

Some scenario's and default values have been adopted from "Bepalingsmethode Milieuprestatie Bouwwerken".

This means that the underlying standards ISO 14040:2006/AMD 1:2020 "Environmental management – Life cycle analysis – Principles and framework" and ISO 14044:2006/AMD 2:2020 "Environmental management. Life cycle assessment – Requirements and Guidelines" have been followed.

These standards are also based on ISO 21930:2017 "Sustainability in building construction – Environmental declaration of building products" and ISO 14025:2006 "Environmental labels and declarations – Type III environmental declarations".

The LCA calculations were made using Simapro and Ecoinvent v3.6 software.

PRODUCT STAGE			CONSTRUCTION					USE STAGE					END OF LIFE				BENEFITS AND	
			PROCESS										STAGE				LOADS BEYOND THE	
			STAGE														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	ND	ND	ND	ND	ND	ND	X	X	X	X	X		

X = Modules Assessed

ND = Not Declared

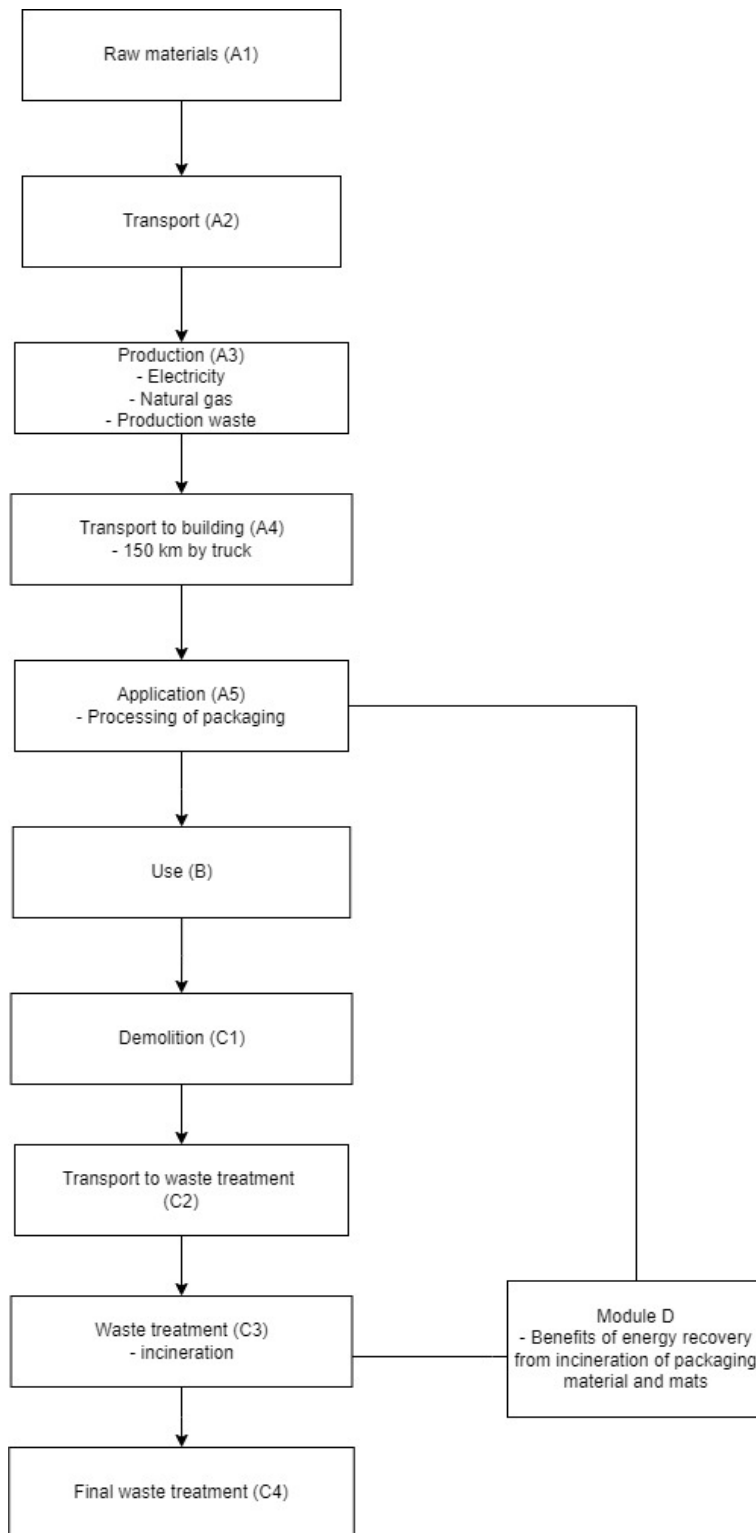


Figure: LCA process diagram according to EN 15804 (7.2.1)



REPRESENTATIVENESS

The product in this EPD is produced at the production location of Rinos in Genemuiden (NL).

