INTERNATIONAL STANDARD

ISO 4993

Second edition
2009-03-15

Steel and iron castings — Radiographic inspection

Pièces moulées en acier ou en fonte — Contrôle radiographique

Reference number
ISO 4993:2009(E)

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Published in Switzerland

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Foreword

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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 4993 was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 11, *Steel castings*.

This second edition cancels and replaces the first edition (ISO 4993:1987), which has been technically revised.

Introduction

Radiography can be used to detect internal discontinuities in castings. The discontinuities can have higher or lower densities than the parent metal.

Steel and iron castings — Radiographic inspection

1 Scope

This International Standard specifies the general requirements for the radiography of steel and iron castings by means of X-rays or gamma-rays, in accordance with procedures given in ISO 5579 and ISO 19232 (all parts).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5579, *Non-destructive testing — Radiographic examination of metallic materials by X- and gamma-rays — Basic rules*

ISO 19232-1, *Non-destructive testing — Image quality of radiographs — Part 1: Image quality indicators (wire type) — Determination of image quality value*

ISO 19232-2, *Non-destructive testing — Image quality of radiographs — Part 2: Image quality indicators (step/hole type) — Determination of image quality value*

ISO 19232-3, *Non-destructive testing — Image quality of radiographs — Part 3: Image quality classes for ferrous metals*

ISO 19232-4, *Non-destructive testing — Image quality of radiographs — Part 4: Experimental evaluation of image quality values and image quality tables*

ISO 19232-5, *Non-destructive testing — Image quality of radiographs — Part 5: Image quality indicators (duplex wire type) — Determination of image unsharpness value*

ASTM E186, *Standard reference radiographs for heavy-walled (2 to 4 1/2 in. [51 to 114 mm]) steel castings*

ASTM E192, *Standard reference radiographs for investment steel castings of aerospace applications*

ASTM E280, *Standard reference radiographs for heavy-walled (4 1/2 to 12 in. [114 to 305 mm]) steel castings*

ASTM E446, *Standard reference radiographs for steel castings up to 2 in. (51 mm) in thickness*

ASTM E689, *Standard reference radiographs for ductile iron castings*

ASTM E802, *Standard reference radiographs for gray iron castings up to 4 1/2 in. (114 mm) in Thickness*

