International Standard 5966

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Documentation — Presentation of scientific and technical reports

Documentation — Présentation des rapports scientifiques et techniques

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5966 was developed by Technical Committee ISO/TC 46, *Documentation*, and was circulated to the member bodies in June 1978.

It has been approved by the member bodies of the following countries :

Austria	India	New Zealand
Belgium	Iran	Poland
Brazil	Ireland	Romania
Canada	Israel	South Africa, Rep. of
Czechoslovakia	Italy	Spain
Egypt, Arab Rep. of	Japan	Switzerland
France	Korea, Rep. of	USA
Germany, F.R.	Mexico	Yugoslavia
Hungary	Netherlands	

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Denmark
Finland
Sweden

Printed in Switzerland

Documentation — Presentation of scientific and technical reports

0 Introduction

Reports now form one of the major sources of scientific and technical information, and many centres exist or are envisaged for their widespread dissemination. This growth in their volume and use has revealed a need for standard practices that will aid in their interpretation and understanding and will facilitate their processing through information systems.

Reports, however, differ from commercial publications in that they are prepared by a wide variety of organizations, of which very few have editing and printing facilities as extensive as those normally possessed by commercial publishers. The responsibility for applying standards in reports therefore rests predominantly either on local editors or on the authors themselves, using often very limited publishing facilities.

This International Standard has been prepared with such situations in mind. To facilitate its application by authors and local editors, the document has been made self-contained by summarizing or exemplifying important points from other International Standards when these apply. In addition, although it proposes ideals, at many points it also suggests alternatives that may be used if the ideal cannot be achieved through lack of suitable production facilities.

Moreover, it has recognized that an organization's policy may require, or production facilities permit, a more economic format than is conventionally used for scientific and technical reports. More economic layouts, which frequently require the use of photo-reduction, have therefore been suggested at various points in the text. For paper economy, a microform edition may be recommended.

1 Scope

This International Standard specifies the broad way in which scientific and technical reports should be presented and gives rules for those items where a uniform procedure will assist the interchange of information either by aiding readers' understanding or facilitating the processing of the report in an information system. It does not consider matters of textual style or language, which must be guided at national or organizational levels.

Account has been taken throughout of the requirements laid on the producer of a scientific and technical report by the use of electronic or magnetic storage and retrieval, abstracting services and microform techniques in its eventual processing through information systems.

2 Field of application

This International Standard applies to monographic scientific and technical reports as defined below, whether referred to as reports, memoranda or notes. It may also be applied, in whole or in part, to other scientific or technical documents, such as annual reports, manuals, especially when these are published by organizations simultaneously publishing scientific and technical reports. This International Standard deals exclusively with technical aspects of the presentation of reports to the exclusion of the problems of copyright.

3 References

ISO 4, *Documentation — International code for the abbreviation of titles of periodicals.*

ISO 30, *Documentation — Bibliographic identification (biblid) of serial publications.* [1)]

ISO 31 (parts 0 to 13), *Quantities, units and symbols.*

ISO 214, *Documentation — Abstracts.*

ISO 216, *Writing paper and certain classes of printed matter — Trimmed sizes — A and B series.*

1) At present at the stage of draft. (Revision of ISO/R 30-1956.)

ISO 478, *Paper — Untrimmed stock sizes for the ISO-A series — ISO primary range.*

ISO 690, *Documentation — Bibliographic references — Essential and supplementary elements.*

ISO 1000, *SI units and recommendations for the use of their multiples and of certain other units.*

ISO 2014, *Writing of calendar dates in all-numeric form.*

ISO 2108, *Documentation — International standard book numbering (ISBN).*

ISO 2145, *Numbering of divisions and subdivisions in written documents.*

ISO 2955, *Information processing — Representation of SI and other units for use in systems with limited character sets.*

ISO 3297, *Documentation — International standard serial numbering (ISSN).*

ISO 6357, *Documentation — Spine titles on books and other publications.*[1)]

International list of periodical title word abbreviations, by International Serials Data System (ISDS).

4 Definition

scientific and technical report : A document describing the progress or results of scientific or technical research, or the state of a scientific or technical problem.

NOTE — Such a report presents sufficient information, systematically or chronologically, that a qualified reader can judge, evaluate or propose modifications to its conclusions or recommendations.

Such a report is prepared for a sponsoring organization or person and generally constitutes one of a numbered occasional series for internal or wider distribution.

5 Ordering of the report

5.1 Division [see table 1][2)]

For the purposes of this International Standard, a report is considered to comprise the following major parts :

a) front matter (including the front cover, if required);

b) body of report;

c) annexes;

d) other end matter (including the back cover, if required).

These are composed as follows :

5.1.1 Front matter [see clause 6 and table 1]

The front matter shall consist of the following, in the order given :

a) outside and inside front cover (cover pages 1 and 2), if required [6.1];

b) title page [6.2];[3)]

c) abstract [6.3];

d) table of contents [6.4];

e) glossary of signs, symbols, units, abbreviations, acronyms or terms [6.5];

f) preface, if required [6.6].

5.1.2 Body of report [see clause 7 and table 1]

The body of the report shall consist of the following, in the order given :

a) introduction [7.1];

b) core of report, with essential illustrations and tables [7.2];

c) conclusions and recommendations [7.3];

d) acknowledgments, if any [7.4];

e) list of references [7.5].

5.1.3 Annexes [see clause 8 and table 1]

These are considered separately from the other end matter because, although not always required, they may form a substantial part of some reports.

5.1.4 Other end matter [see clause 9 and table 1]

The other end matter shall consist of the following, in the order stated :

a) document data sheet [9.1];[3)]

b) distribution list and availability (sources and conditions), if required [9.2];

c) inside and outside back cover (cover pages 3 and 4), if required [9.3].

1) At present at the stage of draft.

2) Footnote on page 3 states whether or not the items are obligatory.

3) For economic reasons the title page may be replaced by the document data sheet.

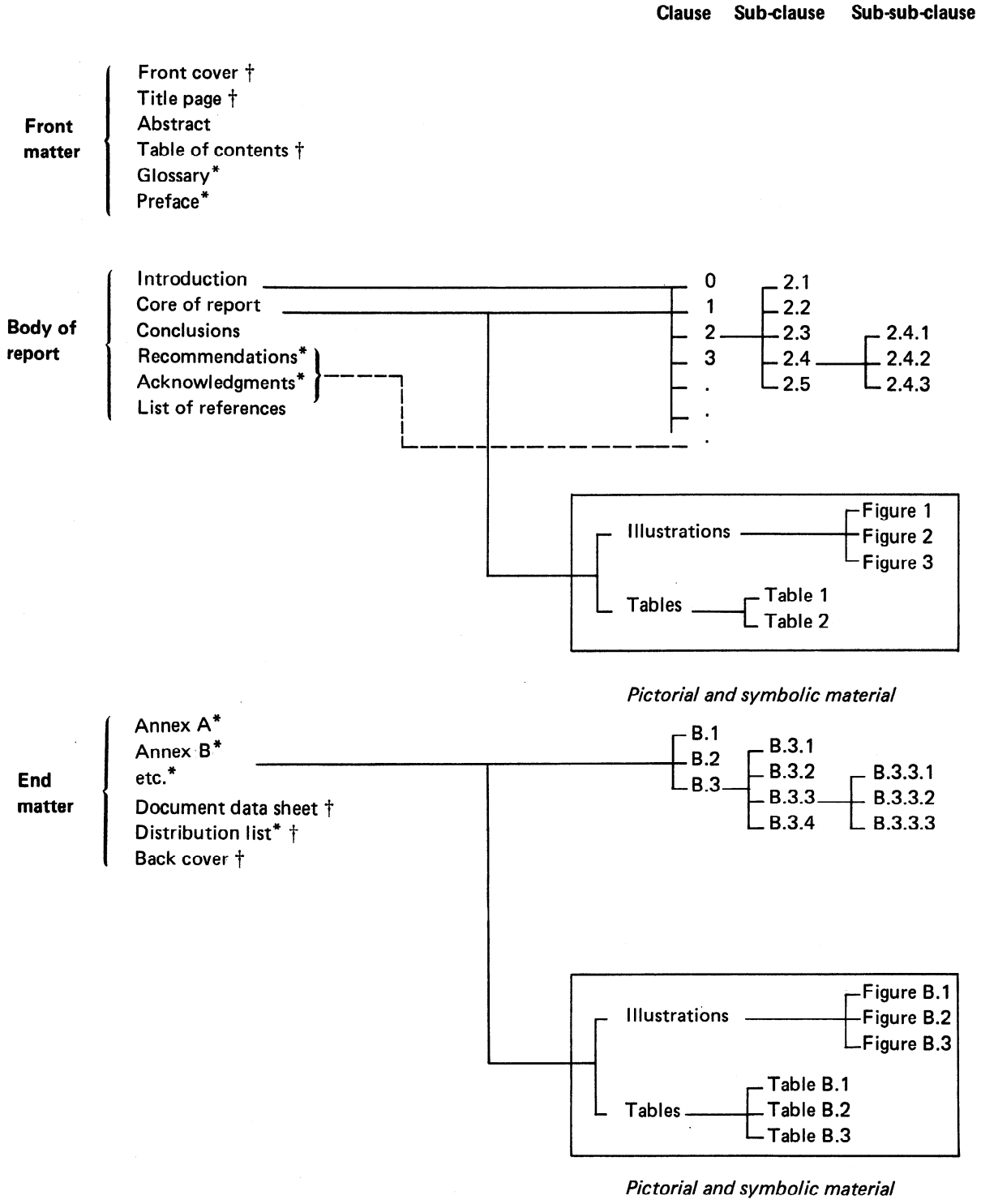

Table 1 — Ordering of a report

* Not obligatory

† Parts of a report require these items in each part.

