epd-norge
Global program operatør

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

StoQuarz SL 1500/2500

sto
Building with conscience.

The Norwegian EPD Foundation

Owner of the declaration:
Sto SE & Co. KGaA

Product:
StoQuarz SL 1500/2500

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:
The Norwegian EPD Foundation

Declaration number:
NEPD-11967-11941

Registration number:
NEPD-11967-11941

Issue date:
08.08.2025

Valid to:
08.08.2030

EPD software:
LCAno EPD generator ID: 941145

General information

Product

StoQuarz SL 1500/2500

Owner of the declaration:

Sto SE & Co. KGaA
Contact person: Linus Kaltenbach
Phone: +49 7744571010
e-mail: l.kaltenbach@sto.com

Program operator:

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web: www.epd-norge.no

Manufacturer:

Sto Scandinavia AB
Gesällgatan 6
SE-582 77 Linköping, Sweden

Declaration number:

NEPD-11967-11941

Place of production:

Linköping
Gesällgatan 6
SE-582 77 Linköping, Sweden

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

Management system:

ISO 14001; ISO 50001; ISO 9001

Statement of liability:

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

Organisation no:

DE142834082

Declared unit:

1 kg StoQuarz SL 1500/2500

Issue date:

08.08.2025

Declared unit with option:

A1-A3, A4, A5, C1, C2, C3, C4, D

Valid to:

08.08.2030

Year of study:

2024

Functional unit:

Comparability:

EPD of construction products may not be comparable if they not comply with EN 15804:2012+A2:2019 and seen in a building context.

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-Norway'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-Norway, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Norway's General Programme Instructions for further information on EPD tools

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 Norway. NEPDT143

Developer of EPD: Linus Kaltenbach

Reviewer of company-specific input data and EPD: Karin Bromoe

Verification of EPD tool:

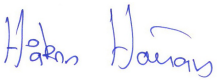
Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPDNorway's procedures and guidelines for verification and approval of EPD tools.

Third party verifier:

Elisabet Amat, GREENIZE projects

(no signature required)

Approved:



Håkon Hauan, CEO EPD-Norge

Product

Product description:

StoQuarz SL 1500/2500 is a filler material consisting of quartz sand grains. It can be used as a Component C for different epoxy coatings such as StoPox SL 600 and StoPox Terrazzo ZV/LY. The mixing ratio between the different components has to follow the data stated on the technical data sheet. Sto is acting as trader for this product. It is produced in Scandinavia.

StoQuarz SL 1500 and StoQuarz SL 2500 differ in regard to the finess of the used grain size.
StoQuarz SL 1500: powder, fine share < 12µm over 10 %
StoQuarz SL 2500: powder, fine share < 12 µm less than 1 %

Product specification

The composition of the mixed product is stated in the following table:

Materials	Value	Unit
Quartz sand	>=90 - =< 100	%

Technical data:

The relevant technical data for the use of the product is stated on the Technical Data Sheet of the used Components A and B

Market:

The main market for StoQuarz SL 1500/2500 is Norway, Denmark and Sweden.

Reference service life, product

A reference service life (RSL) as per ISO 15686-1, -2, - 7, and -8 is not declared.
In this LCA an estimated service life of 60 years has been declared, equal to the useful life of the building, since the product is incorporated in the building structure. The assumed service life of a building might differ between countries and should be defined by a case on case basis.

Reference service life, building or construction works

60 years

LCA: Calculation rules

Declared unit:

1 kg StoQuarz SL 1500/2500

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+A2. 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.

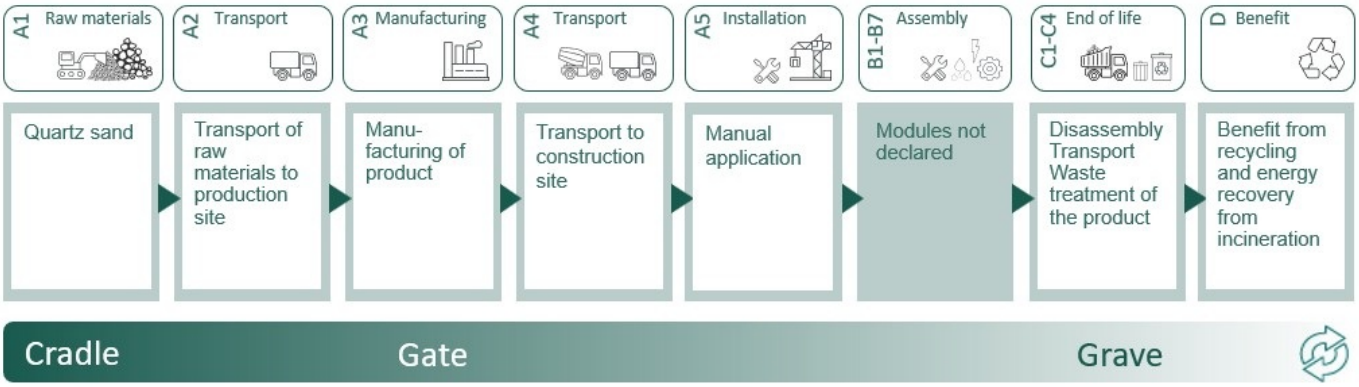
Materials	Source	Data quality	Year
Additives	CEPE RM Database v3.0	Database	2016
Packaging - Paper	ecoinvent 3.6	Database	2019
Packaging - Wood	Modified ecoinvent 3.6	Database	2019

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
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

System boundary:

The scope of this EPD is cradle to gate with options, modules C1-C4 and module D. No actions are necessary during User stage.



