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Environmental Product Declaration
Type III Declaration according to
ISO 14025 and EN 15804+A2 &
NMD Assessment Method 1.2

Environmental Product Declaration
According to ISO 14025:2010 and EN 15804+A2

spenner

Product Declaration	CEM III/A 52,5 N-SR/NA (Conform PCR) - Duisburg		
Unit (DU or FU)	1 ton	**LCA study by**	EcoReview B.V.
Declared by	Spenner GmbH & Co. KG	**Calculation number**	2025.019.
Owner of Declaration	Spenner GmbH & Co. KG	**Issue Date**	25-03-2025
Verifier	PLUK Sustainability	**Expiry Date**	25-03-2030

General Information

Owner of Declaration

Name	Spenner GmbH & Co. KG
Street	Bahnhofstraße 20
Postal Code	D-59597
City	Erwitte
Contact	Marcel Aust

Declaration for

Calculation Number	2025.019.
Issue Date	25-03-2025
Expiry Date	25-03-2030
Product	CEM III/A 52,5 N-SR/NA (Conform PCR) – Duisburg
Declared / Functional Unit	Not applicable
Reference Service Life	Not applicable
Scalable product	Produced (A1-A3) at Spenner, Duisburg
Geographical Representation	Cement with specific properties is produced by intergrinding or
Product Description	blending Erwitte cement clinker, gypsum and other materials.

Declaration Information

This Type III Environmental Product Declaration is in accordance with ISO 14025:2006 and EN 15804+A2. This certificate is based on an LCA-dossier developed according to ISO14025:2006, ISO14040 and EN15804+A2 and the NMD Assessment Method 1.2. EPD of construction products may not be comparable if they do not comply with EN15804+A2 and the NMD Assessment Method 1.2. Substances of Very High Concern (SVHC) that are listed on the 'Candidate List of Substances of Very High Concern for authorization' are declared when contents exceed the limits for registration with ECHA.

This LCA study was conducted by: Roel van Oosterhout, EcoReview B.V.

Demonstration of Verification

Statement	CEN standard EN15804 serves as the core PCR. Verification of the claim and data was carried out independently according to ISO 14025:2010
Verifier	External
Name	Niels Jonker, PLUK Sustainability
Signature	

