

THE INTERNATIONAL EPD® SYSTEM



PCR BASIC MODULE

CPC Division 38
FURNITURE; OTHER TRANSPORTABLE GOODS

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How to use PCR Basic Modules based on the UN CPC structure.....	3
Division: 38 – Furniture; other transportable goods n.e.c.	3
General Introduction	3
1 General information	3
2 Definition of the product group	3
3 Functional unit	3
4 Content of materials and chemical substances	3
5 Units and quantities	3
6 General system boundaries	3
7 Core Module	3
8 Upstream Module.....	3
9 Downstream Module	3
10 Environmental performance related information	3
11 Content of the EPD (CPC 38).....	3
12 Validity of the EPD	3
13 Changes in this document	3

HOW TO USE PCR BASIC MODULES BASED ON THE UN CPC STRUCTURE

CPC is a complete product classification scheme covering goods and services. It is based on the physical characteristics of goods or on the nature of the services rendered. Each type of good or service distinguished in the CPC is defined in such a way that it is normally produced by only one activity as defined in the International Standard Industrial Classification of all economic activities (ISIC Rev. 4). This PCR basic module is based on CPC ver. 2.0, for more information see <http://unstats.un.org/unsd/cr/registry>.

The use of the CPC system leads to a structure for PCR documents in two dimensions:

- a “horizontal” dimension describing the product’s value chain divided according to business sectors, i.e. building on CPC-coded information modules, and
- a “vertical” dimension defining each information module (with a further delineation of each such section into subclasses).

The CPC concept forms the basis for a PCR structure to:

- provide a structure for industry specific PCR core modules, or rather the PCR core module and up-streams modules as well as down-streams modules within the product group system boundary, and
- open up for differentiated, but defined levels of requirements in the PCR document, i.e. part of the requirements may be applicable on a generic product group level, part of the requirements may be limited to selected individual products.

PCR Basic Modules make use of this option provided by the CPC concept, and are close to ready-made draft PCR documents with some information still lacking, but the lacking information is identified in the document.

The PCR Basic Module document includes:

1. Text which is common for all full PCR documents regardless of product group, e.g. the introduction section
2. Text including requirements which are common for all products which belong to the specified product group on UN CPC code two digit level, e.g. CPC Division 01: Products of agriculture, horticulture and market gardening. PCR requirements valid on two digit level are specified (marked with CPC XX).
3. Identified specific requirements or information, written in *italic*, which must be decided upon on a more detailed level than the CPC Division level. In the final PCR document this detailed level could be anything from CPC three digit level to five digit level dependent on the level of the final PCR document. Thus, the information requested in *italic* shall be replaced by the relevant text, e.g. instead of the text “product group” in the PCR Basic Module document the final PCR document may read “transformers” in a PCR for transformers.

The PCR Basic Module document provides a close to ready-made PCR document. Just decide upon and add the relevant information requested in *italic*.

DIVISION: 38 – FURNITURE; OTHER TRANSPORTABLE GOODS N.E.C.

This Division is divided into the following groups (three digits) and classes (four digits):

- 381 Furniture
 - 3811 Seats
 - 3812 Other furniture, of a kind used in offices
 - 3813 Other wooden furniture, of a kind used in the kitchen
 - 3814 Other furniture n.e.c
 - 3815 Mattress supports; mattresses, fitted with springs or stuffed or internally fitted with any material or of cellular rubber or plastics, whether or not covered
 - 3816 Parts of furniture
- 382 Jewellery and related articles
 - 3821 Pearls, natural or cultured and unworked
 - 3822 Cultured pearls, precious or semi-precious stones, and synthetic or reconstructed precious or semi-precious stones (except industrial diamonds and piezo-electric quartz), worked (except simply sawn, cleaved, bruted or roughly shaped), but not strung, mounted or set
 - 3823 Industrial diamonds, worked; dust and powder of natural or synthetic precious or semi-precious stones
 - 3824 Jewellery and other articles of precious metal or of metal clad with precious metal; articles of natural or cultured pearls or precious or semi-precious stones (natural, synthetic or reconstructed)
 - 3825 Coin
- 383 Musical instruments
 - 3831 Pianos and other keyboard stringed musical instruments
 - 3832 Other string musical instruments
 - 3833 Wind musical instruments (including pipe organs, accordians and brass-wind instruments)
 - 3834 Musical instruments, the sound of which is produced, or must be amplified, electrically
 - 3835 Other musical instruments (including percussion instruments, musical boxes and fairground organs); decoy calls; whistles, call horns and other mouth-blown sound signalling instruments
 - 3836 Parts and accessories of musical instruments; metronomes, tuning forks and pitch pipes
- 384 Sports goods
 - 3841 Snow-skis and other snow-ski equipment; ice-skates and roller-skates