Additional technical information:

When used as recommended, the waste code can be selected according to the code of the European Waste Catalogue (EWC), category 17.09 "Other Construction and Demolition Waste".

LCA: Scenarios and additional technical information

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

A4 (Transport to market/building site): Since the distance to the construction site can vary strongly, a distance of 300 km has been chosen, which is equal to the suggested distance for domestic production by the PCR.

A5 (Installation): The product is applied according to the specifications in the technical data sheet at the construction site. For application, machinery in accordance with the Technical Data Sheet should be used. Outputs are small amounts of waste from the product itself (assumed to be a maximum of 5 %) and waste from packaging materials.

C1 (De-construction, demolition): It is assumed that StoQuarz SL 1500/2500 is dismantled using machinery.

C2 (Transport end of life): This stage includes the transportation effects of demolished waste to a waste processing area. The distance between the demolishing area and a waste processing area is assumed to be quite short (less than 100 km). The distance varies depending on the type of waste processing.

C3, C4 (Waste processing):StoQuarz SL 1500/2500 is assumed to be used as part of hardened epoxy coating which is not classified as hazardous waste and treated as mixed construction waste. A typical End of life scenario for construction waste is a mix of recycling and landfill. The End-of-life scenario is declared according to the PCR with 90% landfill and 10% recycling.

D (Environmental costs and benefits of recycling and reuse): Energy credit related to energy recovery from the incineration is included in module D.
Stages not included:

Once installation is complete, no actions or technical operations are required during the use stage until the end of life stage.

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 (kgkm)	36,7 %	306	0,043	l/tkm	13,16

Assembly (A5)	Unit	Value			
Waste, bag, 84% paper and 16% LDPE, to average treatment (kg)	kg	0,003079			
Material loss, including waste treatment (psc)	Units	0,05			
Waste, packaging, pallet, EUR wooden pallet, reusable, average treatment (kg)	kg	0,02			

De-construction demolition (C1)	Unit	Value			
Diesel (L)	L	0,0000756			
Demolition of building per kg of cement-based product, C1 (kg)	kg	1,00			

Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (kgkm)	36,7 %	100	0,043	l/tkm	4,30

Waste processing (C3)	Unit	Value			
Waste treatment of cement-based product after demolition to recycling (kg)	kg	0,1			

Disposal (C4)	Unit	Value			
Waste, inert waste, to landfill (kg)	kg	0,9			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of primary aggregates with crushed recycled cement-based products (kg)	kg	0,1			
Substitution of electricity (MJ)	MJ	0,0006899			
Substitution of thermal energy, district heating (MJ)	MJ	0,01044			

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-A3	A4	A5	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	4,99E-02	5,12E-02	4,98E-02	2,67E-04	1,67E-02	7,20E-05	7,39E-03	-2,96E-04
	GWP-fossil	kg CO_2 -eq	8,46E-02	5,11E-02	2,06E-02	2,67E-04	1,67E-02	7,10E-05	7,38E-03	-2,89E-04
	GWP-biogenic	kg CO_2 -eq	-3,48E-02	2,12E-05	2,92E-02	5,01E-08	6,92E-06	6,13E-07	8,62E-06	-4,69E-06
	GWP-luluc	kg CO_2 -eq	4,84E-05	1,82E-05	3,34E-06	2,11E-08	5,95E-06	9,83E-08	1,81E-06	-2,24E-06
	ODP	kg CFC11 -eq	1,51E-08	1,16E-08	1,16E-09	5,80E-11	3,79E-09	1,40E-11	2,80E-09	-4,41E-06
	AP	mol H+ -eq	4,14E-04	1,47E-04	4,33E-05	2,80E-06	4,80E-05	5,75E-07	6,57E-05	-2,56E-06
	EP-FreshWater	kg P -eq	5,89E-06	4,09E-07	9,12E-08	9,73E-10	1,34E-07	4,49E-09	8,37E-08	-1,15E-08
	EP-Marine	kg N -eq	8,03E-05	2,91E-05	1,19E-05	1,23E-06	9,50E-06	1,68E-07	2,44E-05	-8,78E-07
	EP-Terrestial	mol N -eq	8,89E-04	3,25E-04	1,15E-04	1,35E-05	1,06E-04	1,94E-06	2,69E-04	-1,02E-05
	POCP	kg NMVOC -eq	2,88E-04	1,25E-04	3,43E-05	3,72E-06	4,07E-05	5,20E-07	7,71E-05	-2,70E-06
	ADP-minerals&metals[1]	kg Sb-eq	1,47E-06	1,41E-06	1,44E-07	4,10E-10	4,62E-07	9,01E-10	6,65E-08	-2,09E-08
	ADP-fossil[1]	MJ	1,18E+00	7,73E-01	2,37E-01	3,68E-03	2,53E-01	2,21E-03	2,03E-01	-4,74E-03
	WDP[1]	m^3	1,30E+00	7,48E-01	1,21E+00	7,81E-04	2,44E-01	2,43E-01	1,25E+00	-1,92E-01

