

Environmental Product Declaration

 **EPD**®
THE INTERNATIONAL EPD® SYSTEM



In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Waste management services

from

Sortera Oy



Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-13438
Publication date:	2024-05-13
Valid until:	2029-05-13

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com



General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
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Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): Construction products PCR 2019:14, version 1.3.3 (date 2024-03-01)
PCR review was conducted by: The Technical Committee of the International EPD® System.
Life Cycle Assessment (LCA)
LCA accountability: Heini Koutonen, Senior consultant, Nordic Offset Oy, Keilaniementie 1, 02150 Espoo, Finland. https://nordicoffset.fi/
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: <input checked="" type="checkbox"/> EPD verification by individual verifier Third-party verifier: Pär Lindman, Miljögiraff Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD: Sortera Group / Sortera Oy

Contact: Satu-Maria Jauhiainen, EHSQ and Administration Director,
Email. satu-maria.jauhiainen@sortera.fi, Tel. + 358 40 524 0909

Description of the organisation: Sortera Oy was originally founded in 1962 and is part of the Sortera group. Sortera's vision is to be Northern Europe's leading supplier of sustainable circular economy solutions for construction, infrastructure, and industry.

Name and location of production site(s):
Sortera Oy main office: Jäähdtyintie 27, 00770 Helsinki Finland
Juvanmalmintie 22, 02970 Espoo Finland

More information: <https://sortera.fi>

Product/service information

Product name: Waste management services

Product description: Sortera Oy specializes in delivering waste containers to hard-to-reach locations, such as narrow courtyards or tight construction sites. They deliver metallic waste containers, both open containers or with lids and locks, as well as PP bags. This EPD covers these waste management services, including any related procurement and logistics over a 12-month period. The total volume of waste collected during the studied 12-month period was about 237 300 tons of waste, and it consisted mostly of concrete, tile, mixed construction waste and aggregates.



UN CPC code: Waste management services can belong to following UN CPC classification groups:

- 541 General construction services of buildings
- 542 General construction services of civil engineering works
- 543 Site preparation services
- 547 Building completion and finishing services

Geographical scope: Finland. Sortera Oy facilities are located in Helsinki and Espoo. Sortera's services are available in Southern Finland and by a separate agreement also elsewhere.

LCA information

Functional unit / declared unit: 1 tonne of waste as collected, before any treatment.

Reference service life: Not applicable for this study.

Time representativeness: Data collection period of latest available 12 months (September 2022 – August 2023)

Database(s) and LCA software used: LCA for Experts software (former GaBi software). Sphera and Ecoinvent 3.9.1 databases.

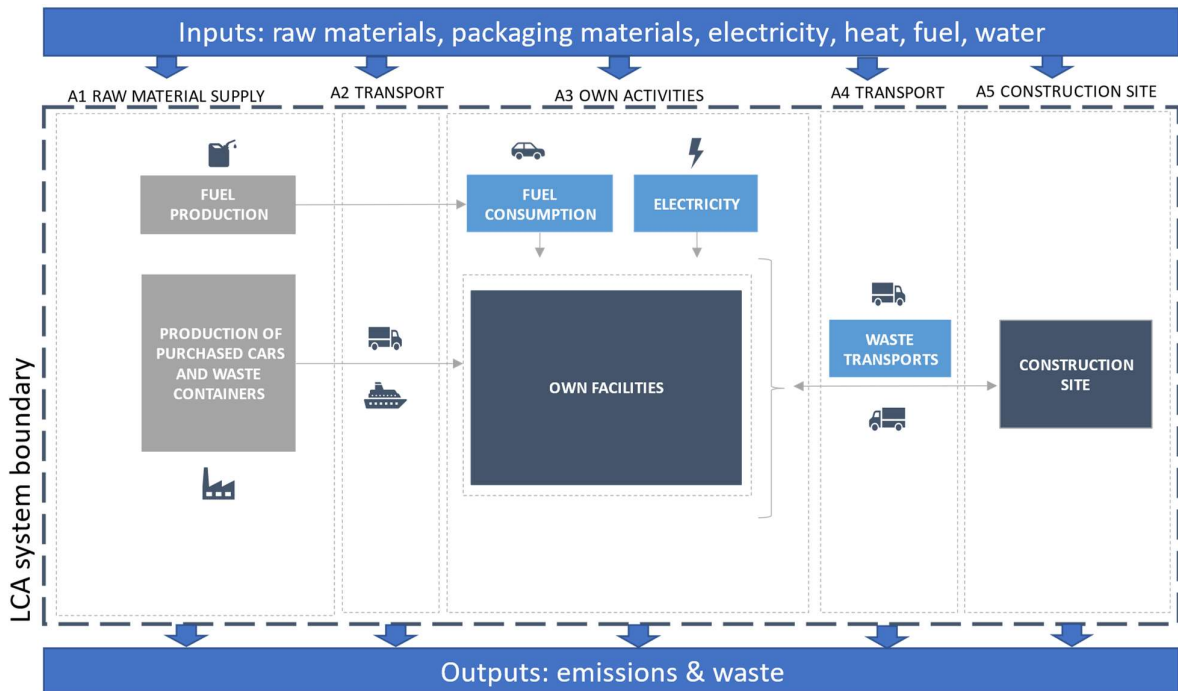
Description of system boundaries:

