

Subject 10010-1

June 20, 2017

SUMMARY OF TOPICS

DRAFT: Building Envelope Thermal Insulation EPD Requirements, UL 10010–1 for commenting

This is a draft document for Part B: Building Envelope Thermal Insulation EPD requirements.

Please use the comment tab to submit comments on the document prior to the meeting. A video of how to comment can be found at <https://www.youtube.com/watch?v=rZmm0AgPyvw>.

Please contact Grace Roh at 919-549-1389 or Grace.Roh@ul.com if you need any assistance.

DRAFT: Building Envelope Thermal Insulation EPD Requirements, UL 10010–1 for commenting

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Tracking of versions

Version	Comments	History
1.0	UL Environment with input from a committee	9/12/2011
1.1	Version amended by UL Environment to allow for industry wide EPDs	8/7/2013
1.2	Version amended by UL Environment to modify temporal requirements	10/29/13
1.3	Version amended by UL Environment to include mechanical insulation in Appendix II	7/7/14
2.0	Updated and republished under Part A and Part B format to conform with EN 15804	

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Editor's Note:

This PCR is based on revisions made to the Institute of Construction and Environment (Institut Bauen und Umwelt e.V., or IBU) standard Part B PCR structure.

The revisions are not modifications to the overall methodology or structure of the IBU PCR, but are intended to reflect practices, methods and requirements that are specific to North America.

This PCR is valid for a period of five (5) years, set to expire in Month, 2022.

I Background Information and Acknowledgements

This PCR was developed to address the product group specific rules for the creation of Environmental Product Declarations (EPD) for building envelope thermal insulation.

Other PCRs considered in the original development of this PCR include:

- PCR for Insulated Metal Panels, Metal Composite Panels, and Metal Cladding. UL Environment, *October, 2012*.
- PCR prepared by Næringslivets Stiftelse for Miljødeklarasjoner (Norwegian EPD Foundation) for Insulation Materials. *October, 2012*.
- PCR Guidance-Texts for Building-Related Products and Services, From the range of Environmental Product Declarations of Institute of Construction and Environment e.V. (IBU), *Part B: Requirements for the EPD for Calcium silicate insulating materials,v1.6, July 2014*.
- PCR Guidance-Texts for Building-Related Products and Services, From the range of Environmental Product Declarations of Institute of Construction and Environment e.V. (IBU), *Part B: Requirements for the EPD for Insulating materials made of foam plastics,v1.6, August 2014*.

- PCR Guidance-Texts for Building-Related Products and Services, From the range of Environmental Product Declarations of Institute of Construction and Environment e.V. (IBU), *Part B: Requirements for the EPD for Mineral insulating materials s,v1.6, August 2014.*

The scope of this PCR differs from the previously published UL Environment Building Envelope Thermal Insulation PCR v1.3 in that it follows the EN 15804 standard, with modifications for the North American (NA) market according to UL Environment's Part A: Life Cycle Assessment Calculation Rules and Report Requirements. This PCR assumes defaults of a 75 year product Reference Service Life (RSL) and 75 year building Estimated Service Life (ESL) to be consistent with ASTM E2921 (2013, Section 6.1.1), and ASHRAE 189.1 (2011, Section 9.5.1).

Interested Parties

This Part B has been prepared with input from the following stakeholders:

- American Chemistry Council
- CPI Spray Foam Coalition
- Armstrong
- The Cellulose Insulation Manufacturers Association (CIMA)
- EPS Molders Association
- Intech Consulting
- Kingspan Insulated Panels
- Knauf Insulation
- NAIMA (North American Insulation Manufacturers Association, Inc)
- Owens Corning
- Spray Polyurethane Foam Alliance (SPFA)
- St. Gobain
- XPFA (Alliance)

Governance

[Explain role of Trade Association or other industry group in development of PCR.]

There are a number of trade associations participating in the update of this Product Category Rule ("PCR") for thermal insulation, including NAIMA, CIMA, SPFA, and XPFA. These trade associations represent all or a majority of the companies in their particular sector of the insulation industry. Moreover, the trade associations participating in the PCR update represent the vast majority of insulations types produced in North America. The very purpose and function of a trade association is to inform its members of important industry developments and to represent their interests in projects such as the update of a PCR affecting their products. This is important because it effectively demonstrates that a large percentage of the thermal insulation industry is represented in the effort to renew the PCR for insulation products.

