



# Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

# Capa with 9 lockers in 3 towers



# Martela

The Norwegian EPD Foundation

# Owner of the declaration:

Martela Oyj

#### **Product:**

Capa with 9 lockers in 3 towers

#### **Declared unit:**

1 pc

# This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR

NPCR 026:2022 Part B for Furniture

# Program operator:

The Norwegian EPD Foundation

#### **Declaration number:**

NEPD-6773-6094-EN

# Registration number:

NEPD-6773-6094-EN

Issue date: 06.06.2024

Valid to: 06.06.2029

#### **EPD** software:

LCAno EPD generator ID: 336948

# **General information**

#### **Product**

Capa with 9 lockers in 3 towers

#### **Program operator:**

The Norwegian EPD Foundation
Post Box 5250 Majorstuen, 0303 Oslo, Norway

Phone: +47 977 22 020 web: www.epd-norge.no

# **Declaration number:**

NEPD-6773-6094-EN

#### This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR NPCR 026:2022 Part B for Furniture

#### 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.

#### **Declared unit:**

1 pcs Capa with 9 lockers in 3 towers

#### Declared unit (cradle to gate) with option:

A1-A3,A4,A5,B2,B3,B4,C1,C2,C3,C4,D

#### **Functional unit:**

Capa is a modular cabinet from which units of different heights and widths can be built according to storage needs.

#### 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

#### **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)

#### Owner of the declaration:

Martela Oyj

Contact person: Anne-Maria Peitsalo

Phone:

e-mail: anne-maria.peitsalo@martela.com

#### Manufacturer:

Martela Oyj Miestentie 1

02150 Espoo, Finland

#### Place of production:

Martela Oyj, Nummela production Ojakkalantie 10 03100 Nummela, Finland

#### Management system:

ISO 14001, ISO 9001, ISO 45001

#### Organisation no:

0114891-2

#### Issue date:

06.06.2024

#### Valid to:

06.06.2029

# Year of study:

2022

# **Comparability:**

EPD of construction products may not be comparable if they not comply with EN 15804 and seen 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 Norway.

Developer of EPD: Tiina Bordi

Reviewer of company-specific input data and EPD: Anne-Maria Peitsalo

#### Approved:

Håkon Hauan

Managing Director of EPD-Norway

#### **Product**

#### **Product description:**

Capa is a modular cabinet from which units of different heights and widths can be built according to storage needs. There are four different locker and door height options to choose from. In addition to the traditional key lock, Capa also offers the possibility of several different locking options, such as a smart lock.

#### **Product specification**

Capa cabinet with 9 lockers Frame and plinth: white melamine Doors with metal knobs

Materials	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Metal - Stainless steel	1,26	0,90	0,28	21,83
Metal - Steel	0,32	0,23	0,00	0,00
Plastic - Melamine	0,50	0,36	0,00	0,00
Plastic - Polypropylene (PP)	0,44	0,31	0,00	0,00
Wood - Chipboard	137,56	98,20	0,00	0,00
Total	140,09	100,00	0,28	

Packaging	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Packaging - Cardboard	0,70	4,93	0,25	36,00
Packaging - Plastic	1,50	10,56	0,00	0,00
Packaging - Wood	12,00	84,51	0,00	0,00
Total incl. packaging	154,29	100,00	0,53	

#### **Technical data:**

Möbelfakta certified product

More product information available here:

https://www.martela.com/furniture/storage/cabinets-and-lockers/capa-modular-locker-cabinet

#### Market:

Europe

#### Reference service life, product

At least 10 years verified by type testing in accredited test laboratory, 5 years warranty

#### Reference service life, building

# LCA: Calculation rules

# Declared unit:

1 pcs Capa with 9 lockers in 3 towers

# **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. They represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on registered EPDs according to EN 15804, Ostfold Research databases, ecoinvent and other LCA databases. The data quality of the raw materials in A1 is presented in the table below.

