



Product Category Rule (PCR) Guidance for Building-Related Products and Services

Part B: Builders Hardware EPD Requirements

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Product Category Rules for Building-Related Products and Services Part B: Builders Hardware EPD Requirements, UL 10010–13

First Edition, Dated November 15, 2019

Summary of Topics

The First Edition of the Part B: Builders Hardware EPD Requirements, UL 10010–13 has been issued.

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Publisher:
UL Environment

Tracking of versions

Version	Comments	History
1.0	Creation of PCR Part B for Builders Hardware Products to conform with ISO 21930: 2017 and UL PCR Part A v3.2 Dec 2018. This PCR has been updated to align with international standards with the intent of allowing manufacturers to create EPDs which are global in scope.	November 15, 2019

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This PCR is valid for a period of five (5) years, set to expire in November 15, 2024.

I. Background Information and Acknowledgements

These sub-category Product Category Rules (PCR) were developed to address the product specific rules for the creation of Environmental Product Declarations (EPD) for “builders hardware” and includes all commercially available products under the ANSI/BHMA A156 series of standards except for A156.10, A156.18, A156.27, A156.28, A156.32, A156.115, and A156.115-W, collectively referenced throughout this PCR as “builders hardware”. When used to self-reference this document, “PCR” refers to “sub-category PCR.”

Other PCRs and documents considered in the development of this PCR update include:

- Part A: Life Cycle Assessment Calculation Rules and Report Requirements UL Environment December 2018, version 3.2)
- Product Category Rule (PCR) for Preparing an Environmental Product Declaration (EPD) for Product Group, Builders Hardware, UL 9004, April 23rd, 2014 valid through April 23rd, 2019.
- ISO 21930 2017 - Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services
- EN 15804:2013 - Sustainability of construction works - Environmental Product Declarations - Core rules for the product category of construction product.
- 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 locks and fittings, July 2013
- Life Cycle Assessment for ASSA ABLOY Corbin Russwin CL3300 Series Lock. ThinkStep, May 2015.

This PCR assumes a 75 year building service life to be consistent with ASHRAE 189.1:2017, Section 9.5.1.

Interested Parties

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

Trade associations

- Builders Hardware Manufacturing Association (BHMA)



Governance

There are a number representatives of building hardware manufacturers participating in the creation of this Product Category Rule ("PCR") for builders hardware, including the Builders Hardware Manufacturing Association (BHMA). These parties represent a majority of the companies in their particular sector of the builders hardware industry. Moreover, the manufacturing parties participating in the PCR update represent the vast majority of the building hardware systems sold in North America in the product categories included in this PCR. 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 builders hardware industry is represented in the effort to renew the PCR for builders hardware products.

In the development of this document, Part B, participants are responsible for ensuring alignment with Part A and conformance with the scoped standards: ISO 21930, EN 15804, and ISO 14025.

Involvement of Interested Parties

UL Environment shall be responsible for producing the PCR document by establishing an open consultation process that includes the involvement of interested parties (ISO 21930 Section 5.2 and 6.2.1). Reasonable efforts were made to achieve a consensus throughout the process (ISO 14020:2000, 4.9.1, Principle 8 and cited in both ISO 14025 and ISO 21930), demonstrated by a vote of participating interested parties.

BHMA informed their memberships of the PCR update through their regularly scheduled 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 builders hardware products is an indication that their memberships are aware of this project and have authorized their association to represent them in this important endeavour.

UL Environment posted an open call for participation in this PCR update from June 21, 2019 to July 21, 2019 via its standards website, social media outlets, and outreach to original committee stakeholders.

Update Process

The PCR is valid for a duration of five (5) years from the publication date, at which time it may be revised at the request of industry stakeholders. The PCR may be revised before the five year date if the following occurs in the industry:

- The industry desires an update
- Core governing standards ISO 14040, 14044, 14025, 21930, or EN 15804 are updated with substantial material changes

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.

Public Consultation

Public consultation was utilized during the PCR review process. The public consultation of the completed draft PCR included a minimum 30-calendar-day period for comments to be submitted to UL Environment. After public comments were submitted, the PCR committee reviewed and developed responses for all comments. All comments from the review panel and public consultation were addressed and satisfactorily resolved by the PCR committee prior to the publication of this PCR.



Review

The review process of this Part B PCR included a review through public consultation in June 21 – July 21st, 2019 and a panel review, comprised of the following individuals:

Daniel Picard
ASSA ABLOY Openings Solutions

Jim Mellentine
Ramboll

Lindita Bushi
Athena Sustainable Materials Institute

II. Scope

This document contains the Product Category Rule (PCR) requirements for Builder Hardware System Product Environmental Product Declarations (EPDs) published in coordination with the ISO 21930 and EN 15804 standards. 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 ISO 21930, EN 15804, and ISO 14025 sustainability standards for EPD reporting in addition to the US Green Building Council PCR Guidance.

