

BS EN ISO 12707:2016



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Non-destructive testing — Magnetic particle testing — Vocabulary (ISO 12707:2016)

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(ISO 12707:2016)

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European foreword

This document (EN ISO 12707:2016) has been prepared by Technical Committee ISO/TC 135 "Non-destructive testing" in collaboration with Technical Committee CEN/TC 138 "Non-destructive testing" the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2016, and conflicting national standards shall be withdrawn at the latest by October 2016.

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Endorsement notice

The text of ISO 12707:2016 has been approved by CEN as EN ISO 12707:2016 without any modification.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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ISO 12707 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 138, *Non-destructive testing*, in collaboration with ISO Technical Committee TC 135, *Non-destructive testing, Subcommittee SC 2, Surface methods*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition of ISO 12707 is based on, and constitutes a technical revision of, European Standard EN 1330-7:2005.

Non-destructive testing — Magnetic particle testing — Vocabulary

1 Scope

This International Standard defines general terms specifically associated with magnetic particle testing.

2 Terms and definitions

2.1

adjacent conductor technique

magnetization using a bar or cable close to, but isolated from the test surface

2.2

ampere turns

product of the number of turns of a coil and the current in amperes flowing through the coil

2.3

arcing strike

poor electrical contact causing burn damage

2.4

carrier liquid

liquid in which the *magnetic particles* (2.30) are suspended for the wet technique

2.5

central conductor

threaded conductor positioned in the centre of an aperture of the component

2.6

circular magnetization

continuous lines of force within a test piece produced by current flow or a conductor surrounded by the test piece

2.7

coil technique

magnetization using a flexible cable or a rigid coil to test all or a part of a component

2.8

coloured detection medium

detection medium for testing with visible light

2.9

concentrate

detection medium supplied in a form requiring dilution before use

2.10

conditioning agent

additive in water-based media used to improve their properties which may include wetting, antifoaming and corrosion inhibitors

2.11

constant current control

device to maintain the pre-set current

2.12

contact pad

replaceable pad usually copper braid, placed at contact points to improve electrical connection

2.13

continuous magnetization technique

technique where detection medium is applied during magnetization

2.14

contrast aid paint

thin coating or film applied to a surface to improve the visibility of indications using *coloured detection medium* (2.8)

2.15

current flow technique

magnetization by passing a current through a component

2.16

current generator

source of current for magnetization

2.17

detection medium

magnetic particles (2.30) suspended in a carrier liquid or in dry powder form, ready for use

2.18

dry powder technique

application of *magnetic particles* (2.30), air suspended in use

2.19

fixed installation

stationary equipment providing a magnetic field for testing of components

2.20

flexible coil technique

magnetization using a conductor wrapped closely around a component

2.21

fluorescent detection medium

detection medium that emits visible light when excited by a different radiation, usually UV-A radiation

2.22

flux indicator

magnetic flux shunting detector containing artificial discontinuities

2.23

fluorescent stability

capability of a detection medium to maintain fluorescent properties

2.24

induced current flow technique

current flow in a ring type component produced by making it the secondary of a transformer

2.25

lift test

functional check of portable electromagnets assessed by attractive force

2.26

magnetic bench

stationary equipment for general applications employing *magnetic flow techniques* (2.28) and/or *current flow techniques* (2.15)

2.27

magnetic extender

ferromagnetic piece placed at the end of a component to improve the magnetization

2.28

magnetic flow technique

magnetization by inducing a magnetic flux through the component

2.29

magnetic ink

magnetic particles (2.30) suspended in a carrier liquid

2.30

magnetic particle

finely distributed ferromagnetic material attracted by the magnetic flux leakage

2.31

magnetic particle content

measurement of *magnetic particles* (2.30) in magnetic ink

2.32

magnetic particle testing

non-destructive test method using magnetic fields and detection media to reveal surface and near surface discontinuities in ferromagnetic materials

2.33

magnetic writing

form of false indication due to local, random magnetization, sometimes caused when a magnetized component comes in contact with the test item

2.34

magnetizing coil

arrangement of a rigid or flexible conductor to encircle the entire component or part of it

2.35

mechanical stability

capability of detection medium to maintain performance under working conditions

2.36

multidirectional magnetization

single magnetizing operation that produces a directionally varying field in the test part

2.37

portable electromagnet (yoke)

hand-held, electrical equipment used for *magnetic flow techniques* (2.28)

2.38

prods

hand-held electrodes

2.39

residual field

magnetic field remaining after magnetization

2.40

rigid coil technique

magnetization using a coil with fixed dimensions

2.41

tangential field

component of a magnetizing field parallel to the surface

2.42

tangential field strength

value of the *tangential field* ([2.41](#))

2.43

threaded conductor technique

bar or cable through a hole or an aperture used for magnetization

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- [3] EN 1330-7:2005, *Non-destructive testing — Terminology — Part 7: Terms used in magnetic particle testing*

1) Formerly published as European Standard EN 1330-6.
2) Formerly published as European Standard EN 1330-5.

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