



MALAYSIAN STANDARD

MSISO 4990:2005

STEEL CASTINGS - GENERAL TECHNICAL DELIVERY REQUIREMENTS (ISO 4990:2003, IDT)

ICS: 77.140.80

Descriptors: metals, steels, castings, specifications, inspection, sampling, test specimens, testing conditions, marking

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Committee representation

The Iron and Steel Industry Standards Committee (ISC P) under whose authority this Malaysian Standard was developed, comprises representatives from the following organisations:

Association of Marine Industries of Malaysia
Department of Standards Malaysia
Federation of Malaysian Manufacturers
IKRAM QA Services Sdn Bhd
Institute Materials Malaysia
Jabatan Kerja Raya
Malaysian Automotive Association
Malaysian Industrial Development Authority
Malaysian Iron and Steel Industry Federation
Master Builders Association of Malaysia
Ministry of International Trade and Industry
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Universiti Sains Malaysia
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The Technical Committee on Iron and Steel Castings which developed this Malaysian Standard consists of representatives from the following organisations:

Anshin Casting Industries Sdn Bhd
IKRAM QA Services Sdn Bhd
Malaysian Iron and Steel Industry Federation
MMC Metal Industries Sdn Bhd
Proton Berhad
SIRIM Berhad (Secretariat)
SIRIM Berhad (Foundry Centre)
SIRIM QAS International Sdn Bhd (Product Certification Section)
Universiti Malaya
Universiti Sains Malaysia

NATIONAL FOREWORD

This Malaysian Standard was developed by the Technical Committee on Iron and Steel Castings under the authority of the Iron and Steel Industry Standards Committee.

This Malaysian Standard is identical with ISO 4990:2003, *Steel castings – General technical delivery requirements*, published by the International Organization for Standardization (ISO). However, for the purposes of this Malaysian Standard, the following apply:

- a) in the source text, “this International Standard” should read “this Malaysian Standard”;
- b) the comma which is used as a decimal sign (if any), to read as a point;
- c) Clause 8 on complaints should read “If a complaint is made, the manufacturer shall be given time by the purchaser to examine the merits of the complaint. The castings in question shall remain available for examination as agreed by the purchaser and manufacturer”;
- d) Annex B.7.1 on type of heat treatment should read “The type of heat treatment applied to the castings shall be recorded and shall be reported to the purchaser if required”;
- e) Annex B.8.2 on weld maps (sketches) should read “Major finishing welds shall be documented on drawings or photographs showing the location and extent of the weld. Documentation shall be submitted to the purchaser if required at the completion of the order”;
- f) addition of “The purchaser may specify the following non-destructive tests in accordance with an agreement between the parties concerned with delivery. In the agreement, the test procedure, time of test, portions to be tested and criteria shall be settled” after Annex B9 on non-destructive tests; and
- g) references to International Standards should be replaced by equivalent Malaysian Standards as follows:

<u>Referenced International Standards</u>	<u>Corresponding Malaysian Standards</u>
ISO 783:1989, Metallic materials – Tensile testing at elevated temperature.	MS ISO 783:2002, Metallic materials – Tensile testing at elevated temperature.
ISO 6506-1:1999, Metallic materials – Brinell hardness test – Part 1: Test method.	MS ISO 6506-1:2003, Metallic materials – Brinell hardness test – Part 1: Test method (First revision).
ISO 6892:1998, Metallic materials – Tensile testing at ambient temperature.	MS ISO 6892:2002, Metallic materials – Tensile testing at ambient temperature.

Compliance with a Malaysian Standard does not of itself confer immunity from legal obligations.

NOTE. IDT on the front cover indicates an identical standard i.e. a standard where the technical content, structure, wording and presentation of a Malaysian Standard is exactly the same as in an International Standard or is identical in technical content and it may contain the minimal editorial changes specified in clause 4.2 of ISO/IEC Guide 21.

INTERNATIONAL STANDARD

**ISO
4990**

Second edition
2003-11-01

Steel castings — General technical delivery requirements

*Pièces moulées en acier — Exigences générales techniques de
livraison*



Reference number
ISO 4990:2003(E)

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Contents

Page

Foreword.....	iv
1 Scope.....	1
2 Normative references	1
3 Terms and definitions	2
4 Information to be supplied by the purchaser.....	2
4.1 Enquiry and order requirements	2
4.2 Additional information.....	3
5 Conditions of manufacture	3
5.1 Foundry practice	3
5.2 Cleaning and dressing.....	3
5.3 Production welding.....	3
6 Inspection and testing.....	3
6.1 Non-specific inspection.....	3
6.2 Specific inspection	4
7 Marking.....	7
8 Complaints.....	7
Annex A (normative) General conditions for specific inspections and tests	10
Annex B (normative) Supplementary requirements	11

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 4990 was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 11, *Steel castings*.

This second edition cancels and replaces the first edition (ISO 4990:1986), Clauses 3, 4, 5, 6 and 9 Table 1, Figure 1 and Annex A of which have been technically revised.