

# **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 31 January 2012. It was prepared on behalf of the BSI Standards Policy and Strategy Committee.

### Supersession

This document supersedes *The BSI guide to standardization – Section 2:2010*, which is withdrawn.

### Relationship with other publications

This document gives the drafting rules referred to in BS 0:2011.

### 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 0:2011 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 2:2011, with modifications to alter, clarify or extend some of its provisions for easier, clearer use in the UK.

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

### Presentational conventions

Text in this document that is identical to text in the ISO/IEC Directives, Part 2:2011 is presented in **blue type**.

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

Where text from the ISO/IEC Directives, Part 2:2011 has simply been deleted, this is not indicated.

## 1 Scope

This document gives rules for the structure and drafting of standards of UK origin, as defined in BS 0:2011. 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 <sup>1)</sup>

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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, *A standard for standards – Principles of standardization*

BS 8888, *Technical product specification – Specification*

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

BS EN 60617 (all parts), *Graphical symbols for diagrams*

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 3166 (all parts), *Codes for the representation of names of countries and their subdivisions*

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

BS EN ISO 80000-8, *Quantities and units – Part 8: Acoustics*

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

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<sup>1)</sup> This clause, which contains standard wording used for all European and international standards, is intended to identify all other documents to which reference *might* need to be made in the application of this standard. In practice, it might be possible to apply this and many other standards without recourse to all or any such external references.

BS ISO 3166 (all parts), *Codes for the representation of names of countries and their subdivisions*

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

BS ISO 7000, *Graphical symbols for use on equipment*

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>

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

ISO/IEC Directives, Part 2:2011, *Rules for the structure and drafting of International Standards*

ISO/IEC Directives, *Supplement – Procedures specific to IEC*

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

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in BS 0:2011 and the following apply.

#### 3.1 Document type

##### 3.1.1 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

##### 3.1.2 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

##### 3.1.3 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. See ISO/IEC Directives Part 2:2011 for their definition of a Guide.*

##### 3.1.4 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

##### 3.1.5 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

##### 3.1.6 vocabulary

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

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<sup>2)</sup> Available as an online database at <http://www.graphical-symbols.info/equipment>.

### **3.1.7 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**

#### **3.2.2.1 preliminary informative element**

element that identifies the document, introduces its content and explains its background, its development and its relationship with other documents

#### **3.2.2.2 supplementary informative element**

element that provides additional information intended to assist the understanding or use of the document

### **3.2.3 mandatory element**

element the presence of which in a document is obligatory

### **3.2.4 conditional element**

element the presence of which in a document is dependent on the provisions of the particular document

## **3.3 Provision**

### **3.3.1 requirement**

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

*NOTE Subclause H.2 specifies the verbal forms for the expression of requirements.*

### **3.3.2 recommendation**

<in a specification or test method> expression in the content of a document conveying 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

### **3.3.3 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 Subclause H.3 specifies the verbal forms for the expression of recommendations.*

### **3.3.4 statement**

expression in the content of a document conveying information

*NOTE Subclause H.4 specifies the verbal forms for indicating a course of action permissible within the limits of the document. Subclause H.5 specifies the verbal forms to be used for statements of possibility and capability.*

## **4 General principles**

### **4.1 Objective**

The objective of documents published by BSI is to define clear and unambiguous provisions in order to facilitate trade and communication. To achieve this objective, the document should:

- be as complete as necessary within the limits specified by its scope;
- be consistent, clear and accurate;

- take full account of the state of the art;
- provide a framework for future technological development;
- be comprehensible to qualified persons who have not participated in its preparation; and
- take into account the principles for the drafting of documents (see Annex A).

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.

## 4.2 Performance approach

Whenever possible, requirements and recommendations should be expressed in terms of performance rather than design or descriptive characteristics. This approach leaves maximum freedom to technical development.

## 4.3 Homogeneity and terminology

Uniformity of structure, of style and of terminology should be maintained not only within each document, but also within a series of associated documents. The structure of associated documents and the numbering of their clauses should, as far as possible, be identical. Analogous wording should be used to express analogous provisions; identical wording should be used to express identical provisions.

Regardless of the type of standard, the same term should be used throughout each document or series of associated documents to designate a given concept. The use of an alternative term (synonym) for a concept already defined should be avoided. As far as possible, only one meaning should be attributed to each term chosen.

If it is necessary to use a term for more than one concept, the different concepts should be given in the terms and definitions clause (see 6.3.1). If a term is defined in the terms and definitions clause, it should be used only with that meaning throughout the document. Further, if a term is defined in the terms and definitions clause, *that term* should be used throughout the document.

Text should as a general rule not be repeated. If a large piece of text is relevant in several places, it should be given once and cross-referred to elsewhere. However, there are occasions where a degree of repetition is inevitable, e.g. where a warning is needed in several places, or where a number of test methods have some steps in common. Where identical requirements, recommendations, instructions or statements appear in two or more places, the wording should be consistent.

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 or, if used in a special sense, included in the terms and definitions clause. 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.

## 4.4 Consistency of documents

In order to achieve the aim of consistency within the complete corpus of documents published by BSI, the text of every document should be in accordance with the relevant provisions of existing basic documents published by BSI (and, where applicable, by ISO and IEC). This relates particularly to:

- a) standardized terminology;
- b) principles and methods of terminology;
- c) quantities, units and their symbols;
- d) abbreviated terms;

- e) bibliographic references;
- f) technical drawings and diagrams;
- g) technical documentation; and
- h) graphical symbols, public information symbols and safety signs.

Regarding item h), when preparing British Standards that include graphical symbols and/or safety signs, it is advisable to consult Technical Committees PH/8 (Graphical symbols and signs), and/or, where appropriate, GEL/3 (Documentation and graphical symbols), in order to ensure that:

- the graphical symbols and safety signs under consideration do not conflict with or duplicate those already standardized;
- new graphical symbols and safety signs are created and designed in accordance with the relevant requirements in published national and international graphical symbols and safety signs standards;
- the graphical symbols or safety signs can be included in the relevant graphical symbols or safety signs standard.

In addition, specific technical aspects should be drafted in accordance with the provisions of general documents published by BSI (and, where applicable, by ISO and IEC) dealing with the following subjects:

- 1) limits, fits and surface properties;
- 2) tolerancing of dimensions and uncertainty of measurement;
- 3) preferred numbers;
- 4) statistical methods;
- 5) environmental conditions and associated tests;
- 6) safety;
- 7) chemistry;
- 8) EMC (electromagnetic compatibility);
- 9) conformity and quality;
- 10) environmental management;
- 11) packaging;
- 12) consumer issues.

#### 4.5 Equivalence of official language versions

*Not applicable in the UK.*

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

*Not applicable in the UK.*

#### 4.7 Planning

In order to ensure the timely publication of a document or of a series of associated documents, the intended structure and any interrelationships should be established before detailed drafting begins. In particular, consideration should be given to the subdivision of the subject matter (see 5.1). In the case of a multipart document, a list of the intended parts together with their titles should be drawn up. The rules given in the present document (BSI *Rules for the structure and drafting of UK standards*) should be applied from the very beginning of the work and throughout all subsequent stages to avoid delay at any stage.

See Annex K for methods of updating standards.

## 5 Structure

### 5.1 Subdivision of the subject matter

#### 5.1.1 General

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

However, as a general rule, an individual document should be prepared for each subject to be standardized, and published as a complete entity with 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 C.

In specific cases and for practical reasons, for example if:

- a) the document is likely to become too voluminous;
- b) subsequent portions of the content are interlinked;
- c) portions of the document could be referred to in regulations; or
- d) portions of the document are intended to serve for certification purposes;

the document may be split into separate parts under the same number. This has the advantage that each part can be changed separately when the need arises.

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

Such individual aspects are, for example:

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

The terms which should be used to designate the divisions and subdivisions that a document may have are shown in Table 1. For examples of numbering, see Table C.1.

**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

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

There are two ways of achieving this.

- 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 might modify or supplement the common aspects and therefore cannot stand alone) should be given in 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*

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

### EXAMPLE 4

*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*

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

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

The elements that together form a document may be classified in two different ways:

- a) by their normative or informative nature and their position within the structure, i.e.
- preliminary informative elements (see 3.2.2.1),
  - general and technical normative elements (see 3.2.1), and
  - supplementary informative elements (see 3.2.2.2);
- b) by their mandatory or conditional presence (see 3.2.3 and 3.2.4).

An example of a typical arrangement is given in Table 2. Table 2 also lists the permitted content of each of the elements constituting the arrangement.

**Table 2 – Example of a typical arrangement of elements in a document**

Type of element	Arrangement of elements <sup>A)</sup> in document	Permitted content <sup>A)</sup> of element(s) in document
Preliminary informative	<i>Title page</i> (front cover)	<b>Identifier</b> <b>Title</b>
	<b>Publishing information</b> (inside front cover)	<b>Publication date</b> <b>ISBN and ICS code(s)</b> <b>Committee details</b> <b>DPC number(s)</b> <sup>B)</sup> <b>Publication history</b> <b>Amendment details</b>
	<i>Table of contents</i>	(Generated content)
	<b>Foreword</b>	<b>Text</b> Figures Tables Notes Footnotes
General normative	<i>Introduction</i>	Text Figures Tables Notes Footnotes
	<b>Scope</b>	<b>Text</b> Figures Tables Notes Footnotes
Technical normative	Normative references	References Footnotes
	Terms and definitions Symbols and abbreviated terms <b>Provisions</b> Normative annex	<b>Text</b> Figures Tables Notes/commentary Footnotes
Supplementary informative	<i>Informative annex</i>	Text Figures Tables Notes/commentary Footnotes
Technical normative	Normative annex	Text Figures Tables Notes/commentary Footnotes
Supplementary informative	<i>Bibliography</i>	References Footnotes
	<i>Indexes</i>	Index Notes Footnotes

<sup>A)</sup> **Bold type** = mandatory element; upright type = normative element; *italic type* = informative element.

<sup>B)</sup> For an amendment, the DPC number from the original edition should be retained as well as the new one.

A document need not contain all the normative technical elements shown and it may contain normative technical elements other than those shown. Both the nature of the normative technical elements and their sequence are determined by the nature of the document in question.

A document may also contain notes and footnotes to figures and tables (see 6.6.5.9, 6.6.5.10, 6.6.6.6 and 6.6.6.7).

Terminology standards have additional requirements for the subdivision of content (see Annex D).

## 5.2 Description and numbering of divisions and subdivisions

### 5.2.1 Part

**5.2.1.1** The number of a part should be indicated by Arabic numerals, normally beginning with 1, following the document number and preceded by a hyphen; for example,

9999-1, 9999-2, etc.

*NOTE* See also the examples in 5.1.2.

**5.2.1.2** The title of a part should be composed in the same way as that of a document as described in 6.1.1. 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 ...”.

**5.2.1.3** If a document is published in the form of a number of separate parts, the first part should include in its foreword (see 6.1.3) an explanation of the intended structure. In the foreword of each part belonging to the series, a reference should be made to the titles of all other parts that have been or are planned to be published.

### 5.2.2 Section

In most British Standards, the clause (5.2.3) 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 5.2.4). 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.

### 5.2.3 Clause

A clause is the basic component in the subdivision of the content of a document.

The clauses in each document or part should be numbered with Arabic numerals, beginning with 1 for the “Scope” clause. The numbering should be continuous up to but excluding any annexes (see 5.2.7).

