

# Deutsche Akkreditierungsstelle GmbH

## Annex to the Accreditation Certificate D-PL-20563-01-00 according to DIN EN ISO/IEC 17025:2018

**Valid from:** 30.11.2021

Date of issue: 30.11.2021

Holder of certificate:

**JR-WP Ausbildung und Dienstleistungs GmbH  
Zum Grenzgraben 3, 76698 Ubstadt-Weiher**

at Location:

**Maria-Neide-Straße 2, 39120 Magdeburg**

Tests in the fields:

**manual non-destructive testing (radiographic-, ultrasonic-, penetration-, magnetic particle and visual testing) at metallic materials;  
optical emission spectroscopy, mechanical tests and metallographic tests at metallic material in the plant engineering and in plant construction as well as hardness tests on metallic and polymer materials**

**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.**

*The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of testing laboratories. Laboratories that conform to the requirements of this standard, operate generally in accordance with the principles of DIN EN ISO 9001.*

*The certificate together with the annex 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/en/content/accredited-bodies-dakks>.*

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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**1 Manual non-destructive testing procedures**

**1.1 Radiographic testing**

DIN EN ISO 5579 2014-04	Non-destructive testing - Radiographic testing of metallic materials using film and X- or gamma rays - Basic rules
DIN EN ISO 17636-1 2013-05	Non-destructive testing of welds - Radiographic testing - Part 1: X- and gamma-ray techniques with film
DIN EN 12681-1 2018-02	Founding - Radiographic testing - Part 1: Film techniques

**1.2 Ultrasonic testing**

DIN EN ISO 17640 2018-03	Non-destructive testing of welds - Ultrasonic testing - Techniques, testing levels, and assessment (here: <i>chapter 7-10 and Annex A</i> ) ( <i>withdrawn standard</i> )
DIN EN ISO 16810 2014-07	Non-destructive testing - Ultrasonic testing - General principles (here: <i>chapter 9</i> )
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
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

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DIN 54123 1980-10	Non-destructive Test - Ultrasonic Method of Testing Claddings, Produced by Welding, Rolling and Explosion ( <i>withdrawn standard</i> )
DIN EN 14127 2011-04	Non-destructive testing - Ultrasonic thickness measurement
SEP 1915 1994-09	Ultrasonic testing of steel pipes for longitudinal imperfection ( <i>withdrawn document</i> )
SEP 1920 1984-12	Ultrasonic testing of rolled semi-finished products on internal material discontinuities
SEP 1921 1984-12	Ultrasonic testing of forgings and forged bar steel from ~100 mm diameter or edge to edge length ( <i>withdrawn document</i> )
SEP 1922 1985-07	Ultrasonic testing of forgings of ferritic steel ( <i>withdrawn document</i> )
SEP 1923 2009-02	Ultrasonic testing of steel forgings to stringent standards, in particular for components in turbine and generator systems
SEP 1924 1989-10	Ultrasonic testing of castings of nodular cast iron ( <i>withdrawn document</i> )
SEL 072 1977-12	Ultrasonically tested heavy plate - Technical delivery specifications ( <i>withdrawn document</i> )

**1.3 Visual testing**

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 (here: <i>chapter 3.3</i> )
DIN EN 13018 2016-06	Non-destructive testing - Visual testing - General principles (here: <i>chapter 5 and 6</i> )

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**1.4 Penetrant testing**

DIN EN ISO 3452-1 2014-09	Non-destructive testing - Penetrant testing - Part 1: General principles (here: <i>chapter 8</i> )
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 ISO 3452-5 2009-04	Non-destructive testing - Penetrant testing - Part 5: Penetrant testing at temperatures higher than 50 °C
DIN EN ISO 3452-6 2009-04	Non-destructive testing - Penetrant testing - Part 6: Penetrant testing at temperatures lower than 10 °C
DIN EN 10228-2 2016-10	Non-destructive testing of steel forgings - Part 2: Penetrant testing
SEP 1936 1982-06	Seam testing of castings of steel - Penetration testing ( <i>withdrawn document</i> )

**1.5 Magnetic particle inspection**

DIN EN ISO 9934-1 2017-03	Non-destructive testing - Magnetic particle testing - Part 1: General principles (here: <i>only chapter 7-14</i> )
DIN EN ISO 17638 2017-03	Non-destructive testing of welds - Magnetic particle testing
DIN EN 1290 2002-09	Non-destructive testing of welds - Magnetic particle testing of welds ( <i>withdrawn document</i> )
DIN EN 1369 2013-01	Founding - Magnetic particle testing
DIN EN 10228-1 2016-10	Non-destructive testing of steel forgings - Part 1: Magnetic particle inspection

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SEP 1935  
1982-06                      Seam testing of castings of steel - Magnetic powder test  
(*withdrawn document*)

**1.6      Cross-procedural standard for NDT**

DVGW GW 350  
2015-06                      Welding Joints of Steel Pipelines for Gas and Water Supply - Manu-  
facturing, Testing and Evaluation  
(here: *chapter 4.3*)

**2            Mechanical testing**

**2.1        Hardness tests**

DIN EN ISO 6506-1  
2015-02                      Metallic materials - Brinell hardness test - Part 1: Test method

DIN EN ISO 6507-1  
2018-01                      Metallic materials - Vickers hardness test - Part 1: Test method

DIN EN ISO 6508-1  
2016-12                      Metallic materials - Rockwell hardness test - Part 1: Test method  
(here: *scale C*)

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  
(here: *scale D*)

DIN EN ISO 16859-1  
2016-02                      Metallic materials - Leeb hardness test - Part 1: Test method  
(here: *section D*)

DIN 50159-1  
2015-01                      Metallic materials - Hardness testing with the UCI method - Part 1:  
Test method

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**2.2 Impact tests**

DIN EN ISO 148-1  
2017-05                      Metallic materials - Charpy pendulum impact test - Part 1: Test method

DIN EN ISO 898-1  
2013-05                      Mechanical properties of fasteners made of carbon steel and alloy steel - Part 1: Bolts, screws and studs with specified property classes - Coarse thread and fine pitch thread

**2.3 Tensile tests**

DIN EN ISO 6892-1  
2017-02                      Metallic materials - Tensile testing - