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BSI Standards Publication

**BS EN ISO 9001, Quality management
systems – Requirements, incorporating
BS 99001 additional requirements for
the built environment sector**



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Summary of pages

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Foreword

Publishing information

This Published Document is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 July 2022. It was prepared by Subcommittee QS/1/4, *Quality Management in Construction*, under the authority of Technical Committee QS/1, *Quality Management and Quality Assurance*. A list of organizations represented on these committees can be obtained on request to their committee manager.

Relationship with other publications

This Published Document is published as a supplementary document to [BS EN ISO 9001:2015](#). This Published Document should be used in conjunction with [BS EN ISO 9001:2015](#).

This Published Document includes requirements specified in [BS EN ISO 9001](#)¹⁾ in the boxed text which precedes the additional built environment requirements, definitions and notes shown in plain text.

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The provisions of this Published Document are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is “shall”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”).

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0 Introduction

0.1 Background

Quality management is critical in the built environment sector, with significant implications for safety in both the short and long term. A series of significant incidents, and numerous reports, have highlighted that poor quality is an issue, despite widespread use of [BS EN ISO 9001](#), the generic quality management system standard. This disconnect points to the need for more specific guidance for the sector, for the benefit of everyone, including clients, contractors, sub-contractors and end users of assets.

The complex nature of the sector, which includes a diverse range of organizations, varying in size from huge multi-nationals to micro businesses, encompasses multiple disciplines and operates through a wide range of contract and project types.

This complexity, along with regulatory drivers and a move towards more integrated approaches to management systems to build environmental, economic and social sustainability, heightens the need for a more sector-specific approach to known and predicted issues.

0.2 Challenges and opportunities for the sector

The level of risk for organizations involved in built environment projects can be extremely high, with aspects such as:

- fragmentation;
- multi-tiered supply chains;
- payment problems;
- incomplete information;
- coordination difficulties;
- over-optimistic planning at all levels; and
- shortages of skilled workers.

This British Standard aims to shift the emphasis from a focus on time and cost, towards good quality management driving both safety and sustainability, for society, economy and the environment.

0.3 Relationship to BS EN ISO 9001

[BS EN ISO 9001](#), *Quality Management Systems – Requirements*, is used by many organizations in the built environment; however its requirements are not always implemented in such a way that quality can be assured throughout the supply chain and the life cycle of projects.

To enhance customer satisfaction, organizations and their supply chains need to provide and continually improve safe and reliable products and services that meet or exceed customer and applicable statutory and regulatory requirements. This document enhances the quality management system requirements for the industry by building in recognition of the project-based nature of operations and can be used at all levels of the supply chain. Meeting these sector-specific requirements when implementing [BS EN ISO 9001](#) can result in improved quality, cost and delivery performance throughout the sector.

BS EN ISO 9001:2015**1 Scope**

This International Standard specifies requirements for a quality management system when an organization:

- a) needs to demonstrate its ability to consistently provide products and services that meet customer and applicable statutory and regulatory requirements, and
- b) aims to enhance customer satisfaction through the effective application of the system, including processes for improvement of the system and the assurance of conformity to customer and applicable statutory and regulatory requirements.

All the requirements of this International Standard are generic and are intended to be applicable to any organization, regardless of its type or size, or the products and services it provides.

NOTE 1 In this International Standard, the terms “product” or “service” only apply to products and services intended for, or required by, a customer.

NOTE 2 Statutory and regulatory requirements can be expressed as legal requirements.

1 Scope

This British Standard specifies requirements for the application of [BS EN ISO 9001](#) in the built environment sector based on the requirements of [BS EN ISO 9001:2015](#).

It is applicable to systems relating to both the organization and the entire life cycle of projects under its control, including services, temporary works and built environment deliverables.

NOTE 1 This document does not modify or replace the requirements of [BS EN ISO 9001](#).

NOTE 2 This document is structured to align with the clauses of [BS EN ISO 9001](#).

