

EPD of Finnish sawn and planed timber

Finnish Sawmills Association

RTS_124_21

Issue date: 10.6.2021

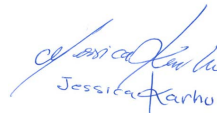
Validity period: 10.6.2021-10.6.2026

Scope of the declaration

This environmental product declaration (EPD) is for sawn and planed softwood timber produced by member companies of the Finnish Sawmills Association. The declaration has been prepared in accordance with standard EN 15804:2019 + A2 and RTS PCR (version 1.6.2020) product category rules. The environmental data for building products mentioned in this RTS EPD cannot be compared to other EPDs if they do not meet the requirements set out in SFS-EN 15804:2019, 5.3.

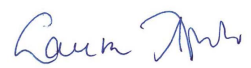
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Jessica Karhu

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RTS EPD
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GENERAL INFORMATION AND VERIFICATION

1. Owner of the declaration, manufacturer

Finnish Sawmills Association,
Säästöpankinranta 4 c 24, 00530 Helsinki , Kai Merivuori, Kai.Merivuori@sahateollisuus.com

2. Product names and numbers

Construction 2000 Building Product Classification: Sawn timber (241), Planed timber (242)

3. Production sites

The information collected represents an average product from 8 sawmills:

Sawmill	City	Sawn timber	Planed timber	Timber CoC certification
Westas Group Oy	Koski TL	X		PEFC, FSC
Versowood Oy	Riihimäki	X	X	PEFC, FSC
Koskisen Oy	Järvelä	X	X	PEFC, FSC
Luvian Saha Oy	Luvia	X	X	PEFC, FSC
Pölkky Oy	Kuusamo	X	X	PEFC
JPJ-Wood Oy	Korkeakoski	X	X	PEFC
Isojoen Saha Oy	Isojoki	X		PEFC
Junnikkala Oy	Kalajoki	X	X	PEFC

4. Additional information

For additional information, contact the owner of the declaration: info@sahateollisuus.com

5. Product Category Rules and the scope of the declaration


The declaration has been prepared in accordance with EN 15804:2019 and ISO 14025 standards and the additional requirements stated in the RTS PCR (version 1.6.2020). The EPD has been prepared for construction-level comparison in order to fit the needs of all target groups.

6. Author of the life-cycle assessment and declaration

Natural Resources Institute Finland (Luke), Latokartanonkaari 9, 00790 Helsinki. Phone +358 29 532 6000, www.luke.fi. Compilers: Tarmo Rätty, Ph.D. and Marja Jallinoja, M.Sc.

7. Verification

The declaration has been prepared in accordance with EN 15804+A2 and the additional requirements stated in the RTS PCR. The declaration was independently verified 23.11. 2020 by Teija Käpynen, Envineer Oy, Kalevantie 2, 33100 Tampere. Verification validity period: 10.6.2021-10.6.2026.

Verified according to the requirements of EN 15804:2019 A2 (product group rules)	
Independent verification of the declaration and data, according to ISO14025:2010	
Internal	√ External
Third party verifier: Teija Käpynen  Envineer Oy	

8. Declaration issue date

Date of issue: 10.6.2021.

PRODUCT INFORMATION

9. Product description

This EPD was prepared for two products: average kiln dried softwood sawn timber and average kiln dried softwood planed timber. Raw material and production are certified under either the PEFC or FSC systems. The environmental statement does not include further processing, such as surface treatment, bonding, or impregnation. The products from different sawmills do not differ in terms of technical characteristics or uses.

10. Summary of environmental information per 1 kg of product

Table 10a Summary of impacts, sawn timber									
Indicator	Unit	A1-A3	A3	A4*	C1	C2*	C3	C4	D
Global Warming Potential total (GWP-total)	kg CO ₂ eq.	-1,14		4,82E-05	5,15E-02	8,73E-05	1,54	4,25E-02	-1,65
Abiotic depletion potential for non-fossil resources (ADP- minerals&metals)	kg Sb eq.	1,47E-07		3,57E-11	2,82E-08	6,44E-11	4,55E-09	1,60E-08	1,11E-08
Abiotic depletion for fossil resources potential (ADP-fossil)	MJ, net caloric value	1,41		6,83E-04	0,540	1,23E-03	0,229	1,03E-02	-12,9
Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	m ³ world eq. deprived	3,27E-02		9,64E-08	7,63E-05	8,70E-06	1,45E-03	-2,83E-04	0,134
Biogenic carbon content in product	kg C		0,429	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of secondary materials	kg	2,97E-04		0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

