Introduction

Type III environmental product declarations (EPDs) provide quantified environmental data using predetermined parameters and, where relevant, additional environmental information. EPDs are based on independently verified life cycle assessment (LCA) data, life cycle inventory analysis (LCI) data, or information modules following the ISO 14040 series of standards

The objectives of Type III environmental declarations include:

1. Providing LCA-based information and additional information on the environmental aspects of products
2. Assisting purchasers and users in making informed comparisons between products
3. Encouraging improvement of environmental performance
4. Providing information for assessing the environmental impacts of products over their life cycle

Product Category Rules (PCRs) are crucial in developing Type III environmental declarations. PCRs are defined as a set of specific rules, requirements, and guidelines for developing Type III environmental declarations for one or more product categories. They ensure consistency and comparability within a product category by establishing parameters for conducting life cycle assessments and reporting environmental impacts. There are two levels of PCR, Part A and Part B. The distinction between Part A and Part B in the context of Environmental Product Declarations (EPDs) reflects a hierarchical structure in the guidelines. Part A, which refers to ISO 21930:2017 or EN15804 +A2, is the overarching framework providing core rules for environmental product declarations of construction products and services. It establishes general principles and requirements applicable across a broad range of construction products.

Part B, in contrast, functions as a sub-category PCR, offering more specific guidance for developing EPDs for a particular product category. It builds upon and supplements the requirements outlined in Part A, tailoring them to the unique characteristics and environmental considerations of a specific product type. Part A maintains a fixed standard, while Part B allows for adaptability, enabling other EPD Program Operators to modify it to fit specific product groups. This adaptability empowers you to tailor the guidelines to your specific needs, ensuring that the EPDs you develop are comprehensive and accurate.

The relationship between Part A and Part B is symbiotic, with Part B necessarily aligning with and being used in conjunction with Part A. This structure ensures both broad consistency across product categories and flexibility to address category-specific nuances. This two-tiered approach balances standardization and specificity in environmental product declarations, facilitating more accurate and comparable assessments of environmental impacts across different products within the same category.

This document serves as the Product Category Rule (PCR) for organizations preparing Environmental Product Declarations (EPDs) under Type III environmental declaration programs according to ISO 14025:2006 and EN 15804:2012+A2:2019. This document serves as a sub-category PCR, Part B PCR (Part B"), to ISO 21930:2017 Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services and EN 15804:2012+A2:2019 Sustainability of construction works – Environmental product declarations - Core rules for the product category of construction products ("Part A"). This document's intended application is to guide the development of EPDs for the category (Section 1.3). Part A, ISO 21930:2017 and EN15804+A2, shall serve as the primary reference document, and therefore, Part B shall align with the documents and provide further clarification as illustrated in the following sections. A complete table outlining the alignment between ISO 21930 and EN 15804+A2 for the underlying LCA report can be found in the ECO Platform "Verification Guidelines for ECO EPD Programme Operators," page 7, Section 2.1 Verification Checklist for the Life Cycle Assessment and Requirements on the Project Report.

Part B, Product Category Rule for Polished Concrete Flooring Systems, can be accepted and adopted by any Program Operator following ISO TS 14029:2022, 8.2 PCR harmonization and ISO 14027:2017, 6.4.3 Adaptation of existing PCR.

PCR Development

The Rationale for PCR Development

This PCR was developed to facilitate the creation and publication of EPDs for polished concrete flooring systems and to allow for comparisons between product systems in the polished concrete flooring market space. This PCR is intended for the market space covering North, South, and Central America and could be adapted for other regions, including the EU, as needed. The PCR committee reviewed other PCRs (table 1) and determined that they were not adequate to address the unique nature of polished concrete flooring systems. Products covered by this PCR are part of a polished concrete flooring system that is non-film forming, densifiers, and hardeners.

The closest PCR was the PCR for Resinous Floor Coatings by NSF International, valid through December 17, 2023, following ISO 21930:2017 and PCR Guidance – Texts for Building-Related Products and Services, Part B: Requirements on the EPD for Floor coverings (includes Resinous Flooring) by Institut Bauen und Umwelt e.V. following EN15804+A2.

Unlike Resinous Floor Coatings, Polished Concrete Flooring is a non-film forming breathable system that treats the existing concrete with a series of mechanical grinding, honing and polishing steps while obtaining a smooth, light reflective durable surface. Chemical hardeners, referred to as densifiers, are applied to the surface during the process, and in some instances, multiple densifier applications are applied between steps. The silicates or silica's combined with water react with the available calcium hydroxide CA(OH)2 forming Calcium Silicate Hydrate (C- H-S) which is a mineral compound that is the main binding agent in concrete contributing to the strength of

cement-based products. When the proper mix design is used combined with proper finishing, curing, densifying and polishing, a durable and sustainable surface can be obtained with much longer life cycles compared to other flooring-related products like epoxy, carpet or hardwood for example. Polished Concrete reduces dust mites, pet dander and allergen problems, and does not support mold growth. Polished Concrete Flooring has much lower annual maintenance costs and is considered much easier to clean and more durable than other flooring options and meets the ANSI A326.3 Dynamic Coefficient of Friction of Hard Surfaces (DCOF), which is .42 on wet surfaces.

Repairing polished concrete has evolved through the years with repair techniques and materials. Repairs can have a very quick turnaround time compared to alternative flooring materials, which means much less downtime for day-to-day business operations. Repairs on hardwood flooring or tile can take days depending on the size of the repairs and can be considered destructive, in addition to extended drying times of materials. Repairs on polished concrete can be completed in hours, depending on the severity of the repair.

A complete list of the PCRs examined containing upstream and downstream processes similar to or inclusive of the polished concrete flooring systems but that are not an exact match and, therefore, are considered background data appear in Appendix A, PCRs Reviewed by the Committee as Part of the Investigative Phase.

PCR Committee Members

Committee Facilitators from **Labeling Sustainability**: Denice Viktoria Staaf, LEED AP (dstaaf@labelingsustainability.com)

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EPDs of Polished Concrete
Ameripolish

Open Consultation

Committee review comments was open from 3/14/2024 to 4/30/2024.

The public comment period is from 3/21/2024 to 6/21/2024.

PCR Committee (additional members)

12. Adam Schwegel, Zerodocs, adam@zerodocs.com

PCR Review Committee

To Be Determined

This PCR was reviewed by the independent review panel following the standards/guidelines:

- ISO 21930:2017
- ISO 14025:2006
- ISO/TS 14027:2017
- EN 15804+A2
- EN 16810:2017
- ACLCA PCR Guidance v1.0, 2022

1.0 Scope

This document complements the core Product Category Rule (PCR) for construction products, ISO 21930:2017 – Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services and is intended to be used in conjunction with that standard and EN15804 +A2 Sustainability of construction works – Environmental product declarations - Core rules for the product category of construction products. The purpose of PCR Part B for Polished Concrete Flooring Systems is to provide guidelines for developing Environmental Product Declarations (EPDs) for polished concrete flooring systems in the building and construction industry. It also further specifies the underlying requirements of Life Cycle Assessment (LCA). The core rules applicable to all construction products are outlined in ISO 21930:2017 and EN 15804:2012+A2:2019 Part A and are expected to be understood by those preparing EPDs.

Additionally, this PCR aligns with EN 15804:2012+A2:2019 to ensure broader acceptance across global EPD systems. Since manufacturers of products used in polished concrete flooring systems operate internationally, aligning the PCR with global standards enhances its applicability. While the core numbers and structure adhere to ISO 21930:2017, the alignment with EN 15804:2012+A2:2019 is explicitly recognized. When referencing Section references, the reference will first notate ISO then EN. For Example, the listing will look as follows ISO 21930 Section 3.1 (EN 15804+A2 Section 3.0) or simply “As per Part A, ISO 21930 or EN 15804+A2”.

