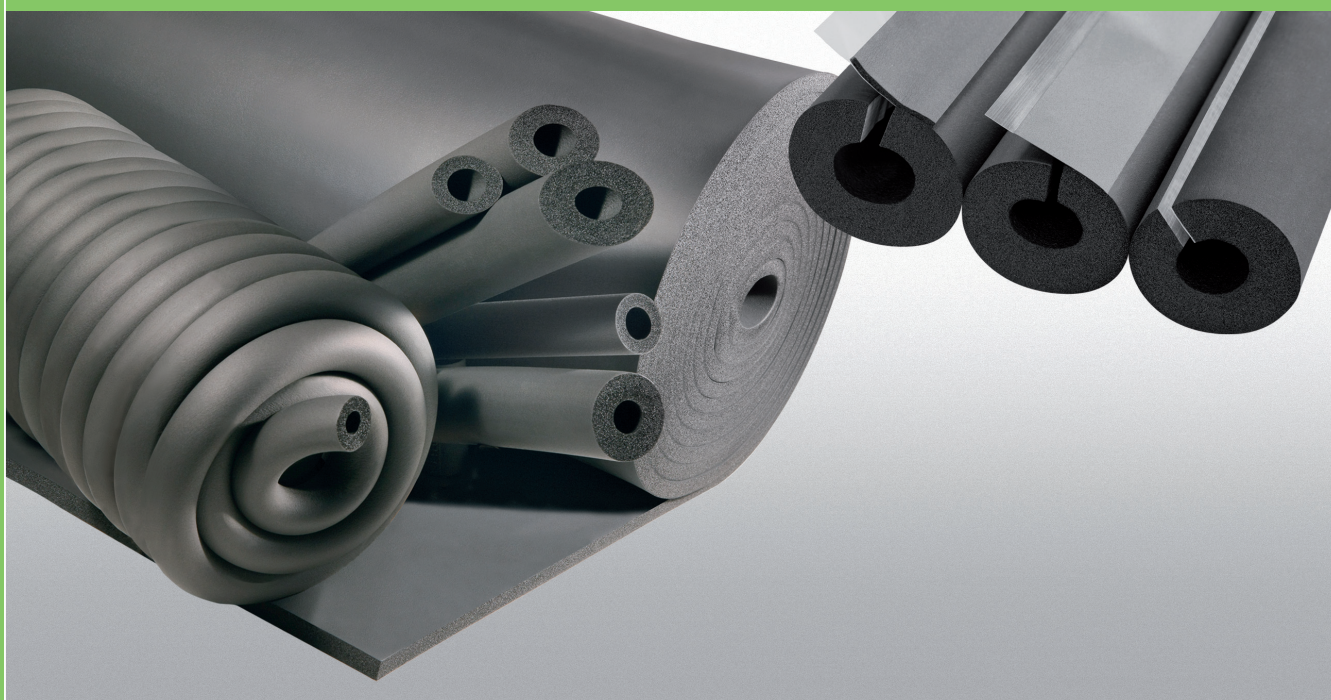




EPD ENVIRONMENTAL PRODUCT DECLARATION

<i>Product Name:</i>	IT-FLEX C1
<i>Site Plant:</i>	Evocell&Mobius S.r.l. Via D. Albertario 63/65 - Zona Industriale Bellocchi 61032 Fano (PU) - ITALIA
<i>Program Operator:</i>	EPD Italy www.epditaly.it
<i>Publisher:</i>	EPD Italy www.epditaly.it
<i>Declaration Number:</i>	V. 05 of 2020-02-24
<i>Epd Registration N°:</i>	EPDITALY0094
<i>ECO EPD Registration N°:</i>	00001183
<i>Issue Date:</i>	24-02-2020
<i>Valid to:</i>	24-02-2025

