EPD
INTERNATIONAL EPD SYSTEM

LIFTS (ELEVATORS)

PRODUCT GROUP CLASSIFICATION: UN CPC 4354

C-PCR-008 (TO PCR 2019:14)
VERSION 1.0.2

VALID UNTIL: 2026-04-30

TABLE OF CONTENTS

1 INTRODUCTION

1.1 GENERAL

This document constitutes complementary Product Category Rules (c-PCR) for developing Environmental Product Declarations (EPD) in the framework of the International EPD System: a programme for EPDs[1] according to ISO 14025, ISO 14040, ISO 14044, and product-specific standards, such as EN 15804, EN 15941 and ISO 21930 for construction products.[2] developed in the framework of the International EPD System: a programme for type III environmental declarations[3] according to ISO 14025:2006. EPDs are voluntary documents for a company or an industry association to present transparent, consistent, and verifiable information about the environmental performance of their products (goods or services).

The General Programme Instructions (GPI), publicly available on www.environdec.com, includes the rules for the overall administration and operation of the programme and the basic rules for developing EPDs registered in the programme. A PCR complements the GPI and the normative standards by providing specific rules and guidelines for developing an EPD for one or more specific product categories (see Figure 1), thereby enabling the generation of consistent EPDs within a product category.

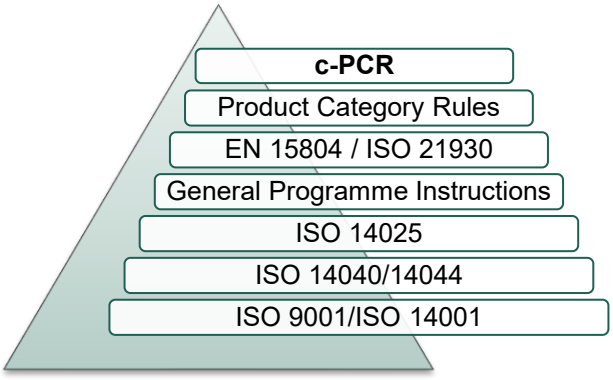

Figure 1 This c-PCR in relation to the hierarchy of standards and other documents.

The present c-PCR uses the following terminology:

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

For definitions of other terms used in the document, see the GPI, normative standards, and PCR 2019:14 Construction products.

The latest version of the PCR is available on www.environdec.com.

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

Stakeholder feedback on PCRs is very much encouraged. Any comments on this PCR document may be sent directly to the PCR Moderator during its development or during the period of validity.

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

1 Termed type III environmental declarations in ISO 14025.

2 When standards are referred to in this document, the version listed in Section 7 is intended unless otherwise stated.

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

1.2 ROLE OF THIS DOCUMENT

This document provides complementary product category rules (c-PCR) to PCR 2019:14 Construction products, available on www.environdec.com. This document cannot be used by itself but shall be used together with PCR 2019:14 and EN 15804. The document can be used together with any valid version of PCR 2019:14, regardless of the version of PCR 2019:14 referred to in this document.

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

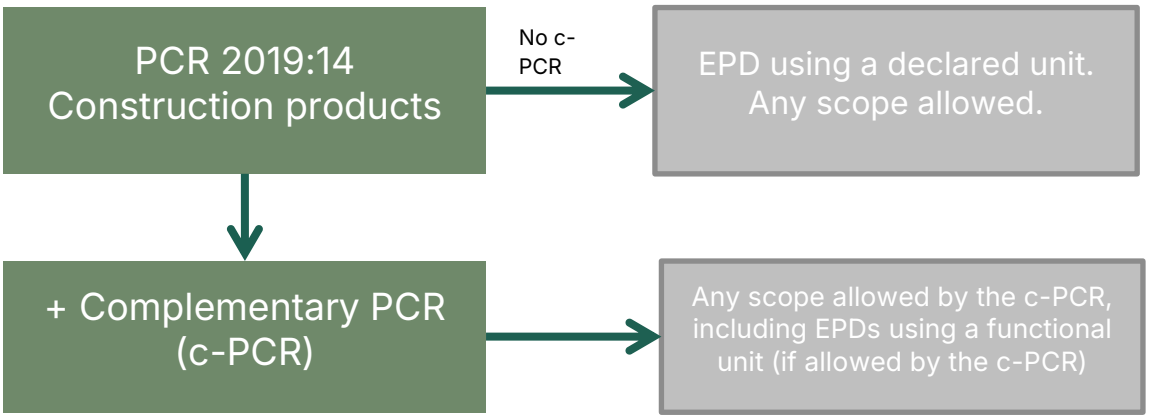

Figure 2 Overview of using PCR 2019:14 directly to develop an EPD or how to use it together with a c-PCR.

2 GENERAL INFORMATION

2.1 ADMINISTRATIVE INFORMATION

Name:	Lifts (Elevators)
Registration number and version:	c-PCR-008, version 1.0.2
Programme:	The International EPD System
Programme operator:	EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden. Website: www.environdec.com E-mail: support@environdec.com
PCR Moderator:	Nikolay Minkov, greentability Ltd. (on the behalf of the European Lift Association, ELA), nikolay@greentability.com
PCR Committee:	ELA and the Ecological Performance Work Group of ELA
Date of publication and last revision:	2026-02-05 (version 1.0.2) A version history is available in Section 8.
Valid until:	2026-04-30
Schedule for renewal:	This document will be revised upon its expiration. In case a c-PCR is developed by a CEN Product TC, the standard will replace this c-PCR.
Standards conformance:	For compliance to standards and other documents, see PCR 2019:14.
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.