- 3842 Water-skis, surf-boards, sailboards and other water-sport equipment
- 3843 Gymnasium or athletics articles and equipment
- 3844 Other articles and equipment for sports or outdoor games
- 3845 Fishing rods and other line fishing tackle; fish landing nets, butterfly nets and similar nets; decoy "birds" and similar hunting or shooting requisites
- 385 Games and toys
 - 3851 Dolls' carriages; wheeled toys designed to be ridden by children
 - 3852 Dolls representing human beings; toys representing animals or non-human creatures
 - 3853 Parts and accessories of dolls representing human beings
 - 3854 Toy electric trains and tracks, signals and other accessories therefor; reduced-size ("scale") model assembly kits and other construction sets and constructional toys
 - 3855 Puzzles
 - 3856 Other toys (including toy musical instruments)
 - 3857 Playing cards
 - 3858 Video games of a kind used with a television receiver
 - 3859 Other articles for funfair, table or parlour games (including articles for billiards, pintables, special tables for casino games and automatic bowling alley equipment), except video games of a kind used with a television receiver
- 386 Roundabouts, swings, shooting galleries and other fairground amusements
 - 3860 Roundabouts, swings, shooting galleries and other fairground amusements
- 387 Prefabricated buildings
 - 3870 Prefabricated buildings
- 389 Other manufactured articles n.e.c.
 - 3891 Pens, pencils, stamps, typewriter or similar ribbons, ink-pads and similar articles
 - 3892 Umbrellas, sun-umbrellas, walking-sticks, seat-sticks, whips, riding-crops, buttons, press-fasteners, snap-fasteners, press-studs, slide fasteners and parts thereof; button blanks
 - 3893 Linoleum
 - 3894 Photographic plates, film, paper, paperboard and textiles, exposed
 - 3895 Motion picture film, exposed and developed, whether or not incorporating sound track or consisting only of sound track
 - 3896 Paintings, drawings and pastels; original engravings, prints and lithographs; original sculptures and statuary, in any material; postage or revenue stamps, stamp-postmarks, first-day covers, postal stationery (stamped paper) and the like; collections and collectors' pieces of zoological, botanical, mineralogical,

DOCUMENT NAME

PCR basic Module

CPC Division 38: Furniture; other transportable goods n.e.c.

DATE

06-08-2009

PAGE

6/20

anatomical, historical, ethnographic or numismatic interest; antiques

3897 Human hair; wool or other animal hair or other textile materials; wigs, false beards, eyebrows and eyelashes, switches and the like; articles of human hair n.e.c.; horsehair

3899 Other articles

Important! PCR requirements valid on level CPC division 38 are specified (marked with CPC 38). Certain requirements are dependent on the choice of specific product group, and need to be defined on lower, more specific levels (Group, Class, or Subclass). These requirements, written in *italic*, are only identified in general terms in this document. All text written in italic shall be replaced by sharp requirements or deleted as appropriate in the final PCR document.

GENERAL INTRODUCTION

(This section shall be included in all PCR- documents)

The international EPD® system is based on a hierarchic approach following the international standards:

- ISO 9001, Quality management systems
- ISO 14001, Environmental management systems
- ISO 14040, LCA - Principles and procedures
- ISO 14044, LCA - Requirements and guidelines
- ISO 14025, Type III environmental declarations
- ISO 21930, Environmental declaration of building products.