LCA Information

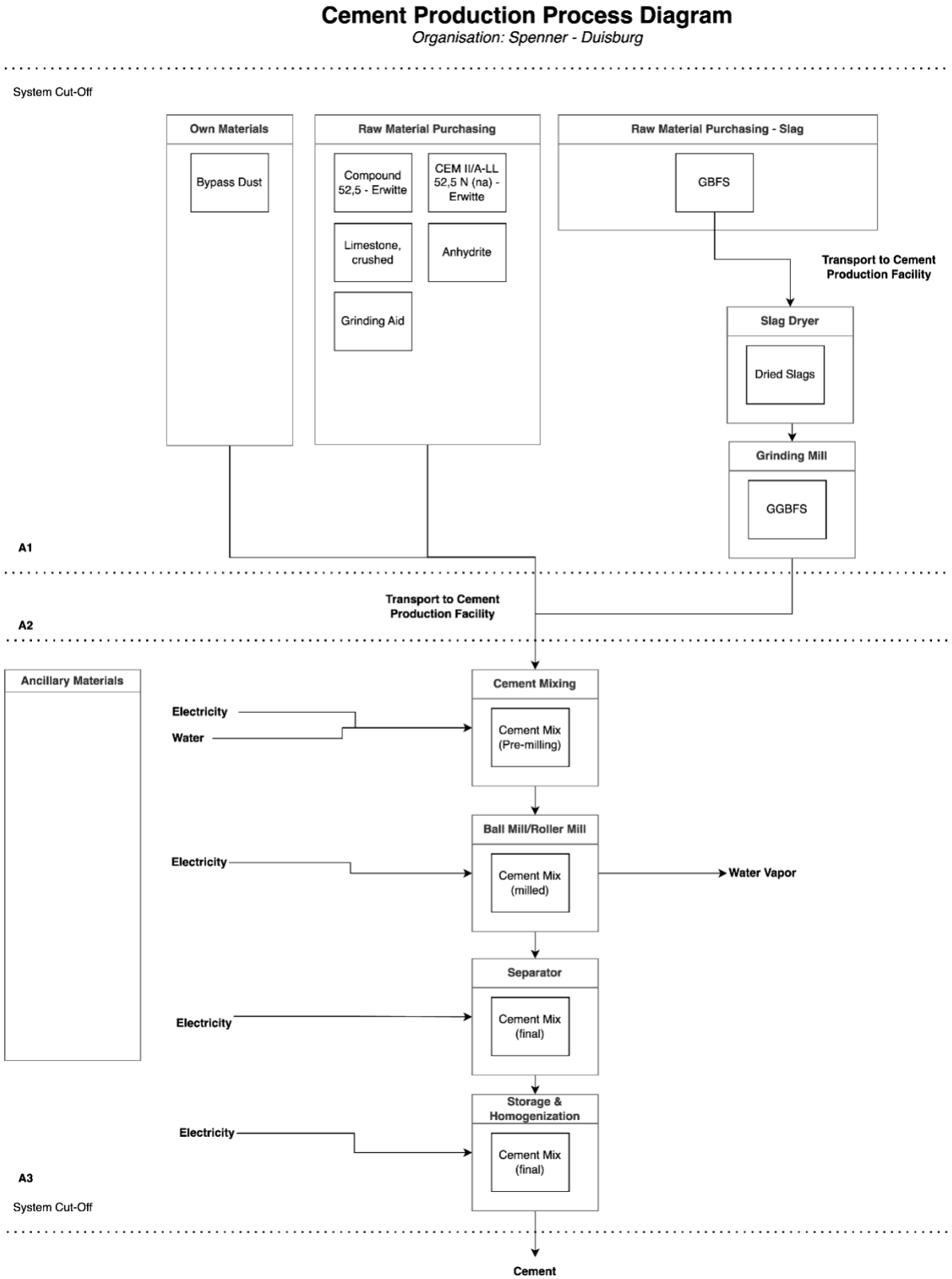
LCA Standard	*ISO 14040:2006*
Product Category Rules (PCR)	EN 15804+A2 + NMD Assessment Method 1.2
Additional PCR	NL PCR Cement (04-2023)
Standard Database	Ecoinvent 3.6 + NMD 3.9
LCA Software	SimaPro 9.6.0.1
Year of Data Collection	2024

Scope of Declaration

Lifecycle Stage	Module	Declared	Description
Production stage	A1	X	Raw Material supply
	A2	X	Transport
	A3	X	Manufacturing
Construction stage	A4	MND	Transport
	A4	MND	Installation
Use stage	B1	MND	Use
	B2	MND	Maintenance
	B3	MND	Repair
	B4	MND	Replacement
	B5	MND	Refurbishment
	B6	MND	Operational Energy Use
	B7	MND	Operational Water Use
End-of-Life stage	C1	MND	Deconstruction
	C2	MND	Transport
	C3	MND	Waste Processing
	C4	MND	Disposal
Benefits and loads beyond the system boundaries	D	MND	Reuse, Recycle, Recycling potential

X = Module Declared
MND = Module Not Declared

Process Diagram



Detailed Product Description

General Product Information

Cement is a hydraulic binder, mainly used for concrete, mortar and cement screed. Cement with specific properties is produced by intergrinding or blending Erwitte cement clinker, gypsum and other purchased materials like limestone. The origin of the Erwitte cement clinker used for the cement production is the Spenner plant Duisburg in Germany.

Components (> 1%)

The division of components described below is intented to enable users of this EPD to understand the composition of the product for safe and effective installation, use and disposal of the product.

Component	Mass %
Cement Mix	100,00%
Other	0,00%

Example Image

Figure: Representation of product..

