

# Global GreenTag<sup>Cert™</sup>

INTERNATIONAL EPD PROGRAM

sub-PCR UCM Unreinforced Concrete Mixtures and  
Concrete Additives

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GLOBAL  
**GREEN TAG**  
INTERNATIONAL PTY LTD  
green product certification  
trust brands

**GLOBAL GREENTAG INTERNATIONAL PTY LTD**

**ENVIRONMENTAL PRODUCT DECLARATION (EPD) PROGRAM**

**Type III EPDs**

**Compliant to**

**EN 15804 +A2, ISO 14025 and ISO 21930**

**For construction products**

**Sub Product Category Rules (PCR) based on Life Cycle Analysis**

**Unreinforced Concrete Mixtures and Concrete Additives sub-PCR UCM:2023  
V1**

## I. Application

While CEN standard EN 15804+A2 serves as the core Product Category Rules (PCR's) for all product categories, this document contains sub PCRs that apply to a particular product category. The former is called the PCR master document and the latter the sub PCR. When new product assessments are needed, a sub PCR is developed and new rules defined for that category. As environmental health legislation is enacted, rules in the master document shall be revised with file name and revisions clearly marked so all such PCRs are identifiable in time.

## II. Authors

These product category rules, compiled by Delwyn Jones, Director Sustainability, The Evah Institute a Division of Ecuate Pty Ltd have been customised for this product class by Nana Bortsie-Aryee, Senior Product Assessor, Global GreenTag. Rules were approved for Global GreenTag adoption by David Baggs, Program Director, Global GreenTag International Pty Ltd.

## III. Terms of Validity

Product Category Rules Unreinforced Concrete Mixtures and Concrete Additives PCR 2023 UCM  
PCR issue date 07/03/2023 and Period of validity to 07 /03/2026

## IV. Goal

The intended goal of this sub PCR is a guide for developing EPDs for sets of defined product with specified functionality. Users include specifiers, manufacturers and stakeholders. It is valid for all such defined products and related components according to standards and technical approvals herein.

## V. Product Set Definition

The declared product set includes types used for interior and exterior applications including:

- Substructure, caverns, walls, conduit, paving, cladding, reservoirs, tunnels or fabrications of:
- Mineral cement, geo-polymer or bio-cement, pozzolan, aggregate, ash or polymer for
- Cast, pumped, extruded and sprayed operations in any physical shape or form.

Specifications must conform to International and Australian Standards or equal standard including:

- ASTM C39/C39M-17b Standard Test Method for Compressive Strength of Cylindrical Concrete
- ASTM C233/C233M-14 Standard Test Method for Air-Entraining Admixtures for Concrete;
- ASTM C494/C494M-15 Standard Specification for Chemical Admixtures for Concrete;
- ASTM C1622/C1622M-10 Standard Specification for Cold-Weather Admixture Systems;
- ASTM 1478.2-2005 Chemical admixture for concrete, mortar and grout – Admixture for concrete;
- ASTM C1438-13 Standard Specification for Latex and Powder Polymer Modifiers for use in Hydraulic Cement Concrete and Mortar;
- ASTM C1315-11 Standard Specification for Liquid Membrane-forming compounds having special properties for curing and sealing concrete.
- Portland cement ASTM C150, ASTM C1157, AASHTO M 85, or CSA A3001
- Blended hydraulic cement ASTM C595, ASTM C1157, AASHTO M 240, or CSA A3001
- Portland-limestone cement (PLC) ASTM C595, ASTM C1157, AASHTO M 240, or CSA A3001
- Performance based hydraulic cements ASTM C1157,
- Masonry cement ASTM C91 or CSA A3002,
- Mortar cement ASTM C1329 or CSA A3002,
- Oil well cement API Specification 10AEN 197-1/

Results reflect performance at reference strength, wear, temperature and humidity conditions.

## VI. Functional Unit

Here the functional unit is 60 years use cradle to grave /kg for specified purposes in all construction sectors.