In compliance with ISO 14025 and EN 15804





EPD REFERENCES	
EPD OWNER	EVOCELL&MOBIUS S.r.l, Via Manzoni 43 – 20121, Milano (MI)
REFERENCE SITE PLANT	Via Davide Albertario, 63/65 – 61032, Fano (PU)
PROGRAM OPERATOR	EPD Italy
INDEPENDENT VERIFICATION	<p>This declaration has been carried out according to the general programme instructions provided by EPD Italy.</p> <p>Independent verification of the declaration according to ISO 14025:2010 <input type="checkbox"/> Internally <input checked="" type="checkbox"/> externally</p> <p>Third party independent verification carried out by : ICMQ SpA, via De Castillia, 10 - 20124 Milano (www.icmq.it).</p> <p>Accredited by Accredia.</p>
APPLICATION	<p>This document refers to the IT-FLEX C1 product produced by EVOCELL&MOBIUS S.r.l in the Fano (PU) Italy manufacturing plant.</p> <p>The unit chosen for the EPD under investigation is 1 m³ of product for thermal insulation with the brand IT-FLEX C1. The necessary data drawnup for the EPD declaration refer to the year 2019 production.</p>
UNCPC CODE	3623, Tubes, pipes and hoses of vulcanized rubber other than hard rubber
PCR AND REGULATIONS	<p>This declaration has been carried out according to the general programme instructions rev. 4.0 dated 03/06/2019 available on the website www.epditaly.it.</p> <p>PCR ICMQ-001/15 rev 2.1 Construction products and construction services, EPD Italy. Date of issue: 03/06/2019.</p> <p>The regulation EN 15804:2012 – Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products – is the reference framework for this PCR.</p>
COMPARABILITY	Declarations published within the same product category, but belonging to different programmes, may not be comparable. In particular, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to the EN 15804 regulation.
LIABILITY	EVOCELL&MOBIUS S.r.l releases EPD Italy from any liability in case of any breach of environmental legislation. The owner of the declaration shall be liable for the underlying information and evidences; EPD Italy shall not be liable with respect to the manufacturer's information, to the life cycle assessment data and evidences.
CONTACTS	
COMPANY CONTACT	<p>EVOCELL&MOBIUS S.r.l Via D. Albertario, 63/65 Zona industriale Bellocchi 61032 Fano (PU) - ITALIA Tel. +39 0721 855099 - Fax +39 0721 854999 info@evocellmobius.it www.evocellmobius.it</p>
TECHNICAL CONTACT	Rossella Luglietti, LCA studio referent, Greenwich S.r.l., operating address: Via Presolana 2/4, 24030, Medolago (BG); legal address via Vittorio Emanuele II, 179, 24033 Calusco d'Adda – Bergamo. info@greenwichtsr.it



COMPANY

“Elastomer technological evolution”

This is the motto that interprets the company’s philosophy that, for over 25 years, is engaged and specialized in the research, experimentation, production and commercialisation of elastomeric insulation products and elastomeric insulation systems. Our products are suited to meet all thermal and acoustic insulation problems linked to the technical components of civil and industrial buildings taking into consideration the indoor comfort, safety, saving and a more rational use of traditional energy sources.

Quality management system

The factory abides to the ISO 9001:2015 quality management system requirements. The whole manufacturing process is carried out in compliance to the relevant legal requirements and procedures.

 CSI <small>CERTIFICAZIONE E TESTING</small>	Mod. M06-6				
CSI SpA Sede Legale 20030 Senago - MI - I Cascina Traversagna 21 Direzione, Uffici e Laboratori 20021 Bollate - MI - I Viale Lombardia 20 Tel. +39 02 383301 Fax +39 02 3503940 www.csi-spa.com					
 <small>ISTITUTO ITALIANO DI ACCREDITAMENTO</small>	<table border="1"> <tr> <td>Certificato n°: Certificate n.:</td> <td>SQ113451</td> <td>Settore EA: EA Sector:</td> <td>14 - 29</td> </tr> </table>	Certificato n°: Certificate n.:	SQ113451	Settore EA: EA Sector:	14 - 29
Certificato n°: Certificate n.:	SQ113451	Settore EA: EA Sector:	14 - 29		
<p>Si certifica che il sistema di gestione per la qualità di / we hereby certify that the quality management system operated by</p> <p style="text-align: center;">EVOCELL&MOBIUS SRL</p> <p style="text-align: center;">Sede legale / Registered office</p> <p style="text-align: center;">Via A. Manzoni, 43 - 20121 Milano (MI) - Italia</p> <p style="text-align: center;">Unità operativa di / Place of business</p> <p style="text-align: center;">Via D. Albertario, 63/65 - Z.I. Bellocchi - 61032 Fano (PU) - Italia</p>					
<p>È conforme alla norma: Is compliance with the standard: UNI EN ISO 9001:2015</p> <p>Per i seguenti servizi / processi / prodotti – Concerning the following services / processes / products</p> <p style="text-align: center;">Produzione di tubi in materiale espanso e commercializzazione di accessori complementari prodotti da terzi.</p>					
<p><small>Il presente certificato è soggetto al rispetto del regolamento di CSICERT per la certificazione dei sistemi di gestione per la qualità delle organizzazioni. Riferirsi alla documentazione del sistema di gestione per i dettagli delle eventuali esclusioni dei requisiti della UNI EN ISO 9001:2015. Per informazioni puntuali e aggiornate circa eventuali variazioni intervenute nello stato di validità della certificazione di cui al presente certificato, si prega di contattare CSI S.p.A.</small></p> <p><small>This certificate is subject to the compliance with CSICERT regulation for the organization of quality management systems certification. Refer to the management system documentation for details on UNI EN ISO 9001:2015 requirements exclusions. For updated information related to validity status of the certification within this certificate, please take in contact CSI spa.</small></p>					
21/11/2011 Rilascio <i>Issued</i>	20/11/2017 Rinnovo <i>Renewal</i>	14/04/2019 Aggiornamento <i>Update</i>	20/11/2020 Scadenza <i>Expiry</i>		
<p>Ing. P. Baldazzi</p> <p>B. U. Sistemi di Gestione B. U. Management Systems</p>		<p style="text-align: right;">Data: 2019.04.15 14:02:24 +02'00'</p> <p style="text-align: right;">1 di 1</p>			
<p><small>GRUPPO</small> IMQ</p>		<p style="text-align: right;">Pagina/page</p>			


