

# Rules for the structure and drafting of UK standards

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## Foreword

### Publishing information

This document is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 April 2017. It was prepared on behalf of the BSI Standards Policy and Strategy Committee.

### Supersession

This document supersedes *Rules for the structure and drafting of UK standards:2012*, which is withdrawn.

### Relationship with other publications

This document gives the drafting rules referred to in BS 0:2016.

### Information about this document

This document gives rules for the structure, drafting and wording for British Standards developed within the UK. These are referred to in BS 0:2016 as “standards of UK origin”. Throughout these rules, the term “British Standards” refers only to standards of UK origin.

This document is an adoption of the ISO/IEC Directives, Part 2:2016, with modifications to alter, clarify or extend some of its provisions for easier, clearer use in the UK. Examples from the ISO/IEC Directives, Part 2:2016 have been retained as far as is practicable.

Reproduction of material derived from the ISO/IEC Directives is by kind permission of ISO and IEC.

This is a full revision of the document and introduces the following principal changes.

- a) The structure of ISO/IEC Directives, Part 2 has been rearranged in order to find the information more easily. Where possible, the language has been simplified and more examples have been added.
- b) A fixed structure consisting of “Scope”, “Normative references” and “Terms and definitions” clauses is now required in all documents for consistency, even if the “Normative references” and “Terms and definitions” clauses are empty.
- c) A checklist for writers and editors of documents has been added in Annex A.
- d) The introductory text for “Normative references” has been modified (see Clause **15**).
- e) The clause on figures (see Clause **28**) has been expanded to cover other types of figures, such as mechanical drawings and flowcharts, with commented examples.
- f) Test methods (previously **6.3.6**) has been revised (see Clause **18**) and a subclause on test reports has been added.
- g) The former Annex F on patent rights has been removed to avoid duplication with BS 0:2016.

### Presentational conventions

Content in this document that is identical to content in the ISO/IEC Directives, Part 2:2016 is presented in [blue type](#).

Amended or additional content inserted for UK purposes is presented in black type.

Where text from the ISO/IEC Directives, Part 2:2016 has simply been deleted, this is not indicated.



## 1 Scope

This document gives [principles and rules for the structure and drafting of standards of UK origin](#), as defined in BS 0:2016. It also gives rules for the drafting of National Annexes and Non-Conflicting Complimentary Information to Eurocodes.

The rules are intended to ensure that such documents are drafted in as uniform a manner as practicable, irrespective of the technical content.

It also gives some guidance with regard to presentation.

This document [does not specify the typography and layout of published documents](#).

*NOTE* *Typography and layout of standards of UK origin, together with BSI approved standard wording, are given in the Style guide for UK standards – Presentation, typography and standard wording [1]. Details are available from BSI staff on request.*

## 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 document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 0:2016, *A standard for standards – Principles of standardization*

BS 8888, *Technical product documentation and specification*

BS EN 60027 (all parts), *Letter symbols to be used in electrical technology*

BS EN 61082-1, *Preparation of documents used in electrotechnology – Part 1: Rules*

BS EN 61175, *Industrial systems, installation and equipment and industrial products – Designation of signals*

BS EN 80000 (all parts), *Quantities and units*

BS EN 81346 (all parts), *Industrial systems, installations and equipment and industrial product – Structuring principles and reference designations*

BS EN ISO 3098, *Technical product documentation – Lettering*

BS EN ISO 6433, *Technical drawings – Item references*

BS EN ISO 7010, *Graphical symbols – Safety colours and safety signs – Registered safety signs*

BS EN ISO 9000, *Quality management systems – Fundamentals and vocabulary*<sup>1)</sup>

BS EN ISO 9001, *Quality management systems – Requirements*

BS EN ISO 80000 (all parts), *Quantities and units*

BS EN ISO/IEC 17025:2005, *General requirements for the competence of testing and calibration laboratories*

BS ISO 78-2, *Chemistry – Layout for standards – Part 2: Methods of chemical analysis*

BS ISO 128-30, *Technical drawings – General principles of presentation – Part 30: Basic conventions for views*

BS ISO 128-34, *Technical drawings – General principles of presentation – Part 34: Views on mechanical engineering drawings*

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<sup>1)</sup> This document gives an informative reference to BS EN ISO 9000:2015.

BS ISO 128-40, *Technical drawings – General principles of presentation – Part 40: Basic conventions for cuts and sections*

BS ISO 128-44, *Technical drawings – General principles of presentation – Part 44: Sections on mechanical engineering drawings*

BS ISO 690, *Information and documentation – Guidelines for bibliographic references and citations to information resources*

BS ISO 10241-1:2011, *Terminological entries in standards – General requirements and examples of presentation*

BS ISO 14617 (all parts), *Graphical symbols for diagrams*

BS ISO 80000 (all parts), *Quantities and units*

IEC 60417, *Graphical symbols for use on equipment*<sup>2)</sup>

IEC 60617, *Graphical symbols for diagrams*<sup>3)</sup>

ISO 497, *Guide to the choice of series of preferred numbers and of series containing more rounded values of preferred numbers*

ISO 7000, *Graphical symbols for use on equipment – Index and synopsis*

ISO 7001, *Graphical symbols – Public information symbols*

ISO/IEC Directives, Part 2:2016, *Rules for the structure and drafting of International Standards*

ISO/IEC Directives, Part 1, Consolidated ISO Supplement

*ITSIG specification for the preparation and exchange of graphics*, ISO

*Quality management systems – Guidance and criteria for the development of documents to meet needs of specific product and industry/economic sectors*, ISO

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in BS 0:2016 and the following apply.

#### 3.1 Document type

##### 3.1.1 document

British Standard *draft or publication*

##### 3.1.2 specification

standard that sets out detailed requirements, to be satisfied by a product, material, process, service or system, and the procedures for checking conformity to these requirements

##### 3.1.3 code of practice

standard comprising recommendations for accepted good practice as followed by competent and conscientious practitioners, and which brings together the results of practical experience and acquired knowledge for ease of access and use of the information

##### 3.1.4 guide

standard that gives broad and general information about a subject, with background information where appropriate

*NOTE* Guides issued as standards of UK origin are different from Guides issued by ISO/IEC.

<sup>2)</sup> Available as an online database at <http://www.graphical-symbols.info/equipment> (last viewed 5 April 2017).

<sup>3)</sup> Available as an online database at <http://std.iec.ch/iec60617> (last viewed 5 April 2017).

**3.1.5 test method**

standard that gives a complete account of the way in which an activity is performed (and, where appropriate, of the materials and equipment required to perform it), and the way in which conclusions are reached, to a degree of precision appropriate to the stated purpose

**3.1.6 method of specifying**

standard that gives the characteristics of a product, material, process or system from which selection has to be made and for which values might have to be agreed between purchaser and manufacturer

**3.1.7 vocabulary**

standard listing definitions of terms used in a particular sector, field or discipline

**3.1.8 classification**

standard comprising designations and descriptions of different grades of a product and that identifies and arranges data in hierarchical order

**3.2 Element****3.2.1 normative element**

element that describes the scope of the document or sets out provisions

**3.2.2 informative element**

element intended to assist the understanding or use of the document or provides contextual information about its content, background or relationship with other documents

**3.2.3 mandatory element**

element that has to be present in a document

EXAMPLE The scope clause is an example of a mandatory element.

**3.2.4 conditional element**

element that is present depending on the provisions of the particular document

EXAMPLE The symbols and abbreviated terms subclauses are examples of a conditional element.

**3.2.5 optional element**

element which the writer of a document may choose to include or not

EXAMPLE The introduction is an example of an optional element.

**3.3 Provisions****3.3.1 provision**

expression in the content of a normative document that takes the form of a statement, an instruction, a recommendation or a requirement

*NOTE 1 These forms of provision are distinguished by the type of wording they use; for example instructions are expressed in the imperative mood, recommendations by the use of the auxiliary "should" and requirements by the use of the auxiliary "shall".*

[SOURCE: ISO/IEC Guide 2:2004, 7.1]

*NOTE 2 Normative provisions take different forms according to the type of standard. The provisions of the most common types of standard are:*

- *requirements, in a specification;*
- *recommendations, in a code of practice or a guide;*
- *instructions, in a test method.*

**3.3.2 statement**

expression in the content of a document conveying information

*NOTE Table 3 specifies the verbal forms for indicating a course of action permissible within the limits of the document, and the verbal forms to be used for statements of possibility and capability.*

### 3.3.3 requirement

expression in the content of a document conveying objectively verifiable criteria to be fulfilled and from which no deviation is permitted if compliance with the document is to be claimed

*NOTE Requirements are expressed using the verbal forms specified in Table 3.*

### 3.3.4 recommendations

#### 3.3.4.1 recommendation

<in a specification or test method> expression in the content of a document conveying a suggested possible choice or course of action deemed to be particularly suitable without necessarily mentioning or excluding others

*NOTE 1 Recommendations are expressed using the verbal forms specified in Table 3.*

*NOTE 2 In the negative form, a recommendation is the expression that a suggested possible choice or course of action is not preferred but it is not prohibited.*

#### 3.3.4.2 recommendation

<in a code of practice> expression in the content of a document conveying criteria to be fulfilled if compliance with the document is to be claimed, but from which deviation might be permitted if it can be justified by the user

*NOTE Recommendations are expressed using the verbal forms specified in Table 3.*

### 3.3.5 permission

expression in the content of a document conveying consent or liberty (or opportunity) to do something

*NOTE Permissions are expressed using the verbal forms specified in Table 3.*

### 3.3.6 possibility

expression in the content of a document conveying expected or conceivable material, physical or causal outcome

*NOTE Possibility is expressed using the verbal forms specified in Table 3.*

### 3.3.7 capability

expression in the content of a document conveying the ability, fitness, or quality necessary to do or achieve a specified thing

*NOTE Capability is expressed using the verbal forms specified in Table 3.*

### 3.3.8 external constraint

constraint or obligation on the user of the document, typically due to one or more legal requirements or laws of nature, that is not stated as a provision of the standard

*NOTE 1 External constraints are referred to using the verbal form specified in Table 3.*

*NOTE 2 Use of the word "must" does not imply that the external constraint referred to is a requirement of the document.*

## 3.4 state of the art

developed stage of technical capability at a given time as regards products, processes and services, based on the relevant consolidated findings of science, technology and experience

[SOURCE: ISO/IEC Guide 2:2004, 1.4]

## Section 1: General principles

### 4 Objective of standardization

The objective of documents is to **set out** clear and unambiguous provisions in order to help trade and communication. To achieve this objective, documents **should**:

- be complete within the limits specified by their scope;

*NOTE 1 When a document provides requirements or recommendations, these are either written explicitly, or made by reference to other documents (see Clause 10).*

- be consistent, clear and accurate;
- be written using all available knowledge about the state of the art;
- take into account the current market conditions;

*NOTE 2 There is sometimes a tension between what is technically feasible and what the market actually requires and is prepared to pay for.*

- provide a framework for future technological development;
- be comprehensible to qualified people who have not participated in its preparation; and
- conform to the **BSI Rules for the structure and drafting of UK standards**.

A document does not in itself impose any obligation upon anyone to follow it. However, an obligation can be imposed, for example, by legislation or by a contract which makes reference to the document.

A document **should** not include contractual requirements (e.g. concerning claims, guarantees, covering of expenses) and legal or statutory requirements.

British Standards are intended for use in the UK in the first instance. However, they should be drafted as far as possible to make them also usable outside the UK.

## 5 Principles

### 5.1 Planning and preparation

Rules for the planning and preparation of new work items are given in BS 0:2016. The rules given in BS 0:2016 and the **BSI Rules for the structure and drafting of UK standards** should be applied throughout all stages of drafting to avoid delay. In order to ensure the timely publication of a document or of a series of associated documents, the following should be determined before drafting begins:

- the intended structure;
- any interrelationships;
- the organization and subdivision of the subject matter (see Clause 6).

In the case of a multipart document, a list of the intended parts **should** be drawn up (preferably including their titles and scopes).

See Annex E for methods of updating standards.

### 5.2 Aim-oriented approach

Not all characteristics of an item or a subject can be or need to be standardized. The choice of characteristics to be standardized depends on the aims of the document (e.g. health, safety, protection of the environment, interface, interchangeability, compatibility or interworking, and variety control). A functional analysis of the product can help to identify the characteristics to be included in the document.

It is permitted but not necessary to give an explanation for the inclusion of individual characteristics. More general background information can be given in the introduction (see Clause 13).

### 5.3 Fitness for implementation as a regional or national standard

*Not applicable in the UK.*

### 5.4 Performance principle

Whenever possible, requirements and recommendations should be expressed in terms of performance rather than design or descriptive characteristics. This principle allows maximum freedom for technical development and reduces the risk of undesirable market impacts (e.g. restriction of innovative solutions).

#### EXAMPLE

Different approaches are possible in the specification of requirements concerning a table:

Design requirements: the table shall have four wooden legs.

Performance requirements: the table shall be constructed such that when subjected to ...[stability and strength criteria]

When the performance principle is adopted, care should be taken to ensure that important features are not inadvertently omitted from the performance requirements.

If it is impossible to determine the necessary performance characteristics, the material or product may be specified. However, in such a case the following phrase should be included "... or any other material or product proved to be equally suitable.".

Requirements concerning the manufacturing process should usually be omitted in favour of tests to be made on the final product. There are, nevertheless, some fields in which reference to the manufacturing process is needed (e.g. hot rolling, extrusion) or even in which an inspection of the manufacturing process is necessary (e.g. pressure vessels).

However, the choice between specifying by description or by performance needs consideration because specification by performance can lead to complicated, costly and lengthy testing procedures.

### 5.5 Verifiability

Requirements should be objectively verifiable. Only those requirements which can be verified should be included.

*NOTE For a requirement to be objectively verifiable, it has to be physically possible to determine whether or not it has been met by a particular item or system. Requirements that can only be verified by observing the absence of breakdown or catastrophe once an item or system has been put into use do not constitute verifiable requirements.*

Phrases such as "sufficiently strong" or "of adequate strength" should not be used because they are subjective statements.

The stability, reliability or lifetime of a product should not be specified if no test method is known which can verify the claim in a reasonably short time. A guarantee by the manufacturer is not a substitute for such requirements. Guarantee conditions should not be included, because they are a commercial or contractual concept, not technical.

### 5.6 Consistency

Consistency should be maintained within each document, and within a series of associated documents.

- The structure of associated documents and the numbering of their clauses should, as far as possible, be identical.

- Identical wording should be used to express identical provisions or supporting information.
- The same terminology should be used throughout. The use of synonyms should be avoided.

Consistency is particularly important to help the user understand documents or series of associated documents. It is also important when using automated text processing techniques.

### 5.7 Avoidance of duplication and unnecessary deviations

Documents should avoid duplication. This is particularly important in test methods which are often applicable to more than one product, or type of product.

Before standardizing any item or subject, the writer **should** determine whether an applicable standard already exists. If it is necessary to invoke a requirement that appears elsewhere, this should be done by reference, not by repetition – see Clause **10**.

If a test method is, or is likely to be, applicable to two or more types of product, a document **should** be prepared on the method itself, and each document dealing with a given product **should** refer to it (indicating any modifications that could be necessary). This will help to prevent unnecessary deviations.

If, in preparing a document related to a product, it is necessary to standardize some kind of testing equipment that is likely to be used for testing other products also, it **should** be dealt with in a separate document, prepared in consultation with the committee dealing with such equipment.

As far as possible, the requirements for one item or subject **should** be confined to one document.

In some fields it can be desirable to write a document specifying generic requirements applicable to a group of items or subjects.

If it is considered necessary to repeat a requirement from an exterior source, its source **should** be referenced precisely (see **10.1**).

### 5.8 Accommodation of more than one product size

If the aim of a document is standardization of a single size for a product, but there is more than one widely accepted size in **widespread** use, a committee may decide to include alternative product sizes in a document. However, in such cases, every effort **should** be made to reduce the number of alternatives to a minimum, taking the following points into account:

- a) the volume of trade in the sort of product involved **should** serve as a criterion for “widespread use”;
- b) only sizes that are likely to be in **widespread** use in the reasonably foreseeable future (e.g. five years or more) **should** be included in the document.

Whenever alternative solutions are to be adopted, they **should** all be included in the same document and preferences for the different alternatives **should** be provided. The reasons for the preferences **should** be explained in the introduction to the document.

When agreed by the committee, a transitional period may be indicated during which the use of non-preferred values is permitted.

### 5.9 Characteristics not specified in a document

In some cases, a document may list characteristics which can be chosen freely by the supplier. The characteristics chosen **should** be stated, for example on a name-plate, label or accompanying document.



For most kinds of complex item, it is impractical to specify exhaustive performance requirements. Instead, it is preferable to require that the item be supplied with a list of performance data.

This approach is not acceptable in the case of health and safety requirements.

Documents listing characteristics for which suppliers or purchasers are required to state values or other data not specified by the document should specify how such values are to be measured and stated.

### 5.10 Audience

A standard should be written in such a way that its provisions can be undertaken by its intended readers. This is particularly important in a product specification, which is normally aimed at a single party (commonly a manufacturer) who might need to be able to claim compliance with the standard. For example, a specification that is intended for use by the manufacturer of a product cannot specify requirements or give recommendations for actions to be carried out by the purchaser or user of the product, as this would be outside the manufacturer's control.

If it is considered necessary for information to be given to someone who is not expected to be the main user of the standard, this can be done in one of two ways. In a product specification, information and guidance on the use of a product, for example, can be given in an informative annex. Alternatively, an instruction to provide such information should be presented in the form of "information to be supplied to the user", thus bringing it back within the control of the intended user of the standard. This could be done in the form of a requirement, e.g. "the following information shall be supplied with the product", or an advisory statement, e.g. "it can be useful for the following information to be supplied with the product".

In a standard that refers to the interface between two or more different parties, e.g. manufacturer and purchaser, the provisions should be directed at only one party. For example, in a specification where the manufacturer has to obtain details from another party, the text should say "the following information shall be obtained" and not "the following information shall be provided", as the manufacturer is able to comply with the former requirement but not the latter.

In order to facilitate implementation by users, who might include not only manufacturers and purchasers but also certification bodies, testing laboratories and regulatory authorities who might wish to make reference to standards, the aspects of a product which will be of separate interest to the various parties should be clearly distinguished, either in separate clauses of the document or, preferably, in separate documents or parts of a document. Such a distinction should be made, for example, between:

- health and safety requirements;
- performance requirements;
- maintenance and service requirements; and
- installation rules.

In a standard that is intended for use by a number of different parties, e.g. a code of practice aimed at designers, manufacturers, installers, testers and maintainers, it can be useful to divide the standard into clauses and/or sections that are each aimed at a different audience. Further guidance on such standards is given in PD 6612.



## 5.11 Health, safety and environment

If health, safety aspects, the protection of the environment or the economical use of resources are relevant to the product, appropriate requirements should be included.

These requirements might need to have certain characteristics with limiting values (maximum and/or minimum) or closely defined sizes and, in some cases, even constructional stipulations (for example, to achieve non-interchangeability for safety reasons). The levels at which these limits are fixed should be such that the element of risk is reduced as much as practicable.

Documents may, when relevant, specify technical requirements for packaging and conditions of storage and transportation of the product, either to prevent hazards, contamination or pollution arising from inadequate packaging, or to protect the product.

Aspects such as requirements dealing with health and safety (see ISO/IEC Guide 51 and IEC Guide 104) and requirements dealing with the environment (see ISO Guide 64 and IEC Guide 106), which could form part of governmental regulations, or standards made mandatory, should receive priority when preparing a standard. To facilitate the principle of reference to standards in governmental regulations (see ISO/IEC Guide 15) the relevant aspects should be published in a separate standard or a separate part of a standard. When, however, such a separation is impracticable, such aspects should be grouped together in one clause of the standard.

Environmental requirements are usually covered by governmental regulations rather than BSI documents, although there are exceptions particularly in the electrotechnical field.

However, the corresponding test methods should, where appropriate, be standardized. BS EN ISO 14040 and BS EN ISO 14044 provide procedures for the assessment of the environmental aspect of a product or process.

## 6 Organization and subdivision of the subject matter

### 6.1 Names of the main subdivisions

The terms which should be used to designate the divisions and subdivisions of subject matter are given in Table 1. For examples of numbering, see 22.3.2.

**Table 1 – Names of divisions and subdivisions**

Term	Example of numbering
Identifier	BS 9999
Part	BS 9999-1
Clause	1
Subclause	1.1
Subclause	1.1.1
Paragraph	[no number]
Annex	A

### 6.2 Subdivision into documents

Each standard should have a unique identifier. The identifier should be in Arabic numerals, preceded by “BS”; letters should not be used except in the case of an automobile, aerospace or marine series standard, or an auxiliary publication. Details regarding identifiers are given in Annex F.

Documents are so diverse that no universally acceptable rules can be established for the subdivision of the subject matter.

However, as a general principle, an individual document **should** be prepared for each subject to be standardized, and published either as a single standard or a single part of a series.

**EXAMPLE 1** Examples of reasons for the subdivision into parts under the same number are:

- The document is likely to become too long;
- subsequent parts of the content are interlinked;
- portions of the document could be referred to in regulations; and
- portions of the document are intended to serve for certification purposes..

Such subdivision has the advantage that each part can be revised separately as necessary.

In particular, the aspects of a product which will be of separate interest to different parties (e.g. manufacturers, certification bodies, legislative bodies or other users) **should** be clearly distinguished, preferably as parts of a document or as separate documents.

**EXAMPLE** Examples of such individual aspects are:

- health and safety requirements;
- performance requirements;
- maintenance and service requirements;
- installation rules; and
- quality assessment.

### 6.3 Subdivision of the subject matter within a series of parts

There are two main ways of subdividing subject matter within a series of parts.

- a) Each part deals with a specific aspect of the subject and can stand alone.

**EXAMPLE 1**

*Part 1: Vocabulary*  
*Part 2: Requirements*  
*Part 3: Test methods*  
*Part 4: ...*

**EXAMPLE 2**

*Part 1: Vocabulary*  
*Part 2: Harmonics*  
*Part 3: Electrostatic discharge*  
*Part 4: ...*

- b) There are both common and specific aspects to the subject. The common aspects **should** be given in Part 1. Specific aspects (which can modify or supplement the common aspects and therefore cannot stand alone) **should** be given in separate individual parts.

**NOTE** In the individual parts dealing with specific aspects, drafting using cross-references in the form "Clause X of part 1 applies" or "Clause X of part 1 applies except as follows" is not permitted in British Standards.

**EXAMPLE 3**

*Part 1: General requirements*  
*Part 2: Thermal requirements*  
*Part 3: Air purity requirements*  
*Part 4: Acoustical requirements*

**EXAMPLE 4**

*Part 1: General requirements*  
*Part 2: Particular requirements for electric irons*  
*Part 3: Particular requirements for spin extractors*  
*Part 4: Particular requirements for dishwashers*

Where the system described in b) is used, care should be taken that the references from one part to another are valid. There are two ways of achieving this.

- If reference is made to a particular element, the reference should be dated (see 10.5).
- When undated references (see 10.4) are used, the committee responsible should validate the references at the time of review of the document.

Each part of a multipart document should be drafted in accordance with the same rules as those for an individual document.

The number of a part should be in Arabic numerals, normally starting with 1, following the document number and preceded by a hyphen.

**EXAMPLE 5** BS 9999-1, BS 9999-2

Subdivision of parts is permitted in exceptional cases. Such subdivision, as in Example 6, is not to be confused with the now discontinued practice in BSI of issuing standards in separately published sections and subsections.

**EXAMPLE 6**

*Part 1-1: Code of practice for planning, design, construction and maintenance of structures set in the maritime environment – General recommendations*  
*Part 1-2: Code of practice for planning, design, construction and maintenance of structures set in the maritime environment – Actions*  
*Part 1-3: Code of practice for planning, design, construction and maintenance of structures set in the maritime environment – Geotechnics*  
*Part 1-4: Code of practice for planning, design, construction and maintenance of structures set in the maritime environment – Materials*  
*Part 2: Code of practice for the design of quay walls, jetties and dolphins*

If a document is subdivided in a number of separate parts, the first part should include an explanation of the intended structure in its introduction. When developing a series, consider reserving Part 1 for general aspects such as a vocabulary.

In the foreword of each part in the series, a reference should be made to the titles of all other parts that have been or are planned to be published.

The title of a part should be composed in the same way as that of a document as described in 11.4. All the individual titles in a series of parts should contain the same introductory element (if present) and main element, while the complementary element should be different in each case in order to distinguish the parts from one another. The complementary element should be preceded in each case by the designation “Part ...:”.

## 6.4 Subdivision of the subject matter within an individual document

An example of a typical arrangement is given in Table 2.