5.2 Numbering

5.2.1 Volume numbering [see table 2]

When reports are issued on a common subject, it is frequently convenient to associate them as a set with a common title, identifying each report as a volume of the set, with its own sub-title [see 10.2.5]. These volumes shall be identified by a consecutive series of arabic numbers, with abbreviations of the word "volume", or equivalent.

EXAMPLE : Vol. 1, Vol. 2, etc.

5.2.2 Part numbering [see table 2]

When a single report is too large to be handled conveniently, it should be isssued in two or more parts under the same title [see 10.2.5]. These parts shall be identified by a consecutive series of arabic numbers.

EXAMPLE : Part 1, Part 2, etc.

5.2.3 Edition numbering

When various editions (drafts, versions, revisions, etc.) of a report, or parts of a report, are published they shall be identified and numbered as such [see 10.2.5].

5.2.4 Clause numbering [see table 1]

Narrower division of reports is principally concerned with the core of the report [see 7.2], which shall be divided into numbered clauses and may be further sub-divided into numbered sub-clauses and sub-sub-clauses. Still further subdivision is not recommended for most types of reports. The numbering of individual paragraphs in a single sequence is recommended only when the report is intended for later detailed discussion, for example by a committee.

Numbering of clauses, sub-clauses and sub-sub-clauses shall follow ISO 2145. Titles shall be printed in a manner that reflects the numeric hierarchy used.

EXAMPLE : Clause 2 : 2 RESULTS
Sub-clause 1 : 2.1 Acoustic measurements
Sub-sub-clause 1 : 2.1.1 Deep water

Some annexes may also require division. If so, they shall be divided in the manner described above, except that the annex letter shall precede the number.

EXAMPLE : Annex B
B.1 B.2
B.2.1
B.2.1.1

5.2.5 Page or sheet numbering

Pages shall be identified by arabic numerals consecutively throughout the report, the title page, which shall be a recto page, being page 1. When sheets are typed or printed on both sides, blank pages should be avoided whenever possible, but if they occur they shall be counted in the page numbering so that recto pages always carry odd numbers.[1)] All pages of the report shall be numbered consecutively. When a report is bound in two or more parts [see 5.2.2], the numbering shall run consecutively throughout. When a set of reports is issued under a common title, the volumes [see 5.2.1] of the set shall normally have separate page numberings.

The identifying numbers shall be placed in the same prominent position on each page of the report.

6 Front matter

6.1 Front cover (cover pages 1 and 2)

As well as providing part of the physical protection of the report, the outside front cover (cover page 1) serves to give the first presentation of the report to the user. It should therefore be neat, distinctive and informative. The layout of the information carried on the outside front cover is specified in 10.1.1. Details on the reproduction of covers are given in 12.1 and 12.2.

For economy, the title page as described in 6.2 may serve as the outside front cover (cover page 1). This solution is strongly recommended. It should then also carry the report identifiers in the three positions described in 10.1.1a).

The inside of the front cover (cover page 2) may be used to carry some of the less important of the special notices described in 10.2.9. In some circumstances it may be used for a preface [see 6.6].

6.2 Title page

The title page of any document is the preferred source of bibliographic information required for efficient document processing and retrieval [see 10.1.3]. It is therefore essential that each report includes a title page. As long as it does not substitute for the outside front cover (cover page 1), it is not essential that this so-called "title page" occupy a complete page. For economy it may form a masthead above the abstract [see 6.3] or above the abstract and table of contents [see 6.4]. For further economy a document data sheet [see 9.1 and 10.1.4] may replace the title page and the abstract. This is recommended when the front cover replaces the title page.

When a report is bound in two or more parts [see 5.2.2] each part shall contain a title page, on which the appropriate part number is indicated.

1) Reproduction : if one sheet reproduces each page, it follows that the blank pages are missing; in this case the odd page should carry the two numbers.

Example : p. 8 blank; p. 7 must carry : "7 (8 blank)"; and p. 8 is deleted in the copy set.

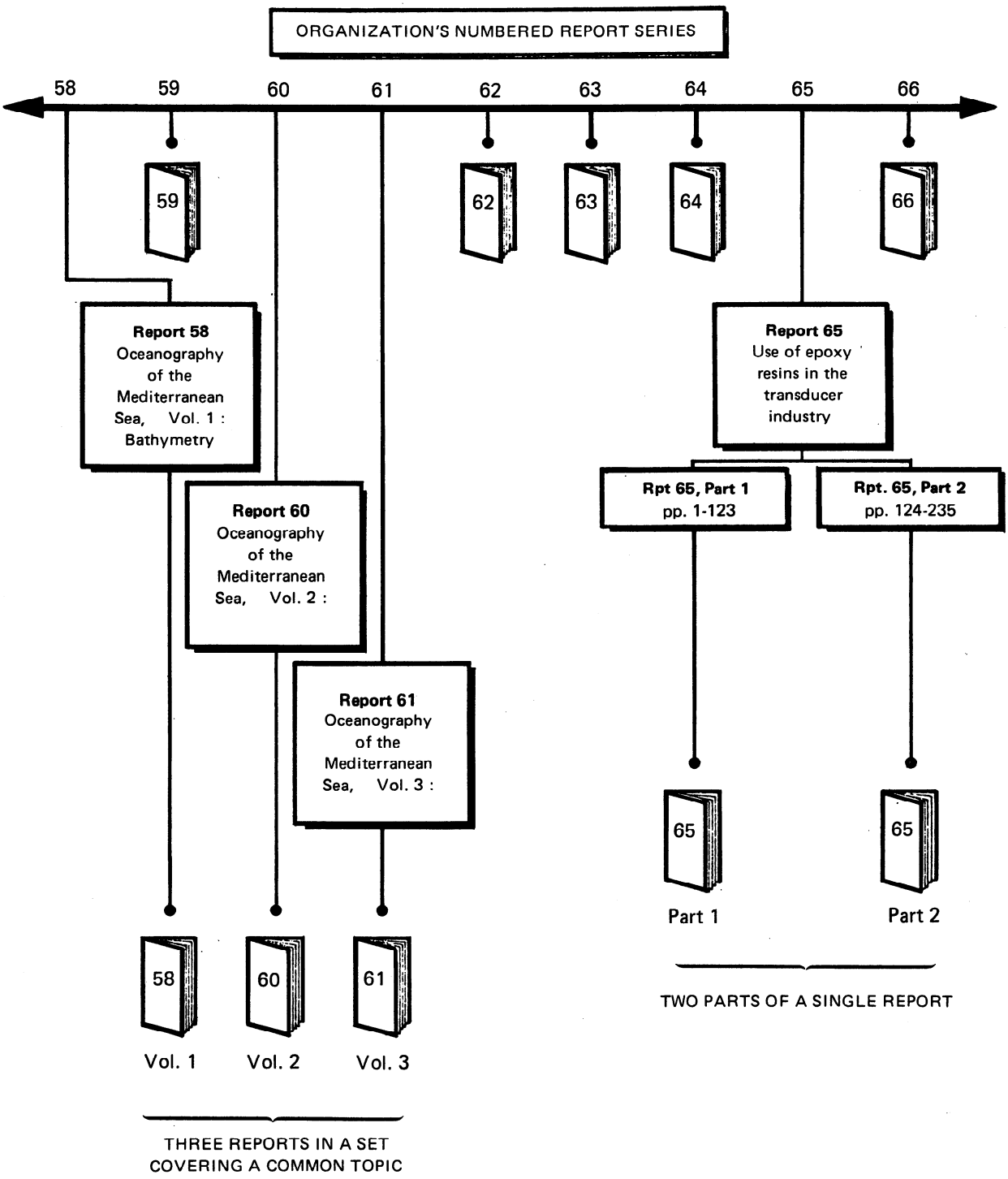

Table 2 — Example of the use and interrelation of the terms *report, series, set, volume,* and *part*

6.3 Abstract

Every report shall contain an abstract, which shall be presented immediately after the title-page information [see 6.2] and/or included in the document data sheet [see 10.1.4]. When the abstract is on a separate page it shall be preceded or followed by the full bibliographic identification (biblid) of the report : author(s), title, report identifier, responsible organization, and date of publication, as described in ISO 30.