Involvement of Interested Parties

[Explain process by which stakeholders were engaged and consultation was pursued.]

Insulation trade associations informed their memberships of the insulation PCR update through their regularly scheduled association and association committee meetings, newsletters, e-mail messages, and similar types of outreach. Trade associations operate at the behest of its members, and the fact that trade associations are participating in the update of a PCR for insulation products is an indication that their memberships are aware of this project and have authorized their association to represent them in this important endeavor.

UL Environment to add statement on outreach to interested parties.

Per the USGBC PCR Guidance, XX% of the industry as represented by North American market volume was included in the update to this PCR with a minimum of three companies.

<Note: Notification of a call for participation shall be published by either a third party or a trade association in at least one industry trade publication or trade association press release informing industry of EPD intent. At a minimum, 50% of the industry as represented by North American market volume shall be included, with a minimum of at least three (3) different companies represented. The call for participation shall also be made public and communicated by the program operator.>

Update Process

[Apart from the published PCR expiration date defined herein, describe events which should trigger a PCR update and describe the update process.]

As part of the update process, UL Environment communicated with all original committee members listed in the original publication of v1. Since 2011, the PCR was expanded in scope to include mechanical insulation in 2014. The PCR committee agreed in 2017 that mechanical insulation is best represented in a separate PCR document given functional differences between the product categories and the differences in calculation methods.

While PCRs set to expire five years from publication, they are intended to be living documents that may be updated depending on changes deemed significant by the development committee.

Insert language from Diana Fisler here that define what would trigger an update process. What will update process involve?

<Note: When the PCR is updated the program operator shall communicate with the original committee, any new EPD participants, and initiate a new public call for interested parties.>

Note: Notification of a call for participation shall be published by either a third party or a trade association in at least one industry trade publication or trade association press release informing industry of EPD intent. At a minimum, 50% of the industry as represented by North American market volume shall be included, with a minimum of at least three (3) different companies represented. The call for participation shall also be made public and communicated by the program operator

Review

This Part B was reviewed by the following: < Note: Provide reviewers contact information below, including name, title, address, and email, and/or phone/fax number>

[Reviewer 1
Contact information]

[Reviewer 2
Contact information]

[Reviewer 3
Contact information]

II Scope

This document contains the Product Category Rule (PCR) requirements for a Building Envelope Thermal Insulation Environmental Product Declaration (EPD) published in coordination with the EN 15804 standard. The requirements for the background Life Cycle Assessment (LCA) project report used to inform the EPD are contained in UL Environment's Part A: Life Cycle Assessment Calculation Rules and Report Requirements. This Part B document, coupled with the Part A, conforms to the EN 15804, ISO 21930, and ISO 14025 sustainability standards for EPD reporting.

This PCR addresses requirements for creating an Industry Wide EPD to enable a pathway towards comparative benchmarking against company specific EPDs.

General Guidance

The scope of this PCR applies to the product group "building envelope thermal insulation" and includes all commercially available building envelope thermal insulation products according to the standards or technical approvals shown under Section 8, regardless of material type, including but not limited to: cellular glass, mineral fiber insulation (rock, slag or glass), cellulose-based insulation, polymer-based insulation, cellular glass, and textile-based insulation, and polymer-based insulation.

Thermal insulation is an important technology to reduce energy consumption in buildings by preventing heat gain/loss through the building envelope. Thermal insulation is a construction material with low thermal conductivity and the purpose of these materials is to save energy, protect and provide comfort to occupants. Of the many forms, shapes and applications of thermal insulation, this PCR applies to building envelopes— i.e., basements, slab on grade, elevated cantilevered slabs, fenestration framing, walls, parapets, roof curbs, and roofs.

