LEATHER FOOTWEAR

PRODUCT CATEGORY CLASSIFICATION: UN CPC 2933

2013:15
VERSION 2.11

VALID UNTIL: 2021-07-27

TABLE OF CONTENTS

1 INTRODUCTION

This document constitutes Product Category Rules (PCR) developed in the framework of the International EPD® System: a programme for type III environmental declarations[1] according to ISO 14025:2006. Environmental Product Declarations (EPD) are voluntary documents for a company or organisation to present transparent information about the life cycle environmental impact for their goods or services.

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

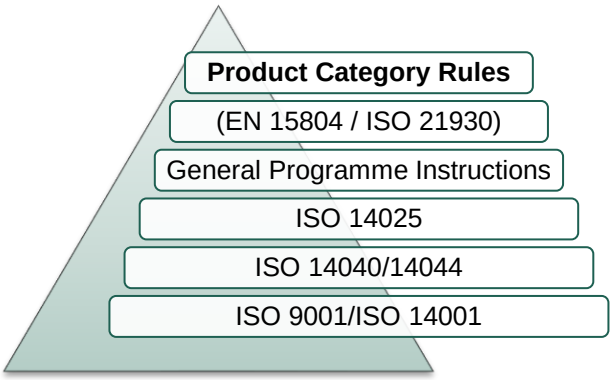

Figure 1 Illustration PCR in relation to the hierarchy of standards and other documents.

Within the present PCR, the following terminology is adopted:

- The term “shall” is used to indicate what is obligatory.
- The term “should” is used to indicate a recommendation, rather than a requirement.
- The term “may” or “can” is used to indicate an option that is permissible

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

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

Any references to this document should 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 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] Type III environmental declarations in the International EPD® System are referred to as EPD, Environmental Product Declarations.

2 GENERAL INFORMATION

2.1 ADMINISTRATIVE INFORMATION

Name:	Leather footwear
Registration number and version:	2013:15, version 2.11
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:	*Currently no appointed PCR moderator. Please contact the Secretariat if you are interested in taking on this role.*
PCR Committee:	ITIA-CNR, Institute for Industrial Technologies and Automation (goo.gl/ps3tPj) Synesis Consortium (http://www.synesis-consortium.eu/) Aequilibra, (http://www.aequilibria.com/)
Date of publication and last revision:	2019-09-06 (version 2.11) Version 1.0 was published 2013-09-16. A version history is available in Section 8.
Valid until:	2021-07-27
Schedule for renewal:	A PCR is valid for a pre-determined period of time to ensure that it is updated at regular intervals. When the PCR is about to expire the PCR moderator shall initiate a discussion with the Secretariat how to proceed with updating the document and renewing its validity. A PCR document may be revised during its period of validity provided significant and well-justified proposals for changes or amendments are presented. See www.environdec.com for up-to-date information and the latest version.
Standards conformance:	▪ General Programme Instructions of the International EPD® System, version 3.0, based on ISO 14025 and ISO 14040/14044 ▪ PCR Basic Module, CPC Division 29 Leather and leather products; footwear, version 3.01, dated 2018-11-06
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 OF PCR

2.2.1 PRODUCT CATEGORY DEFINITION AND DESCRIPTION

This document provides Product Category Rules (PCR) for the assessment of the environmental performance of footwear with uppers of leather other than sports footwear, footwear incorporating a protective metal toe-cap and miscellaneous special footwear and the declaration of this performance by an EPD. The product category corresponds to UN CPC 2933.

This PCR **excludes** the product groups

- UN PC 294 Sports footwear, except skating boots
- UN PC 295 Other Footwear, except asbestos footwear, orthopaedic footwear and skating boots
- UN PC 296 Parts of footwear; removable insoles, heel cushions and similar articles; gaiters, leggings and similar articles, and parts thereof

This PCR **excludes** the UN CPC product classes

- UN PC 2931 "Waterproof footwear, with outer soles and uppers of rubber or plastics, other than footwear incorporating a protective metal toe-cap".
- UN PC 2932 "Footwear with outer soles and uppers of rubber or plastics, other than waterproof footwear or sports footwear"
- UN PC 2934 "Footwear with uppers of textile materials, other than sport footwear"

Any comments to this PCR document may be given on the Global PCR Forum or directly to the PCR moderator during the period of validity.

The PCR document is a living document. If relevant changes in the LCA methodology or in the technology for the product category occur, the document will be revised and any changes will be published on the international website: www.environdec.com.

The EPD shall refer to a specific PCR version number.

The production of new PCR versions does not affect the EPD certification period. This PCR is applicable for footwear types with uppers in leather for a general use, for protective use and for miscellaneous use.

UNSD tree hierarchy		Name
-	**Section: 2**	Food products, beverages and tobacco; textiles, apparel and leather products
↓	**Division: 29**	Leather and leather products; footwear
↓	**Group: 293**	Footwear, with outer soles and uppers of rubber or plastics, or with uppers of leather or textile materials, other than sports footwear, footwear incorporating a protective metal toe- cap and miscellaneous special footwear
↓	**Class: 2933**	Footwear with uppers of leather, other than sports footwear, footwear incorporating a protective metal toe-cap and miscellaneous special footwear

Further information is available at the following link to http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=25

2.2.2 GEOGRAPHICAL REGION

This PCR is applicable to be used globally.

2.2.3 EPD VALIDITY

An EPD based on this PCR shall be valid from its registration and publication at www.environdec.com and for a five year period starting from the date of the verification report ("approval date"), or until the EPD has been de-registered from the International EPD® System.

An EPD shall be updated and re-verified during its validity if changes in technology or other circumstances have led to:

- an increase of 10% or more of any of the indicators listed in Section 5.4.5.1,
- errors in the declared information, or
- significant changes to the declared product information, content declaration, or additional environmental information.

If such changes have occurred, but the EPD is not updated, the EPD owner shall contact the Secretariat to de-register the EPD.

3 PCR REVIEW AND BACKGROUND INFORMATION

This PCR was developed in accordance with the process described in the General Programme Instructions of the International EPD® System, including PCR review and open consultation.

3.1 PCR REVIEW

3.1.1 VERSION 1.0

Version 1.0 of the PCR was reviewed by the Technical Committee of the International EPD System.

3.1.2 VERSION 2.0

PCR review panel:	The Technical Committee of the International EPD® System. A full list of members available on 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 moderator or PCR committee, and were excused from the review.
Chair of the PCR review:	Claudia A Peña
Review dates:	2017-06-08 until 2017-06-29

3.2 OPEN CONSULTATION

3.2.1 VERSION 1.0

Version 1.0 of this PCR was available for open consultation at www.environdec.com from 2012-12-15 until 2013-02-28.

3.2.2 VERSION 2.0

This PCR was available for open consultation from 2016-08-04 until 2016-10-04, during which any stakeholder was able to provide comments by posting on the PCR forum on www.environdec.com or by contacting the PCR moderator. Panel organized web meetings in April 2016 in order to check compliance with other similar LCA-based labelling schemes as PEFCR for non-leather shoes

A total of 20 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.

3.3 EXISTING PCRS FOR THE PRODUCT CATEGORY

As part of the development of this PCR, existing PCRs were considered in order to avoid overlaps in scope.

