

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Viscostar 6K



Owner of the declaration:

Mapei AS

Product:

Viscostar 6K

Declared unit:

1 kg

This declaration is based on Product Category Rules:
CEN Standard EN 15804:2012+A2:2019 serves as core PCR

NPCR 009:2021 Part B for Technical - Chemical products for building and construction industry

Program operator:

EPD-Global

Declaration number:

NEPD-9091-9091-1

Issue date:

06.07.2026

Latest revision

v2.0 Date: 05.08.2026

Valid to:

06.07.2031

EPD software:

LCAno EPD generator ID: 1703405

General information

Product

Viscostar 6K

Program operator:

EPD-Global
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web: www.epd-global.com

Declaration number:

NEPD-9091-9091-1

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 009:2021 Part B for Technical - Chemical products for building
and construction industry

Statement of liability:

The owner of the declaration shall be liable for the underlying
information and evidence. EPD-Global shall not be liable with respect
to manufacturer information, life cycle assessment data and
evidences.

Declared unit:

1 kg Viscostar 6K

Declared unit with option:

A1, A2, A3, A4, C3

Functional unit:

Functional unit is not covered by this PCR.

General information on verification of EPD from EPD tools:

Independent verification of data, other environmental information
and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4.
Verification of each EPD is made according to EPD-Global's guidelines
for verification and approval requiring that tools are i) integrated into
the company's environmental management system, ii) the procedures
for use of the EPD tool are approved by EPD-Global, and iii) the
process is reviewed annually by an independent third party verifier.
See Appendix G of EPD-Global's General Programme Instructions for
further information on EPD tools

Verification of EPD tool:

Independent third party verification of the EPD tool, background data
and test-EPD in accordance with EPD-Global's procedures and
guidelines for verification and approval of EPD tools. NEPD73

Third party verifier:

Elisabet Amat, GREENIZE projects

(no signature required)

Owner of the declaration:

Mapei AS
Contact person: Corporate Environmental Sustainability
Phone: + 39 02 37673036
e-mail: corporate.sustainability@mapei.it

Manufacturer:

Mapei AS

Place of production:

Mapei AS
Vallsetvegen 6
2120 Sagstua, Norway

Management system:

ISO 9001, ISO 14001 and ISO 45001

Organisation no:

911103079

Issue date:

06.07.2026

Valid to:

06.07.2031

Year of study:

2025

Comparability:

EPDs of construction products may not be comparable if they do not
comply with EN 15804 and are not viewed in a building context.

Development and verification of EPD:

The declaration is created using EPD tool lca.tools ver EPD2022.03,
developed by LCA.no. The EPD tool is integrated in the company's
management system, and has been approved by EPD-Global.
NEPD7105

Developer of EPD: Laila Danielsen Nicolaisen

Reviewer of company-specific input data and EPD: Laura Carettoni

Approved:



Håkon Hauan, CEO EPD-Global

Product

Product description:

Viscostar 6K is a liquid admixture, specially formulated for use in the production of ready-mixed and precast concrete which requires high fluidity with no segregation. Control of the viscosity achieved using Viscostar 6K allows for the production of self-compacting concrete with little to no fillers. It also improves the pumping action of concrete.

Viscostar 6K is delivered in 25 liter cans, 200 liter drums, 1000 liter IBCs, and in bulk.

For more information see the TDS (Technical Data Sheet) on Mapei AS website (www.mapei.com/no).

Product specification

This EPD assumes delivery of the product in bulk, and therefore the environmental impact of the packaging is not included in the results.

Materials	Value	Unit
Water	0.8-0.9	kg
Additives	< 0.2	kg
Total	1	kg

Technical data:

Viscostar 6K is an active polymer-based admixture in a water solution, which allows tight control of the cohesion of the cementitious paste, and the production of self-compacting, cementitious mixtures with reduced content of ultrafine particles. Due to the product's high efficiency, Viscostar 6K avoids segregation and bleeding of the concrete, and helps maintain the fluidity and passing ability of the concrete.

Market:

Nordic & Baltic countries

Reference service life, product

The reference service life of the product is similar to the service life of the building.

