

FAN COILS

PRODUCT GROUP CLASSIFICATION: UN CPC 43912

C-PCR-XXX (TO PCR 2019:14)

DRAFT VERSION FOR OPEN CONSULTATION. DO NOT USE OR CITE.

A photograph of several tall tower cranes at a construction site, set against a clear blue sky with a few wispy clouds. The cranes are made of metal lattice and have long horizontal jibs. A white rectangular box is overlaid on the center of the image, containing the text 'DRAFT FOR OPEN CONSULTATION'.

**DRAFT FOR OPEN
CONSULTATION**

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INTRODUCTION TO OPEN CONSULTATION

This draft complementary PCR (c-PCR) is available for open consultation from 2023-08-11 until 2023-10-10. Feel free to forward the draft to any other stakeholder you might think is relevant, including colleagues and other organisations.

We are interested in comments from stakeholders on:

- General
 - o Alignment with PCRs available in other programmes for type III environmental declarations, industry-specific LCA guides or similar.
- Scope of PCR
 - o Product category definition and description
 - o Classification of product category using CPC codes
- Goal and scope, life cycle inventory and life cycle impact assessment
 - o Functional unit/declared unit
 - o System boundary
 - o Allocation rules
 - o Data quality requirements
 - o Examples of databases for generic data
 - o Impact categories and impact assessment methodology
- Additional information

Comments may be sent directly to the PCR Moderator (contact details available in Section 1). There is a template for comments on www.environdec.com that may be used.

For questions about the PCR, please contact the PCR moderator. For general questions about the International EPD® System, EPD or PCR development, please contact the Secretariat via pcr@environdec.com.

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1 INTRODUCTION

1.1 GENERAL

This document constitutes complementary Product Category Rules (c-PCR) developed in the framework of the International EPD® System: a programme for type III environmental declarations¹ according to ISO 14025:2006, ISO 14040:2006, ISO 14044:2006, and product-specific standards such as EN 15804 and ISO 21930 for construction products. Environmental Product Declarations (EPD) are voluntary documents for a company or organisation to present transparent, consistent and verifiable information about environmental performance of their product (goods or services).

The rules for the overall administration and operation of the programme are the General Programme Instructions (GPI), publicly available at www.environdec.com. PCRs and c-PCRs complement the GPI and the normative standards by providing specific rules, requirements and guidelines for developing an EPD for one or more specific product categories (see Figure 1). A PCR/c-PCR should enable different practitioners using the PCR/c-PCR to generate consistent results when assessing products of the same product category.

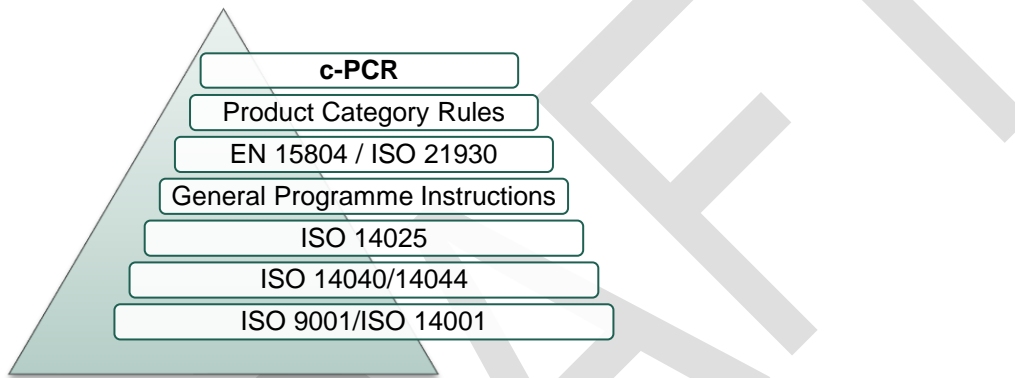


Figure 1 This c-PCR in relation to the hierarchy of standards and other documents.

Within the present c-PCR, the following terminology is adopted:

- The term “shall” is used to indicate what is obligatory, i.e. a requirement.
- The term “should” is used to indicate a recommendation, rather than a requirement. Any deviation from a “should” requirement shall be justified in the PCR development process.
- The terms “may” or “can” is used to indicate an option that is permissible.

For definitions of further terms used in the document, see the normative standards.

A PCR and its c-PCRs are valid for a pre-determined period of time to ensure that it is updated at regular intervals. The latest version of the PCR and its c-PCRs are available at www.environdec.com. Stakeholder feedback on PCRs and c-PCRs is very much encouraged. Any comments on this c-PCR may be sent directly to the PCR Moderator and/or the Secretariat during its development or during its period of validity.