NOTE 3 In this British Standard, the organization can mean a single legal entity or a group of entities working together to deliver a project.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions of this document²⁾. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS EN ISO 9001:2015, *Quality management systems — Requirements*

3 Terms and definitions

For the purposes of this British Standard, the terms and definitions given in [BS EN ISO 9000:2015](#) and the following apply.

NOTE 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 <http://www.electropedia.org/>*

²⁾ Documents that are referred to solely in an informative manner are listed in the Bibliography.

3.1 asset

permanent structure, building, wall, tunnel, rail track, waterway, road, cutting or earthwork which provides support to a structure, rail track, road or other construction

[SOURCE BS 5975:2019, 3.2]

3.2 built environment

collection of man-made or induced physical objects located in a particular area or region

NOTE When treated as a whole, the built environment typically is taken to include buildings, external works (landscaped areas), infrastructure and other construction works within the area under consideration.

[SOURCE: BS ISO 15392:2019, 3.5]

3.3 information management

planning, collection, control, distribution and exploitation of information resources within an organization, including systems development, and disposal or long-term preservation

[SOURCE BS ISO 5127:2017, 3.1.2.1.23, modified by deletion of note to entry]

3.4 life cycle

(all) consecutive and interlinked stages in the life of the object under consideration

[SOURCE: BS ISO 6707-1:2020, 3.7.3.85]

3.5 organization

person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its objectives

NOTE 1 The concept of organization includes, but is not limited to, sole-trader, company, corporation, firm, enterprise, authority, partnership, association, charity or institution, or part or combination thereof, whether incorporated or not, public or private.

[SOURCE BS EN ISO 9000:2015, 3.2.1, modified by removal of Note 2 to entry]

3.6 project life cycle

defined set of phases from the start to the end of the project

[SOURCE: BS ISO 21500:2012, 2.12]

3.7 temporary works

works undertaken during construction work or works to stabilize or protect an existing building or structure, neither works of which are intended or required to form part of the completed construction works

[SOURCE: BS ISO 6707-2:2017, 3.3.11]

4 Context of the organization

BS EN ISO 9001:2015

4.1 Understanding the organization and its context

The organization shall determine external and internal issues that are relevant to its purpose and its strategic direction and that affect its ability to achieve the intended result(s) of its quality management system.

The organization shall monitor and review information about these external and internal issues.

NOTE 1 Issues can include positive and negative factors or conditions for consideration.

NOTE 2 Understanding the external context can be facilitated by considering issues arising from legal, technological, competitive, market, cultural, social and economic environments, whether international, national, regional or local.

NOTE 3 Understanding the internal context can be facilitated by considering issues related to values, culture, knowledge and performance of the organization.

4.1 Understanding the organization and its context

In meeting the requirements of [BS EN ISO 9001:2015, 4.1](#), the organization shall determine internal and external issues related to the context of projects the organization is involved in, or is planning to be involved in, including consideration of information management, security and sustainability.

The organization shall take into account national and international commitments to social, economic and environmental sustainability, including progress towards net zero emissions.

BS EN ISO 9001:2015

4.2 Understanding the needs and expectations of interested parties

Due to their effect or potential effect on the organization's ability to consistently provide products and services that meet customer and applicable statutory and regulatory requirements, the organization shall determine:

- a) the interested parties that are relevant to the quality management system;
- b) the requirements of these interested parties that are relevant to the quality management system.

The organization shall monitor and review information about these interested parties and their relevant requirements.

4.2 Understanding the needs and expectations of interested parties

In meeting the requirements of [BS EN ISO 9001:2015, 4.2](#), the organization shall determine the requirements of those interested parties that are relevant to projects the organization is involved in or plans to be involved in.

NOTE Interested parties in the built environment can include:

- a) members of the public (e.g. passengers passing through stations, tenants in social housing);
- b) project funders and investors;
- c) shareholders;
- d) owners and/or operators of the asset;
- e) project owners or sponsors;
- f) project teams under the control of the client;
- g) insurance organizations;
- h) local authorities and regulators; and
- i) the media.