This is a construction service EPD.

According to the EN15804+A2 standard, for the EPD of construction services the same rules and requirements apply as for the EPD of construction products, unless otherwise stated in the standard or PCR. By definition, construction service is an activity that supports the construction process or subsequent maintenance.

The system boundary of this study is cradle to gate with modules A1-A5. For an EPD of construction services, inclusion of modules A4 and A5 is mandatory in addition to modules A1-A3. No other modules are declared. This EPD can potentially be used as an information module in any life cycle stage B or C for a construction works.

System diagram:



Life cycle description and key assumptions:

A1: The environmental impacts arising from the procurement, processing, and manufacture of all purchased waste containers and bags, vehicles, and chemicals.

A2: Transportation of the purchased products to Sortera's main office in Helsinki, Finland. Specific transportation modes and distances are taken into account.

A3: Electricity and fuel consumed in own facilities. The facilities use purchased electricity from Helen, and their supplier-specific electricity mix from 2022 was used in the LCA modelling. The unit emission factor for the electricity is 0,635 kg CO₂e/kWh and the energy sources were: 35 % coal, 20 % peat, 7 % natural gas, 6 % municipal waste, 2 % oil, 18 % nuclear power, 4 % hydro power, 4 % wind power, 4 % biomass.

A4: Transport of waste containers to and from construction sites. The fuel used in these transports was 99,9 % fossil diesel and 0,1 % renewable diesel and their consumed amounts are based on actual consumption data provided by Sortera Oy. The total driven transport distance corresponding to the total diesel consumption was 2 832 923 kilometers.

A5: No identified emissions sources on the construction site related to Sortera's waste services.

Other processes related to production of infrastructure or capital goods are not included. Personnel-related processes, such as transportation of employees to and from work are not accounted for.

No substances that appear in the REACH candidate list of SVHC (Candidate List of Substances of Very High Concern) are present or used in the services concerning this EPD.

Cut-off criteria:

This study follows the cut-off criteria stated EN15804+A2 standard and PCR 2019:14: in case of insufficient input data or data gaps for a unit process, the cut-off criteria shall be 1 % of renewable and non-renewable primary energy usage and 1 % of the total mass input of that unit process. The total of neglected input flows per module are a maximum of 5 % of energy usage and mass.

The only process that was excluded in this study was the purchased new motor to a Volvo FM truck, due to no representative environmental impact data available for it.

No other inflows, processes or modules were excluded from the study.

Allocation:

Allocation rules are used according to ISO 14044:2006. Allocation is avoided when possible and when necessary, allocation is made based on physical shares (e.g. masses in kg). Allocation is required if the production process produces more than one product and the flows of materials, energy and waste cannot be separately measured for the studied product.

In this study, all purchased products and consumed fuels and electricity have been allocated per declared unit (per one tonne of waste collected).