Any references to this document shall include the PCR registration number, name and version.

The programme operator maintains the copyright of the document to ensure that it is possible to publish, update, and make it available to all organisations to develop and register EPDs. Stakeholders participating in c-PCR development should be acknowledged in the final document and on the website.

¹ Type III environmental declarations in the International EPD® System are referred to as EPD, Environmental Product Declarations.

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1.2 ROLE OF THIS DOCUMENT

This document provides complementary product category rules (c-PCR) to PCR 2019:14 Construction products available at www.environdec.com. This document cannot be used by itself but shall be used together with PCR 2019:14 and the European standard EN 15804:2012+A2:2019 (called EN 15804 in short). If a c.PCR is available for a product category, it shall be used.

See Figure 2 for an illustration on how PCR 2019:14 and this c-PCR relate to each other and the EPDs that may be based on them.

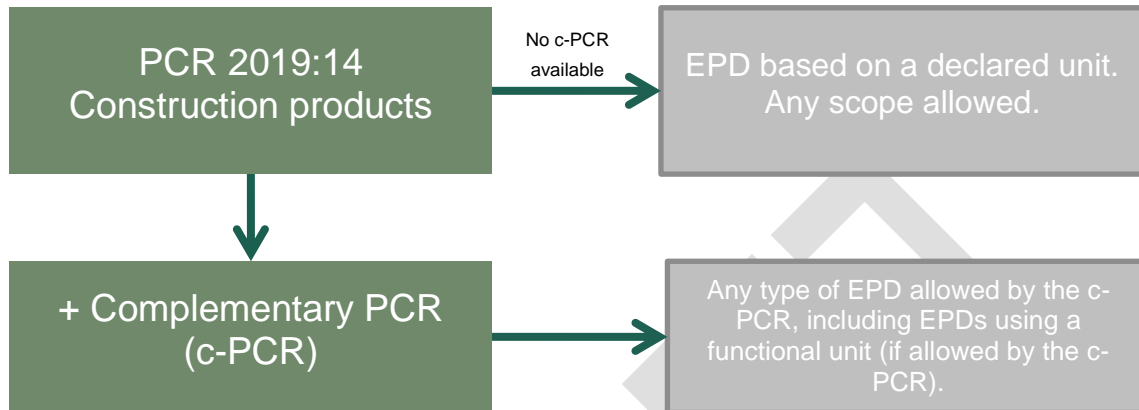



Figure 2 Overview of using PCR 2019:14 directly to develop an EPD, or how to use it together with a c-PCR.

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2 GENERAL INFORMATION

2.1 ADMINISTRATIVE INFORMATION

Name:	Fan Coils
Registration number and version:	<i>To be added by the Secretariat</i>
Programme:	 The International EPD System
Programme operator:	EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden. Website: www.environdec.com E-mail: info@environdec.com
PCR Moderator:	Valeria Tacchino, Tetis Institute S.r.l., tacchino@tetisinstitute.it
PCR Committee:	<ul style="list-style-type: none"> ▪ TETIS Institute Srl -Spin Off of the University of Genoa, www.tetisinstitute.it ▪ Sabiana S.p.A., www.sabiana.it
Date of publication and last revision:	<i>To be added by the Secretariat</i>
Valid until:	<i>To be added by the Secretariat</i>
Schedule for renewal:	This document will be revised together with the PCR for Construction products. In case a c-PCR is developed by a CEN Product TC, the standard will replace this c-PCR, with a transition period of at least 90 days under which both are valid.
Standards conformance:	<ul style="list-style-type: none"> ▪ General Programme Instructions (GPI) of the International EPD System, version 4.0, based on ISO 14025:2006, ISO 14040:2006 and ISO 14044:2006 ▪ EN 15804:2012+A2:2019 ▪ ISO 21930:2017. This standard is used in selected sections, such as allocation, when it provides additional but not contradictory rules to EN 15804. <p>All EPDs based on this PCR shall be compliant with EN 15804:2012+A2:2019. If additional rules are followed, e.g. additional indicators, this PCR may also be used to develop an EPD compliant with ISO 21930:2017.</p>
PCR language(s):	This PCR was developed and is available in English. In case of translated versions, the English version takes precedence in case of any discrepancies.