Results EN15804+A1

Set 1	Unit	A1	A2	A3	A1-A3
ECI	euro	**28,67**	**1,16**	**3,42**	**33,24**
ECI	euro	2,87E+01	1,16E+00	3,42E+00	3,32E+01
Core Impact Indicators					
ADPE	kg Sb eq	3,44E-04	2,46E-04	1,08E-04	6,98E-04
ADPF	kg Sb eq	7,41E-01	7,07E-02	3,60E-01	1,17E+00
GWP	kg CO2 eq	3,85E+02	9,61E+00	4,76E+01	4,43E+02
ODP	kg CFC-11 eq	4,58E-06	1,70E-06	3,24E-06	9,52E-06
POCP	kg C2H4	1,23E-01	5,80E-03	6,41E-03	1,35E-01
AP	kg SO2 eq	3,94E-01	4,22E-02	7,96E-02	5,16E-01
EP	kg PO4--- eq	1,19E-01	8,30E-03	2,55E-02	1,53E-01
Toxicity Indicators for Dutch Market					
HTP	kg 1,4-DB eq	6,55E+01	4,05E+00	3,98E+00	7,36E+01
FAETP	kg 1,4-DB eq	6,37E-01	1,18E-01	1,30E-01	8,86E-01
MAETP	kg 1,4-DB eq	3,99E+03	4,25E+02	5,60E+02	4,97E+03
TETP	kg 1,4-DB eq	1,01E+00	1,43E-02	3,26E-02	1,05E+00

ECI = Environmental Cost Indicator (Milieukosten Indicator (MKI) in Dutch); 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 = Freshwater aquatic ecotoxicity potential; MAETP = Marine aquatic ecotoxicity potential; TETP = Terrestrial ecotoxicity potential; ECI = Environmental Costs Indicator; ADPF = Abiotic depletion potential for fossil resources

Results EN15804+A2

Set 2	Unit	A1	A2	A3	A1-A3
ECI	euro	**52,63**	**1,98**	**6,76**	**61,37**
ECI	euro	5,26E+01	1,98E+00	6,76E+00	6,14E+01
GWP-Total	kg CO2 eq	3,93E+02	9,70E+00	5,06E+01	4,53E+02
GWP-f	kg CO2 eq	3,91E+02	9,69E+00	4,76E+01	4,49E+02
GWP-b	kg CO2 eq	1,59E+00	4,47E-03	2,93E+00	4,52E+00
GWP-luluc	kg CO2 eq	5,54E-02	3,55E-03	4,30E-02	1,02E-01
ODP	kg CFC11 eq	4,28E-06	2,14E-06	3,13E-06	9,55E-06
AP	mol H+ eq	5,37E-01	5,62E-02	1,04E-01	6,97E-01
EP-fw	kg P eq	1,36E-02	9,77E-05	5,42E-03	1,91E-02
EP-m	kg N eq	1,52E-01	1,98E-02	1,81E-02	1,89E-01
EP-t	mol N eq	1,95E+00	2,18E-01	2,76E-01	2,45E+00
POCP	kg NMVOC eq	5,79E-01	6,23E-02	5,55E-02	6,97E-01
ADP-mm	kg Sb eq	3,44E-04	2,46E-04	1,08E-04	6,98E-04
ADP-f	MJ	1,21E+03	1,46E+02	6,80E+02	2,03E+03
WDP	m3 depriv.	1,77E+01	5,23E-01	2,04E+00	2,03E+01
PM	disease inc.	5,23E-06	8,70E-07	3,69E-07	6,47E-06
IR	kBq U-235 eq	2,38E+00	6,12E-01	1,65E+00	4,64E+00
ETP-fw	CTUe	4,49E+03	1,30E+02	3,19E+02	4,94E+03
HTP-c	CTUh	2,17E-07	4,23E-09	6,57E-09	2,28E-07
HTP-nc	CTUh	3,98E-06	1,43E-07	2,60E-07	4,38E-06
SQP	Pt	2,45E+02	1,27E+02	9,01E+01	4,62E+02

ECI = Environmental Cost Indicator (Milieukosten Indicator (MKI) in Dutch); GWP-total = Climate change; GWP-f = Climate change - Fossil; GWP-b = Climate change - Biogenic; GWP-luluc = Climate change - Land use and LU change; ODP = Ozone depletion; AP = Acidification; EP-fw = Eutrophication, freshwater; EP-m = Eutrophication, marine; EP-T = Eutrophication, terrestrial; POCP = Photochemical ozone formation; ADP-mm = Resource use, minerals and metals; ADP-f = Resource use, fossils; WDP = Water use; PM = Particulate matter; IR = Ionising radiation; ETP-fw = Ecotoxicity, freshwater; HTP-c = Human toxicity, cancer; HTP-nc = Human toxicity, non-cancer; SQP = Land use;