3.4 REASONING FOR DEVELOPMENT OF PCR

This PCR was developed in order to enable publication of Environmental Product Declarations (EPD) for this product category based on ISO 14025, ISO 14040/14044 and other relevant standards to be used in different applications and target audiences.

The development of this PCR followed the first draft of 2013 with the view to promoting environmental certification for the fashion industry. PCR on leather shoes was the first LCA-based certification scheme regarding shoes. The latest version seeks in particular to align PCR rules with recent footwear PEFCR within the pilot studies supported by the European community in order to further promote the growth of a shared framework for this type of products.

3.5 UNDERLYING STUDIES

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

- Anna Karin Dahlberg - Chemical Analysis of Organic Compounds in Footwear - Degree Project in Environmental Chemistry, 30 hp - Swedish Environmental Research Institute Ltd. - 2010
- Annekatrin Lehmann, Vanessa Bach and Matthias Finkbeiner - Sustainability Commentary - EU Product Environmental Footprint-Mid-Term Review of the Pilot Phase - Sustainability 2016, 8, 92; doi:10.3390/su8010092
- B. Rivela, M. T. Moreira, C. Bornhardt, R. Meä Ndez, and G. Feijoo. Life Cycle Assessment as a Tool for the Environmental Improvement of the Tannery Industry in Developing Countries .(Environ. Sci. Technol. 2004)
- Calculation of a Corporate Carbon Footprint (CCF) for a leather factory with evaluation of internal energy consumption in comparison to the BEET energy benchmark (Best Energy Efficiency for Tanning), 2011.
- Carlo Brondi, Rosanna Fornasiero, Manfredi Vale, Ludovico Vidali and Federico Brugnoli. Modular framework for reliable LCA-based indicators supporting supplier selection within complex supply chains. (APMS-2012)
- D. Pernigotti, C. Rose; Life Cycle Assessment of finished bovine leather (December 2006)
- D. Pernigotti, C. Rose; Carbon Footprint of product of finished bovine leather (June 2011)
- D. Pernigotti, M. Mancin; EPD Process of finished bovine leather (February 2017)
- ECO2L, Energy Controlled Leather. Calculation of a Corporate Carbon Footprint (CCF) for a leather factory with evaluation of internal energy consumption in comparison to the BEET energy benchmark (Best Energy Efficiency for Tanning) (Oct. 2011)
- Ecolabel, Study for the Footwear Criteria Revision produced for the European Commission by Life Cycle Engineering, 2008.
- European Commission Joint Research Centre Institute for Environment and Sustainability H08 Sustainability Assessment Unit. (Ispra, Italy, November 2011). Analysis of Existing Environmental Footprint Methodologies for Products and Organizations: Recommendations, Rationale, and Alignment.
- European Trade Union and COTANCE. Social and Environmental Report - the European leather industry, 2012.
- F. Brugnoli, I. Krá? - Life Cycle Assessment/Carbon Footprint in the Leather Processing - Eighteenth Session of the Leather And Leather Products Industry Panel Shanghai, China, 01 - 05 September 2012
- FAO - Food And Agriculture Organization Of The United Nations - World statistical compendium for raw hides and skins, leather and leather footwear 1992-2011
- Kurian Joseph, N. Nithya. Material flows in the life cycle of leather. (Journal of Cleaner Production 17 (2009) 676-682)
- Kyle Albers, Peter Canepa, Jennifer Miller. Analyzing the Environmental Impacts of Simple Shoes (March 2008).
- LCA of Italian and Spanish bovine leather production systems in an industrial ecology perspective, 2011.
- Life Cycle Assessment/Carbon Footprint in the Leather Processing, 2012.
- Lloren; Mil., Xavier Domnech, laJoanRieradevall, Pere Fullana, Rita Puig. Application of Life Cycle Assessment to Footwear [Int. J. LCA 3 (4) 203 - 208 (1998)].
- Notarnicola Bruno, Puig Rita, Raggi Andrea, Tarabella Angela, Petti Luigia, Rius Antoni, Tassielli Giuseppe, De Camillis Camillo, Mongelli Ignazio. LCA of Italian and Spanish bovine leather production systems in an industrial ecology perspective
- Sandrine Pesnel - (PEFCR). Pilot T-shirts. Study of existing PCRs, draft scope, representative product, minutes of the consultation meeting, comments from stakeholder. First physical public consultation. June, 2014
- Shahin Rahimifard, Theodoros Staikos, Dr Gareth Coates. Recycling of Footwear Products. Centre for Sustainable Manufacturing and Reuse/recycling Technologies (SMART), Loughborough University (2007)
- Technical Committee CEN/TC 309 "Footwear". Footwear - Critical substances potentially present in footwear and footwear component - Definitions and requirements, Working document: TC 309 WI (2009).
- The Life Cycle of a Typical Leather Manufacturing Waste, 2011.
- Unido -CTC- Wastes Generated In The Leather Products Industry- Fourteenth Session of the Leather and Leather Products Industry Panel, Zlin, Czech Republic 13-15 December 2000

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/DECLARED UNIT

The declared unit is a pair of leather footwear including packaging.

The footwear integrates a leather upper.

This PCR can be used for all kinds of finished bovine leather types from a single manufacturing facility.

In addition to the declared unit, one of the following three options for functional unit have to be selected and used:

- A - EPD of a single product (i.e. specific product without specific product feature constituting a specific commercial code). The functional unit is expected to provide wear in good condition with appropriate use for one year. Depending on the durability testing, the shoes' lifetime may be used to evaluate shoes with a different duration than one year. These shoes' impacts will be scaled up or down to be consistent with the reference flow of one year.
- B - EPD of a family of similar and homogeneous products that are part of the same production category (e.g. leather footwear in different colours). In this case the LCA study shall be based on the average footwear production for family (e.g. all types of finished footwear produced by the company in one year). The functional unit is expected to provide wear in good condition with appropriate use for one year according to average duration of the footwear family.
- C - EPD of the average production of all kinds of footwear produced in a footwear company in a defined period. In this case, it shall be clearly stated in the EPD that the result does not refer to a specific footwear but to the average production of the company. In this case the functional unit is expected to provide wear in good condition with appropriate use for one year according to the average duration of the different footwear models.

The company shall clearly indicate which of the three options has selected (A, B or C) with the resulting modeling approaches. The temporal duration of the shoe should be demonstrated by specific test and proved assumptions.

4.2 REFERENCE SERVICE LIFE (RSL)

Not applicable for this product category.

4.3 SYSTEM BOUNDARY

The International EPD® System uses an approach where all attributional processes from "cradle to grave" should be included using the principle of "limited loss of information at the final product". This is especially important in the case of business-to-consumer communication.

The scope of this PCR and EPDs based on it is cradle to grave.

4.3.1 LIFE CYCLE STAGES

For the purpose of different data quality rules and for the presentation of results, the life cycle of products is divided into three different life cycle stages:

- Upstream processes (from cradle-to-gate);
- Core processes (from gate-to-gate)
- Downstream processes (from gate-to-grave)

In the EPD, the environmental performance associated with each of the three life-cycle stages above shall be reported separately. The processes included in the scope of the PCR and belonging to each life cycle stage are described in Sections 4.3.1.1–0.