1.1 Category description

With the popularity of environmentally responsible (green) building and more projects striving to achieve leadership and energy and environmental design, or LEED, certification, polished concrete is also being widely specified for its sustainable attributes. A majority of the products used to produce and maintain polished concrete are environmentally friendly with no harsh solvents, and there can be substantial savings in energy costs due to high light reflectivity of the surface. Polished Concrete offers many benefits, including durability and sustainability. With a combination of quality mix designs and high-performance densifiers, the surface properties of the concrete are improved, increasing abrasion resistance, light reflectivity, and a durable surface. There are unlimited design possibilities for many market sectors, including commercial spaces, residential homes, tenant improvement, and large industrial facilities.

Polished Concrete offers a range of dishes ranging from satin to high gloss with endless design

options, including colors and patterns combined with varying degrees of aggregate exposure. With much lower annual maintenance cost compared to other flooring alternatives like carpet, vinyl tile, and hardwood flooring, polished concrete does not require refinishing or re–waxing like other flooring options. Polished Concrete prices are very cost-competitive compared to alternative materials like terrazzo or high-end marble. No design limitations allow custom patterns to fit any given space or dimensions, unlike tiles or marble, which are bound to specific shapes and sizes.

1.2 Geography

This Part B PCR is intended for use in the North, South and Central American markets but could be used and adopted globally with the inclusion of EN 15804:2012+A2:2019.

1.3 Applicable products

03 35 43 Polished Concrete Finishing

03 53 19 Concrete Overlayment

03 4 16 Cast Floors and Underlayment

1.4 Non-applicable products

03 53 13 Emery- Aggregate Concrete Topping

03 53 16 Iron-Aggregate Concrete Topping

09 61 00 Flooring Treatment

Additional products not covered include film forming sealers and curing compounds.

1.5 Product Description

The product(s) description for products modeled in the LCA and subsequent EPD shall provide a clear identification of the product system, including, where applicable, the manufacturer, product code(s), brand name(s), and a picture of the product.

1.6 Flow Diagram

A flow diagram depicting the main production processes, according to the scope of the declaration, shall be included in the EPD.

1.7 Application

Polished concrete flooring is designed for high-traffic, performance-driven environments where durability, low maintenance, and contemporary aesthetics are equally important. Common applications range from industrial facilities, distribution centers, and aircraft hangars where abrasion resistance and easy cleaning reduce lifetime operating costs to retail stores, restaurants, and hotel lobbies that value its sleek, light-reflective finish for modern design impact. Educational campuses, healthcare corridors, and office spaces specify polished concrete for its hypoallergenic, VOC-free surface that supports healthy indoor air quality, while luxury residential projects embrace its customizable sheen and integral color options as a minimalist alternative to tile or hardwood.

The intended application(s) of the products included in the EPD shall be clearly defined. For each product scenario the following table shall be listed:

Name	Product Installation Name
Class (A, B, C)	
Appearance Level (1,2,3,4)	
Products used	
Traffic Level	

2.0 Normative References

As per Part A, ISO 21930:2017 and EN 15804:2012+A2:2019 and including the following:

See Reference Section at the end for a complete list of references used.

3.0 Terms and Definitions

As per Part A, ISO 21930:2017 and EN 15804:2012+A2:2019 and including the following product-specific terms.

Polished concrete

Changing a concrete surface, with or without aggregate exposure, to achieve a specified gloss using one of the listed classifications: Bonded Abrasive Polished Concrete, Burnished Polished Concrete, or Hybrid Polished Concrete.

Polishing process

A sequence of grits of bonded abrasives is used for grinding, honing, and polishing concrete to a specified finished gloss.

Polishing stage

The final stages of the polishing process, with an 800 grit or higher, refine the concrete to the specified finished gloss.

Bonded abrasive

The abrasive medium is held within a bonding that erodes away to expose the new abrasive medium as it is used.

Binders

Liquid polymer-modifying admixture that aids in physical strength and bonding properties of mortars and concrete.

Bonded abrasive polished concrete

The multi-step operation of mechanically grinding, honing, and polishing a concrete surface with bonded abrasives to cut and refine to the maximum potential to achieve a specified finished gloss.

Burnished polished concrete

To achieve a specified finished gloss, the multi-step operation of mechanical friction-rubbing of a concrete surface, with or without waxes or resins.

Hybrid polished concrete:

A multi-step operation, using either standard grinding or polishing equipment, lightweight equipment, high speed burnishing equipment, or a combination, to combine the mechanical grinding, honing, and polishing process with the friction rubbing process by utilizing bonded abrasives, abrasive pads, or a combination, to produce the specified finished gloss.

4.0 Abbreviated Terms

As per PCR Part A, ISO 20193:2017 and EN 15804:2012+A2:2019.

FU Functional Unit

MSL Market Service Life

PPAs Power Purchase Agreements

RECs Renewable Energy Certificates

TSL Technical Service Life

5.0 General Aspects

5.1 Objective of this sub-PCR

The objective of these Product Category Rules (PCRs) is to provide specific rules for assessing and reporting the environmental performance of polished concrete flooring systems. This PCR is a sub-PCR to ISO 21930:2017 and EN 15804:2012+A2:2019 and aligns with the transparency procedures outlined in the ACLCA PCR Guidance – Process and Methods Toolkit Checklist (2022).

5.2 Life Cycle Stages and their Information Modules and Module D

Per Part A, but with the following product category change to align with EN 15804:2012+A2:2019:
The scope of this Part B sub-PCR includes the following modules per Part A, ISO 21930:2017 Section 5.2.2, cradle to grave.
The EPD (Environmental Product Declaration) shall provide transparent information about the environmental performance of building materials and civil engineering works, following ISO 21930:2017 or EN 15804:2012+A2:2019. This includes data in modules (A1 to C4, and Module D) for assessing impacts across a product's life cycle, from cradle to grave. This encompasses production (A1 to A3), construction (A4 to A5), use (B1 to B7), and end-of-life stages (C1 to C4) and Module D. End-of-life stages (C1 to C4) and Module D shall be included for products that are not chemically transformed as part of the process and are no longer able to be separated from the concrete. In those cases, Modules C1-C4 and Module D shall report on materials not used to create the polished concrete flooring system that become chemically part of the concrete (Ltd.).
In accordance with EN 15804:2012+A2:2019, Section 5.2, the polished concrete products applied to the concrete are exempt from the declaration of modules C1–C4 and module D. Densifiers and hardeners cannot be separated from the concrete at the end of life, their material is no longer identifiable at the end of life as a result of the chemical transformation process and the products do not contain biogenic carbon.
See Figure 1 for more information.
Modules beyond the factory gate must use described scenarios with predefined parameters and technical details. Each section shall define the scenarios as decided by the PCR committee. If no activity is expected in a module for a specific product, the scenario should reflect this rather than marking the module as not applicable. This sub-category PCRs (Product Category Rules) provides default scenarios for all relevant modules. EPDs with undefined scenarios based on a specific product must clearly state the scenario used and why it differs from the scenario listed in this PCR.

