BS EN 15942:2021

BSI Standards Publication

Sustainability of construction works — Environmental product declarations — Communication format business-to-business

Documents
Document Sharing Hub

Full document details: BS EN 15942:2021

National foreword

This British Standard is the UK implementation of EN 15942:2021. It supersedes BS EN 15942:2011, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/558, Sustainability of construction works.

A list of organizations represented on this committee can be obtained on request to its committee manager.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2022
Published by BSI Standards Limited 2022

ISBN 978 0 539 14299 0

ICS 35.240.67; 91.010.99; 91.040.01; 91.040.99

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 March 2022.

Amendments/corrigenda issued since publication

Date	Text affected

Documents
Document Sharing Hub

Full document details: BS EN 15942:2021

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 15942

November 2021

ICS 91.010.99; 91.040.01

Supersedes EN 15942:2011

English Version

Sustainability of construction works - Environmental product declarations - Communication format business-to-business

Contribution des ouvrages de construction au développement durable - Déclarations environnementales des produits - Formats de communication entre professionnels

Nachhaltigkeit von Bauwerken - Umweltproduktdeklarationen - Kommunikationsformate zwischen Unternehmen

This European Standard was approved by CEN on 20 September 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

© 2021 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN 15942:2021 E

Documents
Document Sharing Hub

Full document details: BS EN 15942:2021

Contents

Page

European foreword 3
Introduction 4
1 Scope 5
2 Normative references 5
3 Terms and definitions 5
4 Symbols and abbreviations 6
5 Communication principles 6
5.1 General principles 6
5.2 Types of information addressed 6
6 Requirements for EPD communication format 8
7 Information Transfer Matrix 8
7.1 General 8
7.2 Modules and scenarios 8
7.3 Indicators 9
7.4 Aggregation of information 9
7.5 Scenarios 9
Annex A (normative) Master ITM 10
Bibliography 35

Documents
Document Sharing Hub
Full document details: BS EN 15942:2021

European foreword

This document (EN 15942:2021) has been prepared by Technical Committee CEN/TC 350 "Sustainability of construction works", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2022, and conflicting national standards shall be withdrawn at the latest by May 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 15942:2011.

In comparison with the previous edition, the following technical modifications have been made:

— alignment of the content to the last amendment of EN 15804 (EN 15804:2012+A2:2019);

— revision of the general information table according to the content usually provided in EPDs;

— update of the tables to allow the declaration of more than one scenario per module;

— revision of the text to keep consistency with other CEN/TC 350 complementary standards.

This document has been prepared under a standardization request given to CEN by the European Commission and the European Free Trade Association.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

AVA Documents
Document Sharing Hub

Full document details: BS EN 15942:2021

Introduction

The aim of this document is to harmonize the way in which environmental product declarations (EPD) are communicated in Europe.

It is relevant to the use of the EPD in the building chain where materials and products are assembled into new products and assemblies, each with their own EPD.

This document will improve handling of the data from EPD at the building level and the assessment of environmental performance of buildings.

An EPD expressed in a standardized format will facilitate the communication of the product's environmental performance for business-to-business (B2B).

Documents
Document Sharing Hub

Full document details: BS EN 15942:2021

1 Scope

This document is applicable to all construction products and services related to buildings and construction works. It specifies and describes the communication format for the information defined in EN 15804 for business-to-business communication to ensure a common understanding through consistent communication of information.

NOTE This document does not deal with business-to-consumer communication and is not intended for that purpose. Business-to-consumer communication format is planned to be the subject of a future document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15804 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
consumer
individual member of the general public purchasing or using goods, property or services for private purposes

[SOURCE: EN ISO 14025:2010]

3.2
business-to-business communication
describing or involving the passage of information between different businesses, rather than between businesses and the general public and consumers

3.3
Information Transfer Matrix
ITM
generic template to present and transfer environmental information in a structured and consistent way and in a common format

3.4
significant figures
those digits of a number that carry meaning contributing to its precision

Note 1 to entry: This includes all digits except:

— leading and trailing zeros where they serve merely as placeholders to indicate the scale of the number,

— spurious digits introduced, for example, by calculations carried out to greater accuracy than that of the original data, or measurements reported to a greater precision than the EPD supports.

