

# DAPHabitat System Environmental Product Declaration

www.daphabitat.pt

[according to ISO 14025, EN 15804:2012+A2:2019 and EN 15942]



Declaration number: DAP 017:2024



## IN-WALL FLUSHING CISTERN OLI120 PLUS RANGE

Issue date: 25/11/2024

Valid until: 24/11/2029

OLI – SISTEMAS SANITÁRIOS, S.A.



Versão 1.4.1 Ed. Março 2024



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## 1. GENERAL INFORMATION

### 1.1. The DAPHabitat System

<b>Program operator:</b>	Sustainable Construction Platform <a href="http://www.clusterhabitat.pt">www.clusterhabitat.pt</a> <a href="mailto:geral@clusterhabitat.pt">geral@clusterhabitat.pt</a>	
<b>Address:</b>	Departamento Engenharia Civil Universidade de Aveiro 3810-193 Aveiro	
<b>Email address:</b>	<a href="mailto:deptecnico@clusterhabitat.pt">deptecnico@clusterhabitat.pt</a>	
<b>Telephone number:</b>	(+351) 234 401 576	
<b>Website:</b>	<a href="http://www.daphabitat.pt">www.daphabitat.pt</a>	
<b>Logo</b>		

### 1.2. EPD owner

<b>Name of the owner:</b>	OLI – Sistemas Sanitários, S.A.
<b>Production site:</b>	Travessa do Milão, 10 Esgueira 3800-314 Aveiro, Portugal
<b>Address (head office):</b>	Travessa do Milão, 10 Esgueira 3800-314 Aveiro, Portugal
<b>Telephone:</b>	+351 234 300 200
<b>E-mail:</b>	<a href="mailto:geral@oli-world.com">geral@oli-world.com</a>
<b>Website:</b>	<a href="http://www.oli-world.com">www.oli-world.com</a>
<b>Logo:</b>	
<b>Information concerning the applicable management Systems:</b>	NP EN ISO 9001:2015 – Quality Management System NP EN ISO 14001:2015 – Environmental Management System NP EN ISO 45001:2019 – Occupational Health and Safety Management System NP 4457:2021 – Research, Development and Innovation Management System
<b>Specific aspects regarding the production:</b>	Main CAE: 22230 – Manufacture of builders ware of plastic
<b>Organization's environmental policy:</b>	OLI – Sistemas Sanitários, S.A. is governed by the following principles of its Integrated Management System policy: - The consistency and improvement of the activity results reflect the commitment and participation of employees in the application and consolidation of the principles of total quality, IDI management, environmental preservation and permanent improvement of safety and health conditions at work. - The continuous improvement process is based on measuring and monitoring at all levels, identifying key factors for progress, developing actions aimed at eliminating hazards and reducing risks, as well as providing safe and healthy working conditions for all company employees and third parties. The development of measures is also aimed at preventing accidents, in an attitude of permanent dissatisfaction and in the awareness that it is always



possible to do better.

- We actively promote the additional commitment to the consultation and participation of employees as well as their safety, health and well-being, preventing injuries and health problems through the elimination of hazards and reduction of the risks to which they are subject, monitoring of health, operational control and the involvement and participation of all in the process of continuous improvement of the performance of safety and health at work.
- We are committed to requirements, regulations and ancillary standards applicable to the production and development of medical devices, namely with the application of the ISO 13485 standard for the quality management system and regulatory requirements, with the EU regulation 745/2017 and also with the accessory standards ISO 18562, ISO 10993, ISO 15223 and ISO 13408.
- The continuous improvement is also reflected in the commitment to work to minimize the most relevant environmental impacts, namely in aspects related to the consumption of resources, meeting the protection of the environment, preventing pollution, as well as influencing, whenever possible, and in the course of the activity, the relevant stakeholders regarding its environmental aspects.
- The daily work is concentrated on resource planning and on monitoring the processes that anticipate, listen to and support the needs and expectations of customers, with a view to their total satisfaction, as well as that of other relevant stakeholders.
- Relations between sectors are guided by the principle of internal customers/suppliers, with the involvement, responsibility and mobilization of all employees, as a work philosophy.
- Our customers and suppliers are partners with whom we seek to strengthen skills, capabilities, communication, involvement and knowledge in order to ensure the continuous improvement of products, and services under our responsibility and management processes.
- Throughout the process, there is a commitment to comply with the compliance obligations applicable to the activities, products and services developed.
- Identify and promote the performance of IDI activities, with a view to using the knowledge generated in the development of new IDI projects, in order to increase the weight of IDI activities in the organization's performance, complying with the requirements described in NP4457.

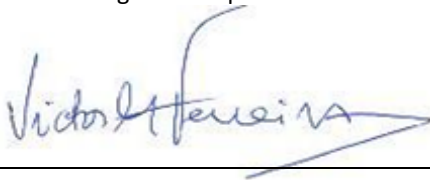
### 1.3. Information concerning the EPD

<b>Authors:</b>	Lidiane La Picirelli de Souza, Verônica Ribeiro Brandão, Inês Meireles, Ana Cláudia Dias
<b>Contact of the authors:</b>	Address: Universidade de Aveiro, Campus Universitário de Santiago, 3810-193 Aveiro, Portugal Telephone: 234 370 200; E-mail: <a href="mailto:acdias@ua.pt">acdias@ua.pt</a>
<b>Issue date:</b>	25/11/2024
<b>Registration date:</b>	04/12/2024
<b>Registration number:</b>	DAP 017:2024
<b>Valid until:</b>	24/11/2029
<b>Representativity of the EPD (location, manufacturer, group of manufacturers):</b>	Representative EPD for five (5) models of in-wall flushing cistern OLI120 Plus range, produced in one (1) industrial unit, belonging to a single (1) manufacturer. The selection of representative products was based on the highest sales volume in the year 2022.
<b>Where to consult explanatory material:</b>	<a href="http://www.oli-world.com">www.oli-world.com</a>
<b>Type of EPD:</b>	EPD from cradle-to-gate (A1-A3) with construction process stage (A4-A5), end-of-life stage (C1-C4) and benefits and loads beyond the system boundary (D).

### 1.4. Demonstration of the verification

External independent verification, accordingly with the standard ISO 14025:2010 and EN 15804:2012+A2:2019	
Certification Body	Verifier
	
(CERTIF – Associação para a Certificação)	(Helena Gervásio)

### 1.5. EPD Registration

Programme operator

(Plataforma para a Construção Sustentável)

## 1.6. PCR (product category rules) basic model

<b>Name:</b>	PCR: Basic module for construction products and services
<b>Issue date:</b>	August 2023 Edition
<b>Number of registration on the data base:</b>	RCP-mb001
<b>Version:</b>	Version 2.3
<b>Identification and contact of the coordinator (s):</b>	Marisa Almeida   marisa@ctcv.pt Luís Arroja   arroja@ua.pt José Dinis Silvestre   jose.silvestre@ist.utl.pt
<b>Identification and contact of the authors:</b>	Marisa Almeida   marisa@ctcv.pt Luís Arroja   arroja@ua.pt José Silvestre   jds@civil.ist.utl.pt Fausto Freire Cristina Rocha Ana Paula Duarte Ana Cláudia Dias Helena Gervásio Victor Ferreira Ricardo Mateus António Baio Dias
<b>Composition of the Sectorial Panel:</b>	-
<b>Consultation period:</b>	18/11/2015 - 18/01/2016
<b>Valid until:</b>	01/06/2027


CEN standard EN 15804 serves as the core Product Category Rules (PCR)

## 1.7. Relevant c-PCR (complementary product category rules)

Not applicable.



## 1.8. Information concerning the product/product class

<b>Identification of the product:</b>	In-wall flushing cistern OLI120 Plus Range, versions: Direct, Block, Simflex, Sanitarblock, Freestanding																					
<b>Illustration of the product:</b>	 <p style="text-align: center;">Figure 1. Product illustration</p>																					
<b>Brief description of the product:</b>	<p>The OLI120 Plus installation system versions have dual flush 6/3 L in-wall cistern (adjustable to 4/2; 4,5/3; 5/3 or 7/3 L); polypropylene (PP) cistern highly resistant and inalterable to thermal stress, with 144 mm thickness in the Block version, 180 mm in the Freestanding version and 126 mm in the other versions; silent PLUS inlet valve, with delayed refilling; anti-condensation and sound isolation. The Simflex, Sanitarblock and Freestanding versions also have a metal frame that supports up to 400 kg load, resistant to corrosion, being adjustable in height, 0-200 mm in the Sanitarblock version and 0-150 mm in the Freestanding version.</p>																					
<b>Main technical characteristics of the product:</b>	<p>Class «A++» water efficiency, according to the requirements of the ANQIP certification body.</p> <p style="text-align: center;">Table 1. Technical characteristics of the product</p> <table border="1" data-bbox="667 1077 1406 1375"> <thead> <tr> <th>Characteristic</th> <th>Value</th> <th>Units</th> </tr> </thead> <tbody> <tr> <td>Noise level (inlet valve)</td> <td>&lt;20</td> <td>Lap dB (A)</td> </tr> <tr> <td>Flush rate</td> <td>2.0-2.4</td> <td>L/s</td> </tr> <tr> <td>Flush volume</td> <td>6/3 (4/2; 4,5/3; 5/3 or 7/3)</td> <td>L</td> </tr> <tr> <td>Water temperature</td> <td>7-25</td> <td>°C</td> </tr> <tr> <td>Durability/Physical endurance</td> <td>200,000</td> <td>cycles</td> </tr> <tr> <td>Impact force</td> <td>&lt;20</td> <td>N</td> </tr> </tbody> </table>	Characteristic	Value	Units	Noise level (inlet valve)	<20	Lap dB (A)	Flush rate	2.0-2.4	L/s	Flush volume	6/3 (4/2; 4,5/3; 5/3 or 7/3)	L	Water temperature	7-25	°C	Durability/Physical endurance	200,000	cycles	Impact force	<20	N
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<b>Description of the product's application/use:</b>	<p style="text-align: center;">Table 2. Product's application description</p> <table border="1" data-bbox="644 1429 1426 1832"> <tbody> <tr> <td>OLI120 Plus Direct</td> <td>In-wall installation system to be installed in a solid brick-lined wall with a floor mounted toilet</td> </tr> <tr> <td>OLI120 Plus Block</td> <td>In-wall installation system, equipped with a robust and full EPS enclosure, to be installed in a solid brick-lined wall with a wall-hung toilet</td> </tr> <tr> <td>OLI120 Plus Simflex</td> <td>In-wall installation system to be installed in a solid wall with a wall-hung toilet</td> </tr> <tr> <td>OLI120 Plus Sanitarblock</td> <td>In-wall installation system to be installed in a solid wall or drywall with a wall-hung toilet</td> </tr> <tr> <td>OLI120 Plus Freestanding</td> <td>Freestanding in-wall installation system to be installed in drywall with a wall-hung toilet</td> </tr> </tbody> </table>	OLI120 Plus Direct	In-wall installation system to be installed in a solid brick-lined wall with a floor mounted toilet	OLI120 Plus Block	In-wall installation system, equipped with a robust and full EPS enclosure, to be installed in a solid brick-lined wall with a wall-hung toilet	OLI120 Plus Simflex	In-wall installation system to be installed in a solid wall with a wall-hung toilet	OLI120 Plus Sanitarblock	In-wall installation system to be installed in a solid wall or drywall with a wall-hung toilet	OLI120 Plus Freestanding	Freestanding in-wall installation system to be installed in drywall with a wall-hung toilet											
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<b>Placing on the market / Rules of application in the market / Technical rules of the product:</b>	<p>CE marking and technical testing according to:</p> <ul style="list-style-type: none"> <li>- EN 14055 - WC and urinal flushing cisterns</li> </ul> <p>Some versions certified according to:</p> <ul style="list-style-type: none"> <li>- NF/KIWA/Belgaqua/WRAS/KIWAUK standards</li> </ul>																					
<b>Quality control:</b>	<p>Quality control performed according to control instructions:</p>																					