Each clause should have a title, placed immediately after its number.

### 5.2.4 Subclause

A subclause is a numbered subdivision of a clause. A primary subclause (e.g. 5.1, 5.2, etc.) may be subdivided into secondary subclauses (e.g. 5.1.1, 5.1.2, etc.), and this process of subdivision may be continued as far as the fourth level (e.g. 5.1.1.1.1, 5.1.1.1.2, etc.).

Subclauses should be numbered with Arabic numerals (see Table C.1 for an example).

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”.

Each subclause should have a title, placed immediately after its number, on a line separate from the text that follows it.

Numbered subdivisions without titles are referred to as numbered paragraphs (see 5.2.5).

### 5.2.5 Paragraph

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.

“Hanging paragraphs” such as those shown in the following example should be avoided since reference to them is ambiguous.

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

#### EXAMPLE

Incorrect	Correct
<p><b>5 Designation</b>                      The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog.</p> <p><b>5.1 XXXXXXXXXXXX</b>                      The quick brown fox jumps over the lazy dog.</p> <p><b>5.2 XXXXXXXXXXXX</b>                      The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog.</p> <p><b>6 Test report</b></p>	<p><b>5 Designation</b>  <b>5.1 General</b>                      The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog.</p> <p><b>5.2 XXXXXXXXXXXX</b>                      The quick brown fox jumps over the lazy dog.</p> <p><b>5.3 XXXXXXXXXXXX</b>                      The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog.</p> <p><b>6 Test report</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.

## 5.2.6 Lists

Lists provide a way of displaying complex sequences of options or information in a way that aids understanding and ease of reference. For example, lists should be used when it is necessary to simplify complex sentences or to permit precise identification from within a range or options or factors.

The text preceding a list should clearly indicate whether one, all or some other combination of the items is applicable.

Lists may be either numbered or unnumbered. There are no strict rules governing when to use numbered and when to use unnumbered lists, but numbered lists should always be used if there is a need to cross-refer to the list items, or if the list follows a logical order. It is also advisable to number each item in a long list.

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 further 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)”. A third level of subdivision is not encouraged, but if it is unavoidable then each subdivided item should be preceded by a lower-case roman numeral followed by a single closing parenthesis, i.e. “i), ii), iii)”. 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 should be preceded by a bullet.

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.

### EXAMPLE 1

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.

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.

### EXAMPLE 2

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.

If it is not practicable for each list item to form a grammatically complete sentence, then the list should be formatted as shown in Example 1, and the introductory sentence should be worded accordingly, ending in a colon.

All the items in a single list should be phrased consistently, i.e. the grammatical forms of items shown in these examples should not be mixed within a single list.

### 5.2.7 Annex

For the description of the two types of annex, see 6.3.9 and 6.4.1.

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 designating its serial order, beginning with “A”, e.g. “Annex A”. The annex heading should be followed by the indication “(normative)” or “(informative)”, and by the title. 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”.

Annexes may be subdivided into clauses (see 5.2.3), subclauses (see 5.2.4), paragraphs (see 5.2.5) and lists (see 5.2.6). A clause should not be created unless there is at least one further clause in the annex.

Clauses in Annex A are designated “A.1”, “A.2”, “A.3”, etc. Subclauses in A.1 are designated “A.1.1”, “A.1.2”, “A.1.3” etc.

### 5.2.8 Bibliography

A bibliography, if present, should appear after the last annex. For the drafting rules, see 6.4.2.

### 5.2.9 Indexes

Indexes, if present, should appear as the last element. For the drafting rules, see 6.4.3.

## 6 Drafting

### 6.1 Preliminary informative elements

#### 6.1.1 Title page

The title page should contain the identifier (see 5.1.1) and the title of the document.

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.

If the subject area is clearly indicated in the main element, the introductory element should be omitted; otherwise it should always be included. A complementary element should be included if the main element does not cover all aspects of the subject.

It is useful for the title to indicate the type of standard, e.g. whether it is a specification or a code of practice.

Detailed rules for the drafting of titles are given in Annex E.

### 6.1.2 Table of contents

The table of contents is a conditional preliminary element, but is necessary if it makes the document easier to consult. Auxiliary publications and very short standards (i.e. fewer than three or four pages) do not need to include a table of contents. If used, the table of contents appears as the first element of the standard, after the cover and immediately before the foreword.

The table of contents should be entitled “Contents” and should list the foreword, the introduction if there is one, clauses and, if appropriate, subclauses with titles, annexes together with their status in parentheses, the bibliography, indexes, figures and tables. The order should be as follows: foreword; introduction; clauses and subclauses with titles; annexes; the bibliography; indexes; figures; tables. All the elements listed should be cited with their full titles. Terms in the “Terms and definitions” clause, and numbered paragraphs, should not be listed in the table of contents.

Annexes, figures and tables should be preceded by subheadings “Annexes”, “List of figures” and “List of tables” respectively.

The table of contents should be generated automatically and not composed manually.

### 6.1.3 Foreword

The foreword should appear in each document, with the exception of National Annexes to Eurocodes. It should not contain provisions of the standard. This means that a foreword cannot contain requirements at all, and as a general rule should not contain recommendations (as these constitute provisions in a code of practice). However, wording such as “this standard should be read in conjunction with...” or “this standard should not be quoted as though it were a specification” is permitted.

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

The foreword should appear immediately after the contents list. It is not numbered, but the following unnumbered subheadings should be used to help the reader to locate information.

- *Publishing information.*

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

- the committee reference;
- the effective date, where appropriate;
- a statement that the initial drafting was produced in association with BIS, 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 cancels and replaces 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 (see 5.2.1.3); 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 6.6.7.5.6 and BS 0:2011, 9.2), it is permissible to list them after the standard wording, preceded by: "In particular, attention is drawn to the following statutory regulations."

## 6.1.4 Introduction

The introduction is a conditional preliminary element used, if required, to give specific information or commentary about the technical content of the document, and about the reasons prompting its preparation. It should not contain requirements or recommendations.

*NOTE* An introduction can be useful in cases where it is felt necessary to explain the detailed context and broader background to the subject matter of a standard. It is the appropriate place in which to refer to factors such as research, academic, social or legislative developments that might have had a bearing on the development of a standard.

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

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 numbered figure, table, displayed formula or footnote should be numbered normally beginning with 1.

## 6.2 General normative elements

### 6.2.1 Scope

This element should appear at the beginning of each document immediately after the foreword (or after the introduction, if there is one) and define without ambiguity the subject of the document and the aspects covered, thereby indicating the limits of applicability of the document or particular parts of it. It should not contain requirements or recommendations.

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.

This element 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 ... the characteristics of ...
establishes	a system for ... general principles for ...
describes	a method of ... 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 British Standard is applicable to ...”

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.

### 6.2.2 Normative references

#### 6.2.2.1 General

This conditional element should give a list of the referenced documents cited (see 6.6.7.5 and 6.6.7.6) in the document in such a way as to make them indispensable for the

**application of the document.** If present, this element should appear as the second numbered clause following the scope.

The list should be introduced by the following wording:

“The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 the list is divided into standards publications and other publications, the above wording should precede any subheadings.

The list should not include the following:

- referenced documents which are only cited in an informative manner;
- referenced documents which have merely served as bibliographic or background material in the preparation of the document.

Such referenced documents may be listed in a bibliography (see 6.4.2).

Documents which are not publicly available should not be cited as references.

Normative references should be either dated or undated according to the way in which they are presented in the text. References to prENs (draft European standards) should be avoided (see 6.6.7.5.4); if their inclusion is essential, they should always be dated. For dated references, each should be given with its year of publication and full title. The year of publication should not be given for undated references. When an undated reference is to all parts of a document, the publication number should be followed by the indication “(all parts)” and the general title of the series of parts (i.e. the introductory and main elements, see Annex E).

If a publication is referenced both normatively and informatively, it should be listed only in the normative references clause. If the normative reference is undated but the informative reference dated, a footnote should be included that draws attention to the informative reference.

### 6.2.2.2 What is a normative reference?

A reference is normative if it is necessary for full compliance with a standard.

- In a specification, a reference is normative if it is cited by means of a requirement, e.g. by such wording as “the widget shall conform to BS 1234” or “when tested in accordance with BS 1234, the widget shall not turn blue”. A reference cited by means of a recommendation is informative.
- In a test method, a reference is normative if it is cited by means of an instruction, e.g. “condition the widget in accordance with BS 1234”, or by means of a requirement, e.g. “the apparatus shall conform to BS 1234”. A reference cited by means of a recommendation is informative.
- In a code of practice or guide, a reference is normative if it is cited by means of a recommendation, e.g. by such wording as “the widget should be calibrated using the procedure given in BS 1234” or “the widget should be made of iron conforming to BS 1234”.
- In any type of standard, a reference is normative if it is cited in the terms and definitions clause, e.g. by such wording as “for the purposes of this British Standard, the terms and definitions given in BS 1234 apply”, or if the foreword states that the reference is essential to the understanding of the standard, e.g. by such wording as “This British Standard should be read in conjunction with BS 1234”.

- A reference that is cited by means of a statement, e.g. by such wording as “see BS 1234” or “information on the widget is given in BS 1234”, is always informative regardless of the type of standard.

### 6.2.2.3 Normative references to non-standards publications

In principle no standard should be so drafted as to be dependent on the requirements of a publication outside the jurisdiction of BSI. However, it is recognized that there are occasions where this will be necessary. Where a standard requires the inclusion of material from such a publication, either the necessary permission for its inclusion should be obtained and the material should be reproduced in full with appropriate copyright acknowledgement, or a normative reference should be made.

Documents published by other bodies may be referred to in a normative manner provided that:

- a) the referenced document is recognized by the BSI committee concerned as having wide acceptance and authoritative status as well as being publicly available and not of an unstable or ephemeral nature;
- b) 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;
- c) the BSI committee concerned undertakes to review the situation in the light of any changes in the referenced document.

### 6.2.2.4 Presentation

Normative references to standards publications should be presented in alphanumerical order.

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. 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 6.6.7.6). Non-standards publications should be presented in the same way as for the bibliography (see 6.4.2).

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)”.

## 6.3 Technical normative elements

### 6.3.1 Terms and definitions

This is a conditional element giving definitions necessary for the understanding of certain terms used in the document. If present, this element should appear as the third numbered clause following the scope (or the second, if there are no normative references).

The following introductory wording should be used where all terms and definitions are given in the document itself:

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

In the case where terms defined in one or more other documents also apply (for example, in the case of a series of associated documents where Part 1 specifies the terms and definitions for several or all of the parts), the following introductory wording should be used, altered as necessary:

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

Rules for the drafting and presentation of terms and definitions are given in Annex D, together with special rules for terminology standards, such as vocabularies and nomenclatures.

Note that the introductory text is not a hanging paragraph, as described in 5.2.5, as the terms and definitions are a definitions list and not a series of subclauses.

### 6.3.2 Symbols and abbreviated terms

This is a conditional element giving a list of the symbols and abbreviated terms necessary for the understanding of the document.

If present, this element should be combined with element 6.3.1 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”. This should then be divided into separate subclauses for “Terms and definitions”, “Symbols” and “Abbreviations”, in that order.

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.

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:

- a) upper case Latin letter followed by lower case Latin letter (*A, a, B, b*, etc.);
- b) 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.);
- c) Greek letters following Latin letters (*Z, z, A, α, B, β, ..., Λ, λ*, etc.);
- d) any other special symbols.