Materials	Source	Data quality	Year
Metal - Stainless steel	ecoinvent 3.6	Database	2019
Metal - Steel	ecoinvent 3.6	Database	2019
Packaging - Cardboard	ecoinvent 3.6	Database	2019
Packaging - Plastic	ecoinvent 3.6	Database	2019
Packaging - Wood	Modified ecoinvent 3.6	Database	2019
Plastic - Melamine	ecoinvent 3.6	Database	2019
Plastic - Polypropylene (PP)	ecoinvent 3.6	Database	2019
Wood - Chipboard	ecoinvent 3.6	Database	2019

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

	Pı	roduct stag	ge		uction ion stage		Use stage				End of life stage			Beyond the system boundaries			
Raw	materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refu <i>r</i> b ishment	Operational energy use	Operational water use	De- construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery- Recycling-potential
Α	.1	A2	A3	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	C3	C4	D
X	<	Х	X	X	X	MND	Χ	Χ	Х	MND	MND	MND	X	Х	X	Χ	X

#### System boundary:

#### Product Stage / A1 Raw materials:

Martela has long partnerships with its suppliers and subcontractors, who buy raw materials to their products and components from their suppliers, respectively. Main suppliers are locating in Europe.

Wood material is coming from sustainably cultivated forest (FSC, PEFC, etc) and fabrics can be chosen our standard collection with Öko tex or EU ecolabel certificates. Recycled materials are taken to use based on availability and when they fulfill the technical requirements set for the end products.

Materials are including the product package to our customers. Packages that are coming from suppliers are re-used in customer delivery phase (like pallets) or handled as waste in Manufacturing phase A3. Customer delivery package is disposed in Installation phase A5.

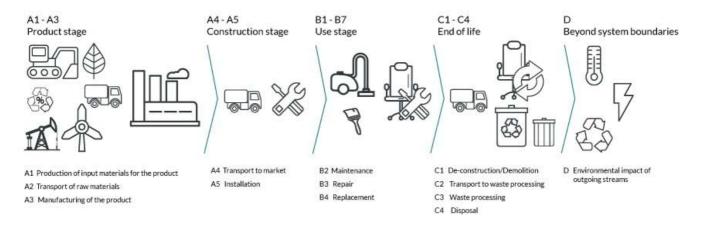
#### Product Stage / A2 Transport:

Transportation is calculated from suppliers location to our own factories in Nummela and Kitee and between our factories when delivering components to final assembly phase in our logistics center in Nummela.

#### Product Stage / A3 Manufacturing:

Martela has two own factories for manufacturing these products. Kitee factory is manufacturing laminate and melamine components for cabinets and tables. Production unit in Nummela make final assembly of the products based on customer orders.

Nummela and Kitee factories are using renewable electricity and heating energy. From factory waste 98% is recycled.



# Additional technical information:

#### LCA: Scenarios and additional technical information

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

Construction installation stage / A4 Transport:

Transportation from Martela logistics center in Nummela to our customers are calculated based on average transportation distances: in Scandinavia 1100 km incl. by ferry 300 km (between Turku - Stockholm).

Construction installation stage / A5 Assembly:

Martela products are partly assembled at customer premises (like tables). This assembling is done with hand tools and use of energy is minimal in this stage.

Customer package is disposed in this stage automatically by the tool set-up, but our own installation teams take all waste back to our premises and packages are re-used (like pallets) or recycled as materials (included in A3 waste).

#### User stage / B1-B7:

Martela products do not require special maintenance. Cleaning with for example vacuuming and wet wiping is advice according.

Based on technical durability testing according EN standard in accredited testing laboratory Martela verifies use life of at least 10 years and grants normal warranty for 5 years.

#### End-of-life stage / C1-C4:

LCA-tool is calculating stage C waste processing and disposal material by material for recycling and resource for energy production in Norway. Material amounts are calculated based on the material used to make the product. Average transportation distance of 85 km has added for waste management.