2.2 SCOPE

2.2.1 PRODUCT CATEGORY DEFINITION AND DESCRIPTION

This c-PCR provides category rules for the assessment and declaration of the environmental performance (by means of an EPD) of lifts (elevators[4]), which is a sub-set of UN CPC 4354 Lifts, skip hoists, escalators and moving walkways.

The product category corresponds to the following group and underlying classes and sub-classes in the UN CPC classification (when used within construction):

- Section: 4 - Metal products, machinery and equipment

[4] The term "elevator" corresponds to the American word for "lift" in British English (according to Lifts Directive 2014/33/EU).

- Division: 43 - General-purpose machinery
    - Group: 435 - Lifting and handling equipment and parts thereof
        - Class: 4354 - Lifts, skip hoists, escalators and moving walkways

UN CPC 4354 Lifts, skip hoists, escalators and moving walkways includes many different types of machinery. However, the scope of this PCR is limited to machinery defined as lifts (elevators), since production technologies and functionality are specific. Therefore, the PCR cannot be used for other type of products (e.g. skip hoists, escalators or moving walkways) classified under the same UN CPC 4354. The product group and UN CPC code shall be specified in the EPD. Moreover, the EPD shall clearly describe the lift system considered and its scope of application using as a minimum the mandatory performance characteristic listed in Section 2.2.3.

- Lifts covered by this PCR can be designed for transportation of persons or freights (goods and materials), or both and can have vertical or inclined trajectories[5]. Lift systems consist of subsystems and components, which may be grouped differently depending on the product structure definition, applied by the respective company (lift manufacturer). The company shall define and disclose the configuration of the product under analysis in a tabular or schematic format in the EPD.

This c-PCR and PCR 2019:14 are limited to those products that are used as construction products. Products used in other applications are outside of the scope.

2.2.2 SPECIFICATION OF THE COMPANY

Information about the company issuing the EPD shall be specified in the EPD, including a description of the company and a description of its overall environmental work, as follows:

Mandatory information:

- Name and address of the company

Voluntary information:

- Short description of the company
- Geographical location of suppliers / manufacturing sites/ customers
- Information about ISO 14001 and/or EMAS certificates of manufacturing sites considered in the core module
- Specific aspects regarding the production
- Company logotype

2.2.3 SPECIFICATION OF THE PRODUCT

The product-related part of the EPD shall include the following mandatory information (Table 1):

Table 1 Mandatory information required for the specification of the product

Index	Values	Representative values chosen in case of ranges
Type of installation	e.g. new specific lift or new generic lift with or without modernization	
Commercial name	As stated in the operating manual or sales catalogue	
Main purpose	e.g. transport of passengers / goods / both (passengers & goods)	
Type of lift	e.g. electric or hydraulic	
Type of drive system	e.g. gearless traction / geared traction / hydraulic	

[5] Inclined elevators are to be considered as such that travel at an angle of inclination "of more than 15 degree to the horizontal" (as per Lift Directive 2014/33/EU), "not more than 15° to the vertical" (as per EN81), or "of 70 deg or less from the horizontal" (as per ASME A17.1)

Rated load (fixed or range)	e.g. 320 ... 1000 kg	e.g. 320 kg
Rated speed (fixed or range)	▪ e.g. 0.4 ... 1.25 m/s	▪ e.g. 0.5 m/s
Number of stops (fixed or range)	e.g. 2 ... 21	e.g. 2
Travelled height (fixed or range)	e.g. 5...60 m	e.g. 50 m
Number of operating days per year (fixed or range)	e.g. 50...365	e.g. 365
Applied usage category (UC) according to ISO 25745-2	e.g. 1...6	e.g. 1
Designed Reference Service Life (RSL)	e.g. 25 years Note: When a generic lift is declared in the EPD, a fixed value of 25 years shall be used for the RSL. For an EPD of a specific lift, however, the RSL is not fixed and the manufacturer may select and declare an alternative value.	
Geographic region of intended installation	Region, e.g. specific country or continent	
Additional information		
▪ Recommended application (main market) ▪ Building rise (typical) ▪ Building type	▪ e.g. low-rise residential ▪ low- (2...6 floors) / mid- (7...20 floors) / high- rise (> 20 floors) ▪ residential / commercial / office / administrative / hotel / hospital / shopping centre / transportation / industrial	
Optional equipment	List if the unit has optional equipment, different than the one listed under the commercial name in the sales catalogue	
Additional requirements	e.g. seismic lift, evacuation lift or similar	

2.2.4 TYPE OF EPD AND INFORMATION MODULES INCLUDED

Following the requirements in PCR 2019:14, this c-PCR has a cradle-to-grave scope plus module D (A+B+C+D). Sections 4.3 and 4.4 below provide more information on each life cycle stage, information modules and processes in relation to the product category in scope.

2.2.5 GEOGRAPHICAL REGION

As in PCR 2019:14.

2.2.6 EPD VALIDITY

As in PCR 2019:14.