*per transported km of 1 kg

Table 10b Summary of impacts, planed timber

Indicator	Unit	A1-A3	A3	A4*	C1	C2*	C3	C4	D
Global Warming Potential total (GWP-total)	kg CO ₂ eq.	-1,05		4,52E-05	5,15E-02	8,73E-05	1,54	4,25E-02	-1,65
Abiotic depletion potential for non-fossil resources (ADP- minerals&metals)	kg Sb eq.	1,46E-07		3,34E-11	2,82E-08	6,44E-11	4,55E-09	1,60E-08	1,11E-08
Abiotic depletion for fossil resources potential (ADP-fossil)	MJ, net caloric value	1,75		6,39E-04	0,540	1,23E-03	0,229	1,03E-02	-12,9
Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	m ³ world eq. deprived	4,60E-02		9,02E-08	7,63E-05	8,70E-06	1,45E-03	-2,83E-04	0,134
Biogenic carbon content in product	kg C		0,421	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of secondary materials	kg	1,24E-04		0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

**per transported km of 1 kg*

This EPD has average EPD data for GWP total – indicator, which differs more than 10% between sawmills covered in this EPD for planed timber from JPJ, Koskisen and Pölkky.

11. Description of products and their use

Sawn timber is typically used as a semi-finished product in downstream processing (e.g. planing, glulam, impregnated wood, modified wood) or in all construction except frame structures. Planed timber is either strength sorted dimensioned sawn timber that can also be used in construction, including frame structures, or planed to specific profiles (e.g. exterior claddings, interior panels).

12. Product standards

EN14081+A1 Timber structures.

EN14915+A2 Solid wood panelling and cladding.

EN14342 Wood flooring and parquet.

13. Physical properties

Impacts are calculated for both sawn and planed timber at u=18 % moisture. The average density of sawn timber is 479 kg/m³ and for planed timber 478 kg/m³. Oven-dry (u=0 %) density for Norway spruce was assumed to be 380 kg/m³ and for Scots pine 403 kg/m³.

14. Raw materials of products

Raw material	Sawn timber % by volume	Planed timber % by volume	Renewability	Origin
Scots pine [Pinus Sylvestris]	38 %	37 %	Yes	Finland
Norway spruce [Picea Abies]	62 %	63 %	Yes	Finland

15. Substances under European Chemicals Agency's REACH, SVHC restrictions

The products do not include substances from ECHA's Candidate List of Substances of Very High Concern

SCOPE OF LIFE CYCLE ASSESSMENT

This EPD is cradle to grave with options.

Product stage			Construction process stage		Use stage								End of life stage				Supplementary information beyond the life cycle		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	D	D	
R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	R	R	R	R	NR	R	NR	
Raw material supply	Transport	Manufacturing	Transport	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling	

R= Relevant, NR= Nonrelevant

16. Declared unit

The declared unit is 1 m³ of softwood at 18 % moisture content. The results are presented for sawn and planed timber. The volume of planed timber is expressed as semi-finished sawn timber before planing; therefore the reported environmental impacts must be converted into linear meters of finished products according the Table 16.

Table 16: Planed timber conversion factors to linear meters

Product	m ³ /m	m/m ³	Product	m ³ /m	m/m ³	Product	m ³ /m	m/m ³
Spruce 14X95	1,70E-03	588	Pine 28x95	3,20E-03	313	Spruce 48x73	3,75E-03	267
Spruce 21x48	1,10E-03	909	Spruce 28x195	6,40E-03	156	Spruce 48x98	5,00E-03	200
Spruce 20x95	2,20E-03	455	Spruce 28x215	7,20E-03	139	Spruce 48x123	6,25E-03	160
Spruce 20x120	2,75E-03	364	Spruce 42x98	4,40E-03	227	Spruce 48x148	7,50E-03	133
Spruce 20x145	3,30E-03	303	Spruce 42x123	5,50E-03	182	Spruce 48x173	8,75E-03	114
Pine 23x95	2,50E-03	400	Spruce 42x198	8,80E-03	114	Spruce 48x198	1,00E-02	100,0
Spruce 23x145	3,75E-03	267	Spruce 48x48	2,50E-03	400	Spruce 48x223	1,13E-02	88,9

Sawn timber can be directly converted into linear meters without making use of conversion factors.