PRODUCT DESCRIPTION

IT-FLEX C1 is a flexible closed-cell elastomeric foam material (FEF), CFC and HCFC free, which does not contain dust, fibres or dangerous substances. This extruded thermal insulation product is produced in compliance with the EN 14304 requirements.

The use of the IT-FLEX C1 can be divided into two main categories:

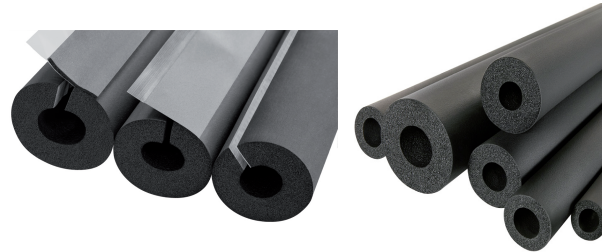
-Insulating pipes, with or without adhesive, also available in continuous rolls with diameters from 6 to 170 mm and thickness from 6 to 60 mm;

-Sheets in plates or rolls, with or without adhesive, with thickness from 6 to 60 mm.

IT-FLEX C1 can be applied as a thermal insulation of HVAC and industrial refrigeration systems.

The following products are the subject of the declaration:

- IT-FLEX C1 Insulating pipe;
- IT-FLEX C1 slit pipe;
- IT-FLEX C1 AD2 slit self-adhesive pipe;
- IT-FLEX C1 AD2 OG slit pipe with rubber foam Overlap;
- IT-FLEX C1 OP slit pipe with PVC Overlap
- IT-FLEX C1 sheets in rolls
- IT-FLEX C1 self-adhesive sheets in rolls



The main technical characteristics of the IT-FLEX C1 products are listed in the following table:

Technical information	Reference data	Test standards
SERVICE TEMPERATURES		
Maximum temperature of transported fluids	+ 110 °C	EN 14706 - 14707
Minimum temperature of transported fluids	- 45 °C *	
THERMAL CONDUCTIVITY λ	Sheets, tapes, tubes 6-25 mm at 0 °C $\lambda \leq 0,034 \text{ W/m}\cdot\text{K}$ at 20 °C $\lambda \leq 0,036 \text{ W/m}\cdot\text{K}$ at 40 °C $\lambda \leq 0,038 \text{ W/m}\cdot\text{K}$ Tubes 32-60 mm at 0 °C $\lambda \leq 0,036 \text{ W/m}\cdot\text{K}$ at 20 °C $\lambda \leq 0,038 \text{ W/m}\cdot\text{K}$ at 40 °C $\lambda \leq 0,040 \text{ W/m}\cdot\text{K}$	EN ISO 8497 - EN 12667
RESISTANCE TO THE VAPOUR WATER DIFFUSION μ	Sheets 6-25 mm; Tubes 6-19 mm $\mu \geq 10000$ Sheets 30-50 mm; Tubes 25-60 mm $\mu \geq 7000$	EN 13469 - EN 12086
REACTION TO FIRE	EUROCLASS { TUBES B _L - s2, d0 SHEETS B - s3, d0 SHEETS 60 mm: E TAPE B - s2, d0 USA UL VO up to thk. 13 mm UK CLASS 1 UK CLASS 0	EN 13501 - 1 BS 476 : PART 6 - BS 476 : PART 7
LOW FLAME SPREAD	MEETS TEST REQUIREMENTS	Directive MED 96/98/EC - Module D - Module B
CORROSION RISK	MEETS TEST REQUIREMENTS	EN 13468
OZONE RESISTANCE	EXCELLENT	ISO 7325
UV RESISTANCE	GOOD	UNI ISO 4892 - 2
DIMENSIONAL TOLERANCES	In accordance with table 1 - European Standard EN 14304	