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2.2 SCOPE

2.2.1 PRODUCT CATEGORY DEFINITION AND DESCRIPTION

This document provides complementary Product Category Rules (c-PCR) for the assessment of the environmental performance of Hydronic Fan Coil Unit (FCU) with both air free delivery and air ducted with a maximum external static pressure due to duct resistance of 120 Pa, and the declaration of this performance by an EPD.

FCU is defined as a factory-made single assembly which provides one or more of the functions of forced circulation of air, heating, cooling, dehumidification and filtering of air, but which does not include the source of heating or cooling (BS EN 1397:2021).

This device includes at least a liquid-to-air heat exchanger and a fan, and may be designed for free or ducted intake air and/or for free or ducted delivery of supply air.

The product category corresponds to a subset of UN CPC subclass 43912 Air-conditioning machines and HS 2007 subclass 8415.83 Air-conditioning machines; containing a motor driven fan, other than window or wall types, not incorporating a refrigerating unit.

The UN CPC classification hierarchy is:

- Section 4 Metal products, machinery and equipment
 - Division 43 – General-purpose machinery
 - Group 439 - Other general-purpose machinery and parts thereof
 - Class 4391 - Gas generators; distilling plant; air-conditioning and refrigerating equipment; filtering machinery
 - Subclass 43912 - Air-conditioning machines

This subclass is defined through the following headings/subheadings of the HS 2007 (WCO Harmonized System Nomenclature):

- 8415.83: Air conditioning machines; containing a motor driven fan, other than window or wall types, not incorporating a refrigerating unit

This PCR is **not applicable** for products incorporating a refrigerating unit belonging to the following headings/subheadings of the HS 2007, for which PCR 2021:02 Air-conditioning machines shall be used:

- 8415.10: Air conditioning machines; comprising a motor-driven fan and elements for changing the temperature and humidity, of a kind designed to be fixed to a window, wall, ceiling or floor, self-contained or "split-system"
- 8415.81: Air conditioning machines; containing a motor driven fan, other than window or wall types, incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps)
- 8415.82: Air conditioning machines; containing a motor driven fan, other than window or wall types, incorporating a refrigerating unit

This PCR does **not** cover the following, related UN CPC codes:

- 43913 Refrigerating and freezing equipment and heat pumps, except household type equipment

Additional information on the UN CPC classification is available at <https://unstats.un.org/unsd/classifications/Family/Detail/1074>.

2.2.2 TYPE OF EPD AND INFORMATION MODULES INCLUDED

Following the requirements in Section 2.2.2 of PCR 2019:14, an EPD based on this c-PCR is a type c EPD (cradle to grave and module D (A + B +C + D)). Section 4.2 below provides more information on each life-cycle stage concerning the product category in scope.

2.2.3 GEOGRAPHICAL SCOPE

This c-PCR may be used globally.

2.2.4 EPD VALIDITY

See PCR 2019:14.

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3 PCR REVIEW AND BACKGROUND INFORMATION

This c-PCR was developed in accordance with the PCR development process described in the GPI of the International EPD® System, including open consultation and review.

3.1 OPEN CONSULTATION

3.1.1 VERSION 20XX-YY-ZZ

This c-PCR is available for open consultation from 2023-08-11 until 2023-10-10, during which any stakeholder is able to provide comments by contacting the PCR Moderator and/or the Secretariat.

Information about any physical or web-based meetings held during the open consultation phase will be added after the open consultation, if applicable.

Stakeholders were invited via e-mail or other means to take part in the open consultation and were encouraged to forward the invitation to other relevant stakeholders. The following stakeholders provided comments during the open consultation and agreed to be listed as contributors in the c-PCR and at www.environdec.com.

- *List of stakeholder names and affiliation will be added after the open consultation.*

3.2 PCR REVIEW

3.2.1 VERSION 20XX-YY-ZZ

PCR review panel:	The Technical Committee of the International EPD® System. A full list of members is available at www.environdec.com . The review panel may be contacted via info@environdec.com . Members of the Technical Committee were requested to state any potential conflict of interest with the PCR Committee, and if there were conflicts of interest they were excused from the review.
Chair of the PCR review:	<i>To be added by the Secretariat</i>
Review dates:	<i>To be added by the Secretariat</i>

3.3 EXISTING PCRS FOR THE PRODUCT CATEGORY

As part of the development of this c-PCR, existing PCRs/c-PCRs and other internationally standardised methods that could potentially act as c-PCRs were considered to avoid unnecessary overlaps in scope and to ensure harmonisation with established methods of relevance for the product category. The existence of such documents was checked among the following EPD programmes and international standardisation bodies:

