epddanmark

ECO PLATFORM EPD VERIFIED

Owner: Genan A/S
No.: MD-25174-EN
Issued: 07-11-2025
Valid to: 07-11-2030

3rd PARTY **VERIFIED**

EPD

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

Owner of declaration
Genan A/S
Jegindøvej 16, 8800 Viborg
DK36557656
www.genan.dk

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

☒ Product specific
☐ Average
☐ Worst Case

Declared product
ROAD+ PREMIXED

Number of declared datasets/product variations: 1

Production site
Jegindøvej 16, 8800 Viborg, Denmark

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

Declared/ functional unit
1 kg

Year of production site data (A3)
2024

EPD version
1

Issued:
07-11-2025

Valid to:
07-11-2030

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:

Linda Høibye

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	ND	ND	ND	ND	ND	MD	ND	ND	ND	X	X	X	X	X

Product information

Product description

ROAD+PREMIXED is primarily made from post-consumer recycled tyres. The product components are shown in the table below.

Material	Weight-% of declared product
Genan recycled rubber powder derived from used tyres	>95
Additive	<5

Product packaging:

The composition of the sales- and transport packaging of the product is shown in the table below.

Material	Weight of packaging material (kg)	Weight-% of packaging
Polypropylene big bags	0.4	100

Representativity

This declaration, including data collection and the modeled foreground system including results, represents the production of ROAD+ PREMIXED on the production site located in Viborg Denmark. Product specific data are based on average values collected in the period 2024. Background data are based on Managed LCA Content, datasets from Eco-invent, one from WorldSteel and an EPD for an additive. Data are less than 10 years old. Generally, the used background datasets are of high quality, and the majority of the datasets are only a couple of years old.

Picture of product(s)

Hazardous substances

ROAD+ does not contain substances listed on the "Candidate List of Substances of Very High Concern for authorisation"

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

Product use

GENAN ROAD+ PREMIXED is a high-performance, one-component rubber modifier for asphalt and bitumen.

Essential characteristics

Cylinder shaped pills, which are entirely or partially dissolved into a powder mass.

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

www.genan.eu

Reference Service Life (RSL)

No RSL is defined

LCA background

Declared unit

The LCI and LCIA results in this EPD relate to the below declared unit:

Name	Value	Unit
Declared unit	1	kg

Functional unit

Not defined

Material properties

Name	Property	Unit
Specific density	1100 -1200	Kg/m^3
Polymer content	<40	%
Ash content	<15	%

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804:2012+A2:2019.

Energy modelling principles

Foreground system:

The product is produced using renewable wind energy source with GOs in the production in line with the market based approach.

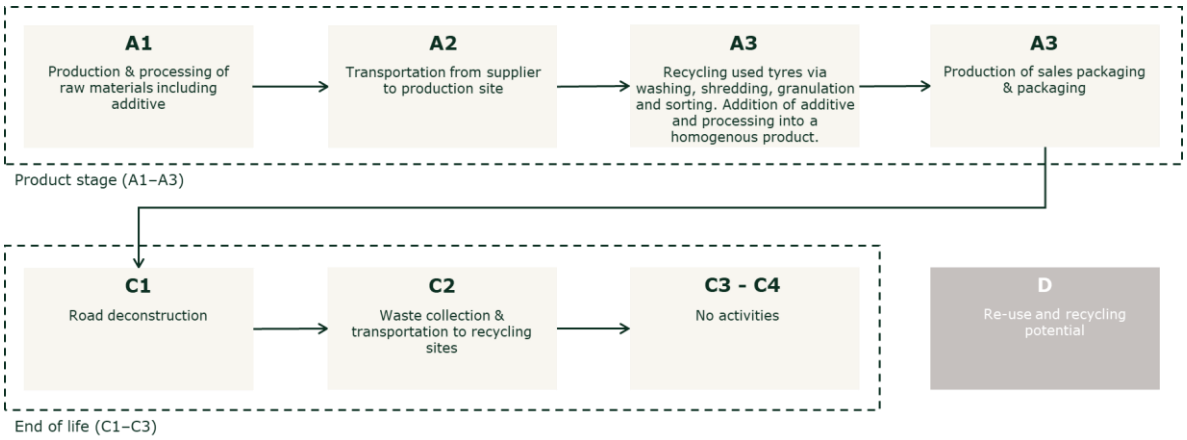
Information about the energy mix in the foreground system:

Energy mix	EF	Unit
GO wind mix	1.01 E-02	kg CO_2e/kWh
Natural gas	7.02 E-02	kg CO_2e/MJ

Background system:

Upstream processes are modelled using the electricity mix type, which are applied in the background datasets. This is typically the country specific consumption mix.

Flowdiagram



This EPD is based on a cradle-to-gate with options LCA, in which 100 weight-% has been accounted for.

The general rules for the exclusion of inputs and outputs follow 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.

Product stage (A1-A3) includes:

A1 – Extraction and processing of raw materials

A2 – Transport to the production site

A3 – Manufacturing processes

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.

The production process involves cleaning the surface of the recycled tyres, shredding and granulation of the derived rubber, which is subsequently sorted and finally mixed with an additive while being processed into a homogeneous product. Some of these recycling processes produce other valuable co-products and the share to ROAD+ is based on economic allocation.

End of Life (C1-C4) includes:

Module C1 involves the demolition of used asphalt in roads and in module C2 the material is transported to recycling or reuse in a 100% scenario.

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

Used asphalt can replace new asphalt or gravel in new roads. However, since the product is made from post-consumer recycled material, nothing is replaced in module D.

