

Global GreenTag^{Cert™}

INTERNATIONAL EPD PROGRAM

Structural Steel
subPCR STS:2024 V1



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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

Structural Steel Sub-PCR SS: 2024

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 Delwyn Jones, Director Sustainability, The Evah Institute a Division of Ecquate Pty Ltd have been customised for this product class by Jyothi Ajith, Product Assessor and Global GreenTag International. Rules were approved for Global GreenTag^{Cert™} EPD program adoption by Dr Nana Bortsie-Aryee, Program Director, Global GreenTag International Pty Ltd.

III. Terms of Validity

Product Category Structural Steel Sub-PCR SIS: 2024 V1. Issued 27/08/2024 valid to 27/08/2029.

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 product set includes structural steel for building and infrastructure applications such as:

- mesh, beam, column, pile, bar, angle, tee, channel, pipe, hollow and framing sections of
- low carbon and high strength and stainless steels offering properties of
- high tensile and compressive strength, stiffness, toughness, durability and ductility in
- nominated exterior C2 to C5 corrosion zones and interior dry, damp or chemical exposures.

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 AS/NZS 2312:2002 Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings,
- Australian Standards AS/NZS 2312.2:2014 Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings Hot dip galvanising,
- International Standard ISO 1461:2022 – Hot dip galvanised coatings on fabricated iron and steel articles
- ASTM A123 / A123M -17 Standard Specification for Zinc (hot- dip galvanised) Coatings on Iron and Steel Products
- Australian Standard AS/NZS 4680:2006 Hot-dip galvanised coatings on fabricated ferrous articles

Cradle to grave EPDs reference conditions reflect 60-year service of structural steel in a given sector.

VI. Declared Unit

Cradle to gate the declared unit is structural steel/kg. Product mass/lineal metre must be specified.

VII. Functional Unit

The functional unit is structural steel 60-year use cradle to end of life. Beyond the system boundary results/kg are to declare reuse, recovery and or recycling.

References

Australian Standard AS/NZS 2312:2002 Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings,

Australian Standards AS/NZS 2312.2:2014 Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings Hot dip galvanising,

International Standard ISO 1461:2022 – Hot dip galvanised coatings on fabricated iron and steel articles

ASTM A123 / A123M -17 Standard Specification for Zinc (hot- dip galvanised) Coatings on Iron and Steel Products

Australian Standard AS/NZS 4680:2006 Hot-dip galvanised coatings on fabricated ferrous articles

Normative References

CEN/TR 15941 - 2024: Sustainability of construction works – Environmental Product Declarations- Methodology for the selection of generic data, CEN

CEN/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: 2021: Sustainability of construction works - Sustainability assessment of buildings – Part 1 general framework, CEN

EN 15643-2: 2021: Sustainability of construction works - Sustainability assessment of buildings – Part 2 framework for assessment of environmental performance, CEN

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

EN15978 - 2011: Sustainability of construction works - Assessment of environmental performance of buildings - Calculation method, European Committee for Standardisation, CEN

ISO 9001:2008 Quality Management Systems Requirements

ISO 14001:2018 Environmental management systems: Requirements with guidance for use

ISO 14004:2016 EMS: General guidelines on principles, systems & support techniques

ISO 14015:2022 EMS: Environmental assessment of sites & organizations (EASO)

ISO 14020:2022 Environmental labels & declarations — General principles

ISO 14024:2018 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 14064:2018 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 & 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 21930:2017 Building construction: Sustainability, Environmental declaration of building products

ISO 21931-1:2017 Sustainability in building construction Framework for methods of assessment for environmental performance of construction works Part 1: Buildings

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

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