Global GreenTag CertTM

INTERNATIONAL EPD PROGRAM

Plumbing and Drainage Piping

Sub PCR PDP01:2023 V1

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green product certification
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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 based on Life Cycle Analysis

Plumbing and Drainage Piping Sub-PCR PDP01:2023 V1

I. Application

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

II. Authors

This sub-PCR, compiled by Dr Sharmina Begum, The Evah Institute Associate Engineer, Ecquate Pty Ltd. Rules were approved for Global GreenTag^{CertTM} EPD Program adoption by Dr Nana Bortsie-Aryee, Program Director, Global GreenTag International Pty Ltd.

III. Terms of Validity

Product Category	Plumbing and Drainage Piping Sub-PCR PDP01:2023 V1
PCR issue date	31/01/2024 and
Period of validity to	31/01/2029

IV. Goal

This sub-PCR is an EPD developing guide for defined product sets with specified functionality. Users include specifiers, manufacturers and stakeholders. It is valid for all such products and related components according to standards and technical approvals herein.

V. Product Set Definition

The declared product set includes for plumbing and drainage pipe in dry or wet areas used as:

- Plumbing and drainage straight or bendable shapes being made of:
- metal, mineral, polymer, rubber, clay, ceramic, fibre or composites in
- cast, extruded, homogenous, heterogeneous, melded, laminated, fibrous or non-woven forms.

System outcomes and results declared reflect product performance at reference conditions of exposure, strength, wear, temperature and humidity defined by 14025:2006, 6.7. Conformance required is performance to meet International and Australian Standards including:

- Australian Standard Copper Tube AS1432-2004 (2016)
- New Zealand Standard Copper Tube NZS 3501: 1976
- American Standard L M K copper pipe copper tube for water system ASTM-B88
- British/European Standard Copper Tube BS EN 1057:2006+A1:2010
- Australian Standard Vitrified clay pipes and fittings with flexible joints -Sewer quality AS1741-1991
- Australian and New Zealand Plumbing and drainage Water services AS/NZS 3500.1:2021
- Method for testing pressure cycling resistance of pipes and fittings AS/NZS 3707
- Methods of test for plastics pipes and fittings AS/NZS 1462

VI. Declared Units

This PCR's declared unit is plumbing and drainage/kg or m length in any building sector.

VII. Functional Units

The functional unit is 20 years use/declared unit, cradle to grave, and beyond the system boundary.

References

American Standard L M K copper pipe copper tube for water system ASTM-B88
Australian and New Zealand Plumbing and drainage Water services AS/NZS 3500.1:2021
Australian Standard Copper Tube AS1432-2004 (2016)
Australian Standard Vitrified clay pipes and fittings with flexible joints -Sewer quality AS1741-1991
Australian Water supply - Backflow prevention devices - Materials, design and performance requirements AS/NZS 2845.1
British/European Standard Copper Tube BS EN 1057:2006+A1:2010
Method for testing pressure cycling resistance of pipes and fittings AS/NZS 3707
Methods of test for plastics pipes and fittings AS/NZS 1462
New Zealand Standard Copper Tube NZS 3501: 1976
Plastics pipes and fittings - Crosslinked polyethylene (PE-X) pipe systems for the conveyance of gaseous fuels - Metric series – Specifications - Part 1: Pipes ISO 14531-1
Precast concrete pipes AS/NZS 4058:2007
Steel tubes and tubulars for ordinary service AS 1074-1989
Thermoplastics pipes, fittings and assemblies for the conveyance of fluids - Determination of the resistance to internal pressure – Part 1: General method ISO 1167
Thermoplastics pipes - Determination of tensile properties Part 1: General test method ISO 6259-1
Thermoplastics pipes - Determination of tensile properties - Part 2: Pipes made of unplasticised poly (vinyl chloride) (PVC-U), chlorinated poly (vinyl chloride) (PVC-C) and high impact poly (vinyl chloride) (PVC-HI) ISO 6259-2
Whole life carbon assessment for the built environment, published by Royal Institution of Chartered Surveyors (RICS), 2nd Edition as in force on 1 July 2024

Normative References

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

Intergovernmental Panel on Climate Change IPCC 2013, Global Warming Potential 100-year, IPCC Fifth Assessment Report Climate Change.

Intergovernmental Panel on Climate Change. 2021. Assessment Report 6 Climate Change 2021: The Physical Science Basis.

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 14025:2010 Environmental labels and declarations – Type III – environmental declarations - Principles and 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 14064:2006 EM: Greenhouse Gases: Organisation & Project reporting, Validation & verification

ISO 14644-1: Cleanrooms and associated controlled environments – Part 1: Classification of air cleanliness

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 and constructed assets - Service life planning - Part 2: Service life prediction procedures.

ISO 15686-8:2008 Buildings and constructed assets - Service-life planning - Part 8: Reference service life and service-life 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

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