Beyond the system boundaries / Re-use - Recovery - Recycling -potential / D:

LCA-tool is calculating stage D potential based on material recycling and resource for energy production from materials if product end of lifecycle would be in Norway. Material amounts are calculated based on the material used to make the product

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Ship, Ferry, Sea (km)	50,0 %	300	0,034	l/tkm	10,20
Truck, 16-32 tonnes, EURO 6 (km)	36,7 %	800	0,043	l/tkm	34,40
Assembly (A5)	Unit	Value			
Waste, packaging, corrugated board box, to average treatment (kg)	kg	0,70			
Waste, packaging, pallet, EUR wooden pallet, reusable, average treatment (kg)	kg	12,00			
Waste, packaging, plastic film (LDPE), to average treatment - A5 (kg)	kg	1,50			
Maintenance (B2)	Unit	Value			
Water, tap water (m3)	m3/DU	0,01			
Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (km)	36,7 %	85	0,043	l/tkm	3,66
Waste processing (C3)	Unit	Value			
Waste treatment per kg Non-hazardous waste, incineration with fly ash extraction - C3 (kg)	kg	0,50			
Waste treatment per kg Polypropylene (PP), incineration with fly ash extraction - C3 (kg)	kg	0,44			
Waste treatment per kg Scrap steel, incineration with fly ash extraction (kg)	kg	1,59			
Waste treatment per kg Wood, incineration with fly ash extraction (kg)	kg	137,56			
Waste, materials to recycling (kg)	kg	0,54			
Disposal (C4)	Unit	Value			
Landfilling of ashes and residues from incineration of Scrap steel (kg)	kg	1,05			
Landfilling of ashes from incineration of Non- hazardous waste, process per kg ashes and residues - C4 (kg)	kg	0,12			
Landfilling of ashes from incineration of Polypropylene, PP, process per kg ashes and residues - C4 (kg)	kg	0,01			
Landfilling of ashes from incineration of Wood, process per kg ashes and residues (kg)	kg	1,58			

Benefits and loads beyond the system boundaries (D)	Unit	Value		
Substitution of electricity, in Norway (MJ)	MJ	96,68		
Substitution of primary steel with net scrap (kg)	kg	0,37		
Substitution of thermal energy, district heating, in Norway (MJ)	МЈ	1462,64		