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 Annex D).

#### EXAMPLE OF 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 OF ABBREVIATIONS LISTING

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

### 6.3.3 Provisions

**This element is conditional.** 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.

A clear distinction should be made between requirements, statements and recommendations. In addition to using the appropriate verbal forms for requirements, statements and recommendations, as given in Annex H, their use is determined by the type of standard, as given in Annex J.

Rules for the drafting of the different types of British Standards are given in Annex J.

If present, and where appropriate, the provisions should contain the following:

- a) all characteristics relevant to the aspects of the products, processes or services covered by the document, either explicitly or by reference;
- b) the required (or recommended) limiting values of quantifiable characteristics;
- c) for each requirement (or recommendation), either a reference to the test method for determining or verifying the values of the characteristic, or the test method itself (see 6.3.6).

*NOTE The principle of verifiability is of essential importance in product specifications; see A.4.*

With respect to item b), as a general rule requirements and recommendations should be:

- absolute, e.g. “the value shall be not less than X” or “the value shall be  $\geq X$ ” rather than “the minimum value shall be X”; and
- positive, e.g. “the value shall be not less than” rather than “the value shall not be less than”.

Values are assumed to be nominal unless stated to be one of the following:

- maximum;
- minimum;
- subject to stated tolerances;
- a range.

To avoid confusion when referring to average values, the text should make it clear whether the mean, median or mode is intended. The most common is the mean.

If a 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...”

**Contractual requirements (concerning claims, guarantees, covering of expenses, etc.) and legal or statutory requirements should not be included.**

In some product specifications, it might be necessary to specify that the product shall be accompanied by warning notices or by instructions to the installer or user, and to specify their nature. On the other hand, requirements concerning installation or use as such should be included in a separate part or a separate document, since they are not requirements applicable to the product itself.

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

The policy to be adopted for accommodating more than one product size is given in **A.6**.

### 6.3.4 Warnings and cautions

This element is conditional. A caution is an instruction that draws attention to the risk of damage to the 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.

### 6.3.5 Sampling

This conditional element 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 element **6.3.6**.

### 6.3.6 Test methods

#### 6.3.6.1 General

This conditional element gives all the provisions concerning the procedure for determining the values of characteristics or checking conformity to stated requirements, and for ensuring the reproducibility of the results. If appropriate, tests should be identified to indicate whether they are type tests, routine tests, sampling tests and so on. In addition, the document should specify the sequence of testing if the sequence can influence the results.

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 **6.3.6.2**);
- c) apparatus (see **6.3.6.3**);
- 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.

Test methods may be presented as separate clauses, or be incorporated in the provisions (see **6.3.3**), or be presented as annexes (see **6.3.9**) or as separate parts (see **5.2.1**). A test method should be prepared as a separate document if it is likely to be referred to in a number of other documents.

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.*

When drafting test methods, account **should** be taken of 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 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. See also **6.3.4** regarding warnings and cautions generally.

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

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 which differ from that most acceptable for general application are in use, 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.

### **6.3.6.2 Reagents and/or materials**

#### **6.3.6.2.1 General**

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

Each reagent and/or material entry **should** be numbered for purposes of cross-referencing, even if there is only one.

The following example shows the presentation style used (for further examples of drafting, see BS ISO 78-2). Note that the typographic presentation is different from that of clauses and subclauses: the title of a clause or subclause **should** appear on the same line as the clause or subclause number, but on a line separate from the text that follows it; a reagent and/or material in a reagents and/or materials list is followed optionally by a description of the reagent and/or material, which appears on the same line

**EXAMPLE****3 Reagents**

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

**6.3.6.2.2 Reference materials**

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 6532-2 (ISO Guide 31).

**6.3.6.3 Apparatus**

This is a conditional element giving a list of the apparatus used in the document. The rules for the structure, numbering and presentation of the “Apparatus” clause are identical to those for the “Reagents and/or materials” clause (see **6.3.6.2**). 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 **6.6.3** regarding the use of trade names and trademarks.

**6.3.6.4 Alternative test methods**

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

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

**6.3.6.5.1** The accuracy of the chosen test method should be such as to allow unambiguous determination of whether the value of the characteristic to be assessed lies within the specified tolerance.

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

**6.3.6.6 Avoidance of duplication and unnecessary deviations**

Avoidance of duplication is a general principle in the methodology of standardization but the greatest danger of duplication appears in the field of test methods because a test method is often applicable to more than one product, or type of product, with little or no difference. Before standardizing any test method, it should therefore be determined whether an applicable test method already exists.

If a test method is, or is likely to be, applicable to two or more types of product, preferably 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 may 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.

### 6.3.7 Classification, designation and coding

This optional element may establish a system of classification, designation (see Annex G) and/or coding of products, processes or services that conform to stated requirements. For convenience, this element may be combined with element 6.3.3. It is left to the relevant committee to decide whether requirements concerning designation are to be included in a given document. If they are included, the requirements **should** conform to Annex G. This element may be supplemented by an informative annex, giving an example of ordering information.

### 6.3.8 Marking, labelling and packaging

#### 6.3.8.1 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 deal with marks of conformity. Such marks are ordinarily to be applied under the rules of a certification system – see ISO/IEC Guide 23. The marking of products with reference to a standards body or its documents is discussed in BS EN ISO/IEC 17050-1 and BS EN ISO/IEC 17050-2.

Provisions concerning safety standards and aspects related to safety are given in ISO/IEC Guide 51.

This element may be supplemented by an informative annex giving an example of ordering information.

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 worded as follows.

#### EXAMPLE

- “<sup>1)</sup> Marking BS [number]:[year] on or in relation to a product represents a manufacturer’s declaration of conformity, i.e. a claim by or on behalf of the manufacturer that the product meets the requirements of the standard. The accuracy of the claim is solely the claimant’s responsibility. Such a declaration is not to be confused with third-party certification of conformity.”

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.

#### 6.3.8.2 Marking, labelling and packaging of products

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

- the content of any marking that is used to identify the product including, where applicable, the manufacturer (name and address) or responsible vendor (trade name, trade mark or identification mark), or the marking of a product itself [e.g. manufacturer’s or vendor’s trade mark, model or type number, designation (see Annex G)], or the identification of different sizes, categories, types and grades;
- 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;
- the location on the product, or in some cases on the packaging, where such marking is to appear;
- requirements for the labelling and/or packaging of the product (e.g. handling instructions, hazard warnings, date of manufacture);
- other information as **might** be required.

If the application of a label is required by the document, 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.

### 6.3.8.3 Documentation accompanying the product

Documents might 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.

### 6.3.9 Normative annexes

Normative annexes give provisions additional to those in the 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 or guide, an annex is normative if it contains recommendations.

The presence of normative annexes is conditional. An annex's normative status (as opposed to informative – see 6.4.1) should be made clear by the way in which it is referred to in the text, by an indication in the table of contents and under the heading of the annex.

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 J.1);
- recommendations in an annex should be drafted in accordance with the rules for codes of practice (see J.3);
- test methods in an annex should be drafted in accordance with the rules for test methods (see 6.3.6).

For rules for informative annexes, see 6.4.1.

## 6.4 Informative supplementary elements

### 6.4.1 Informative annexes

Informative annexes give 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 or guide, an annex is informative if it contains information in the form of statements.

The presence of informative annexes is conditional. An annex's informative status (as opposed to normative – see 6.3.9) should be made clear by the way in which it is referred to in the text, by an indication in the table of contents and under the heading of the annex.

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.

For rules for normative annexes, see 6.3.9.

## 6.4.2 Bibliography

### 6.4.2.1 General

This conditional element should give a list of the referenced documents cited for informative purposes. It should only refer to documents that are publicly available. It should not include private documents that are only available within the publishing organization.

*NOTE In exceptional circumstances, the bibliography may include withdrawn standards and non-standards publications which are out of print, as long as their status is made clear (see 6.6.7.5.1).*

If present, the bibliography should appear as the last element of a standard, unless there is an index, in which case the bibliography should appear as the penultimate element.

The list should be introduced by the following wording:

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

If the list is divided into standards publications and other publications (see 6.6.4.2.3), the above wording should appear after the “Standards publications” heading.

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.

If a publication is referenced both normatively and informatively, it should be listed only in the normative references clause.

### 6.4.2.2 What is an informative reference?

A reference is informative if it is not necessary for full compliance with a standard.

- In a specification or test method, a reference is informative if it is cited by means of a recommendation or a statement.
- In a code of practice or guide, a reference is informative if it is cited by means of a statement.

### 6.4.2.3 Presentation

Informative references to standards publications 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 6.2.2.3).

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

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.

Non-standards publications may include a footnote which gives details of where the publication can be obtained, although this is not necessary for such items as legislative documents.

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. Furthermore, the reference should, as far as possible, remain valid for the expected life of the document. The reference 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 address should not be underlined as this can make it difficult to identify some characters, e.g. an underscore.

#### EXAMPLES

- [1] ISO/IEC Directives and ISO Supplement. International Organization for Standardization, ©2004-2010 [viewed 2010-04-19]. Available from <<http://www.iso.org/directives>>
- [2] Statutes and directives. International Electrotechnical Commission, ©2004-2010 [viewed 2011-02-09]. Available from <[http://www.iec.ch/members\\_experts/refdocs/](http://www.iec.ch/members_experts/refdocs/)>
- [3] ISO 7000/IEC 60417 [online database], Graphical symbols for use on equipment [viewed 2010-06-14] Available from <<http://www.graphical-symbols.info/equipment>>

### 6.4.3 Indexes

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 systems 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.

## 6.5 Other informative elements

### 6.5.1 Notes, examples and commentaries integrated in the text

#### 6.5.1.1 Notes and examples

Notes and examples integrated in the text of a document should only be used for giving additional information intended to assist the understanding or use of the document. They should not contain provisions or any other information considered indispensable for the use of the document (see 6.3.3).

As a general rule, notes are used for short pieces of information and advice relating to specific provisions.

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 5.2.5.) 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. Examples may be placed following the relevant subject matter, or at the end of the relevant subclause, or (for long or complicated examples) in an informative annex.

Notes that apply to a specific figure or table should be placed either within the body of the figure or table, or immediately below the text that cites the figure/table.

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

Notes and examples are not numbered unless more than one appears in the same clause, subclause, figure or table. When two or more notes occur within the same clause, subclause, figure or table (whether grouped together or not), they should be designated “NOTE 1”, “NOTE 2”, “NOTE 3”, etc. When two or more examples occur within the same clause, subclause, figure or table, they should be designated “EXAMPLE 1”, “EXAMPLE 2”, “EXAMPLE 3”, etc.

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

#### **EXAMPLE**

This list gives 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.*

A separate numbering sequence for notes and examples should be used within each numbered subdivision of the text or table or figure. (In text, “numbered subdivision” refers to a single numbered clause, subclause or sub-subclause.)

### **6.5.1.2 Commentaries**

In addition to notes (see 6.5.1.1), 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.

Both notes and 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 5.2.5); but they may also follow the specific passage(s) of text to which they refer.

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

## 6.5.2 Footnotes to the text

Footnotes to the text give additional information; their use should be kept to a minimum. As is the case for notes, examples and commentaries integrated in the text (see 6.5.1), footnotes should not contain provisions or any information considered indispensable for the use of the document.

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.

Footnotes to figures and tables follow different rules (see 6.6.5.10 and 6.6.6.7).

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.