The organization shall ensure consideration of interested parties takes into account sustainability and social value impacts.

The organization shall maintain documented information of the relevant interested parties and their relevant requirements.

NOTE See [PD ISO/TS 9002:2016, 4.2](#) for guidance on interested parties.

BS EN ISO 9001:2015

4.3 Determining the scope of the quality management system

The organization shall determine the boundaries and applicability of the quality management system to establish its scope.

When determining this scope, the organization shall consider:

- a) the external and internal issues referred to in [4.1](#);
- b) the requirements of relevant interested parties referred to in [4.2](#);
- c) the products and services of the organization.

The organization shall apply all the requirements of this International Standard if they are applicable within the determined scope of its quality management system.

The scope of the organization's quality management system shall be available and be maintained as documented information. The scope shall state the types of products and services covered, and provide justification for any requirement of this International Standard that the organization determines is not applicable to the scope of its quality management system.

Conformity to this International Standard may only be claimed if the requirements determined as not being applicable do not affect the organization's ability or responsibility to ensure the conformity of its products and services and the enhancement of customer satisfaction.

4.3 Determining the scope of the quality management system

In meeting the requirements of [BS EN ISO 9001:2015, 4.3](#), the organization shall also meet the requirements provided in this British Standard, if applicable within the determined scope of its quality management system.

NOTE Conformity to this British Standard can only be claimed if the requirements determined as not being applicable do not affect the organization's ability or responsibility to ensure the conformity of its products and services in the built environment or the enhancement of customer satisfaction.

4.4 Quality management system and its processes

BS EN ISO 9001:2015

4.4.1 The organization shall establish, implement, maintain and continually improve a quality management system, including the processes needed and their interactions, in accordance with the requirements of this International Standard.

The organization shall determine the processes needed for the quality management system and their application throughout the organization, and shall:

- a) determine the inputs required and the outputs expected from these processes;
- b) determine the sequence and interaction of these processes;
- c) determine and apply the criteria and methods (including monitoring, measurements and related performance indicators) needed to ensure the effective operation and control of these processes;
- d) determine the resources needed for these processes and ensure their availability;
- e) assign the responsibilities and authorities for these processes;
- f) address the risks and opportunities as determined in accordance with the requirements of 6.1;
- g) evaluate these processes and implement any changes needed to ensure that these processes achieve their intended results;
- h) improve the processes and the quality management system.

4.4.1 There are no additional requirements to those specified in [BS EN ISO 9001:2015, 4.4.1](#).

4.4.2 To the extent necessary, the organization shall:

- a) maintain documented information to support the operation of its processes;
- b) retain documented information to have confidence that the processes are being carried out as planned.

4.4.2 There are no additional requirements to those specified in [BS EN ISO 9001:2015, 4.4.2](#).

NOTE The quality of information is key to quality management systems for the built environment sector as it is characterized by long activity life cycles, organizational and system complexity and a reliance on data. If data is not at the required quality, it leads to compromised decisions and undermines quality management systems.

5 Leadership

5.1 Leadership and commitment

BS EN ISO 9001:2015

5.1.1 General

Top management shall demonstrate leadership and commitment with respect to the quality management system by:

- a) taking accountability for the effectiveness of the quality management system;
- b) ensuring that the quality policy and quality objectives are established for the quality management system and are compatible with the context and strategic direction of the organization;
- c) ensuring the integration of the quality management system requirements into the organization's
- d) business processes;
- e) promoting the use of the process approach and risk-based thinking;
- f) ensuring that the resources needed for the quality management system are available;
- g) communicating the importance of effective quality management and of conforming to the quality management system requirements;
- h) ensuring that the quality management system achieves its intended results;
- i) engaging, directing and supporting persons to contribute to the effectiveness of the quality management system;
- j) promoting improvement;
- k) supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility.