	IC.00011 – Controlo em Laboratório IC.00016 – Controlo em linha
<b>Special delivery conditions:</b>	Not applicable

<b>Components and substances to declare:</b>	Table 3. Product components and packaging materials (kg)					
		OLI120 Plus Direct	OLI120 Plus Block	OLI120 Plus Simflex	OLI120 Plus Sanitarblock	OLI120 Plus Freestanding
	<b>Product components</b>					
	Steel	<0.1	0.5	3.9	8.0	12.1
	Plastic (ABS, PP, PS, POM, EPS, PE, PVC)	2.1	5.1	3.2	3.3	3.7
	Rubber parts (NBR, EPDM)	<0.1	0.2	0.2	0.2	0.1
	Other metals	<0.1	0.1	0.1	0.1	0.2
	Other materials	<0.1	<0.1	<0.1	<0.1	<0.1
	<b>Packaging materials</b>					
	Cardboard,	0.4	1.2	1.5	1.5	1.6
	Plastic (LDPE)	<0.1	<0.1	<0.1	<0.1	0.1
	Wood	0.2	0.3	0.3	2.2	2.7
		The product OLI120 Plus does not contain any REACH Substances of Very High Concern (SVHC), in concentrations greater than 0.1 % (m/m).				
<b>Where explanatory material may be obtained:</b>	Several information is available at <a href="http://www.oli-world.com">www.oli-world.com</a> , namely: - Certifications; - Declaration of performance; - Technical data sheets and detailed product information; - Assembly instructions.					
<b>History of LCA studies:</b>	No previous LCA studies were identified.					

## 1.9. Calculation rules of the LCA

<b>Functional unit:</b>	Not applicable.
<b>Declared unit:</b>	The declared unit is one in-wall flushing cistern of the OLI120 Plus range, with weights (including packaging materials) as follows: <ul style="list-style-type: none"> <li>• OLI120 Plus Direct: 2.80 kg;</li> <li>• OLI120 Plus Block: 7.46 kg;</li> <li>• OLI120 Plus Simflex: 9.24 kg;</li> <li>• OLI120 Plus Sanitarblock: 15.38 kg;</li> <li>• OLI120 Plus Freestanding: 20.49 kg.</li> </ul>
<b>System boundaries:</b>	EPD from cradle-to-gate (A1-A3) with construction process stage (A4-A5), end-of-life stage (C1-C4) and benefits and loads beyond the system boundary (D).
<b>Criteria for the exclusion:</b>	Environmental loads associated with the following processes were excluded: <ul style="list-style-type: none"> <li>• administrative areas;</li> <li>• construction and maintenance of infrastructure and equipment (capital goods);</li> <li>• production of additives for some pigments.</li> </ul>
<b>Assumption and limitations</b>	The data used is representative of the year 2022.
<b>Quality and other characteristics about the information used in the LCA:</b>	<p>For the operations associated with the manufacturing process of the in-wall flushing cistern, real data collected at the production unit were used. For the remaining processes, generic data were used, preferably obtained from the Ecoinvent database – version 3.9.1. The Industry data 2.0 and Carbon Minds 2022 databases were also used. Whenever possible, the original processes from the databases were adapted to better represent reality, for example, by changing the energy source mix of the electricity consumed considering the country where the processes occur.</p> <p>According to the criteria defined in Table E.1 of Annex E of the EN 15804 standard, as defined by the “UN Environment Global Guidance on LCA database development”, the quality of the relevant data and the data for module D in terms of geographical representativeness is considered very good and good. The quality of the data in terms of technological and temporal representativeness is very good.</p>
<b>Allocation rules:</b>	For most of the inventory parameters associated with the production process of the in-wall flushing cistern OLI120 Plus range, specifically for the consumption of materials and electricity (except that used in internal transport), specific inventory data for the products under analysis were adopted, making allocation procedures unnecessary. For the electricity used in internal transport, the industrial area occupied, and the waste produced, mass allocation was applied.
<b>Software used for the assessment:</b>	SimaPro version 9.5.0.2.
<b>Background database used for the LCA:</b>	Ecoinvent database version 3.9.1 published in December 2022; “cut-off” approach; Industry data 2.0 and Carbon Minds 2022.
<b>Comparability of EPD for construction products</b>	DAP of construction products and services may not be comparable if they are not produced in accordance with EN 15804 and EN 15942 and in accordance with the comparability conditions determined by ISO 14025.

## 1.10. Use of average environmental performance

Not applicable.

### 1.11. Technical information for Reference Service Life (RSL)

Parameter	Units	Results
Reference Service Life	Years	50

## 1.12. Flow diagram of input and output of the processes

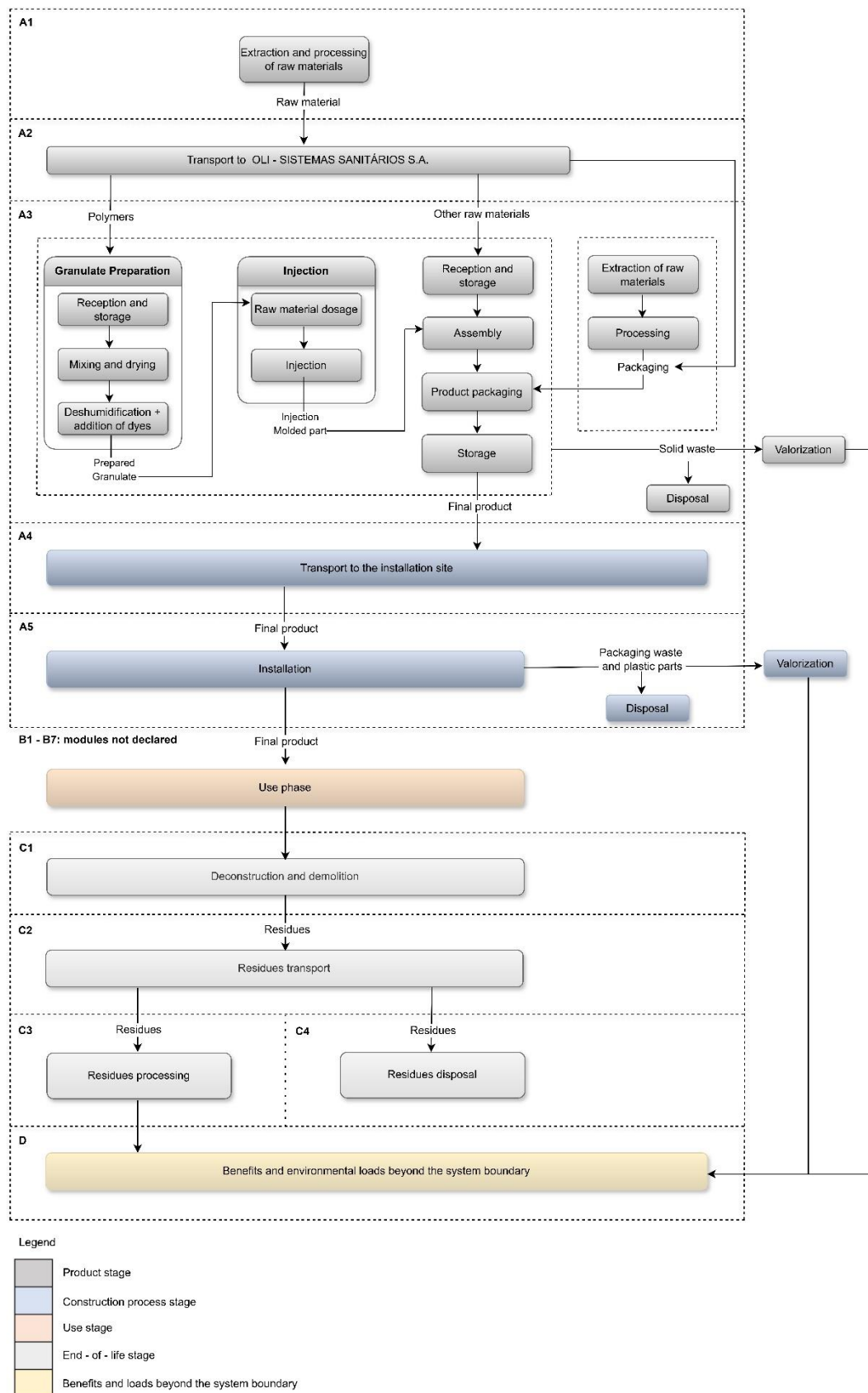


Figure 2. Life cycle stages and unit processes.