Applicable Products

The following Construction Specification Institute (CSI) Masterformat codes cover the scope of this Part B:

- 07 21 00 - Thermal Insulation
 - o 07 21 13 Board Insulation
 - o 07 21 13.13 Foam Board Insulation
 - o 07 21 13.16 Fibrous Board Insulation
 - o 07 21 13.19 Mineral Board Insulation
 - o 07 21 16 Batt and Blanket Insulation
 - o 07 21 19 Foamed-In-Place Insulation
 - o 07 21 19.13 Aminoplast Foam Insulation
 - o 07 21 19.16 Polyurethane Foam Insulation

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- o 07 21 23 Loose-Fill Insulation
 - o 07 21 26 Blown Insulation
 - o 07 21 29 Sprayed Insulation
 - o 07 21 53 Reflective Insulation
- 07 22 00 - Roof and Deck Insulation
 - o 07 22 13 Asphaltic Perlite Concrete Deck
 - o 07 22 16 Roof Board Insulation
- 07 24 00 - Exterior Insulation and Finish Systems
 - o 07 24 13 Polymer-Based Exterior Insulation and Finish System
 - o 07 24 16 Polymer-Modified Exterior Insulation and Finish System
 - o 07 24 19 Water-Drainage Exterior Insulation and Finish System
 - o 07 24 23 Direct-Applied Finish Systems

Non-Applicable Products

It should be noted that this PCR may also apply to the thermal insulation components of pre-fabricated building assemblies, including but not limited to, the assemblies and categories listed below. PCRs developed for these assemblies and categories should cross-reference this PCR.

- Mechanical Insulation
- Insulated metal [wall] panels (IMPs) (CSI 07 42 13 19). This product category is covered in the Insulated Metal Panels, Metal Composite Panels, and Metal Cladding PCR published by UL Environment, 2012.
- Insulated Sectional Chimneys (CSI 23 51 33)
- Insulated Concrete Masonry Units (CSI 04 22 23)
- Structural Insulated Panels (SIPs)
- Insulated Doors

Product types, components, or systems that are not included in the scope of this PCR but may be reported separately under additional reported information in Section 4 include Structural Insulated Panels Systems (SIPs), Insulated Metal Building Panels (IMPs), and Insulated Concrete Forms (ICFs).

Geography

This PCR applies to products sold and used in North American markets.

System Boundary

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The system boundary for EPDs created using this PCR is cradle to grave.

The EPD requirements include:

- Requirements of the EN 15804 standard as a European core EPD for the purpose of consistency between declarations in Europe and the United States.
- Requirements of the ULE General Program Instructions v 2.1, April 2017 (available upon request)
- The calculation rules for the Life Cycle Assessment and Requirements on the Project Report are specified in a separate document as Part A of the Product Category Rules, available at <http://industries.ul.com/environment/transparency/product-category-rules-pcrs>

III Industry Wide EPD Requirements

Involvement of Interested Parties

[Describe engagement of interested parties.]

<At a minimum, 50% of the industry as represented by production volume shall be included, with a minimum of at least three (3) different manufacturing locations from no less than two (2) companies represented. If less than 50% of the industry is represented by product volume, then the method for determining representativeness shall be justified and described and the percentage of annual production volume covered shall be reported.>

[Describe notification of a call for participation.]

<Note: This shall be published in at least one industry trade publication.>

Industry Wide EPD Participation

Manufacturers seeking to benchmark their individual type III EPDs against an industry average EPD shall have participated in the industry wide EPD process as an interested party or retroactively via the options determined by the PCR committee.

[Describe retroactive participation process]

<Note: The PCR committee shall determine a pathway for retroactive participation in an industry wide EPD by a manufacturer. The pathway shall include a quantitative assessment of life cycle inventory data provided by the manufacturer. Retroactive participation requirements determined by the committee shall be published within the PCR.>

Governance

[Describe the governance process for creating and updating the industry wide EPD]

<Note: A description shall be provided for the governance of the Industry wide EPD creation and update process. Describe how proprietary/confidential information is protected.>

Data Responsibility/Ownership

[Describe data responsibility/ownership (collection procedures, ownership, and maintenance)]

<Note: A “data owner” such as a trade association may be designated when establishing an industry wide EPD. As part of a consortium building effort, this entity should be identified and would be responsible for collecting and maintaining the privacy of any confidential business information used in the creation of an industry wide EPD.>

Industry Wide EPD Updates

[Describe the process by which an industry wide EPD gets updated that includes consideration of the underlying life cycle inventory data and LCA calculations and assumptions]

<Note: Define how often an industry wide EPD shall be updated, what may serve as a trigger for initiating an update prior to expiration, and new industry participants or exits.>

IV EPD content, format, and use requirements

The chapters of the EPDs shall be described in a compact form, as well as factually and technically correct. Judgmental, comparative, or promotional texts are not permitted unless specifically requested in the PCR or if necessary in the context of the EPD. Each document is carefully checked before publication.