Figure 1: Types of EPD with respect to life cycle stages covered and life cycle stages and modules for the construction works

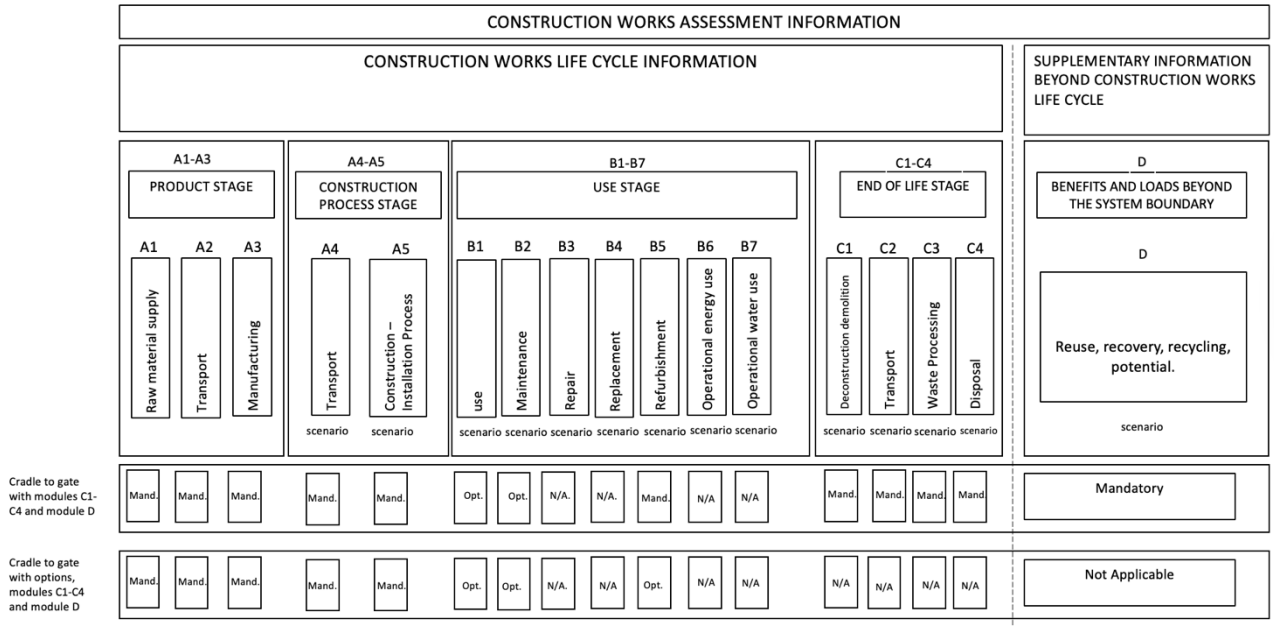


Figure 2: System Boundaries for Polished Concrete Flooring Systems.

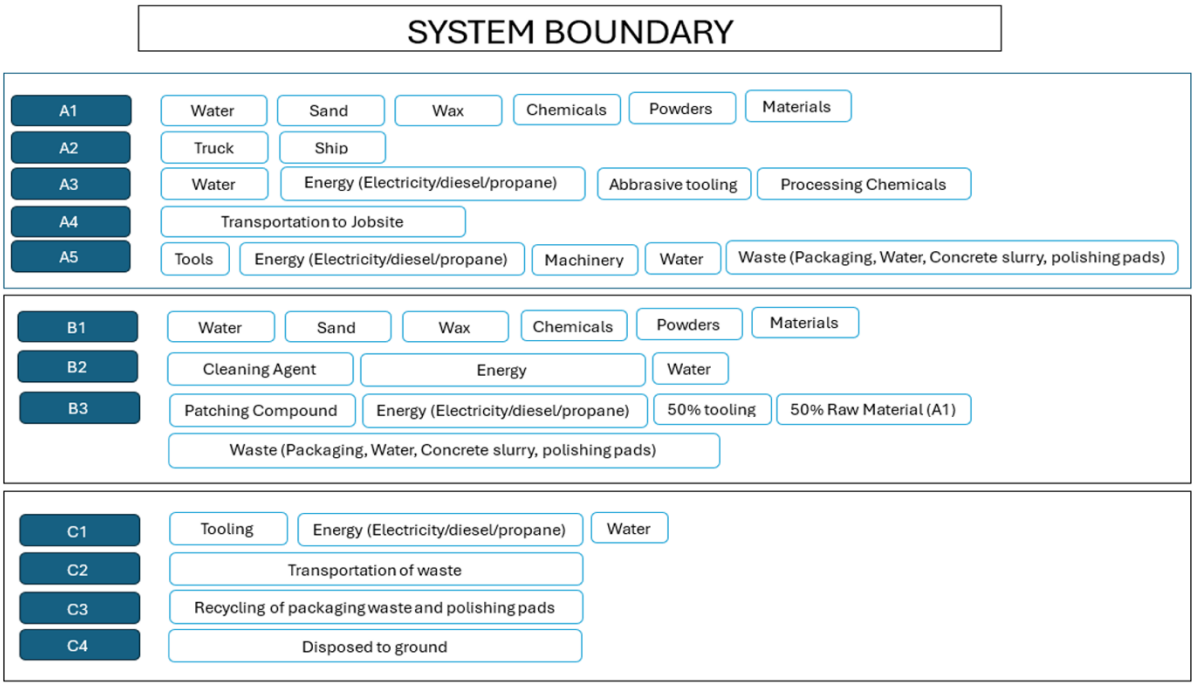
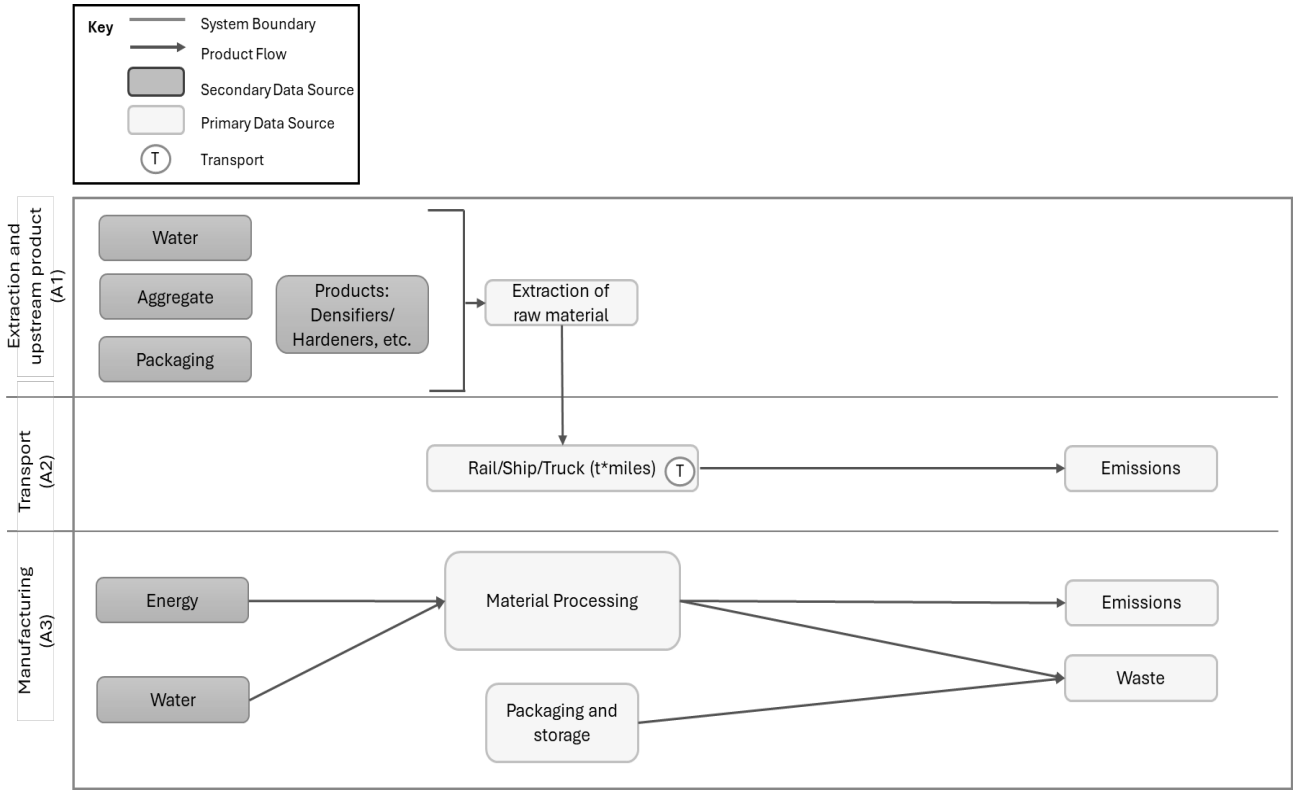


Figure 3: A1 to A3 System Boundaries



5.2.3 Use of scenarios for assessment of information modules beyond the production stage

Assessing information modules beyond the production stage allows manufacturers to demonstrate product stewardship beyond just supply chain and production.