Footnotes to the text should normally be distinguished by Arabic numerals, beginning with 1, followed by one parenthesis and forming a continuous numerical sequence throughout the document: 1), 2), 3), etc. The footnotes should be referred to in the text by inserting the same numerals, as superscripts, after the word or sentence in question: <sup>1)</sup><sup>2)</sup><sup>3)</sup> etc.

In certain cases, for example in order to avoid confusion with superscript numbers, one or more asterisks or other appropriate symbols may be used instead: \*, \*\*, \*\*\*, etc.; †, ‡, etc. 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.

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.

## 6.6 Common rules and elements

### 6.6.1 Verbal forms for the expression of provisions

*NOTE* See BS 0:2011, 4.1.4 on the voluntary status of standards and BS 0:2011, 9.2 on their relationship with the law.

The auxiliary verb “shall” is used to express requirements in a specification, “should” is used to express recommendations in a code of practice or a guide, “may” is used to express permission and “can” to express physical possibility. “Must” is not used. For full details see Annex H.

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.

### 6.6.2 Spelling and abbreviation of names of organizations, style, reference works and abbreviated terms

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

To facilitate understanding by all readers, the style should be as simple and concise as possible.

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.

Abbreviated terms should be used with care, and their use should be limited to those cases where it is not likely to cause confusion. If a list of abbreviated terms is not given in the document (see 6.3.2), then the first time that an abbreviated term is used, the full term should be given with the abbreviated term following in parentheses, e.g. “International Organization for Standardization (ISO)”. Thereafter the abbreviated term should be used throughout the standard.

An abbreviated term should be specified only if used subsequently in the document.

The general rule is that an abbreviated term comprises capital letters, without a full-stop after each letter. Exceptionally, abbreviated terms consisting of the initial letters of words printed in lower case letters with a full-stop placed after each letter are used (for example, “a.c.” for “alternating current”). However, some specifications regarding marking may impose other requirements (for example, BS EN 61293 specifies marking in the form “AC 230 V”).

See also 6.6.10 regarding unit symbols.

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.”.

### 6.6.3 Use of trade names

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, e.g. by the symbol ® for a registered trade mark (see Example 1) and by the symbol ™ 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 document and does not constitute an endorsement by ... [BSI] ... of this (these) product(s).”

## 6.6.4 Patent rights

See BS 0:2011, **9.5** for information on how to deal with intellectual property rights, including patents, in standardization.

## 6.6.5 Figures

### 6.6.5.1 Usage

Figures should be used when they are the most efficient means of presenting information in an easily comprehensible form. Each figure should be referred to explicitly, either normatively or informatively, within the text.

### 6.6.5.2 Form

Figures should be in the form of line drawings. Photographs may be used only if it is not possible to convert them into line drawings.

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*.

### 6.6.5.3 Designation

Figures should be designated "Figure", sequentially numbered with Arabic numerals, beginning with 1, and should appear in the order in which they are first cited in the text. This numbering should be independent of the numbering of the clauses and of any tables. A single figure should be designated "Figure 1". If a figure appears in an introduction, it should be numbered as part of the normal sequence.

For the numbering of figures in annexes, see **5.2.7**. For the numbering of subfigures, see **6.6.5.11**.

### 6.6.5.4 Layout of figure designation and title

Every figure should have a title, and the figure designation and title should be placed above the figure.

### 6.6.5.5 Choice of letter symbols, style of lettering, and labelling

Letter symbols used in figures to represent quantities should be in accordance with **6.6.9**.

In artwork, textual descriptions should be replaced by part references (see BS EN ISO 6433) the meaning of which are explained in a key, or figure footnote (see **6.6.5.10**) depending on their content. In graphs, labelling on the axes should not be replaced by part references to avoid any possible confusion between the number representing a part reference and a number representing a value on the axis. Labelling of curves, lines, etc. on the graph should be replaced by part references, however many curves, lines, etc. there are. See the *ITSIG specification for the preparation and exchange of graphics* for further information.

Guidance on technical aspects of drawings can be obtained from the BSI Drawing Office.

When all units for a quantity are the same, a suitable statement (for example, "Dimensions in millimetres") should be placed above the right-hand corner of the figure, within the frame.

### 6.6.5.6 Mechanical engineering drawings and graphical symbols

Mechanical engineering drawings should be prepared in accordance with BS 8888.

Graphical symbols for use on equipment should be in accordance with IEC 60417 and BS ISO 7000.

### 6.6.5.7 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 BS EN 60617 and BS ISO 14617. Reference designations and signal designations should be in accordance with BS EN 81346 and BS EN 61175 respectively.

### 6.6.5.8 Continuation of figures

If a figure is too big to fit on one page (e.g. a very large flowchart, or a subdivided figure with large drawings in each division), there are two options.

- a) Repeat the figure designation and title on the second and any subsequent pages. On each page of the figure, including the first, the title should be followed by “(n of #)”, where *n* is the current page and # is the total number of pages on which the figure appears.
- b) Prepare a larger figure as a separate product, with a reduced version printed in the standard for reference purposes. (This should be avoided if at all possible.)

Ideally, a figure should be confined to a single page.

Any statements concerning units should be repeated on all pages after the first, where applicable.

### 6.6.5.9 Notes to figures

Notes to figures should be treated independently from notes integrated in the text (see 6.5.1.1). They should be located below the figure and precede figure footnotes. 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. When several notes occur in the same figure, they should be designated “NOTE 1”, “NOTE 2”, “NOTE 3”, etc. A separate numbering sequence should be used for each figure.

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. It is not necessary that notes to figures be referred to.

### 6.6.5.10 Footnotes to figures

Footnotes to figures should be treated independently from footnotes to the text (see 6.5.2). They should be located below the figure and any notes.

Footnotes to figures should be distinguished by superscript upper case letters, beginning with “<sup>A</sup>”.

The footnotes should be referred to in the figure by inserting the same upper case letter.

Footnotes to figures may contain information or provisions. As a consequence, it is particularly important when drafting the text of the figure footnote to distinguish clearly between different types of provision by using the appropriate verbal forms (see Annex H).

### 6.6.5.11 Subfigures

Only one level of subdivision of a figure is recommended. Subfigures should be identified by a lower case letter [e.g. 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.

## 6.6.6 Tables

*NOTE For further information on drafting tables in British Standards, see BS 7581.*

### 6.6.6.1 Usage

Tables should be 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.

As a general rule a table should not be split into subsidiary tables, but this may be done 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.

### 6.6.6.2 Designation

Tables should be designated "Table", sequentially numbered with Arabic numerals, beginning with 1, and should appear in the order in which they are first cited in the text. This numbering should be independent of the numbering of the clauses and of any figures. A single table should be designated "Table 1". If a table appears in an introduction, it should be numbered as part of the normal sequence.

For the numbering of tables in annexes, see 5.2.7.

### 6.6.6.3 Layout of table designation and title

Every table should have a title, and the table designation and title should be placed above the top line.

### 6.6.6.4 Headings and table cells

#### 6.6.6.4.1 Headings

The first word in the heading of each column or row should begin with a capital letter. The units used in a given column should generally be indicated under the column heading.

#### EXAMPLE 1

Type	Linear density	Inside diameter	Outside diameter
	kg/m	mm	mm

As an exception to this rule, when all units are the same, a suitable statement (for example, “Dimensions in millimetres”) should instead be placed in the top right-hand corner of the table.

#### EXAMPLE 2

Dimensions in millimetres			
Type	Length	Inside diameter	Outside diameter

The presentation shown in Example 3 is not permitted and should be altered as shown in Example 4.

#### EXAMPLE 3

Type	Linear density	Inside diameter	Outside diameter
Dimension			

#### EXAMPLE 4

Dimension	Type		
	Linear density	Inside diameter	Outside diameter

### 6.6.6.4.2 Table cells

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.

### 6.6.6.5 Continuation of tables

When a table is continued over several pages, the table designation should be repeated on the second and any subsequent pages, followed by the title. On each page of the table, including the first, the title should be followed by “(n of #)”, where *n* is the current page and # is the total number of pages on which the table appears.

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.

### 6.6.6.6 Notes to tables

Notes to tables should be treated independently from notes integrated in the text (see 6.5.1.1). They should be located below the table and 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. A separate numbering sequence should be used for each 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. It is not necessary that notes to tables be referred to.

### 6.6.6.7 Footnotes to tables

Footnotes to tables should be treated independently from footnotes to the text (see 6.5.2). They should be located below the table and any notes.

Footnotes to tables should be distinguished by superscript upper case letters, beginning with “A”.

The footnotes should be referred to in the table by inserting the same upper case letter.

Footnotes to tables may contain information or provisions. As a consequence, it is particularly important when drafting the text of the table footnote to distinguish clearly between different types of provision by using the appropriate verbal forms (see Annex H).

## 6.6.7 References

### 6.6.7.1 General

As a general rule, references to particular pieces of text should be used instead of repetition of the original source material, since such repetition involves the risk of error or inconsistency and increases the length of the document. (This is discussed further in A.7.) However, if it is considered necessary to repeat such material, its source should be identified precisely.

References should be made in the forms indicated in 6.6.7.2 to 6.6.7.7 and should not be made to page numbers.

### 6.6.7.2 References to the document as a whole in its own text

For an individual standard, the form “this British Standard” should be used, except in the introductory texts for the “Normative references” (see 6.2.2.1) and the “Terms and definitions” (see 6.3.1) clauses.

The wording should be altered as a function of the document type concerned, i.e. British Standard or Published Document.

For a document published in separate parts, the following forms should be used:

- “this part of ISO/IEC 2382” (reference to a part only);
- “IEC 60335” (reference to a whole series of parts).

Such references are understood to include all amendments and revisions to the document if they are undated (see 6.6.7.5.2).

### 6.6.7.3 References to elements of text

If cross-references are required, they should be made to precisely numbered elements of the text. References such as “see above”, “see below”, “see the following figure”, or to page numbers, should not be used, as it is possible that the document might be presented in a variety of formats such that locational references could be inaccurate.

Initial capital letters should be used for references to named elements of the text. 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.

Use the following forms:

- for a foreword or introduction: “Foreword”, “Introduction”;
- for a complete clause or annex: “Clause **3**”, “Annex **B**”;
- for a point-numbered subdivision of the text: “**3.2**”, “**9.3.3b**”, “**A.1.2**”;
- 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**”;

- for a table or figure: “Table 1”, “Figure 2”;
- for a note or commentary: “Note”, “Note 2 to 5.1”, “Commentary on Clause 6”.

Where a cross-reference is given to two consecutive figures or tables, 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 or tables, the range should be presented in the form “Table 1 to Table 3”. The forms “Figures 1 and 2” and “Tables 1 to 3” should not be used.

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

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

#### 6.6.7.4 References to figures, tables and annexes

Every figure, table and annex included in the document should be referred to in the text.

Annexes, figures and tables should be cited as follows.

- a) A normative annex, figure or table should be cited normatively at least once in the text.
  - In a specification it should be cited by means of a requirement, e.g. “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 Table 3 for the appropriate application”.
  - In a code of practice or guide it should be cited by means of a recommendation, e.g. “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 Figure 2”.
  - In a test method it should be cited by means of an instruction, e.g. “Follow the procedure given in Annex A”, “Align the apparatus as shown in Figure 3”, or a requirement, e.g. “The apparatus shall conform to the dimensions specified in Table 3”.
- b) An informative annex, figure or table 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, e.g. “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, e.g. “Guidance on widget design is given in Annex F”, “An example of a suitable form is given in Figure 2”.

