

## Deutsche Akkreditierungsstelle

### Annex to the Partial Accreditation Certificate D-PL-19262-01-01 according to DIN EN ISO/IEC 17025:2018

**Valid from:** 01.03.2024

**Date of issue:** 22.04.2024

This annex is a part of the accreditation certificate D-PL-19262-01-00.

Holder of partial accreditation certificate:

**ZEROS GmbH**  
**Alexander-Meißner-Straße 34, 12526 Berlin**

with the location

**ZEROS GmbH**  
**Alexander-Meißner-Straße 34, 12526 Berlin**

The testing laboratory meets the requirements of DIN EN ISO/IEC 17025:2018 to carry out the conformity assessment activities listed in this annex. The testing laboratory meets additional legal and normative requirements, if applicable, including those in relevant sectoral schemes, provided that these are explicitly confirmed below.

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of testing laboratories and they conform to the principles of DIN EN ISO 9001.

**manual non-destructive tests (radiographic testing with film and digital detectors, ultrasonic, ultrasonic phased array, magnetic, penetrant and visual testing) at steel and ferrous materials in the metal production and metalworking industry as well as in plant engineering and at plant**

*This certificate annex is only valid together with the written accreditation certificate and reflects the status as indicated by the date of issue. The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at <https://www.dakks.de>.*

Abbreviations used: see last page

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**This document is a translation. The definitive version is the original German annex to the accreditation certificate.**

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**The testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates. The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation.**

**1 Radiographic testing**

DIN EN 12681-1 2018-02	Founding - Radiographic testing - Part 1: Film techniques
DIN EN 12681-2 2018-02	Founding - Radiographic testing - Part 2: Techniques with digital detectors
DIN EN ISO 5579 2014-04	Non-destructive testing - Radiographic testing of metallic materials using film and X- or gamma rays - Basic rules (here: <i>chapter 6</i> )
DIN EN ISO 10893-6 2019-06	Non-destructive testing of steel tubes - Part 6: Radiographic testing of the weld seam of welded steel tubes for the detection of imperfections
DIN EN ISO 17636-1 2022-10	Non destructive testing of welds - Radiographic testing - Part 1: X- and gamma-ray techniques with film
DIN EN ISO 17636-2 2023-05	Non-destructive testing of welds - Radiographic testing - Part 2: X- and gamma-ray techniques with digital detectors

**2 Ultrasonic testing**

DIN EN 10160 1999-09	Ultrasonic testing of steel flat product of thickness equal to or greater than 6 mm (reflection method)
DIN EN 10228-3 2016-10	Non-destructive testing of steel forgings - Part 3: Ultrasonic testing of ferritic or martensitic steel forgings
DIN EN 10228-4 2016-10	Non-destructive testing of steel forgings - Part 4: Ultrasonic testing of austenitic and austenitic-ferritic stainless steel forgings

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DIN EN 10307 2002-03	Non-destructive testing - Ultrasonic testing of austenitic and austenitic-ferritic stainless steels flat products of thickness equal to or greater than 6 mm (reflection method)
DIN EN 10308 2002-03	Non-destructive testing - Ultrasonic testing of steel bars
DIN EN 12680-1 2003-06	Founding - Ultrasonic examination - Part 1: Steel castings for general purposes (here: <i>chapter 5</i> )
DIN EN 12680-2 2003-06	Founding - Ultrasonic examination - Part 2: Steel castings for highly stressed components (here: <i>chapter 5</i> )
DIN EN 12680-3 2012-02	Founding - Ultrasonic testing - Part 3: Spheroidal graphite cast iron castings (here: <i>chapter 5</i> )
DIN EN ISO 13588 2019-07	Non-destructive testing of welds - Ultrasonic testing - Use of automated phased array technology
DIN EN ISO 16810 2014-07	Non-destructive testing - Ultrasonic testing - General principles (here: <i>chapter 9</i> )
DIN EN ISO 16826 2014-06	Non-destructive testing - Ultrasonic testing - Examination for discontinuities perpendicular to the surface
DIN EN ISO 17640 2019-02	Non-destructive testing of welds - Ultrasonic testing - Techniques, testing levels, and assessment (here: <i>chapters 8-11 and annex A</i> )
DIN EN ISO 20601 2019-04	Non-destructive testing of welds - Ultrasonic testing - Use of automated phased array technology for thin-walled steel components
DIN EN ISO 22825 2018-02	Non-destructive testing of welds - Ultrasonic testing - Testing of welds in austenitic steels and nickel-based alloys
DIN ISO 4386-1 2022-08	Plain bearings - Metallic multilayer plain bearings - Part 1: Non-destructive ultrasonic testing of bond of thickness $\geq 0,5$ mm

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**3 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
DIN EN 10228-2 2016-10	Non-destructive testing of steel forgings - Part 2: Penetrant testing
DIN EN ISO 3452-1 2022-02	Non-destructive testing - Penetrant testing - Part 1: General principles (here: <i>chapter 8</i> )
DIN EN ISO 10893-4 2011-07	Non-destructive testing of steel tubes - Part 4: Liquid penetrant inspection of seamless and welded steel tubes for the detection of surface imperfections
DIN ISO 4386-3 2020-04	Plain bearings - Metallic multilayer plain bearings - Part 3: Non-destructive penetrant testing

**4 Magnetic testing**

DIN EN 10228-1 2016-10	Non-destructive testing of steel forgings - Part 1: Magnetic particle inspection
DIN EN ISO 9934-1 2017-03	Non-destructive testing - Magnetic particle testing - Part 1: General principles (here: <i>chapters 7-14</i> )
DIN EN ISO 10893-5 2011-07	Non-destructive testing of steel tubes - Part 5: Magnetic particle inspection of seamless and welded ferromagnetic steel tubes for the detection of surface imperfections
DIN EN ISO 17638 2017-03	Non-destructive testing of welds - Magnetic particle testing

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**5 Visual testing**

DIN EN 13018 2016-06	Non-destructive testing - Visual testing - General principles (here: <i>chapter 5 and 6</i> )
DIN EN ISO 17637 2017-04	Non-destructive testing of welds - Visual testing of fusion-welded joints

**6 Railway vehicles**

DIN 27201-7 2020-06	State of railway vehicles - Basic principles and production technology - Part 7: Non-destructive testing (NDT) (here: <i>chapters 6-8, annex A-C, without Eddy current testing</i> )
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**7 Cross-procedural standards for NDT**

AD 2000-Merkblatt HP 5/3 Anlage 1 2015-04	Non-destructive testing of welded joints - Minimum requirements for non-destructive testing methods (here: <i>chapters 3 (UT) and 4 (MT), performance of all procedures in accordance with the referenced standards</i> )
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**Abbreviations used:**

AD HP	Working group of pressure vessels - Production and testing
DIN	Deutsches Institut für Normung e.V. – German institute for standardization
EN	Europäische Norm – European Standard
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization