International Standard

ISO 19650-6

First edition
2025-01

Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling —

Part 6:
Health and safety information

Organisation et numérisation des informations relatives aux bâtiments et ouvrages de génie civil, y compris modélisation des informations de la construction (BIM) — Gestion de l'information par la modélisation des informations de la construction —

Partie 6: Informations relatives à la santé et à la sécurité

Reference number
ISO 19650-6:2025(en)

© ISO 2025



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025
All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword ..... **v**
Introduction ..... **vi**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **2**
4 Health and safety information **3**
4.1 Objective 3
4.2 General requirements 3
4.2.1 Initiation 3
4.2.2 Types of health and safety risk 3
4.2.3 Context 3
4.2.4 Health and safety risk prioritization 3
4.2.5 Risk treatment 4
4.2.6 Incidents 4
4.3 Schema 4
4.3.1 Overview 4
4.3.2 Context sub-schema 5
4.3.3 Risk sub-schema 5
4.3.4 Incident sub-schema 7
4.3.5 Risk and incident treatment sub-schema 8
4.3.6 Properties 10
4.3.7 Categorization 10
4.3.8 Level of risk 10
4.4 Health and safety risk, risk treatment and incident identifiers 10
4.4.1 General 10
4.4.2 Context identifier 11
4.4.3 Risk, risk treatment and incident identifiers 11
4.5 Use of information 11
4.5.1 Generating information 11
4.5.2 Sharing information 11
4.5.3 Presenting information 12
4.5.4 Using information 12
4.5.5 Generalizing information 12
5 Information requirements **13**
5.1 Organizational information requirements 13
5.2 Asset information requirements 13
5.3 Project information requirements 13
5.4 Exchange information requirements and process methods and procedures 14
5.4.1 General 14
5.4.2 Process methods and procedures 14
5.4.3 Information requirements 14
5.4.4 Supporting evidence 15
5.4.5 Re-usable information 15
5.5 Review of information deliverables 15
6 Process **15**
6.1 Process overview 15
6.2 Additional considerations for the information standard and information production methods and procedures 15
6.3 Provision of existing health and safety information 15
6.4 Additional criteria for invitation to tender or request for service 16
6.5 Additional requirements for delivery team mobilization 16
6.6 Additional requirements for collaborative production of information 16

© ISO 2025 – All rights reserved

Annex A (informative) **Schema summary** **17**
Annex B (informative) **Example classification** **18**
Annex C (informative) **Example metrics** **20**
Annex D (informative) **IFC representation** **22**
Bibliography **24**

© ISO 2025 – All rights reserved

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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.

This document was prepared by Technical Committee ISO/TC 59, *Buildings and civil engineering works*, Subcommittee SC 13, *Organization and digitalization of information about buildings and civil engineering works, including building information modelling (BIM)* , in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 442, *Building Information Modelling (BIM),* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

A list of all parts in the ISO 19650 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 atwww.iso.org/members.html.

© ISO 2025 – All rights reserved

Introduction

At the heart of this document is the requirement to identify, record, use and share information on health and safety risks which can result in harm to any person involved in the asset throughout its life. Information captured can include any site-wide health and safety risks associated with location, previous use, or the site's physical characteristics. ISO 31000 and ISO 45001 to ISO 45006 cover risk management and occupational health and safety

Health and safety related tasks such as allocation, registration and treatment can be performed by any party. They represent a specific opportunity for making improvements to asset management using the ISO 19650 series but also a challenge because health and safety information is a collective responsibility rather than a deliverable by an individual appointed party.

The exchange and use of health and safety information is intended to support:

— representation of the nature and characteristics of the works being undertaken, the site and the asset;

— representation of health and safety risks, hazards and associated factors;

— generalization, dissemination and re-use of health and safety knowledge and experience.

Health and safety information becomes meaningful when interpreted in the light of the history of events and accidents associated with such risk, and in the context of the immediate and underlying circumstances in which the risk is identified. The schema provided within this document includes a structure for recording contextual information and incidents. One important use of incident information is to link incidents to design factors, so that designers can learn about how their designed assets perform in use.

