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Non-destructive testing of welds - Time-of-flight diffraction technique (TOFD) - Acceptance levels

焊缝无损检测 衍射时差技术（TOFD）验收等级

(ISO 15626:2018, IDT)

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Foreword

This document is drafted in accordance with GB/T 1.1-2020 "Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents".

This document, using translation method, is identical to ISO 15626:2018 "Non-destructive testing of welds - Time-of-flight diffraction technique (TOFD) - Acceptance levels".

China's document which has a consistent correspondence with the international document normatively referenced in this document is as follows:

- GB/T 12604.1-2020 Non-destructive testing - Terminology - Ultrasonic testing (ISO 5577:2017, MOD)

The following editorial change has been made to this document:

- Add footnotes (Clause 5).

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

This document was proposed by China Machinery Industry Federation.

This document shall be under the jurisdiction of National Technical Committee 55 on Welding of Standardization Administration of China (SAC/TC 55).

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Non-destructive testing of welds - Time-of-flight diffraction technique (TOFD) - Acceptance levels

1 Scope

This document specifies acceptance levels for the time-of-flight diffraction technique (TOFD) of full penetration welds in ferritic steels from 6 mm up to 300 mm thickness which correspond to the quality levels of ISO 5817.

The acceptance levels specified in this document are applicable to indications classified in accordance with ISO 10863.

2 Normative references

The contents of the following documents, through normative references in this text, constitute indispensable provisions of this document. Among them, for dated references, only the edition corresponding to that date applies to this document. For undated references, the latest edition (including all amendments) applies to this document.

ISO 5577 Non-destructive testing - Ultrasonic testing - Vocabulary

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5577 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: http://www.electropedia.org/;

- ISO Online browsing platform: https://www.iso.org/obp.

3.1

Embedded discontinuity

Discontinuity within the volume of the material, separated from the surfaces.

3.2

Surface-breaking discontinuity

Discontinuity connected to the scanning surface or bottom surface (opposite to the scanning surface).

4 Symbols

For the purposes of this document, the following symbols apply.

h - height of an indication

l - length of an indication

t - nominal thickness of workpiece under test in accordance with construction drawing or dimension table

5 Relation between quality levels and acceptance levels

Three different acceptance levels (levels 1, 2, and 3) are defined in this document. The relation between these acceptance levels and the quality levels as mentioned in ISO 5817 are given in Table 1.

6 Length and height of an indication

6.1 General

The size of a discontinuity is described by the length and height of its indication.

Length of an indication is defined by the difference of the *x*-coordinates of the

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