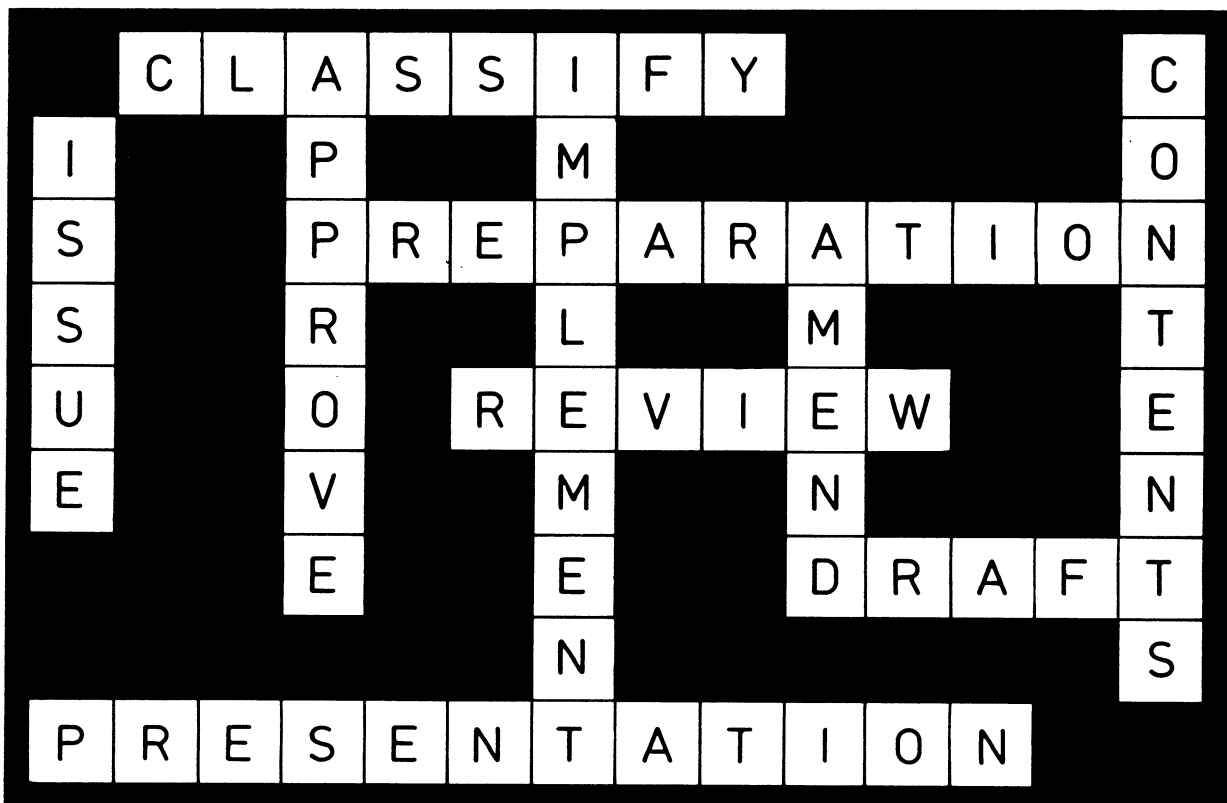


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Guide to the preparation of a company standards manual



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Foreword

The aim of this guide is to provide in a small booklet most of the information that a newcomer to the subject would need when preparing a company standards manual.

It should also provide useful information to more experienced standards engineers wishing to evaluate their existing practices.

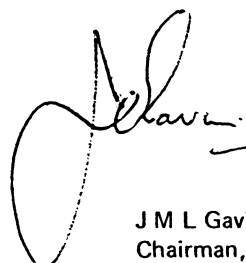
Some recommendations are given in the guide regarding the organization which is necessary to produce such a manual. However these are not intended to be comprehensive since this guide is complementary to PD 3542 'The operation of a company standards department' which gives more detailed information on these subjects.