NOTE Reference to "business" in this International Standard can be interpreted broadly to mean those activities that are core to the purposes of the organization's existence, whether the organization is public, private, for profit or not for profit.

5.1.1 General

In meeting the requirements of [BS EN ISO 9001:2015, 5.1.1](#), top management shall demonstrate leadership and commitment to the quality management system by:

- a) including quality management in top management responsibilities;
- b) taking accountability for the management and delivery of quality on projects under the organization's control;
- c) ensuring quality management is promoted as integral at all levels and in all operations of the organization and that this commitment is communicated to the supply chain; and
- d) ensure people in quality management roles are competent and supported to perform their roles impartially and independently (see [7.2](#)).

BS EN ISO 9001:2015**5.1.2 Customer focus**

Top management shall demonstrate leadership and commitment with respect to customer focus by ensuring that:

- a) customer and applicable statutory and regulatory requirements are determined, understood and consistently met;
- b) the risks and opportunities that can affect conformity of products and services and the ability to enhance customer satisfaction are determined and addressed;
- c) the focus on enhancing customer satisfaction is maintained.

5.1.2 Customer focus

In meeting the requirements of [BS EN ISO 9001:2015, 5.1.2](#), top management shall demonstrate leadership and commitment with respect to customer focus by ensuring that:

- a) product and service conformity is measured;
- b) quality is prioritized when considering on-time and on-budget delivery; and
- c) action is taken if planned results are not, or will not be, achieved throughout the project life cycle, by the organization and its supply chain.

5.2 Policy**BS EN ISO 9001:2015****5.2.1 Establishing the quality policy**

Top management shall establish, implement and maintain a quality policy that:

- a) is appropriate to the purpose and context of the organization and supports its strategic direction;
- b) provides a framework for setting quality objectives;
- c) includes a commitment to satisfy applicable requirements;
- d) includes a commitment to continual improvement of the quality management system.

5.2.1 Establishing the quality policy

There are no additional requirements to those specified in [BS EN ISO 9001:2015, 5.2.1](#).

BS EN ISO 9001:2015**5.2.2 Communicating the quality policy**

The quality policy shall:

- a) be available and be maintained as documented information;
- b) be communicated, understood and applied within the organization;
- c) be available to relevant interested parties, as appropriate.

5.2.2 Communicating the quality policy

In meeting the requirements of [BS EN ISO 9001:2015, 5.2.2](#), the organization shall communicate the quality policy to all relevant interested parties in project supply chains, to ensure alignment at all levels of projects the organization is involved in or plans to be involved in.

BS EN ISO 9001:2015**5.3 Organizational roles, responsibilities and authorities**

Top management shall ensure that the responsibilities and authorities for relevant roles are assigned, communicated and understood within the organization.

Top management shall assign the responsibility and authority for:

- a) ensuring that the quality management system conforms to the requirements of this International Standard;
- b) ensuring that the processes are delivering their intended outputs;
- c) reporting on the performance of the quality management system and on opportunities for improvement (see 10.1), in particular to top management;
- d) ensuring the promotion of customer focus throughout the organization;
- e) ensuring that the integrity of the quality management system is maintained when changes to the quality management system are planned and implemented.

5.3 Organizational roles, responsibilities and authorities

In meeting the requirements of [BS EN ISO 9001:2015, 5.3](#), top management shall ensure that a competent person is appointed as the management representative with oversight of quality for projects the organization is involved in or plans to be involved in. The management representative shall have responsibility and authority for oversight of the requirements given in [5.2.1](#) and [5.2.2](#) on a project basis. The management representative shall be supported by the organization to ensure that quality management of data is sufficient for the needs of the project.

The organization shall clearly define the governance and support arrangements between project roles and the wider organizational roles.

Top management shall ensure roles, responsibilities and authorities that are relevant to the project(s) are identified and defined in accordance with the project's nature and complexity (see [Clause 4](#)), considering the organization's existing policies. Top management shall ensure that the management representative with oversight of quality has organizational freedom and unrestricted access to the project leadership to resolve quality management issues.