17. System boundaries

In this EPD the product phase covers modules A1 (forest management and supply of raw materials from the forest), A2 (transport of logs and semi-finished lumber to a sawmill) and A3 (sawmilling, kiln drying and planing). In addition to energy use, the following are inventoried: fuels and lubricants of manufacturing equipment and working machinery, water used, packaging materials of finished products. The environmental impacts of energy made from the sawmilling by-products and used by the sawmills themselves have been allocated to the products. The construction phase covers module A4 (transportation to the site) and the results are declared per kilometer of a transported m³. Environmental impacts do not include the manufacturing of machinery, equipment, or infrastructure. Modules C2 (transport), C3 (chipping) and C4 (energy use) are presented for the demolition phase of a building. Supplementary information beyond the life cycle in module D presents the replacement of fossil fuels in heat production.

18. Cut-off criteria

All the materials used, energy, packaging processes and transportation up to end-of waste status are declared. No scenario has been presented for module B. In module C1 the impacts refer to a generic building demolition.

Life cycle impacts of sawn Scots pine or Norway spruce do not differ significantly, but differences in moisture, density and biogenic carbon between the species are taken into account in the assessment and reported as averages over produced quantities.

19. Production process

Softwood logs are felled in the forest, moved to the roadside with a forest tractor and transported to the sawmill by logging trucks. A sawmill typically comprises a log sorter to receive and sort the logs, a saw line to saw the logs according to orders, a kiln and a planing mill, and a heat plant that uses the by-products of the mill. Electricity is purchased from the grid. Fuel for the working machines accounts for a significant proportion of fossil energy use. Kiln-dried timber can be either sold as sawn timber or planed.

ENVIRONMENTAL IMPACTS AND USE OF NATURAL RESOURCES

20. Environmental impacts per declared unit

The results of the impact assessment are relative. They do not predict the effects on the weighted values of the categories, the exceedance limits, safety margins and risks.

Environmental Product Declaration, EPD



Impacts are reported per produced cubic meter (m³), except in modules A4 and C2, which are reported per transported km of 1 m³.

Table 20a Environmental impacts, sawn timber

Indicator	Unit	A1-A3	A4*	C1	C2*	C3	C4	D
Global Warming Potential total (GWP-total)	kg CO ₂ eq.	-543	2,29E-02	24,7	4,19E-02	7,38E+02	20,4	-794
Global Warming Potential fossil fuels (GWP-fossil)	kg CO ₂ eq.	30,2	2,09E-02	18,4	3,82E-02	2,44	0,401	-789
Global Warming Potential biogenic (GWP- biogenic)	kg CO ₂ eq.	-573	1,97E-03	6,33	3,69E-03	735	20,0	-4,83
Global Warming Potential land use and land use change (GWP-luluc)	kg CO ₂ eq.	0,375	9,41E-07	7,52E-04	1,72E-06	0,107	1,08E-04	0,322
Acidification potential, Accumulated Exceedance (AP)	Mol H+ eq.	0,432	8,75E-05	8,99E-02	2,16E-04	9,92E-03	3,42E-03	3,75E-02
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC 11 eq.	6,10E-06	5,26E-09	4,20E-06	9,59E-09	4,45E-07	6,33E-08	-1,93E-06
Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater)	kg PO ₄ -eq.	4,60E-03	2,84E-07	2,27E-04	5,17E-07	9,44E-04	1,08E-04	2,82E-03
Eutrophication potential, fraction of nutrients reaching marine end compartment (EP-marine)	kg N eq.	0,180	2,94E-05	3,40E-02	8,34E-05	3,44E-03	1,87E-03	2,38E-02
Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	mol N eq.	1,96	3,22E-04	0,373	9,14E-04	2,05E-02	1,59E-02	0,227
Formation potential of tropospheric ozone (POCP)	kg NMVOC eq.	0,484	8,58E-05	0,103	2,33E-04	8,79E-03	4,14E-03	0,123
Abiotic depletion potential for non-fossil resources (ADP-minerals & metals)	kg Sb eq.	6,98E-05	1,69E-08	1,35E-05	3,09E-08	2,18E-06	7,68E-06	5,32E-06
Abiotic depletion for fossil resources potential (ADP-fossil)	MJ, net caloric value	672	0,324	259	0,591	110	4,92	-6,18E+03
Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	m ³ world eq. deprived	15,5	4,58E-05	3,66E-02	4,17E-03	0,697	-0,136	64,1