AVA Documents
Document Sharing Hub

Full document details: BS EN 15942:2021

4 Symbols and abbreviations

B2B	Business-to-business
c-PCR	Complementary product category rules
EPD	Environmental product declaration
LCA	Life cycle assessment
LCI	Life cycle inventory analysis
LCIA	Life cycle impact assessment
ITM	Information Transfer Matrix
ND	Not declared
PCR	Product category rules
RSL	Reference service life

5 Communication principles

5.1 General principles

The ITM presents and allows transfer of environmental information. It

— does not preclude the fact that an EPD can have an individual and unique format;

— is the standardized part of EPD communication according to EN 15804;

— shall contain a statement whether the ITM has been independently verified.

5.2 Types of information addressed

Table 1 describes how ITM addresses the different types of information according to EN 15804.

Documents
Document Sharing Hub
Full document details: BS EN 15942:2021

Table 1 — Types of information and relevant clause in EN 15804:2012+A2:2019

Type of information			**Clause and table in EN 15804:2012+A2:2019**
General information			Clause 7.1 and Table 2
Environmental indicators derived from LCA	Indicators describing environmental impacts based on LCIA	Core environmental impact indicators	Clause 7.2.3.1 and Table 3
		Additional environmental impact indicators	Clause 7.2.3.2 and Table 4
		Disclaimers to the declaration of core and additional environmental impact indicators	Clause 7.2.3.3 and Table 5
	Indicators describing resource use and environmental information based on LCI	Indicators describing resource use	Clause 7.2.4.2 and Table 6
		Environmental information describing waste categories	Clause 7.2.4.3 and Table 7
		Environmental information describing output flows	Clause 7.2.4.4 and Table 8
	Information on biogenic carbon content		Clause 7.2.5 and Table 9
Scenarios and technical information	Construction process stage	A4, Transport to the building site	Clause 7.3.2.1 and Table 10
		A5, Installation in the building	Clause 7.3.2.2 and Table 11
	B1-B7 use stage	B1-B5 use stage related to the building fabric	Clause 7.3.3.1 and Table 12
		Reference service life	Clause 7.3.3.2 and Table 13
		B6, use of energy and B7, use of water	Clause 7.3.3.3 and Table 14
	End of life		Clause 7.3.4 and Table 15
	Benefits and loads beyond the product system boundary		
Additional information on release of dangerous substances to indoor air, soil and water during the use stage	Indoor air		Clause 7.4.1
	Soil and water		Clause 7.4.2

Documents
Document Sharing Hub
Full document details: BS EN 15942:2021

6 Requirements for EPD communication format

An EPD shall include an ITM following these formatting requirements (electronic and paper):

— the information in the ITM shall not be misleading;

— as regards the structure of the EPD, information shall be accurately placed in its unique position identified in the ITM, according to Annex A, but tables can be transposed from rows to columns and vice versa;

— quantitative data shall be numerically reported in the appropriate units of measurement as prescribed in EN 15804;

— no more than three significant figures shall be applied to numerical reporting;

— text shall be clearly written adopting a single language throughout;

— where text is conveying a qualitative issue or parameter, it shall provide sufficient detail as to give transparency and precise and accurate understanding of that issue or parameter.

NOTE prEN ISO 22057 addresses the data templates for the use of EPDs for construction products in BIM.

7 Information Transfer Matrix

7.1 General

This clause defines the standardized part of the EPD communication, i.e. the generic template.

The content of an EPD shall be communicated at minimum through the ITM as given in Annex A.

Communication of standardized environmental information for construction goods and services requires a format that provides a location of all elements of information from different sources. The ITM provides a unique and consistent reference position in a grid.

With reference to EN 15804 the ITM will contain some information, which is mandatory and some information, which is voluntary. If an indicator or a module is not declared they shall be reported as an entry of “ND”. In case all the cells of a row or a column are not declared, the row or column can be removed.

