ISO/FDIS 13315-1:2023(E)

ISO/TC 71/SC 8/WG 1

Secretariat: JISC

Date: 2023-09-13

Environmental management for concrete and concrete structures —

Part 1: General principleprinciples

Management environnemental du béton et des structures en béton —

Partie 1: Principes généraux

FDIS stage

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Published in Switzerland

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part~~-~~ 1. In particular, the different approval criteria needed for the different types of ISO ~~documents~~document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part~~ ~~ 2 (see ~~www.iso.org/directives~~www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see ~~www.iso.org/iso/foreword.html~~www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 71, *Concrete, reinforced concrete and prestressed concrete*, Subcommittee SC 8, *Environmental management for concrete and concrete structures*.

This second edition cancels and replaces the first edition (ISO 13315-1:2012), which has been technically revised.

The main changes ~~compared to the previous edition~~ are as follows:

— ~~— scope~~the Scope has been revised to be succinct and partially moved to other clauses~~.~~;

— ~~—~~references to ISO 13315-2 that was subsequently developed have been added to ~~Figure 1, Figure 2, clause 3,~~Figure 1, Figure 2, Clause 3 and ~~clause 4.4.2 NOTE.~~4.4.2;

— ~~—~~references to ISO 13315-4 that was subsequently developed have been added to ~~Figure 1, Figure 2, clause 3,~~Figure 1, Figure 2, Clause 3 and ~~clause 4.5 NOTE.~~4.5;

— ~~—~~references to ISO 13315-6 that was subsequently developed have been added to ~~Figure 1, Figure 2, clause 3,~~Figure 1, Figure 2, Clause 3 and ~~clause 4.7 NOTE.~~4.7;

— references to ISO 13315-8 that was subsequently developed have been added to Figure 1, Figure 2, clause 3,Figure 1, Figure 2, Clause 3 and clause 4.9 NOTE.4.9.

A list of all parts in the ISO 13315 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.htmlwww.iso.org/members.html.

Introduction

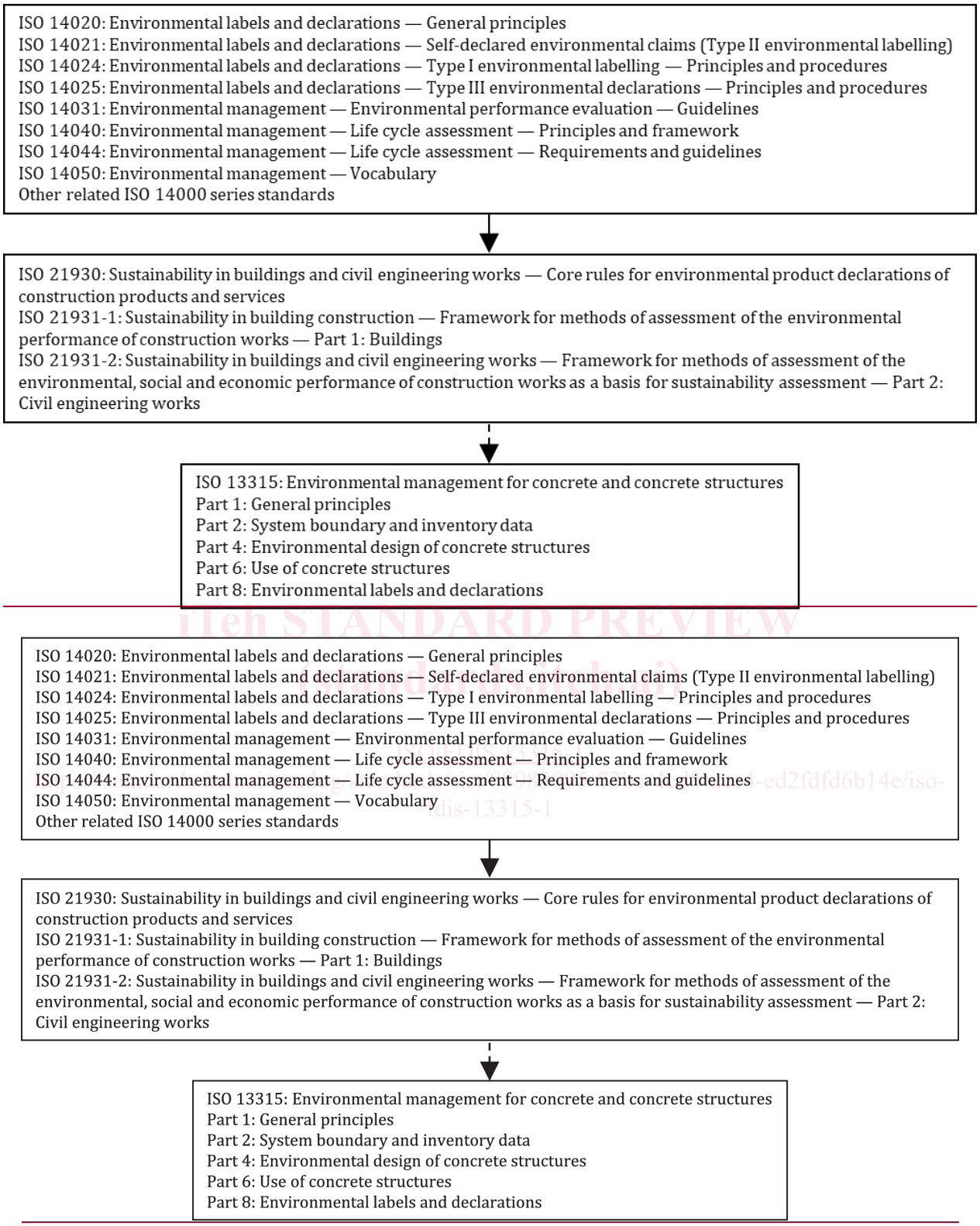
Environmental issues are ~~now grave~~serious subjects for the human race. ~~Fortunately, mankind has clearly recognized the~~The nature of the problem has been clearly recognized and ~~created~~ the concept of "sustainable development~~,""~~ which can be regarded as an environmental revolution~~.~~, has been created. This concept means development that meets the needs of not only ~~the~~ present but also future generations without endangering the natural systems that support life on ~~Earth~~earth, the atmosphere, the waters, the soils~~,~~ and the living things, and at the same time acknowledging that global economic growth is a basis for future global welfare. The incorporation of the concept of sustainability is necessary in every aspect of social, economic, and cultural activities. The construction industry, which consumes enormous amounts of resources and energy to provide the infrastructure for the diversified activities of mankind, has a strong impact on the environment.