The text of the abstract shall follow the style of ISO 214. In brief, be as informative as the nature of the document permits, so that readers may decide whether they need to read the entire document. State the purpose, methods, results and conclusions presented in the original document, either in that order or with initial emphasis on the results and conclusions. Make the abstract self-contained, since it must be intelligible without reference to the document itself. Be concise without being obscure, retaining the basic information and tone of the original document. Keep abstracts of most reports to fewer than 250 words and at most not more than 500 words. Write the abstract in a single paragraph. Normally employ complete sentences, active verbs, and the third person. Use pictorial or symbolic material, such as short tables and structural formulae, only when no acceptable alternative exists. Employ standard nomenclature, or define unfamiliar terms, abbreviations, and symbols when they first occur in the abstract.

Where several reports are issued as separate volumes of a set [see 5.2.1], each report shall carry an abstract relevant to that volume, stating, if necessary, its relation to the other volumes.

Descriptors or keywords and/or subject classification notations assigned to the report may follow the abstract. Keywords should appear in the document data sheet [see 10.1.4 and figure 3].

6.4 Table of contents

A table of contents is essential for all but the shortest reports. It shall be placed immediately after the abstract. It shall consist of the titles of the principal sub-divisions of the report and of any annexes, together with the numbers of the pages on which these appear. A list of illustrations and tables should be included.

Where a report is bound in two or more parts [see 5.2.2] the complete table of contents shall appear in each part. Where several reports are issued as separate volumes of a set [see 5.2.1], each report shall contain a table of contents for that particular volume and may also contain a list of titles of the volumes in the set; the final volume may also contain a common table of contents for the whole set.

6.5 Glossary of signs, symbols, units, abbreviations, acronyms or terms

Where the report contains any signs, symbols, units, abbreviations, acronyms or terms that may not be immediately understood by the expected readership, they should be defined in one or more lists after the table of contents. The existence of such lists does not justify omission of an explanation in the text where the item first appears.

6.6 Preface

A preface may be considered as a covering note to define the study, emphasize certain of its aspects, show its relation to associated work, or trace the historical circumstances that led to its initiation. It is not always needed.

If a preface is required, it should appear at the end of the front matter, immediately before the body of the report. However, for some purposes it may be convenient to draw attention to the statements contained in the preface by placing it on the inside front cover (cover page 2).

Where a report is bound in two or more parts [see 5.2.2] the preface shall appear only in the first part. Where several reports are issued as separate volumes of a set [see 5.2.1], each report may contain its own preface.

7 Body of report

7.1 Introduction

Each report shall start with an introduction that states briefly the scope and objectives of the work described, its relation to other work and the broad line of approach. It shall not repeat or paraphrase the abstract, nor give a detailed account of experimental theory, method, or results, nor anticipate the conclusions or recommendations. If there is no separate preface, the information that would have been contained there may be included in the introduction. The introduction does not form part of the main text of the report and shall not be numbered, except, if desired, with the cypher 0 (zero) [see ISO 2145].

7.2 Core of report, with illustrations and tables

The core of the report should be divided into numbered clauses that cover such items as theory, method, results and discussion.

It is frequently convenient to divide clauses into sub-clauses and sub-sub-clauses, each with its own heading [see table 1]. Further sub-divisions are not normally recommended except for the numbering of items in a list. The numbering of clauses, sub-clauses and sub-sub-clauses shall follow ISO 2145 [see 5.2.4].

The information given in the core of the report should not be too detailed. Descriptions of theory, methods and results should be sufficient to enable an adequately skilled worker in the field to retrace the steps of the investigation without undue difficulty. If full mathematical proofs or full details of experimental procedure are required, they should be presented in annexes. Emphasis should be placed on new work, with only a brief description of, or reference to, standard techniques or equipment.

All illustrations and tables essential to the understanding of the core text should be included in the core of the report. They shall be placed as indicated in 11.2 and 11.3 [see, however, 8.2.2].

A separate discussion clause may elaborate on any new aspects of the reported work and interpret or comment on the results

and the reasoning on which the report's conclusions and recommendations are founded. Alternatively, discussion subclauses may be included in the clauses that describe results.

7.3 Conclusions and recommendations

The conclusions shall represent a clear and orderly presentation of the deductions made after full consideration of the work reported in the core of the report. Quantitative data may be included but the details of an involved argument or result should not be given here.

Recommendations are concise statements of further action deemed necessary as a direct result of the conclusions reached or of experience during the work reported. They are not always required, but if presented shall be fully justified by the work reported. In most reports the conclusions and recommendations should be combined in a single final clause. Where, however, the recommendations are extensive they may form a separate clause.

The clause(s) of conclusions and recommendations do(es) not form part of the core of the report and need not carry clause numbers.

7.4 Acknowledgments

Acknowledgments of help in performing the work and in preparing the report can be made, although it is not usual to acknowledge routine checking, minor assistance, or general advice. If a colleague or assistant of the author has made a major contribution he should appear as co-author or, when his contribution can be presented independently, as author of an annex [see 8.2.4].

Acknowledgment of other work used shall be made in the form of references [see 7.5]. Acknowledgment to quoted text and to the use of illustrations and tables may also require the acknowledgment of a copyright; reference should be made in conformity with the provisions of law.

7.5 References

7.5.1 Reference list

A list of all sources on which the report depends shall be given at the end of the body of the text and citations shall be made to this list at appropriate places in the text. General references on the broad subject of the report may be cited in the introduction and hence included in this list; however, supplementary literature not cited in the text but considered of interest to the reader shall be listed in a separate bibliography as an annex [see 8.2.3].

Entries in the reference list shall comply with ISO 690, which, stated briefly, requires that the elements of all bibliographic references be given in the general order :

Author/Title/Facts of publication

EXAMPLES :

Book : PETTERSSEN, Sverre. Introduction to Meteorology. New York, McGraw Hill, 1941 : pp. 200-210.

Paper in a collection : HOWLAND, D. A model for hospital system planning. *In* : KREWERAS, G. and MORLAT, G., *eds*. Actes de la 3e conférence internationale de recherche opérationnelle, Oslo 1963. Paris, Dunod, 1964 : pp. 203-212.

Article in periodical : BACHMANN, Wolfgang. Verallgemeinerung und Anwendung der Rayleighschen Theorie der Schallstreuung (Generalization and application of Rayleigh theory of scattering of sound). *Acustica* 28 (4) 1973 : pp. 223-228.

Report : LLOYD, John Charles. Application of electronic toning to shipbuilding, Vol 1 : Anticorrosion, ELTON-TR-54. Birkenfield, U.K., Electronic Toning Laboratory, 1974.

Because of the large number of periodicals and the frequent changes in their titles, references to periodicals in the reference list should state their titles in full. If abbreviations are used they shall comply with ISO 4.

References to parts of books or long papers should state the specific page(s). (References to articles in periodicals are required to do this by ISO 690.)

Terms such as op.cit., loc.cit., ibid. and idem, or equivalent terms in other languages shall not be used.

When references are made to "personal communication", the full name and working address of the communicator shall be given, and also the date of the communication.

The ordering of entries in the reference list shall follow one of two methods, depending on which form of text citation is preferred [see 7.5.3] :

a) The entries shall be listed in the alphabetic order of the first author's name; when there are two or more entries by the same author or group of authors these shall be listed in the order of publication date. The name(s) of the author(s), the publication date and, where appropriate, the specific page number, shall serve as citations in the text (name(s)/date citations).

or

b) The entries shall be listed in the order in which they are first cited in the text. Consecutive numbers shall be placed before the entries to serve as citations in the text (numbered citations).

Form a) is considered to have practical advantages over form b).

7.5.2 Reference footnotes

To facilitate reading microform copies of the report it is recommended that reference information should appear on the same page as the citation as well as in the reference list. When name(s)/date citations are used these are generally adequate for the specialist reader, although footnotes may also be added, if required. When numbered citations are used, footnotes provide the only method of meeting this recommendation.

References in footnotes may be shortened by reducing long titles, abbreviating titles of periodicals (in compliance with ISO 4) and omitting place and name of publisher; otherwise they should comply with 7.5.1. When there is more than one citation on a page, the corresponding footnotes shall be ordered in the same manner as in the reference list [see 7.5.1]. Examples of footnotes are given in 7.5.3.