If the product manufacturer lacks specific technical data for the EPD then they must use the scenarios for these modules that provide the generic data to be used. For instance, if a manufacturer has the exact distance and mode of transport of their product to distribution then they should enter the technical primary data in module A4 can provide more accurate data for construction assessments, avoiding generic assumptions of increased waste or less efficient transport. If they do not have that data, generic data and scenarios is provided in Section 7.1.7 Information for scenarios.

5.3 Average EPDs for groups of similar products

Per Part A, Section 5.3 ISO 20193:2017 and EN 15804:2012+A2:2019.

5.4 Use of EPDs for construction products

Per Part A, Section 5.4 ISO 20193:2017 and EN 15804:2012+A2:2019 and the addition of the section EN15804+A2,

5.4.3Additional information on carbon offset, carbon storage and delayed emissions. Per

EN15804, Carbon offset processes are not part of the product system under study. Carbon offset shall not be included in the calculation of the GWP. Additionally, Per EN15804+A2 (Section 5.4.3) the effect of temporary carbon storage and delayed emissions, i.e. the discounting of emissions and removals, shall not be included in the calculation of the GWP. The effect of permanent biogenic carbon storage should also not be included in the calculation of the GWP.

5.5 Comparability of EPDs for construction products

Per Part A, Section 5.5 ISO 20193:2017 and EN 15804:2012+A2:2019.

5.6 Documentation

Per Part A, Section 5.6 and Clause 10, with additional, specific content for EPDs published using this Part B PCR in Section 10, Project Report.

6.0 PCR Development and Use

2.1 Core PCR Structure

Per Part A, Section 6.1, ISO 20193:2017 and EN 15804:2012+A2:2019

2.2 Relation between core PCR (Part A) and sub-category PCR (Part B)

Per Part A, Section 6.2, ISO 20193:2017 and EN 15804:2012+A2:2019

2.3 Development of sub-category PCR

Per Part A, Section 6.3, ISO 20193:2017 and EN 15804:2012+A2:2019

7.0 PCR for LCA/Rules for LCA

7.1 Methodological framework

7.1.1 LCA Modeling and Calculation

Per Part A, Section 7.1.1. ISO 20193:2017 the system boundary shall follow the modularity and polluter pays principle. As per Part A EN 15804:2012+A2:2019, Section 6.2., Modules shall include impacts and related to realistic losses in the module in which the losses occur (i.e. production, transport, and waste processing and disposal of the lost waste products and materials).

If the actual loss is not known with quantifiable data, then a default of 2% must be used.

7.1.2 Functional Unit

The functional unit shall be 1 m2 of polished concrete flooring surface for a period of 60 years (the expected lifetime of the building). The base polished concrete system for the functional unit, further defined, shall include the following parameters:

> 1 m2 of polished concrete flooring surface with the Salt and Pepper aggregate exposure classification and an appearance option of polished (3), using water as the grinding aid in the grinding process.

This polishing scenario is mandatory to capture a specified level of material inputs and outputs. Other installation scenarios can be included based on customer or manufacturer preference.

Aggregate Exposure Classification

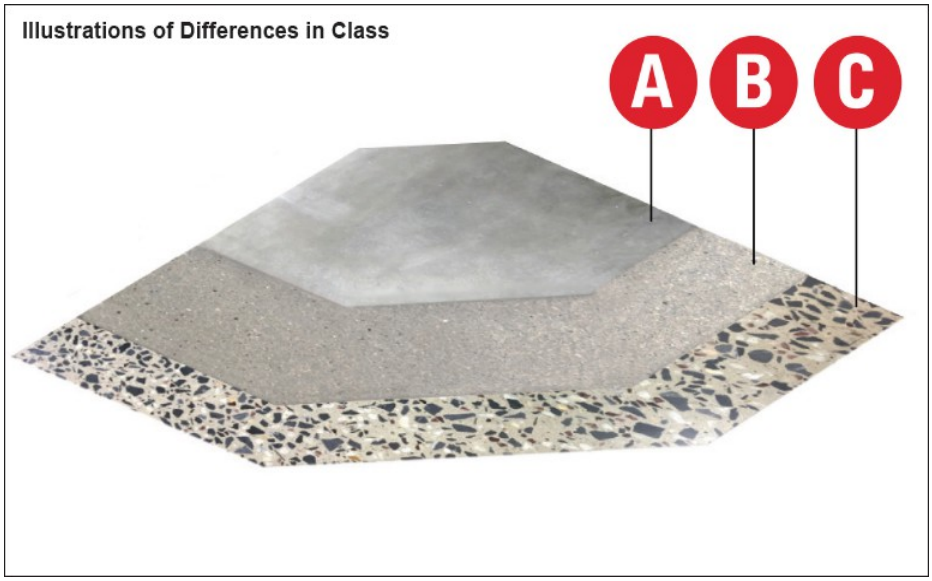
The Concrete Polishing Council's Exposed/Polished Concrete Aggregate Exposure Chart details three distinct aggregate exposure classes for polished concrete surfaces.

Table 2: Aggregate Exposure from the Concrete Polishing Council "Exposed/Polished Concrete Aggregate Exposure Chart".

CLASS	NAME	SURFACE EXPOSURE, %
A	Cement Fines (Cream Finish)	85-95% Cement Fine 5-15% Fine Aggregate
B	Fine Aggregate (Salt and Pepper*)	85-95% Fine Aggregate 5-15% Blend of Cement Fines and Coarse Aggregate
C	Full Aggregate Exposure (Coarse Aggregate)	80-90% Full Aggregate 10-20% Blend of Cement Fines and Fine Aggregate

*Exposure scenario for the functional unit

Figure 4: Illustration of Aggregate Exposure Classes for the Concrete Polishing Council "Exposed/Polished Concrete Aggregate Exposure Chart"



Important Considerations:

- **Measurement**: Aggregate exposure is assessed within a randomly placed 10' x 10' square area
- **Variability**: The actual density, size, and distribution of aggregates depend on factors such as:
    - Concrete mix design
    - Placing and finishing techniques
    - Specified floor flatness (FF and FL)
- **Color Variations**: Significant color changes can occur between classes as aggregates become more exposed
- **Grouting**: May be necessary for floors with high Distinctness of Image (DOI) requirements, excessive pore structure, or specific aggregate exposure specifications

This classification system helps contractors and clients clearly communicate desired concrete finishes and ensures consistent standards across polished concrete projects. The following table outlines the aggregate- exposure classification.

Polished Concrete Appearance Options

Four distinct appearance levels are defined for polished concrete surfaces based on the Concrete Polishing Council's Exposed/Polished Concrete Appearance Chart. This classification system provides a standardized way to specify and measure the appearance of polished concrete surfaces, ensuring consistency and clarity in project requirements.

Table 3: Appearance chart for polished concrete flooring systems

			AVERAGE		
LEVEL	**NAME**	**DESCRIPTION:** Images of objects being reflected have a:	**DOI VALUE %**	**GLOSS VALUE (Optional)**	**HAZE VALUE**
1	Exposed/Flat (Ground)	flat or matte appearance	0-9	<10	<12
2	Exposed/Satin (Honed	Satin appearance	10-38	5-25	<12
3	Polished	Do not have a sharp and crisp appearance but can be identified	40-69	35-49	<12
4	Highly Polished	Near-mirror like reflection (may require grouting)	>70	>50	<12

Important Considerations:

- **Distinctness-of-Image (DOI)** is measured using an Image Clarity Meter according to ASTM D5767. DOI values range from 0 to 100, with 100 representing perfect image clarity.
- **Haze** is measured using a Glossmeter following ASTM D4039. It is computed as the difference between specular gloss at 60° and 20°.

For compliance, measurements should be taken before any post-polished surface treatments are applied.

- The number of tests required depends on the surface area:
- Three tests for areas up to 1000 ft²
- One additional test for each additional 1000 ft² or fraction thereof
- Specifiers may choose to omit gloss requirements at their discretion.