The General Programme Instructions are based on these standards, as well as instructions for developing Product Category Rules (PCR).

The documentation to the International EPD® system includes three separate parts (www.environdec.com):

- Introduction, intended uses and key programme elements
- General Programme Instructions
- Supporting annexes

This PCR-document specifies further and additional minimum requirements on EPDs of the product group defined below complementary to the above mentioned general requirement documents.

Principle programme elements concerning the Product Category Rules (PCR) included in International EPD® system are presented below.

Purpose	Element identification and principal approach
Complying with principles set in ISO 14025 on modularity and comparability	1. "Book-keeping LCA approach" 2. A Polluter-Pays (PP) allocation method
Simplifying work to develop Product Category Rules (PCR)	3. PCR Module Initiative (PMI) in order to structure PCR in modules according to international classification 4. PCR moderator for leadership and support of the PCR work

Secure international participation in PCR work	5. Global PCR Forum for open and transparent EPD stakeholder consultation
Facilitating, identification and collection of LCA-based information	6. Selective data quality approach for specific and generic data

Product Category Rules (PCR) are specified for specified information modules “gate-to-gate”, so called core modules. The structure and aggregation level of the core modules is defined by the United Nation Statistics Division - Classification Registry CPC codes (<http://unstats.un.org>). The PCR also provides rules for which methodology and data to use in the full LCA, i.e. life cycle parts up-streams and down-streams the core module. The PCR also has requirements on the information given in the EPD, e.g. additional environmental information. A general requirement on the information in the EPD is that all information given in the EPD, mandatory and voluntary, shall be verifiable.

In the EPD, the environmental performance associated with each of the three life-cycle stages mentioned above are reported separately:

1 GENERAL INFORMATION

(This section shall after editing be included in all PCR document)

Date and registration no:	<i>date and registration number of the PCR</i>
This PCR was prepared by:	<i>names of organisations</i>
Appointed PCR moderator:	<i>Name, organisation,, e-mail address</i>
Open consultation period:	<i>date until date.</i>
Valid within the following geographical representativeness:	<i>Describe the geographical representativeness for the PCR.</i>
Valid until:	<i>date</i>

This document provides Product Category Rules (PCR) for the assessment of the environmental performance of *UN CPC 38XXX (define product group)* and the declaration of this performance by an EPD. *(CPC 38)*

This PCR is based on the requirements and guidelines given in “PCR Basic Module, CPC Division 38: Furniture; other transportable goods n.e.c.”, version 1.1, dated 06-08-2009. *(CPC 38)*

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. *(CPC 38)*

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. *(CPC 38)*

The EPD shall refer to a specific PCR version number. The production of new PCR versions does not affect the EPD certification period. *(CPC 38)*

2 DEFINITION OF THE PRODUCT GROUP

The products and services included in the product group shall be described. Examples on products included and not included may be given for assistance to the EPD developer.

The product group and CPC code shall be specified in the EPD. *(CPC 38)*

2.1 SPECIFICATION OF MANUFACTURING COMPANY

The PCR shall specify the information on the manufacturing/producing company that is required in the EPD, separated into mandatory and voluntary information.

Example:

Mandatory information:

- *Manufacturing company*
- *Manufacturing site*
- *Issuer and contacts*

Examples of voluntary information:

- *ISO 14001 and/or EMAS certificate at the manufacturing site*
- *Specific aspects regarding the production*
- *Environmental*
- *Manufacturers logotype*

2.2 SPECIFICATION OF THE PRODUCT

The product group includes furniture, jewellery, musical instruments, sports goods, games, toys, fairground amusements, prefabricated buildings and other manufactured articles.

