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**Steel — Macroscopic examination by
etching**

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Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by The Japan Iron and Steel Federation (JISF) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (**JIS G 0553**: 2012), which has been technically revised.

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NOTE Based on Article 9 of the Supplementary Provisions to the Unfair Competition Prevention Act etc., any submission of proposal, or employment of procedures such as deliberation by the Japanese Industrial Standards Committee under the previous Industrial Standardization Act shall be deemed to have been conducted pursuant to the provision of Article 12, paragraph (1) of the revised Industrial Standardization Act.

Steel — Macroscopic examination by etching

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 4969**: 2015, Edition 2, with some modifications of the technical contents.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JB.

1 Scope

This Standard establishes guidelines for the macroscopic examination on the surface of steel products ¹⁾ by hot etching, room temperature etching and electrolytic etching.

The method has very wide application. The following selections make it possible to achieve the required aim.

- Type, concentration and temperature of etchant
- Etching apparatus
- Conditions of surface preparation of test piece

NOTE 1 It might be difficult to see fine voids and cracks and discriminate between them, and determine their nature by macroetching.

NOTE 2 The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 4969 : 2015 *Steel — Etching method for macroscopic examination (MOD)*

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

Note ¹⁾ Steel products include semi-finished products.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this Standard. The most recent edition of the standard (including amendments) indicated below shall be applied.

JIS B 0601 *Geometrical Product Specifications (GPS) — Surface texture : Profile method — Terms, definitions and surface texture parameters*

3 Terms and definitions

For the purpose of this Standard, the following terms and definitions apply. The