7.5.3 Citations in text

The form of citation used in the text shall be one of two types, corresponding to the method chosen for ordering entries in the reference list.

a) A name(s)/date citation that corresponds with the name(s) of author(s) and a publication date in an alphabetically ordered reference list [see 7.5.1] and, where required for microform purposes, in a footnote [see 7.5.2].

or

b) A citation number that corresponds with a numbered entry in the reference list [see 7.5.1] and, where required for microform purposes, with a numbered footnote [see 7.5.2].

When name(s)/date citations are used they shall combine the name(s) of author(s) and the date of publication at an appropriate point in the text, either by combining the name(s) and date within square brackets or, when the name(s) form part of a sentence, by adding the date in parentheses after the name(s). It is also frequently desirable to include the specific page with the citation in the text.

EXAMPLE :

Citation :

. . . has been noted at altitudes as low as 2 500 m [MacFarland, 1974, p. 650].
or
. . . MacFarland (1974, p. 650) has noted this at altitudes as low as 2 500 m.

Corresponding entry in reference list :

MACFARLAND, R.A. Influence of changing time zones on air crews. *Aerospace Medicine* 45, 1974 : 648-658.

Corresponding entry in footnote (shortened version), if required :

MACFARLAND, R.A. Influence of changing time zones. *Aerospace Med.* 1974.

NOTE — The use of name(s)/date citations does not change the ordering of the elements of the bibliographic references from that required by ISO 690.

When reference is made to more than one publication by the same author or group of authors in the same year, the name(s)/date citations shall carry a series of lower-case letters after the date. These letters shall be repeated before the author's name in the reference list and footnotes.

EXAMPLE :

Citation :

. . . information from these sources [Farnfield, 1974a)] led to a proposal for the adoption of new terms [Farnfield, 1974b)].

Corresponding entries in reference list :

a) FARNFIELD, C.A., *ed.* A Guide to Sources of Information in the Textile Industry. Manchester, The Textile Institute, 1974 : pp. 119-120.

b) FARNFIELD, C.A. Textile terms and definitions, T & D Comm. Rpt. 23. Manchester, The Textile Institute, 1974.

When numbered citations are used they shall run consecutively through the text, except that when a reference source is cited more than once, referring to the same pages exactly, the same number shall be repeated. The numbers, enclosed in square brackets, shall be placed in the text at appropriate points and shall be of a different font from other numbers in the text. When it is not possible to use a different font for citation numbers, the abbreviation "Ref" shall precede the number inside the square brackets.

EXAMPLE :

Citation :

. . . has been noted at altitudes as low as 2 500 m [*2*].

or

. . . has been noted at altitudes as low as 2 500 m [Ref. 2].

or

. . . MacFarland [*2*] has noted this at altitudes as low as 2 500 m.

Corresponding entry in reference list :

[2] MACFARLAND, R.A. Influence of changing time zones on air crews. *Aerospace Medicine* 45, 1974 : 648-658.

Corresponding entry in footnote (shortened version) :

[2] MACFARLAND, R.A. Influence of changing time zones. *Aerospace Med.* 1974.

8 Annexes

8.1 Purposes of annexes

Annexes are used to present material that :

a) is necessary for completeness but which, if inserted in the core of the report, would detract from the orderly and logical presentation of the work;

b) cannot conveniently be placed in the body of the report because of its size or method of reproduction;

c) may well be omitted by the general reader but would be valuable for a specialist in the field.

Annexes need not be bound with the body of the report but may form a separate part or parts of the report [see 5.2.2].

Annexes are not essential in every report.

8.2 Types of annexes

Possible types of material that may be included as annexes are :

8.2.1 Supplementary illustrations or tables

Supplementary figures or tables that are not needed for an immediate understanding of the text but provide extra examples should be placed in annexes. Care should be taken that this is not used as an excuse to present every piece of data obtained in an experiment.

It is also possible that certain illustrations or tables are not included in the report, but they should be listed with the indication of the publisher, or the documentation centre, or the competent organization.

8.2.2 Exceptional material

Some material cannot easily be incorporated in the body of the report because it is too large (some illustrations and tables, for example) or because it is reproduced in a different manner from that of the report (special maps, original photographs, microfiche, for example). These can often be handled more conveniently if they are treated as annexes.

8.2.3 Bibliography

A supplementary bibliography of literature not cited in the text but considered of interest to the reader can form an annex. Entries in this list shall comply with ISO 690 [see also 7.5]. The criteria by which the bibliography has been compiled should be indicated (for example comprehensive, selective, twentieth century).

8.2.4 Description of equipment, techniques or computer programs

A detailed description of new equipment, techniques or computer programs used in a reported study is not usually appropriate in the body of the report. If this description is not itself to be made into a separate report, it may usefully be included as an annex. Such an annex is frequently prepared by a different author from that of the body of the report. If so, this should be stated under the title of the annex and a suitable statement added on the title page of the report.

EXAMPLE :

Geophysical measurements in the Paravanian Basin
by
Michel Bigoin

with an annex

A 30 m *long explosive corer*
by
Arne Johansen

8.3 Numbering in annexes [see table 1]

Annexes shall be identified by consecutive upper-case letters.

EXAMPLE : Annex A, Annex B

Annexes should be considered as independent entities. This is particularly applicable to annexes of the type described in 8.2.4. Therefore, apart from their page numbering, which shall run consecutively with the rest of the report [see 5.2.5], they shall be ordered separately into clauses, sub-clauses, illustrations, tables, references and equations. The numbering of these items shall start afresh with each annex, with each number being prefixed by the annex letter.

EXAMPLE : ANNEX B, Sub-clause. B.1.1, Figure B.9
Table B.5, Ref. B.23, Eq. B.14

When reference is made to a clause, sub-clause, illustration or table in the body of the report, this shall be made clear by using such statements as "according to figure 3 in the body of the report".

8.4 References in annexes

Sources cited in annexes shall be treated independently of those in the body of the report and be listed separately at the end of each annex. The form of citation [see 7.5.3] and the method of ordering the reference lists [see 7.5.1] and footnotes [see 7.5.2] in the annexes should be the same as in the body of the report. However, when citations are made by number, these numbers and the corresponding numbers in the reference lists and footnotes shall be preceded by the annex letter.

EXAMPLE :

Citation in Annex B

. . . has been noted at altitudes as low as 2 500 m [*B.2*]

or

. . . has been noted at altitudes as low as 2 500 m [Ref. B.2]

Corresponding entry in reference list to Annex B

[B.2] MACFARLAND, R.A. Influence of changing time zones on air crews. *Aerospace Medicine* 45, 1974 : 648-658.

If a work cited in an annex is also cited in the body of the report, it shall appear in both reference lists. It may sometimes be convenient to draw attention to this fact.

9 Other end matter

9.1 Document data sheet

To provide rapid accession of the report into computerized retrieval systems, the last recto page of each report or part of a report [see 5.2.2] shall be a document data sheet on which the bibliographic information about the report is listed in a standard form suitable for easy reading by key punchers. Details of such a sheet are given in 10.1.4. In front matter, the document data sheet may replace the title page.

9.2 Distribution list and availability (sources and conditions)

A list of initial recipients of the report may be included,[1] either on a separate page or on the inside of the back cover (cover page 3). Where a report is made available through organizations other than the responsible organization, a list of these may be provided at the same place, as may other relevant information on the report's availability.

9.3 Back cover (cover pages 3 and 4)

The inside of the back cover (cover page 3) can be used for a distribution list [see 9.2] if so required. The outside of the back cover (cover page 4) shall carry any security classification carried on the front cover [see 10.1.1]. The outside of the back cover may also be used for the printer's name and address and other associated information such as the originator's storing and handling number; otherwise it is usually left blank. Particular points concerning the reproduction of the covers are given in 12.1 and 12.2.

10 Bibliographic identification

10.1 Positions for bibliographic information

Bibliographic information about a report appears in four places :

a) outside front cover (cover page 1);

b) spine;

c) title page;

d) document data sheet.

The title page and the document data sheet are the principal sources of information for document processing and shall contain the fullest information.

10.1.1 Outside front cover (cover page 1) [see figure 1]

The information listed below shall appear on the outside front cover (cover page 1). Except for the report identifiers, the items may appear in any position that the producer considers aesthetically appropriate but should broadly follow the layout of the title page. To give a characteristic appearance to a report series, use may be made of an organization's motif ("logo") and of various sizes of lettering; reports in the same numbered series should use an identical disposition of these items on their covers.

a) Report identifier(s) [see 10.2.1]. Reports are ultimately stored in a variety of ways, according to the needs or facilities of an individual user, a library, or a stockroom. These include standing vertically on shelves or in boxes, supported with the spine uppermost in filing cabinets, and piled horizontally.

