



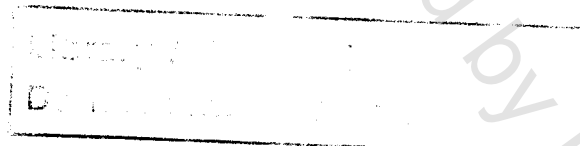
INTERNATIONAL STANDARD ISO 683 / XVI

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

Heat-treated steels, alloy steels and free-cutting steels — Part 16 : Precipitation hardening stainless steels

Aciers pour traitement thermique, aciers alliés et aciers pour décolletage — Seizième partie : Aciers inoxydables, aptes au durcissement par précipitation

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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 683/XVI was drawn up by Technical Committee ISO/TC 17, *Steel*, and circulated to the Member Bodies in November 1974.

It has been approved by the Member Bodies of the following countries :

Austria	Hungary	Romania
Belgium	India	South Africa, Rep. of
Bulgaria	Iran	Spain
Canada	Ireland	Sweden
Czechoslovakia	Italy	Switzerland
Denmark	Japan	United Kingdom
Finland	Mexico	U.S.A.
France	Netherlands	U.S.S.R.
Germany	Poland	Yugoslavia

No Member Body expressed disapproval of the document.

Heat-treated steels, alloy steels and free-cutting steels — Part 16 : Precipitation hardening stainless steels

1 SCOPE AND FIELD OF APPLICATION

1.1 This International Standard gives specifications for the grades of wrought precipitation hardening stainless steels listed in table 1 and usually intended for use at room temperature.

1.2 This International Standard is applicable to solution treated or precipitation hardened products such as forgings, bars, plates, sheet, strip and wire.

2 REFERENCES

ISO/R 79, *Brinell hardness test for steel and cast iron*.

ISO/R 80, *Rockwell hardness test (B and C scales) for steel*.

ISO 82, *Steel — Tensile testing*.

ISO 86, *Steel — Tensile testing of sheet and strip less than 3 mm and not less than 0,5 mm thick*.

ISO 89, *Steel — Tensile testing of wire*.

ISO/R 377, *Selection and preparation of samples and test pieces for wrought steel*.

ISO/R 404, *General technical delivery requirements for steel*.

3 REQUIREMENTS

3.1 Production processes

3.1.1 Unless otherwise agreed in the order, the processes used in making the steel and the product are left to the discretion of the manufacturer. When he so requests, the user shall be informed what steelmaking process is being used.

3.1.2 If special high impact properties are required, the steels shall be ordered as remelted by a consumable electrode process or a process recognized at least as equivalent by the purchaser.

3.2 Condition of heat treatment

The conditions of heat treatment for the different levels of mechanical properties are indicated in tables 7 to 10. When required in any other condition of heat treatment this shall be agreed between the purchaser and the manufacturer at the time of the enquiry and order.

3.3 Chemical composition

3.3.1 The chemical composition expressed by cast analysis shall be in accordance with table 1.

3.3.2 The permissible deviations between the values specified in table 1 and the product analysis are given in table 2.

3.4 Mechanical properties

3.4.1 The purchaser shall state at the time of the enquiry and order the grade of mechanical properties required according to tables 3 to 6 inclusive.

NOTES

1 When impact properties are required the values for these and the methods for determining them should be agreed at the time of enquiry and order; see also 3.1.2.

2 Consideration must be given to the fact that these steels in the higher strength levels are more susceptible to stress corrosion.

3.4.2 For forms or sizes other than those given in tables 3 to 10 inclusive the mechanical properties and heat-treatment conditions shall be agreed between the purchaser and manufacturer at the time of enquiry and order.

3.5 Corrosion resistance

The performance of the stainless steels under various conditions of chemical attack cannot be characterized by test values in general terms. If desired a corrosion test may be agreed at the time of the enquiry and order.

3.6 Tolerances on dimensions and masses

The tolerances allowable on dimensions and masses shall be stated on the order as in accordance with the appropriate International Standard. However, in cases where one does not exist the tolerances shall be stated on the order.

4 TESTING

4.1 Number of sample products

4.1.1 Chemical composition

The cast analysis shall be given by the manufacturer if requested by the purchaser. If a product analysis is required by the purchaser, at least one sample product shall be taken from each cast.