The reference flow shall be the number of products and installation inputs needed to satisfy the above-listed functional unit. Multiple finishing events may be needed to satisfy the functional unit over Reference Service Life (RSL).

7.1.3 Declared Unit

Not applicable for this PCR.

7.1.4 Requirements for the use of RSL

EN15804 requires: The RSL shall be established in accordance with any specific rules given in European product standards or, if not available, a c-PCR, and shall consider ISO 15686-1, -2, -7 and -8. Where European product standards or a c-PCR provide guidance on deriving the RSL, such guidance shall have priority.

Following the guidance of ISO 20193:2017, Annex A and (EU Standards) The expected lifetime of the building is 60 years and shall be considered the RSL for the B1-B4 stages of the model. This RSL is aligned with the PCR for Resinous Floor Coatings and Resilient Flooring since these products could be options on a specified installation.

Polished concrete is a high-performance flooring system that uses the slab for the building as a finished floor. This is an example of true value engineering, no need for floor coverings, adhesives or other VOC emitting coatings. Polished concrete flooring is a breathable surface that allows moisture to pass through and will not emit any harmful or toxic VOCs into the building atmosphere, making it a high IEQ environment. The flooring surface is highly abrasion resistant with small aggregates present near the surface. When treated with a proper guard product polished concrete is stained and chemical resistant as well.

Maintenance is minimal, requiring daily and weekly cleaning procedures depending on the traffic. No toxic or harsh chemicals need to be used for cleaning. Most polished concrete systems require that you do not use cleaners with butyl or acidic compounds as they can degrade the surface. If these types of chemicals are used it can weaken the surface guard allowing the surface accept staining. Acidic cleaners can etch the surface on the concrete, creating a slight color change through a difference in the texture. Water only or neutral pH cleaners are the best and least expensive to use. Periodic re-application of the guard can be done for restorative purposes every 2-5 years depending on the traffic and normal maintenance upkeep.

7.1.5 System boundary with nature

Per Part A, Section 7.1.5 ISO 20193:2017 and EN 15804:2012+A2:2019, Section 6.3.5.

7.1.6 System boundary between product systems

As per Part A ISO 21930:2017 and EN 15804:2012+A2:2019 with the following clarification.

Per EN 15804:2012+A2:2019, Section 6.3.5.1. System Boundaries shall follow “the modularity

principle where processes influence the product's environmental performance during its life cycle, they shall be assigned to the module of the life cycle where they occur, and environmental aspects and impacts are declared in the life cycle stage where they appear. The system boundary for polished concrete flooring systems is illustrated in figure 2, System Boundaries for Polished Concrete Flooring Systems.

7.1.7 System boundaries (A1-A3) and technical information for scenarios

7.1.7.2 A1 to A3, production stage

Per Part A, Section 7.1.7.2.2, ISO 21930: 2017 and Section 6.3.5.2 EN 15804:2012+A2:2019.

7.1.7.2.2. A1, EXTRACTION AND UPSTREAM PRODUCTION

This process begins when the raw materials are extracted from nature and ends when transported to the manufacturing facility. Per ISO 21930:2017, Section 7.1.7.2.2 and EN 15804:2012+A2:2019 Section, 6.3.5.2.

7.1.7.2.3 A2, TRANSPORT TO FACTORY

Transportation, including inter-facility transport, must be accounted for before shipping materials to the application site. Per ISO 21930:2017, Section 7.1.7.2.2 and EN 15804:2012+A2:2019 Section, 6.3.5.2.

If multiple primary data points exist for inbound transportation distances of raw materials, an average distance, weighted by transported mass, must be calculated.

When primary data is not feasible, the transport distances outlined in Table 4 should be applied for inbound raw material transport to U.S.-based facilities. When primary data is unavailable for processes occurring outside the U.S., appropriate regional or national transportation distances and modes should be used. If multiple vehicle classes or transportation modes are needed, the LCA model must utilize various transportation datasets as long as separate LCI datasets are available for these vehicles or modes.

The modes and default distances were selected by a combination of the following survey results "Shipment Characteristics by Two-Digit Commodity and Distance Shipped for State of Origin: 2002" and primary manufacturer information from the committee members (United States Department of Transportation, 2024). Primary manufacturer information is preferred but if unavailable then default data shall be used.

Table 4: Transport Distances for unknown material origin to the United States. For other manufacturing locations outside the United States, adjust these defaults with best available information, considering that the origin of the raw materials may be in China. Justify in detail the decisions made in the EPD.

		Distance (miles or kilometers)			
Trasport to the job site (Unknown)		**Truck**	**Rail**	**Ocean Freight**	**Passenger Truck**
For a job site within the U.S. (direct ship)	Any material used to perform the FU	150 (241.40 km)	X	X	X
To distribution and then to the job site within the US		204 (328.31 km)	X	X	10 (16.01 km)

7.1.7.2.4 A3, MANUFACTURING

Per ISO 21930:2017, Section 7.1.7.2.2 and EN 15804:2012+A2:2019 Section, 6.3.5.2. Processing for densifiers and hardeners may differ based on the manufacturer's business and core manufacturing processes. For example, some manufacturers may make 100% of the products needed for performing the functional unit themselves while others may purchase some or all of the materials necessary to perform the functional unit. If primary information is not available then the Raw Material, Table 4, must be used.

Purchased Electricity: The sources for electricity and the calculation procedure shall be documented. By default, the region grid electricity available in Ecoinvent shall be used. This is either at the country level or region, location dependent. Both Power Purchase Agreements (PPAs) and Renewable Energy Certificates (RECs) where applicable for the manufacturer should be used. This aligns with the Science-based target initiatives and the WBCSD GHG Protocol. All certificates and paperwork shall be made available to the verifier and the actual date of expiration (if any) shall be listed in the report. If the REC is only good for one year, then the manufacturer must make a written attestation of intent to continue to purchase the RECs in the same proportion of their current production for the remainder of the validity of the EPD. This statement shall appear in the EPD Section "Other Environmental Information" along with the contact information if the buy would like to confirm conformance.

As per Section 5.4 of this document, Use of EPDs for construction products, and **EN 15804:2012+A2:2019**, Cabon offsets are not allowed to be used to lower the GWP calculations. See Section 5.4 for more information.

Other Scope 1 Fuels and Transport: All values shall be used for calculations based on actual usage; Carbon offsets are not permitted in this PCR.

7.1.7.2.5 INPUT OF SECONDARY MATERIALS OR RECOVERED ENERGY

Per Part A, Section 7.1.7.2.5, ISO 20193:2017 and EN 15804:2012+A2:2019, Section 6.3.5.2.

7.1.7.2.6 CO-PRODUCTS LEAVING THE SYSTEM

Per Part A, Section 7.1.7.2.6, ISO 20193:2017 and EN 15804:2012+A2:2019.

7.1.7.3 A4 to A5, construction stage

Per Part A, Section 7.1.7.2.1, ISO 21930: 2017 and EN 15804:2012+A2:2019, Section 6.3.5.3.

7.1.7.3.2 A4, TRANSPORT TO THE JOB SITE

Per Part A, Section 7.1.7.2.1 (ISO 21930, Section 7.1.7.2.1 and EN 15804:2012+A2:2019, Section 6.3.5.2) with the exception of default distances for secondary information. Transport to the jobsite is not a known value for all polished concrete business models. In the case where a manufacturer has the average distance to the jobsite, Table 5 should be used or reasonable estimates should be made following LCA best practices. All estimates must be justified and explained in the EPD report. The manufacturer shall proportion the domestic versus international job site values using mass allocation based on shipping records or other primary records.

The values below for shipping to distribution and then to a job site in the United States are a weighted average of miles from the Bureau of Transportation Statistics "Shipment Characteristics by Two-Digit Commodity and Distance Shipped "(need reference). All values for the option to ship to a job site directly are from primary manufacturer committee member information.

Table 5: Default distances to the job site when primary information is not available (United States only).