## 2. ENVIRONMENTAL PERFORMANCE OF THE PRODUCT

### 2.1. Description of the system boundaries

(✓=included; ND = module not declared)

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END-OF-LIFE STAGE				BENEFITS AND ENVIRONMENTAL BURDENS BEYOND THE SYSTEM BOUNDARY
Raw material supply	Transport	Manufacturing	Transport	Construction and installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction and demolition	Transport	Waste processing	Disposal	Reuse, recovery, potential recycling
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
✓	✓	✓	✓	✓	ND	ND	ND	ND	ND	ND	ND	✓	✓	✓	✓	✓

#### Modules A1-A3 (product stage):

- A1 - Raw material extraction and processing: includes the extraction and processing of raw materials used in the production of cisterns.
- A2 - Transport to the production unit: includes the transport of raw materials to OLI - SISTEMAS SANITÁRIOS S.A.
- A3 - Production: includes the use of electricity for the production of the in-wall flushing cistern, the production processes for packaging materials, and the transport and processing of waste until it reaches the end-of-waste status or its final disposal materials, and the transport and processing of waste until it reaches the end-of-waste status or its final disposal.

The production process for in-wall flushing cistern is made up of three distinct phases, starting with the preparation of the granulated mixture of polymeric materials. In this first phase, after reception and storage of the granules, they are transported to the preparation area, where they are mixed and dried (when necessary). After the drying operation, the mixture is transported by pneumatic process to the feeding hoppers in the injection machines, according to the product to be manufactured. At the hoppers, some dyes are added to the polymeric granular mixture, according to the specifications of the parts to be produced.

The second phase consists of the injection process that starts with the dosing of the granulated raw material. Next, the heating process occurs until the state of plasticization, and then the material is forced under pressure into the mold, where it cools until the piece achieves the required geometry appropriate for its function. After the injection phase, the third phase begins, in which the in-wall flushing cistern and their respective components/accessories are assembled on small assembly lines, then packed and stored.

#### Modules A4-A5 (construction process stage):

- A4 - Transport to the construction site: includes the transport of the in-wall flushing cistern from the production site to the installation site, considering all countries of sale in 2022.
- A5 - Installation process: includes the impacts related to the installation of the in-wall flushing cistern in the bathroom. The installation does not require energy consumption or auxiliary materials, thus, only the transport and processing of waste discarded during the installation until it reaches the end-of-waste status, or its final disposal was considered.

**Modules B1-B7 (use stage):**

- The product use stage is not considered, thus the environmental impacts have not been evaluated. During its use, the product does not consume energy or materials, nor does it generate emissions to the environment.
- The reference service life considered for in-wall flushing cisterns coincides with the period usually considered for the building where the flushing cistern is installed. In terms of maintenance, it is possible to easily repair and replace the inlet and flush valves.
- In addition to the product having a flush valve that allows adjustment of the flush volume, the product is part of the Plus system, created by OLI, where the inlet valve delays the inflow of water into the tank to prevent extra water being used for flushing.

**Module C (end-of-life stage):**

- C1 - Deconstruction and demolition: these operations are carried out manually, thus, they do not cause environmental impacts.
- C2 - Transport of the discarded product: includes the transport of the discarded in-wall flushing cistern to the processing or final disposal site, according to average distances expected for each country where it is sold.
- C3 - Waste processing: includes the processing of the discarded internal cistern materials intended for recycling.
- C4 – Waste disposal: considers the final disposal of the discarded in-wall flushing cistern materials. The final disposal options considered were a combination of incineration, open burning, and landfilling, according to existing practices in each country.

**Module D (benefits and loads beyond the system boundary):** includes the environmental benefits and loads associated with the recycling of the following wastes:

- packaging cardboard waste generated during the production process of the cisterns (module A3);
- packaging paper and cardboard waste generated during the installation of the cisterns (module A5);
- plastics and steel in the discarded cisterns at the end-of-life (module C3).

**2.1.1 Justification for the exemption from declaration of modules C1, C2, C3, C4 and D**

Not applicable.

## 2.2. Core environmental impact indicators

### 2.2.1 OLI120 Plus Direct in-wall cistern

	Global warming potential total; GWP-total	Global warming potential fossil; GWP-fossil	Global warming potential biogenic; GWP-biogenic	Global warming potential land use and land use change; GWP-luluc	Depletion potential of the stratospheric ozone layer; ODP	Acidification potential; AP
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.	kg CFC 11 eq.	mol H <sup>+</sup> eq.
Module A1	5.36E+00	5.28E+00	7.46E-02	2.55E-03	9.22E-08	3.17E-02
Module A2	1.94E-01	1.94E-01	1.08E-04	3.65E-06	4.03E-09	4.75E-04
Module A3	1.01E+00	9.52E-01	4.12E-02	1.57E-02	2.96E-08	4.59E-03
Module A4	2.14E-01	2.14E-01	6.34E-05	6.20E-06	3.39E-09	2.22E-03
Module A5	4.16E-01	3.09E-02	3.85E-01	2.04E-05	3.76E-10	1.74E-04
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	3.61E-02	3.61E-02	1.31E-05	3.86E-06	5.42E-10	2.36E-04
Module C3	6.03E-02	5.35E-02	6.74E-03	3.14E-05	5.08E-10	1.39E-04
Module C4	2.17E+00	2.17E+00	-4.53E-05	1.19E-05	6.39E-10	5.53E-04
Module D	-3.77E-01	-4.46E-01	6.83E-02	7.24E-04	-4.08E-09	-1.53E-03

**LEGEND:**






- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.



	Eutrophication potential aquatic freshwater; EP-freshwater	Eutrophication potential aquatic marine; EP-marine	Eutrophication potential terrestrial; EP-terrestrial	Formation potential of tropospheric ozone; POCP	Abiotic depletion potential for non-fossil resources ADP-minerals&metals	Abiotic depletion potential for fossil resources potential ADP-fossil	Water (user) deprivation potential WDP
Unit	kg P eq.	kg N eq.	mol N eq.	kg COVNM eq.	kg Sb eq.	MJ, P.C.I	m3 World eq. deprived
Module A1	1.42E-04	3.54E-03	4.05E-02	1.76E-02	2.22E-04	1.52E+02	3.50E+00
Module A2	1.46E-07	1.85E-04	1.95E-03	7.69E-04	6.40E-09	2.48E+00	2.28E-03
Module A3	3.35E-05	1.56E-03	1.08E-02	3.53E-03	1.28E-07	1.50E+01	6.89E-01
Module A4	3.04E-07	6.06E-04	6.64E-03	1.94E-03	8.03E-09	2.71E+00	3.07E-03
Module A5	2.00E-07	1.29E-04	7.22E-04	3.30E-04	1.72E-09	2.83E-01	2.01E-03
Modules B1-B7	ND	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0	0
Module C2	8.35E-08	9.12E-05	9.89E-04	2.93E-04	1.72E-09	4.66E-01	6.56E-04
Module C3	7.25E-07	5.51E-05	5.60E-04	1.86E-04	2.75E-08	3.72E-01	2.75E-03
Module C4	1.83E-07	2.80E-04	2.84E-03	1.18E-03	1.01E-08	1.95E-01	1.10E-02
Module D	-6.37E-06	-2.02E-04	-2.97E-03	-1.42E-03	-3.08E-07	-1.33E+01	-1.89E-01

LEGEND:

	Product stage
	Construction process stage
	Use stage
	End-of-life stage
	Benefits and loads beyond the system boundary

Values expressed per declared unit.

"The results obtained for the indicators "Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)", "Abiotic depletion potential for fossil resources potential (ADP-fossil)" and "Water (user) deprivation potential (WDP)" should be used with caution since the uncertainties associated with them are high or there is little experience with the indicator."

## 2.2.2. OLI120 Plus Block in-wall cistern

	Global warming potential total; GWP-total	Global warming potential fossil; GWP-fossil	Global warming potential biogenic; GWP-biogenic	Global warming potential land use and land use change; GWP-luluc	Depletion potential of the stratospheric ozone layer; ODP	Acidification potential; AP
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.	kg CFC 11 eq.	mol H <sup>+</sup> eq.
Module A1	1.85E+01	1.83E+01	1.97E-01	1.82E-02	3.73E-07	1.30E-01
Module A2	3.09E-01	3.09E-01	1.72E-04	5.83E-06	6.43E-09	7.59E-04
Module A3	2.17E+00	2.15E+00	-1.29E-02	3.56E-02	6.66E-08	1.03E-02
Module A4	4.73E-01	4.73E-01	9.52E-05	1.56E-05	6.76E-09	1.05E-02
Module A5	1.76E+00	2.47E-01	1.52E+00	9.14E-05	1.04E-09	6.47E-04
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	8.04E-02	8.04E-02	3.47E-05	3.42E-05	1.11E-09	5.58E-04
Module C3	1.47E-01	1.04E-01	4.24E-02	1.24E-04	1.06E-09	4.34E-04
Module C4	8.06E+00	8.06E+00	2.49E-04	2.04E-05	2.15E-09	1.52E-03
Module D	-4.69E-01	-6.48E-01	1.76E-01	1.94E-03	-1.04E-08	-2.55E-03






