

TECHNICAL REPORT

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Unified format for the designation of metals

Format unifié pour la désignation des métaux



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The main task of ISO technical committees is to prepare International Standards. In exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

- type 1, when the necessary support within the technical committee cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development requiring wider exposure;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports are accepted for publication directly by ISO Council. Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/TR 7003, which is a Technical Report of type 2, was prepared by Technical Advisory Group ISO/TAG 2, *Metals*.

Annex A forms an integral part of this Technical Report. Annex B is for information only.

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Historical background

At its meetings in February 1976 and 1977, PLACO (at present ISO Technical Board) considered the question of harmonization of designation numbering systems for materials, particularly metals and alloys, because several technical committees were about to use, or were considering the adoption of, different systems. The ISO Central Secretariat was instructed to initiate action in this matter.

The question of a unified numbering system was therefore discussed at a coordination meeting of secretariats of technical committees in the metals field. At this meeting, it was acknowledged that the development of a unified numbering system for all metals and their alloys would be of significant value and it was decided to submit the conclusions of the meeting together with a preliminary draft to all P-members of the technical committees dealing with metals.

A revised proposal taking into account the comments received was then prepared and considered at an ad hoc meeting to which all P-members of the "metals" TCs were invited. This meeting also discussed the question of the form in which the International Numbering System for Metals (INSM) should be published. After considering the pros and cons of publishing it as an ISO Guide or as an International Standard, the delegations (Australia, Austria, Canada, France, Germany F.R., India, Israel, Italy, UK and USA) unanimously decided that it should be published as an International Standard; this would ensure its proper implementation as well as facilitate its referencing into other International Standards or national standards. It was therefore agreed that the INSM proposal should be submitted as a draft proposal to all P-members of the "metals" TCs until it reached the Draft International Standard stage. The meeting also recommended that the secretariat functions for the submissions should be exercised by the Central Secretariat.

A first draft proposal (ISO/DP 7003) was then prepared and submitted to all P-members of the "metals" TCs. The five negative votes together with all the comments received were considered at a meeting of the secretaries of the "metals" TCs and a second draft proposal (ISO/DP 7003.2) was prepared on the basis of the decisions taken. A similar consultation and consideration of comments was conducted on ISO/DP 7003.2 which received six negative votes.

At the second ISO/TAG 2 meeting, the voting results on the third draft proposal (ISO/DP 7003.3) were considered. As four negative votes were registered, the interest in the proposed numbering system was reevaluated. Although some doubts were expressed with regard to its usefulness, due to the increasing performances of electronic data processing means, it was nevertheless decided to pursue the development of the INSM in the form of a type 2 Technical Report in order to allow the "metals" TCs to test its applicability in connection with their standards.

Finally, at the third ISO/TAG 2 meeting, it was recognized that the INSM, whilst there was no objection to its content, stood little chance of being applied by member bodies that already had their own system. It was therefore agreed to reorientate ISO/TR 7003 towards defining a unified presentation format for metals designation, with the INSM in an annex as an ISO proposal for an international numbering system.

Introduction

The draft Technical Report ISO/DTR 7003 "International Numbering System for Metals (INSM)" of June 1986 did not receive adequate support for further development, after taking into account several comments that, whilst there was no objection to the content of the draft, it would not be used in individual countries. Although the numbering scheme will not be widely adopted, it is clearly necessary to provide a numbering system to be used in countries and industries where none exists.

The present situation is that there is a multiplicity of designation systems for metals in individual countries. These designations usually work satisfactorily, but there is a need to produce a standard form of presentation for the different designations, to allow them to be understood internationally and to produce a means of identifying methods internationally.

Therefore, the purpose of this Technical Report is to present a unified format whereby current systems in use are endorsed, for example systems employed by ISO, AFNOR, BSI, DIN, etc., and the UNS system currently in use in North America.