		Distance (miles, nautical miles, or kilometers)			
Trabsport to the job site (Unknown)		**Truck**	**Rail**	**Ocean Freight**	**Passenger Truck**
For a job site within the U.S. (direct ship)	Any material used to perform the FU	150 (241.40 km)	X	X	X
To distribution and then to the job site within the US		204 (328.31 km)	X	X	10 (16.01 km)

7.1.7. 3.3 A5, INSTALLATION

Per Part A, Section 7.1.7.2.1 (ISO 21930, Section 7.1.7.3.3 and EN 15804:2012+A2:2019, Section 6.3.5.3) with the exceptions:

1. The polished concrete system can be installed job specific and in various configurations of products. Based on Table 7: Polished concrete flooring processes with materials and polish level, all products must be present in the LCA model for each scenario as desired.
2. All material and resources used during the installation process must be presented in a table. The table must note if the information is primary information or secondary. If primary information is not available, then the default values for each level are in Table 7: Polished concrete flooring processes with materials and polish level below.
3. Since Polished concrete flooring requires input and outputs to the installation process, the following processes must be considered for the functional unit as outlined in the table below. These values are default values to be used if the manufacturer's business model does not provide them the accurate or complete data for this section and shall be based on the Functional Unit (FU) and any other scenarios modeled.

    1 m2 of polished concrete flooring surface with the **Salt and Pepper** aggregate exposure classification (1/16th removal) and an appearance option of polished (3), using water as the grinding aid in the grinding process. High Traffic scenario is the default.

Table 6: This table assumes inputs and outputs for the FU based on an average 5 different tooling grits: 1 metal, 3 hybrids, and 1 resin.

Material Type	Type of Process	Process Description	Quantity Methodology
Electricity *	Input	Only list if not using a generator.	Based on machinery
Propane for equipment (as applicable)	Input	Use only if polisher is run on propane	0.05 gallons propane/FU
Diesel for Generator (optional)	Input	Generator is used to run the electrical equipment	0.1 gallons diesel/ FU
Water	Input	Assume potable water	Freshwater input is (7.94) L/FU
Slurry	Waste output	Waste water	Recycled to use in grinding process
Diamond polishing pads	Input	5 different tooling grits: 1 metal, 3 hybrids, and 1 resin	
Diamond polishing pads	Waste output		0.64 kg/FU
Waste concrete slurry	Waste output	Slurry Disposal	0.0079 m3/ FU
Packaging materials	Waste output	Same as Module A1 inputs	Based on all raw material inputs

* Electricity should not be calculated for new construction when it is generated by a generator; only list the electricity when it is not coming from a generator.

All other scenarios beyond the scenario described above must be derived from primary information

or based on a mockup.

The following raw materials must be included in the installation stage for each polish level as illustrated in table 7 below:

Polish Level: Level 1 - Flat (Ground) Appearance, Level 2 - Satin (Honed) Appearance, Level 3 - Polished Appearance, Level 4- Highly Polished Appearance

Products: Hardener/ Densifier (H/D)- Non-film forming, concrete reactive, water-based silica or silicate hardener/ densifier, Impregnator/ Guard (I/G) - Water-based, semi-permeable, one-component stain impregnating guard, Grout- Water-reduceable, resinous based grout, Concrete Color - Liquid-applied, color dyes (Optional).

Pass (1,2, or 3): This is the machine time needed to reach the required aggregate exposure level.

Table 7: Polished concrete flooring processes with materials and polish level

<table>
<tr><th>Substrate</th><th>Polish Level</th><th colspan="5">Products</th></tr>
<tr><td>Concrete</td><td>N/A</td><td>X</td><td>H/D</td><td>X</td><td>X</td><td>X</td></tr>
<tr><td>Concrete</td><td>1</td><td rowspan="4">Class A- Cement Fines (2-4 passes)</td><td>H/D</td><td rowspan="11">Concrete Color (Optional)</td><td>X</td><td>I/G</td></tr>
<tr><td>Concrete</td><td>2</td><td>H/D</td><td>X</td><td>I/G</td></tr>
<tr><td>Concrete</td><td>3</td><td>H/D</td><td>X</td><td>I/G</td></tr>
<tr><td>Concrete</td><td>4</td><td>H/D</td><td>Grout</td><td>I/G</td></tr>
<tr><td>Concrete</td><td>1</td><td rowspan="4">Class B- Aggregate (3-5 passes)</td><td>H/D</td><td>X</td><td>I/G</td></tr>
<tr><td>Concrete</td><td>2</td><td>H/D</td><td>X</td><td>I/G</td></tr>
<tr><td>Concrete</td><td>3</td><td>H/D</td><td>X</td><td>I/G</td></tr>
<tr><td>Concrete</td><td>4</td><td>H/D</td><td>Grout</td><td>I/G</td></tr>
<tr><td>Concrete</td><td>1</td><td rowspan="4">Class C- Course Aggregate (4-5 passes)</td><td>H/D</td><td>Grout</td><td>I/G</td></tr>
<tr><td>Concrete</td><td>2</td><td>H/D</td><td>Grout</td><td>I/G</td></tr>
<tr><td>Concrete</td><td>3</td><td>H/D</td><td>Grout</td><td>I/G</td></tr>
<tr><td>Concrete</td><td>4</td><td>H/D</td><td>Grout</td><td>I/G</td></tr>
</table>

PRODUCT KEY: Hardener/ Densifier (H/D)- Non-film forming, concrete reactive, water-based silica or silicate hardener/ densifier, Impregnator/ Guard (I/G) - Water-based, semi-permeable, one- component stain impregnating guard, Grout- Water-reduceable, resinous based grout, Concrete Color - Liquid-applied, color dyes (Optional).

7.1.7. 3.4. END-OF-LIFE SCENARIOS FOR PACKAGING

Per Part A, Section 7.1.7.3.4, ISO 20193:2017 and EN 15804:2012+A2:2019,

Section 6.3.5.3.

7.1.7.4 B1 to B5, Use stage

7.1.7.4.2 B1, USE OR APPLICATION OF THE INSTALLED PRODUCT

Per Part A, Section 7.1.7.4.2, ISO 20193:2017 and EN 15804:2012+A2:2019, Section 6.3.5.4.

7.1.7. 4.2.3 B2, MAINTENANCE

It shall be assumed that a cleaning event with an auto scrubber (1 gallon of water with an added 0.13 ounce of cleaning solution) will be able to accommodate 60 m2. As such, to satisfy the functional unit's 60-year time frame, 21,840 cleaning events will take place.

7.1.7. 4.2.4 B3, REPAIR

Polished concrete is not a repairable finish. Therefore, the B3 stage is not applicable to this product category.

7.1.7. 4.2.5 B4, REPLACEMENT

Replacement is not applicable in this PCR. See Refurbishment.

7.1.7. 4.2.6 B5, REFURBISHMENT

The following table shall be used to calculate the refurbishment of B5 of the product in the building. The Market Service Life and Technical Service life are defined and adapted from the PCR*, Product Category Rule for Environmental Product Declarations PCR for Resinous Floor Coatings*, valid through December 17, 2023 (NSF International, 2018). They are as follows:

Market Service Life (MSL): The estimated lifetime of a polished concrete flooring system based on the predicted use pattern of the product type (i.e., low traffic environment or high traffic environment) taking into consideration the polish level.

Technical Service Life (TSL): The estimated lifetime of a polished concrete flooring system based on its anticipated performance characteristics determined by manufacturer and industry consensus taking into consideration the environment and polish level.

The two environments are defined as:

1. **Low Traffic Environment:** Office space or residential, high-end retail
2. **High Traffic Environment:** Retail, Industrial Manufacturing, Schools, Food Service Areas

Table 8: Values to calculate the refurbishment of B5 of the product in the building. The Market Service Life and Technical Service life

in Module B5.