**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.

	Eutrophication potential aquatic freshwater; EP-freshwater	Eutrophication potential aquatic marine; EP-marine	Eutrophication potential terrestrial; EP-terrestrial	Formation potential of tropospheric ozone; POCP	Abiotic depletion potential for non-fossil resources ADP-minerals&metals	Abiotic depletion potential for fossil resources potential ADP-fossil	Water (user) deprivation potential WDP
Unit	kg P eq.	kg N eq.	mol N eq.	kg COVNM eq.	kg Sb eq.	MJ, P.C.I	m3 World eq. deprived
Module A1	6.59E-04	1.33E-02	1.55E-01	6.79E-02	9.92E-04	4.22E+02	1.22E+01
Module A2	2.34E-07	2.95E-04	3.11E-03	1.23E-03	1.02E-08	3.96E+00	3.64E-03
Module A3	9.00E-05	3.99E-03	2.58E-02	8.26E-03	1.55E-06	3.41E+01	1.57E+00
Module A4	5.63E-07	2.67E-03	2.95E-02	7.97E-03	1.18E-08	5.83E+00	6.14E-03
Module A5	6.10E-07	4.78E-04	2.69E-03	1.32E-03	7.85E-09	8.22E-01	7.67E-03
Modules B1-B7	ND	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0	0
Module C2	2.22E-07	2.13E-04	2.31E-03	6.76E-04	4.18E-09	1.04E+00	1.66E-03
Module C3	2.02E-06	1.72E-04	1.71E-03	5.53E-04	5.33E-08	9.55E-01	5.40E-03
Module C4	5.80E-07	7.47E-04	7.81E-03	2.98E-03	4.22E-08	6.06E-01	5.88E-02
Module D	1.51E-05	-2.46E-04	-5.60E-03	-2.81E-03	-3.58E-06	-1.45E+01	-4.10E-01

**LEGEND:**

	Product stage
	Construction process stage
	Use stage
	End-of-life stage
	Benefits and loads beyond the system boundary

Values expressed per declared unit.

“The results obtained for the indicators “Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)”, “Abiotic depletion potential for fossil resources potential (ADP-fossil)” and “Water (user) deprivation potential (WDP)” should be used with caution since the uncertainties associated with them are high or there is little experience with the indicator.”

### 2.2.3. OLI120 Plus Simflex in-wall cistern

	Global warming potential total; GWP-total	Global warming potential fossil; GWP-fossil	Global warming potential biogenic; GWP-biogenic	Global warming potential land use and land use change; GWP-luluc	Depletion potential of the stratospheric ozone layer; ODP	Acidification potential; AP
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.	kg CFC 11 eq.	mol H <sup>+</sup> eq.
Module A1	1.63E+01	1.60E+01	2.88E-01	1.16E-02	3.65E-07	1.22E-01
Module A2	2.98E-01	2.97E-01	1.65E-04	5.61E-06	6.19E-09	7.30E-04
Module A3	2.34E+00	2.39E+00	-8.85E-02	4.07E-02	7.49E-08	1.14E-02
Module A4	4.39E-01	4.39E-01	1.02E-04	1.40E-05	6.59E-09	1.11E-02
Module A5	2.11E+00	3.20E-01	1.79E+00	1.05E-04	1.41E-09	7.83E-04
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	7.94E-02	7.93E-02	4.28E-05	4.34E-05	1.13E-09	5.35E-04
Module C3	1.59E-01	1.01E-01	5.87E-02	1.40E-04	1.05E-09	4.40E-04
Module C4	2.98E+00	2.98E+00	4.67E-05	1.28E-05	1.00E-09	8.75E-04
Module D	-4.14E+00	-4.41E+00	2.70E-01	3.06E-03	-8.12E-08	-1.72E-02

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.

	Eutrophication potential aquatic freshwater; EP-freshwater	Eutrophication potential aquatic marine; EP-marine	Eutrophication potential terrestrial; EP-terrestrial	Formation potential of tropospheric ozone; POCP	Abiotic depletion potential for non-fossil resources ADP-minerals&metals	Abiotic depletion potential for fossil resources potential ADP-fossil	Water (user) deprivation potential WDP
Unit	kg P eq.	kg N eq.	mol N eq.	kg COVNM eq.	kg Sb eq.	MJ, P.C.I	m3 World eq. deprived
Module A1	7.65E-04	1.37E-02	1.62E-01	7.27E-02	1.01E-03	2.97E+02	8.00E+00
Module A2	2.25E-07	2.84E-04	3.00E-03	1.18E-03	9.84E-09	3.81E+00	3.50E-03
Module A3	1.12E-04	4.86E-03	2.99E-02	9.37E-03	2.05E-06	3.74E+01	1.74E+00
Module A4	3.97E-07	2.80E-03	3.09E-02	8.31E-03	7.92E-09	5.37E+00	5.12E-03
Module A5	7.90E-07	5.67E-04	3.26E-03	1.56E-03	1.03E-08	1.06E+00	1.23E-02
Modules B1-B7	ND	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0	0
Module C2	2.20E-07	2.06E-04	2.23E-03	6.56E-04	4.09E-09	1.03E+00	1.66E-03
Module C3	1.98E-06	1.81E-04	1.74E-03	5.55E-04	3.63E-08	9.15E-01	5.17E-03
Module C4	2.36E-07	4.30E-04	4.44E-03	2.05E-03	1.48E-08	2.65E-01	2.49E-02
Module D	-1.54E-04	-3.21E-03	-4.06E-02	-2.16E-02	-3.55E-05	-5.12E+01	-8.27E-01

LEGEND:

	Product stage
	Construction process stage
	Use stage
	End-of-life stage
	Benefits and loads beyond the system boundary

Values expressed per declared unit.

"The results obtained for the indicators "Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)", "Abiotic depletion potential for fossil resources potential (ADP-fossil)" and "Water (user) deprivation potential (WDP)" should be used with caution since the uncertainties associated with them are high or there is little experience with the indicator."

## 2.2.4 OLI120 Plus Sanitarblock in-wall cistern

	Global warming potential total; GWP-total	Global warming potential fossil; GWP-fossil	Global warming potential biogenic; GWP-biogenic	Global warming potential land use and land use change; GWP-luluc	Depletion potential of the stratospheric ozone layer; ODP	Acidification potential; AP
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.	kg CFC 11 eq.	mol H <sup>+</sup> eq.
Module A1	2.48E+01	2.44E+01	3.60E-01	1.71E-02	5.57E-07	1.50E-01
Module A2	3.76E-01	3.76E-01	2.09E-04	7.09E-06	7.82E-09	9.23E-04
Module A3	2.38E+00	2.70E+00	-3.69E-01	4.46E-02	8.29E-08	1.28E-02
Module A4	2.92E+00	2.92E+00	1.55E-03	5.78E-05	5.94E-08	1.03E-02
Module A5	1.24E+00	3.81E-01	8.60E-01	2.83E-05	1.92E-09	5.99E-04
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	4.65E-02	4.64E-02	9.67E-05	7.75E-06	9.41E-10	2.19E-04
Module C3	6.25E-01	3.24E-01	3.01E-01	1.54E-04	3.42E-09	9.19E-04
Module C4	3.42E+00	3.42E+00	8.60E-05	1.50E-05	1.36E-09	6.17E-04
Module D	-8.04E+00	-8.28E+00	2.39E-01	2.85E-03	-1.61E-07	-3.22E-02






**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.

	Eutrophication potential aquatic freshwater; EP-freshwater	Eutrophication potential aquatic marine; EP-marine	Eutrophication potential terrestrial; EP-terrestrial	Formation potential of tropospheric ozone; POCP	Abiotic depletion potential for non-fossil resources ADP-minerals&metals	Abiotic depletion potential for fossil resources potential ADP-fossil	Water (user) deprivation potential WDP
Unit	kg P eq.	kg N eq.	mol N eq.	kg COVNM eq.	kg Sb eq.	MJ, P.C.I	m3 World eq. deprived
Module A1	1.13E-03	1.98E-02	2.32E-01	1.11E-01	9.94E-04	3.91E+02	1.08E+01
Module A2	2.84E-07	3.59E-04	3.79E-03	1.49E-03	1.24E-08	4.81E+00	4.43E-03
Module A3	1.25E-04	5.33E-03	3.34E-02	1.07E-02	2.50E-06	4.31E+01	1.95E+00
Module A4	2.33E-06	3.52E-03	3.76E-02	1.36E-02	9.61E-08	3.73E+01	3.48E-02
Module A5	1.01E-06	4.03E-04	2.60E-03	1.11E-03	1.32E-08	1.28E+00	1.71E-02
Modules B1-B7	ND	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0	0
Module C2	1.32E-07	9.48E-05	1.02E-03	3.21E-04	1.68E-09	6.11E-01	7.98E-04
Module C3	5.75E-06	4.94E-04	3.77E-03	1.23E-03	5.80E-08	2.48E+00	1.81E-02
Module C4	3.16E-07	3.18E-04	3.15E-03	1.11E-03	1.70E-08	3.60E-01	1.61E-02
Module D	-3.04E-04	-6.31E-03	-7.68E-02	-4.10E-02	-7.06E-05	-8.54E+01	-1.33E+00

**LEGEND:**

	Product stage
	Construction process stage
	Use stage
	End-of-life stage
	Benefits and loads beyond the system boundary

Values expressed per declared unit.

“The results obtained for the indicators “Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)”, “Abiotic depletion potential for fossil resources potential (ADP-fossil)” and “Water (user) deprivation potential (WDP)” should be used with caution since the uncertainties associated with them are high or there is little experience with the indicator.”