**Table 2 – Overview of the major subdivisions of a document and their arrangement in the text**

Major subdivision	Mandatory/Optional/Conditional	Permitted content for each element
Title	Mandatory	Title Identifier
Foreword	Mandatory	Text Figures Tables Notes Footnotes
Introduction	Optional/Conditional <sup>A)</sup>	Text Figures Tables Notes Footnotes
Scope	Mandatory	Text Figures Tables Notes Footnotes
Normative references	Mandatory <sup>B)</sup>	References Footnotes
Terms and definitions	Mandatory <sup>B)</sup>	Text Figures Tables Notes/commentary Footnotes
Symbols and abbreviated terms	Conditional	Text Figures Tables Notes/commentary Footnotes
Technical content For example: test methods	Mandatory/Optional/Conditional	Text Figures Tables Notes/commentary Footnotes
Annexes	Optional	Text Figures Tables Notes/commentary Footnotes
Bibliography	Conditional	References Footnotes
Index	Optional	Index Notes Footnotes

<sup>A)</sup> See 13.3.

<sup>B)</sup> When no normative references or terms are listed, use the introductory texts provided in 15.5.1 and 16.5.2.

In most British Standards, the clause (Clause **22**) is the highest level of subdivision. However, in some large or complex documents it is useful to divide the text into sections, in order to be able to group related material under generic headings and to avoid going down to six levels of heading (see **22.3.2**). If sections are used, they should be numbered with Arabic numerals beginning with 1 and preceded in each case by the word “Section”.

This is not to be confused with the now discontinued practice of issuing a standard in separate sections and subsections, and refers only to the division of text within a single document. Sections are now only used as internal subdivisions of the text.

Sections should be numbered independently of clauses, i.e. the clause numbering should continue sequentially throughout the document and should not start again at each new section.

## 7 Verbal forms for expression of provisions

### 7.1 General

The user of the document needs to be able to identify the provisions that they are obliged to satisfy in order to claim compliance with a document. The user also needs to be able to distinguish these provisions from other types of content where there is a choice (i.e. recommendations in a specification, permissions, possibilities and capabilities).

It is essential to follow rules for the use of verbal forms so that a clear distinction can be made between requirements, recommendations, permissions, possibilities and capabilities.

In addition to using the appropriate verbal forms for requirements, recommendations and statements, their use is determined by the type of standard, as given in Annex G.

Auxiliary verbs should be used consistently throughout a standard, in the form appropriate to the nature of the standard, as shown in Table 3.

**Table 3 – Verbal forms**

Verbal form	Implication	Typical context
shall	requirement (see <b>7.2</b> )	normative element of a specification or test method
should	recommendation (see <b>7.3</b> )	normative element of a code of practice or guide informative element of a specification or test method
may	permission (see <b>7.4</b> ) (within the stated limits of a standard, to adopt a particular course of action)	informative element of any standard
can	possibility and capability (see <b>7.5</b> )	informative element of any standard
might	possibility (see <b>7.5</b> )	informative element of any standard
is	description (see <b>7.7</b> )	normative element of a test method informative element of any standard
will	ambiguous (see <b>7.8</b> )	informative element of any standard (avoid where possible)
must	ambiguous (see <b>7.6</b> and <b>7.8</b> )	do not use in any standard

The wording “conform to” should be used in provisions that require a characteristic of a product, material, process, service or system to be in accordance with a standard or its requirements. The wording “comply with” should be used in provisions that relate to the action of a person or an organization in enabling conformity to be achieved. In essence, people comply; things conform.

## 7.2 Requirements

See the definition given in 3.3.3.

The auxiliary verb “shall” is used to indicate requirements that have to be followed strictly in order to claim compliance with the document.

In British Standards the auxiliary verb “shall” is mainly used in specifications, although it may also be used in test methods. It should not be used at all in codes of practice or guides, or in informative text in any standard.

### EXAMPLE 1

Connectors shall conform to the electrical characteristics specified in IEC 60603-7-1.

The imperative mood is frequently used to express requirements in procedures or test methods.

### EXAMPLE 2

Switch on the recorder...

Do not use “must” as an alternative for “shall”. (This will avoid any confusion between the requirements of a document and external constraints – see 7.6.)

Do not use “may not” instead of “shall not” to express a prohibition.

## 7.3 Recommendations

See the definition given in 3.3.4.

The auxiliary verb “should” is used to express recommendations.

In a specification or test method, the auxiliary verb “should” is used only in informative text (i.e. notes, commentary or informative annexes).

In a specification, recommendations may be used to indicate that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required, or that (in the negative form) a certain possibility or course of action is deprecated but not prohibited.

In a code of practice or guide, recommendations constitute the provisions of the standard and they should therefore not be used in informative text.

### EXAMPLE 1 (a note in a specification)

*NOTE Wiring of these connectors should take into account the wire and cable diameter of the cables defined in IEC 61156.*

### EXAMPLE 2 (a provision in a code of practice)

Processes should be determined for maintenance and testing of fire safety systems.

## 7.4 Permission

See the definition given in 3.3.5.

The auxiliary verb “may” is used to indicate a course of action permissible within the stated limits of the document.

The auxiliary verb “may” should be used only in informative text in a specification or test method, but may be used anywhere in a code of practice or guide (although it tends to be used more in informative text).

**EXAMPLE 1**

IEC 60512-26-100 may be used as an alternative to IEC 60512-27-100 for connecting hardware that has been previously qualified to IEC 60603-7-3:2008.

**EXAMPLE 2**

Within an EPB document, if the quantity is not passed to other EPB documents, one or more of the subscripts may be omitted provided that the meaning is clear from the context.

Do not use “possible” or “impossible” in this context.

Do not use “can” instead of “may” in this context.

Do not use “might” instead of “may” in this context. Phrases such as “may require”, “may be applicable”, “may be regarded” are incorrect: the correct wording is “might require”, “might be applicable”, “can be regarded” (see **7.5**).

“May” signifies permission expressed by the document, whereas “can” refers to the ability of a user of the document or to a possibility open to them.

### 7.5 Possibility and capability

See the definition given in **3.3.6** and **3.3.7**.

The auxiliary verbs “can” or “might” are used for statements of possibility and capability, whether material, physical or causal.

The auxiliary verbs “can” and “might” should be used only in informative text in a specification or test method, but may be used anywhere in a code of practice or guide (although they tend to be used more in informative text).

**EXAMPLE 1**

Use of this connector in corrosive atmospheric conditions can lead to failure of the locking mechanism.

**EXAMPLE 2**

These measurements can be used to compare different sprayer setups on the same sprayer.

**EXAMPLE 3**

Only the reverse calculation approach given in **E.3** can be used for calculated energy performance.

**EXAMPLE 4**

The sum over time can be related either to consecutive readings or to readings on different time slots (e.g. peak versus off-peak).

**EXAMPLE 5**

Where it might not be reasonable to expect all contractors to understand the needs of the fire safety strategy or take responsibility for them, it might be necessary to develop procedures to integrate different trades.

Do not use “may” instead of “can” in this context.

“May” signifies permission expressed by the document, whereas “can” refers to the ability of a user of the document or to a possibility open to him/her.

## 7.6 External constraint

See the definition given in 3.3.8.

External constraints are not requirements of the document. They are given for the information of the user.

EXAMPLE 1 (a legal requirement)

European legislation states that opaque eye protection must be worn in these environments.

EXAMPLE 2 (a law of nature)

dairomous

fish that must obligatorily migrate between freshwater and seawater to complete its lifecycle.

Do not use “must” as an alternative for “shall”. (This will avoid any confusion between the requirements of a document and external constraints – see 7.2.)

## 7.7 Present tense

The present tense (“is”) may be used to express normative provisions in the apparatus clause in a test method, but in all other standards it should be used only in informative text.

*NOTE This is not the same as the imperative mood; see 7.2.*

## 7.8 Verbal forms to be avoided

Do not use “must” as an alternative for “shall” or “should” (see 7.2 and 7.6).

The auxiliary verb “will” should be avoided as it can be ambiguous. It should, as a general rule, be replaced by an alternative form of wording that avoids the future tense (standards cannot predict the future) and makes the meaning absolutely clear.

EXAMPLE

The phrase “A will depend on B” might mean either:

- A *does* depend on B – in which case a simple “A depends on B” is sufficient; or
- A *is expected to* depend on B, at some unspecified point in the future – in which case when, and why, and under what circumstances?

## 8 Language, spelling, abbreviated terms, style and basic reference works

### 8.1 Language versions

*Not applicable in the UK.*

### 8.2 Spelling reference works

Other than in the case of “sulfur”, spelling should be in the form given in The Shorter Oxford English Dictionary. Technical terms that do not appear in that dictionary should be in the form given in the Chambers Dictionary of Science and Technology.

In the case of “sulfur” (and its derivatives), the International Union of Pure and Applied Chemistry (IUPAC) spelling should be used.

If the dictionary gives more than one form of spelling, the form that is given first should be used.

### 8.3 Spelling and abbreviation of names of organizations

The names of organizations, and their abbreviations, should be written as used by those organizations.



## 8.4 Abbreviated terms

The use of abbreviated terms should be consistent throughout the document.

If a list of abbreviated terms is not given in the document (see Clause 17), then the first time that an abbreviated term is used, the full term should be given with the abbreviated term following in brackets.

EXAMPLE 1 ...the weighted root mean square (RMS) width of the active output interface optical spectrum....

An abbreviated term should be specified only if used subsequently in the document. Any abbreviated term should be in upper case letters, without a full-stop after each letter.

EXAMPLE 2 “RH” for “relative humidity”.

Occasionally, abbreviated terms in common use are written differently, either for historical or for technical reasons, e.g. “a.c.” for “alternating current”.

Technical specifications regarding marking may impose other requirements (for example, BS EN 61293 specifies marking in the form “AC 230 V”).

When a sentence begins with an abbreviated term, which, within the sentence, would consist of several lower case letters, all the letters of the abbreviated term should be capital letters, for example “A.C.”.

See also Clause 27 regarding unit symbols.

## 8.5 Linguistic style

To help users understand and use the document correctly, the linguistic style should be as simple and concise as possible.

The general wording of a standard should be in terms that are in common use or self-explanatory. Technical terms should be used in the sense defined in an appropriate dictionary (see 8.2) or, if used in a special sense, included in the terms and definitions clause (see Clause 16). Archaic or colloquial terms should not be used. Careful judgement needs to be exercised in the use of terms that might be considered to be neologisms or jargon. Gender-specific language should be avoided.

## 9 Numbers, quantities, units and values

### 9.1 Representation of numbers and numerical values

The decimal sign should be a full-stop, except in Eurocode-related publications in which it should be a comma.

To express values of physical quantities, Arabic numerals followed by the international symbol for the unit should be used (see BS EN ISO 80000, BS EN 80000, BS ISO 80000 and BS EN 60027).

If the magnitude (absolute value) of a number less than 1 is written in decimal form, the decimal sign should be preceded by a zero.

EXAMPLE 1 0.001

Each group of three digits should be separated by a small space from the preceding digits. This also applies to digits following the decimal sign. This does not apply to binary and hexadecimal numbers, numbers designating years or the numbering of standards.

EXAMPLE 2 23 456 2 345 2.345 2.345 6 2.345 67 but the year 2011

The multiplication cross ( $\times$ ) should be used to indicate the multiplication of numbers and numerical values written in decimal form, in vector products and in cartesian products.

EXAMPLE 3  $A = 80 \text{ mm} \times 25 \text{ mm}$

EXAMPLE 4  $l = 2.5 \times 10^3 \text{ m}$

EXAMPLE 5  $\vec{l}_G = \vec{l}_1 \times \vec{l}_2$

The raised point ( $\cdot$ ) should be used to indicate a scalar product of vectors and comparable cases, and may also be used to indicate a product of scalars and in compound units.

EXAMPLE 6  $U = R \cdot I$

EXAMPLE 7  $\text{rad} \cdot \text{m}^2/\text{kg}$

In some cases, the multiplication sign may be omitted.

EXAMPLE 8  $4c - 5d \quad 6ab \quad 7(a + b) \quad 3 \ln 2$

BS EN ISO 80000-2 gives an overview of multiplication symbols for numbers.

In running text, whole numbers from one to ten should be spelled out unless they are quantities accompanied by units. Otherwise numbers should be given in Arabic numerals.

For preference, fractions of a whole number should be shown as decimals. Most exceptions are for historic reasons, where nominal sizes are given by vulgar fractions, e.g. imperial pipe sizes.

Ordinals should not be set superscript, e.g. use “5th” not “5<sup>th</sup>”.

Any value or dimension that is mentioned for information only should be clearly distinguishable from those in provisions of the standard.

## 9.2 Values, dimensions and tolerances

### 9.2.1 General

Values and dimensions should be indicated as being minimum or maximum. Their tolerances (if applicable) should be specified in an unambiguous manner.

EXAMPLE 1  $80 \text{ mm} \times 25 \text{ mm} \times 50 \text{ mm}$  (not  $80 \times 25 \times 50 \text{ mm}$ )

EXAMPLE 2  $80 \mu\text{F} \pm 2 \mu\text{F}$  or  $(80 \pm 2) \mu\text{F}$

EXAMPLE 3  $\lambda = 220 \times (1 \pm 0.02) \text{ W}/(\text{m}\cdot\text{K})$

EXAMPLE 4  $80^{+2}_0$  (not  $80^{+2}_0$ )

EXAMPLE 5  $80 \text{ mm}^{+50}_{-25} \mu\text{m}$

EXAMPLE 6  $10 \text{ kPa}$  to  $12 \text{ kPa}$  (not  $10$  to  $12 \text{ kPa}$  or  $10 - 12 \text{ kPa}$ )

EXAMPLE 7  $0 \text{ }^\circ\text{C}$  to  $10 \text{ }^\circ\text{C}$  (not  $0$  to  $10 \text{ }^\circ\text{C}$  or  $0 - 10 \text{ }^\circ\text{C}$ )

In order to avoid misunderstanding, tolerances on values expressed in percent should be expressed in a mathematically correct form.

EXAMPLE 8 Write “from 63% to 67%” to express a range.

EXAMPLE 9 Write “(65  $\pm$  2)%” to express a centre value with tolerance.

The form “65  $\pm$  2%” should not be used.

The degree should be divided decimally.

EXAMPLE 10 Write  $17.25^\circ$  rather than  $17^\circ 15'$ .

Any value or dimension that is mentioned for information only should be clearly distinguishable from requirements.

Refer to BS 8888 for the correct form of expressing numerical values and tolerances in engineering drawings.

### 9.2.2 Limiting values

For some purposes, it is necessary to specify limiting values (maximum and/or minimum). Usually one limiting value is specified for each characteristic. In the case of several widely used categories or levels, several limiting values are required.

### 9.2.3 Selected values

For some purposes, values or series of values may be selected, particularly for variety control and some interface purposes. They may be selected according to the series of preferred numbers given in ISO 3 (see also ISO 17 and ISO 497), or according to some modular system or other determining factors. For the electrotechnical field, recommended systems of dimensional sizes are given in IEC Guide 103.

Documents that have been established to specify selected values for equipment or components that might be referred to in the provisions of other documents should be regarded as basic standards.

EXAMPLE 1 For electrotechnical work, IEC 60063 specifies series of preferred values for resistors and capacitors.

EXAMPLE 2 For chemical testing, ISO/TC 48 has developed standards for laboratory equipment.

If a series of preferred numbers is used, difficulties can arise if fractions (such as 3.15) are introduced: these can sometimes be inconvenient or require unnecessarily high accuracy. In such cases they should be rounded in accordance with ISO 497.

### 9.3 Quantities, units, symbols and signs

The International System of units (SI) as set out in BS ISO 80000 and BS EN 80000 should be used.

The units in which any values are expressed should be indicated.

The unit symbols for percentage, degree, minute and second for plane angle should immediately follow the numerical value; all other unit symbols should be preceded by a space.

The expression “parts per million”/“ppm” is avoided in European and international standards because it is language-specific. Its use in British Standards is permitted but not encouraged. If the expression is used, it should be spelt out in full the first time it is used in the text. To avoid using the abbreviated term “ppm”, a phrase such as “the mass fraction is 4.2 µg/g” or “the mass fraction is  $4.2 \times 10^{-6}$ ” should be used in preference to “the mass fraction is 4.2 ppm”.

Mathematical signs and symbols should be in accordance with BS EN ISO 80000-2.

There are occasions where it is necessary to use a non-SI unit, e.g. when referring to equipment that is calibrated in bar or to tubing sized in inches. In these cases the non-SI unit may be used, but the SI equivalent should be given in a footnote with the conversion factor.

In a compound unit, the individual unit symbols should be separated from each other by a raised point to indicate multiplication, e.g. “10 N·m”. To indicate division, either the individual unit symbols can be separated by a solidus “/” or the latter unit symbol can be raised to the appropriate negative power with the symbols separated by a raised point.

EXAMPLE 1 m·s m/s m·s<sup>-1</sup>

The following table gives some of the more common abbreviations for units of measurement that are likely to be used in British Standards.

Unit	Quantity	Unit	Quantity
A (ampere, amp)	electric current	m (metre)	length
Bq (becquerel)	radioactivity	min (minute)	time
C (coulomb)	electric charge	mol (mole)	amount of substance
°C (degrees Celsius)	temperature	month	time
cd (candela)	luminous intensity	N (newton)	force
eV (electron volt)	electric potential	Ω (ohm)	electrical resistance
F (farad)	capacitance	Pa (pascal)	pressure
g (gram)	mass	rad (radian)	plane angle
h (hour)	time	s (second)	time
H (henry)	inductance	S (siemens)	electrical conductance
Hz (hertz)	frequency	Sv (sievert)	dose equivalent
J (joule)	joule	T (Tesla)	magnetic flux
K (kelvin)	temperature	V (volt)	electric potential
l (litre)	volume	W (watt)	power
lm (lumen)	luminous flux	year	time
lx (lux)	illuminance		

Quantities larger than 1 000 and smaller than 0.000 1 may be expressed by either using a factor multiplier to the nearest thousand or by using a multiplier prefix for the unit symbol.

EXAMPLE 2  $3.0 \times 10^8$  m/s 0.3 Gm·s<sup>-1</sup>

The following table gives common prefixes for units used in British Standards.

Symbol	Factor	Name
P	10 <sup>15</sup>	peta
T	10 <sup>12</sup>	tera
G	10 <sup>9</sup>	giga
M	10 <sup>6</sup>	mega
k	10 <sup>3</sup>	kilo
h	10 <sup>2</sup>	hecto
da	10	deca
D	10 <sup>-1</sup>	deci
c	10 <sup>-2</sup>	centi
m	10 <sup>-3</sup>	milli
μ	10 <sup>-6</sup>	micro
n	10 <sup>-9</sup>	nano
p	10 <sup>-12</sup>	pico
f	10 <sup>-15</sup>	femto

When the resultant value to be calculated from an equation is expressed in terms of a unit of measurement or a percentage, this should be explained in the sentence that introduces the equation, to avoid the risk of confusing the unit symbol with the content of the equation.

#### EXAMPLE 3

Correct: The value of  $F$  in newtons (N) is calculated from the equation:  $F = ma$   
 The value of  $d$  as a percentage (%) is calculated from the equation:  $d = (a/b) \times 100$

Incorrect: The value of  $F$  is calculated from the equation:  $F = maN$   
 The value of  $d$  is calculated from the equation:  $d = (a/b) \times 100\%$

Use Annex B as a checklist of the quantities and units which should be used.

## 10 Referencing

### 10.1 Purpose or rationale

Standards are interrelated and form a system whose integrity has to be preserved.

As a general rule, references to particular pieces of text should be used instead of repetition of the original source material. Repetition introduces the risk of error or inconsistency and increases the length of the document. However, if it is considered necessary to repeat such material, its source should be identified precisely. If the material to be repeated originates in a publication that is outside the jurisdiction of BSI, the necessary permission for its inclusion should be obtained and the material should be reproduced in full with appropriate copyright acknowledgement.

References can be made:

- to other parts of the document (e.g. a clause, table or figure – see 10.6); or
- to other documents or publications (see 10.2).

References can be:

- informative (see Clause 21); or
- normative (see Clause 15).

References can be:

- dated (see 10.5); or
- undated (see 10.4).

#### EXAMPLE 1

It is often useful to copy relevant terminological entries into the terms and definitions clause in which case the source is cited:

##### 3.1

asset

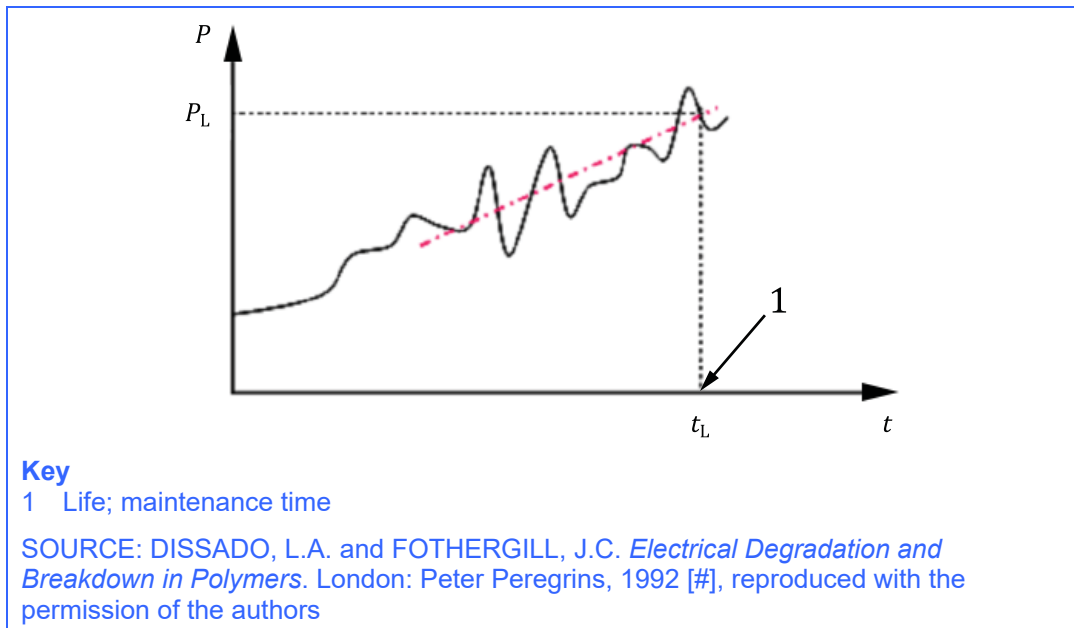
item, thing or entity that has potential or actual value to an organization

[SOURCE: ISO 55500:2014, 3.2.1]

## EXAMPLE 2

Material copied from an external document:

**Figure A.6 – Property versus time behaviour, detection of threshold (end point,  $P_L$ ) and maintenance time**



For management system standards, the rules of ISO/IEC Directives, Part 1, Consolidated ISO Supplement apply.

## 10.2 Permitted reference documents

In principle, normatively referenced documents should be documents published by BSI, CEN, CENELEC, ISO and/or IEC. In the absence of appropriate BSI, CEN, CENELEC, ISO and/or IEC documents, those published by other bodies may be referred to in a normative manner provided that:

- the referenced document is recognized by the committee as having wide acceptance and authoritative status and not of an unstable or ephemeral nature;
- the committee has the agreement of the authors or publishers (where known) of the referenced document for its inclusion as a reference;
- the authors or publishers (where known) have also agreed to inform the committee of their intention to revise the referenced document and what points the revision will affect;
- the document is available under commercial terms which are fair, reasonable and non-discriminatory; and
- the referenced document is self-contained for the purposes of the reference, i.e. does not depend upon further reference to a non-standards publication.

Informative reference may be made to any other type of document that is publicly available, (i.e. not private documents that are only available within the publishing organization). Informative references should be listed in the bibliography.

The committees should validate all referenced documents when a document is revised.

The normative references list should not include the following:

- referenced documents which are not publicly available (in this context, “publicly available” means published documents which are available free of charge, or available commercially under reasonable and non-discriminatory terms to any user);
- referenced documents which are cited only informatively as bibliographic or background material;
- documents that have not been published, e.g. Drafts for Public Comment, prENs (draft European standards) or draft international standards;

*NOTE* Draft standards are not referred to normatively as they might change before publication. It is permissible to give an informative reference to a draft standard, using wording such as “Requirements for the widget are given in prEN 1234” and placing the reference in a note.

- withdrawn standards.

Withdrawn standards should not be referred to normatively. It is inadvisable to refer to withdrawn standards informatively, but this is permissible if, for example, it is necessary to explain the origin of a particular provision of the standard. In this case, the entry in the bibliography should read “BS 1234 (withdrawn)”.

It is inadvisable to refer to obsolescent standards even if they are still current (obsolescent standards were phased out with the publication of BS 0:2011).

Where a British Standard exists (including a BS implementation of an international standard) it should be referred to in preference to a pure ISO/IEC standard.

### 10.3 Presentation of references

Documents should be referred to by their number, and if applicable, date of publication and title.

#### EXAMPLE 1

ISO/TR 12353-3:2013, *Road vehicles – Traffic accident analysis – Part 3: Guidelines for the interpretation of recorded crash pulse data to determine impact severity*

ISO 14044:2006, *Environmental management – Life cycle assessment – Requirements and guidelines*

ISO 17101-2:2012, *Agricultural machinery – Thrown-object test and acceptance criteria – Part 2: Flail mowers*

ISO 14617 (all parts), *Graphical symbols for diagrams*

ISO/IEC 17025:2005, *General requirements for the competence of testing and calibration laboratories*

IEC 61175, *Industrial systems, installations and equipment and industrial products– Designation of signals*

For other referenced documents and information resources (printed, electronic or otherwise), the relevant rules set out in BS ISO 690 should be followed.