PRODUCT COMPOSITION

IT-FLEX C1 consist in a mix of raw materials that can be divided into functional substance groups summarised in the following table:

Component	Weight per Declared Unit
Polymers	25%
Ancillary additives	5%
Plasticisers	20%
Flame retardant	35%
Blowing and cross-linking agents	15%

All articles manufactured by Union Foam do not contain SVHC substances (Substance of Very High Concern for Authorisation) in a concentration greater than the limit established in the List of Substances SVHC (Candidate List of SVHC).

DESCRIPTION OF THE MANUFACTURING PROCESS

EVOCELL&MOBIUS S.r.l manufacturing process for the **IT-FLEX C1**, can be summarised in the following steps:

- Mixing: the raw materials are mixed up according to the recipe, in order to obtain a homogeneous rubber compound that will be tested in our quality control laboratory.
- Extrusion: the extruding machines are used to process the rubber compound into different shapes (pipes or sheets) to obtain the final product.
- Vulcanisation and blowing: the extruded product passes inside an oven with multiple sections. The characteristics of the final product are determined by the recipe and the temperature of this process.
- Stamping, cutting, packaging: the final product is stamped, cut to length and packaged according to the production specifications.

PRODUCT INSTALLATION

IT-FLEX C1, is installed by using knives with a long or short blade. In the case of products with adhesives the information given in the relevant safety data sheets is to be heeded.

The specific recommendations to be heeded for the different type of application of the **IT-FLEX C1** are described in the application manual (more details under the website www.evocellmobius.it).

PACKAGING

IT-FLEX C1 products are packaged in suitable cardboard boxes according to their size and shape then transported on reusable pallets .The cardboard boxes can be recycled. Only large size products (eg Sheet rolls in large sizes) are packaged into PE bags.

CONDITION OF USE - SERVICE LIFE

IT-FLEX C1 is considered a long-lasting product. When used and installed properly it maintains its characteristics and it can have a service life of more than 50 years.

RE-USE PHASE

IT-FLEX C1, if properly removed, can be re-used to produce the EVOSOUND OC. a sound and anti-impact isolation product (more details under the website www.evocellmobius.it).


METHODOLOGY

The methodology used is the Life Cycle Assessment (LCA), an international, standardised and comprehensive methodology that evaluates the environmental impacts through the life cycle of a product. "LCA addresses the environmental aspects and potential environmental impacts (e.g. use of resources and the environmental consequences of releases) throughout a product's life cycle from raw material acquisition through production, use, end-of-life treatment, recycling and final disposal (i.e. cradle-to-grave). [ISO 14040:2006 and ISO 14044:2006]

SCOPE

The scope of the assessment considers the product's life cycle from the supply of raw materials up to the sale of the product, according to the approach from cradle to gate, also including transport from suppliers to the production site. Modules A1-A3 are included in the EPD procedure, which consider the processes of production and consumption of energy and materials in the system considered (A1), transport to the factory gate (A2), manufacturing processes, as well as the treatment of waste produced during the production process (A3). Table 1 lists, with a "X" the modules contained in the analysis, and with the wording MND the modules not declared.

BUILDING LIFE CYCLE ASSESSMENT															
Production stage			Construction process stage		Use stage							End of Life stage			
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Table 1: Modules under investigation, with the approach from Cradle to Gate.



Figure 1 presents the summary of the processes included in each phase of the life cycle. As already indicated in the previous table, the downstream phases have not been included.