- International EPD® System, www.environdec.com.
- IBU – Institut Bauen und Umwelt e.V., <https://epd-online.com/>
- Epd-norge, <https://www.epd-norge.no>
- PEP ecopassport, <http://www.pep-ecopassport.org/>
- ASTM International, <https://www.astm.org/products-services/certification/environmental-product-declarations/epd-pcr.html>
- UL Environment, <https://industries.ul.com/environment/transparency/product-category-rules-pcrs>
- JEMAI CFP Program, <https://www.cfp-japan.jp/english/>
- JEMAI EcoLeaf, <http://www.ecoleaf-jemai.jp/eng/pcr.html>

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- NSF International Center for Sustainability Standards EPD, <https://www.nsf.org/standards-development/product-category-rules>

Table 1 Existing PCRs/c-PCRs and other internationally standardized methods that were considered to avoid overlap in scope and to ensure harmonisation with established methods.

NAME OF PCR/c-PCR/STANDARD	PROGRAMME/STANDARDISATION BODY	REGISTRATION NUMBER, VERSION NUMBER/DATE OF PUBLICATION	SCOPE
PCR 2021:02 AIR-CONDITIONING MACHINES	International EPD® System	PCR 2021:02 VERSION 1.0.1, published 2023-04-28	UN CPC 43912 Airconditioning machines (excluding HS 2007 subclass 8415.83)
NPCR 030 Part B for ventilation components	Epd-norge (Adopted by International EPD® System)	NPCR 030 Part B for ventilation components. Approved 18.05.2021, valid until 18.05.2026.	Ventilation components
COMFORT TERMINAL UNITS (CTU)	PEP ecopassport®	PSR-0009-ed2.0-EN-2018 02 09	Comfort terminal units

3.4 REASONING FOR DEVELOPMENT OF C-PCR

This c-PCR was developed to provide requirements and guidelines additional to those in PCR 2019:14 and EN 15804, for developing EPDs for the product category. The c-PCR thereby enables different practitioners to generate consistent results when assessing the environmental impact of products of the same product category, and thereby it supports comparability of products within a product category.

The development of this PCR stems from the need to develop specific guidelines for fan coils, in particular to provide rules for modelling the energy consumption, to harmonize EPDs and create comparability.

Related, it's important that EPDs of fan coils comply with EN 15804, to be able to be used as input to EPDs of buildings and other whole-building assessments.

3.5 UNDERLYING STUDIES USED FOR C-PCR DEVELOPMENT

The methodological choices made during the development of this c-PCR (functional unit, system boundary, allocation methods, impact categories, data quality rules, etc.) were primarily based on the following underlying studies:

- BSRIA, An assessment of a building services system, BG 59/2014
- LCA for Sabiana "Environmental performance of a Fan coil unit" Rev. 0 July 2023
- Matjaz Prek, Environmental impact and life cycle assessment of heating and air conditioning systems, a simplified case study, Energy and Buildings, Volume 36, Issue 10, 1021-1027, 2004,

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4 GOAL AND SCOPE, LIFE CYCLE INVENTORY AND LIFE CYCLE IMPACT ASSESSMENT

This section provides specific rules, requirements and guidelines for developing an EPD for the product category as defined in [Section 2.2.1](#).

4.1 FUNCTIONAL UNIT

EPDs based on this c-PCR shall use a functional unit (FU). All subsequent analyses then refer to that FU, as all inputs and outputs in the life cycle inventory (LCI) and consequently the life cycle impact assessment (LCIA) profile are related to the FU.

The functional unit is 1 kWh of thermal energy exchanged with the air of the room in cooling and/or heating mode by a heating/cooling equipment using small scale HVAC as defined in CPC 43912 and HS 8415.83 and, specifically, using an Hydronic Fan Coil Unit (FCU) as defined into EN1397.

The 1 kWh of thermal energy is provided to/subtracted from the air of the room at the standard rating conditions as defined in the standards EN 1397.

The functional unit shall be stated in the EPD. The environmental performance results shall be given per functional unit.

A description of the function of the product should be included in the EPD®.

The reference service life for Hydronic FCU shall be 20 years.

