

 MAN Energy Solutions	Scope of laboratory activities and standards overview flexible scope according to category A	FB-L-005.003-4 Created by: M.Chia-Waitszies Created on: 24.04.2025 Revision: 0
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Visual testing

DIN EN 13018
2016-06

Non-destructive testing - Visual testing - General principles

DIN EN ISO 17637
2017-04

Non-destructive testing of welds - Visual testing of fusion-welded joints

DIN EN 1370
2012-03

Founding - Examination of surface condition

Penetrant testing

DIN EN 3452-1
2022-02

Non-destructive testing - Penetrant testing - Part 1: General principles

DIN EN 10228-2
2016-10

Non-destructive testing of steel forgings - Part 2: Penetrant testing

DIN EN 1371-1
2012-02

Founding - Liquid penetrant testing - Part 1: Sand, gravity die and low pressure die castings

DIN EN 1371-2
2015-04

Founding - Liquid penetrant testing - Part 2: Investment castings

Magnetic particle testing

DIN EN 9934-1
2017-03

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

DIN EN 10228-1
2016-10

Non-destructive testing of steel forgings - Part 1: Magnetic particle inspection

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DIN EN ISO 17638 2017-03	Non-destructive testing of welds - Magnetic particle testing
DIN EN 1369 2013-01	Founding - Magnetic particle testing
<u>Tensile testing</u> DIN EN ISO 6892-1 2020-06	Metallic materials - Tensile testing - Part 1: Method of test at room temperature
DIN EN ISO 4136 2022-09	Destructive tests on welds in metallic materials - Transverse tensile test
DIN EN 5178 2019-05	Destructive tests on welds in metallic materials - Longitudinal tensile test on weld metal in fusion welded joints
<u>Impact test</u> DIN EN ISO 148-1 2017-05	Metallic materials - Charpy pendulum impact test - Part 1: Test method
<u>Bend test</u> DIN EN ISO 7438 2021-03	Metallic materials - Bend test
DIN EN ISO 5173 2023-05	Destructive tests on welds in metallic materials - Bend tests
<u>Flattening test</u> DIN EN ISO 8492 2014-03	Metallic materials - Tube - Flattening test
<u>Expanding test</u> DIN EN ISO 8493 2004-10	Metallic materials - Tube - Drift-expanding test

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Ring expanding test

DIN EN ISO 8495
2014-03

Metallic materials - Tube - Ring-expanding test

Ring tensile test

DIN EN ISO 8496
2014-03

Metallic materials - Tube - Ring tensile test

Fracture test

DIN EN ISO 9017
2018-04

Destructive tests on welds in metallic materials - Fracture test

Hardness test

DIN EN ISO 6506-1
2015-02

Metallic materials - Brinell hardness test - Part 1: Test method

DIN EN ISO 6507-1
2024-01

Metallic materials - Vickers hardness test - Part 1: Test method

DIN EN ISO 6508-1
2024-04

Metallic materials - Rockwell hardness test - Part 1: Test method

DIN EN ISO 9015-1
2011-05

Destructive tests on welds in metallic materials - Hardness testing - Part 1: Hardness test on arc welded joints

DIN EN ISO 9015-2
2016-10

Destructive tests on welds in metallic materials - Hardness testing - Part 2: Microhardness testing of welded joints

DIN EN ISO 18203
2022-07

Steel - Determination of the thickness of surface-hardened layers

**Macroscopic and
microscopic examination**

DIN EN ISO 17639
2022-05

Destructive tests on welds in metallic materials - Macroscopic and microscopic examination of welds

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**Optical emission
spectrometry**

AW-Nr. 5
2018-12

Optical spark emission spectrometry (OES) for the determination of 14 elements in steel and iron materials