## 2.2.5 OLI120 Plus Freestanding in-wall cistern

	Global warming potential total; GWP-total	Global warming potential fossil; GWP-fossil	Global warming potential biogenic; GWP-biogenic	Global warming potential land use and land use change; GWP-luluc	Depletion potential of the stratospheric ozone layer; ODP	Acidification potential; AP
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.	kg CFC 11 eq.	mol H <sup>+</sup> eq.
Module A1	3.62E+01	3.56E+01	5.92E-01	2.46E-02	1.43E-06	1.97E-01
Module A2	4.47E-01	4.47E-01	2.48E-04	8.43E-06	9.29E-09	1.10E-03
Module A3	2.40E+00	2.84E+00	-4.81E-01	4.61E-02	8.52E-08	1.33E-02
Module A4	2.70E+00	2.69E+00	1.48E-03	5.13E-05	5.58E-08	7.59E-03
Module A5	1.21E+00	5.53E-01	6.55E-01	2.80E-05	2.82E-09	7.36E-04
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	6.48E-02	6.46E-02	1.43E-04	9.24E-06	1.33E-09	2.97E-04
Module C3	8.91E-01	4.40E-01	4.50E-01	1.98E-04	4.70E-09	1.27E-03
Module C4	4.96E+00	4.96E+00	1.87E-03	9.20E-05	1.46E-08	1.12E-03
Module D	-1.24E+01	-1.27E+01	2.21E-01	2.84E-03	-2.49E-07	-4.93E-02

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.



	Eutrophication potential aquatic freshwater; EP-freshwater	Eutrophication potential aquatic marine; EP-marine	Eutrophication potential terrestrial; EP-terrestrial	Formation potential of tropospheric ozone; POCP	Abiotic depletion potential for non-fossil resources ADP-minerals&metals	Abiotic depletion potential for fossil resources potential ADP-fossil	Water (user) deprivation potential WDP
Unit	kg P eq.	kg N eq.	mol N eq.	kg COVNM eq.	kg Sb eq.	MJ, P.C.I	m3 World eq. deprived
Module A1	1.60E-03	2.82E-02	3.27E-01	1.58E-01	1.12E-03	5.33E+02	1.62E+01
Module A2	3.38E-07	4.26E-04	4.50E-03	1.77E-03	1.48E-08	5.72E+00	5.26E-03
Module A3	1.35E-04	5.73E-03	3.53E-02	1.14E-02	2.56E-06	4.62E+01	2.06E+00
Module A4	2.04E-06	2.80E-03	2.97E-02	1.13E-02	8.84E-08	3.45E+01	3.17E-02
Module A5	1.08E-06	4.97E-04	3.28E-03	1.21E-03	1.41E-08	1.68E+00	3.48E-02
Modules B1-B7	ND	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0	0
Module C2	1.87E-07	1.30E-04	1.40E-03	4.42E-04	2.28E-09	8.52E-01	1.10E-03
Module C3	8.11E-06	6.99E-04	5.20E-03	1.69E-03	6.67E-08	3.43E+00	2.48E-02
Module C4	2.46E-06	4.75E-04	4.71E-03	1.38E-03	1.96E-07	1.39E+00	9.59E-01
Module D	-4.84E-04	-9.84E-03	-1.18E-01	-6.30E-02	-1.10E-04	-1.24E+02	-1.78E+00

**LEGEND:**

	Product stage
	Construction process stage
	Use stage
	End-of-life stage
	Benefits and loads beyond the system boundary

Values expressed per declared unit.






“The results obtained for the indicators “Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)”, “Abiotic depletion potential for fossil resources potential (ADP-fossil)” and “Water (user) deprivation potential (WDP)” should be used with caution since the uncertainties associated with them are high or there is little experience with the indicator.”

## 2.3. Additional environmental impact indicators

### 2.3.1 OLI120 Plus Direct in-wall cistern

	Potential incidence of disease due to PM emissions PM	Potential Human exposure efficiency relative to U235 IRP	Potential Comparative Toxic Unit for ecosystems ETP-fw	Potential Comparative Toxic Unit for humans, cancer effects HTP-c	Potential Comparative Toxic Unit for humans, not cancer effects HTP-nc	Potential soil quality index SQP
Unit	Disease incidence	kBq U 235 eq.	CTUe	CTUh	CTUh	-
Module A1	1.91E-07	1.13E-01	3.51E+01	4.15E-09	2.32E-07	7.25E+00
Module A2	1.35E-08	3.94E-04	1.25E+00	1.33E-11	2.05E-09	4.71E-03
Module A3	4.14E-08	4.17E-02	4.98E+00	1.96E-10	6.25E-09	2.99E+01
Module A4	1.22E-08	3.24E-04	1.46E+00	1.98E-11	1.93E-09	7.14E-03
Module A5	9.80E-09	1.95E-04	9.09E-01	1.81E-10	1.44E-09	3.26E-02
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	2.84E-09	7.31E-05	2.53E-01	5.54E-12	3.61E-10	2.08E-03
Module C3	5.04E-09	3.39E-04	3.72E-01	8.54E-11	7.61E-10	1.79E-02
Module C4	5.90E-08	8.30E-05	5.27E+00	1.92E-09	1.21E-08	3.35E-01
Module D	-1.77E-08	-7.45E-03	-1.07E+00	1.26E-10	-7.68E-10	-7.79E+00

**LEGEND:**

	Product stage
	Construction process stage
	Use stage
	End-of-life stage
	Benefits and loads beyond the system boundary

Values expressed per declared unit.

The impact indicator "POTENTIAL HUMAN EXPOSURE EFFICIENCY RELATIVE TO U235" focuses mainly on the possible impact of a low dose of ionising radiation on human health resulting from the nuclear fuel cycle. It does not consider effects arising from possible nuclear accidents, occupational exposure or the disposal of radioactive waste in underground facilities. Potential ionising radiation from soil, radon and some building materials is also not measured by this indicator.

The results of the indicators "POTENTIAL COMPARATIVE TOXIC UNIT FOR ECOSYSTEMS (ETP-FW)", "POTENTIAL COMPARATIVE TOXIC UNIT FOR HUMANS, CANCER EFFECTS", "POTENTIAL COMPARATIVE TOXIC UNIT FOR HUMANS, NOT CANCER EFFECTS" and "POTENTIAL SOIL QUALITY INDEX" should be used with caution as the uncertainties associated with them are high or there is little experience with the indicator.

### 2.3.2. OLI120 Plus Block in-wall cistern

	Potential incidence of disease due to PM emissions PM	Potential Human exposure efficiency relative to U235 IRP	Potential Comparative Toxic Unit for ecosystems ETP-fw	Potential Comparative Toxic Unit for humans, cancer effects HTP-c	Potential Comparative Toxic Unit for humans, not cancer effects HTP-nc	Potential soil quality index SQP
Unit	Disease incidence	kBq U 235 eq.	CTUe	CTUh	CTUh	-
Module A1	7.02E-07	2.98E-01	1.32E+02	2.17E-08	1.04E-06	3.80E+01
Module A2	2.15E-08	6.30E-04	1.99E+00	2.13E-11	3.27E-09	7.52E-03
Module A3	1.03E-07	8.66E-02	1.31E+01	6.49E-10	1.84E-08	7.68E+01
Module A4	1.77E-08	6.22E-04	3.05E+00	5.86E-11	2.94E-09	1.27E-02
Module A5	9.69E-08	3.50E-04	4.38E+00	2.47E-09	7.53E-09	1.82E-01
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	6.42E-09	1.62E-04	5.95E-01	1.20E-11	8.01E-10	5.81E-03
Module C3	1.72E-08	5.41E-04	1.25E+00	2.82E-10	2.38E-09	4.74E-02
Module C4	1.18E-07	2.46E-04	3.81E+01	4.40E-09	3.60E-08	6.81E-01
Module D	-3.27E-08	-5.78E-03	1.30E+01	2.27E-09	3.00E-08	-2.04E+01

**LEGEND:**

	Product stage
	Construction process stage
	Use stage
	End-of-life stage
	Benefits and loads beyond the system boundary

Values expressed per declared unit.

The impact indicator "POTENTIAL HUMAN EXPOSURE EFFICIENCY RELATIVE TO U235" focuses mainly on the possible impact of a low dose of ionising radiation on human health resulting from the nuclear fuel cycle. It does not consider effects arising from possible nuclear accidents, occupational exposure or the disposal of radioactive waste in underground facilities. Potential ionising radiation from soil, radon and some building materials is also not measured by this indicator.

The results of the indicators "POTENTIAL COMPARATIVE TOXIC UNIT FOR ECOSYSTEMS (ETP-FW)", "POTENTIAL COMPARATIVE TOXIC UNIT FOR HUMANS, CANCER EFFECTS", "POTENTIAL COMPARATIVE TOXIC UNIT FOR HUMANS, NOT CANCER EFFECTS" and "POTENTIAL SOIL QUALITY INDEX" should be used with caution as the uncertainties associated with them are high or there is little experience with the indicator.

### 2.3.3. OLI120 Plus Simflex in-wall cistern

	Potential incidence of disease due to PM emissions PM	Potential Human exposure efficiency relative to U235 IRP	Potential Comparative Toxic Unit for ecosystems ETP-fw	Potential Comparative Toxic Unit for humans, cancer effects HTP-c	Potential Comparative Toxic Unit for humans, not cancer effects HTP-nc	Potential soil quality index SQP
Unit	Disease incidence	kBq U 235 eq.	CTUe	CTUh	CTUh	-
Module A1	8.58E-07	2.77E-01	1.30E+02	6.07E-08	1.16E-06	3.69E+01
Module A2	2.07E-08	6.06E-04	1.92E+00	2.05E-11	3.15E-09	7.24E-03
Module A3	1.25E-07	9.20E-02	1.66E+01	7.85E-10	2.26E-08	9.48E+01
Module A4	1.42E-08	6.03E-04	2.72E+00	5.77E-11	2.36E-09	9.39E-03
Module A5	9.72E-08	5.28E-04	5.06E+00	2.40E-09	8.48E-09	1.99E-01
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	6.34E-09	1.70E-04	5.92E-01	1.19E-11	7.96E-10	5.95E-03
Module C3	1.46E-08	7.47E-04	1.21E+00	2.35E-10	2.23E-09	4.52E-02
Module C4	9.94E-08	1.15E-04	8.91E+00	3.62E-09	2.09E-08	6.00E-01
Module D	-2.70E-07	4.09E-02	-1.75E+00	3.40E-08	-7.59E-08	-4.02E+01

**LEGEND:**

	Product stage
	Construction process stage
	Use stage
	End-of-life stage
	Benefits and loads beyond the system boundary

Values expressed per declared unit.