4.1.1 THERMAL ENERGY CALCULATION

The total thermal energy provided to/subtracted from the air of the room along FCU lifetime shall be calculated by the following formula (based on Technical Certification Rules Of The Eurovent Certified Performance Mark – Fan Coil Unit – Rev 00 2021):

Total Thermal Energy (kWh) = Cooling Energy + Heating Energy

where:

$\text{Cooling Energy} = (5\% P(c)_{\text{high}} + 30\% P(c)_{\text{med}} + 65\% P(c)_{\text{low}}) * h_{\text{cooling}} * \text{RSL}$

$\text{Heating Energy} = (5\% P(h)_{\text{high}} + 25\% P(h)_{\text{med}} + 70\% P(h)_{\text{low}}) * h_{\text{heating}} * \text{RSL}$

- $P(c)_{\text{high}} / P(c)_{\text{med}} / P(c)_{\text{low}}$ = Total Cooling Capacity (kW) at high/med/low speed in cooling mode at standard rating conditions, according to EN1397
- $P(h)_{\text{high}} / P(h)_{\text{med}} / P(h)_{\text{low}}$ = Heating Capacity (kW) at high/med/low speed in cooling mode at standard rating conditions, according to EN1397
- For Ducted FCU, med speed shall be the standard fan speed as defined in EN 1397 (having 0Pa at inlet of the unit and 50Pa at outlet of the unit), min/high speed shall be the other 2 speeds measured according to EN1397
- h_{cooling} and h_{heating} are the yearly operational hours in cooling (1100hrs) and average heating (1500hrs) mode
- RSL= 20 years

4.2 SYSTEM BOUNDARIES

EPDs that are developed based on this c-PCR shall cover product stage (A1-A3), construction process stage (A4-A5), use stage (B1-B7), end-of-life stage (C1-C4) as well as benefits and loads beyond the system boundary (D). The scope allowed by this c-PCR, and requirements for excluding information modules, must be aligned with PCR 2019:14 and EN 15804.

The following subsections describe the covered information modules and the respective processes. For detailed information on each module, see EN 15804 (Section 6.3.5). Here only specific descriptions related to this c-PCR are provided.

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Table 2 Life cycle stages and information modules, relevant for fan coil.

Life cycle stage	Information module		Comment
A1-A3 Product stage	A1	Raw materials and components supply	Included
	A2	Transport	Included
	A3	Manufacturing	Included
A4-A5 Construction process stage	A4	Transport	Included
	A5	Installation	Included
B1-B7 Use stage	B1	Use	Excluded; not applicable for fan coil
	B2	Maintenance	Included if relevant
	B3	Repair	Included if relevant
	B4	Replacement	Included if relevant
	B5	Refurbishment	Excluded; not applicable for fan coil
	B6	Operational energy use	Included
	B7	Operational water use	Excluded; not applicable for fan coil
C1-C4 End-of-life stage	C1	Deconstruction	Included if relevant
	C2	Transport	Included
	C3	Waste processing	Included
	C4	Waste disposal	Included
D Benefits and loads beyond the system boundary	D	Reuse, recovery, recycling, potential	Included

4.2.1 PRODUCT STAGE: MODULES A1-A3

See PCR 2019:14 and Section 6.3.5.2 of EN 15804.

- **A1 Raw materials and components supply:** Extraction and production of raw material for parts and components needed to produce the fan coil, including:
 - extraction and processing of raw materials,
 - recycling processes of secondary materials from other product life cycles,
 - production of input components,
 - production of the packaging of raw materials/components and of the packaging of the finished product,
 - relevant services, such as transport of raw materials and components along the upstream supply chain to a distribution point (e.g. a stockroom or warehouse),
 - generation of electricity and production of fuels, steam and other energy carriers used in upstream processes

- **A2 Transport:** Transportation of raw material and components to manufacturing site (outsourced and in-house) from direct suppliers, i.e. from previous production or extraction process.

Transport distances can be based on actual data or, if justified, on estimated data.

- **A3 Manufacturing:** Manufacturing and assembly of components for the production of the fan coil, including:
 - generation of electricity and production of fuels, steam and other energy carriers used during the manufacturing stage,
 - production of auxiliary materials consumed,
 - direct emissions to air, water or soils due to fuels combustion during the manufacturing stage, and

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- end-of-life treatment of manufacturing waste (including wastewater), even if carried out by third parties, including transportation,

The following shall not be included in the manufacturing stage:

- manufacturing of production equipment, buildings and other capital goods,
- building (or dismantling) of a production site, infrastructure, production and maintenance of manufacturing equipment, and personnel activities
- business travel of personnel,
- travel to and from work by personnel, and
- research and development activities.

4.2.2 CONSTRUCTION PROCESS STAGE: MODULES A4-A5

See PCR 2019:14 and Section 6.3.5.3 of EN 15804.

