

SYNTHETIC CARPET YARN (CONSTRUCTION PRODUCT)  
PRODUCT GROUP CLASSIFICATION: UN CPC 264, 355

PCR 2012:01-SUB-PCR-B



**Sub-PCR to PCR 2012:01 (v2.34)**

## INTRODUCTION

This document is a sub-PCR to *PCR 2012:01 Construction products and construction services*, version 2.31, available at [www.environdec.com](http://www.environdec.com). Please note that it is **not** a PCR in its own, but intended to be a further specification of a specific product group to be used together with PCR 2012:01. See Figure 1 for the role of this sub-PCR.

For more details about the scope of this sub-PCR see the Section 2 of this document and Section 7 of PCR 2012:01.

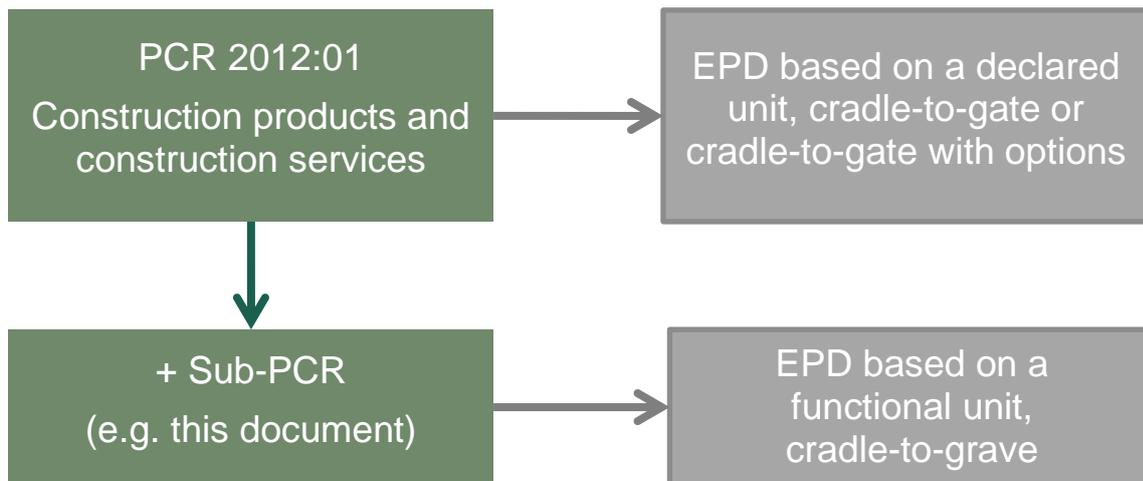


Figure 1 Overview of PCR 2012:01 and its sub-PCRs to create EPDs with different scopes.

This sub-PCR has been developed according to the PCR development procedure of the International EPD® System.

SYNTHETIC CARPET YARN (CONSTRUCTION PRODUCT)  
PRODUCT GROUP CLASSIFICATION: UN CPC 264, 355

## 1 GENERAL INFORMATION

Name:	Synthetic carpet yarn (construction product)
Registration no:	PCR 2012:01-Sub-PCR-B
Programme:	 The International EPD® System
Programme operator:	EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden.  Website: <a href="http://www.environdec.com">www.environdec.com</a> E-mail: <a href="mailto:info@environdec.com">info@environdec.com</a>
Date:	2021-11-08
This PCR was prepared by:	Aquafil, Life Cycle Engineering
Appointed PCR moderator:	Stefano Rossi, Life Cycle Engineering <a href="mailto:rossi@studiolce.it">rossi@studiolce.it</a>
Open consultation period:	2015-02-06 until 2015-04-06
Review panel for this PCR:	The Technical Committee of the International EPD® System. Full list of TC members available on <a href="http://www.environdec.com/TC">www.environdec.com/TC</a>
The PCR is valid within the following geographical region:	Global
PCR language:	English. The English version takes precedence over any translated versions.
Valid until:	2022-02-28  <i>The validity of this sub-PCR is dependent on the validity of PCR 2012:01 Construction products and construction services.</i>

This document provides further specification to PCR 2012:01 Construction products and construction services, Version 2.34. It may be used for Environmental Product Declarations that have a cradle to grave scope and uses a functional unit for the product group “Synthetic carpet yarn used for building purposes”. It provides details about stages A1 – A4 and specific data quality per each phase involved. This sub-PCR is valid for an EPD covering, cradle-to-gate or cradle-to-gate with options (declared unit). This sub-PCR is not applicable for a cradle-to-grave EPD for carpets, based on a full life cycle with a functional unit.

