

# Global GreenTag<sup>Cert™</sup>

INTERNATIONAL EPD PROGRAM

Refrigeration and Air-  
Conditioning Tubing  
Sub-PCR RAT01:2023 V1 DRAFT

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GLOBAL  
**GREEN TAG**  
INTERNATIONAL<sup>PTY LTD</sup>  
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 based on Life Cycle Analysis**

**Refrigeration and Air-Conditioning Tubing Sub-PCR RAT01:2023 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<sup>Cert™</sup> EPD Program adoption by Dr Nana Bortsie-Aryee, Program Director, Global GreenTag International Pty Ltd.

## III. Terms of Validity

Product Category	Refrigeration and Air-conditioning Tubing Sub-PCR RAT01:2023 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 refrigeration and air-conditioning tubes in systems used as:

- Refrigeration and air-conditioning tube straight or bendable shapes being made of:
  - metal, polymer, rubber, 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)
  - British/European Standard Copper Tube BS EN 1057:2006+A1:2010
  - Copper – Seamless tubes for air-conditioning and refrigeration AS/NZS 1571:1995
  - New Zealand Standard Copper Tube NZS 3501: 1976
  - Performance of household electrical appliances – Air conditioners and heat pumps – Test methods – Non-ducted air-conditioners and heat pumps – Testing and rating for performance AS/NZS 3823.1.1:1998 and / Amdt 2:2002
  - Performance of electrical appliances – Air-conditioners and heat pumps – Test methods – Ducted air-conditioners and air-to-air heat pumps – Testing and rating for performance AS/NZS 3823.1.2:2001 and / Amdt 2:2003
  - Method for testing pressure cycling resistance of pipes and fittings AS/NZS 3707
  - Refrigerating systems – Safety requirements for fixed applications AS/NZS 1677.2:1998 and /Amdt 2:2000
  - Safety of household and similar electrical appliances – Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers (IEC 60335-2-40:1995, MOD) AS/NZS 3350.2.40:200

## VI. Declared Units

This PCR's declared unit is refrigeration and air-conditioning /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 Standard Copper Tube AS1432-2004 (2016)  
 Australia and New Zealand Refrigerant Handling Code of Practice 2007, Part 1 & 2— Self-contained low charge systems, published by the Australian Institute of Refrigeration, Air Conditioning and Heating and the Institute of Refrigeration, Heating and Air Conditioning Engineers New Zealand, as in force on 1 January 2008 Refrigerant Handling Code of Practice 2007 (Part 1)  
 British/European Standard Copper Tube BS EN 1057:2006+A1:2010  
 Gas recovery or combined recovery and recycling equipment – Fluorocarbon refrigerants from commercial/domestic refrigeration and air-conditioning systems AS 4211.3-1996  
 Gas recovery or combined recovery and recycling equipment – Fluorocarbon refrigerants from automotive air-conditioning systems AS 4211.1-1996  
 Method for testing pressure cycling resistance of pipes and fittings AS/NZS 3707  
 New Zealand Standard Copper Tube NZS 3501: 1976  
 Steel tubes and tubulars for ordinary service AS 1074-1989  
 Whole life carbon assessment for the built environment, published by Royal Institution of Chartered Surveyors (RICS), 2<sup>nd</sup> Edition published September 2023

## Normative References

CENT/TR 15942 - 2014: Sustainability of construction works - EPD- 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.  
 IPCC 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 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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