The product weight shall be specified in the EPD. The product dimensions and other specifications are voluntary. *(CPC 38)*

The PCR shall specify the information on the product required in the EPD. *(CPC 38)*

3 FUNCTIONAL UNIT

The functional unit (FU) shall be one unit of furniture or other transportable product, including packaging, from the shelf at the retailer, at the gate or at the market place. Within the system boundaries, secondary packaging is also included. The secondary packaging does not need to be stated in the functional unit. However it needs to be included within the system boundaries. *(CPC 38)*

If relevant, the functional unit shall be defined at a more detailed CPC level.

The functional unit shall be declared in the EPD. The environmental impact shall be given per functional unit. *(CPC 38)*

4 CONTENT OF MATERIALS AND CHEMICAL SUBSTANCES

The content of materials and chemical substances shall be declared in the EPD at a minimum of 99% of one product unit. *(CPC 38)*

A detailed list of what material and chemical substances to include may be specified at a more detailed CPC level.

5 UNITS AND QUANTITIES

SI units shall be used. (CPC 38)

Other units may be regulated on a more detailed CPC level, if relevant.

A maximum of three value numbers shall be used when reporting LCA results. (CPC 38)

6 GENERAL SYSTEM BOUNDARIES

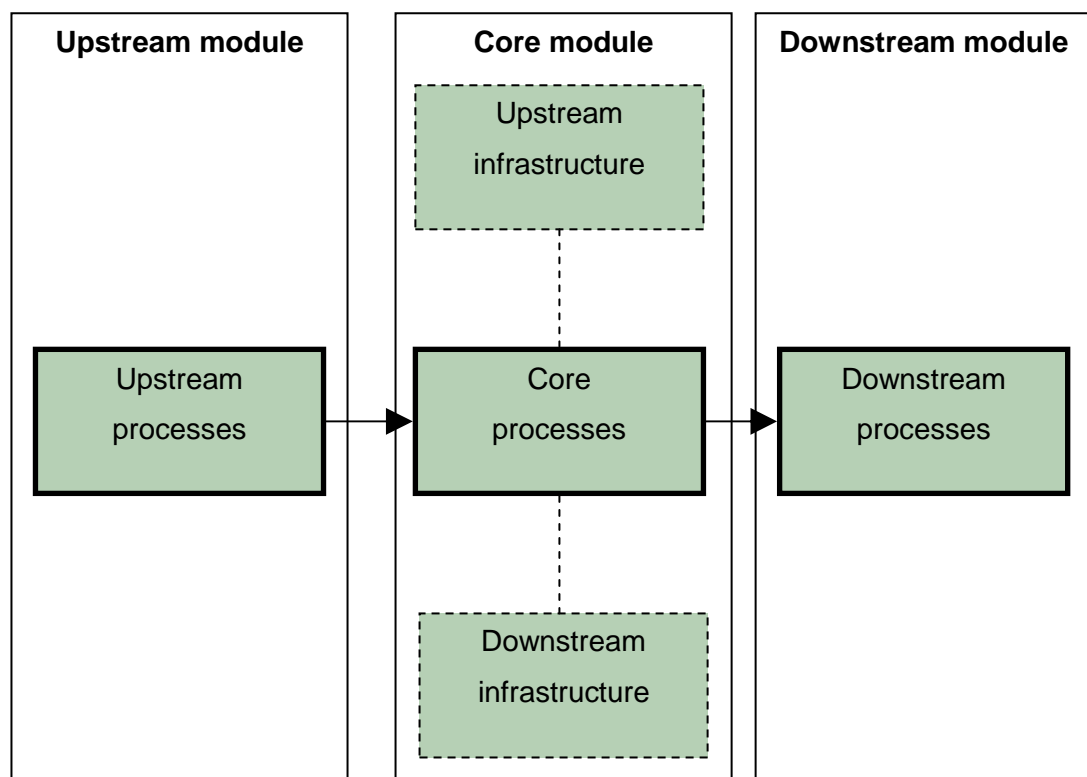


Figure 1. Presentation of Core Module (core process) and upstream and downstream processes. The figure illustrates that all relevant unit processes taking place in the upstream-, core- and downstream processes shall be included. To identify the relevance of including upstream and downstream infrastructure the commonly defined cut-off rules shall be applied

6.1 UPSTREAM PROCESSES

The upstream processes include the following inflow of raw materials and energy wares needed for the production of *the product*. (CPC 38)

- Extraction and production of raw material for all main parts and components (to be defined at a more detailed CPC level).
- Transportation of raw material.
- Manufacturing process for main parts.