Data collection

Site-specific data has been collected for September 2022 – August 2023 directly from Sortera Oy. The upstream and downstream processes have been modelled based on environmental data either supplier-specifically or by using data from generic databases (Sphera and Ecoinvent). The collected data was reviewed in terms of consistency, and it is estimated as good quality.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geography	FI	FI	FI	FI	FI												
Specific data used	84 %					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	Not relevant for services					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	Not relevant					-	-	-	-	-	-	-	-	-	-	-	-

ND = Not declared

Results of the environmental performance indicators

The impacts are expressed per functional unit: 1 tonne of waste collected. The results are presented in scientific form. Data interpretation example: 1,31E-2 = 1,31*10⁻² = 0,0131.

According to the EN 15804 standard, environmental declarations for construction products may not be comparable if they have not been prepared in accordance with that standard or if a different declared unit has been used. The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Mandatory impact category indicators according to EN 15804+A2

Results per functional or declared unit				
Indicator	Unit	A1-A3	A4	A5
GWP-total	kg CO ₂ eq.	4,29E+00	1,53E+01	0,00E+00
GWP-fossil	kg CO ₂ eq.	4,28E+00	1,51E+01	0,00E+00
GWP-biogenic	kg CO ₂ eq.	4,78E-03	4,67E-02	0,00E+00
GWP-luluc	kg CO ₂ eq.	1,14E-03	2,47E-01	0,00E+00
ODP	kg CFC 11 eq.	2,04E-10	2,17E-12	0,00E+00
AP	mol H ⁺ eq.	1,22E-02	2,25E-02	0,00E+00
EP-freshwater	kg P eq.	2,29E-05	6,28E-05	0,00E+00
EP-marine	kg N eq.	2,89E-03	8,49E-03	0,00E+00
EP-terrestrial	mol N eq.	3,17E-02	1,00E-01	0,00E+00
POCP	kg NMVOC eq.	9,22E-03	2,22E-02	0,00E+00
ADP-minerals&metals*	kg Sb eq.	1,67E-05	1,28E-06	0,00E+00
ADP-fossil*	MJ	6,51E+01	1,94E+02	0,00E+00
WDP*	m ³	2,50E-02	2,28E-01	0,00E+00
Acronyms	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			

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

Additional mandatory and voluntary impact category indicators

Results per functional or declared unit				
Indicator	Unit	A1-A3	A4	A5
GWP-GHG ¹	kg CO ₂ eq.	4,29E+00	1,53E+01	0,00E+00

Resource use indicators

Results per functional or declared unit				
Indicator	Unit	A1-A3	A4	A5
PERE	MJ	1,24E+01	1,67E+01	0,00E+00
PERM	MJ	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	1,24E+01	1,67E+01	0,00E+00
PENRE	MJ	7,59E+01	1,94E+02	0,00E+00
PENRM	MJ	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	7,59E+01	1,94E+02	0,00E+00
SM	kg	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00
FW	m ³	1,42E-02	1,86E-02	0,00E+00
Acronyms	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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water			

¹ This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero.

Waste indicators

Results per functional or declared unit				
Indicator	Unit	A1-A3	A4	A5
Hazardous waste disposed	kg	2,98E-03	7,42E-09	0,00E+00
Non-hazardous waste disposed	kg	9,37E-02	3,17E-02	0,00E+00
Radioactive waste disposed	kg	2,75E-03	3,53E-04	0,00E+00

Output flow indicators

Results per functional or declared unit				
Indicator	Unit	A1-A3	A4	A5
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	0,00E+00	0,00E+00	0,00E+00

Other environmental performance indicators

Additional environmental indicators are not declared.

References

EN ISO 15804:2012 + A2:2019 /AC:2021 Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products.

General Programme Instructions of the International EPD® System. Version 4.0.

ISO 14025:2006 Environmental labels and declarations – Type III environmental declarations – Principles and procedures.

ISO 14040:2006 + A1:2020 Environmental management - Life cycle assessment - Principles and framework

ISO 14044:2006 + A1:2018 + A2:2020 Environmental management. Life cycle assessment. Requirements and guidelines.

PCR 2019:14. Construction products PCR 2019:14, version 1.3.3 (date 2024-03-01).

LCA report, Nordic Offset Oy 2024.