#### 6.6.7.5 References to other standards

##### 6.6.7.5.1 General

References to other standards may be undated or dated, normative or informative. All normative references should be given in the “Normative references” clause (see 6.2.2). All informative references should be given in the Bibliography (see 6.4.2).

See 6.2.2.2 and 6.4.2.2 for guidance on whether a reference is normative or informative.

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 are being phased out as of the publication of BS 0:2011).

Standards should be cited by their identifiers, e.g. “BS 5454”, “ISO 2797”. If a standard is issued in parts, the part number should be given in the reference, e.g. “BS 4884-1”.

For dual-numbered standards, see **6.2.2.4**.

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.

#### 6.6.7.5.2 Undated references

Undated references may be made only to a complete document (i.e. not to a particular subclause, figure or table) and only where it is accepted that it will be possible to use all likely future changes of the referenced document for the purposes of the referring document.

Undated references should be understood to include all amendments to and revisions of the referenced document.

Use the following forms for citations:

- “... as specified in BS EN ISO 128-20 and BS ISO 31 ...”; or
- “... see BS EN 60027 ...”.

#### 6.6.7.5.3 Dated references

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

For references to draft standards (including a specific enquiry or final draft), see **6.6.7.5.4**.

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 standard has been amended, the number of the latest amendment should be included in the reference when cited in the text, e.g. “BS 4884:1992+A2”, and the number and date of the latest amendment should be included in the normative references clause or bibliography, e.g. “BS 4884:1992+A2:1997”. 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 divisions or subdivisions, tables and figures of another document should always be dated.

Use the following forms for citations:

- “... as specified in BS EN ISO 128-20:2003 and BS ISO 31:1996 ...”; or
- “... see BS EN 60027:2010 ...”.

#### 6.6.7.5.4 References to draft standards

See **6.2.2.2** and **6.4.2.2** for guidance on whether a reference is normative or informative.

References to draft standards (i.e. standards that have not been formally published) are discouraged as such documents tend not to be stable.

Normative reference should not be made to a Draft for Public Comment of a British Standard. Under normal circumstances normative reference should not be made to a prEN (draft European standard) or draft international standard; instead, informative wording such as “requirements for the widget are given in prEN 1234” should be given in a note. If it is considered by the committee to be absolutely vital to make normative reference to a prEN,

the reference should be dated, and both the reference in the text and the reference in the normative references clause should include a footnote stating “In preparation”.

If an informative 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 stating “In preparation”.

#### 6.6.7.6 References to non-standards publications

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 6.2.2.4).

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 6.4.2.3).

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]”.

#### 6.6.7.7 References to legislation

Principles on referencing legislation are given in BS 0:2011, 9.2.

If references are given to specific acts or regulations, care should be taken to ensure that all regional variations are included. For example, there are currently 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.

#### 6.6.8 Representation of numbers and numerical values

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.

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

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 reading to the left or to the right of a decimal sign should be separated by a space from preceding digits or following digits respectively, except for four-digit numbers designating years.

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

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.

### 6.6.9 Quantities, units, symbols and signs

Units for quantities should be chosen, wherever possible, from the various parts of BS EN 80000 and BS ISO 80000 (SI units) and BS EN 60027 (specialist electrotechnical units). 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.

The expression “parts per million” is not permitted in European and international standards because it is language-dependent. 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”.

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

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

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     $0.3 \text{ Gm}\cdot\text{s}^{-1}$

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

Symbol	Factor	Name
P	$10^{15}$	peta
T	$10^{12}$	tera
G	$10^9$	giga
M	$10^6$	mega
k	$10^3$	kilo
h	$10^2$	hecto
da	10	deca
D	$10^{-1}$	deci
c	$10^{-2}$	centi
m	$10^{-3}$	milli
μ	$10^{-6}$	micro
n	$10^{-9}$	nano
p	$10^{-12}$	pico
f	$10^{-15}$	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:  $d = (a/b) \times 100\%$

## 6.6.10 Mathematical formulae

### 6.6.10.1 General

A mathematical formula or equation should be a clear and concise way of expressing the relationship between physical properties (they can also be used for abstract entities, but such equations are unlikely to appear in standards). Physical properties are represented as constant or variable in the context of the standard by a single upright or italic/sloping letter respectively.

#### EXAMPLE 1

- In  $F = ma$ , mass  $m$  may vary.  
 In  $F = ma$ , mass  $m$  is a constant.

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  $-1$ ).

Variables and constants should be explained in connection with the formulae, unless they appear in a "Symbols and abbreviated terms" clause (see 6.3.2).

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.

The style shown in Example 2 should be followed.

#### EXAMPLE 2

$$v = \frac{l}{t}$$

where:

- $v$  is the speed of a point in uniform motion;
- $l$  is the distance travelled;
- $t$  is the duration.

If, exceptionally, an equation between numerical values is used, the style shown in Example 3 should be followed.

**EXAMPLE 3**

$$V = 3.6 \times \frac{l}{t}$$

where:

$V$  is the speed, in kilometres per hour (km/h), of a point in uniform motion;

$l$  is the distance travelled, in metres (m);

$t$  is the duration, in seconds (s).

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 equation in Example 2 and of the equation in Example 3 in the same context would imply that  $1 = 3.6$  which obviously is not true.

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. The same symbol should not be used to represent different quantities within the same document.

**EXAMPLE 4**

$$a - b < x < a + b$$

**EXAMPLE 5**

Write

$$\rho = \frac{m}{V}$$

and not

$$\text{density} = \frac{\text{mass}}{\text{volume}}$$

**EXAMPLE 6**

Write

$$\dim(E) = \dim(F) \cdot \dim(l)$$

where:

$E$  is energy;

$F$  is force;

$l$  is length.

and not

$$\dim(\text{energy}) = \dim(\text{force}) \cdot \dim(\text{length})$$

or

$$\dim(\text{energy}) = \dim(\text{force}) \cdot \dim(\text{length})$$

**EXAMPLE 7**

Write

$$t_i = \sqrt{\frac{S_{ME,i}}{S_{MR,i}}}$$

where:

- $t_i$  is the statistical value for the system  $i$ ;
- $S_{ME,i}$  is the residual mean square for the system  $i$ ;
- $S_{MR,i}$  is the mean square due to regression for the system  $i$ .

and not

$$t_i = \sqrt{\frac{MSE_i}{MSR_i}}$$

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  $i$ .

Notations such as

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

for numerical values may be used on the axes of graphs, where they are particularly useful.

**6.6.10.2 Alignment and equation breaks**

Series of equations should be indented consistently and aligned wherever possible on the “equal to” sign. Columns of numerical values should be aligned on the decimal marker. Plus, minus, multiplication and equal to signs should align horizontally. All superscripts and subscripts should similarly align and should be of consistent size.

If it is necessary to break an equation, the break should be made at one of the following points:

- after = > ≈ and similar signs;
- after + − × ÷ signs;
- between adjacent brackets, a multiplication sign being inserted at the end of the first line.

When an equation containing an = (>, ≈ and similar) sign is split, the second line should be aligned to the right of the = sign.

**6.6.10.3 Detailed presentation****6.6.10.3.1 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 6.6.10.3.2). 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  $x_{y_{n+1}}$ .

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 2

Preferred forms of expression:

$$x^{a/b}$$

$$\left(\frac{a-b+c}{6}\right)^{1/4}$$

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 3

$$d_3^2 \text{ is preferable to } d_3^2.$$

This does not apply to prime symbols, which are always closed up to the symbol they relate to, i.e.  $d'_3$  is correct.

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  $\rho_e$ .

### 6.6.10.3.2 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

$$\frac{\sin\left[\frac{(N+1)}{2}\varphi\right]\sin\left(\frac{N}{2}\varphi\right)}{\sin\frac{\varphi}{2}}$$

**6.6.10.3.3 Further examples**

Further examples of the presentation of mathematical formulae are given in Examples 1 to 3.

**EXAMPLE 1**

$$-\frac{\partial W}{\partial x} + \frac{d}{dt} \frac{\partial W}{\partial \dot{x}} = Q \left[ \left( -\mathbf{grad} V - \frac{\partial A}{\partial t} \right)_x + (\mathbf{v} \times \mathbf{rot} A)_x \right]$$

where:

- $W$  is the dynamic potential;
- $x$  is the x-coordinate;
- $t$  is time;
- $\dot{x}$  is the time derivative of  $x$ ;
- $Q$  is the electric charge;
- $V$  is the electric potential;
- $A$  is the magnetic vector potential;
- $v$  is the velocity.

**EXAMPLE 2**

$$\frac{x(t_1)}{x(t_1 + T/2)} = \frac{e^{-\delta t_1} \cos(\omega t_1 + \alpha)}{e^{-\delta(t_1 + T/2)} \cos(\omega t_1 + \alpha + \pi)} = -e^{\delta T/2} \approx -1.392 15$$

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 3**

To express a mass fraction the following method of expression is sufficient:

$$w = \frac{m_D}{m_S}$$

but note that expressions such as “the percentage by mass” should be avoided.

#### 6.6.10.3.4 Numbering

If it is necessary to number some or all of the formulae in a document in order to facilitate cross-reference, Arabic numbers in parentheses should be used, beginning with 1:

**EXAMPLE**

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

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

For the numbering of formulae in annexes, see 5.2.7.

#### 6.6.10.3.5 Multipliers

The multiplication cross ( $\times$ ) should be used to indicate the multiplication of numbers and numerical values written in decimal form as in Example 1, in vector products and in cartesian products. The half-high dot/raised point ( $\cdot$ ) should be used to indicate a scalar product of vectors and comparable cases. It may also be used to indicate a product of scalars as in Example 3 and in compound units (see 6.6.9).

**EXAMPLE 1**  $A = 80 \text{ mm} \times 25 \text{ mm}$

**EXAMPLE 2**  $\vec{l}_G = \vec{l}_1 \times \vec{l}_2$

**EXAMPLE 3**  $U = R \cdot I$

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

**EXAMPLE 5**  $\text{rad} \cdot \text{m}^2/\text{kg}$

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

#### 6.6.10.3.6 Special characters and operators

All operators should be shown using upright characters.

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  $\delta$ .

#### 6.6.10.3.7 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  $\{ \}$ .

### 6.6.10.3.8 Vinculum

The vinculum (bar) should be used when expressing a root value.

**EXAMPLE**

$$\sqrt{x^2 + y^2 + z^2}$$

$$\sqrt{2x}$$

$$\sqrt{2}$$

### 6.6.10.3.9 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**

$$\int_{\theta_m}^{\theta_0}$$

$$\sum_{i=1}^{n-1}$$

### 6.6.11 Values, dimensions and tolerances

Values and dimensions should be indicated as being minimum or maximum, and specified with their tolerances in an unambiguous manner.

**EXAMPLE 1** 80 mm × 25 mm × 50 mm (not 80 × 25 × 50 mm)

**EXAMPLE 2** 80 μF ±2 μF or (80 ±2) μF

**EXAMPLE 3** λ = 220 × (1 ±0.02) W/(m·K)

**EXAMPLE 4** 80<sup>+2</sup><sub>0</sub> (not 80<sup>+2</sup><sub>-0</sub>)

**EXAMPLE 5** 80 mm <sup>+50</sup><sub>-25</sub> μm

**EXAMPLE 6** 10 kPa to 12 kPa (not 10 to 12 kPa or 10 – 12 kPa)

**EXAMPLE 7** 0 °C to 10 °C (not 0 to 10 °C or 0 – 10 °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 ±2)%” to express a centre value with tolerance.