3 PCR REVIEW AND BACKGROUND INFORMATION

This PCR was developed as an update of a previous PCR 2015:05 Lifts (Elevators) from the International EPD System and adopted as a c-PCR to PCR 2019:14. An open consultation period was held from 2020-04-01 until 2020-06-01, during which comments on the draft PCR from variety of stakeholders have been collected and further reflected in an updated draft. The updated draft was subsequently reviewed by the PCR review panel (the Technical Committee of the International EPD® System) from 2020-09-01 to 2020-09-24, with Gorka Benito as review chair.

The main purpose of this c-PCR is to serve for the implementation of additional LCA rules for lifts (elevators) that go beyond the scope of PCR 2019:14 and EN 15804.

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

The goal of this section is to provide 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 be based on a functional unit (FU). According to ISO 14040:2006, LCA is a relative approach, which is structured around a FU. The FU is defined as a "quantified performance of a product system for use as a reference unit". 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.

This reference is necessary to ensure comparability of LCA results. This is particularly critical when different systems are being assessed, to ensure that such comparisons are made on a common basis. Comparability is therefore only achievable if the following performance characteristics are equivalent:

- Functional unit (FU)
- Reference Service Life (RSL)
- Usage Category (UC)
- Travel height
- Number of stops
- Rated load
- Rated speed
- Geographic region[6]

The function of a lift is the transportation of persons, freights or both. Based on this, the FU is defined as the transportation of a load over a distance, expressed as one tonne [t] transported over one kilometre [km], i.e. tonne-kilometre [tkm][7] over a vertical (or inclined) trajectory.

LCA results shall be presented per FU, i.e. per 1 tkm. To do so, first the total amount of tkm (called also transportation performance, TP for short) shall be calculated, followed by division of the respective inputs and outputs by the TP to obtain the LCA results per FU.

TP shall be calculated according to the formulas and predetermined parameters shown below in steps 1-4. As also indicated further in the text, most of the predetermined parameters used are defined in ISO 25745-2. This standard is selected as the valid reference at international level for both the estimation of the lifts' energy consumption and for the calculation of TP. It gives tables of parameters for average distance travelled and average weight transported.

1) Calculation of the average car load $\%Q$ in [t]:

$$\%Q = \frac{Q}{1000} \times [\text{Percentage value from Table 3 of ISO } 25745-2]$$

where Q is the lift rated load [kg].

2) Calculation of the one-way average travel distance for target installation s_{av} [m]:

$$s_{av} = s_{rc} \times [\text{Percentage value from Table 2 of ISO } 25745-2]$$

[6] In case of comparability, the equivalence of the geographic region is important due to the specifics of the energy mix used

[7] Should the information of the lift use be available in units of passengers (load) and floor transported (distance), these can be easily converted to the functional unit [tkm] multiplying the average number of passengers by the average weight per passenger and the average number of floors by the average floor height of the building.

where s_{rc} is the one-way travel distance of the reference cycle according to ISO 25745-1 [m] (travel height).

3) Calculation of the distance travelled by the lift during the service life s_{RSL} [km]:

$$s_{RSL} = \frac{s_{av}}{1000} \times \mathrm{n_d} \times \mathrm{d_{op}} \times RSL$$

where n_d is the number of trips per day according to the selected UC (defined in Table 1 of ISO 25745-2) and d_{op} is the number of operating days per year. Finally, RSL is the designed service life [years] declared for the lift in the EPD.

4) Ultimately, calculation of TP for obtaining of the results per FU:

$$TP = \%Q \times s_{RSL}$$

The calculation of TP shall be documented in a transparent and reproducible manner in the EPD. The values used for this calculation shall be in accordance with the values used for the estimation of the energy consumed by the lift during the use phase (information module B6, see Section 4.4). In addition, EPDs based on this c-PCR shall contain the following statement, intended to clarify this difference in the terminology used between existing old EPDs based on PCR 2015:05 and new EPDs based on this c-PCR: "The term "transportation performance (TP)" used to indicate the total amount of tkm is identical both in meaning and in calculation approach to the term "total number of FU" used in EPDs based on PCR 2015:05."

In its current version, the standard ISO 25745-2 does not give figures for lifts installed in buildings with express zones (EZs). Until definition is provided in a standard or a peer reviewed publication, providing additional information for these cases that are currently excluded from ISO 25745-2, the following formula from Lorente Lafuente (2013) has been agreed to be followed by the industry:

$$d_{av\_EZ} = d_{av\_woEZ} + k \times d_{EZ}$$

d_{av_EZ} is the average distance travelled [m], d_{av_woEZ} is the average distance travelled, if the building did not have EZs (i.e. s_{av} according to ISO 25745-2) and d_{EZ} is the height of the EZ. k is a coefficient calculated by means of simulations.

4.2 LIFT CONFIGURATIONS

The present c-PCR can be used for the issuing of EPDs for new lifts. The manufacturer shall decide whether they want to declare the environmental performance of a specific lift (designed for a specific installation and having already fixed parameters) or a generic lift[8] (i.e. selected by the company from their product portfolio and covering a given range of products and performance characteristics). In both cases, new lift shall imply a complete lift system. The type of lift under declaration shall be clearly stated in the EPD, followed by the disclosure of the performance characteristics according to Section 2.2.3. In case of a specific lift, the RSL can be freely defined by the manufacturer, whereas in the case of a generic lift, the RSL shall be fixed at 25 years.

