
IFAN-Guide 2

Company use of international standards

INTERNATIONALE FÖDERATION DER AUSSCHÜSSE NORMENPRAXIS
INTERNATIONAL FEDERATION FOR THE APPLICATION OF STANDARDS
FEDERATION INTERNATIONALE DES ASSOCIATIONS POUR LA PRATIQUE DES NORMES

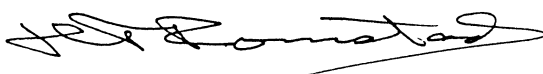


Foreword

It is beyond dispute that international standards facilitate international trade, while national standards in some instances are seen as barriers. The daily use of international standards in dealings between companies is the fulfilment of the intent of international standardization.

The promotion of uniform implementation of international standards is a main objective of IFAN and Guide 2 is an important contribution towards this aim. Uniform implementation may be achieved by direct use of international standards or through the medium of equivalent national standards. This guide gives a short and concise explanation of how to make the best use of international standards, which in the nomenclature of IFAN, are particularly those of The International Organization for Standardization and The International Electrotechnical Commission.

IFAN is indebted for this publication to the members of Working Group d and its convener Mr. J.D.J. Hawksley of the British Standards Society.



H.T. Romstad
President of IFAN

Introduction

The International Federation for the Application of Standards (IFAN) is an association representative of the national organizations concerned with the application of standards. (For further information see appendix C.)

At the centre of IFAN's activities there is a strong interest in helping companies to make the best use of International Standards and, reciprocally, to help make International Standards suitable for company use.

A working group, IFAN WGd, was set up to study the implementation of International Standards at company level. Its terms of reference were 'to identify and develop recommendations to facilitate the use of International Standards by companies'. At the second IFAN Conference in Berlin in 1977 WGd made its first report on:

- (a) the kind of International Standards needed; and
- (b) how the existing standards of ISO and IEC were being used in the various countries.

After further research, which included analysis of the standards activities of companies in many countries, members of WGd presented certain recommendations at the third IFAN Conference in London in 1980. WGd then analysed the extent to which these recommendations had or had not been adopted and presented a report at the fourth IFAN Conference in Vienna in 1983 (see clause 3).

It was decided at the 1984 Members' Assembly that, instead of further study and presentations at conferences, the interests of IFAN Members and of companies throughout the world would be best served if a guide were published encapsulating all that had been learnt on the subject in the ten years since IFAN was founded; hence this guide.

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1 Object

It is the object of this Guide to help companies and enterprises world-wide to make the best use of international standardization, both to their own advantage and in the general interest. The Guide gives advice on when International Standards should be used and how they should be used and also on the international aspects of quality assurance as related to standardization.

2 International standardization: the background

International standardization is a consequence of the development of international trade and technical collaboration and it is an essential requirement for their further development. It has been made possible by the collaborative efforts of national standards organizations with the support of producers, consumers and governments all over the world.

At the beginning of the 20th century, national standardization in electrical engineering had generally advanced further than in other technologies and in 1906 the national electrotechnical committees of 14 countries cooperated to form the International Electrotechnical Commission (IEC). Its headquarters were initially in London but in 1947 the IEC Central Office was transferred to Geneva.

Meanwhile, national standardization in the other technologies had gathered pace and in 1926 international collaboration was extended to other fields by the setting up of the International Federation of the National Standardizing Associations (ISA). ISA however did not survive the outbreak of the Second World War in 1939. 25 national standards bodies cooperated in 1947 in the setting up of the International Organization for Standardization (ISO). The Central Secretariat of ISO was established with the Central Office of the IEC in Geneva.

The aim of ISO, as given in Article 2 of its Constitution, is 'to promote the development of standardization and related activities in the world with a view to facilitating international exchange of goods and services and developing co-operation in the sphere of intellectual, scientific,

technological and economic activity'. The aims of IEC are similar.

For historical reasons standardization in the field of electrotechnology is covered by IEC while ISO covers all other fields. The two organizations, their memberships now greatly expanded, together provide and promote international standardization across all technologies. Unless otherwise qualified, 'international standardization' when used in this Guide means the work of ISO/IEC and 'International Standards' refer both to the standards of ISO and to the publications of IEC. The addresses of ISO and IEC headquarters are given in clause 10 and additional notes are included in appendix A.