#### EXAMPLE 2

Printed book or monograph:

STONE, K., MURRAY, A., COOKE, S., FORAN, J., and GOODERHAM, L. *Unexploded ordnance (UXO): A guide for the construction industry*. C681. London: CIRIA, July 2009.

Legislation:

GREAT BRITAIN. Equality Act 2010. London: The Stationery Office.

## Electronic book or monograph:

INTERNET ENGINEERING TASK FORCE (IETF). RFC 3979: *Intellectual Property Rights in IETF Technology* [online]. Edited by S. Bradner. March 2005<sup>2)</sup>

<sup>2)</sup> Available at [www.ietf.org/rfc/rfc3979.txt](http://www.ietf.org/rfc/rfc3979.txt) (last viewed 21 December 2015).

## Contribution to printed serial publication:

AMAJOR, L.C. The Cenomanian hiatus in the Southern Benue Trough, Nigeria. *In: Geological Magazine*. 1985, **122**(1), 39-50. ISSN 0016-7568

## Contribution to online serial publication:

STRINGER, John A., et al. Reduction of RF-induced sample heating with a scroll coil resonator structure for solid-state NMR probes. *Journal of Magnetic Resonance* [online]. Elsevier. March 2005, **173**(1), 40-48.<sup>3)</sup>

<sup>2)</sup> Available at doi:10.1016/j.jmr.2004.11.015 (last viewed 21 December 2015).

For online referenced documents, information sufficient to identify and locate the source should be provided. Preferably, the primary source of the referenced document should be cited, in order to ensure traceability.

The information should include the method of access to the referenced document and the full network address, with the same punctuation and use of upper case and lower case letters as given in the source (see BS ISO 690). The date when the address or information was last viewed should also be included, in the form XX Month 20XX (see Example 3).

Furthermore, the referenced document should be expected to remain valid for the expected life of the referring document.

## EXAMPLE 3

ISO/IEC Directives, IEC Supplement. International Electrotechnical Commission. Available at [http://www.iec.ch/members\\_experts/refdocs/](http://www.iec.ch/members_experts/refdocs/)

Statutes and directives. International Electrotechnical Commission, ©2004-2010. Available at [http://www.iec.ch/members\\_experts/refdocs/](http://www.iec.ch/members_experts/refdocs/) (last viewed 9 February 2011).

ISO 7000/IEC 60417 [online database], Graphical symbols for use on equipment. Available at <http://www.graphical-symbols.info/> (last viewed 18 April 2016).

When writing a URL, avoid using underlining, which makes underscores (“\_”) difficult to distinguish.

## EXAMPLE 4

Correct: Available at [http://www.iec.ch/members\\_experts/refdocs/](http://www.iec.ch/members_experts/refdocs/)

Incorrect: Available at [http://www.iec.ch/members\\_experts/refdocs/](http://www.iec.ch/members_experts/refdocs/)

A non-standards publication should be cited in the text by its identifier, if there is one, or by its title.

It can be useful to identify the publisher within the citation, particularly if there is only a corporate author and no identifier, e.g. “refer to Concrete Society publication TR 34” or “refer to Cold Storage and Distribution Federation publication *Guide to the management and control of the fire risks in temperature controlled structures of the refrigerated food industry*”.

For normative references, the citation should be followed by the letter N and an Arabic numeral in square brackets, e.g. “[N9]”, allocated in the order in which the documents are first cited. This is then the order in which the documents are listed in the “Other publications” section of the normative references clause (see **15.4**).



For informative references the citation should be followed by an Arabic numeral in square brackets, e.g. “[12]”, allocated in the order in which the documents are first cited. This is then the order in which the documents are listed in the “Other publications” section of the Bibliography (see **21.4**).

The numbering of informative references should be independent of the numbering for normative references. If a non-standards publication is cited both normatively and informatively, the normative reference identifier, e.g. “[N9]”, should be used for all instances of the reference.

Ranges should be shown in the form “[12], [13]” or “[N1] to [N5]”.

In the case of old dual-numbered standards, where an EN or an ISO was given a different BS number, as a general rule only the primary identifier should be given (i.e. BS EN or BS ISO). If the secondary identifier is required, it should follow the primary identifier in parentheses, e.g. “BS EN 6789 (BS 1234-1)”, “BS EN 4875 (BS 1234-2)”.

If a reference is made to a draft standard (e.g. a DPC or prEN), both the reference in the text and the reference in the bibliography should include a footnote indicating that the referenced document is in preparation. Such references should be informative (see **10.2**).

#### 10.4 Undated references

Undated references may be made:

- only to a complete document;
- if it will be possible to use all future changes of the referenced document for the purposes of the referring document;
- when it is understood that the reference will include all amendments to and revisions of the referenced document.

The date of publication (see **10.5**) should not be given for undated references. When an undated reference is to all parts of a document, the standard identifier should be followed by “(all parts)”.

In the normative references clause or bibliography, use the following forms to list undated references.

##### EXAMPLE 1

IEC 60335 (all parts), *Household and similar electrical appliances – Safety* – Reference to all parts

IEC 60335-1, *Household and similar electrical appliances – Safety – Part 1: General requirements* – Reference to a single part

In the text, use the following forms to make undated references to a document.

##### EXAMPLE 2

“... use the methods specified in ISO 128-20 and ISO 80000-1 ...”;

“... IEC 60417 shall be used...”.

#### 10.5 Dated references

Dated references are references to a specific edition, indicated by the date of publication.

For dated references, each should be given with its year of publication.

The date of publication should be indicated by the year or, for documents for which more than one edition of the document or an element within the document will be published in the same calendar year, the year of publication and the month (and where necessary the day).

If the referenced document is amended or revised, the dated references to it will need to be reviewed to assess whether they should be updated or not.

In this context a part is regarded as a separate document.

If the standard has been amended, the number of the latest amendment should be included in the reference when cited in the text, e.g. “BS 6380:2012+A1”, and the number and date of the latest amendment should be included in the normative references clause or bibliography, e.g. “BS 6380:2012+A1:2016”. In this case, any subsequent amendments to or revisions of the cited standard will not apply unless the reference is changed.

If any single reference to a particular standard is dated, then every reference to that standard should be dated throughout the document, and only the dated version should be listed as a normative reference.

Within the text, references to specific clauses or subclauses, tables and figures of a referenced document should always be dated, because subsequent editions could result in the renumbering of such elements within the referenced document.

In the normative references clause or bibliography, use the following forms to list dated references.

#### EXAMPLE 1

BS 6380:2012, <i>Guide to low temperature properties and cold weather use of diesel fuels and gas oils</i>	Dated reference to a standard
BS 6380:2012+A1:2016, <i>Guide to low temperature properties and cold weather use of diesel fuels and gas oils</i>	Dated reference to an amendment

In the text, use the standard identifier rather than the title when referring to a BS, EN, ISO or IEC publication. The titles are usually only written out in full in the normative references clause and in the bibliography.

In the text, use the following forms to make dated references to a document.

#### EXAMPLE 2

... perform the tests given in IEC 60068-1:1988 ...	Dated reference to a published document
... as specified in IEC 64321-4:1996, Table 1, ...	Dated reference to a specific table in another published document
... use symbol IEC 60417-5017:2002-10...	Dated reference to an entry within a database standard
... in accordance with BS 6380:2012+A1	Dated reference to an amendment

#### EXAMPLE 3 (dated versus undated references)

The test methods of IEC 61300-2-2 shall be used.	This is a reference to a complete document and it is therefore undated
The dimensions shall be in accordance with IEC 60793-2-50:2012, Table B.1.	This is a reference to a specific element in the referenced document and it is therefore dated

## 10.6 References in a document to itself

References should not be made to page numbers, since pagination can change if the referenced document is published in different formats, or if the document is revised.

For a document published in separate parts, the standard identifier followed by the phrase “(all parts)” should be used to refer to the entire series.

### EXAMPLE

The formulae in ISO 10300 (all parts) are intended to establish uniformly acceptable methods for calculating the pitting resistance and bending strength of...

Such references are understood to include all amendments and revisions to the referenced document.

For an individual standard, the form “this British Standard” should be used, except in the introductory texts for the “Normative references” (see **15.5.1**) and the “Terms and definitions” (see **16.5.2**) clauses.

## 10.7 References to legislation

Principles for referencing legislation are given in BS 0:2016, **9.2**.

If references are given to specific acts or regulations, care should be taken to ensure that all national variations are included. For example, there are (at the time of publication) three sets of Building Regulations in force within the UK, and those for Northern Ireland and for Scotland do not necessarily align with those for England and Wales; so unless it would introduce a technical inaccuracy, references within British Standards should be to all three sets of regulations. It is not necessary to spell out all the variations each time they appear in the text; a reference range can be used instead, e.g. “[1] to [3]”, with the full details given in the bibliography.

### EXAMPLE

*NOTE Attention is drawn to the Building Regulations 2010 [1], the Building (Scotland) Regulations 2004 [4] and the Building Regulations (Northern Ireland) 2012 [5], in respect of the penetration of compartment walls and compartment floors by services in shafts.*

All acts and regulations referenced in the text should be included in the Bibliography (see **21.5**), with each national variation listed as a separate entry.

## Section 2: Subdivision of the document

### 11 Title

#### 11.1 Purpose or rationale

The title is a clear, concise description of the subject matter covered by the document. It is drafted so as to distinguish the subject matter from that of other documents, without going into unnecessary detail. Any necessary additional details are given in the scope.

#### 11.2 Normative or informative?

The title is a normative element.

#### 11.3 Mandatory, conditional or optional?

The title is a mandatory element.

#### 11.4 Numbering and subdivision

The wording of the title should be established with the greatest care; while being as concise as possible, it should indicate, without ambiguity, the subject matter of the document in such a way as to distinguish it from that of other documents, without going into unnecessary detail. Any necessary additional particulars should be given in the scope.

The title should be composed of separate elements, each as short as possible, proceeding from the general to the particular. Not more than the following three elements should be used:

- a) an *introductory element* (conditional) indicating the general field to which the document belongs (this can often be based on the title of the committee which prepared the document);
- b) a *main element* (mandatory) indicating the principal subject treated within that general field;
- c) a *complementary element* (conditional) indicating the particular aspect of the principal subject or giving details that distinguish the document from other documents, or other parts of the same document.

The main element should always be included.

The introductory element is necessary to indicate the field of application.

#### EXAMPLE 1

Correct: *Raw optical glass – Grindability with diamond pellets – Test method and classification*

Incorrect: *Grindability with diamond pellets – Test method and classification*

The title of a part should be composed in the same way. All the individual titles in a series of parts should contain the same introductory element (if present) and main element, while the complementary element should be different in each case in order to distinguish the parts from one another. The complementary element should be preceded in each case by the designation “Part ...”.

#### EXAMPLE 2

IEC 60947-1 *Low voltage switchgear and controlgear – Part 1: General rules*

IEC 60947-2 *Low voltage switchgear and controlgear – Part 2: Circuit breakers*

When a document is divided into subparts, the parts within each subseries **should** have the same subseries title.

#### EXAMPLE 3

IEC 61300-1	<i>Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 1: General and guidance</i>
IEC 61300-2-1	<i>Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-1: Tests – Vibration (sinusoidal)</i>
IEC 61300-2-2	<i>Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-2: Tests – Mating durability</i>
IEC 61300-3-1	<i>Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-1: Examinations and measurements – Visual examination</i>
IEC 61300-3-2	<i>Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-2: Examinations and measurements – Polarization dependent loss in a single-mode fibre optic device</i>

## 11.5 Specific principles and rules

### 11.5.1 Avoidance of unintentional limitation of the scope

The title **should** not contain details that could imply an unintentional limitation of the scope of the document.

### 11.5.2 Wording

The terminology used in the titles of documents **should** be consistent.

For documents dealing with terminology, use the expression “Vocabulary”.

For documents dealing with test methods, use the form:

“Test method” or “Determination of ...”

instead of expressions such as:

“Method of testing”, “Method for the determination of ...”, “Test code for the measurement of ...” and “Test on ...”.

The type or nature of the document as a standard **should not** be indicated in the title (i.e. it is not necessary to include “British Standard” within the title).

#### EXAMPLE

Correct:	<i>Fire safety in the design, use and management of buildings – Code of practice</i>
Incorrect:	<i>British Standard for fire safety in the design, use and management of buildings</i>

## 12 Foreword

### 12.1 Purpose or rationale

The foreword provides information on:

- the organization responsible for publishing the document;
- the committee which developed the document;
- the procedures and rules under which the document was developed;
- legal disclaimers;
- relationships between the present document and other documents.

National Annexes to Eurocodes **should not** contain a foreword (see **G.6.1**).

## 12.2 Normative or informative?

The foreword is an informative element. It should not contain requirements, permissions or recommendations.

## 12.3 Mandatory, conditional or optional?

The foreword is a mandatory element.

## 12.4 Numbering and subdivision

The foreword should not be numbered. It should be subdivided as described in 12.5. It should appear immediately after the contents list.

## 12.5 Specific principles and rules

The foreword should provide as many of the following as are appropriate, using subheadings as shown to help the reader to locate information.

- *Publishing information.*

This should be included in every foreword, and should give:

- a publication and licensing statement;
- the designation and name of the committee that developed the document (panels are not referred to in the Foreword);
- the effective date, where appropriate;
- a statement that the initial drafting was produced in association with BEIS, where appropriate;
- acknowledgement of an exceptional personal contribution, where appropriate;
- an indication of any other organization that has contributed to the preparation of the document.

- *Supersession.*

This should be included in the foreword of every revision, new edition and amendment, and should give a statement that the document supersedes other documents in whole or in part, with details of those other documents.

- *Relationship with other publications.*

This should be included only when needed, and should give:

- the relationship of the document to other documents; if a standard is published in parts, this is the appropriate place to list the other parts;
- reference to relevant European and/or international work.

- *Information about this document.*

This should be included in the foreword of every revision, new edition and amendment, and in new standards where appropriate. It should give a statement of significant technical changes from any previous edition of the document and as many of the following as are appropriate:

- a description of the way in which amendments are indicated in the text, with specific details where appropriate;
- information relating to the structure of the standard (e.g. in a code of practice, an explanation as to which clauses are aimed at which audience);
- any problems in preparation (e.g. matters omitted because agreement could not be reached);

- acknowledgement of copyright material;
  - note of commendation from a government department or agency (e.g. Health and Safety Executive);
  - information regarding independent conformity attestation or assessment, or use of an accredited laboratory;
  - background information about the standard, if an introduction is not included.
- *Hazard warnings.*

This should be included only when needed, and should give any necessary warnings and cautions.

- *Use of this document.*

This should be included in the foreword of all codes of practice, and in other standards where appropriate. It should give:

- in a code of practice, reference to the need to avoid confusion with a specification;
- a statement to the effect that the document is designed for use by appropriately qualified and competent people, where appropriate;
- permission to reproduce a figure or table, where appropriate.

- *Presentational conventions.*

With the exception of vocabularies, this should be included in every foreword, and should give the linguistic and typographic conventions used in the standard.

- *Contractual and legal considerations.*

This should be included in every foreword, and should give the prescribed wording relating to contractual and legal issues.

*NOTE* If references to specific items of legislation are essential (see **10.7** and **BS 0:2016, 9.2**), it is permissible to list them after the standard wording, preceded by: "In particular, attention is drawn to the following statutory regulations."

## 13 Introduction

### 13.1 Purpose or rationale

The introduction provides specific information or commentary of the document, and about the reasons prompting its preparation.

### 13.2 Normative or informative?

The introduction is an informative element. It should not contain requirements or recommendations.

### 13.3 Mandatory, conditional or optional?

The introduction is an optional element. It is only mandatory if a specific patent right has been identified during the development of the document.

### 13.4 Numbering and subdivision

The introduction should not be numbered unless there is a need to create numbered subdivisions. In this case, it should be numbered 0, with subclauses being numbered 0.1, 0.2, etc. Any figure, table, displayed formula or footnote should be numbered starting with 1.

If an introduction is included, it should appear immediately after the foreword.

### 13.5 Specific principles and rules

Whenever alternative solutions are offered in a document and preferences for the different alternatives provided, the reasons for the preferences **should** be explained in the introduction.

Where patent rights have been identified in a document, the introduction **should** include an appropriate notice. See Clause **30**.

## 14 Scope

### 14.1 Purpose or rationale

The scope clearly defines the subject of the document and the aspects covered, thereby indicating the limits of applicability of the document or particular parts of it.

If necessary, the scope should indicate subjects that might be reasonably inferred to be covered but actually excluded from the document.

EXAMPLE This <b>British Standard</b> excludes ....
--

In documents that are subdivided into parts, the scope of each part **should** define the subject of that part of the document only.

The scope **should** be succinct so that it can be used as a summary for bibliographic purposes, for example, as an abstract. If further details and background information are necessary, these **should** be included in either the introduction or in an annex.

The scope should include an indication of the audience for whom the document is written if this is not clearly implicit. This can be particularly important in a code of practice.

### 14.2 Normative or informative?

The scope is a normative element. It **should not** contain requirements, permissions or recommendations.

### 14.3 Mandatory, conditional or optional?

The scope is a mandatory element.

### 14.4 Numbering and subdivision

The scope may be subdivided; however, this is not normally necessary as it is meant to be succinct.

### 14.5 Specific principles and rules

The scope **should** only appear once in each document and **should** be worded as a series of statements of fact.



Forms of expression such as the following should be used:

#### EXAMPLES

This British Standard (This part of BS ...)

specifies	requirements for ... the dimensions of ... a method of... the characteristics of ...
establishes	a system for ... general principles for ...
describes	the way in which ...
gives	recommendations for ... guidelines for ... guidance on ...
defines	terms for ...

Statements of applicability of the document should be introduced by wording such as:

- “This document is applicable to ...”
- “This document does not apply to...”

## 15 Normative references

### 15.1 Purpose or rationale

The normative references clause lists, for information, those documents which are cited normatively in the document.

Information on how these references apply is found in the place where they are cited in the document, and not in the normative references clause.

### 15.2 Normative or informative?

The normative references clause is an informative element.

The list of references it contains is given for the convenience of the user, who can then consult the place where they are cited in the document to understand and assess how they apply.

### 15.3 Mandatory, conditional or optional?

The normative references clause is a mandatory element, even if it contains no normative references.

### 15.4 Numbering and subdivision

Referenced standards listed are not numbered but should be presented in alphanumerical order.

If non-standards documents are listed they are numbered. Each reference should be preceded by the letter N and an Arabic numeral in square brackets, e.g. “[N9]”, corresponding to the reference given in the text (see **10.3**).

If there are both standards and non-standards publications listed as normative references, the standards publications should be given first, under an unnumbered heading of “Standards publications”. References to non-standards publications should then appear under an unnumbered heading of “Other publications”, in the order in which they are first cited.

## 15.5 Specific principles and rules

### 15.5.1 Introductory wording

The normative references **should** be introduced by the following wording:

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions 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.

The above wording is also applicable to a part of a multipart document.

If there are no normative references in the document, include the following phrase below the clause title:

There are no normative references in this document.

### 15.5.2 Referencing

Only references cited normatively in the text **should** be listed in the normative references clause.

#### EXAMPLE 1 (specification)

In the following case, the citation is normative and the document **should** be listed in the normative references clause:

*Connectors shall conform to the electrical characteristics specified by IEC 60603-7-1.*

In the following case, the citation is not normative but informative. The document cited **should** be listed not in the normative references clause but in the bibliography:

*Wiring of these connectors should take into account the wire and cable diameter of the cables defined in IEC 61156.*

#### EXAMPLE 2 (test method)

In the following case, the citation is normative and the document should be listed in the normative references clause:

*Use the method described in BS 1924.*

#### EXAMPLE 3 (code of practice)

In the following case, the citation is normative and the document should be listed in the normative references clause:

*Sprinkler systems should be designed and installed in accordance with BS EN 12845.*

In the following case, the citation is not normative but informative. The document cited should be listed not in the normative references clause but in the bibliography:

*Guidelines for auditing management systems are given in BS EN ISO 19011.*

#### EXAMPLE 4 (any standard)

In the following case, the citation is normative and the document should be listed in the normative references clause:

*For the purposes of this British Standard, the terms and definitions given in BS 6349-1-1 apply.*

Table 3 provides the verbal forms and expressions that make a citation normative.

When citing other documents, avoid using potentially ambiguous expressions, such as “see...” (which is usually employed in informative contexts). When such an expression is used, it can be unclear whether it is a requirement or a recommendation.

**EXAMPLE 5**

In the following case, the reference is informative.

*For additional information on communication, see ISO 14063.*

The types of document which may be referenced are given in **10.2**.

References listed may be dated or undated. See **10.4** and **10.5**.

## 16 Terms and definitions

### 16.1 Purpose or rationale

The terms and definitions clause provides definitions necessary for the understanding of certain terms used in the document.

If necessary, terminological entries can be supplemented by information given in notes.

**EXAMPLE**

**3.6 door**

building component for closing an opening in a wall that allows access and might or might not admit light when closed

*NOTE The word “door” is used as a generic term for door leaves and door assemblies.*

Terminology may take the form of an independent terminology standard (a vocabulary or nomenclature) or be included in a “Terms and definitions” clause in a document that also deals with other aspects. Terminology may also be included in databases.

### 16.2 Normative or informative?

The terms and definitions clause is a normative element. It defines the way in which the listed terms should be interpreted.

### 16.3 Mandatory, conditional or optional?

The terms and definitions clause is a mandatory element, even if it contains no terminological entries.

### 16.4 Numbering and subdivision

Terminological entries should be numbered.

*NOTE These numbers are not considered as subclause numbers.*

**EXAMPLE 1**

**3 Terms and definitions**

For the purposes of this document, the following terms and definitions apply.

**3.1 competent person**

person, suitably trained and qualified by knowledge and practical experience, and provided with the necessary instructions, to enable the required task(s) to be carried out correctly

[SOURCE: ISO 14031:1999, **2.10.1**]

Subdivision of the terms and definitions clause is permitted.

#### EXAMPLE 2

### 3 Terms and definitions

[...]

#### 3.2 Surface properties

##### 3.2.1 abrasion

loss of material from a surface due to frictional forces

[...]

#### 3.5 Optical properties

[...]

##### 3.5.8 colour retention

degree of permanence of a colour

*NOTE Colour retention can be influenced by weathering.*

For convenience, the symbols and abbreviated terms may be combined with the terms and definitions in order to bring together terms and their definitions, symbols and abbreviated terms under an appropriate composite title, for example “Terms, definitions, symbols and abbreviated terms”.

Terms may be listed in any logical order. It is often advisable to list them in alphabetical order, for ease of use, but it is sometimes clearer to arrange them by subject, and/or to group them under subheadings.

The grouping of terms should be evident from their numbering. Within a document, the entry number should be unique and should be in accordance with the rules for numbering of subdivisions (see 6.4). In terminology standards, alphabetical indexes of the terms should also be given.

## 16.5 Specific principles and rules

### 16.5.1 Rules for the development of terminological entries

Terminological entries should be drafted in accordance with BS ISO 10241-1.

Subclause 16.5 contains only a summary of some of these rules. General principles and methods for terminology work are specified in BS ISO 704.

Before a term and a definition are established for a concept, it is advisable to check whether other terms and definitions for that concept exist in another document.

### 16.5.2 Introductory wording

If all the specific terms and definitions are provided in Clause 3, use the following introductory text:

For the purposes of this British Standard (part of BS ...), the following terms and definitions apply.

If reference is given to an external document, use the following introductory text:

For the purposes of this British Standard (part of BS ...), the terms and definitions given in [external document reference xxx] apply.

If terms and definitions are provided in Clause 3, in addition to a reference to an external document, use the following introductory text:

For the purposes of this British Standard (part of BS ...), the terms and definitions given in [external document reference xxx] and the following apply.

If there are no terms and definitions provided, use the following introductory text:

No terms and definitions are listed in this document.

*NOTE* The introductory text is not a hanging paragraph (see 22.3), as the terms and definitions clause consists of a list of terminological entries and not subclauses.

### 16.5.3 Referencing

Only terms which are used within the document should be listed in the terms and definitions clause. This rule does not apply to terminology standards, whose terms are intended for wider use.

### 16.5.4 Terms

Common terms which a qualified user of the document will already know should not be defined.

As a general rule, terms that are used in their standard dictionary meaning should not be defined. Where it is considered necessary to do so, established definitions (e.g. from the Shorter Oxford English Dictionary [2] or from a published British, European or international vocabulary or other standard) should be used.

Types of term:

- **Preferred terms** are the primary terms for a given concept. The preferred term is the form which is used throughout the main body of the text. They are written in bold type (with the exception of symbols, which should be presented as used in running text).
- **Admitted terms** are accepted synonyms for the preferred term. They are written in regular type.
- **Deprecated terms** are synonyms of the preferred term which are no longer in use or whose use is discouraged. They are written in regular type.

There can be more than one term of each type. An abbreviation or a symbol can constitute a term.

#### EXAMPLE 1

Preferred term:	<b>3.1 chart datum</b>
Admitted term:	chart sounding datum reference level for soundings in navigation charts
Preferred term:	<b>3.2 adhesive</b>
Deprecated term	DEPRECATED: glue substance capable of holding materials together by adhesion

In most British Standards, only the preferred term should be used (and does not need to be labelled as such), and any admitted or deprecated terms should be referred to in a note to the entry (see 16.5.8). The differentiation between types of term is applicable in terminology standards.

Terms should be written in lower case characters. Upper case characters, mathematical symbols, typographical signs and syntactic signs (e.g. punctuation marks, hyphens, parentheses, square brackets and other connectors or delimiters) as well as their character styles (i.e. fonts and bold, italic, bold italic, or other style conventions) should be used in a term only if they constitute part of the normal written form of the term.

## EXAMPLE 2

Correct use of parentheses:

**bis(dimethylthiocarbamyl) disulfide**      The parentheses are part of the term (which is a chemical name).

Incorrect use of parentheses:

**integrity** (of system)      The words in parentheses are not part of the term.

## EXAMPLE 3

Incorrect expressions of equivalent terms:

**live working (work)**      It is incorrect to indicate a synonymous term using parentheses.

**live working**  
**live work**      The preferred term and any synonyms are written on separate lines.

Correct expression of equivalent terms:

**live working**      The preferred term is given as the defined term and the  
*NOTE This is also known as live work.*      synonym is given in a note.

## EXAMPLE 4

Correct use of capitalization:

**Reynolds number**      “Reynolds” is a proper noun and is capitalized.

Incorrect use of capitalization:

**Planned outage**      “Planned” is not a proper noun and does not need to be capitalized.

When a term has been defined, its written form throughout the text should be identical to that in the terminological entry, and it should be used consistently with the meaning given in the entry.

### 16.5.5 Definitions

The definition should be written in such a form that it can replace the term in context. It should not start with an article (“the”, “a”) nor end with a full-stop.

The definition should be placed on a new line, starting with a lower case letter, except for any capital letters required by the normal written form in running text.

Only one definition per terminological entry is allowed. If a term is used to define more than one concept, a separate terminological entry should be created for each concept and the domain should be included in angle brackets before the definition.

## EXAMPLE 1

#### 2.1.17 die

<extrusion> metal block with a shaped orifice through which plastic material is extruded

#### 2.1.18 die

<moulding> assembly of parts enclosing the cavity from which the moulding takes its form

Circular definitions which repeat the term being defined are not allowed.

Terms should in general be presented in their basic grammatical form, i.e. nouns in the singular, verbs in the infinitive.

Where it is considered useful, grammatical information may be indicated as follows:

- for number: sg (for singular) and pl (for plural);
- for part of speech: noun, verb, adj (for adjective) and adv (for adverb).

Additional information should be given only in examples (see **16.5.6**) or notes (see **16.5.8**).

A definition should not take the form of, or contain, a provision of the standard. References to conformity to requirements in a standard should not form part of a definition. An item is what it is, whether or not it conforms to a standard.

#### EXAMPLE 2

Correct: **3.7 gasket**  
strip of flexible material used to form a seal around a window

Incorrect: **3.7 gasket**  
strip of flexible material conforming to this standard used to form a seal around a window

If a definition of a term proposed for a British Standard varies substantially from an accepted trade usage of that term, advice should be sought from the Institute of Trading Standards Administration in case the proposal might give rise to any infringement of the Trade Descriptions Act 1968 [3].

### 16.5.6 Examples

Examples provide information that illustrates the concept. Examples should not contain requirements (use of “shall”), instructions (imperative mood), recommendations (use of “should”) or permission (use of “may”). Examples should be written as a statement of fact.

Examples should be placed on a new line, after the definition.

Examples to terminological entries are designated “EXAMPLE” and should be numbered starting with “1” within each terminological entry. A single example in a terminological entry should not be numbered.

### 16.5.7 Non-verbal representations

Figures and formulae may be included within a terminological entry. The definition may take the form of a formula. Refer to BS ISO 10241-1.

### 16.5.8 Notes to terminological entries

Notes to terminological entries follow the same rules as notes integrated in the text (see Clause 24), including their numbering. In particular they should not include provisions of the standard. Notes should be placed on a new line, after any examples.

They provide additional information that supplements the terminological data, for example:

- statements relating to the use of a term;
- information regarding the units applicable to a quantity; or
- an explanation of the reasons for selecting an abbreviated form as preferred term; or
- alternative terms (admitted or deprecated).

#### EXAMPLE

##### 3.1.4 continuous scale

scale with a continuum of possible values

EXAMPLE Interval scale and ratio scale.

*NOTE 1 A continuous scale can be transformed into a discrete scale, by grouping “values”. This inevitably leads to some loss of information. Often the resulting discrete scale will be ordinal.*

*NOTE 2 Scale resolution can be adversely affected by measurement system limitations. Such measurement limitations can, sometimes, give rise to measurements being represented on a discrete, ordinal, scale.*

[SOURCE: ISO 3534-2:2006, 1.1.4]

### 16.5.9 Source

If a terminological entry is reproduced from another document, the source **should** be given at the end of the entry. If any changes are made to the original terminological entry, this **should** be indicated, along with a description of what has been modified. A document given as a source of a terminological entry is informative.

#### EXAMPLE

##### 3.1.2 terminological entry

part of a terminological data collection which contains the terminological data (3.1.3) related to one concept (3.2.1)

*NOTE* A terminological entry prepared in accordance with the principles and methods given in ISO 704 follows the same structural principles whether it is monolingual or multilingual.

[SOURCE: ISO 1087-1:2000, 3.8.2, modified – note has been added.]

### 16.5.10 Footnotes

Footnotes to any part of a terminological entry **should** not include provisions of the standard (see 26.5).

### 16.6 Overview of the main elements of a terminological entry

*Not applicable in the UK.*

### 16.7 Other elements of a terminological entry

Other data categories may be included in a terminological entry, such as:

- country codes;
- grammatical information;
- pronunciation.

Refer to BS ISO 10241-1 for the general requirements and examples.

## 17 Symbols and abbreviated terms

### 17.1 Purpose or rationale

The symbols and abbreviated terms clause or subclause provides a list of the symbols and abbreviated terms used in the document, along with their definitions.

If this element is not present, the meaning of the symbols used in an equation **should** be explained in a formal, consistent style immediately below the equation in which they appear, following the principles set out below.

### 17.2 Normative or informative?

The symbols and abbreviated terms clause is a normative element.

### 17.3 Mandatory, conditional or optional?

The symbols and abbreviated terms clause is a conditional element.

### 17.4 Numbering and subdivision

The symbols need not be numbered. For convenience, the symbols and abbreviated terms may be combined with the terms and definitions in order to bring together terms and their definitions, symbols and abbreviated terms under an appropriate composite title, for example “Terms, definitions, symbols and abbreviated terms”.

### 17.5 Specific principles and rules

Only symbols used in the text **should** be listed.



Unless there is a need to list symbols in a specific order to reflect technical criteria, all symbols should be listed in alphabetical order in the following sequence:

- upper case Latin letter followed by lower case Latin letter (*A, a, B, b*, etc.);
- letters without indices preceding letters with indices, and with letter indices preceding numerical ones (*B, b, C, C<sub>m</sub>, C<sub>2</sub>, c, d, d<sub>ext</sub>, d<sub>int</sub>, d<sub>1</sub>*, etc.);
- Greek letters following Latin letters (*Z, z, A, α, B, β, ..., A, λ*, etc.);
- any other special symbols.

Symbols for quantities and units should be taken from BS ISO 80000, BS EN 80000, BS EN ISO 80000 and BS EN 60027, and printed as specified in BS EN ISO 80000-1; i.e. symbols for quantities in italic type, symbols for units in regular type. If a symbol is taken from an international or national authority, the authority should be identified in the source (see the example in **16.5.9**). Information regarding the units applicable to a quantity should be given in a note (see **16.5.8**).

Symbols should be set out in tabular format, with the symbol on the left and the definition on the right. Where appropriate, the units of measurement should be given in parentheses after the definition. The definitions for symbols should be drafted in the same way as a definition of any other term (see Clause **16**).

**EXAMPLE 1** (symbols listing)

<i>A</i>	cross-sectional area of pipe wall, in square millimetres (mm <sup>2</sup> )
<i>a</i>	design factor
<i>C<sub>f</sub></i>	flattening coefficient
<i>D</i>	outside diameter of a pipe, as used in testing and buckling calculations, in metres (m)
<i>D<sub>i</sub></i>	inside diameter of a pipe, in millimetres (mm)
<i>D<sub>max</sub></i>	maximum (oval) outside diameter, in metres (m)
<i>D<sub>min</sub></i>	minimum (oval) outside diameter, in metres (m)

Abbreviated terms should be set out in tabular format, with the abbreviation on the left and the term in full on the right.

**EXAMPLE 2** (abbreviations listing)

AGI	above-ground installation
ALARP	as low as reasonably practicable
CE	carbon equivalent
CIPS	close interval potential survey

## 18 Test methods

### 18.1 Purpose or rationale

Test methods specify the procedure for determining the values of characteristics or for checking conformity to stated requirements. Using a standardized test method ensures comparability of the results.

Test methods may be presented as separate clauses, or be incorporated in the provisions, or be presented as annexes (see Clause **20**) or as separate parts (see **6.3**). A test method should be prepared as a separate document if it is likely to be referred to in a number of other documents.

### 18.2 Normative or informative?

The test methods clause is a normative element.

### 18.3 Mandatory, conditional or optional?

The test methods clause is a conditional element.

### 18.4 Numbering and subdivision

Unless there is a well-established and logical convention among users for the arrangement of clauses in a particular kind of method, clauses in a test method should be arranged in the following order:

- a) principle;
- b) reagents and/or materials (see 18.5.3);
- c) apparatus (see 18.5.4);
- d) preparation and preservation of test samples and test pieces;
- e) procedure;
- f) expression of results, including method of calculation and precision of the test method,;
- g) test report.

When health, safety or environmental warnings are needed, these should be placed next to the relevant content in the test method. General warnings should be placed at the beginning of the test method. See 24.8.

### 18.5 Specific principles and rules

#### 18.5.1 General

If appropriate, tests should be identified as type tests, performance tests, sampling tests, routine tests, etc.

The document should specify the sequence of testing if the sequence can influence the results.

Requirements, sampling and test methods are interrelated elements of product standardization and should be considered together even though the different elements may appear in separate clauses in a document, or in separate documents.

*NOTE This is of critical importance. A test method has to measure the parameter that is being specified and conversely the parameter specified has to be the one that the test method is testing or measuring. It is also essential that the units in which the parameter is specified and the units in which the test method measures that parameter are the same.*

Sampling is a conditional element that specifies the conditions and methods of sampling, as well as the method for the preservation of the samples. This element may appear at the beginning of the test method. When a specific sampling method is necessary, this should be clearly stated in the test method.

When drafting test methods, it is important to take into account documents for general test methods and of related tests for similar characteristics in other documents.

Non-destructive test methods should be chosen whenever they can replace, within the same level of confidence, destructive test methods.

Test methods should conform to the metrological principles concerning validation, measurement traceability and estimation of measurement uncertainty described in BS EN ISO/IEC 17025:2005, Clause 5. Other documents which might be applicable include ISO/IEC Guide 98-3 and ISO/IEC Guide 99. Requirements related to testing equipment should comply with the provisions concerning accuracy and calibration specified in BS EN ISO/IEC 17025:2005, Clause 5.

For guidance on the drafting of methods of chemical analysis, see BS ISO 78-2. Much of BS ISO 78-2 is also applicable to test methods for products other than chemical products.

Documents specifying test methods involving the use of hazardous products, apparatus or processes **should** include a general warning and appropriate specific warnings. For recommended wording, see ISO/IEC Guide 51. For guidance on the appropriate location of such warnings, see BS ISO 78-2. See also **24.8** regarding warnings and cautions generally.

A document which specifies test methods **should** not imply any obligation to perform any kind of test. It **should** merely state the method by which the test, if required and referred to (for example in the same or another document, in a regulation, or in contracts), is to be performed.

If a statistical method for the assessment of the conformity of a product, process or service is specified in the document, any statements of compliance with the document only relate to the conformity of the population or the lot.

If it is specified in the document that every single item is to be tested in accordance with the document, any statements concerning the conformity of the product to the document mean that every single item has been tested and that each has fulfilled the corresponding requirements.

If test methods are in use which differ from that most acceptable for general application, this **should** not be a reason for not specifying the most acceptable in a document.

It is advisable wherever possible for methods to be validated by at least two laboratories before being included in a standard. This is to ensure that methods are not specified in standards without having been tried out in practice.

If a method needs to rely upon a reference material because the property or characteristic cannot be described in terms of the system of units of measurement being used, the reference material **should** be called up as such.

The material **should** preferably be specified as a certified reference material, i.e. accompanied by, or traceable to, a certificate stating the property value concerned, issued by an organization that is generally accepted as technically competent. For guidance on the contents of certificates of reference materials, see PD ISO Guide 31.

### 18.5.2 Numbering

In order to facilitate cross-referencing, individual reagents, materials and apparatus **should** be numbered, even if there is only one.

### 18.5.3 Reagents and/or materials

The reagents and/or materials subclause is a conditional element giving a list of the reagents and/or materials used in the document.

The content of a reagents and/or materials clause will usually comprise an optional introductory text together with a list detailing one or more reagents and/or materials.

The introductory text **should** be used only to specify general provisions to which cross-reference is not made. Any cross-referred item **should** not be included in this text but **should** be listed as a distinct entry as described below.

The introductory text explaining the general provisions is not a hanging paragraph as described in **22.3** since the list detailing the reagents and/or materials is not a series of subclauses but a list.

The following example shows the presentation style used (for further examples of drafting, see BS ISO 78-2).

## EXAMPLE

**3 Reagents**

Use only reagents of recognized analytical grade and only distilled water or water of equivalent purity.

**3.1** *Cleaning medium*, for example methanol or water containing a few drops of liquid detergent.

**18.5.4 Apparatus**

The apparatus subclause is a conditional element giving a list of the apparatus used in the document. Wherever possible, equipment produced by a single manufacturer should not be specified. Where such equipment is not readily available, this clause **should** include such specifications for the equipment as to ensure that comparable testing can be conducted by all parties. See also Clause **31** regarding the use of trade names and trademarks.

The content of an apparatus clause will usually comprise an optional introductory text together with a list detailing one or more pieces of apparatus.

The introductory text **should** be used only to specify general provisions to which cross-reference is not made. Any item cross-referred to **should** not be included in this text but **should** be listed as a distinct entry as described below.

The introductory text explaining the general provisions is not a hanging paragraph as described in **22.3** since the list detailing the apparatus is not a series of subclauses but a list.

The following example shows the presentation style used (for further examples of drafting, see BS ISO 78-2).

## EXAMPLE

**A.2 Apparatus**

The usual laboratory apparatus and, in particular, the following.

**A.2.1** *Sample divider*, consisting of a conical sample divider or multiple-slot sample divider with a distribution system, e.g. “Split-it-right” sample divider, such as that shown in Figure A.1.

**A.2.2** *Sieve*, with round perforations of diameter 1.4 mm.

**A.2.3** *Tweezers*.

**A.2.4** *Scalpel*.

**A.2.5** *Paintbrush*.

**A.2.6** *Steel bowls*, of diameter 100 mm ± 5 mm; seven per test sample.

**A.2.7** *Balance*, which can be read to the nearest 0.01 g.

**18.5.5 Alternative test methods**

If more than one adequate test method exists for a characteristic, only one **should** in principle be specified. If, for any reason, more than one test method is to be specified, a referee test method (often called “reference” test method) may be identified in the document to resolve doubts or dispute.

**18.5.6 Choice of test methods according to accuracy**

When choosing a test method, consider the accuracy of the method relative to the required value and tolerance of the characteristic being assessed.

The chosen test method should provide an unambiguous determination of whether the sample meets the specified requirement.

When it is technically necessary, each test method **should** incorporate a statement as to its limit of accuracy.

### 18.5.7 Test equipment

If, in preparing a document related to a product, it is necessary to standardize some kind of testing equipment that is likely to be used for testing other products as well, it **should** be dealt with in a separate document, prepared in consultation with the committee dealing with such equipment.

### 18.5.8 Test report

This clause specifies which information is to be included in the test report. The clause **should** require information to be given on at least the following aspects of the test:

- the sample;
- the **British Standard** used (including its year of publication);
- the method used (if the standard includes several);
- the result(s), including a reference to the clause which explains how the results were calculated;
- any deviations from the procedure;
- any unusual features observed;
- the date of the test.

## 19 Marking, labelling and packaging

### 19.1 Purpose or rationale

Marking, labelling and packaging are important aspects related to product manufacturing and procurement that frequently need a standardized approach, particularly in safety critical applications.

### 19.2 Normative or informative?

Marking, labelling and packaging clauses are usually normative elements although exceptions can exist (e.g. when only recommendations are made concerning marking, labelling and packaging).

### 19.3 Mandatory, conditional or optional?

Marking, labelling and packaging clauses are conditional elements.

### 19.4 Specific principles and rules

#### 19.4.1 General

Marking, labelling and packaging are complementary aspects that **should** be included wherever relevant, particularly for product standards concerning consumer goods.

If necessary, the means of marking **should** also be specified or recommended.

This element **should** not specify or recommend marks of conformity. Such marks are normally applied under the rules of a certification system – see ISO/IEC Guide 23.

Information on the marking of products with reference to a standards body or its documents is given in **BS EN ISO/IEC 17050-1** and **BS EN ISO/IEC 17050-2**.

Information on safety standards and aspects related to safety is given in ISO/IEC Guide 51.

This element may be supplemented by an informative annex giving an example of information necessary for the purposes of procurement.

Where a marking clause is given, the distinction between unilateral claims of compliance and third-party certification **should** be included in a footnote to the clause.

If a standard containing a marking clause is amended, the date in the marking clause does not necessarily have to be updated to include the amendment date.

#### 19.4.2 Requirements concerning marking, labelling and packaging of products

Documents containing a reference to the marking of the product **should** specify the following, where applicable:

- a) the content of any marking that is used to identify the product, for example:
  - 1) the manufacturer (name and address);
  - 2) responsible supplier (trade name, trademark or identification mark);
  - 3) the marking of a product itself [for example manufacturer's or supplier's trade mark, model or type number, designation (see Annex C)];
  - 4) the identification of different sizes, categories, types and grades;
- b) the means of presentation of such marking, for example by the use of plates (sometimes called "name-plates"), labels, stamps, colours, threads (in cables), as appropriate;
- c) the location on the product, or in some cases on the packaging, where the marking is to appear;
- d) requirements for the labelling and/or packaging of the product (e.g. handling instructions, hazard warnings, date of manufacture);
- e) other information as required.

If the document requires the application of a label, the document **should** also specify the nature of the labelling and how it is to be attached, affixed or applied to the product or its packaging.

Symbols specified for marking **should** conform to relevant documents published by ISO and IEC.

*NOTE Documents relating to packaging can be found under the ICS classification 55 in the ISO and IEC Catalogues.*

#### 19.4.3 Requirements concerning documentation accompanying the product

Documents may require that the product be accompanied by some kind of documentation (for example, test report, handling instructions, other information appearing in the product packaging). When relevant, the content of such documentation **should** be specified.

*NOTE A classification and designation system of such documentation for plants, systems and equipment is provided in BS EN 61355-1. Rules for such documentation in administration, commerce and industry can be found under the ICS classification 01.140.30.*

#### 19.4.4 Warning notices and instructions

In some product standards, it is necessary to specify that the product **should** be accompanied by warning notices or by instructions to the installer or user, and to specify their nature. Requirements concerning installation or use **should** be included in a separate part of the series or a separate document, because they are not requirements applicable to the product.

## 20 Annexes

### 20.1 Purpose or rationale

Annexes are used to provide additional information to the main body of the document and are developed for several reasons, for example:

- when the information or table is very long and including it in the main body of the document would distract the user;

- to set apart special types of information (e.g. software, example forms, results of interlaboratory tests, alternative test methods, tables, lists, data)
- to present information regarding a particular application of the document.

## 20.2 Normative or informative?

Annexes can be normative or informative elements.

Normative annexes provide additional normative text to the main body of the document. They contain information which forms an integral part of the standard but which is more appropriately presented separately from the main text, e.g. a test method in a specification.

- In a specification or test method, an annex is normative if it contains requirements or procedural instructions.
- In a code of practice, an annex is normative if it contains recommendations;
- Guides do not have normative annexes.

The drafting of a normative annex should follow the same general guidance as that for the main text and should be in accordance with the specific rules for the appropriate type of content, e.g.:

- requirements in an annex should be drafted in accordance with the rules for specifications (see **G.1**);
- recommendations in an annex should be drafted in accordance with the rules for codes of practice (see **G.3**);
- test methods in an annex should be drafted in accordance with the rules for test methods (see Clause **18**).

Informative annexes provide additional information intended to assist the understanding or use of the document.

- In a specification or test method, an annex is informative if it contains recommendations, guidance or statements.
- In a code of practice, an annex is informative if it contains information in the form of statements.
- In a guide, an annex is always informative.

Informative annexes should not contain provisions of the standard.

The drafting of an informative annex should follow the same general guidance as that for the main text and should be in accordance with the specific rules for the appropriate type of content.

The status of the annex (informative or normative) should be made clear by the way in which it is referred to in the text and should be stated under the heading of the annex.

### EXAMPLE

[...] see Annex A for additional information	The status of Annex A is informative.
[...] the test method shall be carried out as specified in Annex B	The status of Annex B is normative.

## 20.3 Mandatory, conditional or optional?

Annexes are optional elements.

## 20.4 Numbering and subdivision

Annexes should appear after the main text in the order in which they are cited in the text. Each annex should be designated by a heading comprising the word “Annex” followed by a capital letter, starting with “A”, for example “Annex A”. The annex heading should be followed by the indication “(normative)” or “(informative)”, and by the title.

### EXAMPLE 1

**Annex A** (informative)  
**Example form**

Annexes may be subdivided into clauses, subclauses, paragraphs and lists. A clause should not be created unless there is at least one further clause in the annex.

Numbers given to the clauses, subclauses, tables, figures and mathematical formulae of an annex should be preceded by the letter designating that annex followed by a full-stop. The numbering should start afresh with each annex. A single annex should be designated “Annex A”.

### EXAMPLE 2

In the case of Annex A, the first clause would be numbered **A.1**, the first figure would be Figure A.1, the first table would be Table A.1 and the first formula would be Formula (A.1).

## 20.5 Specific principles and rules

Each annex should be explicitly referred to within the text.

### EXAMPLE 1

“Annex B provides further information...”  
“Use the methods described in Annex C.”  
“...shall be in accordance with Annex B.”

A normative annex should be cited normatively in the text.

- In a specification it should be cited by means of a requirement.

### EXAMPLE 2

“When tested in accordance with Annex A, the widget shall not crack.”  
“If the widget is intended for use in vehicles it shall meet the additional requirements specified in Annex B.”  
“The diameter of the widget shall be not less than the minimum specified in Annex C for the appropriate application.”

- In a code of practice it should be cited by means of a recommendation.

### EXAMPLE 3

“If the widget is intended for use in vehicles it should be in accordance with the additional recommendations given in Annex B.”  
“The process should be carried out in the order shown in Annex C.”

- In a test method it should be cited by means of an instruction or a requirement.

### EXAMPLE 4

“Follow the procedure given in Annex A.”  
“Align the apparatus as shown in Annex B.”  
“The apparatus shall conform to the dimensions specified in Annex C.”



An informative annex should be cited informatively in the text.

- In a specification or a test method it should be cited by means of a recommendation or a statement in a note or commentary.

**EXAMPLE 5**

“Guidance for the specifier is given in Annex A.”

“The fixings recommended in Annex B are deemed to meet this requirement; others may be used if they can be shown to lead to the same results.”

- In a code of practice or guide it should be cited by means of a statement in a note or commentary.

**EXAMPLE 6**

“Guidance on widget design is given in Annex F.”

“An example of a suitable form is given in Annex G.”

## 21 Bibliography

### 21.1 Purpose or rationale

The bibliography lists, for information, those documents which are cited informatively in the document, as well as other information resources.

### 21.2 Normative or informative?

The bibliography is an informative element. It should not contain requirements, permissions or recommendations.

### 21.3 Mandatory, conditional or optional?

The bibliography is a conditional element. Its inclusion is dependent on whether informative references are present in the document.

### 21.4 Numbering and subdivision

The bibliography may be subdivided in order to group the referenced documents under descriptive headings. Such headings should not be numbered.

Informative references to standards publications are not numbered but should be presented in alphanumerical order.

If there are both standards and non-standards publications listed as informative references, the standards publications should be given first, under a heading of “Standards publications”.

References to non-standards publications should then appear under a heading of “Other publications”, in the order in which they are first cited. Each reference should be preceded by an Arabic numeral in square brackets, e.g. “[12]”, corresponding to the reference given in the text (see **10.3**).

The bibliography may also list documents under such headings as “Further reading”, “Useful websites”, etc. These lists may be further subdivided under subject headings. Such headings should not be numbered and should not be listed in the table of contents. They should always appear as the final item in the bibliography.