In case of generic lift, more than one UC, as well as ranges of other performance characteristics (such as e.g. rated load, rated speed, or number of stops) can be applicable. The EPD owner shall declare in the EPD for which UCs the generic lift in scope is designed and the respective performance characteristics, and/or their ranges. Further, LCA results shall be reported for each of these declared UCs. Moreover, the EPD shall describe whether the results cover the whole range (and even combinations of ranges) of the performance characteristics or not. If not, the limited representativity of the results shall be indicated. For more details on how multiple scenarios can be declared in the same EPD, please refer to Section 9.3.1 of GPI v3.01 and Section 6.3.9 of EN 15804. In cases when only the operational energy use (module B6) differs, results for the different scenarios may be presented only for this module.

4.3 GENERAL SYSTEM BOUNDARIES

EPDs that are developed based on this c-PCR shall have a cradle-to-grave scope; thus, they shall cover the mandatory life cycle stages required by PCR 2019:14. Nevertheless, considering also certain specifics related to the peculiarities of the production of lifts, their use and disposal, the present c-PCR gives additional guidance on how certain information modules

[8] This is often referred to by the lift industry as "model lift", however, this term is not used in this PCR, because according to Directive 2014/33/EU "…'model lift' means a representative lift whose technical documentation shows the way in which the essential health and safety requirements set out in Annex I will be met for lifts which conform to the model lift defined by objective parameters and which uses identical safety components for lift…"

shall be approached. In the following Table 2, the life cycle stages, and information modules are described in relation to the specifics of lifts' life cycle.

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

Life cycle stage	Information module		Comment
A1-A3 Product stage	A1	Raw material 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 lifts
	B2	Maintenance	Included
	B3	Repair	Excluded: it is an intervention that cannot be programmed or foreseen, because it depends on the building application and users´ behaviour
	B4	Replacement	Merged with B5
	B5	Refurbishment	Included when extension of the lift's designed lifetime is foreseen (i.e. extended RSL)
	B6	Operational energy use	Included
	B7	Operational water use	Excluded; not applicable for lifts
C1-C4 End-of-life stage	C1	Deconstruction	Included
	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

Additional clarifications to modules B2-B5:

Lifts are products with a long operation time, during which not only preventive maintenance (covered by B2 Maintenance), but also corrective maintenance is needed. Corrective maintenance activities, i.e. such that are usually to be accounted in B3 Repair, are excluded, because these repair interventions cannot be programmed or foreseen; they depend on the building application and users´ behaviour and are not under the control of the company supplying the original lift.

As regards B4 Replacement and B5 Refurbishment, a clear separation between the two modules when lifts are concerned is not necessary; they shall be merged and declared under B5 Refurbishment only. Activities under this module are such that consider "modernization" of the lift. Modernization is generally defined as a process of components' exchange that leads to the extension of the designed lifetime of a lift (according to EN 81-80 on Safety rules for the construction and installation of lifts).

In the next Section 4.4, more detailed information and description of each life cycle stage and information module is provided.

4.4 DESCRIPTION OF PROCESSES AND INFORMATION MODULES

In the following section, the covered information modules and the respective processes are described. For detailed information on each information module, refer to EN 15804 (Section 6.3.5). Here only specific descriptions related to lifts are provided.

NOTE: This section is not intended to discuss data selection and data quality requirements for each information module. Such requirements are given in Section 4.7.

4.4.1 PRODUCT STAGE: MODULES A1-A3

For details, see Section 6.3.5.2 of EN 15804.

- A1 Raw material supply: extraction and production of raw material for parts and components needed to produce the lift, including:
  - Reuse of products or materials from a previous product system,
  - Processing of secondary materials used as input for manufacturing the product, but not including those processes that are part of the waste processing in the previous product system,
  - Generation of electricity, steam and heat from primary energy resources, also including their extraction, refining and transport,
  - Energy recovery and other recovery processes from secondary fuels, but not including those processes that are part of waste processing in the previous product system.
- Processes that can be excluded:
  - Production, maintenance, and disposal of outsourced manufacturing infrastructure (buildings, machinery and capital goods),
  - Internal transportation of materials and components between factories and internal transportation within the factories.
- A2 Transport: transportation to manufacturing site (outsourced and in-house) from direct suppliers, i.e. from previous production or extraction process. Earlier transport journeys[9] should be included in module A1.
- Transport distances can be based on actual data or on scenario defined by the company.
- A3 Manufacturing: manufacturing and assembly of components for the lift in state ready for transportation to building site, including:
  - Production and use of operating and auxiliary materials consumed,
  - Production of intermediate packaging materials, incl. such that are necessary to protect the lift components during their transport from the manufacturing site to the building site,
  - Direct emissions to air, water or soils,
  - Treatment of waste generated from the manufacturing and assembly of main parts.
- Processes that can be excluded are:
  - Internal transportation between the company's own factories, if the impact is below the general 5% cut-off threshold,
  - Production, maintenance, and disposal of infrastructure (buildings, machinery and capital goods) at the sites where the product is manufactured,
  - Business travel of personnel and travel to and from work by personnel,
  - Indirect activities (like administration, sales, research and development activities etc.).