To ensure that the report identifier is easily readable, whatever storage method is used, it shall be placed in three positions [see figure 1] :

1) horizontally in the top right corner

2) vertically from bottom to top } in the top left corner

3) vertically from top to bottom }

The identifiers in positions 2 and 3 shall be separated by a line. When the spine of the report carries the report identifier [see 10.1.2], it is not necessary to repeat it in position 3.

b) International Standard Book Number (ISBN) [see 10.2.3], and, if any, International Standard Serial Number (ISSN) [see 10.2.2]. These shall be placed in the top right corner below the report identifier(s).

c) Name and address of responsible organization [see 10.2.4].

d) Title(s) and sub-titles [see 10.2.5].

e) Name(s) of author(s) [see 10.2.6].

f) Date of publication [see 10.2.7].

g) Price, if any, and sales point if different from responsible organization.

h) Special notices [see 10.2.9]. Any special notices required concerning copyright, security, legal, supersedure or disposal instructions may be given on the outside front cover (cover page 1) or, if preferred, on the inside front cover (cover page 2).

j) Distribution limitations or security classification, if required [see 10.2.10].

1) In the case of free circulation, the recipients list can be omitted.

10.1.2 Spine

If the report is thick enough for its spine to contain legible printing, this may show the author's principal name [see 10.2.6], the title of the report (in shortened form if required) [see 10.2.5], and its principal report identifier [see 10.2.1]. These shall be printed vertically in that order from top to bottom of the spine so that they will be legible when the report is face-up on a desk. A space of at least 30 mm shall be left at the bottom of the spine for library use.

Whether or not the spine contains bibliographic information, it may be bound in a distinctive colour to indicate that the report carries a certain security classification.

10.1.3 Title page [see figure 2]

The title page is the first recto page of a report and presents the preferred source of bibliographical information; it needs not occupy an entire page [see 6.2].

The information given on the title page shall include, in the order stated :

a) Distribution limitations or security classification, if required [see 10.2.10].

b) Report identifier(s) [see 10.2.1].

c) International Standard Serial Number (ISSN) [see 10.2.2] or International Standard Book Number (ISBN) [see 10.2.3].

d) Name and address of responsible organization [see 10.2.4].

e) Title(s) proper, including any sub-titles [see 10.2.5].

f) Name(s) of author(s) with their affiliation(s) if different from the responsible organization [see 10.2.6].

g) Date of publication [see 10.2.7].

h) Author's priority date in parentheses, if required [see 10.2.8].

j) Special notices [see 10.2.9]. Any special notices such as approval signatures, disclaimers, association of the report with other work, contracts, reports, university degrees, etc. or the name of a conference where the work was presented, may be given at the foot of the title page.

k) Distribution limitations or security classification, if required [see 10.2.10].

10.1.4 Document data sheet [see figure 3]

To aid input to computerized retrieval systems, the bibliographical information listed on the title page [see 10.1.3], together with the abstract [see 6.3], should be included on a document data sheet. This shall comprise a series of numbered blocks [see an example in figure 3] into which the items of bibliographical information are inserted. With reports containing separate units, such as conference proceedings issued in the form of scientific reports, there should be a document data sheet describing the complete volume and a separate document data sheet for each individual unit.

The document data sheet shall be the last recto page of the report, before the back cover, except that, for economy, it may replace the title page [see 10.1.3]. To facilitate information transfer, it is recommended that document data sheets be provided in some languages other than that of the report.

10.2 Details of bibliographic information

10.2.1 Report identifier(s)

The report shall be given a unique alphanumeric designation that identifies the responsible organization, the report series, and the individual report. To facilitate computer processing, the number of characters used in the report identifier, including conventional signs and spaces, should be kept to a minimum and shall not exceed 32. Zeroes shall be slashed (Ø) to avoid confusion with the letter O.

EXAMPLE :

A memorandum issued by the Caribbean Oceanographic & Meteorological Analysis Project of the Environmental Data Service of the US National Oceanic & Atmospheric Administration would carry the identifier :

US-NOAA-EDS-COMAP-TM-1 Ø

When a report is a volume in a set [see 5.2.1], each volume is considered as a separate report and shall carry its own report identifier; the report identifier of the volumes in the set needs not run consecutively.

When a report is bound in two or more parts [see 5.2.2], each part shall carry the same report identifier except that the part number shall be added.

EXAMPLE : US-NTS-75-53.1 and US-NTS-75-53.2

For administrative reasons, some reports carry more than one identifier. The principal identifier, i.e. the one by which it is intended that the report shall generally be known, should be indicated as such by placing any other identifiers in smaller type or in parentheses.

To allow identification of reprographic extracts from the report, the principal report identifier shall be repeated at a top or bottom corner of every page of the report.

10.2.2 International Standard Serial Number (ISSN)

If the report series has been registered with a National Serial Data Centre under the International Serials Data System, the International Standard Serial Number shall be printed on all copies of every report in the series [see ISO 3297].

10.2.3 International Standard Book Number (ISBN)

If the report has been registered under the International Book Data System, the International Standard Book Number shall appear on it [see ISO 2108].

ELTON-TR-54

UNCLASSIFIED

ELTON-TR-54

NAMA-74-689
[ISSN 1234-6789]

ELECTRONIC TONING LABORATORY
Cambrian Trading Estate
Birkenfield
Gwent G29 7WL
U.K.

APPLICATIONS OF ELECTRONIC TONING IN SHIPBUILDING

VOL 1: ANTICORROSION

John Charles Lloyd

30 November 1974

UNCLASSIFIED

Figure 1 — Outside front cover of a report, following proposed recommendations

UNCLASSIFIED

ELTON-TR-54

NAMA-75-689

[ISSN-1234-6789]

ELECTRONIC TONING LABORATORY

Cambrian Trading Estate
Birkenfield, Gwent, G29 7WL, U.K.
Telex (543)1862

Application of electronic toning to shipbuilding
Vol 1: Anticorrosion

by

John Charles Lloyd

(University of Birkenfield)

30 November 1974

Manuscript completed: 15 Sep 1974

Approved for publication

John Pennington
Group Leader, Corrosions Group

This work was prepared in partial fulfilment of the degree of Master of Science at the University of Birkenfield.

UNCLASSIFIED

Figure 2 — Title page of a report, following proposed recommendations

Performing organization (xx1)	DOCUMENT DATA SHEET	Document number (xx2)	
	Date of issue (xx3)	Project No. (xx4)	
	Sponsor's date (xx5)	Sponsor's reference (xx6)	

Other receiver than sponsoring organization (xx7)	Sponsoring-organization (xx8)		
Document title and subtitle (xx9)			
Author (x10)			
Abstract (x11) Abstract written by			
Key words (x13)			
Classification system and class (x14)			
Index system/Thesaurus and index terms (x15)			
Supplementary bibliographic data (x16)		ISSN (x17)	
		ISBN (x18)	
Security classification (x19)	Language (x20)	No. of pages (x21)	No. of copies (x22)
Distributed by (x23)	Recipient's notes		
Price (x25)			

The numbers within parentheses are inserted in the document for reference purposes but indicate also the requirement for a content designator (tag)

Figure 3 — Example of a document data sheet

10.2.4 Responsible organization

The name and address, including the nation, shall be given in the form recommended by the national postal authority. If telephone or telex numbers are considered necessary they should be clearly distinguished.

10.2.5 Titles

To aid potential readers and to provide efficient dissemination of the report through information retrieval systems, give particular care to the construction of a good title, which should be concise and should indicate the subject clearly and succinctly. Interim reports shall be identified as such; periodical reports shall specify the time covered and the frequency of issue.

A report published as a volume of a set [see 5.2.1] shall carry a title that is common to all volumes of the set, and an individual title [see table 2].

EXAMPLE :

Oceanography of the Mediterranean Sea.
Vol. 3. Salinity

Oceanography of the Mediterranean Sea.
Vol. 5. Currents

When a report is bound in two or more physical parts [see 5.2.2], each part shall carry the same title, with the adjunct Part 1, Part 2, etc. It may be convenient to indicate the page numbers contained in each part [see 5.2.5] and the number of parts [see table 2].

EXAMPLE :

Use of epoxy resins in the transducer industry
Part 1 (pp. 1-123) of two parts

Use of epoxy resins in the transducer industry
Part 2 (pp. 124-235) of two parts

When later editions (drafts, versions, revisions, etc.) of a report or parts of a report are issued, they shall retain the same title as the original report but carry an identification of their new status [see 5.2.3]. They shall also carry a supersedure statement, such as : "Replaces document XXX of the same title, dated XXX" [see 10.2.9].

10.2.6 Author(s)

As an aid to identification, each author's name shall be presented in full with the name by which he wishes to be known professionally indicated in a distinctive manner : first letter underlined, name underlined, name in upper-case type, name in sloping (italic) type, etc.

EXAMPLE :

John Charles Lloyd, Alberto Arditi, Lloyd ALBERTO, *Hanwa* Yar Goro

If there is more than one author, their names should be listed alphabetically, unless the report is predominantly the work of one of the authors, when his name should appear first.