## 21.5 Specific principles and rules

The bibliography, if present, should appear after the last annex.

Referenced documents and information resources listed can be dated or undated. See 10.4 and 10.5. All non-standards references in the bibliography should be dated. Standards references should be dated in the bibliography only if they are dated in the text. In the case of an undated reference to a standard that has recently been issued with a new identifier, it might be helpful to give the previous identifier in a footnote.

### EXAMPLE

In the following case, the citation is not normative but informative. The document cited should be listed not in the normative references clause but in the bibliography:

*Recommendations for business continuity are given in BS 25999-1.*

For a specification, in the following case, the citation is normative and the document should be listed in the normative references clause:

*Connectors shall conform to the electrical characteristics specified in IEC 60603-7-1.*

For a code of practice, in the following case, the citation is normative and the document should be listed in the normative references clause:

*Sprinkler systems should be designed and installed in accordance with BS EN 12845.*

The list should be introduced by standard wording which mirrors that used in the normative references clause. If the list is divided into standards publications and other publications (see 21.4), this wording should appear after the “Standards publications” heading.

The bibliography should list all informative references given in the standard, including references to legislation (see 10.7) and sources of terminological entries (see 16.5.9). If a publication is referenced both normatively and informatively, it should be listed only in the normative references clause.

References to non-standards publications should be formatted in accordance with BS ISO 690. ISBNs should be given wherever possible.

Non-standards publications may include a footnote which gives details of where the publication can be obtained.

## 21.6 Index

Indexes, if present, should appear as the last element.

The presence of an index is optional.

Reference should be to numbered elements of the standard. Page numbers should not be given.

It is acceptable to have index entries that refer to more than one document, provided that a clear key is included to the different documents. References for the key should be short and should not be capable of being confused with any other reference system in the text. If a simple numbering system is required, references [A], [B], [C] should be used in preference to [1], [2], [3] to avoid confusion with bibliographic references; but other methods of identification may be used, e.g. [EN], [P1], [P2] to indicate a European standard and parts 1 and 2 of a British Standard, respectively.

Indexing is a skilled activity, and committees are strongly advised to obtain advice from BSI staff at the earliest opportunity if they consider that an index might be necessary.

## Section 3: Components of the text

### 22 Clauses and subclauses

#### 22.1 Purpose or rationale

Clauses and subclauses serve as the basic components in the subdivision of the content of a document.

#### 22.2 Title

Each clause should have a title.

Each first level subclause (e.g. 5.1, 5.2 etc.) should be given a title. Within a clause or subclause, the use of titles should be uniform for subclauses at the same level, for example if 10.1 has a title, 10.2 should also have a title. Figure 1 shows examples of correct and incorrect use of subclause titles.

**Figure 1 – Correct and incorrect use of subclause titles**

	<b>Incorrect:</b>
No title	<p><b>4.2 Method B, frequency domain</b>  <b>4.2.1</b> Place the specimen a minimum of 5 cm from any objects that would affect measured results.</p>
Title	<p><b>4.2.2 Calibration (reference measurement) and measurement of fixture crosstalk</b>            If baluns are used for a balanced measurement, or minimum loss pads used for impedance matching, see Figures A.2 and A.3, these are included in the term "fixture". If the reference document specifies the fixture so that its crosstalk contribution is known, then the fixture crosstalk measurement is optional.</p>
	<b>Correct:</b>
Both subclauses have a title	<p><b>4.2 Method B, frequency domain</b>  <b>4.2.1 Placement of the specimen</b>            Place the specimen a minimum of 5 cm from any objects that would affect measured results.</p> <p><b>4.2.2 Calibration (reference measurement) and measurement of fixture crosstalk</b>            If baluns are used for a balanced measurement, or minimum loss pads used for impedance matching, see Figures A.2 and A.3, these are included in the term "fixture". If the reference document specifies the fixture so that its crosstalk contribution is known, then the fixture crosstalk measurement is optional.</p>
Both subclauses have no title	<p><b>Correct:</b></p> <p><b>4.2 Method B, frequency domain</b>  <b>4.2.1</b> Place the specimen a minimum of 5 cm from any objects that would affect measured results.</p> <p><b>4.2.2</b> If baluns are used for a balanced measurement, or minimum loss pads used for impedance matching, see Figures A.2 and A.3, these are included in the term "fixture". If the reference document specifies the fixture so that its crosstalk contribution is known, then the fixture crosstalk measurement is optional.</p>
<p><i>NOTE In national standards, the lower examples shown here are known as numbered paragraphs (see 22.3.4).</i></p>	

### 22.3 Numbering, subdivision and hanging paragraphs

#### 22.3.1 Numbering

The clauses in each document or part should be numbered with Arabic numerals, starting with 1 for the "Scope" clause (see Figure 2).

The numbering should be continuous up to but excluding any annexes (see Clause 20).

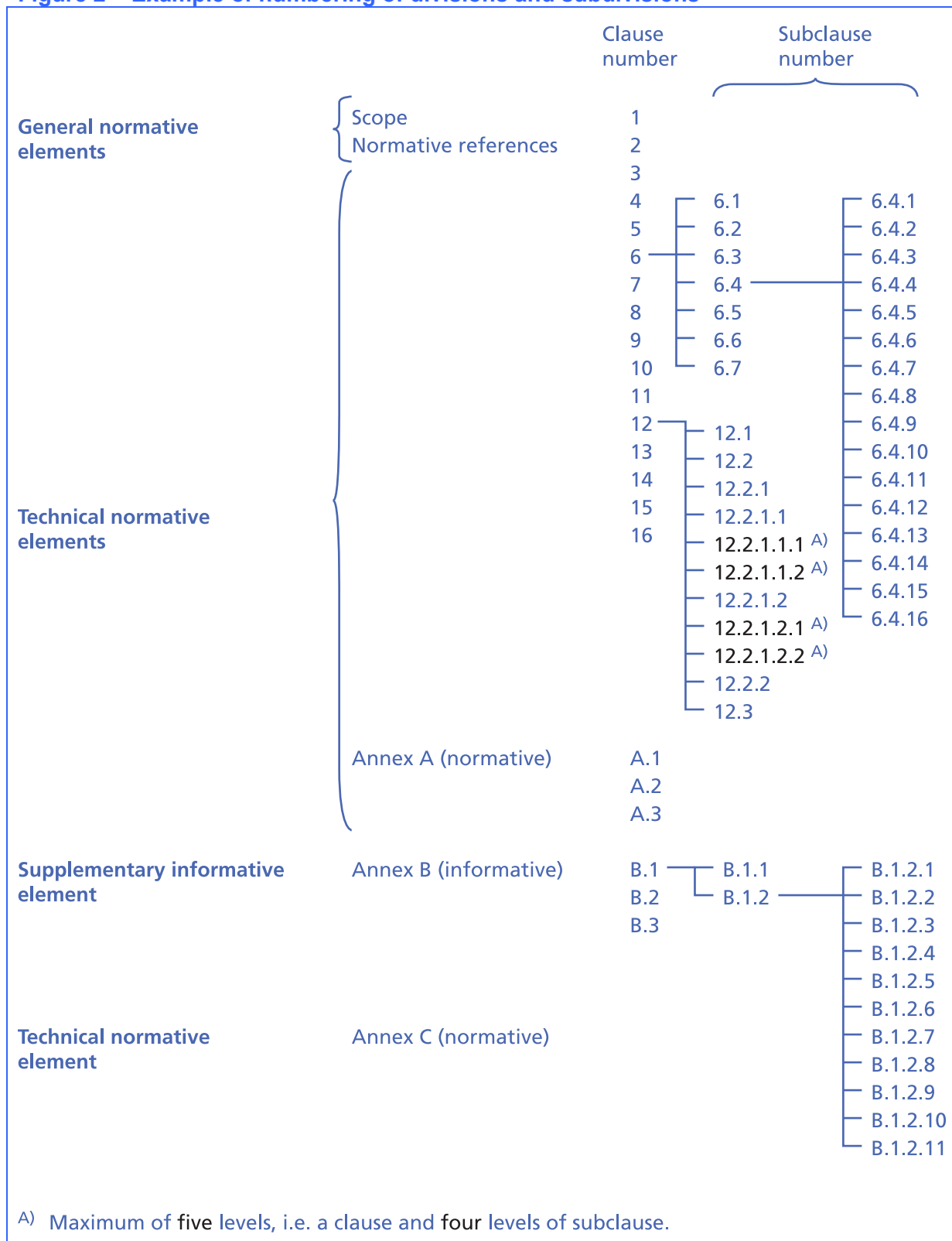
#### 22.3.2 Subdivision

A subclause is a numbered subdivision of a clause. A clause may be subdivided into subclauses as far as the fourth level (e.g. 5.1.1.1.1, 5.1.1.1.2, etc.).

Too many levels of subdivision should be avoided, as this can make it hard for the user to understand the document.

Figure 2 provides an example of numbering of divisions and subdivisions.

Figure 2 – Example of numbering of divisions and subdivisions



A subclause should not be created unless there is at least one further subclause at the same level. For example, text in Clause 10 should not be designated subclause “10.1” unless there is also a subclause “10.2”.

### 22.3.3 Hanging paragraphs

“Hanging paragraphs” such as those shown in Figure 3 should be avoided since reference to them is ambiguous.

In the example given in Figure 3, the hanging paragraph indicated cannot be uniquely identified as being in “Clause 5” since the paragraphs in 5.1 and 5.2 also form part of Clause 5. To avoid this problem it is necessary to identify the hanging paragraph as subclause “5.1 General” (or other suitable title) and to renumber the existing 5.1 and 5.2 accordingly (as shown), or to move the hanging paragraph elsewhere, or to delete it.

**Figure 3 – Example of a hanging paragraph (left) and one way to avoid it (right)**

Incorrect	Correct
<p><b>5 Uncertainty of the certified value</b>                      The combined expanded uncertainty of the measurement is calculated....</p> <p style="margin-left: 150px;">} hanging paragraph</p> <p><b>5.1 Budget of uncertainty</b>                      [...]</p>	<p><b>5 Uncertainty of the certified value</b>  <b>5.1 General</b>                      The combined expanded uncertainty of the measurement is calculated....</p> <p><b>5.2 Budget of uncertainty</b>                      [...]</p>

The following items do not constitute hanging paragraphs and are therefore acceptable:

- the opening sentence of the terms and definitions clause – this introduces a list of numbered definitions, not subclauses;
- the opening sentences in clauses listing reagents and apparatus in a test method;
- notes, commentaries, warnings and cautions placed at the beginning of a clause or subclause.

### 22.3.4 Paragraphs

A paragraph is a subdivision of a clause or subclause. Paragraphs may be numbered or unnumbered.

If numbered paragraphs are used, they should be used consistently within a single clause or subclause, i.e. number all of the paragraphs or none of them. Numbered paragraphs are particularly useful where a series of instructions are given that have to be followed in a specific order, or where it is necessary to cross-refer to a specific provision. More discursive text as a general rule should not be numbered.

*NOTE In ISO drafting, numbered paragraphs are referred to as subclauses without titles.*

### 22.4 Referencing

Clauses and subclauses need not be specifically referred to in the text.

Use, for example, the following forms for references to clauses and subclauses:

- in accordance with Clause **4**”;
- “ details given in **4.1.1**”
- “ the requirements given in **B.2**”
- “the methods described in **5.3** provide further information on...”
- for a point-numbered subdivision of the text that forms the first word of a sentence: “Subclause **3.2**”, “Subclause **9.3.3**, item b)”, “Subclause **A.1.2**”;

Bold should be used for the identification numbers of clauses and subclauses including those in annexes, but not for the identification of annexes, figures, tables and equations.

## 23 Lists

### 23.1 Purpose or rationale

A list serves to subdivide information to aid understanding.

For example, lists should be used when it is necessary to simplify complex sentences or to permit precise identification from within a range of options or factors.

### 23.2 Title

Lists do not have a title. They should be preceded by an introductory phrase.

### 23.3 Numbering and subdivision

Lists can be numbered or unnumbered. Lists can be subdivided.

In a list of items requiring individual identification in the text, each item should be preceded by a lower-case letter followed by a single closing parenthesis, i.e. “a), b), c)”. If subdivision of an item is necessary, each subdivided item should be preceded by an Arabic numeral followed by a single closing parenthesis, i.e. “1), 2), 3)”. If a further level of subdivision is necessary, each subdivided item should be preceded by a lower-case roman numeral followed by a single closing parenthesis, i.e. “i), ii), iii)”, or by a bullet. Where a list is subdivided, the second level should be indented from the first, and the third level should be indented from the second.

If there is more than one list within a single numbered subdivision of the text, the second list should be numbered “1), 2), 3)” and the third “i), ii), iii)”. It is not advisable to have more than three lists within a single numbered subdivision of the text. Primary lists should not be indented.

In a simple list in which the items do not require individual identification, each item may be preceded by a bullet.

Numbering of lists in notes and commentaries is independent of the numbering of lists in the main text.

See the examples below.

#### EXAMPLE 1

The following basic principles apply to the drafting of definitions.

- a) The definition shall have the same grammatical form as the term:
  - 1) to define a verb, a verbal phrase shall be used;
  - 2) to define a singular noun, the singular shall be used.
- b) The preferred structure of a definition is a basic part stating the class to which the concept belongs, and another part enumerating the characteristics that distinguish the concept from other members of the class.

#### EXAMPLE 2

No switch is required for any of the following categories of apparatus:

- apparatus having a power consumption not exceeding 10 W under normal operating conditions;
- apparatus having a power consumption not exceeding 50 W, measured 2 min after the application of any of the fault conditions;
- apparatus intended for continuous operation.

**EXAMPLE 3**

Vibrations in the apparatus can be caused by:

- unbalance in the rotating elements;
- slight deformations in the frame;
- the rolling bearings; and/or
- aerodynamic loads.

**EXAMPLE 4**

Power supplies should meet the following specific recommendations.

- a) A secondary power supply independent of the primary power supply to the building should be provided which is of sufficient capacity to maintain in operation for at least 3 h the following:
  - 1) any fire and rescue service communication systems; and
  - 2) any other fire protection or fire-fighting equipment, except automatic fire detection and fire alarm systems and evacuation lifts.
- b) Where the secondary electrical supply is to be taken from a separate substation to that supplying the primary electrical supply, the following criteria should be met.
  - 1) The two independent substations should be adequately separated. Where the substations are located within the building they serve, the following criteria should be met:
    - i) each substation should be enclosed within a fire-resisting structure having a minimum of 2 h fire resistance;
    - ii) the two substations should be located in two separate parts of the building.
  - 2) Supply cables from the high-voltage substations should enter directly the high-voltage/ low-voltage switchrooms and not pass through the building.

**23.4 Referencing**

The purpose of a list should be made clear by the context of the introductory phrase. Lists need not be specifically referred to in the text.

If cross-references to list items are necessary, a numbered list should be used. Within a subdivision, each list item in a numbered list should have a unique identifier. Numbering restarts at each new clause or subclause.

Use, for example, the following forms for references to lists:

- “as specified in 3.1b”;
- “the requirements given in B.2c”.

If there is a need to refer to an unordered list item in another document, the following form should be used:

“as specified in ISO/IEC 15888:1996, 3.1, second list item”.

**23.5 Specific principles and rules**

If a list is introduced by a grammatically incomplete statement, the statement should be followed by a colon. The wording of each item should form a complete sentence when read with the opening statement. Each item should begin with a lower-case letter and end with a semicolon, apart from the last item, which should end with a full-stop. It is permissible to continue the opening statement to complete the sentence after the end of the list, but it is preferable to avoid doing so.

If a list is introduced by a grammatically complete sentence, the sentence should end with a full-stop. Each item should form a grammatically complete sentence and should begin with a capital letter and end with a full-stop.

All the items in a single list should be phrased consistently in terms of grammar and syntax.

#### EXAMPLE 1

The following key actions should be undertaken:

- a) take account of building life issues;
- d) maintain, monitor and record the well-being of all fire safety facilities;
- e) ensure that those responsible are appropriately empowered.

#### EXAMPLE 2

Door equipment and provisions along escape routes should be designed such that:

- a) all doors on escape routes can be made readily available for use;
- b) any doors, gates or shutters that are required to be locked in the open position can be so locked;
- c) where practicable, fire doors are in positions where they are not likely to be wedged or propped open. Where this is not practicable, fire doors should be provided with hold-open devices on an automatic release mechanism;
- d) any fire door that subdivides a corridor is provided with vision panel.

#### EXAMPLE 3

Line graphs have the following disadvantages.

- a) Users sometimes tend to interpolate and extrapolate wrongly from the data when discrete categories are represented along the x-axis.
- b) The message becomes obscure when the values of the data sets overlap.

## 24 Notes

### 24.1 Purpose or rationale

Notes are used for giving additional information intended to assist the understanding or use of the text of the document. The document should be usable without the notes.

For rules on notes to figures, see **28.5.4**.

For rules on notes to tables, see **29.5.1**.

### 24.2 Title

Notes do not have a title.

### 24.3 Numbering and subdivision

Within a given clause or subclause, notes should be numbered sequentially. The numbering restarts at each new subdivision. A single note in a subdivision need not be numbered.

Notes to items in a list should also be numbered sequentially, even if different notes refer to different list items.

### 24.4 Referencing

Notes need not be specifically referred to in the text.

If notes are referred to, use, for example, the following forms for references:

- “an explanation is provided in **7.1**, Note 2”;
- “see **8.6**, Note 3”.



## 24.5 Specific principles and rules

In a specification, notes should **not contain requirements** (use of “shall”, see Table 3) or any information considered indispensable for the use of the document, for example instructions (imperative mood). They may contain recommendations (use of “should”) and permissions (use of “may”).

In a code of practice or a guide, notes should not contain recommendations (use of “should”). They may contain permissions (use of “may”).

A note should be preceded by the word “NOTE” in upper case, followed by an em space.

Notes should be relevant to the provisions of the standard and should be kept as precise as possible. Longer passages of advice, and peripheral information, should be placed in commentary or an informative annex.

The wording and location of a note should show where it applies. Notes are usually placed after the paragraph to which they refer; but it is also acceptable to place a note at the beginning of a clause or subclause by way of an introduction. (This does not count as a hanging paragraph; see 22.3.3.) A note that relates to a specific list item should be indented to align with the text of the list item to which it applies.

## 24.6 Examples

### EXAMPLE 1

Correct examples of the use of a note:

Each label shall have a length of between 25 mm and 40 mm and a width of between 10 mm and 15 mm.

*NOTE 1 The size of the label was chosen so that it will fit most sizes of syringe without obscuring the graduation marks.*

*NOTE 2 Individuals may have more than one function ...*

[In a specification]

*NOTE 3 Where a laboratory is part of a larger organization, the organizational arrangements should be such that departments having conflicting interests ...*

### EXAMPLE 2

Incorrect examples of the use of a note:

*NOTE In this context a part **shall** be regarded as a separate document ...* “shall” constitutes a requirement

*NOTE Alternatively, **test** at a load of ...* “test” constitutes a requirement, expressed here in the form of an instruction using the imperative

[In a code of practice]

*NOTE Any protected exit passageway **should** have the same standard of fire resistance as the stairway it serves...* “should” constitutes a recommendation, which in a code of practice is a provision of the standard

### EXAMPLE 3

Examples of notes to items in a list:

*NOTE 1 This note precedes the list.*

a) First list item.

*NOTE 2 Note to first list item.*

b) Second list item.

*NOTE 3 Note to second list item.*

## 24.7 Commentaries

In addition to notes, standards of UK origin also use commentaries. As is the case with notes, commentaries should not contain provisions or any other information considered indispensable for the use of the document. They are a means of giving additional information and advice to the reader in such a way as to distinguish it from the provisions of the standard.

As a general rule, notes are used for short pieces of information and advice relating to specific provisions, and commentaries are used for longer pieces relating to entire subclauses or clauses. It is acceptable to mix notes and commentaries in the same standard, e.g. to use commentaries for general background information and notes to draw attention to specific issues.

Commentaries should be relevant to the provisions of the standard and should be kept as precise as possible. Longer passages of advice, and peripheral information, should be placed in an informative annex.

A commentary should be preceded by the words “COMMENTARY ON (CLAUSE) [number]” in upper case, followed by a line break.

The wording and location of a commentary should show where it applies. Commentaries are usually placed at the beginning of a clause or subclause by way of an introduction (this does not count as a hanging paragraph; see **22.3.3**).

Commentaries that apply to a specific figure or table should normally precede the figure or table by way of an introduction.

## 24.8 Warnings and cautions

A caution is a statement that draws attention to the risk of damage to a product, process or surroundings, whereas a warning draws attention to the risk of injury or death. Warnings and cautions given in the text should be used only in accordance with these definitions. A warning or caution should be preceded by the word “WARNING” or “CAUTION” as appropriate, set in bold upper case type, and should appear in a box.

When health, safety or environmental warnings are needed, these should be placed next to the relevant content. General warnings should be placed at the beginning of the standard.

A distinction should be made between the warning or caution itself (i.e. a statement of the hazard or risk) and the provisions of the standard (i.e. the actions to be taken). Provisions should not be given in warning/caution boxes.

EXAMPLE 1 (example of a general warning)

**WARNING.** The use of this part of BS 1234 can involve hazardous materials, operations and equipment. It does not purport to address all of the safety or environmental problems associated with its use. It is the responsibility of users of this standard to take appropriate measures to ensure the safety and health of personnel and the environment prior to application of the standard, and fulfil statutory and regulatory requirements for this purpose.

**EXAMPLE 2** (examples of specific warnings and cautions with related provisions)

**WARNING.** Cyanide solutions are highly toxic.

Appropriate measures shall be taken to avoid ingestion of cyanide solutions.

*NOTE* Care should be taken in the disposal of these solutions.

**WARNING.** Because of the high vapour pressure of carbon dioxide, it is extremely hazardous to open a carbon dioxide extinguisher, or to actuate a carbon dioxide extinguisher without a hose and horn assembly fitted.

The safety pin and anti-tamper seal should be fitted before removing the hose and horn assembly.

Under no circumstances should an attempt be made to open a carbon dioxide extinguisher.

**CAUTION.** Reused powder can become lumpy and interrupt the flow of powder when the extinguisher is operated.

## 25 Examples

### 25.1 Purpose or rationale

Examples illustrate concepts presented in the document. The document should be usable without the examples.

### 25.2 Title

Examples do not need to have a title, but they can, if necessary, be grouped into a clause or subclause entitled “Example” or “Examples” (see 25.6, which is titled “Examples”).

### 25.3 Numbering and subdivision

Within a given clause or subclause, examples should be numbered sequentially. The numbering restarts at each new subdivision. A single example need not be numbered.

### 25.4 Referencing

Examples need not be specifically referred to in the text.

If examples are referred to, use, for example, the following forms for references:

- “see 6.6.3, Example 5”;
- “Clause 4, Example 2 lists...”.

### 25.5 Specific principles and rules

In a specification, examples should not contain requirements (use of “shall”) or any information considered indispensable for the use of the document, for example instructions (imperative mood). They may contain recommendations (use of “should”) and permissions (use of “may”).

In a code of practice or a guide, examples should not contain recommendations (use of “should”). They may contain permissions (use of “may”).

An example should be preceded by the word “EXAMPLE” in upper case, followed by either a line break or an em space.

## 25.6 Examples

### EXAMPLE 1

The generic model can be applicable to other possible manufacturing operations categories or for other operations areas within the enterprise.

EXAMPLE A company could apply the model to receiving operations management and associated services.

### EXAMPLE 2

In national implementation of International Standards, the international designation shall be used without change. However, the national standard identification may be inserted between the Description block and the International Standard number block.

EXAMPLE If the international designation of a screw is

Slotted pan screw ISO 1580-M5 × 20-4,8

its national designation can be

Slotted pan screw VN 4183-ISO 1580-M5 × 20-4,8

if VN 4183 is the identification of the national standard corresponding to ISO 1580 which has been adopted without change.

## 26 Footnotes

### 26.1 Purpose or rationale

Footnotes to the text of a document are used to give additional contextual information to a specific item in the text. The document **should** be usable without the footnotes.

For rules on footnotes to figures, see **28.5.5**.

For rules on footnotes to tables, see **29.5.2**.

Footnotes are used for brief specific pieces of information, e.g. mathematical conversion factors, source information, clarification of marking, information regarding status of standards, disclaimers about use of trademarked items, and “last viewed” dates for URLs.

### 26.2 Title

Footnotes do not have a title.

### 26.3 Numbering and subdivision

Footnotes **should** be numbered sequentially throughout the document. Normally, footnote references are indicated using Arabic numerals.

Exceptionally, other systems (a, b, c etc.; \*, \*\*, \*\*\*, etc.; †, ‡, etc.) can be used, for example when there is the possibility of confusing them with superscript numbers. However, this option is not encouraged, particularly if there is a large number of footnotes in the document. The type of footnote used should be consistent throughout a single document.

### 26.4 Referencing

Footnotes **should** be referenced in the text.

Use, for example, the following form for references to footnotes:

- Reclamation by hydraulic fill is covered in prEN 16907-6.<sup>1)</sup>

<sup>1)</sup> This standard is in preparation at the time of publication of BS 6349-5. It will be published in due course as BS EN 16907-6.