4.3.1.1. Upstream processes

The following attributional processes are part of the product system and classified as upstream processes:

- Leather production
- Raw material extraction for components other than leather
- Production of generic materials not specific for Footwear sector
- Manufacturing of primary and secondary packaging
- Impacts due to the production of electricity and fuels used in the upstream module
- Generation of energy wares used in production
- Chemical and ancillary production
- Production of auxiliary products used such as detergents for cleaning, etc.

Upstream processes not listed may also be included. All elementary flows at resource extraction shall be included, except for the flows that fall under the general cut-off rule in Section 4.5.

4.3.1.2. Core processes

The following attributional processes are part of the product system and classified as core processes:

- Production of main footwear-specific components (upper, sole, laces etc.)
- Production of the finished footwear
- External transportation to the core process
- Intermediate transportation between footwear manufacturer and component suppliers
- Direct supply of fresh water for production Emission to water, to air
- Waste treatment of waste generated during manufacturing;
- Impacts due to the production of electricity and fuels used in the core module
- Maintenance activities for production equipment within three years
- General site consumption other than production consumptions (i.e. administrative consumptions)

Manufacturing processes not listed may also be included. The production of the raw materials used for production of all product parts shall be included. A minimum of 99% of the total weight of the declared product including packaging shall be included.

The technical system shall not include:

- Manufacturing of production equipment, buildings and other capital goods.
- Business travel of personnel.
- Travel to and from work by personnel.
- Research and development activities.

Optional processes to be included are:

- Building of capital equipment site
- Business travel of personnel

4.3.1.3. Downstream processes

The following attributional processes are part of the product system and classified as downstream processes:

- Transportation from preparation to an average retailer/distribution platform

It is voluntary to include:

- the dismissal of the footwear according to an average scenario
- the flow inventories due to average consumer use of the product

In the EPD, the environmental performance associated with each of the three life-cycle stages above reported should be reported separately.

4.3.1.4. Boundary towards nature

Boundaries to nature are defined as flows of material and energy resources from nature into the system. Emissions to air, water and soil cross the system boundary when they are emitted from or leaving the product system.

4.3.1.5. Boundaries in the life cycle

See Section 4.3.1. The EPD may present the information divided into additional sub-divisions.

4.3.1.6. Boundaries towards other technical systems

See Section 4.6.2.

4.4 SYSTEM DIAGRAM

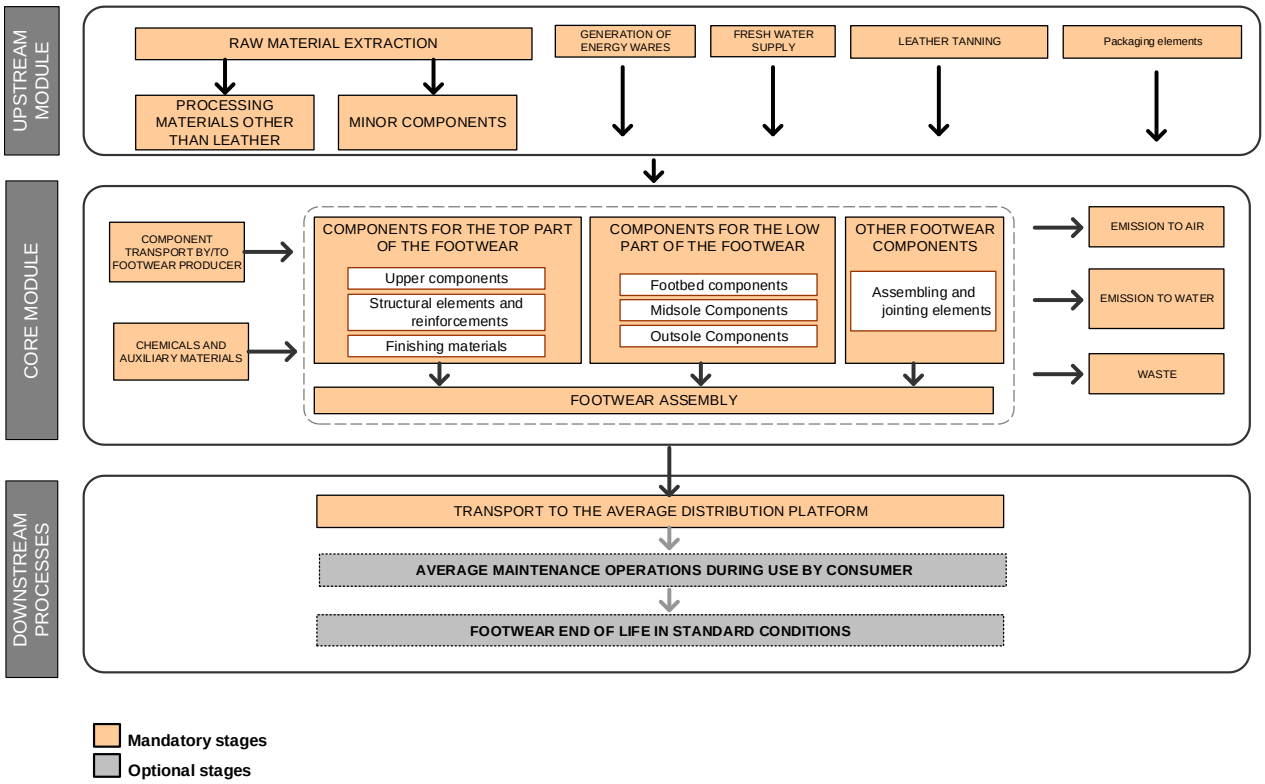

Figure 2 *System diagram illustrating the processes or leather footwear, divided into upstream, core and downstream processes.*

4.5 CUT-OFF RULES

Data for elementary flows to and from the product system contributing to a minimum of 99% of the declared environmental impacts shall be included (not including processes that are explicitly outside the system boundary as described in Section 4.3).

The check for cut-off rules in a satisfactory way is through the combination of expert judgment based on experience of similar product systems and a sensitivity analysis in which it is possible to understand how the un-investigated input or output could affect the final results.

4.6 ALLOCATION RULES

4.6.1 CO-PRODUCT ALLOCATION

The following step-wise procedure shall be applied for multifunctional products and multiproduct processes:

1. Allocation shall be avoided, if possible, by dividing the unit process into two or more sub-processes and collecting the environmental data related to these sub-processes.
2. If allocation cannot be avoided, the inputs and outputs of the system shall be partitioned between its different products or functions in a way that reflects the underlying physical relationships between them; i.e. they should reflect the way in which the inputs and outputs are changed by quantitative changes in the products or functions delivered by the system.
3. Where physical relationships alone cannot be established or used as the basis for allocation (or they are too time consuming), the most suitable allocation procedure shall be used and documented.

4.6.2 REUSE, RECYCLING, AND RECOVERY

In the framework of the International EPD® System, the methodological choices for allocation for reuse, recycling and recovery have been set according to the polluter pays principle (PPP). This means that the generator of the waste shall carry the full environmental impact until the point in the product's life cycle at which the waste is transported to a scrapyard or the gate of a waste processing plant (collection site). The subsequent user of the waste shall carry the environmental impact from the processing and refinement of the waste but not the environmental impact caused in the "earlier" life cycles. See General Programme Instruction for further information and examples.