If there is no personal author, the name of the responsible organization [see 10.2.4] shall be placed as author.

If the author's affiliation is not that of the corporate source, its full name and address should be given in parentheses or in smaller print after the author's name.

10.2.7 Publication date

Dates shall state the year in full and state the month in full or as a three-letter abbreviation. If the day is stated it shall precede the month and shall not include ordinal abbreviations.

EXAMPLE :

March 1975, Mar 1975, 30 March 1975, 30 Mar 1975, etc.
not Mar 75 or 30th March 1975, etc.

If the date is stated in all-numeric form, ISO 2014 shall be followed.

EXAMPLE : 1975-03-30 for 30 March 1975

10.2.8 Priority date

If it is required to give a priority date to the author's work, this shall be done by using a statement such as "Manuscript completed", followed by the date written in the same form as decided under 10.2.7. It may be placed on the title page or the title page verso. When placed on the title page it shall be given in parentheses or in smaller print.

EXAMPLE : Manuscript completed : 30 Aug 1974

10.2.9 Special notices

Special notices may be divided between the cover and the title page according to the indications given in 10.1.1.8 and 10.1.3.9. They may also be placed on the title page verso when appropriate. It is not normally necessary to place such notices in more than one position.

10.2.10 Distribution limitations or security classification

If required, indications of limitations on the distribution of the report shall be given in the form and position required by the organization or the security authority. The preferred positions, in the absence of other instructions, are the upper left and lower right of the cover or title page. The covers and title page shall carry the highest level of security classification used in the report, even though they themselves carry material of a lower order of security classification.

If the report is security-classified, the title and abstract may be marked with lower grades of security classification as aids to the handling of bibliographic information.

EXAMPLE :

On a security-classified report, the unclassified title may be given as :

The 403/TS Rocket System (U),
where (U) indicates Unclassified

11 Pictorial and symbolic material

Apart from the words used in the text, a report may also contain information expressed in pictorial or symbolic form, such as the following :

a) illustrations;

b) tables;

c) mathematics, physical, and chemical formulae;

d) signs, symbols and abbreviations.

11.1 Illustrations

11.1.1 General

The term "illustration" includes graphs (plotted curves, histograms, etc.), line drawings, and photographs. In most reports it is not usually necessary to distinguish between different types of illustration by the use of such separate terms as "graph", "plate", "map", etc., even though these be on special pages; all can conveniently be named as "figures".

Illustrations play a significant part in the expression of scientific and technical ideas. A single carefully prepared illustration can contribute immeasurably to the clarity of the text. High standards are therefore important to ensure that each illustration is as simple and clear as possible.

When illustrations are not created by the author, care must be taken to respect the rights of the originator and to acknowledge the source. It is recommended that the relevant copyright laws (which differ considerably between nations) be closely studied, especially with regard to photographs.

Each illustration shall be numbered consecutively from the beginning to the end of the report, or by clause (or annex). In this case the illustration number is constituted by the clause number (or annex number), followed, after a hyphen, by the order number of the illustration in the clause (or annex).

EXAMPLE : Figure 4 — 3 is the third figure of clause 4

Each illustration shall be given a caption, which shall be placed beneath it. A descriptive legend may be included in the caption. If possible, the caption and any labels added to the illustration should make the illustration self-contained and intelligible without reference to the text. A list of illustrations in the report should be included with the table of contents [see 6.4].

Illustrations should appear in the text immediately after their first citation, if possible on the same page. They shall not be included in the body of the report if they are not cited in the text, but may instead be placed as supplementary material in an annex [see 8.2.1]. Where there is a high proportion of illustrations to pages of text, it may be more appropriate to group the illustrations together, either at the end of the clause to which they refer or at the end of the core of the report. If illustrations are grouped in this way, the page number of the illustration should be given with every citation of it in the text.

Because of the loss of differentiation after photocopying, telecopying, and microfilming, colours should not be used in illustrations. If colour is essential, lines and shading that are to appear in colour should be prepared so that the differences to be indicated by colour can also be identified on black-and-white copies. (Three curves to be printed in separate colours could also be drawn as, for example, continuous, broken and dotted lines.)

Because of copying difficulties, fold-outs should not be used for illustrations. Moreover, the reading of microform will be simplified if the illustrations lie in the same direction as the text and not at right angles to it.

The following points apply to the different types of illustrations.

11.1.2 Graphs

Every graph shall indicate what kind of quantity and what units are plotted along the ordinate, the abscissa and any parameters. These labels shall be written in the form "quantity/unit". Symbols and abbreviations used shall be the same as in the text and shall follow International Standards where these are applicable [see also 11.4]. Unless a graph is intended to provide a source of precise data (for which a table would be preferable), coordinate rulings should be limited to those necessary to guide the eye and should preferably be reduced to ticks on the ordinates and abscissae.

A key shall be provided where different types of line or shading are used.

11.1.3 Line drawings

Line drawings are often preferable to photographs for illustrating equipment and techniques and for most geophysical representations. The information conveyed should be limited to that necessary to support the point made in the text, so as to avoid over-crowding. If much detailed labelling is required, simple symbols or shading should be used on the drawing and a key provided. The scale of the drawing shall be indicated.

Maps shall indicate the geographical coordinates or cardinal points, the scale and, where appropriate, the projection and any grid system.

11.1.4 Photographs

Photographs are not always as suitable as line drawings [see 11.1.3] for illustrations. In particular, half-tone photographs cannot be photocopied satisfactorily. If photographs are used, the original should be of the highest quality so as to minimize the loss of detail incurred by the half-tone process.

The size of the photographed object shall be indicated by a scale or by its conjunction with another object of a recognizable size. Features of interest should be indicated by means of arrowed labels or letters, taking care that these stand out clearly against their background. The original photograph should be cropped to eliminate unimportant features and to centre points of interest.

11.2 Tables

Tables, like illustrations, play a significant part in the presentation of the scientific or technical concepts explained in the text and should be carefully organized to clarify the textual statements. They should appear in the text immediately after their first citation, if possible on the same page. They shall not be included in the body of the report if they are not cited in the text, but may instead be placed as supplementary material in an annex [see 8.2.1].

Each table shall be numbered consecutively (Example : Table 3) and be given a caption, which may include a descriptive legend. If possible, the caption and the table headings should make the table self-contained without reference to the text. A list of tables in the report should be included with the table of contents [see 6.4].

Tables in the body of the text should contain only values that are pertinent to the points made. Any tabular material that consists of more than four or five lines should be made into a formal table. If large amounts of data have to be tabulated in the text they should be divided into two or more tables, even if this necessitates some repetition.

Data that are not pertinent to the text but may be required for possible reference should either be included as supplementary material in annexes [see 8.2.1] or should be placed in some national or private organization depository, which should be named in the report.

Columns or lines of data in a table should be separated, by lines or spaces, into convenient logical groups as an aid to interpretation. Headings shall clearly state the kind of quantity and type of unit listed in each column or line, using the form "quantity/unit". Symbols and abbreviations used shall be the same as in the text and shall follow International Standards where these are applicable [see also 11.4].

Because of copying difficulties, fold-outs should not be used for tables. Moreover, the reading of microforms will be simplified if the tables lie in the same direction as the text and not at right angles to it.

11.3 Mathematics, physical and chemical formulae

It is essential that great care be taken in preparing mathematical matter and physical or chemical formulae. In particular, authors should carefully check all such items on proofs or masters before the report is produced.

Mathematical inter-relations between physical quantities shall normally be expressed as equations between quantities in accordance with ISO 31/0. If exceptionally, equations between numerical values are used, the applicable units should clearly be indicated.

The presentation of mathematics shall follow conventional practices. It is therefore often preferable to use careful handwriting rather than to attempt to reproduce mathematical notation on a conventional typewriter. However, when special printing, typewriting, or drafting facilities are available for the preparation of mathematical notations, these should always be used.

Typeset mathematical texts or physical quantities conventionally use sloping (italic) letters for mathematical variables. This is not always possible with typewritten or handwritten equations; if it is done, attention should be paid to the recommendations of 11.4.2.

Special attention shall be given to the prevention of possible confusion between different characters. Examples of possible confusion are :

I, l, |, 1, /, $\boldsymbol{l}$ (use / or $\boldsymbol{l}$ when possible for lower-case letter)

C, c

K, k, κ

O, 0, ○, ° (use Ø for zero, if necessary)[1)]

–, -,

S, s, 5

If letters cannot be printed bold, it is often easier with special typewriters or with handwriting to mark vectors with arrows : $\vec{a}$.

Where it is necessary to include fractions in solid text, they should, where possible, be reduced to a single level by using the solidus (/) or, where applicable, the negative index.