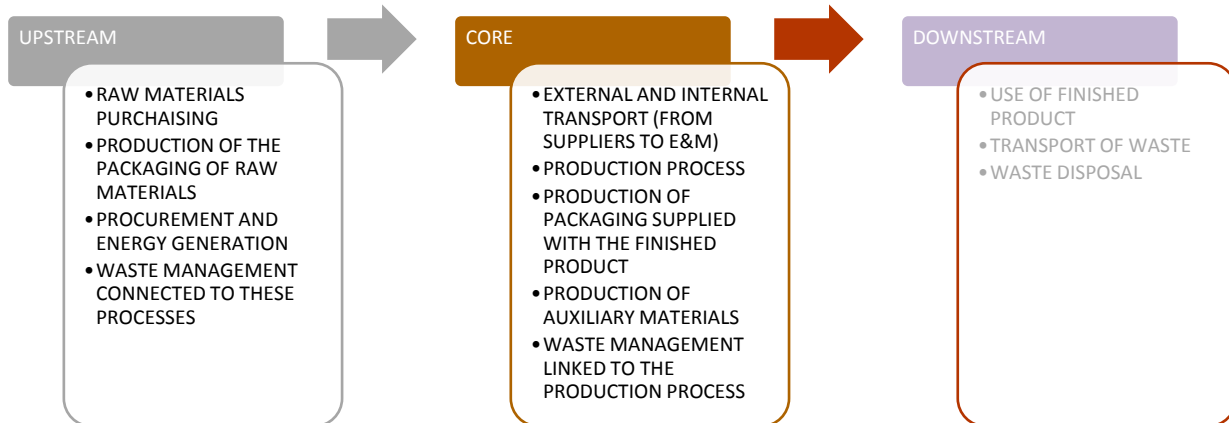


Figure 1: Product's life cycle description

Type of EPD	The EPD developed is from cradle to gate. gate).
Geographic validity	The environmental impacts has been calculated for the production site of Evocell & Mobius srl in Fano (PU) Italy. The reference market is global.
Database:	Ecoinvent 3.5
Software:	SimaPro 9.0.0.49

Declared unit

The unit chosen for the EPD under investigation is 1 m³ of product for thermal insulation with the brand **IT-FLEX C1**.

This unit is chosen to take into consideration first the different densities of the individual families, second the variability of the densities of the products themselves. The declared unit has been chosen because it does not refer to the specific function of the product.

The results are valid for all products included in the **IT-FLEX C1** Family since the resulting impacts remain within the ± 10% range, as required by the PCR

Assumptions

As regards the energy calculation, the total amount consumed for the production process has been chosen, including those processed supplied to third suppliers, under the control of Evocell&Mobius.

The weight of the individual families derives from the sum of each material before the final extrusion.

The mass balance data has been collected from different sources and the processed raw materials have been analysed. This analysis has been calculated separately from the production of different brands produced in 2019.



Cut-off rules

The cut-off rules has been used due to some hypothesis and simplification during data collection. In particular, the information related to the mass balance of the products under analysis concerned approximately 98% of the total. This assumption did not lead to a significant impact change, since the products excluded mainly consist of inert elements, with no effect on the final impacts. In addition, some auxiliary materials used in the production process have been excluded from the study. These simplifications respect the rules defined by the PCR standard used.

Data quality

The data collected about weight, mass balance, raw materials, waste and production process are site-specific. In addition. All the data related to the purchasing of raw materials, energy supply, type of transports are from the Ecoinvent 3.5 database.

The accuracy of the electricity and thermal energy data takes into consideration that the plant supplies the energy required through the national energy network, and therefore the Italian "Energy mix" is adopted as per Ecoinvent database.

With regard to statistical data, the following criteria has been applied throughout the analysis:

- Geographical equivalence, for example, considering system similar to Italian standard or at most European systems;
- Technological equivalence, considering comparable technological systems through literature searches;
- Equivalence with respect to system boundaries, considering systems that take into consideration similar inputs and outputs and similar phases.

In addition, proxy data has been used for some materials of the mass balance, that were not possible to model accurately with the Ecoinvent database. Proxy data were however used for a value less than 3% of the mass balance.

Period under consideration

The site-specific data refer to the year of production 2019.

Allocation

The allocation has been done considering 1 m³ of **IT-FLEX C1** foam rubber, calculated on the basis of the sales of 2019.

REFERENCE SCENARIO

As reported in the PCR reference document, the raw material procurement (UPSTREAM), transport and internal production (CORE PROCESS) phases were considered, leaving out the distribution, use and disposal phases (DOWNSTREAM).

