

Product specifications —

Part 1: Guide to preparation

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Committees responsible for this British Standard

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- Association of Consulting Engineers
- Association of Project Managers
- BEAMA Ltd.
- British Standards Society
- Chartered Society of Designers
- Defence Manufacturers' Association
- Department of Trade and Industry
- Design Council
- Electricity Association
- Federation of Small Businesses
- GAMBICA (BEAMA Ltd.)
- Health and Safety Executive
- Institute of Civil Engineers
- Institute of Electrical Engineers
- Institute of Engineering Designers
- Institute of Mechanical Engineers
- Ministry of Defence
- Royal Institute of British Architects
- University of Glasgow
- University of Leeds
- Co-opted members

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Foreword

The preparation of this British Standard was entrusted to Technical Committee MS/4. It supersedes BS 7373:1991, which is withdrawn.

The 1991 edition of this standard was developed from PD 6112:1967, which gave guidance mainly on the preparation of manufacturing specifications. The 1998 edition has a greatly expanded scope, covering the preparation of specifications across all sectors of industry, commerce and the public sector. It applies to all technical, services, software, production and design areas, and also recognizes the importance of intellectual and other rights.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 16, an inside back cover and a back cover.

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Introduction

The object of this British Standard is to provide guidance on the content, layout, preparation and management of all types of specification. Specifications are routinely used throughout the manufacturing, construction, process and service industries, commerce and in the public sector to enable the implementation of products that satisfy an expressed need. The requirements are usually technical, commercial and legal and are applicable to products, processes and services.

Use of the word “product” throughout this standard applies to service, hardware, processed material and software deliverables, or any combination thereof.

This standard is equally applicable to the specification of a domestic refuse collection system as it is to a store layout, a power station, a can of soup, a file of machine code or a wheel nut.

The concepts and attributes of the product being specified, together with any constraints, need to be set out to the appropriate degree of detail. This should enable the development, assessment, implementation, operation, maintenance and ultimate disposal of the product. Similar guidance may be needed in the drafting of user manuals, instruction books, or leaflets associated with products.

These purposes are best achieved within the framework of a logical layout set out in an orderly fashion.

Associated with the generation of specifications are overall management considerations, including rights to data, intellectual property, liability to prospective users and legislative consequences including health and safety and the environment. Management duties continue after publication of a specification and may even persist after its withdrawal. These duties may involve change management, product development and the handling of disputes. Specifications are an integral part of some standards and of contracts, and the level of precision finally used should correspond with these requirements.

1 Scope

This British Standard gives guidance on the layout and preparation of specifications, and describes systems for their management. It applies to specifications used within industry, commerce and the public sector.

The guidance is applicable to the specification of all types of product.

2 Terms and definitions

For the purposes of this standard, the following definitions apply.

NOTE Reference to definitions given in BS 7000-10, BS EN ISO 8402 and BS EN ISO 10007 may also be useful.

2.1

performance specification

document that specifies requirements in terms of features, characteristics, process conditions, limits and exclusions defining the performance of the product

NOTE A performance specification is sometimes referred to by the alternative term “functional specification”.

2.2

product specification

document that prescribes the requirements that the product needs to fulfil in order to conform to the performance specification

NOTE 1 A product specification describes the features, characteristics and properties of a product, and gives all the information that is required to create it, including objective evidence that the product is capable of conforming to the performance specification.

NOTE 2 A product specification is sometimes referred to by the alternative term “technical specification”.

2.3

descriptive specification

statement of the attributes of a product which enables prospective users to establish its fitness for use

2.4

general rule document

specification that is used as a reference in many other applications

2.5

product

result of activities or processes

NOTE 1 A product may include service, hardware, processed material, software or a combination thereof.

NOTE 2 A product can be tangible (e.g. assemblies or processed materials) or intangible (e.g. knowledge or concepts), or a combination thereof.

NOTE 3 A product can be either intended (e.g. an offering to customers) or unintended (e.g. a pollutant or unwanted effect).