EXAMPLE :

In a text where $\frac{1}{\sqrt{2}}$ appears, replace it by $1/\sqrt{2}$, or by $2^{-1/2}$

Numbers shall be written in accordance with ISO 31. Commas or stops shall be used only to represent decimal signs. Numbers larger than 999 and decimals with more than three digits after the decimal sign shall be divided by a small space after every

1) The use of Ø for zero is not always recommended because Ø is a Danish letter.

three digits. The cypher 0 shall be placed before the decimal sign when the number is less than 1.

EXAMPLES :

9 562,023 567 } not { 9.562,023567
or 9 562.023 567 } not { 9,562.023567

10 324,023 567 } not { 10.324,023567
or 10 324.023 567 } not { 10,324.023567

0,67 not ,67
0.32 not .32

Parentheses (), brackets [] and braces { } used in mathematics should follow the conventional order and be of a size sufficient to enclose all the material to which they refer.

EXAMPLE : $\left\{ \frac{A}{B} [c(d + e)] \right\}$

When mathematical or physical equations are displayed in the text, they shall be indented from the margin and separated from the surrounding text by extra space. If the equation will not fit into one line, it should be broken before an equals (=) and after plus (+), minus (−), multiplication (· or ×) or division (/) signs, thereby emphasizing the continuity of the two lines. It should not normally be broken within a fraction, within an expression in parentheses, brackets, or braces, or within an expression under a radical sign. In fractions, the horizontal line separating the numerator from the denominator shall be the length of the longer of the two.

Except when the report contains only a few displayed equations, each equation shall be identified by a number placed in parentheses at the far right of the line. To avoid confusion with mathematics, this number may be of a different font from that used for numbers in the equations.

EXAMPLE : $a^2 + b^2 - c^2 = 53\ m^2$ (2)

If this is not possible, it is preferable to identify the equation number by a prefix (Eq., eqn, etc.)

EXAMPLE : $a^2 + b^2 - c^2 = 53\ m^2$ (Eq.2)

Citations to the equation in the text shall always make use of this same prefix, even when the number is given in a special font.

EXAMPLE : ... it can be shown to equal 53 m^2 (Eq.2)

11.4 Quantities, units and their symbols

11.4.1 Definition

A physical quantity is equal to the product of a numerical value and a unit. ISO 1000 defines three kinds of unit : base, supplementary and derived. There are seven independent base SI units, one for each of the seven basic categories of physical quantities : length, mass, time, electric current, thermodynamic temperature, luminous intensity, and amount of substance, which are regarded as dimensionally independent. There are two supplementary units, one for plane angle and one for solid angle. Derived units are obtained for other physical quantities by the dimensionally appropriate multiplication or division of the seven base units; certain derived units have special internationally accepted names and symbols. In stating a category of physical quantity, neither it nor the symbol used for it implies a particular choice of unit, and vice versa.

11.4.2 Physical quantities

The choice of symbols for physical quantities should follow recommendations of ISO 31/0 or that made by the appropriate scientific bodies. Where it is necessary to choose from alternative symbols or to adapt a symbol for a quantity not listed in recommendations, consideration should be given to current practices by authorities in the field and to the desirability that symbols for quantities constituting a well-defined class should as far as possible belong to the same alphabet, font, and case.

ISO 31/0 requires that symbols for physical quantities be printed in sloping (italic) type. The preparation of reports from typed material often makes this difficult to achieve. In such circumstances, particular care should be taken to ensure that an identical symbol is not used for both a physical quantity and a unit in the same report. A variant should be found for the symbol representing a physical quantity and never for that representing a unit (which is fixed by International Standards). Possible variants are a different case (upper case instead of lower case and vice versa) or the addition of a subscript [see ISO 2955].

EXAMPLE :

The symbol C (upper case italic) is used to denote the physical quantity of capacitance. The symbol C (upper case) is used for the SI unit "coulomb". The two should not therefore be used in the same report if it is not possible to print the former in sloping type. Instead, capacitance may be denoted by c (lower case) or by C_p if these are not already being used for other physical quantities in the same report.

A symbol used to denote a physical quantity should be explained clearly where it first appears in the text. A glossary of symbols used in this way should be included in the front matter [see 6.5].

11.4.3 Units

The SI system of units (ISO 31 and ISO 1000) shall be used. If measurements have been made in some other unit, conversion thoughout the text may result in errors; it is then sufficient to limit conversion to SI units to values referred to in important statements. Values quoted in abstracts shall always be given in SI units or multiples thereof.

12 Reproduction — Printing

12.1 Size

Reports shall preferably be of ISO A4 size (210 mm × 297 mm) [see ISO 216 and ISO 478]. If the cover has to be larger than the pages, it shall not exceed them by more than 15 mm at any edge. ISO A5 size (148 mm × 210 mm) is also recommended.

12.2 Material

Paper shall be chosen with regard to the reprographic process used, to the need to reproduce fine detail without impairment, and to the stability of the dimensions of any illustrations from which accurate measurements are to be taken [see 11.1.2]. When printed on both sides, the paper shall be sufficiently opaque to prevent the printing on one side of a sheet from adversely affecting the legibility or reproducibility of the other side. Coloured paper shall not be used for printed pages because of the lack of differentiation when photocopying, telecopying or micro-reproducing.

Covers shall be substantial and of sufficient strength to protect the contents for a reasonable period. When coloured covers are used, the contrast between the cover and the inks used shall not be appreciably less than that of black ink on white paper. Tests should be made to determine that coloured covers are still legible after copying.

Inks shall be such as to produce a dense sharp image. Because of the loss of differentiation after copying, colour should not be used as the sole method of identifying one item from another [see, particularly, 11.1.1].

12.3 Printing or reprographic method

The printing or reprographic method used shall be such as to give clean, clear, and durable copy.

12.4 Binding

Any system of binding that gives a substantial or permanent anchorage down the left-hand side of the report is acceptable, provided that it allows the report to be opened flat without damage to the spine. A single binding in the top left corner of the report is not adequate.

If the report depends substantially on illustrations or tables whose widths are greater than their heights, it may be preferable to bind the report along its shorter edge. (If so, the text should be oriented in the same direction as the illustrations or tables but may be divided into columns.)

Alphabetical index

A

abbreviations 5.1.1, 6.3, 6.5, 7.5.1, 7.5.2, 11.1.2, 11.2
abstract 5.1.1, 6.2, 6.3, 7.1, 10.1.4, 10.2.10, 11.4.3
acknowledgment 5.1.2, 7.4
acronyms, identification of 5.1.1, 6.5
affiliation of author 10.1.3, 10.2.6
annex 5.1.3, 5.2.4, 7.2, 7.4, 7.5.1, 8, 11.1.1, 11.3
annual reports 2
approval signature 10.1.3
article, reference to 7.5.1
author 6.3, 7.4, 7.5.1, 8.2.4, 10.1.1, 10.1.2, 10.1.3, 10.1.4, 10.2.6, 11.1.1
author of reference 7.5.3
availability statement 5.1.4, 9.2

B

back cover 5.1.4, 9.2, 9.3
biblid 6.3
bibliographic information 6.2, 6.3, 7.5.1, 7.5.2, 7.5.3, 9.1, 10
bibliography 7.5.1, 8.2.3
binding 5.2.2, 8.1, 10.1.2, 12.4
body of report 5.1.2, 7, 8.2.2, 8.2.4, 8.3, 8.4, 11.2
book, reference to 7.5.1

C

caption 11.1.1, 11.3
chemical formula 11.3
citation to equations 11.3
— to illustrations 11.1.1
— to references 7.5.1, 7.5.3, 8.2.3, 8.4
— to tables 11.2
classification (bibl.) 6.3, 10.1.4
classification (security) 9.3, 10.1.1, 10.1.2, 10.1.3, 10.1.4, 10.2.10
clause 5.2.4, 7.2, 7.3, 8.3, 11.1.1
co-author 7.4, 8.2.4
colour, use of 10.1.2, 11.1.1, 12.2
computer processing 10.1.2
computer program 8.2.4
conclusions 5.1.2, 7.1, 7.2, 7.3
conference papers 2, 10.1.3, 10.1.4
contents, table of 5.1.1, 6.2, 6.4, 11.1.1, 11.2
contract, association with 10.1.3
coordinates 11.1.2, 11.1.3
copyright 7.4, 10.1.1, 11.1.1
core of report 5.1.2, 5.2.4, 7.2, 7.3, 8.1, 11.1.1
cover 5.1.1, 5.1.4, 6.1, 6.2, 6.6, 9.2, 9.3, 10.1.1, 10.2.9, 10.2.10, 12.1, 12.2, 12.4

