

JIS

JAPANESE INDUSTRIAL STANDARD

**Methods for magnetic
leakage flux testing**

JIS Z 2319—1991

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JAPANESE INDUSTRIAL STANDARD
Methods for magnetic leakage flux testing

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1. Scope

This Japanese Industrial Standard specifies the general requirements on test methods of magnetic leakage flux intended for automatic detection of surface flaws in round steel bars (10 to 400 mm in diameter) and steel tubular products (10 to 660 mm in outside diameter) (hereafter referred to as the "specimen").

Remarks: The applicable standard of this standard is given in the following:

JIS Z 2300-Glossary of Terms Used in Nondestructive Testing

2. Definition

The definitions of principal terms used in this standard shall be as given in JIS Z 2300.

3. Classification of flaw detection techniques

3.1 Classification of flaw detection techniques according to orientation of flaw The classification of flaw detection techniques according to the orientation of flaws shall be as given in the following:

- (1) Detection technique of longitudinally oriented flaw A technique intended for detection of longitudinally oriented flaws in the specimen by circumferential magnetization (see Fig. 1).
- (2) Detection technique of circumferentially oriented flaw A technique intended for detection of circumferentially oriented flaws in the specimen by longitudinal magnetization (see Fig. 2).

Fig. 1. Longitudinally oriented flaw detection

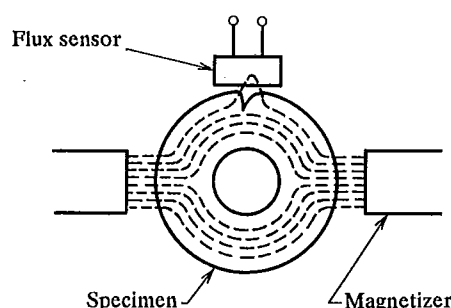
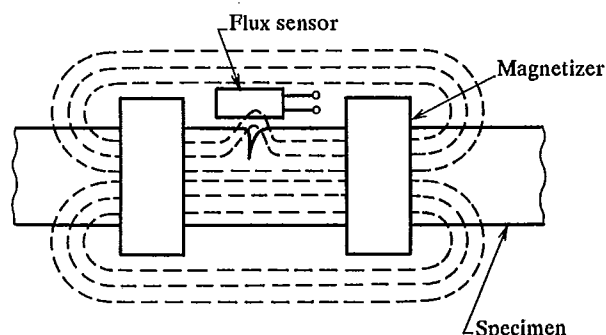


Fig. 2. Circumferentially oriented flaw detection



3.2 Classification of flaw detection technique according to location of flaw The classification of flaw detection techniques according to the location of flaws shall be as given in the following:

- (1) Detection technique of outside surface flaw A technique for detection of magnetic leakage flux of the outside surface flaws with a sensor positioned outside the specimen provided that the specimen has been magnetized by d.c. or a.c. from the outside thereof (see Fig. 3).
- (2) Detection technique of inside and outside surface flaws A technique for detection of magnetic leakage flux of the flaws existing on the outside surface of the specimen or the inside surface of light walled steel pipe with a sensor positioned outside the specimen provided that the test object such as steel tubular product has been magnetized by d.c. from the outside thereof (see Fig. 4).