The general information shall be included in the ITM as described in Table A.1 — Declaration of general information and Table A.3 — Demonstration of verification. An additional diagram describing the system boundaries of the product system under study shall be included together with the general information.

Information about the Reference Service Life is listed in Table A.2 — Technical information for Reference Service Life.

7.2 Modules and scenarios

The matrix provides the template for communicating this information for each of the modules as defined in EN 15804:2012+A2:2019, Figure 1. The matrix is also used for communicating the information for realistic scenarios which can occur and/or the respective technical information for these scenarios. The ITM consists of a grid structure in which all items of information according to EN 15804 shall be presented.

The ITM allows reporting of an EPD covering a full life cycle, but also for example, of information representing single or multiple scenarios for discrete life cycle stages such as production, use or end of life. Where multiple scenarios for discrete life cycle stages or information modules are to be reported the

Documents
Document Sharing Hub
Full document details: BS EN 15942:2021

ITM shall be separated into sub-ITM-tables, as presented in Annex A. Where there are known linkages between scenarios of different modules these shall be stated in the scenario description.

For EPDs which cover only some modules, only the modules declared shall be provided in the ITM.

7.3 Indicators

All core indicators shall be included in the ITM for the relevant modules as described in Table A.4 — Core environmental impact indicators.

Declared additional indicators shall be included in the ITM for the relevant modules as described in Table A.5 — Additional environmental impact indicators. Additional indicators not declared shall be mentioned in the EPD, e.g. as an entry of "ND" to the table or as text.

Disclaimers shall be declared in the EPD with regard to the declaration of the relevant core and additional environmental impact indicators according to EN 15804:2012+A2:2019, Table 5.

All indicators describing resource use shall be included in the ITM for the relevant modules as described in Table A.6 — Indicators describing resource use.

Other environmental information describing waste category shall be included in the ITM for the relevant modules as described in Table A.7 — Other environmental information describing waste category.

Environmental information describing output flows shall be included in the ITM for the relevant modules as described in Table A.8 — Environmental information describing output flows.

Information describing the biogenic carbon content at the factory gate shall be included in the ITM for the relevant modules as described in Table A.9 — Information describing the biogenic carbon content at the factory gate.

7.4 Aggregation of information

The indicators declared in the individual information modules of a product life cycle A1 to A5, B1 to B7, C1 to C4 and module D as described in EN 15804:2012+A2:2019, Figure 1 shall not be added up in any combination of the individual information modules into a total or sub-total of the life cycle stages A, B, C or D. As an exception, information modules A1, A2, and A3 may be aggregated.

7.5 Scenarios

When relevant, the information related to scenarios shall be included in the ITM as described in Tables A.10 to A.24.

Documents
Document Sharing Hub
Full document details: BS EN 15942:2021

Annex A
(normative)

Master ITM

Table A.1 — Declaration of general information

General information		
a	manufacturer's name [a]	
	manufacturer's address	
	manufacturer's website	
	manufacturer's logo	
b	relevant c-PCR (Complementary product category rules) [b]	
c	description of the construction product's use [a]	
	functional unit	
	declared unit [c]	
d	reference service life (RSL) see Table A.2 — Technical information for Reference Service Life [b]	
e	construction product identification by name (including any product code) [a]	
	simple visual representation of the construction product to which the data relates	
f	description of the main product components and/or materials [a]	
g	programme operator name [a]	
	programme operator address	
	programme operator logo	
	programme operator website	
h	date of the declaration [a]	
	date of the end of validity [a]	
i	information on which stages are not considered [b]	
	justification for the exemption to declare modules C1, C2, C3, C4 and D [d]	
j	software used for the assessment including version and date	
	background database used for the assessment including version, date and, if applicable, system model	
	cut-off rules and allocation approach	
k	statement that EPD of construction products may not be comparable if they do not comply with EN 15804 [a]	
l	statement about the use of average environmental performance for a number of products [e]	
	description of the range/variability of the LCIA results if significant [e]	
m	site/manufacturer/group of manufacturers/representatives of the manufacturers [a]	

Documents
Document Sharing Hub
Full document details: BS EN 15942:2021