4.7 DATA QUALITY REQUIREMENTS

An LCA calculation requires two different kinds of information:

- data related to the **environmental aspects** of the considered system (such materials or energy flows that enter the production system). These data usually come from the company that is performing the LCA calculation.
- data related to the **life cycle impacts** of the material or energy flows that enter the production system. These data usually come from databases.

Data on environmental aspects shall be as specific as possible and shall be representative of the studied process.

Data on the life cycle of materials or energy inputs are classified into three categories – specific data, selected generic data, and proxy data, defined as follows:

- **specific data** (also referred to as "primary data" or "site-specific data") – data gathered from the actual manufacturing plant where product-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 by a contracted supplier that is able to provide data for the actual delivered services, transportation that takes place based on actual fuel consumption, and related emissions, etc.,
- **generic data** (sometimes referred to as "secondary data"), divided into**:**
  - **selected generic data** – data from commonly available data sources (e.g. commercial databases and free databases) that fulfil prescribed data quality characteristics for precision, completeness, and,
  - **proxy data** – data from commonly available data sources (e.g. commercial databases and free databases) that do not fulfil all of the data quality characteristics of "selected generic data".

As a general rule, specific data shall always be used, if available, after performing a data quality assessment. It is mandatory to use specific data for the core processes as defined above. For the upstream processes, downstream processes, and infrastructure, generic data may also be used if specific data are not available.

In particular, specific data should include factory data for manufacturing of footwear major component starting from basic materials. In order to maintain comparable quality such components should constitute at least 85% in weight of the final footwear.

Generic data should especially be used in cases where they are representative for the purpose of the EPD, e.g. for bulk and raw materials on a spot market, if there is a lack of specific data on the final product or if a product consists of many components.

Any data used should preferably represent average values for a specific reference year. However, the way these data are generated could vary, e.g. over time, and in such cases they should have the form of a representative annual average value for a specified reference period. Such deviations should be declared.

4.7.1 RULES FOR USING GENERIC DATA

The attributional LCA approach in the International EPD® System forms the basic prerequisites for selecting generic data. To allow the classification of generic data as “selected generic data”, they shall fulfil selected prescribed characteristics for precision, completeness, and representativeness (temporal, geographical, and technological), such as:

- the reference year must be as current as possible and preferably assessed to be representative for at least the validity period of the EPD,
- the cut-off criteria to be met on the level of the modelled product system are the qualitative coverage of at least 99% of energy, mass, and overall environmental relevance of the flows,
- completeness in which the inventory data set should, in principle, cover all elementary flows that contribute to a relevant degree of the impact categories, and
- the representativeness of the resulting inventory in the given temporal, technological, and geographical reference should, as a general principle, be better than ±5% of the environmental impact of fully representative data..

Section 4.8 provides a list of recommended databases/data sets to be used for generic data.

If selected generic data that meets the requirements of the International EPD® System are not available as the necessary input data, proxy data may be used and documented. The environmental impacts associated with proxy data shall not exceed 10% of the overall environmental impact from the product system.

The EPD may include a data quality declaration to demonstrate the share of specific data, selected generic data and proxy data for the environmental impacts.

4.8 RECOMMENDED DATABASES FOR GENERIC DATA

Table 1 lists recommended databases for generic data. Please note that this listing does not imply that other data that fulfil the data quality requirements may not be used and that data quality assessment shall also be performed for the data sets in the recommended database by an LCA practitioner.

In order to facilitate the data comparability of different studies, reference studies and database are recommended to be used. Such sources should have been focused on the leather footwear chain. During the selection, such reference data should be identified according to highest quality requirement for such PCR. Furthermore, publically-available and free data of high quality should have priority.

Material	Specific material	DATABASE
Leather	Leather, Coated Leather, Leather Board	Ecoinvent Reference data from PEFCR Other EPD studies
Metal	Metallic eyelets, Metallic Shanks, Metallic Top pieces, Buckle, Buttons, Nails, Metallic toe puff	Ecoinvent Reference data from PEFCR
Plastics	PVC, EVA, Foams, PU-TPU, Spandex, PET, PP, Polyester, Polyamide, Polyacrylic Fibre	Ecoinvent Reference data from PEFCR Other EPD studies
Chemicals	Adhesives	Ecoinvent Reference data from PEFCR Other EPD studies
Transport	Truck transport, Rail transport, Ship transport	Ecoinvent Reference data from PEFCR

Energy	Electricity Heat	Ecoinvent Reference data from PEFCR
Other	Bag Box	Ecoinvent Reference data from PEFCR
Textile	Natural Textile, Print For Textile	Ecoinvent Reference data from PEFCR Other EPD studies
Rubber	Rubber, Latex	Ecoinvent Reference data from PEFCR Other EPD studies
Other	Wood, Cork, Cellulosic Material	Ecoinvent Reference data from PEFCR
Packaging	Box	Ecoinvent Reference data from PEFCR
Composite materials	Insole, sole, upper	Ecoinvent Reference data from PEFCR Other EPD studies

Table 1 Recommended databases for generic data.

4.9 IMPACT CATEGORIES AND IMPACT ASSESSMENT

The EPD shall declare the default impact categories as described in the General Programme Instructions. The characterisation models and factors to use for the default impact categories are available on www.environdec.com and shall be updated on a regular basis based on the latest developments in LCA methodology and ensuring the market stability of EPDs. The source and version of the characterisation models and the factors used shall be reported in the EPD. Alternative regional life cycle impact assessment methods and characterisation factors are allowed to be calculated and displayed in addition to the default list. If so, the EPD shall contain an explanation of the difference between the different sets of indicators, as they may appear to the reader to display duplicate information.

4.10 OTHER CALCULATION RULES AND SCENARIOS

4.10.1 UPSTREAM PROCESSES

The following requirements apply to the upstream processes:

- For leather production from specific supplier the data should be consistent with prescription of the latest available version of the PCR 2912 - Finished Bovine Leather
- Data referring to processes and activities upstream in a supply chain over which an organisation has direct management control shall be specific and collected on site.
- Data referring to contractors that supply main parts, packaging, or main auxiliaries should be requested from the contractor as specific data, as well as infrastructure, where relevant.
- The transport of main parts and components along the supply chain to a distribution point (e.g. a stockroom or warehouse) where the final delivery to the manufacturer can take place based on the actual transportation mode, distance from the supplier, and vehicle load.
- In case specific data is lacking, selected generic data may be used. If this is also lacking, proxy data may be used.
- For the electricity used in the upstream processes, electricity production impacts shall be accounted for in this priority when specific data are used in the upstream processes:

    1. Specific electricity mix as generated, or purchased, from an electricity supplier, demonstrated by a Guarantee of Origin (or similar, where reliability, traceability, and the avoidance of double-counting are ensured) as provided by the electricity supplier. If no specific mix is purchased, the residual electricity mix from the electricity supplier shall be used.[2]
    2. National residual electricity mix or residual electricity mix on the market

[2] The residual electricity mix is the mix when all contract-specific electricity that has been sold to other customers has been subtracted from the total production mix of the electricity supplier.