- **A4 Transportation:** Transportation of the product from the manufacturing site to the installation site.
- **A5 Installation:** Installation of the fan coil including:
 - the production and transport of auxiliary materials and energy and water used during the installation of the fan coil (if relevant); material, water and energy consumption should be based on the installation manual provided by the manufacturer; and
 - end-of-life treatment of waste generated from fan coil packaging, including transportation.

4.2.3 USE STAGE: MODULES B1-B7

See PCR 2019:14 and Section 6.3.5.4 of EN 15804.

- **B2 Maintenance:** Maintenance of parts including (if relevant):
 - the production and transport of the parts and auxiliary materials, water and energy (e.g. washing and electric consumption for filter cleaning) used for fan coil unit maintenance activities,
 - treatment of waste generated from the parts and their packaging, and
 - the end-of-life processes of any waste from transportation and the maintenance process, including any parts and auxiliary materials removed.

The expected maintenance should be based on the maintenance manual.

- **B3 Repair:** Repair of parts including (if relevant):
 - repair process of the repaired part of a component including:
 - the production of the repaired part of a component and of ancillary materials,
 - use of related energy and water, and
 - the production and transport aspects and impacts of any wastage of materials during the repair process;
 - the transportation of the repaired part of component and ancillary materials, including production aspects and impacts of any waste of materials during the repair related transportation, and
 - the end-of-life processes of any waste from transportation and the repair process, including the part of the component and ancillary materials removed.
- **B4 Replacement:** Replacement of parts including (if relevant):
 - the production of the components (e.g filters if they require replacement) and of ancillary materials used for replacement,
 - replacement process, including related water and energy use and the production aspects and impacts of any waste of materials used during the replacement process,

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- the transportation of the component and ancillary materials used for replacement, including production aspects and impacts of any losses of material damaged during transportation, and
 - the end-of-life processes of any losses suffered during transportation and the replacement process and the components and ancillary materials removed.
- **B6 Operational energy use:** Expected energy consumption from the operation of the fan coil unit:
- generation of electricity used during the use stage of fan coil unit (electrical energy shall be calculated according to 4.2.3.1),
 - generation of electricity necessary for the electricity consumption during the stand by phase. Stand by energy consumption shall be considered only if electronic parts that require stand by consumption are included, and
 - generation of electricity necessary for the electricity consumption of electrical components supplied with the fan coil unit (if present in the fan coil unit system). Examples of electronic systems are: UV lamps, condensation pumps, valve activators, electronic filters, etc.

4.2.3.1 Electrical energy calculation

The total electrical energy consumption along FCU lifetime shall be calculated by the following formula (based on Technical Certification Rules Of The Eurovent Certified Performance Mark – Fan Coil Unit – Rev 00 2021):

$$\text{Total Electrical Consumption (kWh)} = \text{Cooling Electrical Consumption} + \text{Heating Electrical Consumption}$$

where:

$$\text{Cooling Consumption} = (5\% \text{ Pe (c)}_{\text{high}} + 30\% \text{ Pe (c)}_{\text{med}} + 65\% \text{ Pe (c)}_{\text{low}}) * h_{\text{cooling}} * \text{RSL}$$

$$\text{Heating Consumption} = (5\% \text{ Pe (h)}_{\text{high}} + 25\% \text{ Pe (h)}_{\text{med}} + 70\% \text{ Pe (h)}_{\text{low}}) * h_{\text{heating}} * \text{RSL}$$

- $\text{Pe (c)}_{\text{high}} / \text{Pe (c)}_{\text{med}} / \text{Pe (c)}_{\text{low}}$ = Total Electrical Power Input (kW) at high/med/low speed in cooling mode according to EN1397
- $\text{Pe (h)}_{\text{high}} / \text{Pe (h)}_{\text{med}} / \text{Pe (h)}_{\text{low}}$ = Total Electrical Power Input (kW) at high/med/low speed in heating mode according to EN1397
- For Ducted FCU, med speed shall be the standard fan speed as defined in EN 1397 (having 0Pa at inlet of the unit and 50Pa at outlet of the unit), min/high speed shall be the other 2 speeds measured according to EN1397
- h_{cooling} and h_{heating} are the yearly operational hours in cooling (1100hrs) and average heating (1500hrs) mode
- RSL= 20 years

4.2.4 END-OF-LIFE (EOL) STAGE: MODULES C1-C4

See PCR 2019:14 and Section 6.3.5.5 of EN 15804.