Reference service life, building

60 years

LCA: Calculation rules

Declared unit:

1 kg Viscostar 6K

Cut-off criteria:

All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

Allocation:

The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

Data quality:

Specific data for the product composition are provided by the manufacturer. The data represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on EPDs according to EN 15804 and different LCA databases. The data quality of the raw materials in A1 is presented in the table below.

Materials	Source	Data quality	Year
Additives	Ecoinvent 3.10.1	Database	2023
Water	ecoinvent 3.10.1	Database	2023

System boundaries (X=included, MND=module not declared, MNR=module not relevant)

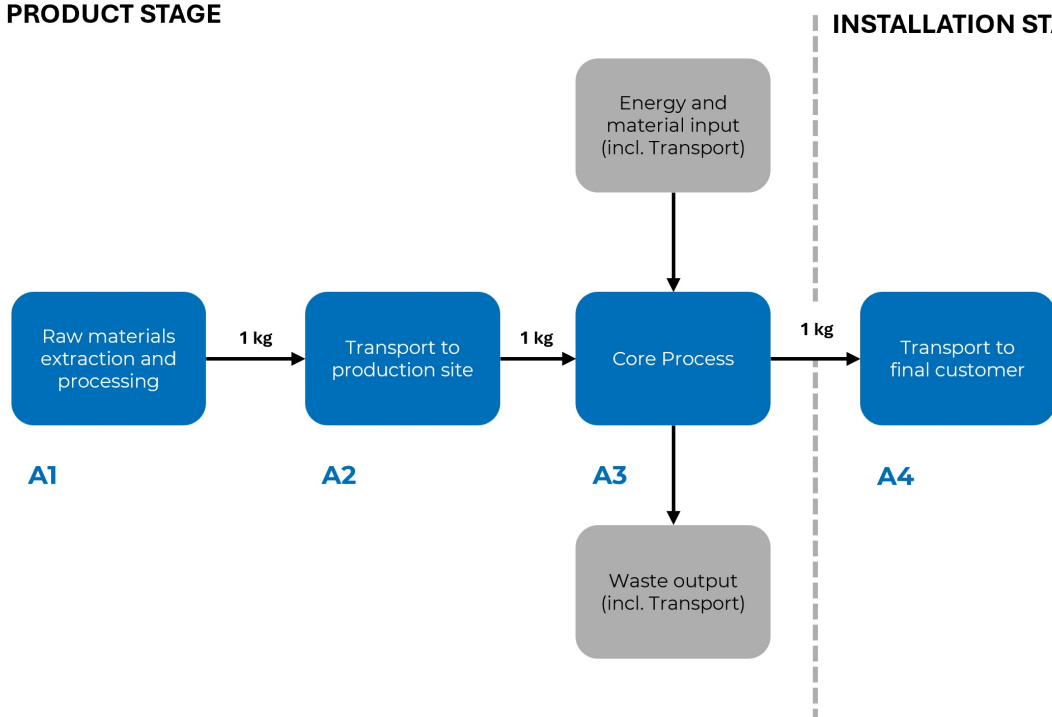
Product stage			Construction installation stage	Use stage								End of life stage			Beyond the system boundaries	
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
				A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
				MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	MND	MND

System boundary:

The approach is "cradle to gate" (A1–A3) with modules A4, and C3 for balancing the biogenic carbon content of the product. The production process starts from raw materials, that are purchased from external and intercompany suppliers and stored in the plant. Bulk raw materials are stored in specific silos and added automatically in the production mixer, according to the formula of the product. Other raw materials, supplied in bags, big bags or tanks, are stored in the warehouse and added automatically or manually in the mixer. The production is a discontinuous process, in which all the components are mechanically mixed in batches. The semi-finished product is then packaged, put on wooden pallets and stored in the finished products warehouse. The quality of final products is controlled before the sale.