3. National electricity production mix or electricity mix on the market.

The mix of electricity used in upstream processes shall be documented in the EPD, where relevant.

- Packaging: specific data shall be used for the consumer packaging production if it is under the direct control of the organization or if the environmental impact related to the consumer packaging production is more than 10% of the total product environmental indicators. In other cases, generic data may be used. When consumer packaging shows the organization's logo, the LCA report should report the exerted/non-exerted direct control on the production of consumer packaging by the organization.

4.10.2 CORE PROCESSES

The following requirements apply to the core processes:

- Specific data shall be used for the assembly of the product and for the manufacture of main parts as well as for on-site generation of steam, heat, electricity, etc., where relevant.
- For the electricity used in the core processes, electricity production impacts shall be accounted for in this priority:

1. Specific electricity mix as generated, or purchased, from an electricity supplier, demonstrated by a Guarantee of Origin (or similar, where reliability, traceability, and the avoidance of double-counting are ensured) as provided by the electricity supplier. If no specific mix is purchased, the residual electricity mix from the electricity supplier shall be used.[3]
2. National residual electricity mix or residual electricity mix on the market
3. National electricity production mix or electricity mix on the market.

The mix of electricity used in the core processes shall be documented in the EPD, where relevant.

- Transport from the final delivery point of raw materials, chemicals, main parts, and components (see above regarding upstream processes) to the manufacturing plant/place of service provision should be based on the actual transportation mode, distance from the supplier, and vehicle load, if available.
- Waste treatment processes of manufacturing waste should be based on specific data, if available.

4.10.3 DOWNSTREAM PROCESSES

The following requirements apply to the downstream processes:

- Use phase (optional): If included, the use scenario should include average consumptions and emissions for the footwear pair maintenance in the declared technical duration.
- Data on the pollutant emissions from the use stage should be based on documented tests, verified studies in conjunction with average or typical product use, or recommendations concerning suitable product use. Whenever applicable, test methods shall be internationally recognised.
- The use of electricity in the region/country where the product is used (as specified in the geographical scope of the EPD) shall be accounted for in the following priority:

1. National residual electricity mix or residual mix on the market
2. National electricity production mix or electricity mix on the market

The mix of electricity used in the downstream processes shall be documented in the EPD, where relevant.

- The transport of the product to the customer shall be described in the reference PCR, which should reflect the actual situation to the best extent possible. The following priority should be used:

1. Actual transportation distances and types.
2. Calculated as the average distance of a product of that product type transported by different means of transport modes.

[3] The residual electricity mix is the mix when all contract-specific electricity that has been sold to other customers has been subtracted from the total production mix of the electricity supplier.

3. Calculated as a fixed long transport, such as 1 000 km transport by lorry or 10 000 km by airplane, according to product type.

- Scenarios for the end-of-life stage shall be technically and economically practicable and compliant with current regulations in the relevant geographical region based on the geographical scope of the EPD. Key assumptions regarding the end-of-life stage scenario shall be documented.

Key assumptions regarding the end-of-life stage shall be documented and representative for the area where the product gets the end-of-life.

5 CONTENT AND FORMAT OF EPD

EPDs based on this PCR shall contain the information described in this section. Flexibility is allowed in the formatting and layout provided that the EPD still includes the prescribed information. A generic template for EPDs is available via www.environdec.com

As a general rule the EPD content:

- shall be in line with the requirements and guidelines in ISO 14020 (Environmental labels and declarations - General principles),
- shall be verifiable, accurate, relevant and not misleading, and
- shall not include rating, judgements or direct comparison with other products.

An EPD should be made with a reasonable number of pages for the intended audience and use.

5.1 EPD LANGUAGES

EPDs should be published in English, but may also be published in additional languages. If the EPD is not available in English, it shall contain an executive summary in English including the main content of the EPD. This summary is part of the EPD and thus subject to the same verification procedure.

5.2 UNITS AND QUANTITIES

The following requirements apply for units and quantities:

- The International System of Units (SI units) shall be used, e.g., kilograms (kg), Joules (J) and metres (m). Reasonable multiples of SI units may be decided in the PCR to improve readability, e.g., grams (g) or megajoules (MJ). The following exceptions apply:
  - Resources used for energy input (primary energy) should be expressed as kilowatt-hours (kWh) or megajoules (MJ), including renewable energy sources, e.g., hydropower, wind power and geothermal power.
  - Water use should be expressed in cubic metres (m^3)
  - Temperature should be expressed in degrees Celsius (°C),
  - Time should be expressed in the units most practical, e.g., seconds, minutes, hours, days or years.
- Three significant figures[4] should be adopted for all results. The number of significant digits shall be appropriate and consistent.
- The thousand separator and decimal mark in the EPD shall follow one of the following styles (a number with six significant figures shown for illustration):
  - SI style (French version): 1 234,56
  - SI style (English version): 1 234.56

[4] Significant figures are those digits that carry meaning contributing to its precision. For example with two significant digits, the result of 123.45 shall be displayed as 120, and 0.12345 shall be displayed as 0.12. In scientific notation, these two examples would be displayed as $1.2*10^2$ and $1.2*10^{-2}$.

In case of potential confusion or intended use of the EPD in markets where different symbols are used, the EPD shall state what symbols are used for thousand separator and decimal mark.

- Dates and times presented in the EPD should follow the format in ISO 8601. For years, the prescribed format is YYYY-MM-DD, e.g., 2017-03-26 for March 26th, 2017.
- The result tables shall:
  - Only contain values or the letters “INA” (Indicator Not Assessed). It is not possible to specify INA for mandatory indicators. INA shall only be used for voluntary parameters that are not quantified because no data is available.[5]
  - Contain no blank cells, hyphens, less than or greater than signs or letters (except “INA”).
  - Use the value 0 only for parameters that have been calculated to be zero.
  - Footnotes shall be used to explain any limitation to the result value.

5.3 USE OF IMAGES IN EPD

Images used in the EPD, especially pictures featured on the cover page, may in themselves be interpreted as an environmental claim. Images such as trees, mountains, wildlife that are not related to the declared product should therefore be used with caution and in compliance with national legislation and best available practices in the markets in which the EPD is intended to be used.

5.4 EPD REPORTING FORMAT

The reporting format of the EPD shall include the following sections:

- Cover page (see Section 5.4.1)
- Programme information (see Section 5.4.2)
- Product information (see Section 5.4.3)
- Content declaration (see Section 5.4.4)
- Environmental performance (see Section 5.4.5)
- Additional environmental information (see Section 5.4.6)
- References (see Section 5.4.10)

The following information shall be included, when applicable:

- Information related to Sector EPDs (see Section 0)
- Differences versus previous versions (see Section 5.4.9)
- Executive summary in English (see Section □)

5.4.1 COVER PAGE

The cover page shall include:

- Product name and image,
- Name and logotype of EPD owner,
- The text “Environmental Product Declaration” and/or “EPD”
- *Programme: The International EPD® System, www.environdec.com,*
- *Programme operator: EPD International AB*

[5] This requirement does not intend to give guidance on what indicators are mandated (“shall”) or voluntary.