- **C1 Deconstruction:** including (if relevant):
 - dismantling or demolition of the product from the building,
 - initial on-site sorting of the materials, and
 - auxiliary materials and energy used during the deconstruction of the fan coil.
- **C2 Transport:** transportation of the deconstructed product from the building site to the waste treatment site.
- **C3 Waste processing:** e.g. collection of waste fractions from the deconstruction and waste processing (up to the end-of-waste state) of material flows intended for reuse, recycling and energy recovery according to a generic scenario defined by the company.
- **C4 Waste disposal:** including physical pre-treatment and management of the disposal site, according to a generic scenario defined by the company.

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Each company shall define its own End-of-Life scenario, considering the specifics of the geographical region where the fan coil is installed (or intended to be installed). The End-of-Life scenario shall be clearly documented and justified in the EPD describing the final method of disposal, i.e. reuse, recycling, incineration and/or landfill.

Processes excluded are:

- Production, maintenance, and disposal of infrastructure (buildings, machinery and capital goods) at the sites where the product is disposed.

4.2.5 BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY: MODULE D

See PCR 2019:14 and Section 6.4.3.3 of EN 15804.

4.2.6 OTHER BOUNDARY SETTING

See PCR 2019:14 and EN 15804.

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4.3 SYSTEM DIAGRAM

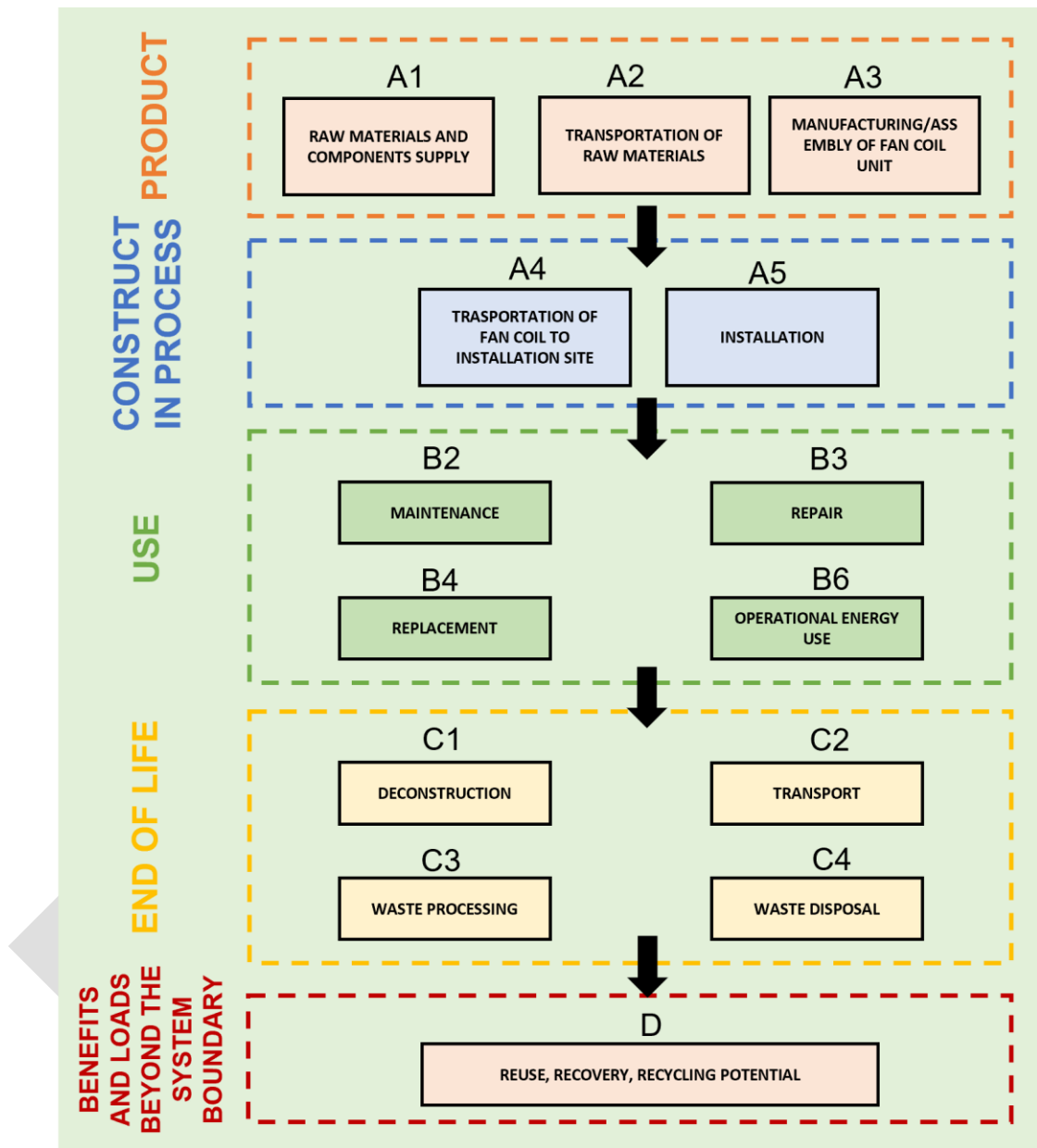


Figure 3 System diagram illustrating the processes that are included in the product system, divided into life-cycle stages and information modules.

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4.4 CUT-OFF RULES

See PCR 2019:14 and EN 15804.

4.5 ALLOCATION RULES

See PCR 2019:14 and EN 15804.

4.6 DATA QUALITY REQUIREMENTS

See PCR 2019:14 and EN 15804.

4.6.1 DATA QUALITY REQUIREMENTS AND OTHER MODELLING GUIDANCE PER LIFE-CYCLE STAGE

- For the A4 module the following indications shall be followed: the transport of the product to the customer shall be described in the EPD, where relevant, and be accounted for in this priority:
 1. Actual transportation modes and distances to a specific customer or market, representing the geographical scope of the EPD.
 2. A weighted average of transportation modes and distances, based on transportation to several customers or markets, representing the geographical scope of the EPD.