This guide is based on a paper which was first given at a British Standards Society training course for standards engineers at Oxford University in 1977. The paper explained the practices that had been adopted by Vickers Limited for the preparation of their company standards manuals. In 1978, at a BSS training course at Lancaster University, a questionnaire was circulated to each delegate with the aim of obtaining information on the methods used in each of the companies represented.

Following an analysis of the results from 38 questionnaires the paper was amended to incorporate the methods most commonly used, and adapted to provide a more general guide on the subject of company standards manuals.

The recommendations in this guide should be suitable for use in most organizations but this does not preclude the use of other methods in special circumstances. Chapter 10 of the guide looks into the future, since the replies to the questionnaire revealed that some companies already have their standards stored on computers with access using visual display units.

The British Standards Society provides a forum for all those concerned with the benefits and techniques of applying standards widely and efficiently. Several of its members have contributed to the preparation of this publication, but special thanks are due to Tom Chapman of the North east region, who both planted the seed and brought it to fruition.



J M L Gavin
Chairman, British Standards Society

Guide to the preparation of a company standards manual

1. Introduction

Standards are of importance to companies as a means of removing barriers to trade, of achieving economies in production, of regularizing procedures and of specifying performance and quality. Furthermore, British Standards are being referred to in legislation as a means of assisting the implementation of EEC Directives, the Health and Safety at Work etc. Act, the Consumer Protection Act and, in certain cases, the use of standards may be 'deemed to satisfy' safety regulations.

Hence in every company there is a need to establish standards that will harmonize with, and make use of, relevant national and international standards, and which will improve productivity through better design, reduced variety, improved quality and lower unit cost.

It is necessary to document these standards so that they are available for reference by all personnel, to classify them according to their subject and type, and to publish them in a 'company standards manual'.

The scope of the manual may cover all areas of company activity, but in practice it is usually concerned only with some of them. Typically, company standards manuals cover raw materials, bought out items, manufactured parts, design practices, quality and inspection procedures and manufacturing processes. A manual that covers all activities is very desirable and should be the ultimate aim, although the scope is usually restricted by financial constraints and by the terms of reference assigned to the standards department.

This guide explains the purpose of a company standards manual and gives information on the things which should be done when preparing such a manual.

2. Purpose of a standards manual

The primary purpose of a company standards manual is to communicate standards information so as to derive the benefits available from:

- the control of unnecessary variety;
- improved management control;
- the provision of a central source of information;
- the promotion of value engineering;
- the provision of on-the-job reference information;
- the clarification of responsibilities;
- improved product safety;
- information for training new staff;
- uniform interpretation of policies;
- a constant review of standards;

- the auditing of procedures;
- visible proof of standardization and organization;
- the demonstration of the company's quality assurance to customers (e.g. MOD).

Although almost all companies recognize the need for standardization they sometimes have no form of standards manual and in many cases there is little or no obvious evidence that any standards exist.

Sometimes standards information is passed on verbally: in such cases everyone's version of the standard is likely to be different.

Another fairly common practice is for standards to be communicated by internal memoranda or even by company notices. Although these methods represent some improvement there are many reasons why they are unlikely to be satisfactory.

- They are seldom given the same thought and care as formal standards.
- They usually do not go through any approval procedure.
- They do not carry the same authority.
- They are rarely amended or withdrawn.
- Copies are usually restricted to managers.
- Few people have a full set.
- They are not classified and numbered for retrieval.
- They may not gain the approval of an outside authority conducting a quality audit.

The only satisfactory way to communicate most standards information is to publish a company standards manual.

3. Classification of standards

When preparing a company standards manual one of the first tasks to be performed is to classify the subjects to be included. The manual will usually consist of a number of volumes and the content of each should be decided so that, as each new standard is prepared, it is included in the appropriate volume. This is not an easy task and can involve a considerable effort, but only if sufficient thought is given at this stage will a logical structure be obtained. The task of implementing standards will be greatly simplified if reference to the manual is as easy as possible. If users cannot easily find the information they need, they are not likely to use it.

A comprehensive list of classes into which any requirement for a standard can be categorized is shown below. For the purpose of this classification a very broad definition of a company standard is assumed. This definition includes specifications, instructions, procedures, policy documents,

technical reference data, codes of practice, preferred and stock materials catalogues and standard parts data.

Classification

1. **COMMERCIAL** (Accounting, contracts, estimating, purchasing, stores stock control).
2. **ADMINISTRATION AND SERVICES** (Salaries and wages, printing, publications, forms, standards, public relations, publicity, catering, administrative procedures, security, standing instructions, transport).
3. **DATA PROCESSING/SYSTEMS** (Feasibility study, functional requirements, system design, programming, computer operations, operating instructions).
4. **TECHNICAL/DESIGN** (Mechanical and electrical technical data, drawing office practice, design standards, safety).
5. **MATERIALS, PREFERRED/STOCK SIZES** (Ferrous, non-ferrous, non-metallic, proprietary mechanical, proprietary electrical, proprietary miscellaneous, tools, classification and coding system).
6. **MANUFACTURED COMPONENTS** (Standard components, assemblies, classification and coding system).
7. **PURCHASE SPECIFICATIONS** (Materials, services).
8. **MANUFACTURING** (Work study, production planning, production control, process specifications, packaging).
9. **WORKS ENGINEERING** (Construction, site development, maintenance).
10. **PERSONNEL AND MANPOWER DEVELOPMENT** (Recruitment, interviewing and selection, employment, training, appraisal, industrial relations).
11. **MARKETING** (Sales, forecasting, standard products and services, price lists, operating instructions).
12. **QUALITY/INSPECTION** (Quality control, metrology, goods inwards inspection, manufacturing inspection, process control, testing).
13. **MANAGEMENT PLANNING AND CONTROL** (Central resource planning, budgetary planning and control, project planning, project control).
14. **HEALTH AND SAFETY** (Safety committee, inspection and incident reporting, rules and procedures).

The actual structure of the manual will of course vary with each company as some of the headings will not be applicable. However, a similar comprehensive classification should be prepared even if initially there is no intention to cover many of the headings. In this way, if a requirement for a standard is raised which is outside the current scope of the manual, its correct place within the standards structure can be identified.

Where the number of standards within a particular class is small, these can be included as one section of the standards manual whilst other classes may be so large that they are split into several sections and may need more than one binder to contain them.

4. Presentation

4.1 General. Each aspect of presentation of the company standards manual should be considered and decisions taken on the method of binding, the content of each binder, the layout of the individual pages and the numbering systems which are to be used. Although different volumes of the manual require some variation in their presentation, there are many formats which can be adopted throughout. It is worth spending a considerable amount of time on this subject as the standards department will tend to be judged by the quality of the manuals it produces.

The ease of reference to standards is also a function of the quality of the presentation, and it must be remembered that the standards manual is to some extent in competition with other sources of information such as technical books and suppliers' catalogues. The quality should therefore be comparable.

As regards the general style of writing, paragraph numbering, headings and spacing, the methods used in British Standards as described in BS 0 : Part 4 are recommended and should be used as the basis for the presentation of company standards.

When all the aspects of presentation have been agreed, a company standard should be prepared on this subject. Such a standard is a valuable aid to editing and for reference when a draft standard is prepared by members of staff outside the standards department.

4.2 Binders. The method most commonly adopted is some form of loose leaf binder to contain the standards. The type and format of these binders should be standardized together with the binding mechanisms. Most companies use four ring, loose leaf binders and the page size is almost universally A4. Other loose leaf binders in common use have two-ring, three-ring and multi-ring mechanisms. It should be remembered that the binders will be subject to considerable wear and tear, so they should be of sound construction and capable of remaining open without being held by the reader.