ISO and IEC have become increasingly involved in quality assurance. The work of preparing standards is closely interwoven with the tests they specify and the inspection and assessment that are necessary to verify compliance or obtain certification (see clause 12).

It must be emphasized that ISO and IEC are not remote international offices, answerable to no-one. They depend entirely on the world's manufacturers, service industries and users working through the ISO and IEC national member bodies. ISO and IEC headquarters in Geneva administer this work but at the technical level it is coordinated entirely by the national member bodies which act as the secretariats of the technical committees responsible for preparing International Standards. The experts on these technical committees, and their sub-committees and working groups, are nationally chosen from those concerned with the relevant industry or subject. By far the greater part of the work of ISO and IEC is done at the national and indeed the company level and by far the greater part of the cost of ISO and IEC operations is borne at those levels. The ISO and IEC member bodies are each a local office of the headquarters in Geneva. ISO and IEC are not 'them'; they are 'us'.

Outside the fields covered by ISO/IEC there are other international bodies concerned with standards in particular fields. Most of these are intergovernmental organizations and many of them are specialized agencies of the United Nations, e.g. the Codex Alimentarius Commission (CODEX) which sets standards on such subjects as food hygiene. A list (not comprehensive) is given in appendix A. The ISO KWIC Index of international standards lists some 9000 standards prepared by 29 international standardizing bodies.

3 The IFAN recommendations

3.1 'It should be noted by the international and national standards bodies that companies prefer to make indirect use of ISO and IEC standards through the medium of national standards.'

This recommendation was made with two aims. Firstly that it would help ISO and IEC to concentrate on the use to which their standards would be put. The format and the contents should be designed so that they are suitable for reproduction as a national standard either directly in one of the official languages or through precise translation into another language.

The second aim was that the national standards bodies of all IFAN countries and for that matter those outside IFAN should be encouraged to promulgate International Standards as their own national standards. The ideal is an identical standard but a good second best is a technically equivalent standard. The use of International Standards through adoption or part adoption as national standards must be considered at the beginning of the drafting stage. The fact that International Standards will have been adopted and published in many countries as national standards must be taken carefully into account when considering their revision or the methods by which they are amended.

The recommendation can only be applied in regard to an International Standard where there is no restriction imposed by national legislation or regional agreement that would make it inapplicable or might stipulate its application in an altered version, e.g. the modified adoption of certain IEC standards within the European Economic Community (EEC).

3.2 'There is a great need for more International Standards to be published by industrially influential countries as identical, or at least technically equivalent, national standards.'

This recommendation follows on from 3.1, its aim being to encourage the use of International Standards by example and practice. It is endorsed by ISO/IEC Guides 3 and 21* which are intended for the use of national standards bodies.

3.3 'Countries voting for International Standards should adopt them nationally.'

This requires a change in attitude among the national standards bodies which do not do so.

3.4 'The exact relationship between a national standard and its international counterpart should be clearly stated and a system of symbols of equivalence should be agreed internationally. Where deviations from the International Standard are made they should be clearly indicated.'

It is very important to manufacturers and users that they can choose an International Standard easily from a

nationally compiled list. The publication of International Standards as national standards loses much of its value unless the exact relationship between the two can be stated.

In regard to relationships and symbols of equivalence, ISO/IEC Guide 21 Addendum No. 1 now sets out the necessary designations and symbols to meet this recommendation. These are shown in table 1 and are intended for use in catalogues and information services. These designations effectively remove the dubious idea of a 'minor technical deviation'. In standardization there is no such thing. Any technical deviation is a potential obstacle to trade and puts the standard in the 'related' category (see 6.2.4).

The procedures for indicating and explaining deviations from an International Standard in the corresponding national standard are now given in ISO/IEC Guide 21 (see 6.2.3 and 6.2.4).

3.5 'Greater alignment, preferably complete, is needed between IEC and ISO in the production and presentation of standards.'

ISO and IEC have been progressing the development of common procedures. The joint approval of several ISO/IEC Guides, including Guides 3 and 21, and the presence of both logos on the covers indicating equal authority shows an encouraging trend. With the ever increasing integration of electrical and electronic equipment into systems of all technologies, there is no reasonable argument for separating electricity from the other technologies of standardization. Joint committees of these two international standards organizations are now actively working towards the alignment of procedures and also on the difficult problem of sorting out the coverage of technical committees.