The impact indicator "POTENTIAL HUMAN EXPOSURE EFFICIENCY RELATIVE TO U235" focuses mainly on the possible impact of a low dose of ionising radiation on human health resulting from the nuclear fuel cycle. It does not consider effects arising from possible nuclear accidents, occupational exposure or the disposal of radioactive waste in underground facilities. Potential ionising radiation from soil, radon and some building materials is also not measured by this indicator.

The results of the indicators "POTENTIAL COMPARATIVE TOXIC UNIT FOR ECOSYSTEMS (ETP-FW)", "POTENTIAL COMPARATIVE TOXIC UNIT FOR HUMANS, CANCER EFFECTS", "POTENTIAL COMPARATIVE TOXIC UNIT FOR HUMANS, NOT CANCER EFFECTS" and "POTENTIAL SOIL QUALITY INDEX" should be used with caution as the uncertainties associated with them are high or there is little experience with the indicator.

### 2.3.4. OLI120 Plus Sanitarblock in-wall cistern

	Potential incidence of disease due to PM emissions PM	Potential Human exposure efficiency relative to U235 IRP	Potential Comparative Toxic Unit for ecosystems ETP-fw	Potential Comparative Toxic Unit for humans, cancer effects HTP-c	Potential Comparative Toxic Unit for humans, not cancer effects HTP-nc	Potential soil quality index SQP
Unit	Disease incidence	kBq U 235 eq.	CTUe	CTUh	CTUh	-
Module A1	1.36E-06	4.01E-01	1.54E+02	1.09E-07	1.32E-06	4.82E+01
Module A2	2.61E-08	7.66E-04	2.42E+00	2.59E-11	3.98E-09	9.15E-03
Module A3	1.34E-07	1.03E-01	1.78E+01	1.18E-09	2.52E-08	1.24E+02
Module A4	1.98E-07	5.80E-03	1.88E+01	2.10E-10	3.02E-08	7.23E-02
Module A5	3.05E-08	1.28E-03	2.16E+00	6.21E-10	3.72E-09	1.13E-01
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	3.51E-09	2.79E-04	2.98E-01	7.78E-12	4.82E-10	3.98E-03
Module C3	2.08E-08	6.82E-03	2.10E+00	2.70E-10	4.24E-09	1.58E-01
Module C4	3.21E-08	1.84E-04	3.85E+00	1.13E-09	9.10E-09	4.55E-01
Module D	-5.05E-07	8.35E-02	-4.52E+00	6.77E-08	-1.48E-07	-4.65E+01

**LEGEND:**

	Product stage
	Construction process stage
	Use stage
	End-of-life stage
	Benefits and loads beyond the system boundary

Values expressed per declared unit.






The impact indicator "POTENTIAL HUMAN EXPOSURE EFFICIENCY RELATIVE TO U235" focuses mainly on the possible impact of a low dose of ionising radiation on human health resulting from the nuclear fuel cycle. It does not consider effects arising from possible nuclear accidents, occupational exposure or the disposal of radioactive waste in underground facilities. Potential ionising radiation from soil, radon and some building materials is also not measured by this indicator.

The results of the indicators "POTENTIAL COMPARATIVE TOXIC UNIT FOR ECOSYSTEMS (ETP-FW)", "POTENTIAL COMPARATIVE TOXIC UNIT FOR HUMANS, CANCER EFFECTS", "POTENTIAL COMPARATIVE TOXIC UNIT FOR HUMANS, NOT CANCER EFFECTS" and "POTENTIAL SOIL QUALITY INDEX" should be used with caution as the uncertainties associated with them are high or there is little experience with the indicator.

### 2.3.5. OLI120 Plus Freestanding in-wall cistern

	Potential incidence of disease due to PM emissions PM	Potential Human exposure efficiency relative to U235 IRP	Potential Comparative Toxic Unit for ecosystems ETP-fw	Potential Comparative Toxic Unit for humans, cancer effects HTP-c	Potential Comparative Toxic Unit for humans, not cancer effects HTP-nc	Potential soil quality index SQP
Unit	Disease incidence	kBq U 235 eq.	CTUe	CTUh	CTUh	-
Module A1	1.95E-06	6.06E-01	1.92E+02	1.63E-07	1.62E-06	6.85E+01
Module A2	3.11E-08	9.10E-04	2.88E+00	3.08E-11	4.73E-09	1.09E-02
Module A3	1.41E-07	1.04E-01	1.91E+01	1.30E-09	2.61E-08	1.38E+02
Module A4	1.86E-07	5.46E-03	1.73E+01	1.88E-10	2.83E-08	6.53E-02
Module A5	2.21E-08	1.45E-03	2.77E+00	3.32E-10	3.60E-09	8.41E-02
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	4.87E-09	4.10E-04	4.10E-01	1.09E-11	6.72E-10	5.66E-03
Module C3	2.81E-08	1.00E-02	2.86E+00	3.50E-10	5.80E-09	2.26E-01
Module C4	2.59E-07	1.88E-03	3.98E+01	7.22E-09	1.96E-08	5.57E-01
Module D	-7.74E-07	1.39E-01	-1.17E+01	1.06E-07	-2.44E-07	-5.54E+01

**LEGEND:**

	Product stage
	Construction process stage
	Use stage
	End-of-life stage
	Benefits and loads beyond the system boundary

Values expressed per declared unit.

The impact indicator "POTENTIAL HUMAN EXPOSURE EFFICIENCY RELATIVE TO U235" focuses mainly on the possible impact of a low dose of ionising radiation on human health resulting from the nuclear fuel cycle. It does not consider effects arising from possible nuclear accidents, occupational exposure or the disposal of radioactive waste in underground facilities. Potential ionising radiation from soil, radon and some building materials is also not measured by this indicator.

The results of the indicators "POTENTIAL COMPARATIVE TOXIC UNIT FOR ECOSYSTEMS (ETP-FW)", "POTENTIAL COMPARATIVE TOXIC UNIT FOR HUMANS, CANCER EFFECTS", "POTENTIAL COMPARATIVE TOXIC UNIT FOR HUMANS, NOT CANCER EFFECTS" and "POTENTIAL SOIL QUALITY INDEX" should be used with caution as the uncertainties associated with them are high or there is little experience with the indicator.

## 2.4. Indicators describing resource use

### 2.4.1. OLI120 Plus Direct in-wall cistern

Unit	Primary energy					
	EPR	RR	TRR	EPNR	RNR	TRNR
	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.
Module A1	3.54E+00	0	3.54E+00	1.40E+01	1.38E+02	1.52E+02
Module A2	6.51E-03	0	6.51E-03	2.48E+00	0	2.48E+00
Module A3	6.65E+00	4.05E+00	1.07E+01	1.39E+01	1.14E+00	1.50E+01
Module A4	5.03E-03	0	5.03E-03	2.71E+00	0	2.71E+00
Module A5	4.91E-03	0	4.91E-03	2.83E-01	0	2.83E-01
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	1.56E-03	0	1.56E-03	4.66E-01	0	4.66E-01
Module C3	1.21E-02	0	1.21E-02	3.72E-01	0	3.72E-01
Module C4	5.60E-03	0	5.60E-03	1.95E-01	0	1.95E-01
Module D	-1.62E+00	0	-1.62E+00	-1.33E+01	0	-1.33E+01

**LEGEND:**

	Product stage
	Construction process stage
	Use stage
	End-of-life stage
	Benefits and loads beyond the system boundary

EPR = use of renewable primary energy excluding renewable primary energy resources used as raw materials; RR = use of renewable primary energy resources used as raw materials; TRR = total use of renewable primary energy resources (EPR + RR); EPNR = use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; RNR = use of non-renewable primary energy resources used as raw materials; TRNR = total use of non-renewable primary energy resources (EPNR + RNR);

Values expressed per declared unit.

Secondary materials and fuels, and use of water				
	MS	CSR	CSNR	Net use of fresh water
Unit	kg	MJ, P.C.I.	MJ, P.C.I.	m <sup>3</sup>
Module A1	1.53E-01	-	-	5.94E-02
Module A2	0	-	-	1.04E-04
Module A3	0	-	-	1.54E-02
Module A4	0	-	-	1.22E-04
Module A5	0	-	-	7.90E-05
Modules B1-B7	ND	ND	ND	ND
Module C1	0	0	0	0
Module C2	0	-	-	2.58E-05
Module C3	0	-	-	1.04E-04
Module C4	0	-	-	4.42E-04
Module D	0	-	-	-3.16E-03

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

MS = use of secondary material; CSR = use of renewable secondary fuels; CSNR = use of non-renewable secondary fuels.  
 Values expressed per declared unit.



## 2.4.2. OLI120 Plus Block in-wall cistern

	Primary energy					
	EPR	RR	TRR	EPNR	RNR	TRNR
Unit	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.
Module A1	1.84E+01	0	1.84E+01	7.90E+01	3.43E+02	4.22E+02
Module A2	1.04E-02	0	1.04E-02	3.96E+00	0	3.96E+00
Module A3	1.23E+01	1.16E+01	2.39E+01	2.98E+01	4.26E+00	3.41E+01
Module A4	9.39E-03	0	9.39E-03	5.83E+00	0	5.83E+00
Module A5	1.17E-02	0	1.17E-02	8.23E-01	0	8.23E-01
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	3.63E-03	0	3.63E-03	1.04E+00	0	1.04E+00
Module C3	2.52E-02	0	2.52E-02	9.56E-01	0	9.56E-01
Module C4	1.32E-02	0	1.32E-02	6.06E-01	0	6.06E-01
Module D	-4.32E+00	0	-4.32E+00	-1.45E+00	0	-1.45E+00

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

EPR = use of renewable primary energy excluding renewable primary energy resources used as raw materials; RR = use of renewable primary energy resources used as raw materials; TRR = total use of renewable primary energy resources (EPR + RR); EPNR = use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; RNR = use of non-renewable primary energy resources used as raw materials; TRNR = total use of non-renewable primary energy resources (EPNR + RNR);

Values expressed per declared unit.