## Normative References

- AS 4586 Slip resistance classification of new pedestrian surface materials
- ASTM C39/C39M-17b Standard Test Method for Compressive Strength of Cylindrical Concrete
- ASTM C233/C233M-14 Standard Test Method for Air-Entraining Admixtures for Concrete;
- ASTM C494/C494M-15 Standard Specification for Chemical Admixtures for Concrete;
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- ASTM C1438-13 Standard Specification for Latex and Powder Polymer Modifiers for use in Hydraulic Cement Concrete and Mortar;
- ASTM C1315-11 Standard Specification for Liquid Membrane-forming compounds having special properties for curing and sealing concrete.
- Blended hydraulic cement ASTM C595, ASTM C1157, AASHTO M 240, or CSA A3001
- CENT/TR 15941 - 2010: Sustainability of construction works – Environmental Product Declarations-Methodology for the selection of generic data, CEN
- CENT/TR 15942 - 2014: Sustainability of construction works - Environmental Product Declarations-Communication formats: business to business, CENCML LCA methodology, Institute of Environmental Sciences (CML), Faculty of Science, University of Leiden, Netherlands
- EN 15643-1: 2011: Sustainability of construction works - Sustainability assessment of buildings – Part 1 general framework, CEN
- EN 15643-2: 2011: Sustainability of construction works - Sustainability assessment of buildings – Part 2 framework for assessment of environmental performance, CEN
- EN 15804: 2012: Sustainability of construction works, Environmental product declarations, European Committee for Standardisation (CEN)
- EN15978 - 2011: Sustainability of construction works - Assessment of environmental performance of buildings - Calculation method, European Committee for Standardisation, CEN
- EN 16757:2022: Sustainability of construction works - Environmental product declarations – Product Category Rules for concrete and concrete elements
- ISO 6707-1:2004 Building and civil engineering: Vocabulary Part 1: General terms
- ISO 9001:2008 Quality Management Systems Requirements
- ISO 14001:2004 Environmental management systems: Requirements with guidance for use
- ISO 14004:2004 EMS: General guidelines on principles, systems & support techniques
- ISO 14015:2001 EMS: Environmental assessment of sites & organizations (EASO)
- ISO 14020:2000 Environmental labels & declarations — General principles
- ISO 14024:2009 Environmental labels & declarations -- Type I Principles & procedures
- ISO 14025:2006 Environmental labelling & declarations Type III EPDs Principles & procedures
- ISO 14031:1999 EM: Environmental performance evaluation: Guidelines
- ISO 14040:2006 EM: Life cycle assessment (LCA): Principles & framework, London, BSI, 2006.
- ISO 14044:2006 EM: LCA: Requirement & guideline LCI; LCIA Interpretation, London, BSI, 2006.
- ISO 14050:2009 Environmental management: Vocabulary
- ISO 14064:2006 EM: Greenhouse Gases: Organisation & Project reporting, Validation & verification
- ISO 15392:2008 Sustainability in building construction General principles
- ISO 15686-1:2011 Buildings & constructed assets Service life planning Part 1: General principles
- ISO 15686-2:2012 Buildings & constructed assets Service life (SL) planning Part 2: prediction
- ISO 15686-8:2008 Buildings & constructed assets SL planning Part 8: Reference & estimation

ISO 21929-1:2011 Sustainability in building construction Sustainability indicators Part 1 Framework

ISO 21930:2007 Building construction: Sustainability, Environmental declaration of building products

ISO 21931-1:2010 Sustainability in building construction Framework for methods of assessment for environmental performance of construction works Part 1: Buildings

ISO 21932:2013 Sustainability in buildings and civil engineering works -- A review of terminology

Masonry cement ASTM C91 or CSA A3002,

Mortar cement ASTM C1329 or CSA A3002,

Oil well cement API Specification 10AEN 197-1/

Performance based hydraulic cements ASTM C1157,

Portland cement ASTM C150, ASTM C1157, AASHTO M 85, or CSA A3001

Portland-limestone cement (PLC) ASTM C595, ASTM C1157, AASHTO M 240, or CSA A3001

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