[9] Example: transport of raw materials, finished and semi-finished parts to in-house and outsourced manufacturing locations of main components, in particular air cargo transport such as e.g. electrical and electronic equipment & PWBs from South East Asia

4.4.1.1 Information requirements for component manufacturers

- The component manufacturer shall provide the lift manufacturer with the following information:
- Information of materials used (mandatory),
- Information of manufacturing processes (not needed if this process is allocated to the upstream module, see Table 4. Data can be estimated by the lift manufacturer),
- Declaration of the component useful life,
- Information on the necessary maintenance activities to guarantee a correct operation during the declared useful life,
- Information regarding dismantling activities necessary for the management of the component end of life.

Alternatively, if there is an agreement between the customer and the supplier, the component manufacturer can directly provide the lift manufacturer with data of the environmental impact of their components. If this is case, the component manufacturer shall follow the rules of this PCR for the calculation of such environmental impacts, as if they were components for modernization[10]. It is mandatory that the component manufacturer use the same background generic data sources (i.e. databases) as the lift manufacturer (see Section 4.7). Moreover, all supporting documentation (in the best-case external verification or critical review) shall be made available to the EPD owner to facilitate the EPD verification process.

4.4.2 CONSTRUCTION PROCESS STAGE: MODULES A4-A5

For details, see Section 6.3.5.3 of EN 15804.

- A4 Transport: transportation of the product from the manufacturing site to the building site
- A5 Installation: installation of the product, including:
  - The production and transport of auxiliary materials and energy used during the installation of the lift,
  - Treatment of waste generated from the lift packaging materials.

4.4.3 USE STAGE: MODULES B1-B7

For details, see Section 6.3.5.4 of EN 15804.

- B2 Maintenance: also known as “preventive maintenance”, including:
  - Transportation of the lift workers from their working place to the building site,
  - The production and transport of the components and auxiliary materials and energy used for the lift maintenance activities,
  - Treatment of waste generated from the components and their packaging,
  - The end-of-life processes of any waste from transportation and the maintenance process, including any part of the component and ancillary materials removed.
- The expected maintenance activities, number and type of spare parts expected to ensure a good functioning of the lift during the useful lifetime declared by the manufacturer shall be communicated to the lift customer and be reported in the LCA.
- B5 Refurbishment: also known as “modernization”, including:
  - The production and transport of the components and auxiliary materials and energy used for the refurbishment,
  - Treatment of waste generated from the components and their packaging,
  - The end-of-life processes of any losses suffered during transportation and the refurbishment process, including the components and ancillary materials removed.
- In case of modernization, the EPD shall clearly describe what original components remain in the installation and what parts or components are being replaced, as well as the foreseen effects that these replacements would have in the

[10] This PCR, however, cannot be used for the development of EPDs of single components.

different life cycle phases of the lift (e.g. higher or lower energy consumption during the RSL, or extended RSL, etc.). This content shall be defined and disclosed by the manufacturer.

- B6 Operational energy use: expected energy consumption of the lift calculated according to ISO 25745-2; the calculation of the energy consumption shall be carried out, based on the same choice of performance characteristic values as for the calculation of the FU;

Regarding module B6, the LCA inventory shall contain as a minimum the following:

- Clear documentation of power and energy measurements in the underlying LCA report (as per ISO 25745-1), or
- Clear documentation of electricity demand calculation in the underlying LCA report (as per ISO 25745-2).

If due to the existence of an EZ or an uneven distribution of population, different number of starts, average distance travelled or load transported than those provided by ISO 25745-2 are applied, these shall be reported and justified in the EPD. For lifts installed in buildings with EZs, value of k from Table 3 shall be used as a reference, as long as ISO 25745-2 keeps these special cases excluded from its scope.

Table 3 Values of k for the calculation of the average distance travelled in installations with EZ, based on (Lorente Lafuente, 2013)

Usage category		1-3	4	5	6
Value of $\boldsymbol{k}$	EZ ≤ 75 m	N.A.	0.4	0.25	0.18
	75 m ≤ EZ ≤ 120 m	N.A.	0.3	0.18	0.14

In case of an EPD for a specific lift, in which a customized estimation of the energy consumption has been made, any deviation to this calculation method shall be reported and justified in the EPD.

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

For details, see Section 6.3.5.5 of EN 15804.

- C1 Deconstruction: including:
  - dismantling or demolition of the product from the building,
  - initial on-site sorting of the materials,
  - auxiliary materials and energy used during the deconstruction of the lift.
- 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 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.
- Each company shall define its own EoL (waste treatment) scenario, considering the specifics of the geographical region where the lift is installed (or intended to be installed). The EoL scenario shall be clearly documented and justified in the EPD describing the final method of disposal, i.e. 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

4.4.5 BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY: MODULE D

For details, see Section 6.3.5.6 and 6.4.3.3 of EN 15804 and PCR 2019:14.

Module D includes reuse, recovery and/or recycling potentials, expressed as net impacts (loads) and benefits. Any declared net benefits and loads from net flows leaving the product system that have passed the end-of-waste state shall be included in module D, except those which have been allocated as co-products.