6.2 CORE PROCESSES

The core processes include: *(CPC 38)*

- Transportation of main parts and components to the manufacturer.
- Assembly/manufacturing of the final product.
- The manufacture of primary and secondary packaging
- Treatment of waste generated from the manufacturing of main parts and assembly of the product.

6.3 DOWNSTREAM PROCESSES

The downstream processes include: *(CPC 38)*

- Transportation from final manufacturing to customer
- The customer or consumer use of the product
- Recycling or handling of packaging waste/materials after use

More details about assumptions and data to use for the use phase, and after use phase shall be defined at a more detailed CPC level.

7 CORE MODULE

7.1 SYSTEM BOUNDARIES

7.1.1 TECHNICAL SYSTEM

The processes for the production of the final product, including primary and secondary packaging, shall be included. The processes of the manufacturing sites for other product parts may be included. However, the production of the raw materials used for production of all product parts shall be included. *(CPC 38)*

7.1.2 GEOGRAPHICAL BOUNDARIES

The data for the core module shall be representative for the actual production processes and representative for the site/region where the respective process is taking place. *(CPC 38)*

7.1.3 TIME BOUNDARIES

The data shall be representative for the year/time frame for which the EPD is valid (maximum three years). *(CPC 38)*

7.1.4 BOUNDARIES TO 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. *(CPC 38)*

7.1.5 BOUNDARIES TO OTHER PRODUCT LIFE CYCLES

If there is an inflow of recycled material to the production system in the production/manufacturing phase, the recycling process and the transportation from the recycling process to where the material is used shall be included. If there is an outflow of material to recycling, the transportation of the material to the recycling process shall be included. The material going to recycling is then an outflow from the production system. (CPC 38)

7.2 CUT OFF RULES

Processes and activities that contribute to less than 1% of the total environmental impact for any impact category are allowed to be omitted from the inventory analysis. Activities and materials that are not included in the LCA shall be documented. (CPC 38)

7.3 ALLOCATION RULES

Allocation between different products and co-products shall be based on economical allocation. (CPC 38)

As an alternative, allocation rules may be given at a more detailed level. The choice of functional unit may provide guidance.

7.4 DATA QUALITY RULES

Specific data (often called site-specific data) shall be used for the Core Module. Specific data are gathered from the sites where specific processes are carried out. The requirement for specific data also includes actual product weights, amounts of raw materials used and amounts of waste etc. (CPC 38)

Specific data for the generation of electricity bought shall be used if possible. If specific data are not available or if the electricity bought is not specified for parts of the Core Module, the electricity mix used in those parts shall be approximated as the official electricity mix in the country of manufacture. The mix of energy shall be documented. (CPC 38)

Transport to manufacturer with actual transportation and distance from the supplier. (CPC 38)

Data older than from 1990 should not be used. (CPC 38)

8 UPSTREAM MODULE

8.1 SYSTEM BOUNDARIES

All elementary flows at resource extraction shall be included, except for the flows that fall under the general 1% cut off rule. (CPC 38)

8.2 DATA QUALITY RULES

Site-specific data shall be used for manufacture of main parts, from raw material extraction and transports to manufacturing process. (CPC 38)

Data older than from 1990 should not be used. (CPC 38)

Selected generic data shall be used for other parts of the LCI, i.e. data from commonly available data sources such as commercial databases and free databases, describing specific raw materials or processes usually referring to the system under study or to other systems equivalent from a technical point of view. (CPC 38)

For allowing the use of selected generic data, a number of pre-set characteristics must be fulfilled and demonstrated: (CPC 38)

- *Representativeness of the geographical area* should adhere to “Data deriving from areas with the same legislative framework and the same energetic mix”,
- *Technological equivalence* adhere to “Data deriving from the same chemical and physical processes or at least the same technology coverage (nature of the technology mix, e.g. weighted average of the actual process mix, best available technology or worst operating unit)”,
- *Boundaries towards nature* adhere to “Data shall report all the quantitative information (resources, solid, liquid, gaseous emissions; etc.) necessary for the EPD”, and
- *Boundaries towards technical systems* adhere to “The boundaries of the considered life cycle stage shall be equivalent”.