## 26.5 Specific principles and rules

A footnote can appear anywhere within the text of a document apart from terminological entries.

Footnotes should not contain requirements (use of “shall”, see Table 3), instructions (imperative mood), recommendations (use of “should”) or permission (use of “may”). Footnotes should be written as a statement of fact.

Footnotes to the text should be placed at the foot of the relevant page and be separated from the text by a short thin horizontal line on the left of the page.

If a footnote applies to an entire sentence then the footnote reference should be positioned after the punctuation; if the footnote is to a publication, single word, etc., then the footnote reference should be positioned next to that item.

## 26.6 Examples

### EXAMPLE 1

#### C.1.1 Introduction

...multiplex real-time PCR method based on TaqMan®<sup>7)</sup>.

<sup>7)</sup> TaqMan® is a trademark of Roche Molecular Systems. This information is given for the convenience of users of this document and does not constitute an endorsement by ISO of the product named. Equivalent products may be used if they can be shown to lead to the same results.

### EXAMPLE 2 (in a normative references clause)

BS 8486-1, *Examination and test of new lifts before putting into service – Specification for means of determining compliance with BS EN 81 – Part 1: Electric lifts*<sup>5)</sup>

<sup>5)</sup> This British Standard contains an informative reference to BS 8486-1:2007.

## 27 Mathematical formulae

### 27.1 Purpose or rationale

A mathematical formula uses symbols to express the relationship between quantities.

NOTE Notations such as

$$\frac{v}{\text{km/h}}, \frac{l}{\text{m}} \text{ and } \frac{t}{\text{s}} \text{ or } V/(\text{km/h}), l/m, \text{ and } t/s$$

for numerical values are not mathematical formulae. They are particularly useful on the axes of graphs and in the headings of columns in tables.

### 27.2 Title

Mathematical formulae do not have a title.

### 27.3 Numbering and subdivision

If needed for cross-referencing purposes, mathematical formulae can be numbered in a document. Arabic numbers in parentheses should be used, starting with 1.

#### EXAMPLE 1

$$x^2 + y^2 < z^2 \quad (1)$$

The numbering should be continuous and independent of the numbering of clauses, tables and figures. Subdivision of mathematical formulae [for example (2a), (2b) etc.] is not permitted.

When mathematical formulae in annexes are numbered, the numbering restarts and is preceded by the annex letter.

EXAMPLE 2

$$x^2 + y^2 < z^2$$

(A.1)

## 27.4 Referencing

If a formula is numbered, it should be referred to in the text. The purpose of a formula should be made clear by its context, for example, with an introductory proposition.

Use, for example, the following forms for references to mathematical formulae:

- “see 10.1, formula (3)”;
- “see A.2, Formula (A.5).”

## 27.5 Specific principles and rules

Mathematical formulae **should** be expressed in mathematically correct form.

The variables and constants **should** be represented by letter symbols. The meanings of the symbols **should** be explained in connection with the mathematical formulae, unless they appear in a “Symbols and abbreviated terms” clause.

EXAMPLE 1

$$v = \frac{l}{t}$$

where:

- $v$  is the speed of a point in uniform motion;
- $l$  is the distance travelled;
- $t$  is the duration.

However, the same symbol **should** never be used within a document both for a quantity and for its corresponding numerical value. For example, use of the formula in Example 1 and of the formula in Example 2 in the same context would imply that  $1 = 3.6$  which obviously is not true.

If, exceptionally, a formula between numerical values is used, the style shown in Example 2 **should** be followed.

EXAMPLE 2

$$V = 3.6 \times \frac{l}{t}$$

where:

- $V$  is the numerical value of speed, expressed in kilometres per hour (km/h), of a point in uniform motion;
- $l$  is the numerical value of distance travelled, expressed in metres (m);
- $t$  is the numerical value of duration, expressed in seconds (s).

Descriptive terms or names of quantities **should not** be arranged in the form of a mathematical formula. Names of quantities or multi-letter abbreviated terms, for example presented in italics or with subscripts, **should not** be used in the place of symbols.

## EXAMPLE 3

Correct:

$$t_i = \sqrt{\frac{S_{ME,i}}{S_{MR,i}}}$$

where:

$t_i$  is the statistical value for the system  $i$ ;

$S_{MR,i}$  is the residual mean square for the system  $i$ ;

$S_{MR,i}$  is the mean square due to regression for the system  $i$ .

Incorrect:

$$t_i = \sqrt{\frac{MSE_i}{MSR_i}}$$

where:

$t_i$  is the statistical value for the system  $i$ ;

$MSE_i$  is the residual mean square for the system  $i$ ;

$MSR_i$  is the mean square due to regression for the system  $i$ .

## EXAMPLE 4

Correct:  $\rho = \frac{m}{V}$ Incorrect:  $density = \frac{mass}{volume}$ 

## EXAMPLE 5

Correct:

$$\dim(E) = \dim(F) \cdot \dim(L)$$

where:

$E$  is energy;

$F$  is force;

$L$  is length.

Incorrect:

$$\dim(\text{energy}) = \dim(\text{force}) \cdot \dim(\text{length})$$

or:

$$\dim(\text{energy}) = \dim(\text{force}) \cdot \dim(\text{length})$$

Physical properties are represented as constant or variable in the context of the standard by a single upright or italic/sloping letter respectively.

## EXAMPLE 6

In  $F = ma$ , mass  $m$  may vary.

In  $F = ma$ , mass  $m$  is a constant.

The same symbol should not be used to represent different quantities within the same document. Subscripts can be useful to distinguish symbols for related concepts.

Unit symbols **should not** be used within mathematical formulae.

There are also mathematically defined constants, which are also represented by an upright letter, i.e.  $\pi$  (ratio of a circle's circumference to its diameter),  $e$  (root of natural logarithms) and  $i$  or  $j$  (square root of  $-1$ ).

Italic/sloping letters should not be used for unit symbols, mathematical operators or chemical elements.

Occasionally, if a multi-letter symbol is well established in a particular context, it might not be possible to replace it with a single-letter symbol. In this case, it should be upright, to prevent it from being mistaken for two or more single-letter symbols multiplied together.

A space should not be inserted between symbols that together represent a product of the individual symbols. A space should be used on each side of a mathematical sign, except for  $\pm$ , which should have a space on the left-hand side only (e.g.  $3 \pm 0.25$ ).

Mathematical formulae between quantities are preferred to mathematical formulae between numerical values (because mathematical formulae between quantities are independent of the choice of SI units whereas mathematical formulae between numerical values are sometimes not). A judgement should be made as to whether numerical values are better suited to the industry in question.

Further examples are presented in Annex B.

## 27.6 Subscripts and superscripts

As far as possible, symbols having more than one level of subscript or superscript (see Example 1) should be avoided, as should any symbols and mathematical formulae that would involve printing more than two lines of type (see 27.7). Generally the subscripts or superscripts should be placed on the same line, separated by a comma if necessary for clarity.

### EXAMPLE 1

$D_{1, \max}$  is preferable to  $D_{1_{\max}}$ .

$x_{y,(n+1)}$  is preferable to  $x_{y_{n+1}}$ .

In an expression in which a superscript appears above a subscript (as a power to which the expression is being raised), the superscript is placed slightly to the right of the subscript, rather than immediately above it.

### EXAMPLE 2

$d_3^2$  is preferable to  $d_3^2$ .

This does not apply to prime symbols, which are always closed up to the symbol they relate to, i.e.  $d'_3$  is correct.

For fractional indices, the solidus should be used except for simple numerical fractions, where the upright form is generally clearer. Care is essential in the sizing and location of superscripts, especially outside brackets.

### EXAMPLE 3

Preferred forms of expression:

$x^{a/b}$

$\left(\frac{a-b+c}{6}\right)^{1/4}$

In exponential functions, particularly if the exponent is lengthy or complex, the abbreviation “exp” followed by the exponent on the same line may be used instead of “e” followed by the exponent as a superscript.

### EXAMPLE 4

Acceptable forms of expression:

$\exp(ax^2 + bxy + cy^2)$

$e^{ax^2 + bxy + cy^2}$

Subscripts to variables should always be reasonably short. Symbols such as  $\rho_{\text{effective}}$  should be edited to  $\rho_{\text{eff}}$  or  $\rho_e$ .



## 27.7 Solidus

In running text,  $a/b$  is preferable to  $\frac{a}{b}$  and the solidus (/) should be large enough to ensure instant recognition. A solidus should not be used if there is any possibility of ambiguity. A double solidus should not be used at all, e.g.  $a/b/c$  should be expressed as  $a/bc$  or  $ac/b$ , whichever is intended.

Scrupulous care is essential in using brackets and ordering individual terms (see Example 1).

### EXAMPLE 1

The expression  $\frac{x}{y} + z$  can be expressed as  $(x/y) + z$ .

An ambiguous form would be  $x/y + z$ , which could be read as  $\frac{x}{y+z}$ .

### EXAMPLE 2

In a displayed mathematical formula, use

$$\frac{\sin[(N+1)\varphi/2]\sin(N\varphi/2)}{\sin(\varphi/2)}$$

rather than

$$\frac{\sin\left[\frac{(N+1)}{2}\varphi\right]\sin\left(\frac{N}{2}\varphi\right)}{\sin\frac{\varphi}{2}}$$

## 27.8 Special characters and operators

The functions (operators)  $\ln$  and  $\log_e$  mean the same thing. Either may be used, but only one should be used in any standard. The functions  $\log$ ,  $\lg$  and  $\log_{10}$  generally mean the same thing;  $\log_{10}$  should be used.

Geometric functions include  $\sin$ ,  $\cos$ ,  $\tan$ ,  $\sinh$ ,  $\cosh$ ,  $\tanh$ ,  $\arcsin$ ,  $\arccos$ , and  $\arctan$ .

$\Delta$  is often used to mean “the difference between”,  $\delta$  can be used for “a small amount of” and  $d$  is used in derivatives and in integrals to mean “with respect to”. In these cases these characters represent operators and so are upright.  $\Delta$ ,  $\delta$  and  $d$  can also be italicized to express different meanings, in which case the meanings should be clearly defined.

Note that the character for partial differentiation is  $\partial$  and should not be confused with  $\delta$ .

## 27.9 Brackets

When brackets within brackets are required in equations and formulae of single-line depth, the normal order of use is  $\{[( )]\}$ , beginning with  $( )$ . The depth of a pair of brackets should be great enough to enclose the term that occupies the greatest vertical space. Pairs of brackets that enclose others should be at least equal in depth to the brackets they enclose. The outermost pair should therefore be at least as large as, if not larger than, any of the pairs within. Brackets of similar depth should be of similar weight.

In this context the term “bracket” includes parentheses  $( )$ , brackets  $[ ]$  and braces  $\{ \}$ .

## 27.10 Vinculum

The vinculum (bar) should be used when expressing a root value.

EXAMPLE

$$\sqrt{x^2 + y^2 + z^2}$$

$$\sqrt{2x}$$

$$\sqrt{2}$$

## 27.11 Integral and summation signs

The limits associated with an integral sign and any values of the summation variable associated with a summation sign should be printed in small type above and below the sign.

EXAMPLE

$$\int_{\theta_m}^{\theta_0}$$

$$\sum_{i=1}^{n-1}$$

## 28 Figures

### 28.1 Purpose or rationale

Figures are a graphical means of representation used when they are the most efficient means of presenting information in an easily comprehensible form.

Photographs and other media may be used **only** if it is not possible to represent the concept as a line drawing.

BSI staff should be consulted as early as possible in the development of the project if the use of photographs is contemplated.

If the use of photographs is being contemplated, copyright might have to be obtained and the following potential problems for users should be considered:

- for high precision photographs, the need to use high quality paper to ensure accurate reproduction;
- the increased computer storage capacity necessary to accommodate photographs; and
- the high degree of resolution required for the electronic reproduction of photographs.

Artwork for figures should conform to the *ITSIG specification for the preparation and exchange of graphics*.

### 28.2 Title

Every figure should have a concise title.

### 28.3 Numbering and subdivision

#### 28.3.1 Figure designation

Figures should be numbered and should appear in the order in which they are first cited in the text. If a figure appears in an introduction, it should be numbered as part of the normal sequence.

A single figure should be designated “Figure 1”. This numbering should be independent of the numbering of the clauses and of any tables.

In annexes, the figure numbering restarts and the number is preceded by the annex letter (e.g. Figure A.1, etc.).

Ideally, a figure should be confined to a single page. When a figure is continued over several pages, the figure designation should be repeated, followed by the title and by “(1 of #)” where # is the total number of pages on which the figure appears.

**EXAMPLE**

Figure 1 **Title of figure** (1 of #)

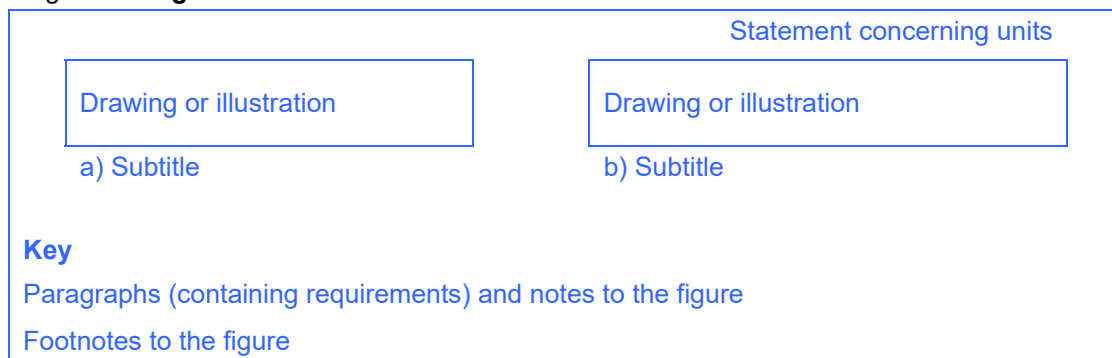
### 28.3.2 Subfigures

In general, the use of subfigures should be avoided whenever possible since it complicates document layout and management.

Subfigures should be identified by a lower case letter [for example Figure 1 may comprise subfigures a), b), c), etc.]. Other forms of identification of the subfigures such as 1.1, 1.2, ..., 1-1, 1-2, ..., etc. should not be used.

**EXAMPLE**

Figure 1 **Figure title**



### 28.4 Referencing

Each figure should be explicitly referred to within the text.

Use, for example, the following forms for references to figures and subfigures:

- “Figure 3 illustrates...”;
- “See Figure 6 b)”.

Where a cross-reference is given to two consecutive figures, both should be referred to individually, e.g. “Figure 1 and Figure 2”. Where a range of cross-references is given to three or more figures, the range should be presented in the form “Figure 1 to Figure 3”. The form “Figures 1 and 2” should not be used.

## 28.5 Specific principles and rules

### 28.5.1 Standards used in the creation of graphical content

The following standards provide information regarding the creation of graphical content.

Subject	Standard	Title
General	BS EN 61082-1	<i>Preparation of documents used in electrotechnology – Part 1: Rules</i>
Graphical symbols	IEC 62648	<i>Graphical symbols for use on equipment – Guidelines for the inclusion of graphical symbols in IEC publications</i>
	BS EN 80416-1	<i>Basic principles for graphical symbols for use on equipment – Part 1: Creation of graphical symbols for registration</i>
	BS EN ISO 81714-1	<i>Design of graphical symbols for use in the technical documentation of products – Part 1: Basic rules</i>
Line types	BS EN ISO 128-20	<i>Technical drawings – General principles of presentation – Part 20: Basic conventions for lines</i>
Dimensioning	BS ISO 129 (all parts)	<i>Technical drawings – Indication of dimensions and tolerances</i>
Dimensional and geometrical product specifications	BS EN ISO 1101	<i>Geometrical product specifications (GPS) – Geometrical tolerancing – Tolerances of form, orientation, location and run-out</i>
Projection	BS ISO 128-30	<i>Technical drawings – General principles of presentation – Part 30: Basic conventions for views</i>
Flowcharts and organigrams	BS 4058 (ISO 5807)	<i>Specification for data processing flow chart symbols, rules and conventions</i>

### 28.5.2 Choice of letter symbols, style of lettering

Letter symbols used in figures to represent general cases of angular or linear quantities should be in accordance with BS EN ISO 80000-3. Subscripts can be used where necessary to distinguish between different applications of a given symbol.

For a series of symbols indicating various lengths on a drawing use  $l_1, l_2, l_3$ , etc. and not, for instance,  $A, B, C$ , etc. or  $a, b, c$ , etc. The main symbols used in drawings from BS EN ISO 80000-3 are given in Table 4.

**Table 4 – Main symbols used in drawings from BS EN ISO 80000-3**

Name	Symbols
Length	$l, L$
Breadth	$b, B$
Height	$h, H$
Thickness	$d, \delta$
Radius	$r, R$
Radial distance	$r_0, \rho$
Diameter	$d, D$
Length of path	$s$
Distance	$d, r$
Cartesian coordinates	$x, y, z$
Position vector	$r$
Displacement	$\Delta r$
Radius of curvature	$\rho$

Lettering in figures should be in accordance with the BS EN ISO 3098 series. Italic letters should be used for variable quantities.

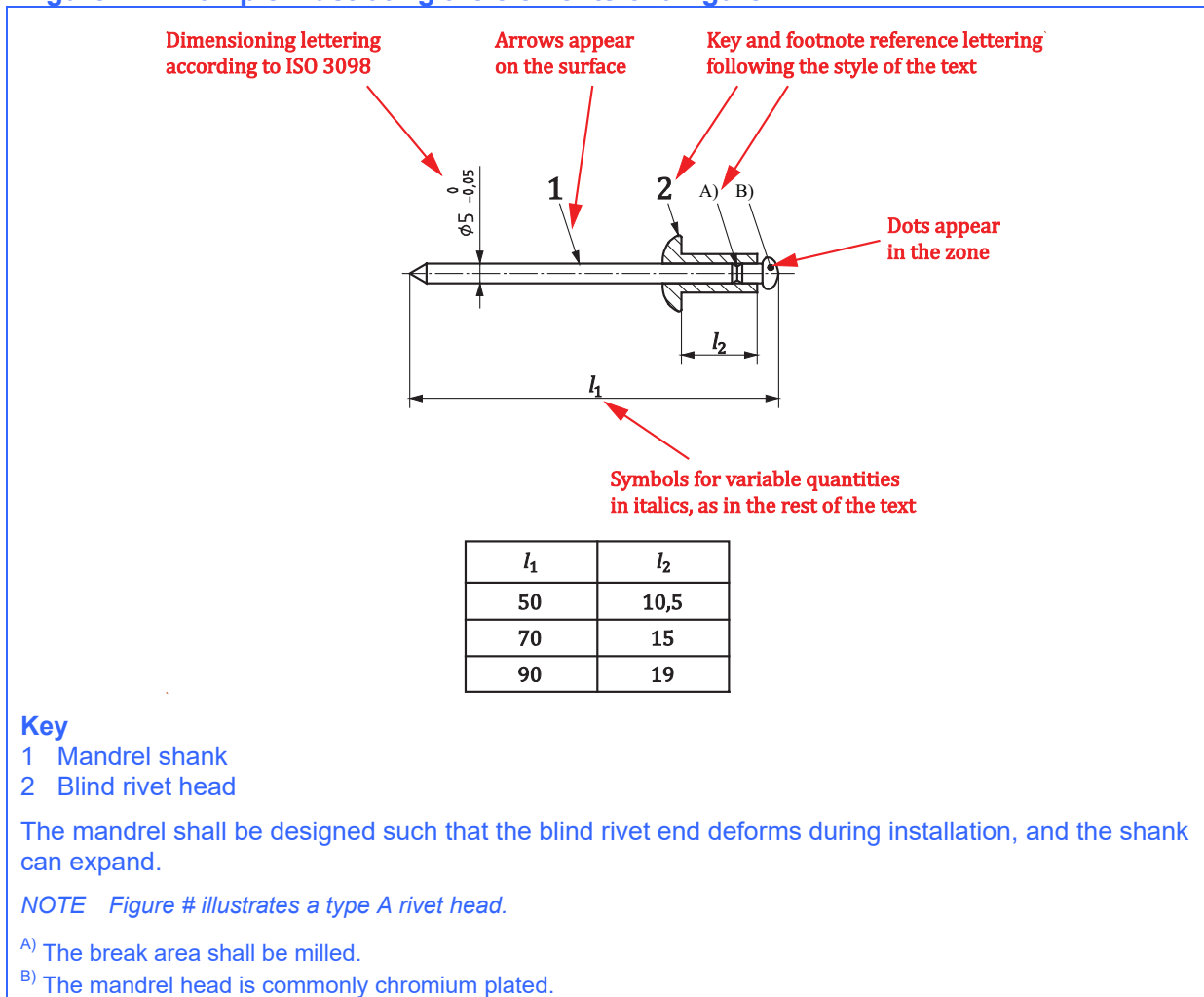
The vertical (upright) style should be used for all other lettering.

When all units for a quantity are the same, a suitable statement (e.g. "Dimensions in millimetres") should be placed above the right-hand corner of the figure, within the frame.

See Figure 4.

Guidance on technical aspects of drawings can be obtained from the BSI Drawing Office.

**Figure 4 – Example illustrating the elements of a figure**



### 28.5.3 Key and labels to figures

Figures should be language neutral in order to facilitate translation, using key references or figure footnotes (see Figure 4) instead of textual descriptions (in accordance with BS EN ISO 6433).

In graphs, labelling on the axes should not be replaced by key references to avoid any possible confusion between the number representing a key reference and a number representing a value on the axis. Labelling of curves, lines, etc. on the graph should be replaced by key references.

In flowcharts and organigrams, the use of textual descriptions is permitted (see 28.6.4).

### 28.5.4 Notes to figures

A single note in a figure should be preceded by “NOTE”, placed at the beginning of the first line of the text of the note. See Figure 4. When several notes occur in the same figure, they should be designated “NOTE 1”, “NOTE 2”, “NOTE 3”, etc. The numbering restarts for each new figure.

Notes to figures should be treated independently from notes integrated in the text (see Clause 24). They should be located below the figure and precede figure footnotes.

Notes to figures should not contain provisions or any information considered indispensable for the use of the document. Any provisions relating to the content of a figure should be given in the text, in a footnote to the figure or as a paragraph below the figure, within the frame. Notes to figures need not be referred to.

### 28.5.5 Footnotes to figures

Footnotes to figures are numbered independently from footnotes to the text. They should be located below the figure and any notes.

Footnotes to figures should be distinguished by superscript upper case letters, starting with “A<sup>1</sup>”. The footnotes should be referred to in the figure by inserting the same superscript upper case letter. See Figure 4.

Footnotes to figures may contain provisions.

## 28.6 Types of figure

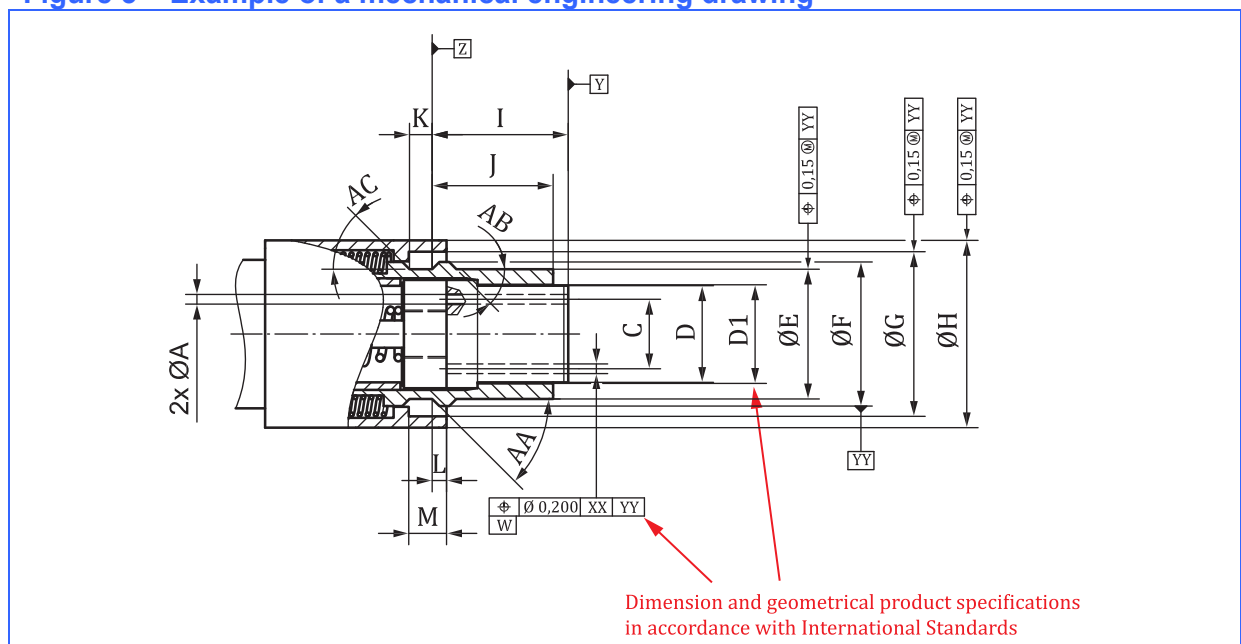
### 28.6.1 Mechanical engineering drawings

Mechanical engineering drawings should be prepared in accordance with BS 8888. Different views, details and sections of a component or multicomponent object should be presented in conformity with BS ISO 128-30, BS ISO 128-34, BS ISO 128-40 and BS ISO 128-44.