- Logotype of the International EPD® System,
- EPD registration number as issued by the programme operator[6],
- *Date of publication (issue): 20XX-YY-ZZ,*
- *Date of revision: 20XX-YY-ZZ*, when applicable,
- *Date of validity; 20XX-YY-ZZ*
- A note that "*An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com*."
- A statement of conformity with ISO 14025,

5.4.2 PROGRAMME INFORMATION

The programme information section of the EPD shall include:

- Address of programme operator: *EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden, E-mail: info@environdec.com*
- The following mandatory statement from ISO 14025: "*EPDs within the same product category but from different programmes may not be comparable*."
- A statement that the EPD owner has the sole ownership, liability and responsibility of the EPD
- Information about verification[7] and reference PCR in a table with the following format and contents:

Product category rules (PCR): 2013:15 Leather footwear version 2.1. UN CPC 2933.
PCR review was conducted by: The Technical Committee of the International EPD® System. Revuew chair: Claudia A Peña Contact via info@environdec.com
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☐ EPD process certification ☐ EPD verification
Third party verifier: <*name, organisation and signature of the third party verifier*> *In case of certification bodies:* Accredited by: <*name of the accreditation body and accreditation number, if applicable*>. *In case of individual verifiers:* Approved by: The International EPD® System Technical Committee, supported by the Secretariat
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☐ No

5.4.3 PRODUCT INFORMATION

The product information section of the EPD shall include:

- Address and contact information to EPD owner,

[6] The EPD shall not include a "registration number" if such is provided by the certification body, as this may be confused with the registration number issued by the programme operator.

[7] If the EPD has been verified by an approved individual verifier who has received contractual assistance from a certification body that is not accredited, this certification body shall not be included in this table.

- Description of the organisation. This may include information on products- or management system-related certifications (e.g. ISO 14024 Type I environmental labels, ISO 9001- and 14001-certificates and EMAS-registrations) and other relevant work the organisation wants to communicate (e.g. SA 8000, supply-chain management and social responsibility),
- Name and location of production site,
- Product identification by name, and an unambiguous identification of the product by standards, concessions or other means,
- Identification of the product according to the UN CPC scheme system. Other relevant codes for product classification may also be included, e.g.
  - Common Procurement Vocabulary (CPV),
  - United Nations Standard Products and Services Code® (UNSPSC),
  - Classification of Products by Activity (NACE/CPA) or
  - Australian and New Zealand Standard Industrial Classification (ANZSIC),
- Description of the product, its application/intended use and technical functions, e.g. expected service life time,
- Geographical scope of the EPD, i.e., for which geographical location(s) of use and end-of-life the product's performance has been calculated,
- Functional unit or declared unit,
- Reference service life (RSL), if applicable,
- Declaration of the year(s) covered by the data used for the LCA calculation and other relevant reference years,
- Reference to the main database(s) for generic data and LCA software used, if relevant,
- System diagram of the processes included in the LCA, divided into the life cycle stages,
- Description if the EPD system boundary is "cradle-to-gate", "cradle-to-gate with options" or "cradle-to-grave",
- Information on which life cycle stages are not considered (if any), with a justification of the omission,
- Relevant websites for more information or explanatory materials.

This section may also include:

- Name and contact information of organisation carrying out the underlying LCA study,
- Specification of the process phases carried out in the production site,
- Additional information about the underlying LCA-based information, such as assumptions, cut-off rules, data quality and allocation.
- Technical description of the product in terms of functional characteristics, main product components and or materials, expected service life time, weight per pair, footwear structure etc.,
- Eventual health benefits to customer,
- Animal welfare declaration for the cattle raising and slaughtering phase in the leather production

Any claims made about the product must be verifiable.

5.4.4 CONTENT DECLARATION

The content declaration shall have the form of a list of materials and chemical substances including information on their environmental and hazardous properties. The gross weight of material shall be declared in the EPD at a minimum of 99 % of one unit of product.

The harmful content of chemical substances shall be reported according to the legal requirements referred to the main countries in which the shoe is marketed. A list for all materials/substances that are hazardous to health and the environment, being allergenic, carcinogenic, mutagenic or toxic to reproduction are reported in the ISO/TR 16178:2012 (Footwear - Critical substances potentially

present in footwear and footwear components.) Common pollutants should include substances like Acrylonitrile, Aromatic amines, Chloroorganic carriers, Chromium and Chromium IV, heavy metals etc.

All tanning processes have to be included within the study.

Deviations from this requirement in the PCR is allowed but shall be justified.

Information on the hazardous properties of materials and chemical substances should follow the requirements given in the latest revision of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)[8], issued by United Nations or national or regional applications of the GHS.

As an example, the following regulations should be used for EPDs intended to be used in the European Union:

- Regulation (EC) No 1907/2006 of the European parliament and of the council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures

5.4.4.1. Information about recycled materials

Not relevant for this product category.

5.4.4.2. Information about packaging

As packaging is strongly connected with the product, the producer shall provide information about packaging in the EPD, when applicable. Packaging may be classified as:

- Distribution Packaging: packaging designed to contain one or more articles or packages, or bulk materials, for the purposes of transport, handling and/or distribution (ISO 21067-1:2016, Par. 2.2.6)
- Consumer Packaging: packaging constituting, with its content, a sales unit for the final user or consumer at the point of retail (ISO 21067-1:2016, Par. 2.2.7).

Consumer packaging is generally the outcome of eco-design processes, or other activities, under direct control of the organisation. Many critical categories with strict legal requirements belong to consumer packaging category like food contact packaging and pharmaceutical packaging.

The type and function of packaging shall be reported in the EPD.

A statement of the source of the materials (pre-consumer or post-consumer) shall be presented in the EPD when the packaging is made in whole or in part by recycled materials.

5.4.5 ENVIRONMENTAL PERFORMANCE

5.4.5.1. Environmental impacts

The indicators related to potential environmental impact listed in Table 2 shall be declared per functional unit or declared unit, and per life cycle stage.

PARAMETER		UNIT	UPSTREAM	CORE	DOWNSTREAM	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.				
	Biogenic	kg CO_2 eq.				
	Land use and land transformation	kg CO_2 eq.				
	TOTAL	kg CO_2 eq.				

[8] The GHS document is available on www.unece.org.

Acidification potential (AP)	kg SO_2 eq.				
Eutrophication potential (EP)	kg PO_4^{3-} eq.				
Formation potential of tropospheric ozone (POCP)	kg C_2H_4 eq.				
Abiotic depletion potential – Elements	kg Sb eq.				
Abiotic depletion potential – Fossil fuels	MJ, net calorific value				
Water scarcity potential	m^3 eq.				

Table 2 Indicators describing potential environmental impacts[9].

Notes:

- Abiotic depletion potential is calculated and displayed as two separate indicators. ADP-fossil fuels include all fossil resources, while ADP-elements include all non-renewable material resources.
- Please check www.environdec.com for the latest list of default impact categories, units and characterisation factors as they may have been updated compared to this table.

The following optional additional impact categories can be included.

- Ecotoxicity for aquatic fresh water (expressed as CTUe (Comparative Toxic Unit for ecosystems in the USEtox model)
- Ecotoxicity for aquatic fresh water (expressed as CTUh - Comparative Toxic Unit for humans in the USEtox model)
- Ecotoxicity for aquatic fresh water (expressed as CTUh -Comparative Toxic Unit for humans in the USEtox model)
- Particulate matters/Respiratory inorganics (expressed as kg PM2.5)
- Ionising Radiations (expressed as kg Bq U35 equivalent to air)
- Resource Depletion water (expressed as m3 water use related to local scarcity of water in the swiss Ecoscarcity model)
- Resource Depletion mineral fossil (expressed as kg antimony (Sb) equivalent in CML 2002 model)
- Land Use (expressed as Kg C deficit in the Soil Organic Matter model)

5.4.5.2. Use of resources

The indicators for resource use based on the life cycle inventory (LCI) listed in Table 3 shall be declared per functional unit or declared unit, and per life cycle stage.

PARAMETER		UNIT	UPSTREAM	CORE	DOWNSTREAM	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value				
	Used as raw materials	MJ, net calorific value				
	TOTAL	MJ, net calorific value				
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value				

[9] Please check www.environdec.com for the latest list of default impact categories, units and characterisation factors as they may have been updated compared to this table.

	Used as raw materials	MJ, net calorific value				
	TOTAL	MJ, net calorific value				
Secondary material		kg				
Renewable secondary fuels		MJ, net calorific value				
Non-renewable secondary fuels		MJ, net calorific value				
Net use of fresh water		m^3				

Table 3 Indicators describing use of primary and secondary resources.

Notes:

- In order to identify the primary energy used as an energy carrier (and not used as raw materials), the parameter may be calculated as the difference between the total input of primary energy and the input of energy resources used as raw materials.
- Energy content of biomass used for feed or food purposes shall not be considered.
- The net use of fresh water does not constitute a “water footprint” as potential environmental impacts due to the water use in different geographical locations is not captured. For this indicator:
  - Evaporation, transpiration, product integration, release into different drainage basins or the sea, displacement of water from one water resource type to another water resource type within a drainage basin (e.g. from groundwater to surface water) is included.
  - In-stream water use is not included.
  - For water used in closed loop processes (such as cooling system) and in power generation only the net water consumption (such as reintegration of water losses) should be considered.
  - Seawater shall not be included
  - Tap water or treated water (e.g. from a water treatment plant), or wastewater that is not directly released in the environment (e.g. sent to a wastewater treatment plant) are not elementary water flows, but intermediate flows from a process within the technosphere.
  - Additional transparency in terms of geographical location, type of water resource (e.g. groundwater, surface water), water quality and temporal aspects may be included as additional information.

5.4.5.3. Waste production and output flows

Waste generated along the whole life cycle production chains shall be treated following the technical specifications described in the General Programme Instructions. When the amount of waste or the output flows is from the life cycle inventory (LCI) are declared, the indicators in Table 4 and Table 5 shall be reported per functional unit or declared unit, and per life cycle stage.

PARAMETER	UNIT	UPSTREAM	CORE	DOWNSTREAM	TOTAL
Hazardous waste disposed	kg				
Non-hazardous waste disposed	kg				
Radioactive waste disposed	kg				

Table 4 Indicators describing waste production.

PARAMETER	UNIT	UPSTREAM	CORE	DOWNSTREAM	TOTAL
Components for reuse	kg				

Material for recycling	kg				
Materials for energy recovery	kg				
Exported energy, electricity	MJ				
Exported energy, thermal	MJ				

Table 5 Indicators describing output flows.

Notes:

- The parameters are calculated on the gross amounts leaving the system boundary of the product system in the LCI. If e.g. there is no gross amount of “exported energy, electricity” leaving the system boundary, this indicator is set to zero,
- The parameter “Materials for energy recovery” does not include materials for waste incineration. Waste incineration is a method of waste processing, when R1<60% (European Guideline on R1 energy interpretation), and is allocated within the system boundary.
- In case there are never any flows of these types leaving the system boundary for a product category, the indicators may be removed by the PCR.

5.4.5.4. Other environmental indicators

The reference PCR may add other environmental indicators to include for the product category from the inventory or impact assessment. Such indicators should be based on international standards or similar methodologies developed in a transparent procedure. Reference to the chosen indictors and methodologies shall be reported.

The inclusion of other impact categories should promote a cross-sectoral consistency between different products and intra-sectoral consistency between complementary products.

The following indicators per declared unit shall be reported in the EPD, per functional unit and as a total (sum of all three modules):

- Materials/substances that are subject to legal requirements and customer demands (in particular Cr and formaldehyde)
- Recycled material content, in percentage of post-industrial and post-consumer recycled materials per declared unit
- NOx air emissions, g
- By-product generated (quantity, typology, destination)
- Hazardous waste generated in the Core Module, kg (as defined by regional directives, or six-digit code EU categories)
- Other waste generated in the Core Module, kg
- Generated waste going to recycling, kg (part of the previous two bullets)

The following voluntary potential environmental impacts may be additionally calculated and reported in the EPD:

- Direct Electricity (core module electricity consumption during manufacturing) [kWh] shall be reported as:
  - Total
  - Percent renewable
- Toxic emissions

5.4.6 IMPACT INDICATOR SELECTION JUSTIFICATION

Additional impact categories have been included according to

- Previous release of PCR 2933,
- Other background process PCRs
- Other PCR in the same product area for other LCA-based schemes.

Such involvement is intended to avoid fragmentation in LCA based standardization on footwear products LCA results

5.4.7 ADDITIONAL INFORMATION

Additional environmental information is such information that is not derived from the LCA, LCI or information modules, but relevant to include in the EPD®, e.g. impact on biodiversity, impact on health, technical life length, maintenance, the final use of product, hazard and risk assessment, preferred waste management option for used products, etc.

- **Other environmental labels** - In order to include EPD in other environmental management criteria, information on the producer related to the application of Environmental Management Systems (EMAS, ISO 14001, etc.) as well as the adoption of processes or use of substances to reduce environmental impact, can be reported.
- **Recycled content** - Use of recycled materials as well as energy from renewable sources can be reported, according to law.
- **Life cycle information –** In order to clarify the environmental impact link to technical performances specific technical information are required:
  - Technical life length,
  - Intended product application
  - Information about maintenance according to manual instructions and recommended period for maintenance
  - Information about recommended treatment of the product after use period shall be included
- **Health benefits** In order to clarify the environmental impact link to technical performances Eventual health benefits to customer including safety and ergonomics
- **Alternative Dismissal** - In case the design of the footwear is devoted to a particular dismissal scenario (i.e. recycling, composting etc.) specific information and related gate-to-gate LCA assessment can be included in the EPD declaration as additional documentation to average dismissal scenario.

Information about biogenic CO2 emissions is not necessary. If reported the biogenic CO2 emissions shall be separated from the other greenhouse gases (expressed in global warming potential, GWP, in 100 year perspective).

5.4.8 INFORMATION RELATED TO SECTOR EPDS

For sector EPDs, the following information shall also be included:

- a list of the contributing manufacturers that the Sector EPD covers,
- a description of how the selection of the sites/products has been done and how the average has been determined, and
- a statement that the document covers average values for an entire or partial product category (specifying the percentage of representativeness) and, hence, the declared product is an average that is not available for purchase on the market.