LCA results

ENVIRONMENTAL IMPACTS PER kg							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	2,39E-01	2,78E-04	4,13E-03	0,00E+00	0,00E+00	0,00E+00
GWP-fossil	[kg CO_2 eq.]	2,39E-01	2,75E-04	4,08E-03	0,00E+00	0,00E+00	0,00E+00
GWP-biogenic	[kg CO_2 eq.]	7,29E-04	8,26E-07	7,88E-06	0,00E+00	0,00E+00	0,00E+00
GWP-luluc	[kg CO_2 eq.]	8,33E-05	2,91E-06	4,35E-05	0,00E+00	0,00E+00	0,00E+00
ODP	[kg CFC 11 eq.]	1,05E-09	3,33E-17	4,99E-16	0,00E+00	0,00E+00	0,00E+00
AP	[mol H^+ eq.]	3,61E-04	3,69E-06	2,92E-05	0,00E+00	0,00E+00	0,00E+00
EP-freshwater	[kg P eq.]	4,86E-07	7,62E-10	1,14E-08	0,00E+00	0,00E+00	0,00E+00
EP-marine	[kg N eq.]	1,05E-04	1,69E-06	1,46E-05	0,00E+00	0,00E+00	0,00E+00
EP-terrestrial	[mol N eq.]	1,20E-03	1,84E-05	1,59E-04	0,00E+00	0,00E+00	0,00E+00
POCP	[kg NMVOC eq.]	3,66E-04	4,97E-06	2,75E-05	0,00E+00	0,00E+00	0,00E+00
ADPm[1]	[kg Sb eq.]	8,17E-08	1,87E-11	2,80E-10	0,00E+00	0,00E+00	0,00E+00
ADPf[1]	[MJ]	5,82E+00	3,60E-03	5,39E-02	0,00E+00	0,00E+00	0,00E+00
WDP[1]	[m^3 world eq. deprived]	1,07E-02	1,13E-06	1,69E-05	0,00E+00	0,00E+00	0,00E+00
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 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 kg							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	3,87E-09	1,94E-10	1,14E-10	0,00E+00	0,00E+00	0,00E+00
IRP[2]	[kBq U235 eq.]	2,07E-03	6,56E-07	9,83E-06	0,00E+00	0,00E+00	0,00E+00
ETP-fw[1]	[CTUe]	2,37E+00	4,67E-03	6,99E-02	0,00E+00	0,00E+00	0,00E+00
HTP-c[1]	[CTUh]	1,54E-10	6,28E-14	9,41E-13	0,00E+00	0,00E+00	0,00E+00
HTP-nc[1]	[CTUh]	2,45E-09	3,58E-12	5,30E-11	0,00E+00	0,00E+00	0,00E+00
SQP[1]	-	1,84E-01	1,60E-03	2,39E-02	0,00E+00	0,00E+00	0,00E+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 kg							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	3,80E+00	2,65E-04	3,96E-03	0,00E+00	0,00E+00	0,00E+00
PERM	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	3,80E+00	2,65E-04	3,96E-03	0,00E+00	0,00E+00	0,00E+00
PENRE	[MJ]	4,19E+00	3,60E-03	5,39E-02	0,00E+00	0,00E+00	0,00E+00
PENRM	[MJ]	1,63E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	5,82E+00	3,60E-03	5,39E-02	0,00E+00	0,00E+00	0,00E+00
SM	[kg]	9,44E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	3,04E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	4,61E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	6,20E-04	1,28E-07	1,91E-06	0,00E+00	0,00E+00	0,00E+00
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 kg							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	2,89E-05	1,30E-13	1,95E-12	0,00E+00	0,00E+00	0,00E+00
NHWD	[kg]	6,79E-03	4,73E-07	7,09E-06	0,00E+00	0,00E+00	0,00E+00
RWD	[kg]	1,62E-05	4,74E-09	7,09E-08	0,00E+00	0,00E+00	0,00E+00
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	1,00E+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	0,00E+00	0,00E+00	0,00E+00
EET	[MJ]	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 kg		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0
Biogenic carbon content in accompanying packagaing	[kg C]	0
Note 1	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	
Note 2	There can be some natural rubber in the recycled material, but the quantity is unknown and no biogenic carbon uptake was associated with this rubber.	

Additional information

LCA interpretation

The main contributions to the results come from packaging, energy use at Genan production and from the additive in the product. Particularly, the additive dominates the results, because the electricity is based on GoO's and the main raw material is post-consumer recycled.

Technical information on scenarios

End of life (C1-C4)

Scenario information	Value	Unit
Collected separately	1	kg
For reuse or recycling	1	kg
Distance to recycling or reuse (C2)	50	km

Re-use, recovery and recycling potential (D)

Scenario information/Material	Value	Unit
Displaced material	0	kg
Energy recovery from waste incineration	0	MJ

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+A1 chapter 7.4.1.

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+A1 chapter 7.4.2.

References

Publisher	www.epddanmark.dk Template version 2025.1
Programme operator	Danish Technological Institute Gregersensvej DK-2630 Taastrup www.teknologisk.dk
LCA-practitioner	*Charlotte B. Merlin* *FORCE Technology* *Park Allé 345, DK-2605 Brøndby* *www.forcetechnology.com*
LCA software /background data	*LCA for Experts from Sphera / Managed LCA* *Content database version 2025.1* *EN 15804 reference package 3.1*
3rd party verifier	*Linda Høibye* *Life Cycle Assessment Consulting* Verified according to Verification Checklist 1 v. 2.9.

General programme instructions
General Programme Instructions, version 3.0, spring 2025
www.epddanmark.dk

Technical Rules and Guidelines
Technical Rules and Guidelines, version 1.0, spring 2025
www.epddanmark.dk

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

EN 15942

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

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”

VESTENAMER® CS 10 EPD
Life Cycle Assessment (LCA) acc. to EN 15804+A2 of VESTENAMER® CS 10: 2024 - 2029