~~ISO has already published the~~The ISO 14000 series on environmental management for goods and services as a system for improving the impact on the environment~~.~~ has already been published. This series of International Standards provides general rules for assessing the impact on the environment, as well as for environmental labels/declarations based on such an assessment. ~~Meanwhile,~~ ISO 21931 and ISO 21930 ~~were~~are formulated to tailor this series to construction works and construction products and services, respectively.

Concrete is widely used as one of the key materials for constructing infrastructures such as buildings, bridges, dams, tunnels, etc., with its consumption being the second largest on the planet after water. While construction activities using concrete naturally entail adverse environmental impacts, they also provide environmental beneficial impacts. Improved infrastructures alleviate traffic congestion and prevent natural disasters. ~~Also, the~~The development of compact cities ~~may~~can control the expansion of adverse environmental impacts. Industrial wastes and byproducts from other industries are used as materials, fuels, and supplementary materials for producing cement. Accurate assessment of environmental impacts is therefore essential for minimizing adverse environmental impacts derived from construction activities using concrete while maximizing beneficial environmental impacts.

Concrete structures consume large amounts of aggregates, cement and steel, which emit large amounts of CO_2 in their production processes. Concrete utilizes industrial waste and byproducts, and uses different aggregates in different regions. Concrete is delivered to the construction site in the form of partially finished products. Concrete structures are built in a wide variety of forms with specific requirements, used in various environments for a long time, and demolished, recycled and disposed of in various forms. The ISO 13315 series ~~of standards~~ is intended to provide the basic rules on environmental management for concrete and concrete structures having such characteristics. It is also intended to contribute to continued improvement of the environmental impacts resulting from the activities related to concrete and concrete structures. This series ensures consistency with the existing environmental ISO 14000 series, as well as ISO 21930 and ISO 21931. ~~Figure 1~~Figure 1 shows the relationship between the ISO 13315 series ~~of standards~~, including those to be established in the future, and other existing ISO standards. ~~Figure 2~~Figure 2 shows the basic framework of the ISO 13315 series ~~of standards~~.

The ISO 13315 series ~~of standards~~ covers all people involved in concrete and concrete structures: owners, designers, concrete manufacturers, constructors, users, certification bodies~~,~~ and those who develop environmental standard specifications.