5.4.9 DIFFERENCES VERSUS PREVIOUS VERSIONS

For EPDs that have been updated, the following information shall also be included:

- a description of the differences versus previously published versions, e.g. a description of the percentage change in results and the main reason for the change;
- a revision date on the cover page

5.4.10 REFERENCES

This section shall include a list of references, including the General Programme Instructions (including version number), standards and PCR (registration number, name and version).

- The underlying LCA
- The name, CPC code and version number of the PCR used
- Other documents that verify and complement the EPD®
- Instruction for recycling, if relevant

- The General Programme instructions of the International EPD® System
- The source and version of the characterisation models and the factors used shall be reported in the EPD

5.4.11 EXECUTIVE SUMMARY IN ENGLISH

For EPDs published in another language than English, an executive summary in English shall be included.

The executive summary should contain relevant summarised information related to the programme, product, environmental performance, additional information, information related to sector EPDs, references and differences versus previous versions.

6 GLOSSARY

- ADDITIONAL ENVIRONMENTAL INFORMATION - Other environmental indicators that are calculated and communicated alongside EPD results.
- ALLOCATION - An approach to solving multi-functionality problems by partitioning the input or output flows of a process, a product system or a facility between the system under study and one or more other systems
- AVERAGE DATA - Refers to a production-weighted average of specific data.
- CHARACTERISATION - Calculation of the magnitude of the contribution of each classified input/output to their respective LCA impact categories, and aggregation of contributions within each category. This requires a linear multiplication of the inventory data with characterisation factors for each substance and LCA impact category of concern.
- CO2 - Carbon dioxide
- CPC - Central product classification
- CRADLE TO GATE - Addresses the environmental aspects and potential environmental throughout a product's life cycle from raw material acquisition until the end of the production process (“gate of the factory”). It may also include transportation until use phase.
- CRADLE TO GRAVE - Addresses the environmental aspects and potential environmental impacts throughout a product's life cycle from raw material acquisition until the end of life.
- EOL - End of Life
- EPD - Environmental product declaration
- EPD PROFILE – The quantified results of a PEF study. It includes the quantification of the impacts for the most relevant impact categories and the additional environmental information considered necessary to be reported.
- FUNCTIONAL UNIT - quantified performance of a product system for use as a reference unit.
- GATE TO GATE - a partial product supply chain that includes only the processes within a specific manufacturer or site.
- GENERIC DATA – Refers to data that are not directly collected, measured, or estimated, but rather sourced from a third-party life cycle inventory database or other source that complies with the data quality requirements of the PEF Guide; synonymous with “secondary data”.
- GWP - Global Warming Potential
- ILCD - International Life Cycle Data
- IMPACT CATEGORY - Class of resource use or environmental impact to which the Resource Use and Emissions Profile data are related.
- IMPACT CATEGORY INDICATOR - Quantifiable representation of an EF impact category (based on ISO 14044:2006)
- INTERMEDIATE PRODUCT – Output form a unit process that is input to other unit processes that require further transformation within the system (ISO 14040:2006).
- ISO - International Organization for Standardization
- Kg - kilogram
- LIFE CYCLE – Consecutive and interlinked stages of a product system, from raw material acquisition or generation from natural resources to final disposal (based on ISO 14040:2006).
- LIFE CYCLE ASSESSMENT (LCA) – Compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle (based on ISO 14040:2006).
- LIFE CYCLE IMPACT ASSESSMENT - Phase of the LCA analysis aimed at understanding and evaluating the magnitude and significance of the potential environmental impacts for a system throughout the life cycle (ISO 14044:2006)
- LIFE-CYCLE IMPACT ASSESSMENT (LCIA) – Phase of life cycle assessment that aims at understanding and evaluating the magnitude and significance of the potential environmental impacts for a system throughout the life cycle (based on ISO 14040:2006).

- LINING AND SOCK - the lining of the upper and the insole, constituting the inside of the footwear article.
- MULTI-FUNCTIONALITY – If a process or facility provides more than one function, i.e. it delivers several goods and/or services ("co-products"), it is “multi-functional”. In these situations, all inputs and emissions linked to the process must be partitioned between the product of interest and the other co-products in a principled manner. Organisations undertaking an OEF study may therefore have to address multifunctionality problems both at the product and facility level.
- NON-ELEMENTARY (OR COMPLEX) FLOWS – Remaining inputs and outputs which are not elementary flows and need further modelling efforts to be transformed into elementary flows.
- ODP - Ozone Depletion Potential
- Outer sole: the bottom part of the footwear article, which is subjected to abrasive wear and attached to the upper.
- OUTPUT – Product, material or energy flow that leaves a unit process. Products and materials include raw materials, intermediate products, co-products and releases (based on ISO 14040:2006).
- PCR - Product Category Rules
- PEFCR - Product Environmental Footprint Category Rules
- POCP - Photochemical Ozone Creation Potential
- PRODUCT CATEGORY RULES (PCR) – Set of specific rules, requirements and guidelines for developing Type III environmental declarations for one or more product categories (based on ISO 14025).
- regarding methods and data on the outcome of PEF study (based on ISO 14040: 2006).
- SENSITIVITY ANALYSIS – Systematic procedures for estimating the effects of the choices made
- SI - The International System of Units
- SO2 - Sulphur dioxide
- SPECIFIC DATA – Refers to directly measured or collected data representative of activities at a specific facility or set of facilities; synonymous with “primary data”.
- SYSTEM BOUNDARY – Definition of aspects included or excluded from the study.
- SYSTEM BOUNDARY DIAGRAM – Schematic representation of the analysed system detailing which parts of the product supply chain are included or excluded from the analysis.
- UN - United Nations
- UNCERTAINTY ANALYSIS – Procedure to assess the uncertainty introduced into the results of a LCA study due to data variability and choice-related uncertainty.
- UNIT PROCESS – Smallest element considered in the Resource Use and Emissions Profile for which input and output data are quantified (based on ISO 14040:2006).
- UPPER - the outer face of the structural element which is attached to the outersole.
- UPSTREAM – Occurring along the supply chain of purchased goods/services prior to entering the manufacturing site for the product.
- WASTE – Substances or objects which the holder intends or is required to dispose (based on ISO 14025).

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8 VERSION HISTORY OF PCR

VERSION 1.0, 2013-09-27

Original version of this PCR

VERSION 1.0.1, 2014-02-27

New version of the PCR implementing minimal suggestions from expert panels

VERSION 2.0, 2017-07-27

- Compliance with to the General Programme Instructions, Version 2.5.
- Compliance with the Basic module 2.5
- Use of the latest template
- The system boundary for the core model now explicitly excludes research activities and business travel by personnel.
- Product related information are changed
- References to PEFCR and latest PCR of bovine leather are included
- Environmental information and tracking of the footwear EOL is optional

VERSION 2.1, 2019-04-09

Updated in accordance with GPI 3.0 and new PCR basic module by the Secretariat.

VERSION 2.11, 2019-09-06

- Clarified terms of use
- Editorial changes