**LCA: Results** 

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

Environme	ntal impact								
	Indicator		Unit		A1-A3	A4	A5	B2	В3
	GWP-total		kg CO <sub>2</sub> -	eq	-1,28E+02	2,29E+01	1,95E+01	3,45E-03	0
	GWP-fossil		kg CO <sub>2</sub> -eq		1,24E+02	2,29E+01	1,46E-01	3,43E-03	0
	GWP-biogenic		kg CO <sub>2</sub> -	eq	-2,55E+02	8,75E-03	1,94E+01	2,16E-05	0
	GWP-luluc		kg CO <sub>2</sub> -	eq	3,94E+00	9,37E-03	1,70E-05	5,58E-06	0
٨	ODP		kg CFC11	-eq	1,73E-05	5,06E-06	1,21E-08	3,04E-10	0
Œ.	AP		mol H+ -	eq	7,66E-01	2,03E-01	3,30E-04	2,00E-05	0
<del></del>	EP-FreshWater		kg P -ed	7	4,26E-03	1,64E-04	5,31E-07	2,74E-07	0
<del></del>	EP-Marine		kg N -ed	q	1,48E-01	4,81E-02	2,07E-04	3,17E-06	0
<del>2</del>	EP-Terrestial		mol N -e	eq	2,11E+00	5,35E-01	1,31E-03	3,69E-05	0
	POCP		kg NMVOC	:-eq	6,66E-01	1,53E-01	3,81E-04	1,16E-05	0
	ADP-minerals&metals <sup>1</sup>		kg Sb-e	9	3,13E-03	5,36E-04	1,17E-06	9,59E-08	0
	ADP-fossil <sup>1</sup>		МЈ		1,95E+03	3,35E+02	8,38E-01	5,86E-02	0
<u></u>	WDP <sup>1</sup>		3	m <sup>3</sup>		2,79E+02	2,22E+00	1,05E+00	0
(70)	VVDP		m³		5,65E+05	2,131+02	2,221+00	1,032+00	U
70	Indicator		Unit	B4	5,63E+03	C2	C3	C4	D
				B4 0					
	Indicator		Unit		C1	C2	C3	C4	D
	<b>Indicator</b> GWP-total		<b>Unit</b> kg CO <sub>2</sub> -eq	0	C1 0	C2 1,94E+00	C3 2,35E+02	C4 8,03E-02	D -9,20E+00
	Indicator  GWP-total  GWP-fossil		Unit kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq	0	C1 0	C2 1,94E+00 1,94E+00	C3 2,35E+02 3,98E+00	C4 8,03E-02 8,02E-02	D -9,20E+00 -8,89E+00
	Indicator  GWP-total  GWP-fossil  GWP-biogenic		Unit kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq	0 0	C1 0 0	C2 1,94E+00 1,94E+00 8,03E-04	C3 2,35E+02 3,98E+00 2,31E+02	C4 8,03E-02 8,02E-02 4,58E-05	D -9,20E+00 -8,89E+00 -1,77E-02
<b>P P P P P P P P P P</b>	Indicator  GWP-total  GWP-fossil  GWP-biogenic  GWP-luluc		Unit  kg CO <sub>2</sub> -eq  kg CO <sub>2</sub> -eq  kg CO <sub>2</sub> -eq  kg CO <sub>2</sub> -eq	0 0 0 0	0 0 0 0	C2 1,94E+00 1,94E+00 8,03E-04 6,91E-04	C3 2,35E+02 3,98E+00 2,31E+02 2,80E-04	C4 8,03E-02 8,02E-02 4,58E-05 1,47E-05	D -9,20E+00 -8,89E+00 -1,77E-02 -2,92E-01
	Indicator  GWP-total  GWP-fossil  GWP-biogenic  GWP-luluc  ODP		Unit  kg CO <sub>2</sub> -eq  kg CO <sub>2</sub> -eq  kg CO <sub>2</sub> -eq  kg CO <sub>2</sub> -eq	0 0 0 0	0 0 0 0 0	C2 1,94E+00 1,94E+00 8,03E-04 6,91E-04 4,40E-07	C3 2,35E+02 3,98E+00 2,31E+02 2,80E-04 1,50E-07	C4 8,03E-02 8,02E-02 4,58E-05 1,47E-05 1,18E-08	D -9,20E+00 -8,89E+00 -1,77E-02 -2,92E-01 -6,18E-01