ISO 14020: Environmental labels and declarations — General principles
ISO 14021: Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling)
ISO 14024: Environmental labels and declarations — Type I environmental labelling — Principles and procedures
ISO 14025: Environmental labels and declarations — Type III environmental declarations — Principles and procedures
ISO 14031: Environmental management — Environmental performance evaluation — Guidelines
ISO 14040: Environmental management — Life cycle assessment — Principles and framework
ISO 14044: Environmental management — Life cycle assessment — Requirements and guidelines
ISO 14050: Environmental management — Vocabulary
Other related ISO 14000 series standards
ISO 21930: Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services
ISO 21931-1: Sustainability in building construction — Framework for methods of assessment of the environmental performance of construction works — Part 1: Buildings
ISO 21931-2: Sustainability in buildings and civil engineering works — Framework for methods of assessment of the environmental, social and economic performance of construction works as a basis for sustainability assessment — Part 2: Civil engineering works
ISO 13315: Environmental management for concrete and concrete structures
Part 1: General principles
Part 2: System boundary and inventory data
Part 4: Environmental design of concrete structures
Part 6: Use of concrete structures
Part 8: Environmental labels and declarations

Figure 1 — Relationship between the ISO 13315 series ~~of standards~~ and other existing ISO environmental standards

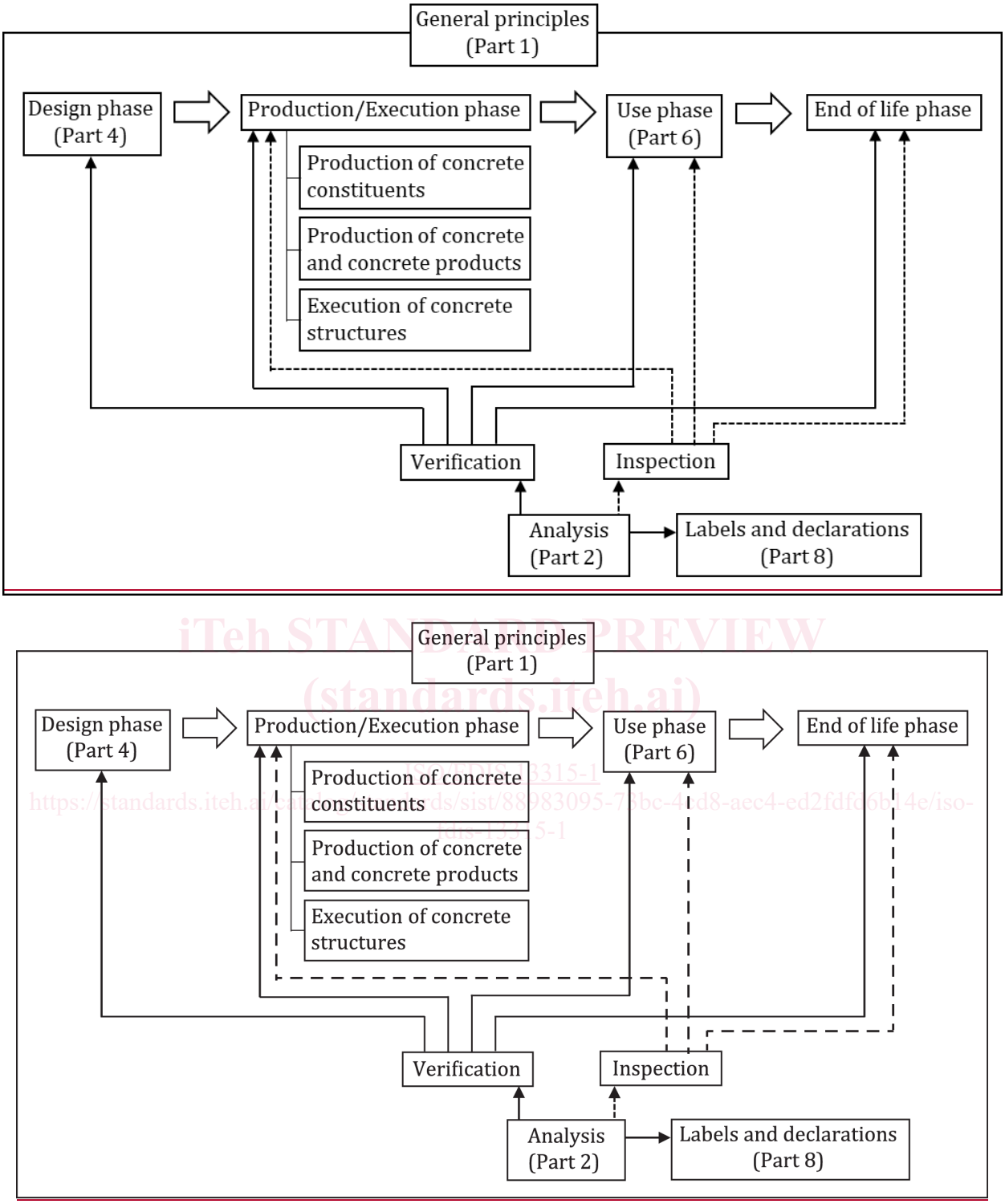


Figure 2 — Basic framework of the ISO 13315 series of standards