This PCR has been updated to align with international standards with the intent of allowing manufacturers to create EPDs which are global in scope.

General Guidance

The scope of this PCR applies to the product group “builders hardware” and includes a collection of products that are used to secure, control access, control motion, protect openings from damage, provide safe passage to users, seal, and provide functional or non-functional decorative elements allowing code-compliant solutions for swing- and sliding-door openings in buildings. A sub-category of Builders Hardware also addresses the needs of cabinet hardware. The following list includes 29 product categories and their corresponding reference standard covered under the reporting scope of this PCR.

TABLE 1. BUILDERS HARDWARE PRODUCT SUBCATEGORIES, REFERENCE STANDARDS AND CSI CODES

Builders hardware product sub-category	Reference standard	CSI code
Butts & Hinges	ANSI/BHMA A156.1-2016	08 71 00
Bored and Preassembled Locks and Latches	ANSI/BHMA A156.2-2017	08 71 00
Exit Devices	ANSI/BHMA A156.3-2014	08 71 00
Door Controls - Closers	ANSI/BHMA A156.4-2013	08 71 00
Cylinders and Input Devices for Locks	ANSI/BHMA A156.5-2014	08 71 00 (or 28 15 XX for card readers, etc.)
Architectural Door Trim	ANSI/BHMA A156.6-2016	08 71 00
Door Controls - Overhead Stops and Holders	ANSI/BHMA A156.8-2016	08 71 00
Cabinet Hardware	ANSI/BHMA A156.9-2016	06 41 93
Cabinet Locks	ANSI/BHMA A156.11-2014	06 41 93



Interconnected Locks & Latches	ANSI/BHMA A156.12-2018	08 71 00
Mortise Locks & Latches	ANSI/BHMA A156.13-2017	08 71 00
Sliding and Folding Door Hardware	ANSI/BHMA A156.14-2013	08 71 00
Release Devices: Closer Holder, Electromagnetic and Electromechanical	ANSI/BHMA A156.15-2015	08 71 00 or 28 15 15
Auxiliary Hardware	ANSI/BHMA A156.16-2018	08 71 00
Self-Closing Hinges & Pivots	ANSI/BHMA A156.17-2014	08 71 00
Strap and Tee Hinges and Hasps	ANSI/BHMA A156.20-2017	08 71 00
Thresholds	ANSI/BHMA A156.21-2014	08 71 00
Door Gasketing and Edge Seal Systems	ANSI/BHMA A156.22-2017	08 71 00
Electromagnetic Locks	ANSI/BHMA A156.23-2017	08 71 00 or 28 15 15
Delayed Egress Locking Systems	ANSI/BHMA A156.24-2018	08 71 00 or 28 15 17
Electrified Locking Devices	ANSI/BHMA A156.25-2018	08 71 00 or 28 15 15
Continuous Hinges	ANSI/BHMA A156.26-2017	08 71 00
Exit Locks, Exit Locks with Exit Alarms, Exit Alarms, Alarms for Exit Devices	ANSI/BHMA A156.29-2017	08 71 00
High Security Cylinders	ANSI/BHMA A156.30-2014	08 71 53
Electric Strikes and Frame Mounted Actuators	ANSI/BHMA A156.31-2019	08 71 00 or 28 15 15
Auxiliary Locks	ANSI/BHMA A156.36-2016	08 71 00
Multipoint Locks	ANSI/BHMA A156.37-2014	08 71 00
Residential Locksets and Latches	ANSI/BHMA A156.39-2015	N/A
Residential Deadbolts	ANSI/BHMA A156.40-2015	N/A

Non-Applicable Products

Products that may provide the same function in a different application are not within the scope of this PCR. These excluded products are:

- ANSI/BHMA A156.10 – Power Operated Pedestrian Doors
- ANSI/BHMA A156.18 – Materials and Finishes
- ANSI/BHMA A156.27 – Power and Manual Operated Revolving Pedestrian Doors
- ANSI/BHMA A156.28 – Mechanical Keying Systems



- ANSI/BHMA A156.32 – Integrated Door Opening Assemblies
- ANSI/BHMA A156.115 – Steel Doors or Steel Frames
- ANSI/BHMA A156.115 – Wood Doors with Wood or Steel Frames
- ANSI/BHMA A156.33 – Internally Powered Architectural Hardware Devices
- ANSI/BHMA A156.34 – Bored Locks and Mortise Locks with Ligature Resistant Trim
- ANSI/BHMA A156.41 – Single Motion to Egress

System Boundary

The system boundary for EPDs created using this PCR is either cradle to gate, cradle to gate with options, or cradle to grave. Cradle-to-grave EPDs (A1 to C4) are intended for B2B and/or BtoC communications. The rest of EPDs are intended for BtoB communication. BtoB and BtoC stand for “business to business” and “business to consumer”, respectively (ISO 14025, Clause 9).