Results Parameters

Parameter	Unit	A1	A2	A3	A1-A3
Resource Use					
PERE	MJ	7,98E+01	1,83E+00	6,04E+01	1,42E+02
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	7,98E+01	1,83E+00	6,04E+01	1,42E+02
PENRE	MJ	1,30E+03	1,55E+02	7,36E+02	2,19E+03
PENRM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	1,30E+03	1,55E+02	7,36E+02	2,19E+03
PET	MJ	1,38E+03	1,57E+02	7,97E+02	2,34E+03
SM	kg	1,91E+01	0,00E+00	0,00E+00	1,91E+01
RSF	MJ	1,81E+02	0,00E+00	0,00E+00	1,81E+02
NRSF	MJ	6,09E+02	0,00E+00	0,00E+00	6,09E+02
FW	m3	7,02E-01	1,78E-02	2,24E-01	9,44E-01
Waste Categories					
HWD	kg	4,00E-03	3,70E-04	4,04E-04	4,77E-03
NHWD	kg	8,19E+00	9,27E+00	1,97E+00	1,94E+01
RWD	kg	3,04E-03	9,60E-04	2,15E-03	6,15E-03
Output Flows					
CRU	kg	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
MER	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EE-E	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EE-T	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; PERM = Use of renewable primary energy resources used as raw materials [MJ]; PERT = Total use of renewable primary energy resources [MJ]; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; PENRM = Use of non-renewable primary energy resources used as raw materials [MJ]; PENRT = Total use of non-renewable primary energy resources [MJ]; PET = Total Energy [MJ]; SM = Use of secondary material [kg]; RSF = Use of renewable secondary fuels [MJ]; NRSF = Use of non-renewable secondary fuels [MJ]; FW = Use of net fresh water [m3]; HWD = Hazardous waste disposed [kg]; NHWD = Non-hazardous waste disposed [kg]; RWD = Radioactive waste disposed [kg]; CRU = Components for re-use [kg]; MFR = Materials for recycling [kg]; EIA = Materials for energy recovery [kg]; EE = Exported energy [MJ]

Biogenic Carbon Content

In the table below, information describing the biogenic carbon content at factory gate (A1-A3) is described.

Biogenic Carbon Content	Amount (in kg C)
Biogenic Carbon in Product	0,00
Biogenic Carbon in Packaging	0,00
Note: 1 kg biogenic carbon (C) is equivalent to 44/12 kg CO_2	

If the mass of biogenic carbon containing materials in the product is less than 5% of the mass of the product, the declaration of biogenic carbon may be omitted (= 0 kg).

If the mass of biogenic carbon containing materials in the packaging is less than 5% of the mass of the product, the declaration of biogenic carbon may be omitted (= 0 kg).

References

CML - Department of Industrial Ecology, CML-IA Characterisation Factors, Dated August 2016, Leiden University, Leiden, Netherlands Available at: https://www.universiteitleiden.nl/en/research/research-output/science/cml-ia-characterisation-factors.

PRé Sustainability - Simapro 9.6.0.1

EN 15804: Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products', I.S. EN 15804:2012+A1:2013 and EN 15804:2019+A2.

ISO 14040: Environmental management - Life cycle assessment – Principles and Framework', International Organization for Standardization, ISO14040:2006.

ISO 14044: Environmental management - Life cycle assessment - Requirements and guidelines', International Organization for Standardization, ISO14044:2006.

ISO 14025: Environmental labels and declarations -- Type III environmental declarations -- Principles and procedures', International Organization for Standardization, ISO14025:2006.

NMD Environmental Performance Assessment Method for Buildings version 1.1 (March 2022)

NMD Environmental Performance Assessment Method for Buildings version 1.2 (December 2024)

SGS Intron B.V. (2023, 04 05). Product Category Rules voor cement en grondstoffen voor cementproductie (“NL-PCR”)