This document complies with the General Programme Instruction of the International EPD® System, version 2.01 dated 2013-09-18 and aims towards compliance with the European standard EN 15804:2014 (Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products). (Core rules for the product category of construction products).

This sub-PCR is publically available on [www.environdec.com](http://www.environdec.com). It is a living document. If relevant changes in the LCA methodology or in the technology for the product category occur, the documents will be revised and any changes will be published on the website.

SYNTHETIC CARPET YARN (CONSTRUCTION PRODUCT)  
PRODUCT GROUP CLASSIFICATION: UN CPC 264, 355

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

The EPD shall refer to a specific PCR version number, as well as this sub-PCR. The production of new PCR versions does not affect the EPD certification period.

## 2 DEFINITION OF THE PRODUCT GROUP

The product category referred to in this PCR includes all synthetic yarn used for building purposes (e.g. in floor, roof, ceiling, walls, etc.).

The product group and CPC code shall be specified in the EPD.

The ISIC-CPC's classification list class and subclass taken into consideration by the CPC 355, 262, 264 groups are hereby reported:

GROUP	CLASS	DESCRIPTION	Corresponding HS 2012 codes
355		Man-made fibres	
	3551	Syntetic filament tow and staple fibres, not carded or combed	5501, 5503
	3552	Synthetic filament yarn (except sewing thread and multiple or cabled yarn), not put up for retail sale	5402.11-.59
	3553	Synthetic monofilament and strip	5404

GROUP	CLASS	DESCRIPTION	Corresponding HS 2012 codes
262		Man-made textile staple fibres processed for spinning	
	2621	Synthetic staple fibres, carded, combed or otherwise processed for spinning	5506

GROUP	CLASS	DESCRIPTION	Corresponding HS 2012 codes
264		Textile yarn and thread of man-made filaments or staple fibres	
	2642	Yarn of man-made filaments, multiple or cabled (other than sewing thread, high tenacity yarn of polyamides, polyesters or viscose rayon), not put up for retail sale; man-made filament yarn (other than sewing thread), put up for retail sale	5402.61 - .69

In case of inclusion of several similar products the international EPD® System offers the possibility for similar products to be included in the same EPD. See General Programme Instructions for additional information.

### 3 LIFE CYCLE STAGES INCLUDED

The scope of the LCA for yarn production shall be “cradle to gate with options”, as defined by the PCR 2012:01 Construction products and construction services.

GPI module	Asset life cycle stages	Information module
UPSTREAM	A1) Raw material supply	A1-3) Manufacturing phase
Core	A2) Transport	
	A3) Manufacturing	
DOWN-STREAM	A4) Transport	A4) Manufacturing phase
	A5) Construction, installation process	B) Usage stage
	B1) Material emission from usage	
	B2) Maintenance	
	B3) Repair	
	B4) Replacement	
	B5) Refurbishment	C) End of life
	C1) Deconstruction, demolition	
	C2) Transport	
	C3) Waste processing	
	C4) Disposal	D) Recyclability potentials
	D) Reuse, recycle or recovery	
	Other environmental information	
Inclusion of reference service life (RSL)	B)1-5	B) Usage stage

Table 1 The life cycle of a building product divided in three process modules according to the General Program Instructions (GPI) and four information modules according to ISO 21930 and EN15804 and supplemented by an optional information module on potential loads and benefits beyond the building life cycle.

Module A1, A2 and A3 may be declared as one aggregated module A1-3 (§ 6.2.2, 15804:2014).

This sub-PCR defines details for modules A1 – A4.

#### 3.1 UPSTREAM PROCESSES

The following upstream processes/life cycle stages are included:

A1) Raw material supply

- extraction or synthesis of the raw material
- Polymer production

SYNTHETIC CARPET YARN (CONSTRUCTION PRODUCT)  
PRODUCT GROUP CLASSIFICATION: UN CPC 264, 355

- Plastic waste and scrap recovery/recycling processes<sup>1</sup>
- Production of materials (including additives, etc.) and ancillaries used in the process
- Pigments and dyes where applicable
- Production of packaging, if relevant
- Other ancillary materials (e.g. lubricants)

If generic data are used for raw material acquiring it shall be stated in the EPD for which materials this is valid. The source of raw materials dataset and main hypotheses adopted shall be declared in the EPD.