The form “65 ±2%” should not be used.

The degree should be divided decimally, for example write 17.25° rather than 17°15′.

See also Annex I.

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

## 7 Preparation and presentation of documents

The typographic presentation of documents is set out in the *Style guide for UK standards – Presentation, typography and standard wording* [1].

## Annex A (normative) Principles for drafting

### A.1 General

Although the principles for drafting given in this annex are expressed in terms of product specifications, they also apply, where appropriate, to any other kind of standard.

### A.2 The aim-oriented approach

#### A.2.1 General

Any product has an infinite number of properties, and only some of them are subject to standardization. The choice depends on the aims of the document to be prepared, the overriding aim being to ensure fitness for purpose of the product concerned.

Thus, a document or series of related documents may address, *inter alia*, questions of mutual understanding, health, safety, protection of the environment, interface, interchangeability, compatibility or interworking, and variety control.

A functional analysis of the product in question can help to identify the aspects to be included in the document.

In most documents, the aims of individual requirements are not usually indicated [although the purpose of a document and of some requirements can usefully be explained in the introduction (see 6.1.4)]. However, it is essential to identify these aims at the earliest possible working stage (not later than the first committee draft) to facilitate the taking of decisions regarding inclusion of the individual requirements.

#### A.2.2 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.

### **A.2.3 Products intended for various purposes**

Products intended for various purposes or for use under various conditions (for example different climatic conditions), or by various groups of users, might require different values of some characteristics, each value corresponding to some category or level, intended for some particular purpose or conditions. These values may be included in one document or in different documents, as appropriate, but it is essential that the correlation between purposes and values is clearly indicated.

Requirements concerning the fitness for purpose of a product are sometimes expressed in terms of the conditions which **have to** be satisfied in order for a designation or marking to be applied to a product (for example “shock-resistant” in the case of a wristwatch).

### **A.2.4 Mutual understanding**

The promotion of mutual understanding usually necessitates the definition of terms used in the technical requirements, of symbols and signs, and the establishment of sampling methods and test methods, concerning each technical requirement specified in the document.

### **A.2.5 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.

### A.2.6 Interchangeability, compatibility and interworking

Interface, interchangeability, compatibility and interworking requirements, if relevant, are subject to standardization because they **might** constitute determining factors concerning the possible use of the product.

Standardization of a particular product may be limited to such aspects and disregard other aims. If the aim of standardization is to ensure interchangeability, both the dimensional and functional aspects of the product **should** be considered.

### A.2.7 Variety control

Variety control is an important aim of standardization of widely used materials, substances and elements such as fasteners, other machine parts, electronic components and electric cables (for such reasons as trade, economy or safety, where the availability of interchangeable elements is essential and the standardization of a certain variety is justified).

Variety may relate to sizes as well as to other characteristics. The relevant document **should** contain the selected values (usually a series) and specify their tolerances.

## A.3 The performance approach

If the performance approach (see 4.2) is adopted, care is necessary to ensure that important features are not inadvertently omitted from the performance requirements.

In the case of materials, if it is impossible to determine the necessary performance characteristics, the material may be specified but preferably with the inclusion of the phrase "... or other material which has been 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 serious consideration because specification by performance **can** lead to complicated testing procedures of long duration and high cost.

## A.4 The principle of verifiability

Whatever the aims of a product standard, only such requirements **should** be included as can be verified **objectively**.

*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.*

Requirements in documents **should** be expressed in well-defined values (see 6.6.11). Phrases such as "sufficiently strong" or "of adequate strength" **should** not be used.

Another consequence of the principle of verifiability is that the stability, reliability or lifetime of a product **should** not be specified if no test method is known by means of which compliance with this requirement can be verified in a reasonably short time. A guarantee by the manufacturer, although useful, is not a substitute for such requirements. Guarantee conditions are considered to be outside the aspects to be included, being a commercial or contractual, and not a technical, concept.

## A.5 Choice of values

### A.5.1 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.

### A.5.2 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, as appropriate. For the electrotechnical field, recommended systems of dimensional sizes are given in IEC Guide 103.

Documents that have been established to specify such selected values for equipment or components that **might** be referred to in the provisions of other documents **should** be regarded, in this respect, as basic standards. Examples are as follows: for electrotechnical work, IEC 60063, which specifies series of preferred values for resistors and capacitors; for chemical testing, standards for laboratory equipment developed by ISO/TC 48.

If a series of preferred numbers is used, attention should be paid to the difficulties which **could** arise if fractions (such as 3.15) are introduced. They **might** sometimes be inconvenient or require unnecessarily high accuracy, in which case they should be rounded in accordance with ISO 497.

### A.5.3 Values to be stated by the manufacturer

There **might** be some properties of a product that should not necessarily be specified (even though they decisively influence the performance of the product), if any number of varieties **might** be allowed.

The document may enumerate all characteristics which can be chosen freely by the manufacturer but the values of which are to be stated by the manufacturer. This statement may take various forms (name-plate, label, accompanying document, etc.).

For most kinds of complex product, the listing of performance data (product information) to be supplied by the manufacturer is preferable to the inclusion of performance requirements provided that corresponding test methods are defined.

A requirement that the values of a characteristic be stated by the manufacturer instead of specifying the values themselves is not permissible in the case of health and safety requirements.

## A.6 Accommodation of more than one product size

If standardization on a single size is an ultimate goal for a given product, but there is more than one widely accepted size in **widespread** use, a committee may, if substantial support has been obtained within the committee, 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 such practices **should** be taken into consideration as are likely to be in **widespread** use in the reasonably foreseeable future (for example, five years or more);
- c) practices based on scientific, technological or economic principles, such as economy of materials and conservation of energy, **should** be given preference;

- d) 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;
- e) when agreed by the committee, a transitional period may be indicated during which the use of non-preferred values is permitted.

### **A.7 Avoidance of repetition**

Any requirement concerning a product **should** be specified in only one document: that which, according to its title, contains that requirement.

In some fields it **might** be desirable to establish a document specifying generic requirements applicable to a group of products.

If it is necessary to invoke a requirement elsewhere, this should preferably be done by reference, not by repetition. See **6.6.7.1**.

If, for convenience, the repetition of a requirement in another document seems useful, this may be done, provided that it is made clear that the requirement is repeated for information only, and that an informative reference is made to the document from which the requirement is reproduced.

### **Annex B (informative)** **Basic reference works**

A non-exhaustive list of the most generally applicable basic reference works is given in the ISO/IEC Directives, Part 2:2011.

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 C (informative)

### Identifiers and numbering of divisions and subdivisions

#### C.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.

##### C.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 5.1.1 and 5.2.1.1). 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.*

##### C.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

##### C.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 180-3:1982

BS AU 7a:1983

BS AU 175-2b:1983

In all other respects, automobile series standards are identified in the same way as general series standards.

### C.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

In all other respects, aerospace series standards are identified in the same way as general series standards.

### C.1.5 Marine series

For British Standards in the marine series, the identifier starts with “BS MA”.

**EXAMPLE**

BS MA 104-1

In all other respects, marine series standards are identified in the same way as general series standards.

### C.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

### C.1.7 Published Documents

For Published Documents, the identifier starts with “PD”.

**EXAMPLE**

PD 7974-3

### C.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.

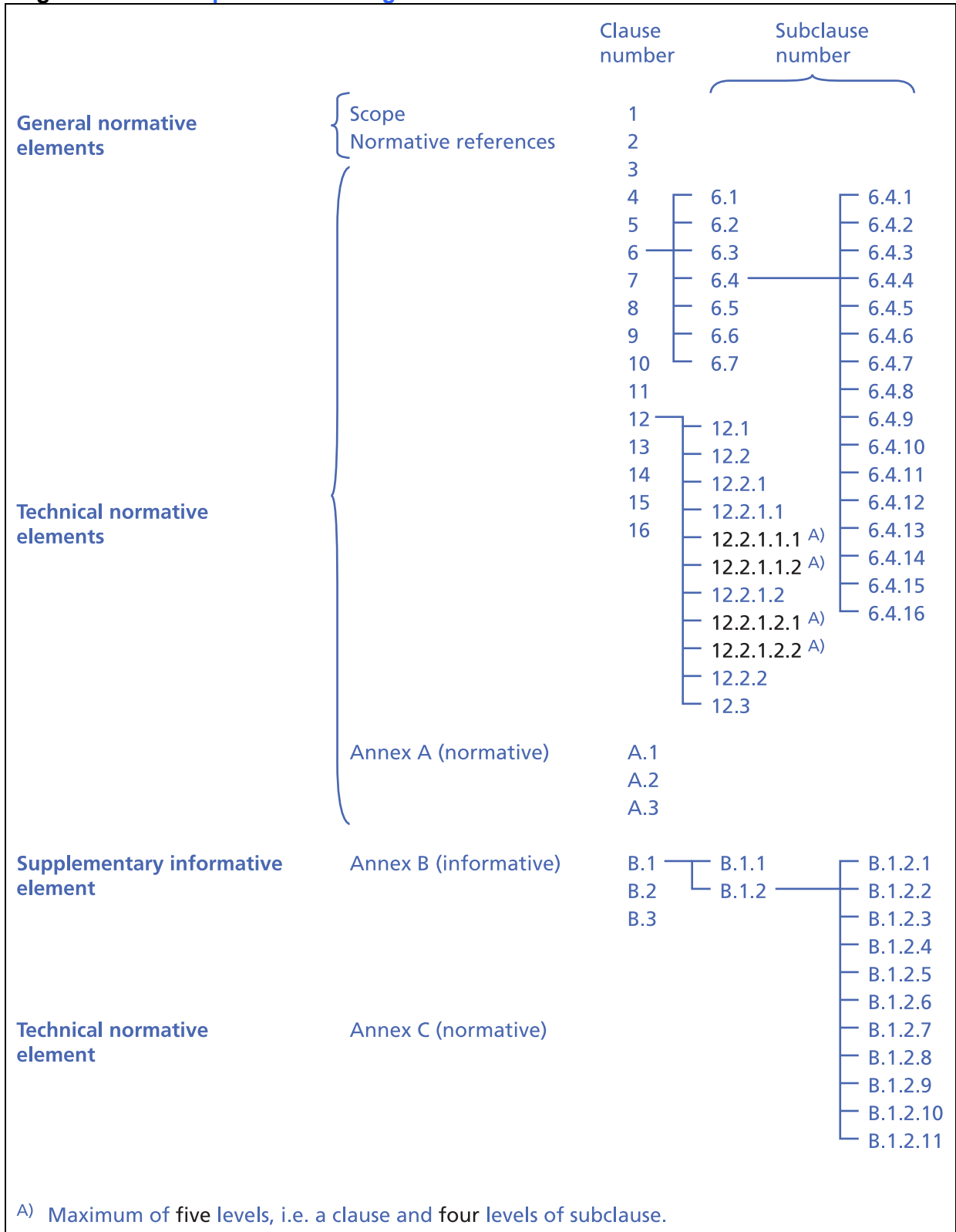
**EXAMPLE**

NCCI for Eurocode BS EN 1991-1-2 would have the identifier PD 6688-1-2

## C.2 Example of numbering of divisions and subdivisions

Figure C.1 shows an example of typical numbering within a standard.

