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Non-destructive testing—Magnetic particle testing—Part 1: General principles

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Foreword

This translation has been made based on the original Japanese Industrial Standard 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 Japanese Society for Non-Destructive Inspection (JSNDI)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14. Consequently **JIS Z 2320-1**:2007 is replaced with this Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

JIS Z 2320 series consists of the following 3 parts under the general title "*Non-destructive testing—Magnetic particle testing*":

Part 1: General principles

Part 2: Detection media

Part 3: Equipment

Non-destructive testing—Magnetic particle testing—Part 1: General principles

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 9934-1**:2015, Edition 2, with some modifications of the technical contents in order to correspond to the needs of users in Japan.

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 specifies general principles for the magnetic particle testing of ferromagnetic materials. Magnetic particle testing is primarily applicable to the detection of surface-breaking discontinuities, particularly cracks. It can also detect discontinuities just below the surface but its sensitivity diminishes rapidly with depth. This Standard specifies the surface preparation of the part to be tested, magnetization techniques, requirements and application of the detection media, and the recording and interpretation of results. Acceptance criteria are not defined. Additional requirements for the particular items are defined in product standards (see relevant standards).

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

ISO 9934-1:2015 *Non-destructive testing—Magnetic particle testing—Part 1: General principles* (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**.

2 Normative references

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

JIS C 2504 *Soft magnetic irons*

JIS G 0431 *Steel products—Employer's qualification system for non-destructive testing (NDT) personnel*

JIS Z 2300 *Terms and definitions of nondestructive testing*

JIS Z 2305 *Non-destructive testing—Qualification and certification of NDT personnel*

NOTE : Corresponding International Standard: ISO 9712 *Non-destructive testing—Qualification and certification of NDT personnel* (MOD)