Recommendations for certain databases for selected generic data which describe material flows connected to a number of input materials may also be used. If recommendations are given to use such selected generic data, such data sources shall be listed in a table in the PCR document.

8.3 RULES FOR GENERIC DATA

If these data sources do not supply the necessary data, other generic data may be used and 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. (CPC 38)

8.4 OTHER CALCULATION RULES

These shall be given at a more detailed CPC level.

9 DOWNSTREAM MODULE

Distribution scenarios shall be defined at a more detailed CPC level. Specific distribution (e.g. a weighted average distribution mode and route) may be included. Also, an average retailer may be included.

9.1 USE PHASE SCENARIO

Use phase scenarios shall be defined in PCR for more detailed product CPC levels for product categories where there is an environmental impact from the use phase.

The mix of electricity used during the use phase supplying consumption/losses of electricity shall be approximated as OECD electricity mix. The mix shall be documented. (CPC 38)

9.2 RECYCLING DECLARATION AND WASTE TREATMENT

Recommendations for recycling of packaging materials shall be given, as well as recommendations for other waste treatment of product parts if relevant. The potential environmental impact and benefit of recycling and waste treatment shall be presented in the EPD.

10 ENVIRONMENTAL PERFORMANCE RELATED INFORMATION

10.1 USE OF RESOURCES

The consumption of natural resources and resources per functional unit shall be reported in the EPD, divided into core, upstream and, if relevant, downstream module. (CPC 38)

Input parameters, extracted resources: (CPC 38)

- Non-renewable resources
 - Material resources
 - Energy resources (used for energy conversion purposes)
- Renewable resources
 - Material resources
 - Energy resources (used for energy conversion purposes)
- Water use
- Electricity consumption (electricity consumption during manufacturing and use of goods or during service provision).

10.2 POTENTIAL ENVIRONMENTAL IMPACT

The environmental impact per functional unit for the following environmental impact categories shall be reported in the EPD, divided into core, upstream and, if relevant, downstream module: (CPC 38)

- The emissions of greenhouse gases (expressed in global warming potential, GWP, in 100 year perspective).
- Emission of ozone-depleting gases (expressed as the sum of ozone-depleting potential in CFC 11-equivalents, 20 years).
- Emission of acidification gases (expressed as the sum of acidification potential expressed in SO₂- equivalents).
- Emissions of gases that contribute to the creation of ground level ozone (expressed as the sum of ozone-creating potential, ethene-equivalents).
- Emission of substances to water contributing to oxygen depletion (expressed as PO₄³⁻-equivalents).

Calculation method: CML 2001. (CPC 38)

The characterisation factors to use for converting data from the life cycle inventory analysis into impact categories are listed in the documentation of the International EPD system Appendix B: Conversion and characterisation factors. (CPC 38)

10.3 OTHER INDICATORS

The following indicators shall be reported in the EPD, also per functional unit and divided into the two or three modules: (CPC 38)

- Emissions of toxic substances. *To be decided at a more detailed CPC level.*
- Material subject for recycling.
- Hazardous waste (as defined by regional directives).
- Incineration with energy recovery.
- Incineration without energy recovery

10.4 ADDITIONAL ENVIRONMENTAL INFORMATION

Information about maintenance shall be declared in the EPD if relevant, e.g. according to manual instructions and recommended period for maintenance. (CPC 38)

Information about recommended treatment of the product after use shall be included, for example which parts that should be material recycled and which parts that should be incinerated with energy recovery or put on landfill. (CPC 38)

Other environmental information shall be specified at a more detailed CPC level. Information to include may cover the technology used, the places for manufacture and assembly (if several), the fuel used and its origin, delivery (annual variation, percentage), other factors such as visual impact and noise.