**Figure C.1 – Example of numbering of divisions and subdivisions**



## Annex D (normative)

### Drafting and presentation of terms and definitions

#### D.1 General principles

##### D.1.1 Scope of rules and examples provided in Annex D

Annex D provides a synthesis of the rules and examples given in BS ISO 10241-1:2011, and is intended to cover those rules applicable to the forms of terms and definitions most commonly present in British Standards. For the complete set of rules and examples, refer to BS ISO 10241-1.

##### D.1.2 Rules for development

The principles and methods for terminology work are specified in BS ISO 704. Requirements for the drafting and structuring of terminological entries in standards are given in BS ISO 10241-1. Rules for the development of the *International Electrotechnical Vocabulary* are given in the ISO/IEC Directives, Supplement – Procedures specific to IEC.

##### D.1.3 Forms of publication

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.

##### D.1.4 Choice of concepts to be defined

Any term, symbol or appellation (for brevity, “terms, symbols and appellations” are hereinafter referred to collectively as “terms”) which is not self-explanatory or commonly used and which can be differently interpreted in different contexts should be clarified by defining the relevant concept.

General language expressions and commonly used terms should be included only if they are used with a specific meaning in the relevant context (and thus the usage of the expression or term might cause misunderstanding if not defined). Trade names, trademarks, obsolete, archaic and colloquial terms should not be included.

In a terminology standard, although there might be more than one preferred term, more than one admitted term and more than one deprecated term, it is strongly recommended that among all term candidates only one term be selected as preferred term. If there is only one term representing the concept in a terminological entry of a standard, this term is automatically the preferred term. If there is more than one preferred term, admitted term or deprecated term, the terms should be given according to their order of preference.

For terms for which both a full form and an abbreviated form exist, either form may be selected as preferred, admitted or deprecated term. If considered useful, an explanation of the reasons for selecting the abbreviated form as preferred term should be given in a note (see **D.3.7**).

Only terms that are used within the standard should be defined, unless the standard is an independent terminology standard such as a vocabulary. The term that is defined should be identical to the term that is used in the text.

In an independent terminology standard, the concepts defined should be restricted to the field corresponding to the scope of the document. In other documents, only such concepts should be defined as are used in those documents, apart from any additional concepts and their terms that might be deemed necessary for the understanding of these definitions.

## D.1.5 Avoidance of duplications and contradictions

Before a term and a definition are established for a concept, it should be ascertained that no other term and definition for that concept exist in another document. For general terms, refer to the ISO concept database: <<http://cdb.iso.org>>. In the case of electrotechnical terms, refer to the *International Electrotechnical Vocabulary* (BS IEC 60050): <<http://www.electropedia.org>>.

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 wherever possible. 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].

If the concept is used in several documents, it should be defined in the most general of those documents, or in an independent terminology standard. The other documents should then refer to this document or terminology standard, without repeating the definition of the concept.

Whenever a concept is referred to elsewhere in the text of a document, the preferred term should be used to designate this concept. It may be followed by its entry number. When a preferred term is used, its written form **should** be identical with that in the terminological entry (except for inflected forms) and special care **should** be taken to avoid errors and inconsistencies.

When the repetition of a definition is necessary, an informative dated reference (see 6.6.7.5.3) **should** be made to the source document from which it is reproduced. The source information **should** be given in square brackets after any notes and may be identified by an appropriate text, e.g. "SOURCE:". Where a standardized definition in another domain or subject has to be modified, an indication of the modification **should** follow the indication of the source.

### EXAMPLE 1

#### 2.10.1 management performance indicator

##### MPI

environmental performance indicator that provides information about the management efforts to influence an organization's environmental performance

[SOURCE: ISO 14031:1999, 2.10.1]

### EXAMPLE 2

#### 3.9 stem

principal above-ground structural component(s) of a tree that supports the branches

[SOURCE: BS 3998:2010, modified – Notes 1, 2 and 3 have been deleted.]

If a term and a definition for a concept are established in one document, the introduction in another document of a different term (synonym) for the defined concept is deprecated. A new definition deviating from or in contradiction with an existing standardized definition in the same domain or subject of standardization (see D.3.4) **should not** be drafted unless the existing definition for the concept has become partially or entirely outdated. In this case, the drafting of a new definition should be carried out in consultation with the committee responsible for the existing standardized definition.

## D.1.6 Definitions and non-verbal representations

D.1.6.1 Detailed rules for the drafting of definitions are given in BS ISO 10241-1. The rules given in D.1.6.2 to D.1.6.6 are based on these rules.

**D.1.6.2** 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. For example, the term “gasket” might be defined as “strip of flexible material used to form a seal around a window”. It should not be defined as “strip of flexible material conforming to this standard used to form a seal around a window”.

**D.1.6.3** The form of a definition should be such that it can replace the term in context. Additional information should be given only in examples or notes (see **D.3.7**).

**D.1.6.4** A definition should consist of a single phrase giving the meaning of the concept, without a definite or indefinite article, and if possible reflecting the position of the concept in the concept system (see also **D.2**). Neither a synonymous term nor a list of items constitutes a definition.

**D.1.6.5** A definition given without an indication of its applicability may be taken as representing the general meaning of the term. Special meanings in particular contexts should be indicated by designating the domain or subject (see **D.3.4**).

**D.1.6.6** Non-verbal representations may be used to exemplify the concept. In general they should not replace a definition but complement it, except in domains or subjects in which non-verbal representations are conventionally used instead of a definition. They usually comprise visual representations such as figures, tables and mathematical expressions. If more than one non-verbal representation is present within a terminological entry, it is permissible to number them.

## D.2 Arrangement

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

If there are different types of a particular item that need to be defined, they should be grouped together under a single heading.

### EXAMPLE

- 3.12 fire hydrants**
- 3.12.1 fire hydrant**  
assembly comprising a valve and outlet connection from a water supply main
- 3.12.2 pillar fire hydrant**  
fire hydrant whose outlet connection is fitted to a vertical component projecting above ground level
- 3.12.3 underground fire hydrant**  
fire hydrant contained in a pit or box below ground level

The grouping of terms should be evident from their numbering. Each terminological entry should be given an entry number. Within a document, the entry number should be unique and should be in accordance with the rules for numbering of subdivisions (see **5.2**). In terminology standards, alphabetical indexes of the terms should also be given.

## D.3 Presentation

### D.3.1 Rules

Detailed rules for the presentation of standardized terminology are given in BS ISO 10241-1.

The rules given in **D.3.2** to **D.3.7**, based on BS ISO 10241-1:2011, Annex A, apply to the presentation of independent terminology standards and the “Terms and definitions” clause (see **6.3.1**) of other documents.

### D.3.2 Layout

In a terms and definitions clause, the terms should be numbered as subdivisions of the clause. They should always be numbered, even if only a single term is defined.

The preferred term(s) (set in bold type in the printed publication) or symbol(s) should be placed in the main text column next to the entry number, starting with a lower case letter except for any capital letters required by the normal written form in running text. For complex terms (e.g. compounds and multiword terms), the natural word order should be retained.

Admitted term(s) (set in normal type in the printed publication) or symbol(s) should each be placed on a new line, after the preferred term.

Deprecated term(s) (set in normal type) or symbol(s) should each be placed on a new line and should be identified by an appropriate text, e.g. "DEPRECATED:".

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, and should not be followed by a full-stop.

#### EXAMPLE 1

##### 3.1.3 special language

language for special purposes

LSP

language used in a domain (3.1.2) and characterized by the use of specific linguistic means of expression

*NOTE The specific linguistic means of expression always include domain- or subject-specific terms and other kinds of designations as well as phraseology and also may cover stylistic or syntactic features.*

#### EXAMPLE 2

##### 3.1.9 relative density

DEPRECATED: specific gravity

ratio of the mass in air of a solid particle of a given volume to the mass of an equal volume of water

[SOURCE: ISO 9045:1990, 3.1.9]

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 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 D.3.7). Information regarding the units applicable to a quantity should be given in a note (see D.3.7).

### D.3.3 Grammatical information

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 should 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).

### D.3.4 Multiple and narrow meanings

If a term is used to represent several concepts, the domain or subject to which each concept belongs should be indicated between angle brackets, before the definition.

#### EXAMPLE 1

- 2.1.17 die**, noun  
<extrusion> metal block with a shaped orifice through which plastic material is extruded
- 2.1.18 die**, noun  
<moulding> assembly of parts enclosing the cavity from which the moulding takes its form
- 2.1.19 die**, noun  
<punching> tool to punch sheet or film material

If a term is to be given a meaning narrower than its generally accepted meaning, a qualification should be included.

#### EXAMPLE 2

- 3.1 arrangement**  
<in archives> restoration of pre-existing order

### D.3.5 Codes for countries

Geographical variants should be indicated using the alpha-2 code for geographical usage in accordance with BS ISO 3166 and BS EN ISO 3166 (names of countries and their subdivisions).

#### EXAMPLE

- 2.34 jetty**, GB  
**pier**, US  
deck structure supported by vertical and possibly inclined piles extending into the sea, frequently in a direction normal to the coastline

### D.3.6 Parentheses and brackets

Parentheses and square brackets should be used only if they constitute part of the normal written form of the term. They should not be used to show alternative terms.

#### EXAMPLE

**bis(dimethylthiocarbamyl) disulfide**

### D.3.7 Examples, notes and footnotes

Examples provide information that illustrates the concept. Their numbering is identical to that of examples in the text (see 6.5.1.1). Examples should be placed on a new line, after the definition.

Notes to terminological entries follow the same rules as notes in the text, including their numbering (see 6.5.1.1). In particular they should not include provisions of the standard. Notes should be placed on a new line, after any examples.

Footnotes to any part of a terminological entry should not include provisions of the standard (see 6.5.2).

**EXAMPLE 1****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]

**EXAMPLE 2****3.2.6 measuring distance**

$r_1$

shortest distance from the surface of the appliance to the closest point of the sensor surface

*NOTE The measuring distance is expressed in metres.*

[SOURCE: The symbol  $r_1$  is defined in IEC 62233:2005, 3.2.6]

## Annex E (normative)

### Drafting of the title of a document

**E.1 Elements of the title**<sup>3)</sup>**E.1.1 The introductory element**

The introductory element is necessary if, without it, the subject indicated in the main element is not well defined.

**EXAMPLE 1**

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

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

If the main element of the title (together with the complementary element, where present) unequivocally covers the subject treated in the document, the introductory element **should** be omitted.

**EXAMPLE 2**

**Correct:** *Sodium perborates for industrial use – Determination of bulk density*

**Incorrect:** *Chemicals – Sodium perborates for industrial use – Determination of bulk density*

**E.1.2 The main element**

The main element **should** always be included.

**E.1.3 The complementary element**

The complementary element is necessary if the document covers only one or a few aspects of the subject indicated in the main element. It can be useful if the complementary element also indicates the type of standard (e.g. specification, code of practice).

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<sup>3)</sup> See also 6.1.1.

In the case of a document published as a series of parts, the complementary element serves to distinguish and identify the parts [the introductory element (if present) and the main element remaining the same for each part].

#### EXAMPLE 1

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

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

If the document covers several (but not all) aspects of the subject indicated in the main element, the aspects covered **should** be referred to by a general term such as “specification” or “mechanical requirements and test methods” rather than be enumerated one by one.

#### EXAMPLE 2

**Correct:** *Coffee grinders – Mechanical requirements and test methods*

**Incorrect:** *Coffee grinders – Terminology, symbols, material, dimensions, mechanical properties, rated values, test methods, packaging*

## E.2 Avoidance of unintentional limitation of the scope

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

However, if the document pertains to a specific type of product, this fact **should** be reflected in the title.