Among some of the general principles of module D are:

- Impacts (loads) related to the recycling or recovery process from beyond the system boundary up to the point of functional equivalence (where the secondary material or energy substitutes primary production) are added; subtracted, on the other hand, are impacts resulting from the avoided production from primary resources.
- A justified value-correction factor to reflect the differences in the functional equivalence between the secondary and primary material shall be added.

As this c-PCR does not recommend any specific procedure for the determination of the quality factors of the recycled material at the point of substitution (i.e., the value-correction factors), these can be based on their economic value, as recommended by PCR 2019:14.

According to Section 6.4.3.3 of EN 15804, where a secondary material or fuel crosses the system boundary e.g. at the end-of-waste state and if it substitutes another material or fuel in the following product system, the potential benefits or avoided loads can be calculated based on a specified scenario which is consistent with any other scenario for waste processing and is based on current average technology, current practices and current rates of recycling, reuse and recover of materials. If today's average is not available for the quantification of potential benefits or avoided loads, a conservative approach shall be used.

Please refer to the same Section of EN 15804 for an approach to calculate the net impacts in Module D. Annex D (Section D.3.4) of EN 15804 describes the applicable formula for the calculation of loads and benefits beyond the system boundary per unit of output for Module D. In the current version of the EN 15804, the applicable EoL formula is based in the EC Product Environmental Footprint (PEF) formula.

4.5 GENERAL CUT-OFF RULES

As in PCR 2019:14.

LCI data shall according to EN 15804 include a minimum of 95% of total inflows of mass and energy per module i.e., maximum of 5% exclusion of flows is allowed per module for both mass and energy.

4.6 ALLOCATION RULES

As in PCR 2019:14.

In addition, the allocation factor of input and output flows during in-house manufacturing (A3) can be done by applying a more detailed process description and separating the different production lines. If that is not possible, the allocation may be based on mass criteria or man-hours used to produce each co-product.

If mass criteria are applied, the allocation factor shall be calculated as the total mass of flows for the specific lift or component divided by the total mass of all lifts or components produced at the given production site.

The use of economic allocation criteria should be avoided, because of its sensibility to market specific conditions. Moreover, please refer to Section 6.4.3.2 of EN 15804 where additional criteria for using economic allocation according to the different contributions to the overall revenue are described. If economic allocation has been used, a specific sensitivity analysis shall be provided to the verifier and the monitoring of the relationship between results and current economic value shall be documented and updated.

The allocation procedures shall be documented in the LCA report and the EPD. In case of economical allocation, the EPD shall explain the reference values that have been used.

4.7 DATA QUALITY REQUIREMENTS

As in PCR 2019:14.

Generic/secondary and specific/primary data shall be applied as defined by EN 15804. This is shown in Table 4.

Table 4 Application of generic/secondary and specific/primary data

Modules	A1-A3		A4 and A5	B1-B7	C1-C4
	Production of commodities, raw materials	Product manufacture	Installation processes	Use processes	End-of-life processes
Process type	Upstream processes	Processes the manufacturer has influence over	Downstream processes		
Data type	Generic/secondary data	Manufacturer's average or specific/primary data	Generic/secondary data		

Additional clarifications to information modules A1-A3:

For information modules A1-A3, depending on the production supply chain specifics for each manufacturer, different possibilities exist about which commodities, raw materials and/or product components are taking place in-house or are outsourced to external suppliers. In this regard, for processes that the manufacturer has influence over[11], manufacturer's average or specific data shall be used. Otherwise, when these processes are outsourced (i.e. upstream processes), generic data may be used. The respective data type rules as per Table 4 above shall apply for each respective process.

Manufacturer's average or specific data, called primary data herewith, are gathered from the actual manufacturing plant(s), where specific processes are carried out and data from other parts of the life cycle traced to the specific product system under study, e.g. materials or electricity provided from a contracted supplier being able to provide data for the actual delivered services, transportation taking place based on the actual fuel consumption and related emissions, etc.

The requirements for primary data also include actual product weights, gross amounts of raw materials used (including material losses) and amounts of waste, etc.

If no primary data is available to account for material losses (cuttings, wastage, residues, etc.) mass of materials used in the main components shall be accounted for with an increase of 5%.

Generic data must not exceed 10% of the life cycle inventory for the processes the manufacturer has influence over, on the bases of the overall environmental impact from the product system.

Additional clarifications to other information modules:

As regards module B6, accuracy of energy measurements and demand calculations shall comply with the requirements of ISO 25745-1 and ISO 25745-2. For the calculation of the environmental impact of the energy consumption during the operation phase (B6), the energy mix should ideally correspond to the actual consumption mix of the geographic region where the specific lift is installed. For generic lifts, the consumption mix for the geographic region where the lift is intended to be installed shall be used. It is acceptable to use 100% generic upstream data for electricity production, whereas quantity of energy used shall be primary/system specific modelled data. In all cases, the applied energy mix shall be declared in the EPD.

Moreover, following PCR 2019:14 on the requirements for documenting the GWP-GHG results in kg CO_2 eq./kWh, of the upstream electricity used in the manufacturing process A3, the same rule shall apply also for module B6. This is justified by the fact that the energy consumption of the lift operation accounted in B6 is assumed to have a significant overall environmental impact.