For the upstream phases, all impacts due to the production and supply of raw materials were analysed (Module A1) and includes:

- the extraction and processing of the raw materials contained in the expanded rubbers;
- the production of energy used;
- the production and energy supplied for the extraction and transformation of the raw material.

For the Core phase, modules A2 and A3 have been analysed which include:

- external and internal transport within the company
- the production of **IT-FLEX C1** family
- the production of the packaging for the finished products
- the production of the auxiliary materials necessary to obtain the finished products
- The management of waste related to the production process.


RESULTS

The following tables summarize the final impacts. It should be noted that the results are reported as an average of the IT FLEX C1 product range, taking into account the different thicknesses and densities, including both pipes and sheets, and any finishes with adhesives and PVC strips. This assumption is allowed, as the results are included within the $\pm 10\%$ range, both for products with high thickness and density, and for those with reduced thickness and density.

ENVIRONMENTAL IMPACT PER DECLARED UNIT

IMPACTS (ModulesA1-A3)		AVERAGE PRODUCT			
IMPACT CATEGORY	Unit	A1	A2	A3	TOTAL
GWP	kg CO ₂ eq	180,65	4,88	17,24	202,77
ODP	kg CFC-11 eq	4,12E-05	9,06E-07	1,89E-06	4,40E-05
POCP	kg C ₂ H ₄ eq	5,23E-02	8,02E-04	4,62E-03	5,77E-02
AP	kg SO ₂ eq	1,15	1,90E-02	6,14E-02	1,23
EP	kg PO ₄ ³⁻ eq	0,55	4,49E-03	5,41E-02	0,61
ADPE	kg Sb eq	4,33E-03	1,47E-05	3,34E-05	4,37E-03
ADPF	MJ	2.959,62	74,36	212,91	3.246,89

Table 2: Environmental impact results of the IT FLEX C1 average product

Caption: GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources


RESOURCE USE PER DECLARED UNIT

IMPACTS (Modules A1-A3)		AVERAGE PRODUCT			
IMPACT CATEGORY	Unit	A1	A2	A3	TOTAL
PERE	MJ	253,97	0,80	214,15	468,91
PERM	MJ	-	-	-	-
PERT	MJ	253,97	0,80	214,15	468,91
PENRE	MJ	3.656,94	79,43	265,02	4.001,39
PENRM	MJ	-	-	-	-
PENRT	MJ	3.656,94	79,43	265,02	4.001,39
SM	Kg	1,12	0,01	6,91	8,04
RSF	MJ	-	-	-	-
NRSF	MJ	-	-	-	-
FW	m ³	2,47E-01	1,33E-03	2,32E-03	2,51E-01

Table 3: Resource usage per IT FLEX C1 average product.

Caption: PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water


OUTPUT FLOWS AND WASTE CATEGORIES PER DECLARED UNIT

IMPACTS (modulesA1-A3)		AVERAGE PRODUCT			
IMPACT CATEGORY	Unit	A1	A2	A3	TOTAL
HWD	Kg	4,03E-03	4,77E-05	2,94E-04	4,37E-03
NHWD	Kg	26,76	3,55	5,13	35,44
RWD	Kg	9,31E-03	5,11E-04	8,51E-04	1,07E-02
CRU	Kg	-	-	0,57	0,57
MFR	Kg	2,44E+00	1,03E-02	1,70E+01	19,40
MER	Kg	9,41E-05	1,41E-06	3,23E-06	9,88E-05
EEE	MJ	-	-	-	-
EET	MJ	-	-	-	-

Table 4: Results of output flows for the IT FLEX C1 average product.

Caption: HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy

The results of the impact assessment report relative information and are not able to predict future impacts on the final value of the category, the exceeding of any thresholds, safety margins or risks.



REFERENCES

- [1] UNI EN ISO 14040: 2006, Environmental management– Life cycle assessment– Principles and framework.
- [2] UNI EN ISO 14044: 2006, Environmental management - Life cycle assessment - Requirements and guidelines.
- [3] UNI EN ISO 14025:2010, Environmental labels and declarations- Type III environmental declarations - Principles and procedures
- [4] UNI EN 15804:2012, Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.
- [5] PCR ICMQ-001/15 rev 2.1 Construction products and Construction services, EPD Italy. Date of issue: 03/06/2019.
- [6] EPD Italy Regulation rev. 4.0 dated 03/06/2019