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"
*INA Indicator Not Assessed

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-A3	A4	A5	C1	C2	C3	C4	D
	PM	Disease incidence	7,72E-09	3,13E-09	1,22E-07	7,40E-11	1,02E-09	9,00E-12	1,40E-09	-7,40E-11
	IRP[2]	kgBq U235 -eq	1,95E+00	3,38E-03	1,24E+00	1,58E-05	1,10E-03	3,70E-05	9,27E-04	-4,11E-05
	ETP-fw[1]	CTUe	9,88E-01	5,73E-01	7,85E-02	2,01E-03	1,87E-01	1,56E-03	1,11E-01	-8,69E-03
	HTP-c[1]	CTUh	4,00E-11	0,00E+00	7,00E-12	0,00E+00	0,00E+00	0,00E+00	5,00E-12	0,00E+00
	HTP-nc[1]	CTUh	4,01E-09	6,26E-10	1,71E-10	2,00E-12	2,05E-10	1,00E-12	8,00E-11	-9,00E-12
	SQP[1]	dimensionless	2,19E+00	5,41E-01	8,00E-02	4,67E-04	1,77E-01	1,25E-03	7,82E-01	3,01E-03

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"
*INA Indicator Not Assessed

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-A3	A4	A5	C1	C2	C3	C4	D
	PERE	MJ	2,32E-01	1,11E-02	5,15E-02	1,99E-05	3,62E-03	1,14E-03	7,27E-03	-6,25E-03
	PERM	MJ	3,14E-01	0,00E+00	-2,98E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	PERT	MJ	5,46E-01	1,11E-02	-2,47E-01	1,99E-05	3,62E-03	1,14E-03	7,27E-03	-6,25E-03
	PENRE	MJ	1,17E+00	7,73E-01	2,75E-01	3,68E-03	2,53E-01	2,21E-03	2,03E-01	-4,95E-03
	PENRM	MJ	2,09E-02	0,00E+00	-1,99E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	PENRT	MJ	1,19E+00	7,73E-01	2,55E-01	3,68E-03	2,53E-01	2,21E-03	2,03E-01	-4,95E-03
	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
	RSF	MJ	8,68E-04	3,96E-04	6,43E-05	4,89E-07	1,29E-04	0,00E+00	1,51E-04	-1,95E-05
	NRSF	MJ	1,44E-03	1,42E-03	1,48E-04	7,20E-06	4,63E-04	0,00E+00	3,26E-04	-3,36E-04
	FW	m^3	1,77E-03	8,27E-05	2,59E-02	1,89E-07	2,70E-05	3,78E-06	2,50E-04	-1,49E-04

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"
*INA Indicator Not Assessed

End of life - Waste

Indicator		Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
	HWD	kg	2,40E-04	3,99E-05	5,42E-06	1,08E-07	1,30E-05	2,20E-07	0,00E+00	-9,74E-07
	NHWD	kg	4,28E-02	3,76E-02	8,87E-02	4,35E-06	1,23E-02	6,96E-06	9,00E-01	-4,88E-05
	RWD	kg	6,91E-06	5,27E-06	1,01E-06	2,55E-08	1,72E-06	2,33E-08	0,00E+00	-3,53E-08

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"
*INA Indicator Not Assessed

End of life - Output flow

Indicator		Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
	CRU	kg	0,00E+00	0,00E+00	1,90E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	MFR	kg	1,54E-02	0,00E+00	1,57E-05	0,00E+00	0,00E+00	1,00E-01	0,00E+00	0,00E+00
	MER	kg	1,26E-05	0,00E+00	3,23E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	EEE	MJ	1,82E-05	0,00E+00	2,02E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	EET	MJ	2,75E-04	0,00E+00	3,06E-02	0,00E+00	0,00E+00	0,00E+00	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"
*INA Indicator Not Assessed

Biogenic Carbon Content

Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	0,00E+00
Biogenic carbon content in accompanying packaging	kg C	9,50E-03

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).

Dangerous substances

The product contains no substances given by the REACH Candidate list.

Indoor environment

Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products									
Indicator	**Unit**	A1-A3	A4	A5	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	8,47E-02	5,12E-02	2,06E-02	2,67E-04	1,67E-02	7,11E-05	7,39E-03	-3,07E-04

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.

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