The organization shall ensure that the management representative with oversight of quality has the authority to pause operations in order for quality issues to be addressed.

NOTE 1 The responsibility of a management representative with oversight of quality might include liaison with external parties on matters relating to the quality management system.

NOTE 2 The number of people appointed as management representatives can vary according to the number of roles and responsibilities relating to the project. In a very small or simple project, a single person can represent a number of roles. In a more complex project, a number of people can take on the individual roles.

6 Planning

6.1 Actions to address risks and opportunities

BS EN ISO 9001:2015

6.1.1 When planning for the quality management system, the organization shall consider the issues referred to in 4.1 and the requirements referred to in 4.2 and determine the risks and opportunities that need to be addressed to:

- a) give assurance that the quality management system can achieve its intended result(s);
- b) enhance desirable effects;
- c) prevent, or reduce, undesired effects;
- d) achieve improvement.

6.1.1 In meeting the requirements of [BS EN ISO 9001:2015, 6.1.1](#), the organization shall take into account the potential impact of risks and opportunities related to:

- a) projects it is involved in or plans to be involved in;
- b) the process of construction and the subsequent use of the asset;
- c) the organization as a whole; and
- d) society, the economy and the environment.

The organization shall maintain documented information on:

- 1) potential impact on the organization of risks and opportunities related to projects; and
- 2) the process(es) and actions needed to determine and address the risks and opportunities to the extent necessary for the organization to have confidence that processes and actions are carried out as planned.

The organization shall ensure that plans are reviewed and updated as necessary.

BS EN ISO 9001:2015

6.1.2 The organization shall plan:

- a) actions to address these risks and opportunities;
- b) how to:
 - 1) integrate and implement the actions into its quality management system processes (see [4.4](#));
 - 2) evaluate the effectiveness of these actions.

Actions taken to address risks and opportunities shall be proportionate to the potential impact on the conformity of products and services.

NOTE 1 Options to address risks can include avoiding risk, taking risk in order to pursue an opportunity, eliminating the risk source, changing the likelihood or consequences, sharing the risk, or retaining risk by informed decision.

NOTE 2 Opportunities can lead to the adoption of new practices, launching new products, opening new markets, addressing new customers, building partnerships, using new technology and other desirable and viable possibilities to address the organization's or its customers' needs.

6.1.2 There are no additional requirements to those specified in [BS EN ISO 9001:2015, 6.1.2](#).

NOTE Further information on risk management is provided in [BS ISO 31000](#).

6.2 Quality objectives and planning to achieve them

BS EN ISO 9001:2015

6.2.1 The organization shall establish quality objectives at relevant functions, levels and processes needed for the quality management system.

The quality objectives shall:

- a) be consistent with the quality policy;
- b) be measurable;
- c) take into account applicable requirements;
- d) be relevant to conformity of products and services and to enhancement of customer satisfaction;
- e) be monitored;
- f) be communicated;
- g) be updated as appropriate.

The organization shall maintain documented information on the quality objectives.

6.2.1 In meeting the requirements of [BS EN ISO 9001:2015, 6.2.1](#), the organization shall establish quality objectives for each project, to reflect contractual and other requirements, including social, economic and environmental commitments. The organization shall take into account scope, time, cost and the project life cycle when setting quality objectives. Where appropriate, objectives shall be developed in collaboration with relevant interested parties.

The organization shall maintain and retain documented information in relation to the requirements of [BS EN ISO 9001:2015](#) Clause 6 and the requirements in this document.

BS EN ISO 9001:2015

6.2.2 When planning how to achieve its quality objectives, the organization shall determine:

- a) what will be done;
- b) what resources will be required;
- c) who will be responsible;
- d) when it will be completed;
- e) how the results will be evaluated.

6.2.2 There are no additional requirements to those specified in [BS EN ISO 9001:2015, 6.2.2](#).