Organizational information requirements developed by the appointing party can reflect the required integration of health and safety as well as modelling and sharing of information across the supply chain. This contextual information can include information to identify characteristics of location, product, systems, element or plant or equipment, and scope of work activity to be carried out, which are associated as sources of the health and safety risk. Health and safety risks can be linked where appropriate to risk treatments which prioritize the production of inherently safer outcomes during the delivery and operational phases of an asset’s life cycle. Prior to construction, health and safety risks can be progressively defined and linked to the context in which the harm can occur. During the construction stage the health and safety information can be used to identify, record, use and share barriers and controls to reduce health and safety risk.

During handover and close out of the project, the health and safety information can be used to ensure that the project information model is used to update the asset information model. This information is handed over to those who will be responsible for managing and assessing health and safety risks during the operational phase of the asset.

This document intends to support the use of health and safety and related information to:

— provide a safer and healthier environment for end users as well as for design, construction, operation and maintenance personnel;

— mitigate the inherent health and safety risks and hazards across the asset life cycle;

— result in improved health and safety performance, fewer incidents and associated impacts;

— provide for clearer, more assured and relevant health and safety information to the ‘right people’ at the ‘right time’;

— increase construction and operational value.

© ISO 2025 – All rights reserved

Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling —

Part 6:
Health and safety information

1 Scope

This document specifies concepts and principles for classifying, sharing and delivering health and safety information collaboratively, to secure the economic, environmental and social benefits.

This document:

a) specifies requirements for the collaborative sharing of structured health and safety information throughout project and asset life cycles;

b) supports the digitization of structured health and safety information in project and asset life cycles progressively from the outset;

c) provides specification on how health and safety information is shared for use throughout project and asset life cycle;

d) sets out a health and safety information cycle framework for the identification, use, sharing and generalization of health and safety information through information management processes.

This document is applicable to individuals and organizations that contribute to and influence the procurement, design, construction, use (including maintenance) and end-of-life of building and infrastructure assets.

The principles and requirements of this document can be applied equally to delivery or in-use phases not using BIM.

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.

ISO 19650-1, *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 1: Concepts and principles*

ISO 19650-2, *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 2: Delivery phase of the assets*

ISO 19650-3, *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 3: Operational phase of the assets*

© ISO 2025 – All rights reserved

ISO 19650-4, *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 4: Information exchange*

ISO 19650-5, *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 5: Security-minded approach to information management*

ISO 31000, *Risk management — Guidelines*

ISO 45001, *Occupational health and safety management systems — Requirements with guidance for use*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 19650-1, ISO 19650-2, ISO 19650-3, ISO 19650-4, ISO 19650-5, ISO 31000, ISO 45001 and the following apply.

ISO and IEC maintain terminology 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
health and safety information
information relating to the health and safety risks across the project and asset life cycle

Note 1 to entry: Health and safety information includes, but is not limited to, health and safety risks and risks arising from the environment and from an activity.

3.2
risk treatment
action to lessen risk

Note 1 to entry: Eliminating, reducing, informing and controlling are ways a risk can be modified.

Note 2 to entry: A risk treatment can be that the risk is accepted and no action is required.

Note 3 to entry: ISO 45001 uses ‘corrective action’ in a slightly different sense.

[SOURCE: ISO 31073:2022, 3.3.32, modified — The original notes to entry have been replaced by 3 new ones.]

3.3
generalization
act of removing or modifying details to make information suitable for wider publication and re-use

Note 1 to entry: This can include replacing personal and protected characteristics.

3.4
hazard
source of potential harm

[SOURCE: ISO 31073:2022, 3.3.12, modified — Note 1 to entry has been removed.]

3.5
level of risk
risk priority
risk level
magnitude of risk or combination of risks

Note 1 to entry: ISO 31000 uses ‘level of risk' and ISO 45002 uses ‘risk level’.

© ISO 2025 – All rights reserved