* per transported km of 1 m³

Table 20b Environmental impacts, planed timber

Indicator	Unit	A1-A3	A4*	C1	C2*	C3	C4	D
Global Warming Potential total (GWP-total)	kg CO ₂ eq.	-500	2,15E-02	24,7	4,19E-02	7,38E+02	20,4	-794
Global Warming Potential fossil fuels (GWP-fossil)	kg CO ₂ eq.	34,5	1,96E-02	18,4	3,82E-02	2,44	0,401	-789
Global Warming Potential biogenic (GWP- biogenic)	kg CO ₂ eq.	-535	1,89E-03	6,33	3,69E-03	735	20,0	-4,83
Global Warming Potential land use and land use change (GWP-luluc)	kg CO ₂ eq.	0,522	8,81E-07	7,52E-04	1,72E-06	0,107	1,08E-04	0,322
Acidification potential, Accumulated Exceedance (AP)	Mol H ⁺ eq.	0,550	5,53E-05	8,99E-02	2,16E-04	9,92E-03	3,42E-03	3,75E-02
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC 11 eq.	6,91E-06	4,92E-09	4,20E-06	9,59E-09	4,45E-07	6,33E-08	-1,93E-06
Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater)	kg PO ₄ -eq.	5,90E-03	2,65E-07	2,27E-04	5,17E-07	9,44E-04	1,08E-04	2,82E-03
Eutrophication potential, fraction of nutrients reaching marine end compartment (EP-marine)	kg N eq.	0,246	1,36E-05	3,40E-02	8,34E-05	3,44E-03	1,87E-03	2,38E-02
Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	mol N eq.	2,66	1,49E-04	0,373	9,14E-04	2,05E-02	1,59E-02	0,227
Formation potential of tropospheric ozone (POCP)	kg NMVOC eq.	0,651	4,41E-05	0,103	2,33E-04	8,79E-03	4,14E-03	0,123
Abiotic depletion potential for non-fossil resources (ADP-minerals & metals)	kg Sb eq.	6,91E-05	1,58E-08	1,35E-05	3,09E-08	2,18E-06	7,68E-06	5,32E-06
Abiotic depletion for fossil resources potential (ADP-fossil)	MJ, net caloric value	834	0,303	259	0,591	110	4,92	-6,18E+03
Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	m ³ world eq. deprived	21,8	4,28E-05	3,66E-02	4,17E-03	0,697	-0,136	64,1

*per transported km of 1 m³

21. Additional environmental impact indicators

Not declared (ND).

22. Use of natural resources per declared unit

Table 22a Use of natural resources, sawn timber								
Use of natural resources	Unit	A1-A3	A4*	C1	C2*	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	1,09E+03	6,08E-04	0,485	1,11E-03	24,1	6,12E-02	5,82E+03
Renewable primary energy resources used as raw materials	MJ	8,30E+03	2,32E-04	0,186	4,24E-04	-5,81E+03	2,47E-02	0,00E+00
Total use of renewable primary energy resources	MJ	9,39E+03	8,40E-04	0,671	1,53E-03	-5,79E+03	8,59E-02	5,82E+03
Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials	MJ	678	0,324	259	0,591	109	4,92	-4,80E+03
Nonrenewable primary energy resources used as raw materials	MJ	32,8	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non renewable primary energy resources	MJ	711	0,324	259	0,591	109	4,92	-4,80E+03
Use of renewable secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water	M ³	0,958	9,18E-06	7,34E-03	1,67E-05	0,196	-2,29E-03	-6,92
Use of secondary material	kg	1,41E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