3.6 'In International Standards the stating of alternatives or the provision of different grades should be adopted rather than a compromise which satisfies no one.'

This principle has been accepted and is included, for example in Part 2 of the ISO Directives. There it is emphasized that an ordered, limited set of values, which covers essential differing national circumstances and which can be easily identified in the designation of the standard product, will ensure the harmonization of national standards and eliminate technical barriers to trade.

4 The three levels of standardization

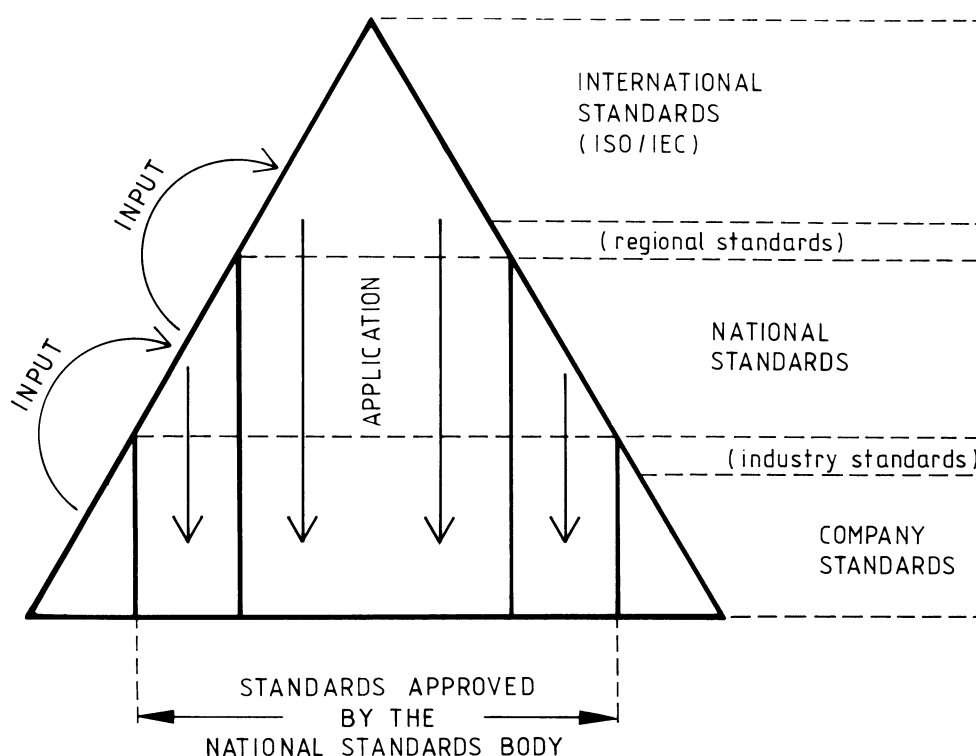
It is a well known concept that there are three basic tiers of standardization: company, national and international (see figure 1). Each tier has its particular uses and it is a fallacy to believe that there will ever be no need for all three to go on co-existing, but each tier should make the maximum use of standards issued by the appropriate organization in the next tier up. Because of the company-based constitution of the national standards committees

* ISO/IEC Guide 3: Identification of national standards that are equivalent to International Standards

ISO/IEC Guide 21: Adoption of International Standards as national standards

Addendum 1: Indication of the degree of equivalence between national standards and International Standards.





NOTE. The diagram can be expanded or simplified to give varying national or industrial conditions. In some areas regional standards are important. In some industries standards are issued by trade associations ('industry standards').

Figure 1. The use of International Standards

and the national basis of the international standards making committees this is a two-way process and each tier will have contributed to the one above and will benefit from it.

The first and most important level in any country is the company. The word 'company' may be taken here to mean anything from a large government department to a small private firm, or from a multi-national corporation to a local farm. The company is the unit of enterprise which makes things or gives a service to people.

Any company may set up its own standards and use them. It has to for good management. The sensible way to write a company standard is to see what is available from the next tier up, i.e. national standards and to make maximum use of them. National standards however will never be sufficient by themselves. Companies will often need to amplify or qualify material standards to meet their own particular requirements. They will also need to make their own standards for their own production procedures and

for that element of their product which is original and unique and without which they could not sell it competitively.