It may be possible to standardize on one binder for all volumes of the standards by having a clear pocket on the spine into which cards printed with the different volume titles are inserted.

4.3 Content of each binder. Each binder will normally contain some or all of the following items:

- a foreword;
- an amendment record sheet;
- a contents list;
- instructions for use;
- the individual standards in order.

Other items sometimes included are:

- advance information sheets;
- an alphabetical index.

The order of these items varies considerably in different companies although that shown above is typical.

4.4 Presentation of individual standards. The different classes of standards require some variation in presentation, and proformas which are based on a standard design should be prepared for each class. The examples shown under 4.7 illustrate this point.

It is also desirable to agree the order of content which will be used for each class of standards. The following example shows the typical content of a process specification:

name of company;	} contained in the proforma header
specification reference number;	
title;	
issue and date;	
introduction and scope;	
relevant specifications (company, BSI, ISO etc.);	
safety precautions;	
materials, equipment and workmanship;	
detailed requirements;	
inspection and testing;	
appendices (e.g. test methods).	

4.5 Numbering of standards. The system of numbering used for each standard should be simple and flexible. The type of numbering which is commonly used consists of two or more parts separated by spaces or hyphens. The first part identifies the class of standard and the second part identifies the individual standard within that class:

e.g. 03-279 or PS 304-16.

Before a number is allocated to a standard the available numbers within each class should be broken down into convenient groups of numbers covering the sections within that class. A number is then allocated to each standard from the appropriate group. Normally gaps are left in the numbering within each group to allow for

future addition. When a logical coding system is used by the company for materials and components, the class and group numbers of this code may be used as reference numbers for these standards.

4.6 Page numbering. The following method is recommended:

e.g. Page 1 of 4, Page 2, Page 3, Page 4.

This method includes the essential information, i.e. the sequence of pages and the number of pages in the complete document. It is easier to amend than the alternative method (i.e. 1 of 4, 2 of 4, 3 of 4, 4 of 4) which involves the amendment of every page if extra pages are added.

4.7 Examples of typical standards. Some examples of company standards are shown on the following pages to illustrate the typical presentation of different classes of standards. The first page of each of the following is included:

1. DESIGN STANDARDS (04 015): Rotary shaft lip seals,
2. STANDARD STORES CATALOGUE (4 3015): Shaft seals,
3. ENGINEERING STANDARDS (4 600.1): Materials — structural hollow sections,
4. PROCESS SPECIFICATIONS (3 015): Application of two-part epoxy resin coatings,
5. ORGANIZATION MANUAL (5 013): Standards, issuing and amendment procedure,
6. ORGANIZATION MANUAL (1 410): Personnel procedures, recruitment.

Design standards

Company name logo, division

Rotary shaft lip seals	Number	04 015
	Page	1 of 5
References BS 1399	Issue	1
	Date	1973-01-03*

1. Introduction

This standard covers rotary shaft lip seals that incorporate a single spring-loaded sealing lip for the retention of fluid. Most manufacturers refer to these as their 'standard type' which is in accordance with BS 1399.

2. Lubrication

For satisfactory functioning these seals should be kept adequately lubricated. Rapid deterioration will occur if seals are allowed to run dry.

3. Materials

Nitrile rubber is suitable for the majority of sealing applications but type X rubber is available in some sizes for special conditions.

3.1 Working temperatures

Nitrile -30 °C to 80 °C
Type X -40 °C to 200 °C

Refer to suppliers' catalogues for temperatures outside these ranges.

3.2 Fluid compatibility

Nitrile: Mineral oils and water based oils.
Type X: Mineral oils, water based oils, phosphate and chlorinated ester fluids.

4. Sealing pressure

The maximum pressure for standard unsupported seals is approximately 350 mbar (35 kN/m²). Lip supporting rings are, however, available, making some seals suitable for up to 7 bar (700 kN/m²), and most manufacturers offer alternative seals with modified forms of lip which are also suitable for higher pressures.

*The date is shown in accordance with BS 4795