Traffic Scenario	Substrate	Polish Level	Technical Service Life	Market Service Level	Materials Needed
Low Foot Traffic	Concrete	1	60 Years	20 Years	50% of original materials on reapplication
	Concrete	2			
	Concrete	3			
	Concrete	4			
High Foot Traffic	Concrete	1	60Years	10 Years	All materials in full quantity except for densifier. Zero densifier is needed.
	Concrete	2			
	Concrete	3			
	Concrete	4			

7.1.7.5 C1 to C4, end-of-life stage

The scenario for End-of Life shall include only materials as waste identified in stages A5 through B5. This is for waste only and not for the deconstruction and removal of the polished concrete flooring system. The following table provides information on handling waste materials from stages A5 to B5. Any polishing materials that remain on the concrete as part of the finished floor are considered incremental mass at the end of life and would be disposed of with the concrete. The densifier is reactive, becomes a chemical part of the concrete, and cannot be separated. (Refer to Section 5.2 Life Cycle Stages and their Information Modules and Module D of this document for more information and a complete explanation)

Based on Part A ISO 21930:2017 and EN 15804:2012+A2:2019, a recycling system can only be acceptable if it includes a reference to a return system for which the reverse logistics have been completely established. Based on this definition, the only materials that can be considered to have an established recycling program would be the packaging as applicable. The WARM default values for transportation of 20 miles plus an extra 5 miles, 40.23 km (1 mile=1.609 km) is the default value for waste transport if the actual distances are unknown (United States Environmental Protection Agency, 2020). For estimated values outside of North America, check for published reference information or explain all estimates clearly in the EPD report.

Table 9: End of Life Scenario for waste outputs from stages A5 to B5.

Material Type	End of Life Scenario	Reverse Logistics (mi)

Waste water	Wastewater is recycled and used in the process.	None
Slurry	All slurry is dehydrated, and waste concrete is landfilled unless otherwise noted.	25 (40.23 km)
Diamond polishing pads	Landfill	25 (40.23 km)
Packaging materials	Recycled based on content	25 (40.23 km)

7.1.7. 6. Benefits beyond the system boundary- Module D

In accordance with EN 15804:2012+A2:2019, Section 5.2

7.1.8 Criteria for the inclusion and exclusion of inputs and outputs (Cutt-off Rules)

As in PCR part A Section 7.118, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 6.3.6, and the following clarification.

A list of hazardous and toxic materials and substances shall be included in the inventory to 100ppm. The general cut-off rules do not apply to such substances. The threshold was decided to be aligned with various transparent documents in the building and construction industry and is considered the lowest threshold needed for reporting the ingredients of building materials.

7.1.9 Selection of data and data quality requirements

Per Part A, Section 7.1.9, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 6.3.6 with the following exceptions outlined in the chart below.

Table 10: Application of generic and specific data

Modules	**A1 to A3**		**A1 to A5**	**B1 to B7**	**C1 to C4**
	Production of raw materials	Product Manufacturer	Installation processes	Use processes	End-of-Life
Process Type	Upstream processes	**Primary data is necessary** for energy and water.	Downstream processes		

Data Type	Generic database or EPDs of upstream processes (Per Part A)	If less than 12 full months of data is used there needs to be a full explanation and then the EPD is only good for 2 years before requiring an update with 12 months of data to earn the full 5-year validity.	If scenario generic data, as provided in this sub-PCR. Only primary data is a substitute for the scenario data.

All primary data must have occurred within the past two calendar years, or whatever is soonest as required by the Part A, for all primary specific data.

7.1.10 Units

Per Part A, Section 7.1.10 (ISO 21930: 2017 and EN 15804:2012+A2:2019, Section 6.3.10, SI units shall be used. Basic units are metre (m), kilogram (kg), metric tonne (t) and molecular weight in grams (mol). With the exceptions noted below, all resources are expressed in kg.Transportation can be calculated in either miles or kilometers but must be consistently reported throughout the EPD.

7.2 Inventory Analysis

7.2.1 Data Collection

Per Part A, Section 7.2.1, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 6.4.1 with the exception that primary data should be collected whenever possible in the form of raw data for supply chain level EPDs. Supply chain level generic unit processes are not preferred and therefore add to a higher level of uncertainty in the EPD.

The primary source of data shall be facility-specific information; if unavailable, the Ecoinvent database shall be used as secondary data and indicators required per Part A, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 6.5.2.

7.2.2 Calculation Procedures

Per Part A, Section 7.2.2, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 6.4.3.

7.2.3 Allocation Situations

Per Part A, Section 7.2.4, ISO 21930: 2017 and EN 15804:2012+A2:2019, Section 6.4.3.

7.2.5 Co-Product Allocation

Per Part A, Section 7.2.5 (ISO 21930: 2017 and EN 15804:2012+A2:2019, Section 6.4.3.

7.2.7. Biogenic Carbon

Per Part A, Section 7.2.7, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 6.4.4.

7.2.9. Accounting for Delayed Emissions

Per Part A, Section 7.2.9, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 6.5.

7.2.10. Inventory Indicators Describing Resource Use

Per Part A, Section 7.2.10, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 6.5

7.2.13 Inventory indicator describing consumption of freshwater

Per Part A, Section 7.2.13, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 6.5.

7.2.14 Environmental information describing waste categories and output flows

Per Part A, Section 7.2.14, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 6.5.

7.3 Impact assessment indicators describing main environmental impacts derived from LCA

Per Part A, Section 7.3, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 6.5.

8.0 Additional Environmental Information

8.2 Additional LCA-related environmental information not included in the pre-set LCIA indicators

Per Part A, Section 8.2 (ISO 21930:2017)

8.3 Additional environmental information not derived from or related to LCA

Per Part A, Section 8.3 (ISO 21930:2017)

2.4 Mandatory additional environmental information

Per Part A, Section 8.4 (ISO 21930:2017). Additionally, this placement will be outlined in Section 9, EPD Content.

8.4.2 Release of dangerous substances from construction products

Per Part A, Section 8.4.2 (ISO 21930:2017)

9.0 Content of an EPD

9.2 Declaration of general information

Per Part A, Section 9.2, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 7.1.

9.3 Declaration of the methodological framework

Per Part A, Section 9.3, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 7.1. with the following clarifications.

9.3.1 Functional Unit

The Functional Unit is:

The functional unit shall be 1 m2 of polished concrete flooring surface for a period of 60 years (the expected lifetime of the building). The base polished concrete system for the functional unit, further defined, shall include the following parameters:

> 1 m2 of polished concrete flooring surface with the **Salt and Pepper** aggregate exposure classification and an appearance option of polished (3), using water as the grinding aid in the grinding process.

This polishing scenario is mandatory to capture a specified level of material inputs and outputs. Other installation scenarios can be included based on customer or manufacturer preference.

9.3.1 Scope of EPD

The scope of the EPD with respect to the life cycle stages includes:

Cradle to grave- A1-A5, B1-B7, C1-C4 and optional Module D. Any default data used in relation to the scenarios described in this Part B, PCR must be disclosed.

9.4 Declaration of technical information and scenarios

Per Part A, Section 9.4, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 7.3 (specific tables) with the addition of scenarios covered in this Part B, PCR.

9.5 Declaration of environmental indicators derived from LCA

Per Part A, Section 9.5, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 7.2.

10.0 Project Report

10.1 General

Per Part A, Section 10.1, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 8.0.

10.2 LCA-related elements of the project report

Per Part A, Section 10.1, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 8.0.

10.3 Rules for data confidentiality

Per Part A, Section 10.1, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 8.0.

10.4 Documentation on additional environmental information

Per Part A, Section 10.1, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 8.0.

10.5 Data availability for verification

Per Part A, Section 10.1, ISO 21930:2017 and EN 15804:2012+A2:2019, Section 8.0.

11.0 EPD Verification and Validity

Per ISO 21930:2017, Section 11, ISO 14025: 2006, and EN 15804:2012+A2:2019.