 3. Calculated as a fixed long transport: a 1 000 km transport by lorry and a 10 000 km by ship.

4.7 ENVIRONMENTAL PERFORMANCE INDICATORS

See PCR 2019:14 and EN 15804.

4.8 INCLUDING MULTIPLE PRODUCTS IN THE SAME EPD

See PCR 2019:14.

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5 CONTENT AND FORMAT OF EPD

See PCR 2019:14.

5.1 EPD LANGUAGE

See PCR 2019:14.

5.2 UNIT AND QUANTITIES

See PCR 2019:14.

5.3 USE OF IMAGES IN EPD

See PCR 2019:14.

5.4 EPD REPORTING FORMAT

See PCR 2019:14.

5.4.6 ADDITIONAL INFORMATION

The following additional information shall be reported in the EPD:

- Dimensions (mm)
- Weight (kg)
- Air flow (m³/h) at same max/med/low speed used for the Operational Energy Use Calculation
- Only for ducted units: External Static Pressure Difference (Pa) as defined in EN 1387:2021 and measured according to EN 1387:2021 at same max/med/low speed used for the Operational Energy Use Calculation
- $P(c)_{high} / P(c)_{med} / P(c)_{low}$: Total cooling capacity at max/med/min speed at standard rating conditions , according to EN 1387:2021, used for the Operational Energy Use Calculation
- $Pe(c)_{high} / Pe(c)_{med} / Pe(c)_{low}$: Total electrical power input in cooling mode at max/med/min speed , according to EN 1387:2021, used for the Operational Energy Use Calculation
- $P(h)_{high} / P(h)_{med} / P(h)_{low}$: Total heating capacity at max/med/min speed at standard rating conditions, according to EN 1387:2021, used for the Operational Energy Use Calculation
- $Pe(h)_{high} / Pe(h)_{med} / Pe(h)_{low}$: Total electrical power input in heating mode at max/med/min speed , according to EN 1387:2021, used for the Operational Energy Use Calculation

The following additional information should be reported in the EPD:

- Instruction on disassembling, reuse, recycling and disposal of each component of the fan coil unit
- A statement stating whether the performances used for the thermal and electrical energy calculation are certified and, if so, with which certification programme (e.g Eurovent). If the performances are not certified, the parameters used for the calculations should be reported in EPD

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6 LIST OF ABBREVIATIONS

In addition to abbreviations listed in PCR 2019:14, Section 6:

°C	Degrees Celsius
FCU	Fan Coil Unit
HVAC	Heating, Ventilation and Air Conditioning
K	Degrees Kelvin
kW	Kilowatt
kWh	Kilowatt hour
mm	Millimeters
m ³ /h	Cubic meters hour
Pa	Pascal

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8 VERSION HISTORY OF C-PCR

VERSION 20XX-YY-ZZ

Original version of the c-PCR.

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