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

	UNIT	A1	A2	A3	A1-A3	A4	A5	B1	C1	C2	C3	C4	D
ADPE	kg Sb eq.	6.92 E-5	1.58 E-5	-3.42 E-6	8.16 E-5	1.88 E-6	1.31 E-8	3.77 E-7	0.00	1.25 E-6	2.47 E-5	0.00	-7.34 E-7
ADPF	MJ	1.55 E+2	1.21 E+1	-2.05 E+0	1.65 E+2	1.12 E+0	7.93 E-3	1.23 E+0	0.00	7.43 E-1	1.50 E+1	0.00	-4.64 E+1
GWP	kg CO2 eq.	6.92 E+0	8.33 E-1	9.13 E-1	8.67 E+0	7.21 E-2	5.06 E-2	9.24 E-2	0.00	4.80 E-2	6.50 E+0	0.00	-2.74 E+0
ODP	kg CFC11 eq.	1.68 E-6	1.44 E-7	-2.19 E-7	1.60 E-6	1.34 E-8	7.94 E-11	4.56 E-9	0.00	8.91 E-9	6.40 E-7	0.00	-3.18 E-7
POCP	kg ethene eq.	3.71 E-3	6.07 E-4	-8.32 E-5	4.23 E-3	4.32 E-5	2.85 E-7	1.38 E-5	0.00	2.88 E-5	4.46 E-4	0.00	-3.87 E-4
AP	kg SO2 eq.	2.60 E-2	7.33 E-3	-5.46 E-4	3.28 E-2	3.10 E-4	5.53 E-6	1.73 E-4	0.00	2.07 E-4	6.95 E-3	0.00	-1.77 E-3
EP	kg (PO4)3- eq.	3.81 E-3	1.15 E-3	-1.85 E-5	4.94 E-3	6.19 E-5	2.06 E-6	3.56 E-5	0.00	4.13 E-5	1.39 E-3	0.00	-2.55 E-4

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

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

	UNIT	A1	A2	A3	A1-A3	A4	A5	B1	C1	C2	C3	C4	D
PERE	MJ	4.59 E+1	1.85 E-1	4.52 E+0	5.06 E+1	1.60 E-2	1.43 E-4	1.32 E-1	0.00	1.07 E-2	1.57 E+0	0.00	-9.85 E-2
PERM	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PERT	MJ	4.59 E+1	1.85 E-1	4.52 E+0	5.06 E+1	1.60 E-2	1.43 E-4	1.32 E-1	0.00	1.07 E-2	1.57 E+0	0.00	-9.85 E-2
PENRE	MJ	1.39 E+2	1.28 E+1	-1.91 E+0	1.49 E+2	1.18 E+0	8.54 E-3	1.31 E+0	0.00	7.89 E-1	1.60 E+1	0.00	-5.15 E+1
PENRM	MJ	6.55 E+1	0.00	0.00	6.55 E+1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PENRT	MJ	2.04 E+2	1.28 E+1	-1.91 E+0	2.15 E+2	1.18 E+0	8.54 E-3	1.31 E+0	0.00	7.89 E-1	1.60 E+1	0.00	-5.15 E+1
SM	MJ	2.78 E+0	0.00	0.00	2.78 E+0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RSF	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NRSF	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	m3	2.09 E-1	1.42 E-3	-6.08 E-3	2.05 E-1	1.26 E-4	4.95 E-6	7.52 E-4	0.00	8.41 E-5	3.15 E-2	0.00	-2.67 E-3