Content of EPD. An EPD created using this PCR shall contain the required content specified in UL Environment’s “Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report” in addition to the required content identified in this Part B document, which serves as a reporting template.

Extent of an EPD. An EPD may contain multiple data sets representative of a collection of products, as long as each product is uniquely identified either explicitly in the EPD, by product category or by reference to a document that lists included models. For example, the base model of a carpet available in a variety of colors may be listed by: each individual model number, a model classification that includes all colors, a range of model numbers, or a reference to a catalog of model numbers that include all color variations.

Verification. An EPD created using this PCR shall be independently verified by a Program Operator acting in conformance with ISO 14025. The project report shall also be available for independent verification by a Program Operator as required in “Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report,” Section 3.

Validity. An EPD created using this PCR is valid for a five (5) year period from the date of issue.

Comparability EPDs shall not contain statements of the superiority of one product over a competitor’s product that performs the same functions, or of one manufacturer against another. EPDs shall not contain directly or indirectly such comparative assertions.

The following ISO statements indicate the EPD comparability limitations and intent to avoid any market distortions or misinterpretation of EPDs based on this PCR. ISO 14025 requires this statement be included: “Environmental declarations from different programs based upon differing PCRs may not be comparable”.

A statement shall be included that indicates, “comparison of the environmental performance of building envelope thermal insulation using EPD information shall be based on the product’s use and impacts at the building level, and therefore EPDs may not be used for comparability purposes when not considering the building energy use phase as instructed under this PCR”.

This statement shall be included: “Full conformance with the PCR for Building Envelope Thermal Insulation allows EPD comparability only when all stages of building envelope thermal insulation life cycle have been considered. However, variations and deviations are possible”. Example of variations: Different LCA software and background LCI datasets may lead to different results for upstream or downstream of the life cycle stages declared.

The EPD owner shall transparently indicate any comparability limitations.

V Product-group-specific LCA calculation rules from PCR part A

No product-group-specific LCA calculation rules exist.

During its service life, insulation significantly reduces the energy use in a building, thereby reducing the impact on the environment. The exclusion of the building heating and cooling during the insulation material's use phase severely underestimates the benefits that insulation has on the environment. This section may describe the energy savings and environmental benefits during use of the product in a building and only references operational consideration.

1 General Information

PROGRAM OPERATOR	Program Operator Provided	
GENERAL PROGRAM INSTRUCTIONS AND VERSION NUMBER		
DECLARATION HOLDER AND ADDRESS		
DECLARATION NUMBER	Program Operator Provided	
DECLARED PRODUCT & FUNCTIONAL UNIT		
PRODUCT DEFINITION		
REFERENCE PCR AND VERSION NUMBER		
MARKETS OF APPLICABILITY		
DATE OF ISSUE	Program Operator Provided	
PERIOD OF VALIDITY	Program Operator Provided	
EPD TYPE	[Industry wide or company-specific]	
RANGE OF DATASET VARIABILITY	[Industry wide only; mean, median, standard deviation]	
EPD SCOPE	[Cradle to gate, cradle to gate with options (specify options), or cradle to grave]	
YEAR(S) OF REPORTED MANUFACTURER PRIMARY DATA		
LCA SOFTWARE & VERSION NUMBER		
LCI DATABASE(S) & VERSION NUMBER		
LCIA METHODOLOGY & VERSION NUMBER		
APPLICABLE GREEN BUILDING CERTIFICATION SCHEMA		
The PCR review was conducted by:	Program Operator Provided	
	Program Operator Provided	
	Program Operator Provided	
This declaration was independently verified in accordance with ISO 14025. The UL Environment “Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report,” , based on CEN Norm EN 15804, serves as the core PCR, with additional considerations from the USGBC/UL Environment Part A Enhancement		

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