	Indicator  GWP-total  GWP-fossil  GWP-biogenic  GWP-luluc  ODP  AP		Unit  kg CO <sub>2</sub> -eq  mol H+ -eq	0 0 0 0 0	0 0 0 0 0 0	C2 1,94E+00 1,94E+00 8,03E-04 6,91E-04 4,40E-07 5,58E-03	C3 2,35E+02 3,98E+00 2,31E+02 2,80E-04 1,50E-07 2,19E-02	C4 8,03E-02 8,02E-02 4,58E-05 1,47E-05 1,18E-08 3,39E-04	D -9,20E+00 -8,89E+00 -1,77E-02 -2,92E-01 -6,18E-01 -7,19E-02
	Indicator  GWP-total  GWP-fossil  GWP-biogenic  GWP-luluc  ODP  AP  EP-FreshWater		witk  kg CO <sub>2</sub> -eq  kg CO <sub>2</sub> -eq  kg CO <sub>2</sub> -eq  kg CO <sub>2</sub> -eq  kg CFC11 -eq  mol H+ -eq  kg P -eq	0 0 0 0 0 0	0 0 0 0 0 0	C2 1,94E+00 1,94E+00 8,03E-04 6,91E-04 4,40E-07 5,58E-03 1,55E-05	C3 2,35E+02 3,98E+00 2,31E+02 2,80E-04 1,50E-07 2,19E-02 2,93E-05	C4 8,03E-02 8,02E-02 4,58E-05 1,47E-05 1,18E-08 3,39E-04 1,03E-06	D -9,20E+00 -8,89E+00 -1,77E-02 -2,92E-01 -6,18E-01 -7,19E-02 -7,79E-04
	Indicator  GWP-total  GWP-fossil  GWP-biogenic  GWP-luluc  ODP  AP  EP-FreshWater  EP-Marine		kg CO <sub>2</sub> -eq kg CFC11 -eq mol H+ -eq kg P -eq kg N -eq	0 0 0 0 0 0	0 0 0 0 0 0 0	C2 1,94E+00 1,94E+00 8,03E-04 6,91E-04 4,40E-07 5,58E-03 1,55E-05 1,10E-03	C3 2,35E+02 3,98E+00 2,31E+02 2,80E-04 1,50E-07 2,19E-02 2,93E-05 1,05E-02	C4 8,03E-02 8,02E-02 4,58E-05 1,47E-05 1,18E-08 3,39E-04 1,03E-06 1,11E-04	D -9,20E+00 -8,89E+00 -1,77E-02 -2,92E-01 -6,18E-01 -7,19E-02 -7,79E-04 -2,33E-02
	Indicator  GWP-total  GWP-fossil  GWP-biogenic  GWP-luluc  ODP  AP  EP-FreshWater  EP-Marine  EP-Terrestial		kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CFC11 -eq mol H+ -eq kg P -eq kg N -eq mol N -eq	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	C2 1,94E+00 1,94E+00 8,03E-04 6,91E-04 4,40E-07 5,58E-03 1,55E-05 1,10E-03 1,23E-02	C3 2,35E+02 3,98E+00 2,31E+02 2,80E-04 1,50E-07 2,19E-02 2,93E-05 1,05E-02 1,11E-01	C4 8,03E-02 8,02E-02 4,58E-05 1,47E-05 1,18E-08 3,39E-04 1,03E-06 1,11E-04 1,25E-03	D -9,20E+00 -8,89E+00 -1,77E-02 -2,92E-01 -6,18E-01 -7,19E-02 -7,79E-04 -2,33E-02 -2,51E-01
	Indicator  GWP-total  GWP-fossil  GWP-biogenic  GWP-luluc  ODP  AP  EP-FreshWater  EP-Marine  EP-Terrestial  POCP		kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CO <sub>2</sub> -eq kg CFC11 -eq mol H+ -eq kg P -eq kg N -eq mol N -eq g NMVOC -eq	0 0 0 0 0 0 0	C1 0 0 0 0 0 0 0 0	C2 1,94E+00 1,94E+00 8,03E-04 6,91E-04 4,40E-07 5,58E-03 1,55E-05 1,10E-03 1,23E-02 4,73E-03	C3 2,35E+02 3,98E+00 2,31E+02 2,80E-04 1,50E-07 2,19E-02 2,93E-05 1,05E-02 1,11E-01 2,73E-02	C4 8,03E-02 8,02E-02 4,58E-05 1,47E-05 1,18E-08 3,39E-04 1,03E-06 1,11E-04 1,25E-03 3,50E-04	D -9,20E+00 -8,89E+00 -1,77E-02 -2,92E-01 -6,18E-01 -7,19E-02 -7,79E-04 -2,33E-02 -2,51E-01 -7,02E-02