Information may also be included on aspects that the producer has and know are specifically desired by the customer (e.g. risk related issues) and how the product should be handled during service and maintenance, and what to do to reduce the environmental impact during the use of the product. It is also possible to include information about the product's compliance with environmental information systems such as eco-labelling and information concerning health, safety and ergonomics. Information about the company's fulfilment of laws and prescriptions may also be included.

11 CONTENT OF THE EPD (CPC 38)

The requirements in this chapter are mandatory for all PCRs within CPC Division 34.

11.1 PROGRAMME RELATED INFORMATION

The programme related part of the EPD shall include:

- Name of the programme and programme operator
- The reference PCR document
- Registration number

- Date of publication and validity
- Geographical scope of application of EPD
- Information about the year or reference period of the underlying data to the EPD
- Reference to the website – www.environdec.com – for more information.

11.2 PRODUCT RELATED INFORMATION

11.2.1 SPECIFICATION OF THE PRODUCTION COMPANY

See 2.1.

11.2.2 SPECIFICATION OF THE PRODUCT

See 2.2.

11.2.3 FUNCTIONAL UNIT

See 3.

11.2.4 CONTENT OF MATERIALS AND CHEMICAL SUBSTANCES

See 4.

11.2.5 COMPARISONS OF EPDS WITHIN THIS PRODUCT CATEGORY

To be able to compare EPDs within this product category, they have to be based on this particular PCR. The user of the EPD information should be made aware of this by the inclusion of this statement in the EPD:

“EPDs from different programmes may not be comparable”

11.2.6 VALIDITY OF THE EPD

The validity of the EPD shall be reported in the EPD.

11.3 ENVIRONMENTAL PERFORMANCE-RELATED INFORMATION

11.3.1 ENVIRONMENTAL PERFORMANCE DECLARATION - MINIMUM SET OF PARAMETERS FROM THE LCA STUDY, REPORTED PER FUNCTIONAL UNIT

Upstream module, Core module and downstream module shall be reported separately for the resource use, potential environmental impact and other indicators such as waste.

11.3.2 USE OF RESOURCES

In this category the consumption of natural resources and resources per functional unit shall be reported.

See 10.1.

11.4 POTENTIAL ENVIRONMENTAL IMPACT

In this category the potential environmental impact per functional unit shall be reported.
See 10.2.

11.4.1 OTHER INDICATORS

In this category relevant indicators shall be reported per functional unit.
See 10.3.

11.4.2 ADDITIONAL ENVIRONMENTAL INFORMATION

See 10.4.

11.5 DIFFERENCES VERSUS PREVIOUS VERSIONS OF THE EPD

The main causes for changes in environmental performance in comparison with previous EPD versions shall be described shortly.

11.6 VERIFICATION

The EPD shall give the following information about the verification process:

PCR review conducted by:	<i>Name and organization of the chair, and information on how to contact the chair through the programme operator</i>
Independent verification of the declaration and data, according to ISO 14025:	<i>Internal (EPD process certificate) or external, if external name of the third party verifier</i>
Accredited or approved by (if relevant):	<i>Name of the organisation</i>

11.7 REFERENCES

The EPD shall, if relevant, refer to:

- The underlying LCA
- The PCRs used
- Other documents that verify and complement the EPD
- Instruction for recycling
- Programme instructions
- Sources of additional information

12 VALIDITY OF THE EPD

If changes in any of the environmental impacts are larger than +/- 5% the EPD shall be adjusted. Regardless, the EPD shall be reviewed every three years. (CPC 38)

13 CHANGES IN THIS DOCUMENT

VERSION 1.0, 2009-03-25

Original version.

VERSION 1.1, 2009-08-06

Change to figure 1.

Chapter 13 added.

