PCI
Precast/Prestressed Concrete Institute

PRECAST/PRESTRESSED CONCRETE INSTITUTE

PCI POSITION PAPER

EPD REQUESTS FOR PRECAST CONCRETE: WHAT IS VALID, WHAT IS NOT, AND WHY IT MATTERS

PCI POSITION

Environmental product declarations (EPDs) for precast concrete must be developed under the Product Category Rules (PCR) for Precast Concrete[1] and must include the complete product system (concrete, reinforcement, hardware, other ancillary materials, and manufacturing impacts), not concrete alone.

It is therefore impossible for precast concrete producers to provide concrete mix-only EPDs. It is also impossible for precast concrete producers to provide "verified" project-specific EPDs before precast concrete components are fabricated. EPDs generated under these conditions are incomplete and do not conform to relevant International Organization for Standardization (ISO) standards[2,3] or the PCR for Precast Concrete.

When a specification requires a concrete mix-only EPD or a "verified" project-specific EPD prior to fabrication, precast concrete producers should decline, cite this position paper of the Precast/Prestressed Concrete Institute (PCI), and offer appropriate alternatives provided herein.

Precast concrete manufacturers are increasingly being asked by project owners, architects, general contractors, and specifiers to provide concrete-only, or mix-design-only environmental product declarations (EPDs) or to provide "verified" project-specific EPDs prior to fabrication. These requests create conflicts for precast concrete producers because the requests do not conform to the standards and rules governing how EPDs must be developed. This position statement was created to help ensure that EPD requests and specifications align with the realities of the precast concrete supply chain, avoid unintended confusion or discriminatory outcomes, and function effectively to reduce embodied carbon in the built environment.

The following points explain why precast concrete producers cannot fulfill requests for concrete mix-only EPDs or for verified project-specific EPDs prior to fabrication, and what specifiers should request instead.

01

Precast concrete and ready-mixed concrete are governed by different product category rules.

EPDs are developed according to product category rules (PCRs). In North America, there are separate PCRs for precast concrete and ready-mixed concrete because the two products are fundamentally different. These PCRs are developed with industry input and verified by a program operator (such as SmartEPD or NSF International). In accordance with International Organization for Standardization (ISO) standards ISO 14025:2026,[2] Section 7.5, and ISO 21930:2017,[3] Section 5.5, global warming potential (GWP) values from an EPD generated under one PCR cannot be compared to GWP values from an EPD generated under a different PCR. Additionally, a program operator cannot verify an EPD for a product developed under an incorrect PCR.

02

The PCR for Precast Concrete requires EPDs to cover the complete product.

The declared unit under the *PCR for Precast Concrete* is a unit of weight (metric tonne) of the complete product as it leaves the plant. The mandatory system boundary includes *all* materials that are in the finished product (including concrete, steel reinforcement, embedded hardware, and any other ancillary materials such as insulation) as well as plant operations. Any EPDs generated under the *PCR for Precast Concrete* must cover the complete product being reported.

03

Concrete-only EPDs produce invalid results for precast concrete products and distort comparisons.

A concrete mix-only GWP value does not accurately represent the environmental impact of a precast concrete product. Precast concrete manufacturing involves a sequence of operations—including batching and mixing, placement into forms, curing, stripping, storage, and finished product loading—that are embedded in the production process regardless of how a bill of materials is scoped. When a precast concrete EPD tool is used to generate a mix-only EPD, the total manufacturing impact of precast concrete is still present in the underlying model; that impact cannot be separated from the mix fraction and is not reduced by omitting other materials from the input. The result of a mix-only EPD created by a precast concrete EPD tool is a GWP value that is not representative of either the concrete mixture or the complete precast concrete product. The inaccuracy of such results is further compounded when the values are compared against National Ready Mixed Concrete Association (NRMCA) benchmark data,[4] which is developed under the PCR for concrete (ready-mix)[5] with a declared unit of 1 cubic meter of fresh concrete leaving a batch plant—a fundamentally different scope than that used for precast concrete EPDs. Such comparisons are not valid under ISO 14025:2026 or ISO 21930:2017. Furthermore, for project teams using EPD data to satisfy Buy Clean requirements or embodied carbon policies, those types of comparisons produce results that cannot support meaningful carbon-reduction goals.

04

Verified, project-specific precast concrete EPDs cannot be produced prior to fabrication.

Because final, third-party-verified precast concrete EPDs depend on actual production data (product-specific mixture designs, final reinforcement quantities, hardware, insulation, waste generation, and plant energy consumption), a verified project-specific EPD cannot be finalized until the product has been manufactured. A final, verified precast concrete EPD will be based on project-specific production data and applicable PCR and ISO standards.

05

Specifiers can request EPDs specifically developed for precast concrete.

When specifying EPDs for precast concrete, specifiers should require EPDs developed under the current *PCR for Precast Concrete* not the PCR for concrete (ready-mix). Two appropriate EPD options are available for estimating GWP up to the point of fabrication: (1) PCI's regionalized industry-average EPDs, published for architectural precast concrete, structural precast concrete, and insulated precast concrete wall panel products;[6] or (2) a previously verified EPD or draft (unverified) project-specific EPD from a precast concrete producer, developed under the *PCR for Precast Concrete* and inclusive of the complete product system. Final, verified project-specific EPDs may be provided after fabrication for clients who are reporting regulatory compliance submissions, final product certifications, or formal environmental claims.

REFERENCES

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3. *ISO. 2017. Sustainability in Buildings and Civil Engineering Works—Core Rules for Environmental Product Declarations of Construction Products and Services. ISO 21930:2017. Geneva, Switzerland: ISO.*

4. NRMCA (National Ready Mixed Concrete Association). 2023. "A Cradle-to-Gate Life Cycle Assessment of Ready-Mixed Concrete Manufactured by NRMCA Members – Version 3.2." https://www.nrmca.org/wp-content/uploads/NRMCA_LCAReportV3.2_2023.pdf.

5. *NSF International. 2026. Product Category Rule for Environmental Product Declarations: Concrete. Version 3. NSF 1112-26. Ann Arbor, MI: NSF International. https://www.nsf.org/nsf-standards/product-category-rules.*

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