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

NRSF = Use of non renewable secondary fuels

FW = Use of net fresh water

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

	UNIT	A1	A2	A3	A1-A3	A4	A5	B1	C1	C2	C3	C4	D
HWD	kg	6.63 E-3	2.79 E-5	2.58 E-5	6.68 E-3	2.85 E-6	5.90 E-8	9.46 E-7	0.00	1.90 E-6	2.93 E-5	0.00	-5.87 E-5
NHWD	kg	6.35 E-1	5.01 E-1	5.29 E-1	1.66 E+0	6.91 E-2	6.75 E-4	3.62 E-3	0.00	4.61 E-2	2.61 E-1	0.00	-1.86 E-2
RWD	kg	3.21 E-4	8.22 E-5	-1.05 E-5	3.92 E-4	7.58 E-6	3.20 E-8	2.54 E-6	0.00	5.06 E-6	5.31 E-5	0.00	-2.22 E-5
CRU	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MFR	kg	0.00	0.00	3.86 E-1	3.86 E-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MER	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EEE	MJ	0.00	0.00	0.00	0.00	0.00	1.28 E-1	0.00	0.00	0.00	1.18 E+1	0.00	0.00
ETE	MJ	0.00	0.00	0.00	0.00	0.00	2.20 E-1	0.00	0.00	0.00	2.03 E+1	0.00	0.00

HWD = Hazardous Waste Disposed

RWD = Radioactive Waste Disposed

MFR = Materials for recycling

EEE = Exported Electrical Energy

NHWD = Non Hazardous Waste Disposed

CRU = Components for reuse

MER = Materials for energy recovery

ETE = Exported Thermal Energy

CALCULATION RULES

Process data on the production of the mats are based on a full production year: 2020. No materials have been excluded, the cut-off rule is well below 1%.

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

The mats are made of regenerated polyamide yarn which is tufted into a PET/PA primary backing. Then a PVC backing is applied.

Transport to the building site

Parameter	Unit (per FU)
Vehicle type	[1]
Distance	150 km
Capacity utilization (including empty returns)	50%
Bulk density of transported products	Not applicable

[1] = Ecoinvent truck: Transport, freight, lorry, unspecified {RER} market for transport, freight, lorry, unspecified | Cut-off rule

Installation of the product in the building

Parameter	Unit (per FU)
Ancillary materials for installation	Not applicable
Water use	Not applicable
Other resource use	Not applicable
Quantitative description of energy type (regional mix) and consumption during the installation process	Not applicable
Waste materials on the building site before waste processing, generated by the product's installation (specified by type): packaging material, LDPE foil	0,017 kg
Output materials (specified by type) as result of waste processing at the building site, e.g. of collection for recycling, for energy recovery, disposal (specified by route)	[1]
Direct emissions to ambient air, soil and water	Not applicable

[1] = Incineration of LDPE packaging including transport to waste incineration (100 km by truck).

Use stage related to the building fabric

Parameter	Unit (per FU)
Cleaning and maintenance process	Vacuum cleaning
Cleaning and maintenance cycle	Twice per week
Ancillary materials for cleaning and maintenance, e.g. cleaning agent, waxes or polishes, (specify materials)	Not applicable
Waste material resulting from cleaning and maintenance (specify materials)	Not applicable
Net fresh water consumption during cleaning maintenance	Not applicable
Energy input during cleaning and maintenance, e.g. vacuum cleaning or rotary machine, energy carrier type e.g. electricity, and amount, if applicable and relevant	Electricity assuming 1 kW and 5s/m ²

Reference service life

Parameter	Unit (per FU)
Reference service life	Floor mats have an expected lifespan of an estimated 5 - 10 years.
Declared product properties (at the gate) and finishes, etc., e.g. use class in accordance with EN ISO 10874	use class 33
Design application parameters (if instructed by the manufacturer), including the referenced to the appropriate practices and application codes	Not applicable
An assumed quality of work, when installed in accordance with the manufacturer's instructions	Not applicable
Indoor environment, e.g. temperature, moisture, chemical exposure	Not applicable
Usage conditions, e.g. frequency of use, mechanical exposure	Not applicable

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 exceed the limit for registration.

REFERENCES

- EN 15804:2012+A1:2013 en. - Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products. 1 November 2013.
- NBN EN 16810:2017 Resilient, textile and laminate floor coverings - Environmental product declarations - Product category rules. May 2017
- Stichting Nationale Milieudatabase. Bepalingsmethode Milieuprestatie Bouwwerken. Versie 1.0 (juli 2020).
- ISO 14040:2006. Environmental management – Life cycle assessment – Principles and framework. 2006.
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- ISO 21930:2017. Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services. 2017.
- ISO 14025:2006. Environmental labels and declarations – Type III environmental declarations – Principles and procedures. 2006.
- EPD Econyl: Revision 6, 2020 -07-21, Certification No.: S-P-00767: valid until 5-7-2025
- EPD Di isononyl phthalate (DINP), ECPI, January 2015
- SGS INTRON report: A127840/R20210541, June 2022

REMARKS

None