Different views, details and sections of a component or multicomponent object should not be presented as subfigures.

See Figure 5.

**Figure 5 – Example of a mechanical engineering drawing**



## 28.6.2 Graphical symbols

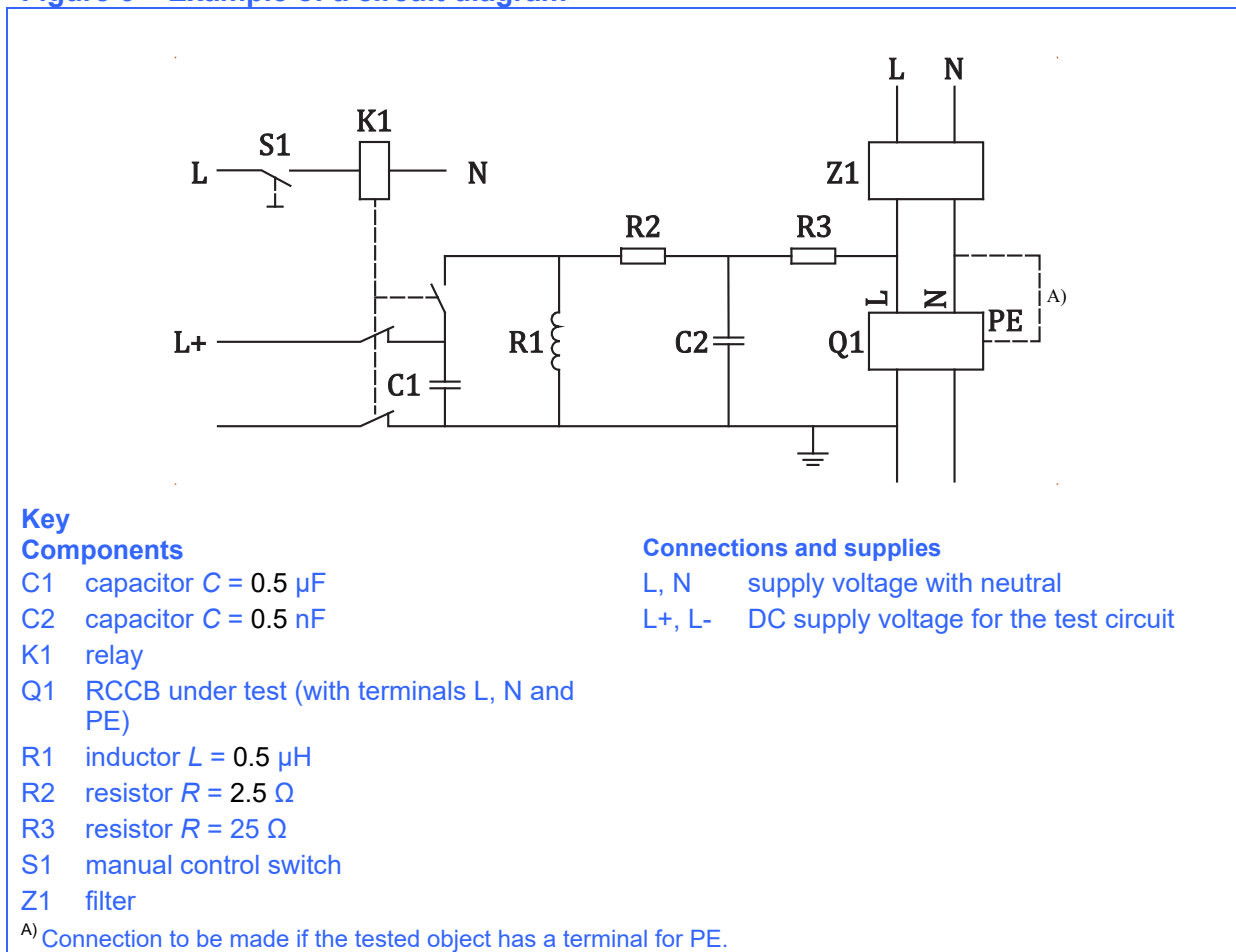
Graphical symbols for use on equipment should be in accordance with IEC 60417 and ISO 7000. Public information symbols should be in accordance with ISO 7001. Safety signs should be in accordance with BS EN ISO 7010.

There is a detailed table of graphical symbols in the ISO/IEC Directives, Part 2.

## 28.6.3 Circuit diagrams and connection diagrams

Diagrams, such as circuit diagrams and connection diagrams, for example for test circuits, should be prepared in accordance with BS EN 61082-1. Graphical symbols used in schematic diagrams should be in accordance with IEC 60617 and BS ISO 14617. Reference designations should be in accordance with BS EN 81346. Signal designations should be in accordance with BS EN 61175. See Figure 6.

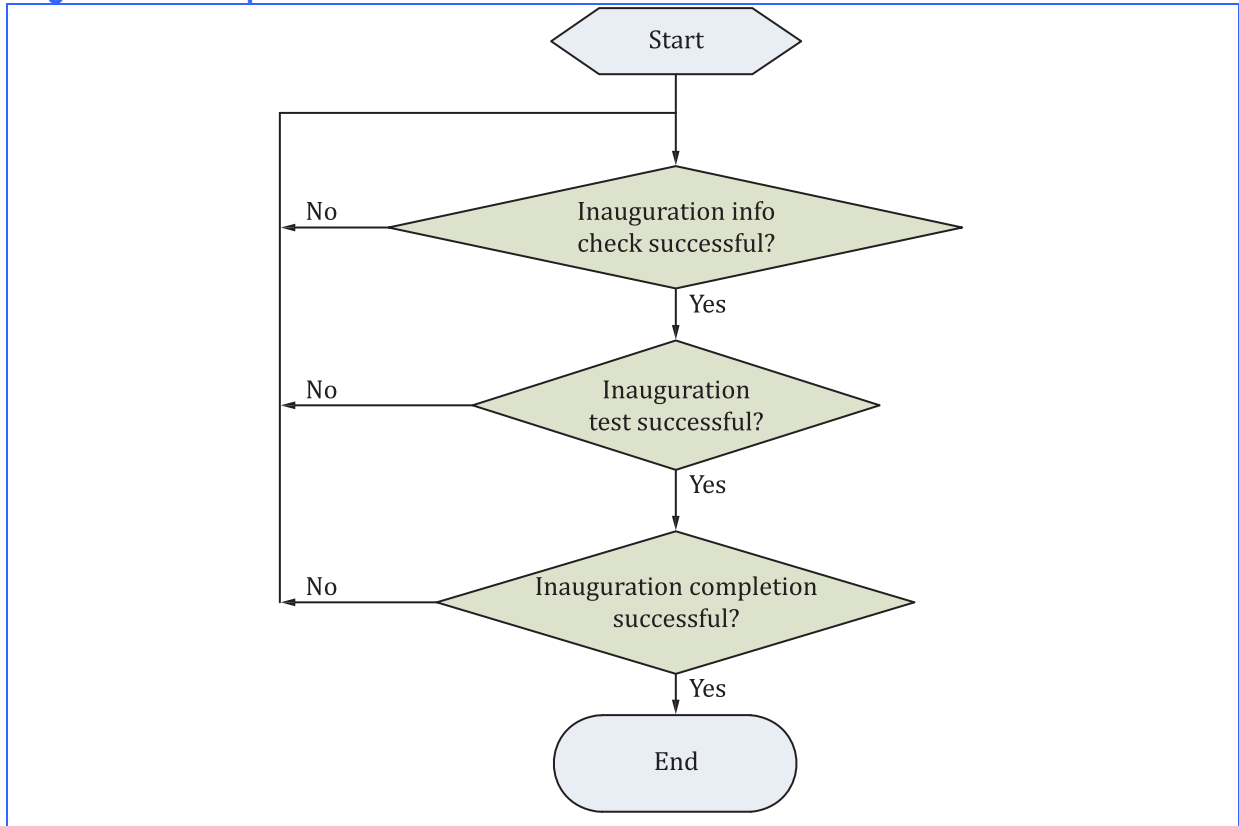
**Figure 6 – Example of a circuit diagram**



## 28.6.4 Flowcharts

Flowcharts should be prepared in accordance with BS 4058. See Figure 7.

Figure 7 – Example of a flowchart



## 29 Tables

### 29.1 Purpose or rationale

Tables are used when they are the most efficient means of presenting information in an easily comprehensible form. Each table should be referred to explicitly, either normatively or informatively, within the text.

Tables may be used, for example:

- to supplement, clarify, summarize or substitute for text;
- to avoid repetition; or
- to compare differences or similarities.

### 29.2 Title

Every table should have a concise title.

### 29.3 Numbering and subdivision

Tables should be numbered and should appear in the order in which they are first cited in the text. If a table appears in an introduction, it should be numbered as part of the normal sequence

A single table should be designated “Table 1”. This numbering should be independent of the numbering of the clauses and of any figures.



Further subdivision should be avoided, but is permissible if it would be helpful to the reader, e.g. if there is a series of tables in pairs. If a table is subdivided, the number of each part of the table should be followed by an upper case letter, e.g. “Table 1A”, “Table 1B”. A subdivided table should have a common main element running through its titles, in the same manner as a standard subdivided into parts.

A table within a table is not permitted. Subdivision of a table into subsidiary sections with new column headings is not permitted.

It is often better to create several tables rather than trying to consolidate too much information into one table. The simpler the presentation, the better.

In annexes, the table numbering restarts and the number is preceded by the annex letter (e.g. Table A.1, etc.).

When a table is continued over several pages, the table designation should be repeated, followed by the title and by “(1 of #)” where # is the total number of pages on which the table appears.

#### EXAMPLE

Table 1 Title of table (1 of #)

The column headings together with any statement concerning units should be repeated on all pages after the first. If the table contains notes and/or footnotes, these should appear on the last page only, but a single row may be added at the bottom of every page of the table stating that the notes/footnotes can be found at the end.

## 29.4 Referencing

Each table should be explicitly referred to within the text.

Use, for example, the following forms for references to tables:

- “Table 3 lists...”;
- “See Table B.1”.

Where a cross-reference is given to two consecutive tables, both should be referred to individually, e.g. “Table 1 and Table 2”. Where a range of cross-references is given to three or more tables, the range should be presented in the form “Table 1 to Table 3”. The form “Tables 1 to 3” should not be used.

## 29.5 Specific principles and rules

### 29.5.1 Notes to tables

Notes to tables should be located within the frame of the relevant table and should precede table footnotes. A single note in a table should be preceded by “NOTE”, placed at the beginning of the first line of the text of the note. When several notes occur in the same table, they should be designated “NOTE 1”, “NOTE 2”, “NOTE 3”, etc. The numbering restarts for each new table.

Notes to tables should not contain provisions or any information considered indispensable for the use of the document. Any provisions relating to the content of a table should be given in the text, in a footnote to the table or as a paragraph at the bottom of the table, before any notes or footnotes. Notes to tables need not be referred to.

### 29.5.2 Footnotes to tables

Footnotes to tables are numbered independently from footnotes to the text. They should be located within the frame of the relevant table, and should appear at the foot of the table below any notes.

Footnotes to tables should be distinguished by superscript upper case letters, starting with “(A)”. The footnotes should be referred to in the table by inserting the same superscript upper case letter.

Footnotes to tables may contain provisions.

### 29.5.3 Keys to tables

In tables, it is sometimes necessary to abbreviate words or references in order to save space or to improve readability. The meaning of such abbreviated terms should be explained in a key. See Table 5.

**Table 5 – Example of a table with a key**

Data object name	Common data class	Explanation	T	M/O/C
LNName		The name shall be composed of the class name, the LN-Prefix and LN-Instance-ID according to IEC 61850-7-2:2010, Clause 22.		
<b>Data objects</b>				
<b>Status information</b>				
Op	ACT	Level of action reached	T	M
<b>Settings</b>				
StrVal	ASG	Start level set-point		C
OpDITmms	ING	Operate delay time [ms]		O
<b>Key</b>				
T: Transient data objects				
M/O/C: The data object is mandatory (M) or optional (O) or conditional (C)				

### 29.6 Examples

#### EXAMPLE 1

The layout of the different elements that can appear in a table

Dimensions in millimetres			
Type	Length	Inside diameter	Outside diameter
	$l_1^a$	$d_1$	
	$l_2$	$d_2^{b,c}$	
A paragraph containing a requirement.			
NOTE 1 Table note.			
NOTE 2 Table note.			
A) Table footnote.			
B) Table footnote.			
C) Table footnote.			

#### EXAMPLE 2

When there are several different types of units:

Type	Linear density	Inside diameter	Outside diameter
	kg/m	mm	mm

**EXAMPLE 3**

When there are several different types of units:

Dimensions in millimetres			
Type	Length	Inside diameter	Outside diameter

**EXAMPLE 4**

Correct and incorrect table headers. The table cells **should not** be split diagonally

Correct:

Dimension	Type		
	A	B	C

Incorrect:

Type			
	A	B	C
Dimension			

A table cell should never be left blank. If there is no value for a table cell, it should contain either an em dash or the words “Not applicable”. An em dash is the more common form.

## Section 4: Policy

### 30 Patent rights

See BS 0:2016, **9.5** for information on how to deal with intellectual property rights, including patents, in standardization.

The principles under which patent rights are recognized and declared are given in BS 0:2016, **9.5.4**.

Where patent rights have been identified during the preparation of the document, they should be included in the foreword.

### 31 Use of trade names and trademarks

A correct designation or description of a product should be given rather than a trade name or trademark.

Proprietary trade names or trademarks for a particular product should as far as possible be avoided, even if they are in common use.

If, exceptionally, trade names or trademarks cannot be avoided, their nature should be indicated, for example by the symbol ® for a registered trademark (see Example 1) and by the symbol <sup>TM</sup> for a trademark.

#### EXAMPLE 1

Instead of “Teflon®”, write “polytetrafluoroethylene (PTFE)”.

If it is known that only one product is currently available that is suitable for the successful application of the document, the trade name or trademark of the product may be given in the text of the document but should be associated with a footnote as shown in Example 2.

#### EXAMPLE 2

<sup>1)</sup> ...[trade name or trademark of product] ... is the [trade name or trademark] of a product supplied by ... [supplier] .... This information is given for the convenience of users of this document and does not constitute an endorsement by ... [BSI] ... of the product named. Equivalent products may be used if they can be shown to lead to the same results.

If it is considered essential to give an example (or examples) of commercially available products suitable for successful application of the document because the product characteristics are difficult to describe in detail, trade names or trademarks may be given in a footnote as shown in Example 3.

#### EXAMPLE 3

<sup>1)</sup> ...[trade name(s) or trademark(s) of product(s)] ... is (are) an example(s) of a suitable product(s) available commercially. This information is given for the convenience of users of this document and does not constitute an endorsement by ... [BSI] ... of this (these) product(s).

### 32 Copyright

Guidance on copyright and intellectual property rights (IPR) is given in BS 0:2016.

### 33 Aspects of conformity assessment

All documents containing provisions for products, processes, services, persons, systems and bodies should be written in accordance with the “neutrality principle”, such that conformity can be assessed by a manufacturer or supplier (first party), a user or purchaser (second party), or an independent body (third party).

*NOTE 1 First-party, second-party and third-party conformity assessment activities are defined in BS EN ISO/IEC 17000.*

As a general rule, such documents should not include provisions related to conformity assessment other than provisions which are necessary to provide repeatable and reproducible conformity assessment results. Where, exceptionally, it is believed that a circumstance has arisen where a standard will need to include a requirement for third-party conformity assessment, the approval of SPSC is required (see BS 0:2016, **4.3.3.2**).

Committees wishing to give additional conformity assessment provisions for the product, process, service, persons, systems or bodies may only do so in a separate document or in a separate part of the document provided that the separate parts can be applied independently.

No document containing provisions for products, processes, services, persons, systems and bodies should make conformity dependent on a quality management systems standard, i.e. it should not, for example, make normative reference to BS EN ISO 9001.

*NOTE 2 This does not apply to management systems standards (see Clause 34).*

Further guidance is given in BS 0:2016, **4.3.3**.

### 34 Aspects of quality management systems, reliability and sampling

#### 34.1 General

General aspects are dealt with by ISO/TC 69 *Applications of statistical methods*, ISO/TC 176 *Quality management and quality assurance* and IEC TC 56 *Dependability*. Documents developed by those technical committees should be consulted for guidance.

#### 34.2 Sector policy

When a committee wishes to develop quality management system requirements or guidance for a particular product or industry/economic sector it should respect the following rules.

- a) Normative reference should be made to BS EN ISO 9001 in its entirety or, subject to the “applicability” provisions detailed in the scope of BS EN ISO 9001, to its clauses or subclauses. Alternatively, subject to the “applicability” provisions detailed in the scope of BS EN ISO 9001, the clauses or subclauses may be reproduced verbatim.
- b) If text from BS EN ISO 9001 is reproduced in the sector document, it should be distinguished from the other elements of the sector document [see d)].
- c) Terms and definitions specified in BS EN ISO 9000 should be referred to in a normative manner or reproduced verbatim.
- d) The guidance and criteria provided in *Quality management systems – Guidance and criteria for the development of documents to meet needs of specific product and industry/economic sectors*, approved by ISO/TC 176, should be considered not only when determining the need for a sector-specific requirements or guidance document but also in the document development process.

## Annex A (normative)

### Checklist for writers and editors of documents

The following checklist is a tool to help writers and editors of documents.

Task	Assessment	Done <input type="checkbox"/>	Comments
Structure	Check table of contents: Is the top-level structure logical? Is the subdivision consistent?		
	Hanging paragraphs: Check for and remove any hanging paragraphs.		
Use of plain language	Is the text clear and concise?		
	Are the sentences short? (check punctuation)		
Title	Is the title organized going from the more general to the more particular?		
	Does the title unintentionally limit the scope of the document?		
	Is it as clear and concise as possible?		
	Make sure that the title does not contain more than three elements.		
	If there are several parts, are the titles aligned?		
Foreword	Is the document a revision? If so, insert a revision statement including any amendments and technical corrigenda and a list of changes with respect to previous edition.		
	Are there any other organizations involved in the drafting that should be mentioned?		
Introduction	Is it purely informative?		
	Does it describe the content or give information on why the document is needed?		
Scope	Does it describe what the document does?		
	Does it state where it is applicable?		
	Does it only contain statements of fact?		
Normative references	Normative references clause: are all the references cited in the text actually normative?		
	Are the references dated or undated?		
	Are the references used ISO and IEC standards? If not, do suitable ISO and IEC standards exist which could be used instead?		
	Are the normative references publicly available?		
	References cited in a normative manner in the text: are all such references listed in Clause 2?		
Terms and definitions	Are the terms listed used in the document?		
	Are the definitions correctly drafted?		
Figures	Does each figure have a concise title?		
	Is each figure numbered correctly?		
	Is there a key if necessary?		

Task	Assessment	Done <input type="checkbox"/>	Comments
	Are all figures cross-referenced in the text?		
Graphical symbols	Are symbols used taken from the ISO and IEC databases? If not, contact IEC TC 3, IEC SC 3C and ISO/TC 145 in order to register a standardized symbol.		
Tables	Does each table have a concise title?		
	Is each table numbered correctly?		
	Are all tables cross-referenced in the text?		
Annexes	Is there a reference to each annex in the main part of the text?		
	Is their status (normative or informative) correct? Is this made clear in the main part of the text?		
Bibliography	Is it formatted consistently?		
	Are all the entries correct and complete?		
	Are any of them normative references that should be listed in Clause 2?		
	Are any of the listed documents duplicated in Clause 2?		
Drafting of provisions	Make sure that “shall”, “should” and “may” are not used in the <b>Foreword, Introduction or Scope</b>		
	Make sure there are no provisions in commentary, notes, examples or informative annexes		
	Are “may”, “can” and “might” used correctly?		
	Is “must” used anywhere in the document? Is “must” used correctly to mean external constraints?		
	Make sure that no requirements specifying compliance with national/legal regulations are included.		
Potential legal problems	Copyrights		
	Trademarks		
	Patents		
Conformity assessment	Are there potential conformity assessment issues?		
Cross-references	Are all cross-references correct?		
Common problems	Are symbols for variable quantities correctly formatted in the text and mathematical formulae?		
	Is a comma on the line used as the decimal sign?		
Other issues			

## Annex B (normative)

### Quantities and units

Annex B includes provisions that are specified elsewhere in the present document (BSI *Rules for the structure and drafting of UK standards*), or in the particular standards dealing with quantities and units.

Aspects to be considered	Explanations and examples
Decimal sign	The decimal sign should be a full-stop, except in National Annexes to Eurocodes, which should have a decimal comma.
Permitted units	<p>British Standards should, wherever practicable, use only:</p> <ul style="list-style-type: none"> <li>SI units, as given in the various parts of BS ISO 80000 and BS EN 80000;</li> <li>a few additional units used with the SI, namely minute (min), hour (h), day (d), degree (°), minute (′), second (″), litre (l), tonne (t), electronvolt (eV) and unified atomic mass unit (u), as shown in BS EN ISO 80000-1;</li> <li>the units neper (Np) and bel (B), which are given in BS EN ISO 80000-1 and BS EN ISO 80000-3, and octave, which is given in BS EN ISO 80000-8;</li> <li>the units baud (Bd), bit (bit), octet (o), byte (B), erlang (E), hartley (Hart), natural unit of information (nat) and shannon (Sh), which are given in BS EN 80000-13, and var (var) which is given in BS EN 80000-6, for use in electrical technology and information technology.</li> </ul> <p><i>NOTE</i> In most cases, for consistency, in International Standards only the symbol “l” is used for litre, although the symbol “L” is also given in BS ISO 80000-3.</p>
Mixing symbols and names of units	<p>Do not mix symbols and names of units.</p> <p>EXAMPLE 1</p> <p>Correct: “kilometres per hour” and “km/h”      Incorrect: “km per hour” and “kilometres/hour”.</p>
Writing numerical values with unit symbols	<p>Use numerical values written in figures with unit symbols.</p> <p>EXAMPLE 2</p> <p>Correct: “5 m”      Incorrect: “five m” and “5 metres”.</p>
Space between numerical values and unit symbols	<p>There should be a space between the numerical value and the unit symbol except in the case of superscript-type unit symbols used for plane angles. However, the degree should preferably be subdivided decimally.</p> <p>EXAMPLE 3</p> <p>5 mm    15 Ω    37 km/h    14 A    115°    27 °C    25 K</p>
Use of +, – and ± signs as a monadic operator	<p>When a plus, minus or a plus-minus (±) sign is used as a monadic operator there should be no space between the sign and the number.</p> <p>EXAMPLE 4</p> <p>A Celsius temperature from –7 °C to +5 °C Tolerance ±5 cm on the length of the square.</p>
Use of +, –, ±, =, > and < signs as dyadic operators or to express relations	<p>When signs and symbols are used as a dyadic operator or to show a relation (=, &lt;, &gt;), there should be a space on both sides of the sign.</p> <p>EXAMPLE 5</p> <p>5 + 2    5 – 3    <math>n \pm 1.6</math>    <math>D &lt; 2 \text{ mm}</math>    <math>&gt; 5 \text{ mm}</math></p>