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

#### Remarks to environmental impacts

<sup>&</sup>quot;Reading example: 9,0 E-03 = 9,0\*10-3 = 0,009"

<sup>\*</sup>INA Indicator Not Assessed

<sup>1.</sup> 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

Additional er	nvironmental impac	t indicators						
	Indicator	Unit	Unit		A4	A5	B2	В3
	PM	Disease incidence	Disease incidence		1,24E-06	5,01E-09	1,68E-10	0
(**)	IRP <sup>2</sup>	kgBq U235 -eq	kgBq U235 -eq		1,46E+00	3,58E-03	4,05E-04	0
	ETP-fw <sup>1</sup>	CTUe	CTUe		2,38E+02	8,95E-01	6,34E-02	0
44. *** <u>B</u>	HTP-c <sup>1</sup>	CTUh	CTUh		0,00E+00	4,20E-11	9,00E-12	0
48° B	HTP-nc <sup>1</sup>	CTUh	CTUh		2,66E-07	1,86E-09	2,11E-10	0
	SQP <sup>1</sup>	dimensionless		1,19E+04	2,01E+02	1,07E+00	1,64E-02	0
I	ndicator	Unit	B4	C1	C2	C3	C4	D
	PM	Disease incidence	0	0	1,19E-07	2,29E-07	4,87E-09	-4,27E-06
	IRP <sup>2</sup>	kgBq U235 -eq	0	0	1,28E-01	2,72E-02	4,24E-03	-7,73E-01
	ETP-fw <sup>1</sup>	CTUe	0	0	2,18E+01	3,07E+01	1,29E+00	-6,82E+02
20. x ** <u>*</u> B	HTP-c <sup>1</sup>	CTUh	0	0	0,00E+00	5,01E-09	6,00E-11	-1,40E-08
₩ <u></u>	HTP-nc <sup>1</sup>	CTUh	CTUh 0		2,38E-08	2,41E-07	2,20E-09	-5,90E-07
	SQP <sup>1</sup>	dimensionless	0	0	2,05E+01	2,06E+00	2,72E+00	-8,11E+02

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 = Soil Quality (dimensionless)

<sup>&</sup>quot;Reading example: 9,0 E-03 = 9,0\*10-3 = 0,009"