#### EXAMPLE

*Aerospace – Self-locking, fixed, single-lug anchor nuts, classification 1 100 MPa/235 °C*

## E.3 Wording

Uniformity **should** be maintained in the terminology used in the titles of documents for indicating the same concept.

For documents dealing with terminology, the expression “Vocabulary” **should** be used.

For documents dealing with test methods, whenever possible one of the following expressions **should** be used: “Test method” or “Determination of ...”. Expressions such as “Method of testing”, “Method for the determination of ...”, “Test code for the measurement of ...” and “Test on ...” **should** be avoided.

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

## Annex F (normative) Patent rights

The principles under which patent rights are recognized and declared are given in BS 0:2011, **9.5.4**.

## Annex G (normative)

### Designation of standardized items

*NOTE* Designations are distinct from grades, for which recommendations are given in J.1.2.

The designation of international standardized items should conform to ISO/IEC Directives, Part 2:2011, Annex G. 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 H (normative)

### Verbal forms for the expression of provisions

*NOTE Only singular forms are shown.*

#### H.1 General

Auxiliary verbs should be used consistently throughout a standard, in the form appropriate to the nature of the standard, as shown in Table 1.

**Table H.1 – Verbal forms**

Verbal form	Implication	Typical context
shall	requirement (see H.2)	normative element of a specification or test method
should	recommendation (see H.3)	normative element of a code of practice or guide informative element of a specification or test method
may	permission (see H.4) (within the stated limits of a standard, to adopt a particular course of action)	informative element of any standard
can	possibility and capability (see H.5)	informative element of any standard
might	possibility (see H.5)	informative element of any standard
is	description (see H.6)	normative element of a test method informative element of any standard
will	ambiguous (see H.7)	informative element of any standard (avoid where possible)
must	ambiguous (see H.7)	do not use in any standard

#### H.2 Requirements

The auxiliary verb “shall” should be used to indicate requirements strictly to be followed in order to conform to 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.

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

To express a direct instruction, for example referring to steps to be taken in a test method, use the imperative mood.

##### EXAMPLE

“Switch on the recorder.”

#### H.3 Recommendations

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

In a specification or test method, the auxiliary “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 it is therefore advisable to avoid using them in informative text.

#### H.4 Permission

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

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

Do not use “can” 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 H.5).

*NOTE “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.*

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).

#### H.5 Possibility and capability

The auxiliary verbs “can” or “might” should be 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).

#### H.6 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 H.2.*

#### H.7 Verbal forms to be avoided

Do not use “must” as an alternative for “shall” or “should”. (This will avoid any confusion between the provisions of a document and external statutory obligations.)

The auxiliary verb “will” should be avoided as it can be ambiguous.

##### 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” will suffice; 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?

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.

## Annex I (normative)

### Quantities and units

This list comprises 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.

- a) The decimal sign should be a full-stop, except in National Annexes to Eurocodes, which should have a decimal comma.
- b) British Standards should, wherever practicable, use only:
  - SI units, as given in the various parts of BS ISO 80000 and BS EN 80000;
  - 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 ISO 80000-1:2009, Tables 5 and 6;
  - the units neper (Np) and bel (B), which are given in BS ISO 80000-1 and BS ISO 80000-3, and octave, which is given in BS EN ISO 80000-8;
  - 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.
- c) Do not mix symbols and names of units. Write, for example, either “kilometres per hour” or “km/h”, and not “km per hour” or “kilometres/hour”.
- d) Combine numerical values written in figures with unit symbols, e.g. “5 m”. Avoid such combinations as “five m” and “5 metres”. 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 angle, e.g. 5°6′7″. However, the degree should preferably be subdivided decimally.
- e) Do not use non-standardized abbreviated terms for units, such as “sec” (instead of “s” for seconds), “mins” (instead of “min” for minutes), “hrs” (instead of “h” for hours), “lit” (instead of “L” for litres), “amps” (instead of “A” for amperes), “rpm” (instead of “r/min” for revolutions per minute).
- f) Internationally standardized unit symbols should not be modified by adding subscripts or other information. Write, for example,
 

“ $U_{\max} = 500 \text{ V}$ ” and not “ $U = 500 \text{ V}_{\max}$ ”

“a mass fraction of 5%” and not “5% (m/m)”

“a volume fraction of 7%” and not “7% (V/V)”

(Remember that % = 0.01 and ‰ = 0.001 are “pure” numbers.)
- g) Do not mix information with unit symbols. Write, for example, “the water content is 20 ml/kg” and not “20 ml H<sub>2</sub>O/kg” or “20 ml of water/kg”.
- h) Abbreviated terms such as “ppm”, “pphm” and “ppb” should be avoided where possible (see 6.6.9).
- i) Unit symbols should always be in roman type. Quantity symbols should always be in italic type. Symbols representing numerical values should be different from symbols representing the corresponding quantities.
- j) Equations between quantities are preferred to equations between numerical values.
- k) The quantity “weight” is a force (gravitational force) and is measured in newtons (N). The quantity “mass” is measured in kilograms (kg).

- l) Quotient quantities **should** not contain the word “unit” in the denominator. For example, write “mass per length” or “lineic mass” and not “mass per unit length”.
- m) Distinguish between an object and any quantity describing the object, e.g. between “surface” and “area”, “body” and “mass”, “resistor” and “resistance”, “coil” and “inductance”.
- n) Write, for example,  
 “10 mm to 12 mm” and not “10 to 12 mm” or “10 – 12 mm”  
 “0 °C to 10 °C” and not “0 to 10 °C” or “0 – 10 °C”  
 “24 mm × 36 mm” and not “24 × 36 mm” or “(24 × 36) mm”  
 “23 °C ± 2 °C” or “(23 ± 2) °C” and not “23 ± 2 °C”  
 “(60 ± 3)%” and not “60 ± 3%” or “60% ± 3%”
- o) Two or more physical quantities cannot be added or subtracted unless they belong to the same category of mutually comparable quantities. Accordingly, the method of expression for a relative tolerance such as 230 V ± 5% does not conform to this basic law of algebra. The following methods of expression may be employed instead:  
 “(230 ± 11.5) V”  
 “230 V, with a relative tolerance of ± 5%”  
 The following form is often used, although not correct: (230 ± 5%) V.
- p) Do not write “log” in formulae if the base needs to be specified. Write “lg”, “ln”, “lb” or “log<sub>a</sub>”.
- q) Use the mathematical signs and symbols recommended in BS ISO 80000-11, e.g. “tan” and not “tg”.
- r) Line breaks in mathematical formulae and expressions should be in accordance with BS ISO 80000-2. For example, any line break should be after, and not before, the signs =, +, – and ±, or, if necessary, the signs ×, · or /.

**EXAMPLE**

Correct line break	Incorrect line break
$-\frac{\partial W}{\partial x} + \frac{d}{dt} \frac{\partial W}{\partial \dot{x}} =$ $Q \left[ \left( -\mathbf{grad} V - \frac{\partial A}{\partial t} \right)_x + (\mathbf{v} \times \mathbf{rot} A)_x \right]$	$-\frac{\partial W}{\partial x} + \frac{d}{dt} \frac{\partial W}{\partial \dot{x}}$ $= Q \left[ \left( -\mathbf{grad} V - \frac{\partial A}{\partial t} \right)_x + (\mathbf{v} \times \mathbf{rot} A)_x \right]$

## Annex J (normative)

### Drafting of the different types of British Standards and related UK documents

*NOTE Test methods are dealt with in 6.3.6.*

#### J.1 Specifications

##### J.1.1 Drafting

The provisions (normative elements) of a specification are expressed in the form of requirements, using the auxiliary “shall” (see Annex H).

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 6.5.1) or informative annexes (see 6.4.1). 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.

##### J.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, e.g. the three grades of petrol specified in BS 4040, 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 9000:2005, 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.

### J.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.

### J.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.

### J.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”.

### J.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.

### **J.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.

### **J.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.

### **J.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 **A.2.2**).

## **J.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.

## **J.3 Codes of practice**

### **J.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).

### **J.3.2 Drafting**

The provisions (normative elements) of a code of practice are expressed in the form of recommendations, using the auxiliary “should” (see Annex H). A code of practice cannot contain requirements and cannot use the auxiliary “shall”. If emphasis is required, wording such as “it is essential that ... is ...” may be used.

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 6.5.1) or informative annexes (see 6.4.1).

*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.

### **J.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.

### **J.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 Annex D 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.

## J.6 Other UK national documents

### COMMENTARY ON J.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.*

### J.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 **J.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.

## **J.6.2 Published Document**

### *COMMENTARY ON J.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 **J.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 **J.4**.

## **Annex K (normative)**

### **Updating standards**

#### **K.1 Amendments and corrigenda**

Amendments and corrigenda should be produced in accordance with the relevant National Content work instructions.

#### **K.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.

#### **K.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 **6.1.3**).

## 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 0-3:1997 (withdrawn), *A standard for standards – Part 3: Specification for structure, drafting and presentation*

BS 4040, *Specification for leaded petrol (gasoline) for motor vehicles*

BS 4737 (all parts), *Intruder alarm systems*

BS 6446, *Specification for manufacture of glued structural components of timber and wood based panels*

BS 7581, *Guide to presentation of tables and graphs*

BS EN 61293, *Marking of electrical equipment with ratings related to electrical supply – Safety requirements*

BS EN ISO 9000:2005, *Quality management systems – Fundamentals and vocabulary*

BS EN ISO 14040, *Environmental management – Life cycle assessment – Principles and framework*

BS EN ISO 14044, *Environmental management – Life cycle assessment – Requirements and guidelines*

BS IEC 60050, *International Electrotechnical Vocabulary*

IEC 60063, *Preferred number series for resistors and capacitors*

ISO 3, *Preferred numbers – Series of preferred numbers*

ISO 17, *Guide to the use of preferred numbers and of series of preferred numbers*

BS ISO 704, *Terminology work – Principles and methods*

BS EN ISO/IEC 17050-1 (all parts), *Conformity assessment – Supplier's declaration of conformity*

IEC Guide 103, *Guide on dimensional co-ordination*

ISO/IEC Guide 98-3, *Uncertainty of measurement – Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*

ISO/IEC Guide 99, *International vocabulary of metrology – Basic and general concepts and associated terms (VIM)*

ISO/IEC Guide 23, *Methods of indicating conformity with standards for third-party certification systems*

ISO/IEC Guide 51, *Safety aspects – Guidelines for their inclusion in standards*

ISO/IEC Guide 15, *ISO/IEC code of principles on “reference to standards”*

N 250 D, *Policy guidelines and procedures for CEN/TC 250 Structural Eurocodes*

PD 6532-2 (ISO Guide 31), *Reference materials – Guide to the contents of certificates of reference materials – Part 2: Guide to the contents of certificates and labels of reference materials*

PD 6612, *Guidance on the preparation of codes of practice for building*

## Other publications

- [1] BRITISH STANDARDS INSTITUTION. *Style guide for UK standards – Presentation, typography and standard wording*.
- [2] OXFORD UNIVERSITY PRESS. *Shorter Oxford English Dictionary*. Sixth edition. Oxford: Oxford University Press, 2007. ISBN 978-0-19-920688-9.
- [3] GREAT BRITAIN. Trade Descriptions Act 1968. London: HMSO. ISBN 0105429686.