Aspects to be considered	Explanations and examples														
Abbreviated terms for units	<p>Do not use non-standardized abbreviated terms for units.</p> <p>EXAMPLE 6</p> <table border="0"> <tr> <td>Correct: "s"</td> <td>Incorrect: "sec"</td> </tr> <tr> <td>Correct: "min"</td> <td>Incorrect: "mins"</td> </tr> <tr> <td>Correct: "h"</td> <td>Incorrect: "hrs"</td> </tr> <tr> <td>Correct: "cm<sup>3</sup>"</td> <td>Incorrect: "cc"</td> </tr> <tr> <td>Correct: "l"</td> <td>Incorrect: "lit"</td> </tr> <tr> <td>Correct: "A"</td> <td>Incorrect: "amps"</td> </tr> <tr> <td>Correct: "r/min"</td> <td>Incorrect: "rpm"</td> </tr> </table>	Correct: "s"	Incorrect: "sec"	Correct: "min"	Incorrect: "mins"	Correct: "h"	Incorrect: "hrs"	Correct: "cm <sup>3</sup> "	Incorrect: "cc"	Correct: "l"	Incorrect: "lit"	Correct: "A"	Incorrect: "amps"	Correct: "r/min"	Incorrect: "rpm"
Correct: "s"	Incorrect: "sec"														
Correct: "min"	Incorrect: "mins"														
Correct: "h"	Incorrect: "hrs"														
Correct: "cm <sup>3</sup> "	Incorrect: "cc"														
Correct: "l"	Incorrect: "lit"														
Correct: "A"	Incorrect: "amps"														
Correct: "r/min"	Incorrect: "rpm"														
Modification of internationally standardized unit symbols	<p>Internationally standardized unit symbols <b>should</b> not be modified by adding subscripts or other information.</p> <p>EXAMPLE 7</p> <table border="0"> <tr> <td>Correct: "<math>U_{\max} = 500 \text{ V}</math>"</td> <td>Incorrect: "<math>U = 500 \text{ V}_{\max}</math>"</td> </tr> <tr> <td>Correct: "a mass fraction of 5%"</td> <td>Incorrect: "5% (<math>m/m</math>)"</td> </tr> <tr> <td>Correct: "a volume fraction of 7%"</td> <td>Incorrect: "7% (<math>V/V</math>)"</td> </tr> </table> <p>Remember that % = 0.01 and ‰ = 0.001 are "pure" numbers. Do not mix information with unit symbols.</p> <p>EXAMPLE 8</p> <table border="0"> <tr> <td>Correct: "the water content is 20 ml/kg"</td> <td>Incorrect: "20 ml H<sub>2</sub>O/kg" or "20 ml of water/kg".</td> </tr> </table>	Correct: " $U_{\max} = 500 \text{ V}$ "	Incorrect: " $U = 500 \text{ V}_{\max}$ "	Correct: "a mass fraction of 5%"	Incorrect: "5% ( $m/m$ )"	Correct: "a volume fraction of 7%"	Incorrect: "7% ( $V/V$ )"	Correct: "the water content is 20 ml/kg"	Incorrect: "20 ml H <sub>2</sub> O/kg" or "20 ml of water/kg".						
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Correct: "a mass fraction of 5%"	Incorrect: "5% ( $m/m$ )"														
Correct: "a volume fraction of 7%"	Incorrect: "7% ( $V/V$ )"														
Correct: "the water content is 20 ml/kg"	Incorrect: "20 ml H <sub>2</sub> O/kg" or "20 ml of water/kg".														
Use of language-specific abbreviated terms	<p>Wherever possible, language-specific abbreviated terms should not be used. When language-specific abbreviated terms which are in common use, such as "ppm", are used, their meaning <b>should</b> be explained.</p>														
Use of ambiguous terms	<p>Ambiguous terms such as "billion" <b>should</b> not be used.</p>														
Writing unit, quantity or variable symbols	<p>Unit symbols <b>should</b> always be in roman type. Quantity or variable symbols <b>should</b> always be in italic type. Symbols representing numerical values <b>should</b> be different from symbols representing the corresponding quantities.</p> <p>EXAMPLE 9</p> <p>V is the symbol for the unit Volt. <i>U</i> is the symbol for the quantity electric tension or voltage.</p>														
Writing subscripts	<p>A subscript that represents a quantity or a variable is printed in italic type. Other subscripts, such as those representing words or fixed numbers, are printed in upright type.</p>														
Writing mathematical formulae	<p>Mathematical formulae involving quantities are preferred to formulae involving numerical values because mathematical formulae between quantities are independent of the choice of units whereas mathematical formulae between numerical values are not.</p>														
Use of "weight" and "mass"	<p>The quantity "weight" is a force (gravitational force) and is measured in newtons (N). The quantity "mass" is measured in kilograms (kg).</p>														
Use of the word "unit"	<p>Quotient quantities <b>should</b> not contain the word "unit" in the denominator.</p> <p>EXAMPLE 10</p> <table border="0"> <tr> <td>Correct: "mass per length" or "lineic mass"</td> <td>Incorrect: "mass per unit length"</td> </tr> </table>	Correct: "mass per length" or "lineic mass"	Incorrect: "mass per unit length"												
Correct: "mass per length" or "lineic mass"	Incorrect: "mass per unit length"														



Further examples of the presentation of mathematical formulae are given below:

#### EXAMPLE 1

$$\frac{x(t_1)}{x(t_1 + T/2)} = \frac{e^{-\delta t_1} \cos(\omega t_1 + \alpha)}{e^{-\delta(t_1 + T/2)} \cos(\omega t_1 + \alpha + \pi)} = -e^{\delta T/2} \approx -1.39215$$

where:

- $x$  is the x-coordinate;
- $t_1$  is the time at the first turning point;
- $T$  is the period;
- $\omega$  is the angular frequency;
- $\alpha$  is the initial phase;
- $\delta$  is the damping coefficient;
- $\pi$  is the number 3.141 592 6... .

#### EXAMPLE 2

To express a mass fraction the following method of expression is sufficient:

$$w = \frac{m_D}{m_S} \quad v = \frac{l}{t}$$

but note that expressions such as “the percentage by mass” should be avoided.

### Annex C (normative) Designation of internationally standardized items

*NOTE* Designations are distinct from grades, for which recommendations are given in G.1.2.

The designation of international standardized items should conform to ISO/IEC Directives, Part 2:2016, Annex C. The requirements of the Directives include a format for designations comprising a “description block” and “identity block” of characters, e.g. “Thermometer ISO 656-EC-0,2-58-82”.

Designations, and similarly classifications and classes, have not been as sharply prescribed in standards of UK origin. Items may be designated following the ISO schema, e.g. “Tab washer BS SP45-J”, which will ensure that all essential information about the item is included in the designation and designations will have some consistency of form. However, the designation may include less information where convention has been different and/or where there is less need to be comprehensive, e.g. “SP45J”.

Designations should also conform to the ISO requirements for use of characters. That is, characters should be limited to the Latin alphabet, with no distinction between upper and lower case, Arabic digits, and the characters hyphen (-), plus (+), solidus (/), comma (,) and multiplication sign (×).

The standard identifier should be of the format “BS EN ISO NNNN:YYYY+AX” within the designation, where “NNNN” is the standard number, “YYYY” is the year of publication (if reference to a particular edition is needed) and X is the number of the amendment (if needed).

It is not advisable to include spaces within the “identity block”.

## Annex D (informative)

### Reference documents and sources for drafting

A non-exhaustive list of the most generally applicable basic reference works is given in the ISO/IEC Directives, Part 2:2016.

In the present document (*BSI Rules for the structure and drafting of UK standards*), references given in the text are listed in the bibliography.

## Annex E (normative)

### Updating standards

#### E.1 Amendments and corrigenda

Amendments and corrigenda should be produced in accordance with the relevant National Content work instructions.

#### E.2 New editions

If many technical changes are introduced that affect a large proportion of the text of a standard, thus making it unsuitable for an amendment, but a full revision is not considered appropriate, a new edition of the standard may be produced to incorporate the changes.

*NOTE This might happen if, for example, the committee does not have sufficient resources to commit to the amount of work that would be needed to undertake a full revision.*

A new edition should also be produced where an amendment is proposed to a standard that has had two amendments already, if a full revision is not considered appropriate.

New editions take a new publication date. They should be re-typeset in the current house style and standard wording should be updated as necessary. No other changes should be made to the wording or structure that are not required as part of the new edition. Additions, changes and deletions should not be marked in the text, and only new or changed text should be edited.

Reasons for the publication of a new edition should be included in the foreword. A list of the detailed changes may also be given.

#### E.3 Full revisions

If a standard is re-issued as a full revision, the text should be completely reviewed from an editorial as well as a technical point of view, and should be brought into line with the most recent rules for structure, drafting and presentation as described in the present document (*BSI Rules for the structure and drafting of UK standards*).

Details of the principal changes should be included in the foreword (see Clause 12).

## Annex F (normative)

### Identifiers and numbering of divisions and subdivisions

#### F.1 Identifiers

*NOTE If a need is perceived for any exception to the conventions discussed in this clause it should be discussed at the earliest stage with BSI staff.*

##### F.1.1 General series

For British Standards in the general series, the identifier starts with “BS”.

The number of the standard is then given, after a space. If a standard is divided into parts, the part number follows the main number and is separated from it by a hyphen.

Arabic numerals are used throughout in the numbering of all the elements constituting the publication number (see **6.2** and **6.3**). Letters should be not used, except in the case of an auxiliary publication. The numbering of parts is usually sequential.

#### EXAMPLES

Single standard: BS 6671

Part 1 of a standard divided into parts: BS 6672-1

#### **Notes on earlier practices**

*Prior to the 1997 revision of BS 0-3, a part of a standard was identified using "Part", e.g. "BS 436 Part 4".*

*Standards previously issued as separately published sections or subsections derived their number from the part from which they were developed, e.g. "BS 6789-3.1" for part 3, section 3.1, or "BS 6789-3.3.1" for part 3, section 3.3, subsection 3.3.1. Some standards are maintained in separately published sections for historical reasons.*

*New British Standard codes of practice are given a BS number from the general series. Older codes of practice were formerly numbered in a separate CP series. When revised, these codes receive a new number in the BS general series.*

*Some series of standards begin with part 0. Revisions of these standards may keep the existing numbering.*

### **F.1.2 Auxiliary publications**

For auxiliary publications, such as reference cards, colour charts, maps or test sheets, the identifier carries the number of the main standard with a suffix letter.

#### EXAMPLE

Main standard: BS 5261

Auxiliary publication: BS 5261C

### **F.1.3 Automobile series**

For British Standards in the automobile series, the identifier starts with "BS AU".

Each time an individual publication is revised or amended, the relevant element of the identifier is followed by a lower case letter, starting with the letter "a" for the first revised or amended edition. This addition of a suffix letter is independent of the change in publication date, which occurs each time the publication is revised; the suffix letter continues to change with each revision and amendment.

#### EXAMPLES

BS AU 7:1982 (original edition)

BS AU 7a:1983 (first revised or amended edition)

BS AU 7b:1984 (second revised or amended edition)

In all other respects, automobile series standards are identified in the same way as general series standards.

### **F.1.4 Aerospace series**

For British Standards in the aerospace series, the identifier starts with the following elements:

- a) the designation "BS";
- b) an Arabic numeral indicating the edition of the standard, starting with "2" when the second edition is published (for the first edition, the numeral is omitted);

- c) immediately after the numeral, without a space, one or two capital letters to indicate the subject area;
- d) the main publication number, after a space.

EXAMPLE BS 5G 178-1:1993
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In all other respects, aerospace series standards are identified in the same way as general series standards.

### **F.1.5 Marine series**

For British Standards in the marine series, the identifier starts with “BS MA”.

EXAMPLE BS MA 104-1
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In all other respects, marine series standards are identified in the same way as general series standards.

### **F.1.6 National Annexes to Eurocodes**

For National Annexes to Eurocodes, the identifier starts with “NA to”, followed by the identifier of the Eurocode.

EXAMPLE NA to BS EN 1991-1-2
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### **F.1.7 Published Documents**

For Published Documents, the identifier starts with “PD”.

EXAMPLE PD 7974-3
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### **F.1.8 Non-Conflicting Complimentary Information to Eurocodes**

For Non-Conflicting Complimentary Information (NCCI) to Eurocodes, the identifier starts with “PD”, followed by a four-digit number, followed by a suffix matching that of the particular Eurocode.

EXAMPLE NCCI for Eurocode BS EN 1991-1-2 would have the identifier PD 6688-1-2
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## Annex G (normative)

### Drafting of the different types of British Standards and related UK documents

*NOTE Test methods are dealt with in Clause 18. A brief description of the different types of standardization publications is given in BS 0:2016, 9.4.*

#### G.1 Specifications

##### G.1.1 Drafting

The provisions (normative elements) of a specification are expressed in the form of requirements, using the auxiliary “shall” (see Clause 7).

Recommendations, guidance and statements in a specification are all deemed to be informative, and should be clearly distinguished from the requirements by placing them in notes or commentary (see Clause 24) or informative annexes (see Clause 20). Informative text should be drafted in the form of recommendations, using the auxiliary “should”, or statements of fact. The word “shall” is not used in informative text.

*NOTE Old-style “practice specifications”, with “Requirements” and “Commentary and recommendations” sections, are no longer used. Any specification can be drafted on the practice specification model (i.e. can contain guidance, explanation and application advice integrated within, but clearly separated from, the requirements of the standard); but the layout and presentation should conform to current practice, i.e. with requirements presented as main text, and informative material presented as described above.*

Normative material (requirements) should be placed only in the main text or normative annexes; it should not be placed in notes or commentary.

Requirements should be expressed using wording such as: “When tested as described in Annex A, the product shall ...”, implying in this case that if the test were performed, the product would have to pass in order to establish its conformity.

For most product specifications, it is generally preferable that requirements be written in terms of the product and not the manufacturer, e.g. “the product shall be provided with”, not “the manufacturer shall provide”.

An annex (or separate standard) that gives a test method may include a clause on interpretation of results, provided that the requirements establish how a product is deemed to pass or fail the test.

To ensure that there is no risk of ambiguity, great care needs to be taken when drafting any performance criterion that might be thought to depend on subjective qualitative judgement. For example, wording such as “After tests a, b, c, the item shall show no signs of deformation when examined visually” should be avoided.

##### G.1.2 Grades and options

If a specification gives several grades of product, or ranges of values and multi-choice characteristics, from which the purchaser selects when ordering, the practicability of arranging the requirements into a range of suitably coded types or grades should be considered at the earliest stage and appropriate wording included in the scope clause.

*NOTE 1 “Grade” is defined in BS EN ISO 9000:2015, Clause 3 as an indication of the degree of refinement of a material or product. It is distinct from “quality level”, which indicates the extent of departure from the ideal.*

*NOTE 2 Where “grade” is denoted numerically, the highest grade is usually designated as 1, with the lower grades extending to 2, 3, 4. Where “grade” is denoted alphabetically it is recommended that the highest grade is designated as A with the lower grades extending to B, C, D. Where “grade” is denoted by a symbol, e.g. a star, the lowest grade usually has the least number of symbols.*

If manufacturers will not necessarily make all the grades of product given in a specification, any marking clause should emphasize the need to ensure that claims of conformity are made only for the relevant grades of product.

### **G.1.3 Additions**

If a British Standard specifies a set of basic requirements with optional extras, the requirements for those extras should be specified in clauses introduced by words such as “If provided ...” or “If fitted ...”.

There are no “optional requirements” in standards of UK origin.

### **G.1.4 Preferences**

Statements of preference for particular designs, forms, techniques, etc. should be justified by their benefits to users of the standard, and should not confer commercial advantage on any one supplier.

### **G.1.5 Specifications providing for documented and agreed requirements**

This type of specification is one in which certain characteristics are fixed and others depend upon the context of its application. Examples are specifications for operations such as welding, erection of structures or installations, and for certain materials, processes and individually designed and manufactured products. It should be assumed that the purchaser will have the necessary technical knowledge to agree precise requirements with the supplier.

If a specification depends upon the definition of particular characteristics or parameters by the purchaser or by agreement between the contracting parties, it should provide for the documentation of these requirements in such a way as to ensure that conformity to them can be verified as objectively as conformity to any other requirement.

The first clause of the requirements, i.e. the clause that follows the clauses for scope, references, definitions, symbols, etc., should be entitled “Information and requirements to be agreed and documented”, and should contain subclauses detailing:

- a) all the items of information to be supplied by the purchaser;
- b) all the requirements that are specified throughout the standard as being subject to such agreement.

Each of the items for agreement should conclude with a cross-reference to the clause or subclause that specifies details of what has to be agreed.

The main text should comprise one of the following:

- 1) definitive requirements;
- 2) requirements for characteristics to be agreed between the contracting parties;
- 3) some of 1) and some of 2). For clarity, these clauses should distinguish definitive requirements from those that rely on supplementary documentation by putting them into separate subclauses or series of subclauses within the clause.

Requirements specified as being subject to such agreement should not undermine other requirements that are explicitly specified. For example, it is not acceptable to specify “The materials shall be a, b or c” and then to state “The use of other materials shall be by agreement ...”. In such a situation, either the use of any material would have to be the subject of agreement, possibly with supplementary guidance being given in an annex to facilitate the selection of an agreed material, or the default should be specified, with the option to agree something different, using the phrase “Unless otherwise agreed, ...”. For example, “Unless otherwise agreed between the purchaser and the supplier, the widgets shall be made of copper conforming to BS 2345”.

### **G.1.6 Specifications for materials**

Specifications for materials, whether natural or synthetic, should be drafted in the same way as product specifications with, where necessary, emphasis on defining limits for individual properties and on sampling and acceptance testing.



### **G.1.7 Specifications for processes**

A process specification should prescribe the steps to be taken in the manufacture of a product.

It should place emphasis on detailed stages of manufacture and the conditions under which they are to be performed, with regard, where appropriate, to specified characteristics of the product to be manufactured. It should also place emphasis on testing during the process, production control and the maintenance of manufacturer's records.

For an example of a process specification, see BS 6446.

### **G.1.8 Specifications for systems**

A specification for a system should establish the requirements to which a completed, installed system should conform.

The requirements in a specification for a system can be difficult to specify and verify. Such a specification may form one of a series of standards which may include product specifications, methods and codes of practice. For an example of such a series, see BS 4737.

### **G.1.9 Specifications for provision of services**

The provision of a service should be specified using the same principles of objective verifiability as for any other product specification. However, it is recognized that it might sometimes be necessary to make a requirement for personal actions or behaviour that can be verified only on the basis of audit, spot check or some other form of management system. The drafting of such requirements should be such that non-compliance is likely to be readily apparent when subjected to such measures.

Where it is neither obvious nor clearly implicit, the standard should indicate which forms of verification (there may be several) would be deemed acceptable for the purposes of establishing conformity.

Compared with other types of specification, there is greater likelihood of a service specification having to address more than one audience. Where this arises, it is particularly important to identify the relevant parties in the scope clause, and to ensure that the requirements to be met by different parties are clearly differentiated in the text of the standard (see also 5.10).

## **G.2 Methods of specifying**

Methods of specifying are usually written in the form of specifications.

A method of specifying should establish definitions and methods of verification and give guidance on factors to be considered in determining values for characteristics.

A method of specifying should, where appropriate, provide the basis for understanding and agreement between contracting parties, by giving direction for the formulation of enquiries and the placing of tenders and orders.

## **G.3 Codes of practice**

### **G.3.1 Structure**

The best method of structuring a code of practice should be decided with due regard to the needs of its users. If a code of practice consists of several parts intended for different users, the possibility of publishing each part separately should be considered. If there is a preference for a comprehensive code of practice, its structure should be based on principles similar to those for specifications.

A uniform framework for the presentation of information should be adopted as far as practicable in codes of practice of the same kind.

Codes of practice should be structured in a logical order, typically the order in which actions are generally carried out (e.g. design, construction, testing, maintenance).

### **G.3.2 Drafting**

The provisions (normative elements) of a code of practice are expressed in the form of recommendations, using the auxiliary “should” (see Clause 7). A code of practice cannot contain requirements and cannot use the auxiliary “shall”. Phrases such as “It is essential” should not be used in normative text as they can be ambiguous; anything that is intended to be a provision of the standard should be worded as such, using “should”.

It is harder to distinguish between normative and informative text in a code of practice than in a specification, but essentially recommendations are the normative element, and everything else is deemed to be informative. Normative and informative elements should be clearly distinguished by placing statements and factual information in notes or commentary (see Clause 24) or informative annexes (see Clause 20).

*NOTE Old-style “practice specifications”, with “Recommendations” and “Commentary” sections, are no longer used. Recommendations are presented as main text, and informative material presented as described above. The term “practice specification” is no longer used for codes of practice, to avoid confusion between the different types of standard.*

If the technical committee considers it desirable, the principle underlying a particular practice may be discussed or explained in a code of practice, but a code should not be regarded as a “textbook”, nor should it be expected to include every detail and possible variation. Where appropriate, a code of practice should give a series of options and identify the implications of adopting each of them.

A code of practice cannot specify how items are to be manufactured. If there is need for a code of practice to refer to manufacturing processes that normally take place before materials or equipment leave the manufacturer, the code should refer to the appropriate British Standard specification. If there is no appropriate specification, a description of the product or material to be used, or suitable types of product or material, should be given instead.

### **G.4 Guides**

The wording of a guide is in the form of descriptive statements and recommendations, using the present tense and the auxiliary “should” for recommendations. A guide cannot contain requirements.

A guide should where possible be drafted in accordance with the same principles as a code of practice, although it is generally less specific and more discursive.

### **G.5 Vocabularies**

A vocabulary defines the terms used in a particular industrial sector or technological field. It provides definitions of terms to which reference should always be made within the same sector or field, rather than redefining the term in each separate standard.

The individual definitions within a vocabulary should be drafted in accordance with Clause 16 and BS ISO 10241-1.

In a vocabulary, the organization and structure of terminological entries should generally be in accordance with BS ISO 10241-1, although its relationship with other standards or the nature of its subject might make a different numbering system or structure preferable. The overriding principle should be one of usability.

The structure, system, numbering system, and any other information to help the user, should be set out in the foreword or introduction.

A table of contents may be included if the standard is divided into more than one clause/section. An index of terms should be included if they are not given in alphabetical order.

The foreword of a vocabulary should not include a statement about verbal forms, or a statement on presentational conventions.

## G.6 Other UK national documents

### COMMENTARY ON G.6

*The other UK national documents currently produced are National Annexes to Eurocodes, and Published Documents (PDs) including NCCI to Eurocodes. Detailed guidance and rules for National Annexes and NCCI are given in document N 250 D.*

*A third type of UK national document, Drafts for Development, was produced up until 2011, but BSI now no longer publishes these. A Draft for Development (DD) was produced when there were uncertainties which prevented the immediate preparation of a British Standard. A DD was of a provisional nature and was published so that information and practical experience of its application could be obtained.*

### G.6.1 National Annex to a Eurocode

A National Annex (NA) provides guidance on the application and applicability of a European or international standard. It is usually published within the UK implementation of the standard, but NAs to Eurocodes are published as separate documents.

The identifier of an NA should take the form “NA to BS EN 199X-X:20XX”, where BS EN 199X-X:20XX is the identifier of the Eurocode. The year is the year of publication of the Eurocode and *not* the year of publication of the NA.

The identifier of an NA should be used as the outer running head; “NATIONAL ANNEX” should be used as the inner running head.

The title of an NA should take the form of “UK National Annex to Eurocode X: *Title of the Eurocode*”.

The inside front cover of an NA should have the same format as a conventional standard of UK origin. The copyright date and published date are the date the NA is published.

A table of contents should only be included in an NA if the document is particularly long and/or complex. Most NAs do not have a table of contents.

A foreword should not be included in an NA. The summary of pages should be included at the foot of the inside front cover.

The title of an NA should be given on page 1 of the NA, in the form: “National Annex (informative) to BS EN 199X-X:20XX, Eurocode X: *Title of the Eurocode*”.

An introduction should follow the title of an NA, in the form: “This National Annex has been prepared by BSI Subcommittee, B/525/9, *Committee title*. In the UK, it is to be used in conjunction with BS EN 199X-X:20XX, *Title of the Eurocode*”.

The structure of an NA should always be:

- NA.1 Scope
- NA.2 Nationally Determined Parameters (NDP)
- NA.3 Decisions on the status of informative annexes
- NA.4 References to non-contradictory complementary information (NCCI)

An NA may have a bibliography, particularly where there are references to other Eurocodes and NAs within the text, or where the committee would like to provide “further reading”, but a bibliography is not compulsory.

An NA should not include information that does not fit into the categories NDP, status of informative annexes or NCCI. Brief explanatory notes may be included. Replacement

annexes (or replacement text, subclauses or values) may be supplied in place of the informative annexes.

NCCI should either be a PD (or PDs) drafted by the relevant BSI committee (see **G.6.2**), or material (printed or online) approved as NCCI by the relevant BSI committee.

Styles of nomenclature and typography of an NA should be the same as the Eurocode, e.g. variables, sub-scripts, capitalization.

The decimal comma should be used in an NA.

### **G.6.2 Published Document**

#### **COMMENTARY ON G.6.2**

*Published Documents have been used to publish a variety of supplementary information when it was not practicable to publish a British Standard. As of 2011, their use is being reduced as they are not considered a preferred option for publication. Their use is now largely restricted to publication of NCCI to Eurocodes (see **G.6.1**).*

A Published Document (PD) is usually written in the same form as a British Standard and should therefore follow the same rules as for a British Standard.

NCCI to a Eurocode is published as a PD, can include only informative text and cannot conflict with the Eurocode. It is usually written in the same form as a British Standard guide and should follow the rules given in **G.4**.

## Bibliography

### Standards publications

For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 0:2011 (withdrawn), *A standard for standards – Principles of standardization*

BS 0-3:1997 (withdrawn), *A standard for standards – Part 3: Specification for structure, drafting and presentation*

BS 4058 (ISO 5807), *Specification for data processing flow chart symbols, rules and conventions*

BS 4737 (all parts), *Intruder alarm systems*

BS 6446, *Specification for manufacture of glued structural components of timber and wood based panels*

BS EN 61293, *Marking of electrical equipment with ratings related to electrical supply – Safety requirements*

BS EN 61355-1, *Classification and designation of documents for plants, systems and equipment – Part 1: Rules and classification tables*

BS EN 80416-1, *Basic principles for graphical symbols for use on equipment – Part 1: Creation of graphical symbols for registration*

BS EN ISO 128-20, *Technical drawings – General principles of presentation – Part 20: Basic conventions for lines*

BS EN ISO 1101, *Geometrical product specifications (GPS) – Geometrical tolerancing – Tolerances of form, orientation, location and run-out*

BS EN ISO 81714-1, *Design of graphical symbols for use in the technical documentation of products – Part 1: Basic rules*

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