<sup>\*</sup>INA Indicator Not Assessed

<sup>1.</sup> 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

<sup>2.</sup> 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	B2	В3
	PERE		MJ		2,63E+03	4,32E+00	1,89E-02	7,96E-03	0
	PERM		MJ		1,43E+03	0,00E+00	-1,72E+02	0,00E+00	0
₽.	PERT		MJ		4,06E+03	4,32E+00	-1,72E+02	7,96E-03	0
	PENRE		MJ		1,94E+03	3,35E+02	8,38E-01	5,86E-02	0
	PENRM		MJ		7,81E+01	0,00E+00	-6,37E+01	0,00E+00	0
<b>A</b>	PENRT		MJ		2,02E+03	3,35E+02	-6,29E+01	5,86E-02	0
<u> </u>	SM		kg		5,28E-01	0,00E+00	0,00E+00	0,00E+00	0
2	RSF		MJ		1,66E+01	1,51E-01	5,25E-04	6,38E-04	0
	NRSF		MJ		1,89E+00	5,06E-01	2,50E-03	6,29E-04	0
<b>%</b>	FW		m <sup>3</sup>		4,90E+00	3,24E-02	4,72E-04	1,01E-02	0
	ndicator	Unit		B4	C1	C2	C3	C4	D
i i i i i i i i i i i i i i i i i i i	<b>ndicator</b> PERE	<b>Unit</b> MJ		B4 0	C1 0	C2 4,20E-01	C3 4,69E-01	C4 4,09E-02	D -7,49E+02
i de la companya de l	PERE	МЈ		0	0	4,20E-01	4,69E-01	4,09E-02	-7,49E+02
E L	PERE PERM	WI		0	0	4,20E-01 0,00E+00	4,69E-01 -1,22E+03	4,09E-02 0,00E+00	-7,49E+02 0,00E+00
्र (हे <b>ड</b> ] ्रह्	PERE PERM PERT	M1 M1		0 0 0	0 0	4,20E-01 0,00E+00 4,20E-01	4,69E-01 -1,22E+03 -1,22E+03	4,09E-02 0,00E+00 4,09E-02	-7,49E+02 0,00E+00 -7,49E+02
 ₽ 	PERE PERM PERT PENRE	мл мл мл		0 0 0 0	0 0 0	4,20E-01 0,00E+00 4,20E-01 2,93E+01	4,69E-01 -1,22E+03 -1,22E+03 1,38E+01	4,09E-02 0,00E+00 4,09E-02 9,50E-01	-7,49E+02 0,00E+00 -7,49E+02 -1,25E+02
# # # # #	PERE PERM PERT PENRE PENRM	мл мл мл мл		0 0 0 0	0 0 0 0	4,20E-01 0,00E+00 4,20E-01 2,93E+01 0,00E+00	4,69E-01 -1,22E+03 -1,22E+03 1,38E+01 -1,44E+01	4,09E-02 0,00E+00 4,09E-02 9,50E-01 0,00E+00	-7,49E+02 0,00E+00 -7,49E+02 -1,25E+02 0,00E+00
	PERE PERM PERT PENRE PENRM PENRT	мл мл мл мл		0 0 0 0 0	0 0 0 0 0	4,20E-01 0,00E+00 4,20E-01 2,93E+01 0,00E+00 2,93E+01	4,69E-01 -1,22E+03 -1,22E+03 1,38E+01 -1,44E+01 -5,80E-01	4,09E-02 0,00E+00 4,09E-02 9,50E-01 0,00E+00 9,50E-01	-7,49E+02 0,00E+00 -7,49E+02 -1,25E+02 0,00E+00 -1,25E+02
	PERE PERM PERT PENRE PENRM PENRT SM	MJ MJ MJ MJ MJ kg		0 0 0 0 0 0	0 0 0 0 0 0	4,20E-01 0,00E+00 4,20E-01 2,93E+01 0,00E+00 2,93E+01 0,00E+00	4,69E-01 -1,22E+03 -1,22E+03 1,38E+01 -1,44E+01 -5,80E-01 0,00E+00	4,09E-02 0,00E+00 4,09E-02 9,50E-01 0,00E+00 9,50E-01 0,00E+00	-7,49E+02 0,00E+00 -7,49E+02 -1,25E+02 0,00E+00 -1,25E+02 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 resources used as raw materials; PENRM = Use of non renewable primary energy resources; SM = Use of secondary materials; PENRM = Use of renewable primary energy resources; SM = Use of secondary materials; PENRM = 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		U	nit	A1-A3	A4	A5	B2	В3
	HWD	kg		1,42E+00	1,66E-02	0,00E+00	1,11E-05	0	
Ū	NHWD		k	g	5,15E+01	1,36E+01	2,80E+00	7,11E-04	0
<u>\$</u>	RWD		kg		7,82E-03	2,29E-03	0,00E+00	3,43E-07	0
In	dicator		Unit	B4	C1	C2	C3	C4	D
Ā	HWD		kg	0	0	1,51E-03	0,00E+00	2,30E+00	-7,82E-03
Ū	NHWD		kg	0	0	1,43E+00	5,00E-01	4,62E-01	-3,03E+00
<b>3</b>	RWD		kg	0	0	2,00E-04	0,00E+00	5,17E-06	-6,34E-04