PRODUCT STAGE

INSTALLATION STAGE



Additional technical information:

LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

The results of stage A4 in the table of this EPD refer to domestic transport set by the PCR. This product may also be delivered to the countries in the table "Additional A4 information". To calculate the GWP of transportation to these countries, the result GWPotot of module A4 from this EPD shall be multiplied by the multiplication factors below. Module C3 is included for balancing the biogenic carbon content of the product.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (km)- RER - ecoinvent 3.10.1	38.8 %	300.00	0.044	l/tkm	13.20
Transport from production place to user (A4)	Unit	Value			
Oslo, Norway (truck 90km)	multiplication factor * GWPotot (A4)	0,30			
Kristiansand, Norway (truck 400km)	multiplication factor * GWPotot (A4)	1,33			
Stavanger, Norway (truck 640km)	multiplication factor * GWPotot (A4)	2,13			
Bergen, Norway (truck 530km)	multiplication factor * GWPotot (A4)	1,77			
Trondheim, Norway (truck 420km)	multiplication factor * GWPotot (A4)	1,4			
Tromsø, Norway (truck 1700km)	multiplication factor * GWPotot (A4)	5,67			
Stockholm, Sweden (truck 500km)	multiplication factor * GWPotot (A4)	1,67			
Helsinki, Finland (truck 1200km, ferry 100km)	multiplication factor * GWPotot (A4)	4,23			
Copenhagen, Denmark (truck 680km)	multiplication factor * GWPotot (A4)	2,27			
Oslo, Norway (electric truck 90km)	multiplication factor * GWPotot (A4)	0,21			
Kristiansand, Norway (electric truck 400km)	multiplication factor * GWPotot (A4)	0,92			
Stavanger, Norway (electric truck 640km)	multiplication factor * GWPotot (A4)	1,47			
Bergen, Norway (electric truck 530km)	multiplication factor * GWPotot (A4)	1,22			
Trondheim, Norway (electric truck 420km)	multiplication factor * GWPotot (A4)	0,97			
Tromsø, Norway (electric truck 1700km)	multiplication factor * GWPotot (A4)	3,91			

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

Environmental impact							
	Indicator	Unit	A1	A2	A3	A4	C3
	GWP-total	kg CO ₂ -eq	2.29E-01	2.09E-02	2.23E-03	5.70E-02	8.77E-02
	GWP-fossil	kg CO ₂ -eq	3.02E-01	2.08E-02	2.17E-03	5.69E-02	0.00E+00
	GWP-biogenic	kg CO ₂ -eq	-7.42E-02	8.25E-05	5.52E-05	4.40E-05	8.77E-02
	GWP-luluc	kg CO ₂ -eq	1.38E-03	1.62E-05	7.35E-06	2.04E-05	0.00E+00
	ODP	kg CFC11 -eq	1.45E-08	3.00E-10	4.90E-11	1.20E-09	0.00E+00
	AP	mol H ⁺ -eq	2.62E-03	8.18E-05	2.55E-05	1.18E-04	0.00E+00
	EP-FreshWater	kg P -eq	1.58E-04	3.57E-06	1.75E-06	3.83E-06	0.00E+00
	EP-Marine	kg N -eq	1.15E-03	2.50E-05	4.64E-06	2.85E-05	0.00E+00
	EP-Terrestrial	mol N -eq	9.01E-03	2.68E-04	4.24E-05	3.07E-04	0.00E+00
	POCP	kg NMVOC -eq	1.42E-03	1.08E-04	1.28E-05	1.97E-04	0.00E+00
	ADP-minerals&metals ¹	kg Sb-eq	5.57E-06	6.23E-08	2.48E-07	1.90E-07	0.00E+00
	ADP-fossil ¹	MJ	5.64E+00	3.11E-01	2.49E-02	8.01E-01	0.00E+00
	WDP ¹	m ³	9.44E-01	3.00E-03	8.17E-02	3.98E-03	0.00E+00

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 = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; 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 Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

"Reading example: 9.0 E-03 = 9.0*10⁻³ = 0.009"

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 experienced with the indicator