For dyes and pigments, the following rules could be used if no LCA data are available:

- TiO<sub>2</sub> instead of inorganic pigments
- Soot for organic pigments
- Anthraquinone as a replacement substance for dyes, that are applied with aqueous dyeing process

In the case of PA6 yarn, special care has to be taken when using data set for caprolactam or PA6 polymer production due to the relevant difference within results. Most common datasets available are:

- Gabi record DE: PA 6 (caprolactam via cyclohexane)
- Gabi record NL: PA 6 (caprolactam via phenol-route)
- Plastics Europe dataset for PA6 polymer (System expansion used in 2014 report)

Selection of specific database has to be appropriately justified in the EPD and based on relevant proof of evidence.

Data calculated with system expansion should not be used, but if no other data is available, any negative flows should be changed to zero.

## 3.2 CORE PROCESSES

The core processes include:

A2) Transportation:

External transportation to the core processes and internal transport.

A3) Manufacturing:

- spinning of man-made fibers (e.g. melt spinning, wet spinning, dry spinning, gel spinning)
- any post spinning process of yarn of man-made filaments (e.g. air entanglement, twisting, cabling, heat setting...)
- any post spinning process of yarn of man-made staple fibers (e.g. drawing, carding, combing, mechanical spinning,.....)
- Quality control
- Emission to air: data at the stacks, after treatment shall be considered; fugitive emissions should be considered if appropriate
- Emissions to water: data from process release shall be considered
- Energy consumption with specific regard to the use of electricity and thermal energy. The production stage shall be included in the core process. Other fuels shall be considered if used for the process or local transports (e.g. fork lifts). Local energy mix shall be considered.
- If waste from the process is considered as by-product, then it should satisfy the requirement of Article 5 of 2008/98/EC of 19 November 2008.

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<sup>1</sup> In case of production chain, this PCR document can be potentially connected to the PCR: Plastic waste and scrap recovery (recycling) services (CPC 8942)

SYNTHETIC CARPET YARN (CONSTRUCTION PRODUCT)  
PRODUCT GROUP CLASSIFICATION: UN CPC 264, 355

This shall be clearly mentioned in the EPD in order to make evident that such by-products are not environmentally free of burdens. Outputs of the system relevant to energy production processes (waste to energy processes) shall never be considered a by-product.

- Waste treatments
- Waste that is deposited in landfill shall be declared as kg of waste and kg of hazardous waste
- A minimum of 99% of the total weight of the declared product including packaging shall be included
- Waste treatment is omitted for the processing of waste into a resource for a subsequent user

### 3.3 DOWNSTREAM PROCESSES

The downstream processes include the transport (A4 stage)

A4) Transport

## 4 DECLARED UNIT

The declared unit is defined as 1 kg of yarn with the required packaging as presented to the final destination.

The declared unit shall be declared in the EPD. The environmental impact shall be given per declared unit.

## 5 OTHER ENVIRONMENTAL INDICATORS

If emission to surrounding media (through VOC, leaking or other) is regulated according to harmonised European standard, i.e. CE labelling, in any European country this result will be mandatory information in the EPD. The emission value (or class) for the regulated substances shall be included in the EPD.

As one option for other environmental information it is possible to report on recyclability potentials.

D) Recyclability potentials:

The information in module D may contain technical information as well as LCA result from post-consumer recycling, i.e. environmental benefits or loads resulting from reusable products, recyclable materials and/or useful energy carriers leaving a product system e.g. as secondary materials or fuels. Avoided impacts from co-products from module A to C shall not be included in Module D.

## 6 CHANGES IN THIS SUB-PCR

VERSION 2015-08-14

Original version of sub-PCR, based on PCR 2012:01 *Construction products and construction services*, Version 2.0.

VERSION 2017-05-30

- Updated nomenclature of sub-PCRs in accordance with version 2.2 of PCR 2012:01.
- Editorial changes

SYNTHETIC CARPET YARN (CONSTRUCTION PRODUCT)  
PRODUCT GROUP CLASSIFICATION: UN CPC 264, 355

#### VERSION 2018-11-16

- Updated validity to 2020-03-03 to align with version 2.3 of PCR 2012:01
- Editorial changes

#### VERSION 2020-02-17

- Updated validity to 2020-09-01 to align with version 2.31 of PCR 2012:01.

#### VERSION 2020-07-02

- Updated validity to 2020-12-31 to align with version 2.32 of PCR 2012:01.

#### VERSION 2020-09-18

- Updated validity to 2021-12-31 to align with version 2.33 of PCR 2012:01.

#### VERSION 2021-11-08

- Updated validity to 2022-02-28 to align with version 2.34 of PCR 2012:01.

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