At this time, there is no industry consensus for assumptions behind the reported scenarios for information modules A4, A5, B1 – B7, or C1 – C4 across each of the subcategories of products included in this PCR.

The EPD requirements include:

- ISO 21930:2017 standard
- EN 15804 standard (optional)
- UL Environment General Program Instructions v 2.3, February 2018 (available upon request)
- The calculation rules for the Life Cycle Assessment and Requirements on the Project Report are specified in a separate document as UL Part A PCR v3.2 Dec 2018



III. Industry-Average EPD Requirements

Industry-Average EPD Scope

The products represented within a single industry-average EPD created using this PCR are limited to the primary materials defined in the product specification standards in Table 1 that characterize the specific product in commerce.

Involvement of Interested Parties

A call for involvement of interested parties in the creation of an industry-average EPD shall be published in at least one industry trade publication. At a minimum, at least three (3) different manufacturing locations from no less than three (3) companies should be involved and represented in an industry-average EPD. The method for determining representativeness shall be justified and described per the requirements listed in Section 2.3.

Industry-Average EPD Participation

A manufacturer qualifies for participation in an industry-average EPD created using this PCR if the manufacturer provides LCA data used to calculate the EPD average.

Retroactive participation:

When determining a manufacturer's participation eligibility, the EPD Program Operator shall follow the rules and recommendations of the primary sponsor(s) of the industry average EPD and participating manufacturers unless the Program Operator has information to the contrary, in which case the Program Operator, LCA practitioner, primary sponsor of the industry average EPD, and manufacturer shall confer in an effort to reach consensus.

Pending all criteria set forth by the primary sponsor of the industry average EPD are met, a manufacturer desiring retroactive inclusion in the industry average EPD shall provide manufacturing and product data information of the same representativeness submitted in the original industry average EPD to the LCA practitioner. The LCA practitioner will then recommend to the Program Operator a determination for inclusion in the industry average on the basis of results falling within a reasonable range for any impact category. The maximum and minimum should be reported in the LCA background report for each impact category based on the highest and lowest impact product or facility within the original industry-wide LCA.

Governance

An industry organization, such as a trade association, shall inform possible industry participants through association meetings, newsletters, e-mail messages, and similar types of outreach, including public notices in the trade press publications. Confidential business information shall be collected by a third party. Data from the third party shall be provided to the facilitator as aggregated data with no trace to the original source of data.

The development of an industry-average EPD and or update of an EPD should involve a series of meetings and exchanges in which all participants are invited and kept apprised of the developments. Notices of these meetings should be given to all possible participants regardless of their commitment to active involvement. Minutes of meetings, along with meeting notices, should be preserved as documentation of the process and due diligence observed in the creation or renewal of the EPD.

Data Responsibility/Ownership

Trade associations that lead the development of industry-average EPDs may need to collect confidential business information from individual members. This data can include proprietary chemical formulations and processes or other confidential information. In this case, a designated third-party entity such as an LCA practitioner shall be identified as the "industry agent". The industry agent shall be responsible for activities including collection, secure storage and analysis of such data needed for the EPD development, and will preserve the privacy of individual company information while executing these duties.

Per ISO 21930 Section 5.4, the manufacturer, or group of manufacturers, of the construction product is the sole owner of the EPD and is responsible for developing the EPD of the construction product according to the PCR. Only



the manufacturer or group of manufacturers is authorized to declare the environmental performance of the construction product using an EPD.

The group of manufacturers responsible for developing an industry-average EPD shall be responsible for, including but not limited to, ensuring industry-average EPD updates are made based on the most recent LCA modeling software version and impact assessment version available.

Industry-Average EPD Updates

Industry-average EPDs created using this PCR shall expire five (5) years after publication. An update to the existing EPD, or new EPD, may need to be developed prior to the five years if: 1) significant¹ changes have occurred in the manufacturing process; 2) new industry participants; 3) significant² changes or alterations in raw materials; 4) major regulatory changes that mandate or trigger changes to operational procedures³; or 5) major technological changes⁴ would also justify creation of an updated EPD.

Additional companies may be added to an existing industry-average EPD at the scheduled review by submitting data required for retroactive participation. However, this shall not automatically trigger a recalculation of the industry average impacts.

¹ Here, significance refers to +10% changes to the total mass of inputs or outputs to the manufacturing process(es) in the form of raw materials, energy, and/or emissions

² Refers to +10% changes to the total mass of inputs in the form of raw materials

³ E.g. Safe Drinking Water and Toxic Enforcement Act (Proposition 65), 1986

⁴ E.g. Changes to chrome plating over copper processes, such as switching from hexavalent to trivalent chrome