*per transported km of 1 m³

Table 22b Use of natural resources, planed timber

Use of natural resources	Unit	A1-A3	A4*	C1	C2*	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	1,46E+03	5,69E-04	0,485	1,11E-03	24,1	6,12E-02	5,82E+03
Renewable primary energy resources used as raw materials	MJ	8,08E+03	2,17E-04	0,186	4,24E-04	-5,81E+03	2,47E-02	0,00E+00
Total use of renewable primary energy resources	MJ	9,54E+03	7,86E-04	0,671	1,53E-03	-5,79E+03	8,59E-02	5,82E+03
Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials	MJ	840	0,303	259	0,591	109	4,92	-4,80E+03
Nonrenewable primary energy resources used as raw materials	MJ	33,6	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non renewable primary energy resources	MJ	874	0,303	259	0,591	109	4,92	-4,80E+03
Use of renewable secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water	M ³	1,35	8,59E-06	7,34E-03	1,67E-05	0,196	-2,29E-03	-6,92
Use of secondary material	kg	5,90E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
<i>*per transported km of 1 m³</i>								

OTHER ENVIRONMENTAL INDICATORS

23. Biogenic carbon content per declared unit

Table 23a Biogenic carbon content, sawn timber		
Biogenic carbon content	Unit	A3
Biogenic carbon content in product	kg C	204
Biogenic carbon content in packaging	kg C	0,422

Table 23b Biogenic carbon content, planed timber		
Eloperäisen hiilen määrä	Unit	A3
Biogenic carbon content in product	kg C	200
Biogenic carbon content in packaging	kg C	4,66E-04

24. End of life – Waste per declared unit

Table 24a Waste categories, sawn timber								
Waste category	Unit	A1-A3	A4	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2,60E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Non hazardous waste disposed	kg	9,77E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Radioactive waste disposed	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 24b Waste categories, planed timber								
Waste category	Unit	A1-A3	A4	C1	C2	C3	C4	D
Hazardous waste disposed	kg	4,41E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Non hazardous waste disposed	kg	2,30E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Radioactive waste disposed	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

25. Other environmental indicators per declared unit

Table 25a Output flows, sawn timber

Indicator	Unit	A1-A3	A4	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	8,39E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	1,32E-01	0,00E+00	0,00E+00	0,00E+00	465	0,00E+00	0,00E+00
Exported energy (heat)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 25b Output flows, planed timber

Indicator	Unit	A1-A3	A4	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	4,35E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	1,65E-01	0,00E+00	0,00E+00	0,00E+00	465	0,00E+00	0,00E+00
Exported energy (heat)	MJ	2,07E+10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

26. Electricity profile in the manufacturing phase

Parameter	Quantity	Data quality
A3 Electricity profile and CO ₂ emission kg CO ₂ eq. /kWh	0,133	Average grid electricity mix 2015-2019 in Finland

27. Transportation to the building site

Table 27a Transport to the building site, sawn timber		
Parameter	Quantity	Data quality
Semi-trailer, diesel, l/m ³ /km.	4,10E-03	Lipasto database, typical vehicle
Distance	191	Average transportation distance in Finland
Capacity utilization, incl. return %	80 %	Logistics service
Bulk density of transported products kg/m ³	480	u=18 %, weighted average over species
Volume capacity utilization factor	1	

Table 27b Transport to the building site, planed timber		
Parameter	Quantity	Data quality
Semi-trailer, diesel, l/m ³ /km.	4,10E-03	Lipasto database, typical vehicle
Distance	260	Average transportation distance in Finland
Capacity utilization, incl. return %	80 %	Logistic services
Bulk density of transported products kg/m ³	471	u=18 %, weighted average over species
Volume capacity utilization factor	1	

28. End of life – building demolition, module C

Table 28 End-of-life process description, sawn and planed timber		
Process flow	Unit	Share of declared unit
Collection process specified by type	Collected separately	97 %
	Collected with mixed construction waste	3 %
Recovery system specified by type	Components for reuse	0
	Material for recycling	0
	Energy recovery	97 %
Disposal specified by type	Loss (mixed waste)	3 %
Assumptions for scenario development	Transportation distance to energy use 50 km, volume capacity utilization 50 %.	

29. References to General Information

The Building Information Foundation RTS (RTS EPD Product Category Rules). Rakennustietosäätiö RTS sr (RTS EPD PCR menetelmäohje 15804:2019)

ISO 14025:2011-10 Environmental labels and declarations. Type III environmental declarations. Principles and procedures

EN15804:2019 + A2 Sustainability of construction works. Environmental Product Declarations. Core rules for the product category of construction products