References

Bhat, C.G., Adhikari T, Mellentine J, Feraldi R, Lasso A, Swack T, Mukherjee A, Dylla H, Rangelov M. 2022 ACLCA PCR Guidance – Process and Methods Toolkit. Version May 2022. American Centre for Life Cycle Assessment. https://aclca.org/pcr/

ECO Platform, Verification Guidelines for ECO EPD Programme Operators. Version 7.1 (December 2024). www.eco-platform.org/files/download/Documents/2025/Verification%20Guidelines_V8.0.pdf

EN 15804:2012+A2:2019 Sustainability of construction works – Environmental product declarations - Core rules for the product category of construction products

ISO 14020:2022 Environmental statements and programmes for products — Principles and general requirements

EN 16810:2017 Resilient, textile and laminate floor coverings Environmental product declarations Product category rules

Institut Bauen und Umwelt e.V., PCR Guidance-Texts for Building-Related Products and Services- From the range of Environmental Product Declarations of Institute Construction and Environment e.V. (IBU), Part B: Requirements on the EPD for Floor coverings

ISO 14025:2006 Environmental labels and declarations – Type III environmental declarations – principles and procedures

ISO 14027:2017 Environmental labels and declarations — Development of product category rules

ISO 14029:2022 Environmental statements and programmes for products — Mutual recognition of environmental product declarations (EPDs) and footprint communication programmes

ISO 14040:2006 Environmental management – Life cycle assessment – Principles and framework

ISO 14044:2006: Environmental management – Life cycle assessment – Requirements and guidelines

ISO 14067:2018 Greenhouse Gases – Carbon Footprint of Products – Requirements and guidelines for quantification

ISO 14071:2014 Environmental management – Life cycle assessment – Critical review processes and reviewer competencies: Additional requirements and guidelines to ISO 14044:2006

NSF International, Product Category Rule for Environmental Product Declarations

PCR for Resinous Floor Coatings, Valid until December 17, 2023

United States Department of Transportation. (2024). *Table 19 - Shipment Characteristics by Two-Digit Commodity and Distance Shipped for State of Origin: 2002 | Bureau of Transportation Statistics*. Bts.gov. https://www.bts.gov/archive/publications/commodity_flow_survey/2002/states/colorado/table

United States Department of Transportation. (2024). Table 19 - Shipment Characteristics by Two-Digit Commodity and Distance Shipped for State of Origin: 2002 | Bureau of Transportation Statistics. Bts.gov. https://www.bts.gov/archive/publications/commodity_flow_survey/2002/states/colorado/table

Appendix A: PCRs Reviewed by the Committee as Part of the Investigative Phase

Product Category Rule	Document Specifics
Product Category Rule for Environmental Product Declarations PCR for Resinous Floor Coatings, NSF International, Valid until December 17, 2023.	**Functional Unit:** 1 m2 of covered and protected flooring surface for a period of 60 years Scope: Cradle to grave **Product Types Covered**: *thin-mil:* A resin rich coating system typically comprised of a primer, body coat(s), and topcoat installed less than 40 mils. *self-leveling or broadcast slurries:* A high build coating system using the addition of fillers and/or, broadcast aggregates (quartz, flake silica sand) installed in multiple layers to build thickness typically from 40 to 180 mils. *mortars, monolithic mortars, and terrazzo:* A composite material consisting of marble, silica sand, granite, glass or other suitable aggregate in a binder matrix of Portland cement mortar, epoxy resin, polyester resin, or vinyl ester resin. Typically installed to build thickness greater than 180 mils. **Part A Alignment:** ISO 21930:2017 **Reason for Misalignment:** Product differences in installation, replacement, repair and service life.
Product Category Rule for Environmental Product Declarations Architectural Coatings, NSF International, Valid until June 23, 2022	**Functional Unit:** 1m2 of covered and protected substrate for a period of 60 years Scope: Cradle to grave **Product Types Covered:** *Concrete curing, sealing, & protective coatings:* A clear or opaque coating that is formulated primarily for application to concrete and masonry surfaces. *General exterior coatings & interior coatings:* A coating that is not defined under any other definition in this rule and that is a decorative

	or protective paint or coating that is formulated for interior or exterior architectural substrates including, but not limited to: drywall, stucco, wood, metal, concrete, and masonry. *Floor coatings:* An opaque coating that is formulated for application to flooring, including, but not limited to, decks, porches, steps, garage floors, and other horizontal surfaces which may be subject to foot traffic. *Primers, sealers, and undercoaters*: A coating formulated for one or more of the following purposes: to provide a firm bond between the substrate and the subsequent coatings; to prevent subsequent coatings from being absorbed by the substrate; or to prevent harm to subsequent coatings by materials in the substrate; or to provide a smooth surface for the subsequent application of coatings; or to provide a clear finish coat to seal the substrate; or to prevent materials from penetrating into or leaching out of a substrate. *Wood coatings:* The wood coatings category includes the following coatings: lacquers; varnishes; sanding sealers; penetrating oils; shellacs; stains; wood conditioners; and wood sealers. **Part A Alignment:** ISO 21930: 2017 **Reason for Misalignment:** Does not cover installations stages. Products used in the concrete polishing systems are non-film forming densifiers and hardeners that are absorbed into concrete and do not have a thickness or wear layer.
Product category rules EN 15804 +A2 NPCR 009 Part B for Technical - Chemical products for building and construction industry, EPD Norge, Valid until January 7, 2024	**Declared Unit:** Cradle to Gate:1 kg of manufactured product (A1-A3). Cradle to Gate with options: 1 kg of applied product (A1-A3 including one or more of the life cycle stages A4, A5, B1, C1, C2, C3, C4 and D).

	Scope: A1-A3 or A1-A5, C1-C4, Module D **Product Type Covered:** Adhesives, Sealants, Screeds and fine smoothing compounds, Liquid applied membranes, Mortar, Surface treatment, and primers (all applicable standards covering each product category are defined in the PCR. **Part A Alignment:** EN15804+A2 **Reason for Misalignment:** Does not cover the installation process
Product Category Rule for Environmental Product Declarations *Flooring: Carpet, Resilient, Laminate, Ceramic, Wood* *Version 2,* NSF Sustainability, Valid until June 23, 2020 (Expired)	**Declared Unit:** Cradle to Grave:1 m2 of floor covering over a specified time period **Scope:** A1-A3 or A1-A5, C1-C4, Module D **Product Type Covered:** Carpet, Resilient Flooring, Laminate, Ceramic and wood **Part A Alignment:** ISO 21930:2017 **Reason for Misalignment:** Expired
UNE-EN 16810 Resilient, textile and laminate floor coverings Environmental product declarations Product category rules. This standard is the official English version of EN 16810:2017. (Current Standard)	**Functional Unit:** The functional unit is 1m2 of installed floor covering for specified applications and use areas according to EN ISO 10874. **Declared Unit:** The declared unit is used instead of the functional unit when the precise function of the product or scenarios at the building level are not stated or are unknown. **Scope:** Modules covered: A1 to A5, B2, C1 to C4 and D. Modules B1 and B3 to B7: "Floor covering during its lifetime in the use stage has no environmental aspects and impacts during their normal (i.e. anticipated) use and is neither repaired, replaced or refurbished (other than at the end of life). As a result, floor coverings are not contributing to modules B1 and B3 to B7 which are set to be zero "0"."

	The service lifetime of a floor is reference service lifetime (RSL) is set to one year. **Product Type Covered:** Resilient floor coverings manufactured from plastics, linoleum, cork or rubber, including loose-laid mats; textile floor coverings, including loose-laid mats, rugs and runners; laminate floor coverings; modular floating floor coverings panels **Part A Alignment:** EN15804+A2 **Reason for Misalignment:** Does not cover replacement of the product and offers a one (1) year lifespan
Product category rules EN 15804 +A2 PCR Guidance – Texts for Building-Related Products and Services, Part B: Requirements on the EPD for Floor coverings by Institut Bauen und Umwelt e.V., (Supplement to UNE EN16810:2017)	**Content of the document covers:** **Insert text:** Requirements for the content **Inserting images:** Adding images **Technical tables:** Directions for adding technical tables and content. **Sections:** Useful life and Disclosure of biogenic carbon **Part A Alignment:** EN15804+A2 **Reason for Misalignment:** Guidance Document