

Guide to

The preparation of specifications

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Quality, Management and Statistics Standards Policy Committee (QMS/-) to Technical Committee QMS/41, upon which the following bodies were represented:

- Association for Consumer Research (ACRE)
- Association of British Health Care Industries
- Association of Consulting Engineers
- BEAMA Ltd.
- British Gas plc
- British Telecommunications plc
- Cambridge University
- Chartered Society of Designers
- Computing Services Association
- Defence Manufacturers' Association
- Department of Trade and Industry
- Design Council
- Electricity Supply Industry in England and Wales
- Energy Industries Council
- Engineering Industry Training Board
- Imperial College
- Institute of Quality Assurance
- Institution of Civil Engineers
- Institution of Electrical Engineers
- Institution of Engineering Designers
- Institution of Mechanical Engineers
- Institution of Production Engineers
- Medical Sterile Products Association
- Ministry of Defence
- National Nuclear Corporation Ltd.
- Royal Institute of British Architects
- Society of British Aerospace Companies Ltd.
- Telecommunication Engineering and Manufacturing Association
- University of Strathclyde
- Yarsley Technical Centre Ltd.

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Foreword

This British Standard has been prepared under the direction of the Quality, Management and Statistics Standards Policy Committee.

The work on this standard started as a revision of PD 6112:1967, which dealt with the subject with a heavy bias towards the engineering/manufacturing industry and which is withdrawn.

This British Standard differs from PD 6112 in that it addresses a wider field of user and gives guidances in the drafting of specifications that are required in fields additional to design, engineering and manufacture.

The importance of a correctly drafted specification is stressed in BS 7000 to which this standard is closely allied.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 14, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Section 1. General

1.0 Introduction

The objective of this British Standard is to provide guidance on the layout, preparation and management of specifications.

Specifications are used throughout industry and commerce for a variety of purposes, e.g. technical, commercial and legal. They may be used to describe the required attributes so that product/service design can be initiated, the materials, dimensions and procedures used during the manufacturing process, or the activities necessary to maintain, inspect, test, accept, install, use and dispose of a product or service. This same guidance can be applied to the drafting of user manuals, instruction books or leaflets accompanying products in all sectors of the market.

Such purposes will be more readily achieved if specifications are prepared using a uniform layout and if the contents are presented in a clear, logical, orderly fashion.

Associated with the generation of specifications are overall management considerations including such diverse topics as projecting the company image, its rights to data, and protection from liability. When the specification is ready for publication these responsibilities continue: they include the management of the issue, any subsequent change and, finally, its cancellation.

NOTE Additional guidance may be found in *Curriculum for design. Part 3. Specification phase* published by SEED¹⁾.

1.1 Scope

This British Standard gives guidance on the layout and preparation of specifications and describes systems for their management.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

1.2 Definitions

For the purposes of this British Standard the following definitions apply.

1.2.1

specification

a statement of the attributes of a product, process or service

NOTE These attributes may be descriptive or requirements, depending on the use to which the specification is put. The attributes may be descriptive of a product or service, identifying for the user or prospective user its likely fitness to fulfil their purpose. If, however, the purpose of the specification is to establish a basis for conformity to design or to manufacture, the attributes become requirements. See appendix A for a suggested layout of a specification.

1.2.2

standard

a technical specification approved by a recognized national, international or company standardizing body for repeated application

1.2.3

requirements

the clauses in a specification that detail those attributes of the product, process or service needed to obtain compliance

NOTE The attributes should be measurable and the limits of acceptance and compliance with the specification should be already defined.

1.2.4

general rule documents

a document or specification that is used as a reference in many other applications

¹⁾ Published by Sharing Experience in Engineering Design (SEED), Loughborough University, 1986 (ISBN 0 948673 028).

Section 2. Presentation of specifications

2.1 General

The purpose of a specification is to convey information. The ease with which this is achieved will be influenced by the style of presentation of this information. This section provides guidance on this important aspect of specification preparation.

2.2 Structure

2.2.1 Clarity of structure

Requirements should be clearly stated and identified so that conformity can be readily checked. Explanations should be in the form of notes or appendices, separate from the specification clauses. This will ease the use of the specification for general or constructive purposes.

2.2.2 Standard structure

The layout and structure of a specification should conform to a standard format which the user can recognize (see appendix A for a suggested format).

Formats of national, European and international standards may be adopted, e.g. as in this British Standard (see BS 0-1, 2 and 3).

2.2.3 Clause numbering

Numbering systems should be kept as simple as possible and should be consistent throughout the specification (see BS 5848).

2.2.4 Specialized text and illustration

A specification may include numerical statements, algebraic equations, drawings, graphics, charts, tables or methods of computation. These should be compiled using standard notation and layout as in national, European, international or internal company standards (see BS 5775 and BS 5555).

2.3 Clarity of text

2.3.1 General

Clarity of text is essential. Double or hidden meanings should be eliminated, technical terms should be referenced or defined and the final text should be capable of inclusion in a legally binding contract.

2.3.2 Language

Where there are to be a number of categories of user, the specification should be divided to form a family, each being addressed to a specialized user and all being mutually consistent and, where necessary, cross-referenced.

Many specifications are used by persons for whom English is not a first language, and the text should therefore be simple and direct. It may include graphics, but should avoid colloquialisms and jargon with which the user may be unfamiliar.

2.3.3 Requirements and guidance clauses

It is recommended that the convention for use of the words “should, shall, must and will” be as follows:

- a) “should”: for guidance clauses where there is no requirement or compliance inferred;
- b) “shall”: when a requirement to comply with the contents of the clause is intended;
- c) “must” and “will” should be avoided. (The use of these terms is confined to regulatory/statutory requirements.)

NOTE This convention is consistent with 5.6 of BS 0-3:1981.

2.3.4 Terminology

Specifications are written to be used by a variety of people. The technical level of the content may dictate the style to be adopted but, in the interests of clarity, the group, professional or non-professional, for whom the document is to be written should be a major consideration.

The terminology used in the writing of a specification should be consistent with the specialist requirements of the subject and the comprehension of the user.

A specification written for use by members of a discrete profession would be expected to contain the terminology associated with the profession. A similar specification written for use by the consumer or user of a product service should avoid highly technical terminology and, where appropriate should use a graphic approach.

Consistent terminology should be used throughout the specification and the use of synonyms should be avoided. If a specification is part of a series, consistency with other specifications/standards should be ensured.

Terms or units used that could be misinterpreted or that are highly technical and pertinent to the subject matter of the specification should be defined.

Terms that, are used in a special way for the purpose of a particular specification should be defined.

Acronyms, no matter how well known to the author, should rarely be used and, if needed, should be preceded in the text by the full term the first time that it occurs.

National, European and international standards provide glossaries that should be used to recognize standard terms.

NOTE A comprehensive list of subjects published in British Standard glossaries is given in appendix B.