In addition to the information given in Table 4, the use of generic data is generally accepted. However, the EPD shall include references to the generic database (and version) used and identify the unit processes represented. How the different materials were assigned to the respective generic LCI process data sets shall be documented in the LCA report.

[11] A manufacturer has influence over the processes of his own plant and usually of his Tier-1 suppliers, since the suppliers' plant processes are directly dependent on the manufacturer's orders for components.

If specific data on recycled content of raw materials (A1) is known, generic datasets shall be adapted accordingly, and values and origin of the data shall be declared in the EPD. If specific recycled content is unknown, average recycled content of datasets is acceptable. In the latter case, it shall be declared in the EPD that average recycled and not specific recycled contents were used for LCIA and respective average values and origin of average data shall be declared in the EPD.

Data regarding components manufactured and/or assembled by sub-suppliers can be approximated by own manufacturing data of comparable processes and be applied instead of using specific data from the sub-supplier, or in combination with (other) generic data (e.g. metal working process data of ecoinvent) representative for the sub-supplier's manufacturing process. In such a case, this shall be made transparent in the background LCA report.

For the transportation modules A2 and A4, use of primary data is recommended as a minimum for the specific distance and specific mass transported, and optionally for loading rates and empty return rates of the respective means of transportation (else predetermined value used by the underlying LCI background data is acceptable, e.g. average loading rate of 100%, and an empty return rate of 0%). Selection of generic LCI data within a transportation category shall reflect as close as possible the geographical context of the representative unit, e.g. with regard to lorry capacities (e.g. 17 t, 40 t, etc.) or emission classes (e.g. EURO 3, EURO 5, etc.) and shall be transparently documented in the LCA report. This should allow reflecting benefits of efforts of regional manufacturing with shorter transport distances and of own 'clean' cargo fleet efforts or those of third-party logistic service providers hired.

If these data sources do not supply the necessary data, other generic data may be used, but shall be clearly documented. The environmental impact of the processes where the other generic data are used must not exceed 10% of the overall environmental impact from the product system.

4.8 IMPACT CATEGORIES AND IMPACT ASSESSMENT

As in PCR 2019:14.

In addition to the main environmental performance results per FU, the environmental performance section shall, in a separate subsection, include a declaration of the environmental performance in absolute figures (i.e. total values) for the complete product over its RSL (e.g. "New lift in operation for 25 years") as specified in Table 1, separately for each information module.

4.9 OTHER CALCULATION RULES AND SCENARIOS

As in PCR 2019:14.

5 CONTENT AND FORMAT OF EPD

For most of the topics to this section, the present c-PCR follows the requirements as per PCR 2019:14 with certain exceptions.

5.1 EPD LANGUAGE

As in PCR 2019:14.

5.2 UNIT AND QUANTITIES

As in PCR 2019:14.

5.3 EPD REPORTING FORMAT

As in PCR 2019:14.

5.3.1 COVER PAGE

As in PCR 2019:14.

5.3.2 PROGRAMME INFORMATION

As in PCR 2019:14.

In addition, the mandatory statement as per PCR 2019:14 ""EPDs of construction products may not be comparable if they do not comply with EN 15804" shall be extended to as follows: "EPDs of construction products may not be comparable if they do not comply with EN 15804+A2:2019."

5.3.3 PRODUCT INFORMATION

As in PCR 2019:14.

In addition, the EPD shall contain the following statements:

"Comparability between EPDs based on this c-PCR-008 (to PCR 2019:14) and EPDs based on PCR 2015:05 is not conceivable and shall be avoided. Any comparability of this kind shall be considered as false and misleading the EPD user."

"Comparability between EPDs based on this c-PCR-008 (to PCR 2019:14) is only achievable, if the following performance characteristics are equivalent: Functional unit, Reference Service Lifetime, Usage Category, travel height, number of stops, rated load, rated speed and geographic region."

5.3.4 CONTENT DECLARATION

As in PCR 2019:14.

In addition to PCR 2019:14, the gross weight declared in the EPD shall not include spare parts. Moreover, the EPD shall include a declaration of the lift composition[12] in quantitative terms (percentage of the total weight, considering all lifecycle phases and according to the cut off rules), grouped at least according to the following categories:

- Ferrous metals
- Non-ferrous metals
- Plastics and rubbers

[12] A detailed bill of materials shall be available in the LCA report.

- Inorganic materials (e.g. concrete)
- Organic materials (e.g. paper or wood)
- Lubricants (e.g. oils and greases), paintings, coatings, adhesives and fillers
- Electric and electronic equipment
- Batteries and accumulators
- Refrigerants in car air conditioners (if any)
- Other materials[13]

Proprietary materials and substances covered by exclusive legal rights including patent and trademarks can be reported under ”Other materials”.

The lift manufacturer can be more specific in the reporting of the lifts material composition if wished.

Lifts put on certain markets can be subject of further local regulations or specific requirements of stakeholders. In such cases, additional requirements to declare the content of certain substances may be needed. This can be done in an annex of the EPD.

5.3.5 ENVIRONMENTAL PERFORMANCE

As in PCR 2019:14.

In addition to the main environmental performance results per FU, the environmental performance section shall, in a separate subsection, include a declaration of the environmental performance in absolute figures (i.e. total values) for the complete product over its RSL (e.g. “New lift in operation for 25 years”) as specified in Table 1, separately for each information module.