Secondary materials and fuels, and use of water				
	MS	CSR	CSNR	Net use of fresh water
Unit	kg	MJ, P.C.I.	MJ, P.C.I.	m <sup>3</sup>
Module A1	7.03E-01	-	-	2.59E-01
Module A2	0	-	-	1.65E-04
Module A3	0	-	-	3.59E-02
Module A4	0	-	-	2.45E-04
Module A5	0	-	-	2.78E-04
Modules B1-B7	ND	ND	ND	ND
Module C1	0	0	0	0
Module C2	0	-	-	7.07E-05
Module C3	0	-	-	2.06E-04
Module C4	0	-	-	2.03E-03
Module D	0	-	-	-8.44E-03

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

MS = use of secondary material; CSR = use of renewable secondary fuels; CSNR = use of non-renewable secondary fuels.  
 Values expressed per declared unit.

### 2.4.3. OLI120 Plus Simflex in-wall cistern

	Primary energy					
	EPR	RR	TRR	EPNR	RNR	TRNR
Unit	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.
Module A1	1.36E+01	0	1.36E+01	1.13E+02	1.84E+02	2.97E+02
Module A2	1.00E-02	0	1.00E-02	3.81E+00	0	3.81E+00
Module A3	1.16E+01	1.50E+01	2.66E+01	3.25E+01	4.88E+00	3.74E+01
Module A4	9.24E-03	0	9.24E-03	5.37E+00	0	5.37E+00
Module A5	1.61E-02	0	1.61E-02	1.06E+00	0	1.06E+00
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	3.77E-03	0	3.77E-03	1.03E+00	0	1.03E+00
Module C3	2.62E-02	0	2.62E-02	9.16E-01	0	9.16E-01
Module C4	7.01E-03	0	7.01E-03	2.65E-01	0	2.65E-01
Module D	-9.29E+00	0	-9.29E+00	-5.12E+01	0	-5.12E+01

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

EPR = use of renewable primary energy excluding renewable primary energy resources used as raw materials; RR = use of renewable primary energy resources used as raw materials; TRR = total use of renewable primary energy resources (EPR + RR); EPNR = use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; RNR = use of non-renewable primary energy resources used as raw materials; TRNR = total use of non-renewable primary energy resources (EPNR + RNR);

Values expressed per declared unit.

Secondary materials and fuels, and use of water				
	MS	CSR	CSNR	Net use of fresh water
Unit	kg	MJ, P.C.I.	MJ, P.C.I.	m <sup>3</sup>
Module A1	7.71E-01	-	-	1.66E-01
Module A2	0	-	-	1.59E-04
Module A3	0	-	-	4.07E-02
Module A4	0	-	-	2.14E-04
Module A5	0	-	-	4.39E-04
Modules B1-B7	ND	ND	ND	ND
Module C1	0	0	0	0
Module C2	0	-	-	7.40E-05
Module C3	0	-	-	2.16E-04
Module C4	0	-	-	8.53E-04
Module D	0	-	-	-1.32E-02

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

MS = use of secondary material; CSR = use of renewable secondary fuels; CSNR = use of non-renewable secondary fuels.  
 Values expressed per declared unit.

## 2.4.4. OLI120 Plus Sanitarblock in-wall cistern

	Primary energy					
	EPR	RR	TRR	EPNR	RNR	TRNR
Unit	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.
Module A1	1.82E+01	0	1.82E+01	1.94E+02	1.97E+02	3.91E+02
Module A2	1.27E-02	0	1.27E-02	4.81E+00	0	4.81E+00
Module A3	1.32E+01	1.92E+01	3.24E+01	3.66E+01	6.52E+00	4.31E+01
Module A4	9.54E-02	0	9.54E-02	3.73E+01	0	3.73E+01
Module A5	2.86E-02	0	2.86E-02	1.28E+00	0	1.28E+00
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	5.49E-03	0	5.49E-03	6.11E-01	0	6.11E-01
Module C3	1.49E-01	0	1.49E-01	2.48E+00	0	2.48E+00
Module C4	9.42E-03	0	9.42E-03	3.60E-01	0	3.60E-01
Module D	-1.18E+01	0	-1.18E+01	-8.54E+01	0	-8.54E+01

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

EPR = use of renewable primary energy excluding renewable primary energy resources used as raw materials; RR = use of renewable primary energy resources used as raw materials; TRR = total use of renewable primary energy resources (EPR + RR); EPNR = use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; RNR = use of non-renewable primary energy resources used as raw materials; TRNR = total use of non-renewable primary energy resources (EPNR + RNR);

Values expressed per declared unit.

Secondary materials and fuels, and use of water				
	MS	CSR	CSNR	Net use of fresh water
Unit	kg	MJ, P.C.I.	MJ, P.C.I.	m <sup>3</sup>
Module A1	7.47E-01	-	-	2.35E-01
Module A2	0	-	-	2.01E-04
Module A3	0	-	-	4.52E-02
Module A4	0	-	-	1.56E-03
Module A5	0	-	-	6.10E-04
Modules B1-B7	ND	ND	ND	ND
Module C1	0	0	0	0
Module C2	0	-	-	4.31E-05
Module C3	0	-	-	9.38E-04
Module C4	0	-	-	1.03E-03
Module D	0	-	-	-2.21E-02

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

MS = use of secondary material; CSR = use of renewable secondary fuels; CSNR = use of non-renewable secondary fuels.  
 Values expressed per declared unit.

## 2.4.5 OLI120 Plus Freestanding in-wall cistern

	Secondary materials and fuels, and use of water					
	EPR	RR	TRR	EPNR	RNR	TRNR
Unit	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.
Module A1	2.91E+01	0	2.91E+01	3.04E+02	2.29E+02	5.33E+02
Module A2	1.50E-02	0	1.50E-02	5.72E+00	0	5.72E+00
Module A3	1.24E+01	2.12E+01	3.36E+01	3.71E+01	9.16E+00	4.63E+01
Module A4	9.01E-02	0	9.01E-02	3.44E+01	0	3.44E+01
Module A5	3.27E-02	0	3.27E-02	1.68E+00	0	1.68E+00
Modules B1-B7	ND	ND	ND	ND	ND	ND
Module C1	0	0	0	0	0	0
Module C2	8.01E-03	0	8.01E-03	8.52E-01	0	8.52E-01
Module C3	2.16E-01	0	2.16E-01	3.43E+00	0	3.43E+00
Module C4	1.01E-01	0	1.01E-01	1.39E+00	0	1.39E+00
Module D	-1.49E+01	0	-1.49E+01	-1.24E+02	0	-1.24E+02

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

EPR = use of renewable primary energy excluding renewable primary energy resources used as raw materials; RR = use of renewable primary energy resources used as raw materials; TRR = total use of renewable primary energy resources (EPR + RR); EPNR = use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; RNR = use of non-renewable primary energy resources used as raw materials; TRNR = total use of non-renewable primary energy resources (EPNR + RNR);

Values expressed per declared unit.

Secondary materials and fuels, and use of water				
	MS	CSR	CSNR	Net use of fresh water
Unit	kg	MJ, P.C.I.	MJ, P.C.I.	m <sup>3</sup>
Module A1	4.20E-01	-	-	3.35E-01
Module A2	0	-	-	2.39E-04
Module A3	0	-	-	4.75E-02
Module A4	0	-	-	1.44E-03
Module A5	0	-	-	1.18E-03
Modules B1-B7	ND	ND	ND	ND
Module C1	0	0	0	0
Module C2	0	-	-	6.03E-05
Module C3	0	-	-	1.32E-03
Module C4	0	-	-	2.98E-02
Module D	0	-	-	-2.99E-02

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

MS = use of secondary material; CSR = use of renewable secondary fuels; CSNR = use of non-renewable secondary fuels.  
 Values expressed per declared unit.



## 2.5. Other environmental information describing different categories of waste

### 2.5.1. OLI 120 Plus Direct in-wall cistern

	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
Unit	kg	kg	kg
Module A1	-	-	-
Module A2	-	-	-
Module A3	0	8.38E-03	0
Module A4	-	-	-
Module A5	0	1.32E-01	0
Modules B1-B7	ND	ND	ND
Module C1	0	0	0
Module C2	-	-	-
Module C3	-	-	-
Module C4	0	1.91E+00	0
Module D	-	-	-

LEGEND:

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.

## 2.5.2. OLI120 Plus Block in-wall cistern

	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
Unit	kg	kg	kg
Module A1	-	-	-
Module A2	-	-	-
Module A3	0	2.51E-02	0
Module A4	-	-	-
Module A5	0	6.86E-01	0
Modules B1-B7	ND	ND	ND
Module C1	0	0	0
Module C2	-	-	-
Module C3	-	-	-
Module C4	0	4.67E+00	0
Module D	-	-	-

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.

### 2.5.3. OLI120 Plus Simflex in-wall cistern

	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
Unit	kg	kg	kg
Module A1	-	-	-
Module A2	-	-	-
Module A3	0	2.83E-02	0
Module A4	-	-	-
Module A5	0	7.85E-01	0
Modules B1-B7	ND	ND	ND
Module C1	0	0	0
Module C2	-	-	-
Module C3	-	-	-
Module C4	0	3.37E+00	0
Module D	-	-	-

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.

### 2.5.4. OLI120 Plus Sanitarblock in-wall cistern

	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
Unit	kg	kg	kg
Module A1	-	-	-
Module A2	-	-	-
Module A3	0	2.75E-02	0
Module A4	-	-	-
Module A5	0	5.04E-01	0
Modules B1-B7	ND	ND	ND
Module C1	0	0	0
Module C2	-	-	-
Module C3	-	-	-
Module C4	0	3.23E+00	0
Module D	-	-	-

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.