Remarks to environmental impacts

Additional environmental impact indicators

Indicator	Unit	A1	A2	A3	A4	C3
 PM	Disease incidence	1.98E-08	1.90E-09	2.24E-10	4.20E-09	0.00E+00
 IRP ²	kgBq U235 -eq	4.26E-02	1.69E-03	6.00E-04	1.03E-03	0.00E+00
 ETP-fw ¹	CTUe	2.32E+01	4.81E-02	3.73E-02	1.07E-01	0.00E+00
 HTP-c ¹	CTUh	9.66E-10	0.00E+00	4.00E-12	0.00E+00	0.00E+00
 HTP-nc ¹	CTUh	8.45E-09	1.50E-10	2.07E-10	6.00E-10	0.00E+00
 SQP ¹	dimensionless	6.85E+00	2.90E-01	1.11E-02	4.84E-01	0.00E+00

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 = Potential Soil Quality Index (dimensionless)

"Reading example: 9.0 E-03 = 9.0*10⁻³ = 0.009"

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 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							
	Indicator	Unit	A1	A2	A3	A4	C3
	PERE	MJ	1.05E+00	1.70E-02	2.69E-01	1.40E-02	0.00E+00
	PERM	MJ	6.93E-01	0.00E+00	0.00E+00	0.00E+00	-6.93E-01
	PERT	MJ	1.74E+00	1.70E-02	2.69E-01	1.40E-02	-6.93E-01
	PENRE	MJ	4.06E+00	3.11E-01	2.49E-02	8.01E-01	0.00E+00
	PENRM	MJ	1.58E+00	0.00E+00	0.00E+00	0.00E+00	-1.58E+00
	PENRT	MJ	5.64E+00	3.11E-01	2.49E-02	8.01E-01	-1.58E+00
	SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	RSF	MJ	2.08E-05	1.57E-06	1.63E-07	4.70E-06	0.00E+00
	NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	FW	m ³	2.25E-02	8.77E-05	1.91E-03	1.09E-04	0.00E+00

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 materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9.0 E-03 = 9.0*10⁻³ = 0.009"

End of life - Waste							
Indicator		Unit	A1	A2	A3	A4	C3
	HWD	kg	3.16E-02	7.73E-04	2.02E-04	1.16E-03	0.00E+00
	NHWD	kg	1.08E+00	2.00E-02	4.56E-02	2.46E-02	0.00E+00
	RWD	kg	9.12E-06	3.62E-04	1.31E-07	2.57E-07	0.00E+00

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

"Reading example: 9.0 E-03 = 9.0×10^{-3} = 0.009"

End of life - Output flow							
Indicator		Unit	A1	A2	A3	A4	C3
	CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	MFR	kg	0.00E+00	0.00E+00	1.65E-03	0.00E+00	0.00E+00
	MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	EEE	MJ	0.00E+00	0.00E+00	7.90E-08	0.00E+00	0.00E+00
	EET	MJ	0.00E+00	0.00E+00	2.00E-07	0.00E+00	0.00E+00

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

"Reading example: 9.0 E-03 = 9.0×10^{-3} = 0.009"

Biogenic Carbon Content		
Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	2.39E-02
Biogenic carbon content in accompanying packaging	kg C	0.00E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂

Additional requirements

Greenhouse gas emissions from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

Electricity mix	Source	Amount	Unit
Electricity, Norway (kWh)	ecoinvent 3.10.1	24.60	g CO ₂ -eq/kWh

Dangerous substances

The product contains substances given by the REACH Candidate list that are less than 0,1 % by weight.

Indoor environment

Not tested.

Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products						
Indicator	Unit	A1	A2	A3	A4	C3
GWPIOBC	kg CO ₂ -eq	3.17E-01	2.08E-02	2.35E-03	5.70E-02	0.00E+00

GWP-IOBC: Global warming potential calculated according to the principle of instantaneous oxidation. In order to increase the transparency of biogenic carbon contribution to climate impact, the indicator GWP-IOBC is required as it declares climate impacts calculated according to the principle of instantaneous oxidation. GWP-IOBC is also referred to as GWP-GHG in context to Swedish public procurement legislation.

Bibliography

ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures.
 ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines.
 EN 15804:2012+A2:2019 Environmental product declaration - Core rules for the product category of construction products.
 ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.
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 NPCR Part A: Construction products and services. Ver. 2.0, 24.03.2021 EPD Norway.
 NPCR 009 Part B for Technical - Chemical products for building and construction industry, Ver. 3.0, 06.10.2021, EPD Norway.

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