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								
Ind	icator	Uni	t	A1-A3	A4	A5	B2	В3
<b>@▷</b>	CRU	kg		0,00E+00	0,00E+00	1,14E+01	0,00E+00	0
&>	MFR	kg		5,48E+01	0,00E+00	1,42E+00	0,00E+00	0
Þ₹	MER	kg		8,14E+01	0,00E+00	6,44E-01	0,00E+00	0
50	EEE	MJ		5,73E+01	0,00E+00	4,54E-01	0,00E+00	0
<b>D</b>	EET	MJ		8,67E+02	0,00E+00	6,87E+00	0,00E+00	0
Indicato	or	Unit	B4	C1	C2	C3	C4	D
<b>∅</b> >	CRU	kg	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
&>	MFR	kg	0	0	0,00E+00	5,38E-01	0,00E+00	0,00E+00
DF	MER	kg	0	0	0,00E+00	1,40E+02	0,00E+00	0,00E+00
<b>₹</b> D	EEE	МЈ	0	0	0,00E+00	9,64E+01	0,00E+00	0,00E+00
DØ	EET	МЈ	0	0	0,00E+00	1,46E+03	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	6,50E+01					
Biogenic carbon content in accompanying packaging	kg C	5,29E+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, low voltage, hydro based with Guarantee of origin, 2022, Finland, Imatra (kWh)	Modified ecoinvent 3.6	23,96	g CO2-eg/kWh

#### **Dangerous substances**

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

#### **Indoor environment**

# **Additional Environmental Information**

# **Key Environmental Indicators**

Key environmental indicators	Unit	A1-A3	A4	A1-C4	A1-D
GWPtotal	kg CO <sub>2</sub> -eq	-127,51	22,89	152,30	143,10
Total energy consumption	MJ	4588,97	340,13	4975,68	4057,67
Amount of recycled materials	%	0,34			

Additional environmental impact indicators required in NPCR Part A for construction products							
Indicator	Unit	Unit		A4	A5	B2	В3
GWPIOBC	kg CO <sub>2</sub> -eq	kg CO <sub>2</sub> -eq		2,29E+01	1,46E-01	3,45E-03	0
Indicator	Unit	B4	C1	C2	C3	C4	D
GWPIOBC	kg CO <sub>2</sub> -eq	0	0	1,94E+00	3,46E+00	8,37E-02	-9,27E+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.

#### **Variants and Options**

Key environmental indicators (A1-A3) for variants of this EPD					
Variants	Weight (kg)	GWPtotal (kg CO <sub>2</sub> -eq)	Total energy consumption (MJ)	Amount of recycled materials (%)	
Capa with 1,2 m doors in 3 towers	119,90	-116,26	3910,97	0,26	
Capa with 8 lockers in 2 towers	124,00	-115,14	4067,65	0,33	
Capa with 4 lockers in 2 towers	70,60	-73,83	2277,21	0,37	
Capa with 0,8 m doors in 2 towers	54,20	-54,17	1771,96	0,39	
Capa with 2 lockers in 2 towers	41,70	-42,34	1380,84	0,36	

Key environmental indicators (A1-A3) for options for this EPD					
Options	Weight (kg)	GWPtotal (kg CO <sub>2</sub> -eq)	Total energy consumption (MJ)	Amount of recycled materials (%)	
Upholstered seat 1196x520cm (recycled PE)	6,29	17,60	470,72	5,59	
Flower box 794x514x33cm	1,33	3,95	85,31	0,00	
Flower box 394x514x33cm	0,78	2,31	50,03	0,00	

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and norway	Program operator and publisher	Phone: +47 977 22 020
© epd-norway	The Norwegian EPD Foundation	e-mail: post@epd-norge.no
Global Program Operator	Post Box 5250 Majorstuen, 0303 Oslo, Norway	web: www.epd-norge.no
	Owner of the declaration:	Phone:
Martela	Martela Oyj	e-mail: anne- maria.peitsalo@martela.com
	Miestentie 1, 02150 Espoo	web: martela.com
	Author of the Life Cycle Assessment	Phone: +47 916 50 916
(LCA)	LCA.no AS	e-mail: post@lca.no
.no	Dokka 6A, 1671	web: www.lca.no
	Developer of EPD generator	Phone: +47 916 50 916
(LCA)	LCA.no AS	e-mail: post@lca.no
.no	Dokka 6B,1671 Kråkerøy	web: www.lca.no
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