### 2.5.5. OLI120 Plus Freestanding in-wall cistern

	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
Unit	kg	kg	kg
Module A1	-	-	-
Module A2	-	-	-
Module A3	0	1.92E-02	0
Module A4	-	-	-
Module A5	0	5.33E-01	0
Modules B1-B7	ND	ND	ND
Module C1	0	0	0
Module C2	-	-	-
Module C3	-	-	-
Module C4	0	3.75E+00	0
Module D	-	-	-

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.

## 2.6. Other environmental information describing outflows

### 2.6.1. OLI120 Plus Direct in-wall cistern

	Components for re-use	Materials for recycling	Materials for energy recovery	Exported energy
Unit	kg	kg	kg	MJ
Module A1	-	-	-	-
Module A2	-	-	-	-
Module A3	0	4.41E-02	4.15E-03	0
Module A4			-	-
Module A5	1.44E-01	3.02E-01	0	0
Modules B1-B7	ND	ND	ND	ND
Module C1	0	0	0	0
Module C2	-	-	-	-
Module C3	0	3.14E-01	0	0
Module C4	-	-	-	-
Module D	-	-	-	-

LEGEND:

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.

## 2.6.2. OLI120 Plus Block in-wall cistern

	Components for re-use	Materials for recycling	Materials for energy recovery	Exported energy
Unit	kg	kg	kg	MJ
Module A1	-	-	-	-
Module A2	-	-	-	-
Module A3	0	1.18E-01	1.11E-02	0
Module A4			-	-
Module A5	3.13E-01	7.61E-01	0	0
Modules B1-B7	ND	ND	ND	ND
Module C1	0	0	0	0
Module C2	-	-	-	-
Module C3	0	1.03E+00	0	0
Module C4	-	-	-	-
Module D	-	-	-	-

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.

### 2.6.3. OLI 120 Plus Simflex in-wall cistern

	Components for re-use	Materials for recycling	Materials for energy recovery	Exported energy
Unit	kg	kg	kg	MJ
Module A1	-	-	-	-
Module A2	-	-	-	-
Module A3	0	1.46E-01	1.37E-02	0
Module A4	-	-	-	-
Module A5	2.71E-01	1.01E+00	0	0
Modules B1-B7	ND	ND	ND	ND
Module C1	-	-	-	-
Module C2	-	-	-	-
Module C3	0	3.81E+00	0	0
Module C4	-	-	-	-
Module D	-	-	-	-

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.



### 2.6.4. OLI 120 Plus Sanitarblock in-wall cistern

	Components for re-use	Materials for recycling	Materials for energy recovery	Exported energy
Unit	kg	kg	kg	MJ
Module A1	-	-	-	-
Module A2	-	-	-	-
Module A3	0	2.43E-01	2.29E-02	0
Module A4		-	-	-
Module A5	1.98E+00	1.49E+00	0	0
Modules B1-B7	ND	ND	ND	ND
Module C1	0	0	0	0
Module C2	-	-	-	-
Module C3	0	8.18E+00	0	0
Module C4	-	-	-	-
Module D	-	-	-	-

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.

### 2.6.5. OLI 120 Plus Freestanding in-wall cistern

	Components for re-use	Materials for recycling	Materials for energy recovery	Exported energy
Unit	kg	kg	kg	MJ
Module A1	-	-	-	-
Module A2	-	-	-	-
Module A3	0	3.55E-01	3.05E-02	0
Module A4			-	-
Module A5	2.47E+00	1.62E+00	0	0
Modules B1-B7	ND	ND	ND	ND
Module C1	0	0	0	0
Module C2	-	-	-	-
Module C3	0	1.21E+01	0	0
Module C4	-	-	-	-
Module D	-	-	-	-

**LEGEND:**

- Product stage
- Construction process stage
- Use stage
- End-of-life stage
- Benefits and loads beyond the system boundary

Values expressed per declared unit.

## 2.7. Information describing the biogenic carbon content at the factory gate

Biogenic carbon content*	Units**	Modules A3 (results)
Biogenic carbon content in product	kg C	Not applicable
Biogenic carbon content in accompanying packaging - OLI 120 Plus Direct in-wall cistern	kg C	0.189
Biogenic carbon content in accompanying packaging - OLI 120 Plus Block in-wall cistern	kg C	0.494
Biogenic carbon content in accompanying packaging - OLI 120 Plus Simflex in-wall cistern	kg C	0.584
Biogenic carbon content in accompanying packaging - OLI 120 Plus Plusblock in-wall cistern	kg C	1.300
Biogenic carbon content in accompanying packaging - OLI 120 Plus Freestanding in-wall cistern	kg C	1.531
* 1 kg biogenic carbon is equivalent to 44/12 kg of CO <sub>2</sub> . Values expressed per declared unit.		

### 3. SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

#### 3.1. A4 Transport to the building site – Construction process stage

Parameter	Unit	Results expressed per declared unit				
		OLI120 Plus Direct	OLI120 Plus Block	OLI120 Plus Simflex	OLI120 Plus Sanitarblock	OLI120 Plus Freestanding
Vehicle type	-	Road transport: truck >32 t, class EURO 5 * Maritime transport: container ship				
Distance	-	Weighted average distance between the place of production and the capitals of countries or regions of sale				
Container capacity	-	Truck: 15.96 t (return trip with load) Ship: 36,000 t dead weight (return journey with load)				
* Directive 2007/37/EC (European Emission Standard)						

#### 3.2. A5 Installation of the product in the building – Construction process stage

Parameter	Unit	Results expressed per declared unit				
		OLI120 Plus Direct	OLI120 Plus Block	OLI120 Plus Simflex	OLI120 Plus Sanitarblock	OLI120 Plus Freestanding
Ancillary materials for installation (specified by material)	kg	0				
Water use	m <sup>3</sup>	0				
Other resource use	kg	0				
Quantitative description of energy type (regional mix) and consumption during the installation process	kWh ou MJ	0				
Waste of materials on the building site before waste processing, generated by the product's installation (specified by type)	kg	Plastic, cardboard, paper, wood: 0.434	Plastic, cardboard, paper, wood: 1.45	Plastic, cardboard, paper, wood: 1.79	Plastic, cardboard, paper, wood: 2.00	Plastic, cardboard, paper, wood: 2.15
Output materials (specified by type) as result of waste processing at the building site e.g. of collection for recycling, for energy recovery, disposal (specified by route)	kg	Wood for reuse: 0.144	Wood for reuse: 0.313	Wood for reuse: 0.271	Wood for reuse: 1.98	Wood for reuse: 2.47
Direct emissions to ambient air, soil and water	kg	0				

### 3.3. C2 Transport – End of life of the product

Parameter	Unit	Results expressed per declared unit				
		OLI120 Plus Direct	OLI120 Plus Block	OLI120 Plus Simflex	OLI120 Plus Sanitarblock	OLI120 Plus Freestanding
Vehicle type and distance	-	Ecoinvent data obtained from the transport component present in “Market” type processes referring to the final disposal processes of the various materials involved, for different countries.				

### 3.4. C3 Waste processing for reuse, recovery and/or recycling – End of life of the product

Parameter	Unit	Results expressed per declared unit				
		OLI120 Plus Direct	OLI120 Plus Block	OLI120 Plus Simflex	OLI120 Plus Sanitarblock	OLI120 Plus Freestanding
Material for re-use	kg	0	0	0	0	0
Material for recycling	kg	0.314	1.03	3.81	8.18	12.1
Material for energy recovery	kg	0	0	0	0	0

### 3.5. C4 Disposal – End of life of the product

Parameter	Unit	Results expressed per declared unit				
		OLI120 Plus Direct	OLI120 Plus Block	OLI120 Plus Simflex	OLI120 Plus Sanitarblock	OLI120 Plus Freestanding
Material for final deposition	kg	1.91	4.67	3.37	3.23	3.75

### 3.6. Scenario and technical information for module D

Parameter	Unit	Results expressed per declared unit				
		OLI120 Plus Direct	OLI120 Plus Block	OLI120 Plus Simplex	OLI120 Plus Sanitarblock	OLI120 Plus Freestanding
Net output flow specified per material	kg	Cardboard/paper: 0.0805 Plastics: 0.209 Steel: 0.0191	Cardboard/paper: 0.207 Plastics: 0.207 Steel: 0.301	Cardboard/paper: 0.359 Plastics: 0.305 Steel: 2.80	Cardboard/paper: 0.366 Plastics: 0.334 Steel: 5.57	Cardboard/paper: 0.397 Plastics: 0.351 Steel: 8.67
Avoid production	kg	Cardboard: 0.0744 Plastics: 0.183 Steel: 0.0169	Cardboard: 0.191 Plastics: 0.176 Steel: 0.267	Cardboard: 0.332 Plastics: 0.260 Steel: 2.48	Cardboard: 0.338 Plastics: 0.284 Steel: 4.93	Cardboard: 0.363 Plastics: 0.298 Steel: 7.67
Location of end-of-waste point	-	At the waste operator's facilities				
Point of functional equivalence	-	At the point of functional equivalence, 1 kg of steel or cardboard produced from secondary material replaces 1 kg of steel or cardboard produced from primary material; 1 kg of plastic produced from secondary material replaces 0.9 kg of plastic produced from primary material.				

#### 4. REFERENCES

- ✓ General Instructions of the DAPHabitat System, Version 2.1, Edition August 2023 (in [www.daphabitat.pt](http://www.daphabitat.pt));
- ✓ PCR – basic model for construction products and services. DAPHabitat System. Version 2.3, August 2023 (in [www.daphabitat.pt](http://www.daphabitat.pt));
- ✓ ISO 14025:2009 Environmental declarations and labels – Type III environmental declarations – Principles and procedures;
- ✓ EN 15804:2012+A2:2019 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products;
- ✓ EN 15942:2021 Sustainability of construction works – Environmental product declarations – Communication format business-to-business.