5.3.6 ADDITIONAL ENVIRONMENTAL INFORMATION

As in PCR 2019:14.

Moreover, additional environmental information can optionally also include recommendations for energy saving measures. Other environmental information describing different waste categories and output flows may be declared as follows:

- Components potentially suitable for re-use (e.g. counterweight filling blocks, landing door frames); in kg and % of total system weight as installed
- Materials potentially suitable for recycling (e.g. all ferrous and non-ferrous parts) in kg and % of total system weight as installed
- Materials potentially suitable for energy recovery (e.g. used oils, plastic parts); in kg and % of total system weight as installed

Additional environmental information can also include a more detailed description of an organization’s overall environmental work (e.g. relevant Type I and Type II environmental labels awarded to the product), information that is identified as an important environmental aspect of the product or information asked by the customer and other stakeholders

Moreover, any extraordinary efforts performed by the company for recycling and reuse of their lift material, such as e.g. voluntary take back programs of the lift company for recycling, refurbishment and reuse of PWBs and e-waste can also be declared.

In case information regarding green building certification schemes is to be disclosed, this shall be done in this section. Such information can be e.g.:

- Annual energy consumption and energy efficiency, following ISO 25745-2
- Reference to published Health Product Declarations (HPD) or Cradle to cradle certificates (C2C)

[13] Other materials include those, for which the material contents cannot be established.

- Noise generation
- Reference to REACH regulation compliance.

Any claims made about the product shall be verifiable.

5.3.7 INFORMATION RELATED TO SECTOR EPD

As in PCR 2019:14.

5.3.8 DIFFERENCES VERSUS PREVIOUS VERSIONS

As in PCR 2019:14.

5.3.9 REFERENCES

As in PCR 2019:14.

5.3.10 EXECUTIVE SUMMARY IN ENGLISH

As in PCR 2019:14.

6 GLOSSARY

As in PCR 2019:14 and in addition:

CPC = Central Product Classification

ELA = European Lift Association

EOL = End-of-Life

EZ = Express zone

FU = Functional unit

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

GPI = General Programme Instructions

OECD = Organisation for Economic Co-operation and Development

PWB = Printed Wiring Board

RSL = Reference Service Life

UC = Usage Category

7 REFERENCES

CEN (2019) EN 15804:2012+A2:2019, Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.

EPD International (2025) PCR 2019:14 Construction products, version 2.0.0.

ISO (2006a) ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures.

ISO (2006b) ISO 14040:2006, Environmental management – Life cycle assessment – Principles and framework.

ISO (2006c) ISO 14044: 2006, Environmental management – Life cycle assessment – Requirements and guidelines.

ISO (2017) ISO 21930:2017, Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services.

Other references relevant for lifts:

ASME (2007) A17.1 Safety Code for Elevators and Escalators.

CEN (2011) EN 15978, Sustainability of construction works – Assessment of environmental performance of buildings – Calculation methods.

CEN (2010) EN/TR 15941, Sustainability of construction works – Environmental product declarations – Methodology for selection and use of generic data.

CEN (1998) EN-81 series, Safety rules for the construction and installation of lifts.

EC (2014) Directive 2014/33/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to lifts and safety components for lifts (Lifts Directive).

ISO (2012) ISO 25745-1:2012, Energy performance of lifts, escalators and moving walks – Part 1: Energy measurement and verification.

ISO (2014) ISO 25745-2:2014, Energy performance of lifts, escalators and moving walks – Part 2: Energy calculation and classification for lifts (elevators)

Lorente Lafuente AM (2013) Life Cycle Analysis and Energy Modelling of Lifts. Doctorate thesis deposited at EINA, University of Zaragoza, September 2013.

Lorente Lafuente AM, Núñez Bruis JL (2014) Environmental impact of lifts. Symposium on Lift and Escalator Technologies. Northampton: September 2014.

8 CHANGES IN THIS C-PCR

VERSION 2020-10-30

Original version, based on PCR 2019:14 Construction products, updating and substituting PCR 2015:05.

VERSION 2024-03-08

Editorial changes, including:

- Clarification that the main environmental performance results are those expressed per FU, and that the results for the complete product over its RSL shall be declared in a separate subsection (see Section 5.3.5).
- The references to sections in PCR 2019:14 have been updated to align with the present numbering of sections.

VERSION 2024-04-30

Updated validity to align with extended validity of PCR 2019:14 as of version 1.3.4.

VERSION 2024-08-27

New contact information to the PCR Moderator.

VERSION 1.0.0, 2025-04-08

- Updated with prolonged validity, until five years from the original publication of the PCR.
- Changed from version date to version number.
- Other editorial changes and clarifications, e.g., related to the use of the c-PCR (see Section 1).
- Removed references to specific sections of PCR 2019:14, as the sections of PCR 2019:14 changed as of the publication of version 2.0.0 in 2025-04-08 and as this c-PCR is applicable together with any version of PCR 2019:14.

VERSION 1.0.1, 2025-07-30

- The validity period of the PCR was further extended by 6 months, until 2026-04-30, due to the initiation of an updating process.

VERSION 1.0.2, 2026-02-05

- Editorial correction of date in header.

LIFTS (ELEVATORS)

PRODUCT GROUP CLASSIFICATION: UN CPC 4354