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**JIS G 0581** : 1999

(ISO 5579 : 1998)

## **Methods of radiographic examination for steel castings**

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ICS 77.040.20

**Descriptors** : cast steels, steels, castings, radiographic testing, non-destructive testing,  
radiography

**Reference number** : JIS G 0581 : 1999 (E)

## Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS G 0581 : 1984** is replaced with **JIS G 0581 : 1999**.

In this revision, this Japanese Industrial Standard has been compared and conformed with the International Standard (**ISO 5579** *Non-destructive testing—Radiographic examination of metallic materials by X- and gamma rays—Basic rules*).

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## Methods of radiographic examination for steel castings

**Introduction** This Japanese Industrial Standard has been prepared based on the **ISO 5579** *Non-destructive testing—Radiographic examination of metallic materials by X- and gamma rays—Basic rules*, for the corresponding contents in the corresponding International Standard without any technical modification, but the items, which were comprised in the former **JIS G 0581** but not in the corresponding International Standard, have been supplemented in this Japanese Industrial Standard.

**1 Scope** This Japanese Industrial Standard specifies the methods of radiographic examination for the purpose of detecting defects in steel castings by X- and gamma rays by means of the direct photographing method using X-ray films for industrial use.

Remarks 1 When radiographic examination is carried out, it is necessary to observe “Industrial Safety and Health Law”, “The Law concerning Prevention of Radiation Hazards due to Radioisotopes and Others” and so on, and to take adequate precautions to prevent exposure to radiation.

2 The International Standard corresponding to this Standard is as follows.

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

**2 Normative references** The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards indicated below shall be applied.

JIS K 7627 *Non-destructive testing—Industrial radiographic films—Part 1 : Classification of film systems for industrial radiography*

JIS Z 2300 *Glossary of terms used in nondestructive testing*

JIS Z 2306 *Radiographic image quality indicators for non-destructive testing*

JIS Z 4560 *Industrial  $\gamma$ -ray apparatus for radiography*

JIS Z 4561 *Viewing illuminators for industrial radiograph*

JIS Z 4606 *Industrial X-ray apparatus for radiographic testing*

**3 Definitions** For the purpose of this Standard, the definitions given in **JIS Z 2300**, and the following definitions apply.

- a) **nominal thickness,  $t$**  The nominal thickness of material to be tested. In this case, errors caused by manufacturing are not considered.
- b) **penetrated thickness,  $w$**  The thickness of material to be tested toward radiation flux. It may be calculated based on the nominal thickness. The thickness for double-wall radiographing method is calculated from nominal thickness.
- c) **film system** The combined system of films and working conditions recommended by the film manufacturer and/or manufacturer of treatment chemicals.