[BS EN ISO 8402:1995, definition 1.4]

2.6

requirement

clause in a specification that details the attributes of the product, process or service which are necessary to achieve compliance

2.7

normative

necessary for compliance with a specification

3 Types of specification

3.1 General

Specifications are generally written for two purposes:

- to state unequivocally requirements concerning the performance and technical attributes of a product;
- to give guidance on the process of making and using a product.



Documents

Document Sharing Hub

The requirements and guidance needed to define and implement a product may be incorporated into one document, or exist in a whole series of inter-related documents. The approach taken is usually dictated by the size and complexity of the product and the precepts of the organization concerned. Figure 1 illustrates the relationship between the various kinds of specification used during a typical product life cycle.

3.2 Triggers

An outline of the proposed product to be specified may be given in an initial brief that states the customer's key requirements. This initial brief may be further developed into a business proposal, project brief, design brief and, if necessary, a full performance specification. These preliminary steps should be taken during the project's conception and feasibility phases, before any work on its implementation is authorized or started.

3.3 Requirements

A performance specification should state the required attributes of the product, together with any constraints, without giving a detailed technical description. This information should then be used during the implementation phase as the basis for preparing a product specification that contains a full technical description of the product.

A product specification may describe in detail a new product designed to meet a particular customer's requirement or general market requirement, or an existing product. Such specifications may be used for contractual purposes.

The product specification needs to give all the information required to realize the product and provide objective evidence that the product conforms to its performance specification (or, in the absence of a performance specification, to the client's initial brief).

Product specifications may also describe an existing product to a prospective customer and may be supplied in the form of a brochure, catalogue entry, handbook or user manual. Such descriptive specifications, when accepted by the customer, place an onus on the supplier to provide a product that conforms to the description; thus descriptions can become firm requirements.

3.4 Processes

Process specifications (see Figure 2) should be developed where necessary to give detailed guidance on the technical and procedural aspects of product implementation. They should be concerned with the required output, invariably the delivery of a product that conforms to the performance specification.

The specification of processes should be broad and of a general nature, relying on internal and external standards without necessarily making reference to them. These specifications are often referred to simply as procedures and should describe the way in which a set of inter-related resources and activities transforms inputs into outputs.

3.5 Other types of specification

In addition to the generic specifications that are defined in clause 2, a small selection of commonly used kinds of specification and their purposes are described in Figure 2. These may specify products and/or processes; they may be prescriptive and/or descriptive.

4 Presentation

4.1 General

The purpose of a specification is to convey information, and the ease with which this is achieved is influenced by the style of presentation. This clause provides guidance on this essential aspect of preparing specifications.

Guidance on the presentation of technical manuals is given in BS 4884-3. Additional guidance on user requirements for technical manuals is given in BS 4899-2.

Rules that apply to the structure, drafting and presentation of British Standard specifications are given in BS 0-3. Similar rules relating to International and European Standard specifications are given in the ISO/IEC Directives, Part 3.

4.2 Level of detail

In most sectors there exists a protocol setting out the level of detail needed in a specification to describe a product or process. The level of detail in a specification usually depends on its intended use; on the nature and value of the product or process described; on health, safety and environmental considerations; and on the degree of maturity of standardization within the sector concerned.

The end product usually has an inherent unwritten specification that is implied by industry standards and common practice. However, if there is any doubt about the supplier's knowledge of industry standards and common practice, the necessary extra detail should be provided in the specification.

The intended use of the product should always be stated in specifications, to enable:

- a) reference to be made to relevant statutory instruments and embargoes;
- b) users to be informed of the limits of application of the product;
- c) evaluation of the product for fitness for purpose.

4.3 Structure

4.3.1 Clarity

Requirements should be clearly stated and identified so that conformity can be readily checked.

For ease of use, informative text such as explanations should be in the form of concise notes adjacent to, but distinct from, the relevant clauses. More extensive informative text, such as detailed guidance, should be put in annexes separate from the requirements clauses.