D

data 7.3, 8.2.1, 11.1.2, 11.2
date of publication 6.3, 7.5.1, 7.5.3, 10.1.1, 10.1.3, 10.1.4, 10.2.7
decimal sign 11.3
descriptor 6.3, 10.1.4
disclaimer 10.1.3
discussion chapter 7.2
disposal of report 10.1.1
distribution list 5.1.4, 9.2, 9.3
distribution limitations 10.1.1, 10.1.3, 10.2.10
division of report 5.1, 5.2.4, 8.3
document data sheet 5.1.4, 6.2, 9.1, 10.1.4
document processing 6.2, 9.1, 10.1.4, 10.2.5
draft report 5.2.3, 10.2.5
drawings 11.1.1, 11.1.3, 11.1.4

E

editions of report 5.2.3, 10.2.5
end matter 5.1.3, 5.1.4, 8, 9
equations 8.3, 11.3
equipment, description of 7.2, 8.2.4, 11.1.3
exceptional material 8.1, 8.2.2

F

figures (*see also* illustration) 8.3, 11.1.1
fold-out 11.1.1, 11.2
footnote for references 7.5.2, 7.5.3
formulae 6.3, 11.3
fractions in text 11.3
front cover 5.1.1, 6.1, 6.2, 6.6, 10.1.1
front matter 5.1.1, 6, 11.4.2

G

glossary of signs, symbols, etc. 5.1.1, 6.5, 11.4.2
graphs 11.1.1, 11.1.2
grid system 11.1.3

H

handling number 9.3
handwritten equations 11.3
histograms 11.1.1

I

illustrations 5.1.2, 6.4, 7.2, 7.4, 8.2.1, 8.2.2, 8.3, 11.1, 12.2, 12.4
ink, choice of 12.2
International Standard 1, 2, 3, 6.3, 7.1, 7.2, 7.5.1, 7.5.2, 7.5.3, 8.2.3, 10.1, 10.1.4, 10.2.2, 10.2.3, 10.2.7, 11.1.2, 11.2, 11.3, 11.4.1, 11.4.2, 11.4.3, 12.1
— Book Number 10.1.1, 10.1.3, 10.1.4, 10.2.3
— Serial Number 10.1.1, 10.1.3, 10.1.4, 10.2.2
introduction 5.1.2, 7.1, 7.5.1
italic type (*see* sloping type)

J

journal, reference to article 7.5.1

K

keys 11.1.2, 11.1.3
key word 6.3, 10.1.4

L

labels on illustrations ... 11.1.1, 11.1.3, 11.1.4
language ... 7.5.1, 10.1.4
large material, incorporation of ... 8.2.2
latin terms, use of ... 7.5.1
legal notice ... 10.1.1
legend ... 11.1.1, 11.2
library, identifiers for ... 10.1.1, 10.1.2
line drawings ... 11.1.1, 11.1.3, 11.1.4
list of illustrations ... 6.4, 11.1.1
— of items ... 7.2
— of recipients ... 5.1.4, 9.2, 9.3
— of references ... 5.1.2, 7.5.1, 7.5.3, 8.4
— of tables ... 6.4, 11.2
logo, organizational ... 10.1.1

M

manuals ... 2
maps ... 8.2.2, 11.1.1, 11.1.3
mathematics ... 7.2, 8.3, 11.3
method, description of ... 7.1, 7.2
microform copies ... 7.5.2, 7.5.3, 11.1.1, 11.2, 12.2
— inclusion of ... 8.2.2
monograph, definition of ... 4

N

name(s)/date citation ... 7.5.1, 7.5.2, 7.5.3, 8.4
nation ... 10.2.4
national requirements ... 1, 10.1.1, 11.1.1, 11.2, 11.4.2
notices, special ... 6.1, 10.1.1, 10.1.3, 10.2.9
numbers, method of writing ... 11.3
numbered citation ... 7.5.1, 7.5.2, 7.5.3, 8.4
numbering of report (*see* report identifier)
numbering in report ... 5.2, 7.1, 7.2, 7.3, 7.5.3, 8.3, 9.3, 10.1.4, 10.2.5, 11.1.1, 11.2, 11.3

O

ordering of report ... 5, 8.3
organizational motif ... 10.1.1

P

page number ... 5.2.5, 6.4, 8.3, 10.2.5, 11.1.1
page, reference to ... 7.5.1, 7.5.3
paper, choice of ... 12
paper of collection, reference to ... 7.5.1
paragraph ... 5.2.4
part of report ... 5.2.2, 5.2.5, 6.2, 6.3, 6.4, 6.6, 8.1, 10.2.5
periodical, reference to ... 7.5.1, 7.5.2
periodical reports ... 10.2.5
personal communication ... 7.5.1
photocopying (*see* reprography)
photographs ... 8.2.2, 11.1.1, 11.1.3, 11.1.4
physical quantity, symbol ... 11.4
pictorial material ... 11
plates ... 11.1.1
preface ... 5.1.1, 6.1, 6.6, 7.1
price, indication of ... 10.1.1, 10.1.4
printer, indication of ... 9.3
printing ... 8.2.2, 11.1.1, 11.3, 12
priority date ... 10.1.3, 10.2.8
publication date ... 6.3, 10.1.1, 10.1.3, 10.1.4, 10.2.7
— in references ... 7.5.1, 7.5.3
publisher, in references ... 7.5.1, 7.5.2

Q

quantity, physical ... 11.1.2, 11.2, 11.4

R

recipient of report ... 9.2
recommendations ... 5.1.2, 7.1, 7.2, 7.3
references ... 7.4, 7.5, 8.3, 8.4
reference footnote ... 7.5.2, 7.5.3
reference list ... 5.1.2, 7.5.1, 7.5.3, 8.4
report identifier ... 6.1, 6.3, 10.1.1, 10.1.2, 10.1.3, 10.1.4, 10.2.1
report number (*see* report identifier)
report, reference to ... 7.5.1
reproduction (*see* printing and reprography)
reprography ... 8.2.2, 10.2.1, 11.1.1, 11.1.4, 11.2, 12
responsible organization ... 6.3, 9.2, 10.1.1, 10.1.3, 10.2.1, 10.2.4, 10.2.6
results, clause on ... 7.1, 7.2, 7.3
revision of report ... 5.2.3, 10.2.5

S

sales point for report ... 10.1.1
scale, requirement for ... 11.1.3, 11.1.4
sub-clause of report ... 5.2.4, 7.2, 8.3
security regulations ... 9.3, 10.1.1, 10.1.2, 10.1.3, 10.1.4, 10.2.10
series of reports ... 4, 5.2.1, 10.1.1, 10.2.1
set of reports ... 5.2.1, 5.2.5, 6.3, 6.4, 6.6, 10.2.1, 10.2.5
shading of illustrations ... 11.1.1, 11.1.2, 11.1.3
sheet numbering ... 5.2.5
signs, identification of ... 5.1.1, 6.5
signature, approval ... 10.1.3
sloping type ... 10.2.6, 11.3, 11.4.2
source, of report ... 5.1.4, 9.2
special notices ... 6.1, 10.1.1, 10.1.3, 10.2.9
spine ... 10.1.1, 10.1.2, 12.4
sponsor ... 4, 10.2.4
storing, aids for ... 9.3, 10.1.1
subject classification ... 6.3, 10.1.4
sub-sub-clause of report ... 5.2.4, 7.2, 8.3
sub-title ... 5.2.1, 10.1.1, 10.1.3, 10.1.4, 10.2.5
supersedure instruction ... 10.1.1, 10.2.5
supplementary material ... 8.2.1, 11.1.1, 11.2
symbols ... 5.1.1, 6.3, 6.5, 11.1.2, 11.1.3, 11.2, 11.4
symbolic material ... 11

T

tables ... 5.1.2, 6.3, 6.4, 7.2, 7.4, 8.2.1, 8.2.2, 8.3, 11.1.2, 11.2, 12.4
table of contents ... 5.1.1, 6.2, 6.4, 11.1.1, 11.3
techniques, description of ... 7.2, 8.2.4, 11.1.3
telecommunications, use of ... 10.2.4, 11.1.1, 12.2
terms, identification of ... 5.1.1, 6.3, 6.5
theory, clause on ... 7.1, 7.2
title of annex ... 8.2.4
— of clause ... 5.2.4
— of reference ... 7.5.1, 7.5.2
— of report ... 5.2.1, 5.2.2, 6.3, 10.1.1, 10.1.2, 10.1.3, 10.1.4, 10.2.5, 10.2.10
title page ... 5.1.1, 5.2.5, 6.1, 6.2, 8.2.4, 10.1.1, 10.1.3, 10.1.4, 10.2.8, 10.2.9, 10.2.10
typewriting ... 11.3, 11.4.2

U

units, explanation of ... 5.1.1, 6.5, 11.1.2, 11.2, 11.4
university degree, association with ... 10.1.3

V

variables, mathematical 11.3
version of report 5.2.3, 10.2.5
volume of report 5.2.1, 5.2.5, 6.3, 6.4, 6.6, 10.2.1, 10.2.5

Z

zero 7.1, 10.2.1, 11.3