A major element of national standardization is the banding together of companies in their own interest and in a disciplined way to simplify production and distribution, where it is to their mutual advantage, and to eliminate the waste of time and material involved in the production of unnecessary variety and in the individual research and design of common items. This banding together is, by custom, organized by the national standards body (NSB) which, while it may not be an arm of government, must have its activities recognized by government. Influences on national standardization are more diverse than in the company, but a national standard can often be used as the basis for a company standard, which may for example restrict more precisely a multiplicity of variants which has already been restricted in the national standard.

International standardization is the banding together of the NSBs, in the interests of the companies they serve, to achieve the same object all over the world. In some areas regional standardization is important. That too is operated through the NSBs and the main object of regional standards bodies such as CEN and CENELEC is to make the maximum use of the International Standards of ISO and IEC. A list of regional standards bodies and other regional organizations concerned with standardization is given in appendix A.

Just as companies can never rely solely on national standards to solve all their problems so NSBs will always need to have purely national standards for their own particular requirements but should make the maximum use of the next tier above: International Standards.

5 The choice of International Standards

5.1 Trade

Standards are not in themselves restrictive documents. National standards when used properly express national market preferences and perhaps the solutions to special environmental problems. National standards however when used unscrupulously in legislation can become, if not barriers to trade, at least difficult fences to climb over. International Standards, approved and recognized nationally, have none of these disadvantages.

The markets of the world have been immensely widened by international agreement on standards. This great widening of opportunities for the manufacturer has of course also widened the competition. Its advantages can only be seized by the company with good productivity, good delivery time and good after-sales service. In the export market it works to the advantage of the efficient and to the disadvantage of the inefficient. It is in no way a panacea for industry's troubles but it can act as a great stimulant to overcome them.

International standardization also gives a much wider field of choice to the importer. Imports to International Standards may confidently be used either direct or as components in manufacture, perhaps the manufacture of whole machines for export, in the knowledge that through international standardization they are not only interchangeable wherever they are to be used but fit for their purpose and safe.

Used properly and perhaps selectively these two factors can bring great financial advantage.

Through the adoption of International Standards as national standards, those countries which have adopted them have the best of both worlds. They have a system which allows the same standard to be claimed both as the national standard of the country producing something and as the national standard of the country to which they are exporting (see 6.2). International Standards have been shown to be an effective means of removing technical barriers to trade and are recognized as such by the GATT Agreement on Standards (also known as the 'GATT Standards Code').

The same product can then be marketed anywhere and,

because this reduces unnecessary manufacturing variety, costs will come down and the item will be more competitive.

5.2 Comparisons

In urging the use of International Standards it must not be forgotten that, in their location at the top of the pyramid, International Standards are influenced by many more factors than are national standards, just as national standards are subject to more influences than company standards. An International Standard may be adopted nationally but it is useless if it is not directly relevant to the company. Standardization is a two-way process (see figure 1) and company participation channelled through industry and the NSB is essential in the preparation of an International Standard that is to be useful at the company level.

A national standards body will not always find everything it wants in International Standards and so may have to add its own requirements to some and perhaps remove unwanted choices from others. It will also have to prepare some purely national standards to supplement the adopted International Standards. Similarly a company will not always find everything it needs in either international or national standards and may have both to select from and adapt them for its own needs and also of course issue additional company standards. The important thing is technical conformity of the product with the International Standard whatever additions or restrictions have to be made in the documentation required to manufacture to it.

Companies which are dependent on export or import will expect to derive more value from International Standards or national standards based on them than companies which operate only at the national level. A national standard however which is derived from an International Standard also throws competition in the home market more open to foreign competition and hence forces the home manufacturer to be more competitive and to improve his product. This is a desirable object for everybody.

Nevertheless for the reasons already given and because national standards are often essential in meeting the requirements of a particular market it will of course often be necessary to use them both for exports and imports. A list of abbreviated designations for national and other standards, indicating the country of origin, is given in appendix B.

5.3 Designation

A further advantage of the use of International Standards by a company is the opportunity it gives for the recognition and comparison of its products by internationally agreed methods (see clause 9) which can, if required, be combined with a national designation.

5.4 Language

Language can be a problem in the direct use of an International Standard but the method of use through national adoption (see 6.2) overcomes this. If the national standards body registers a translation into the national language for recognition by ISO or IEC this enables conformity to be claimed.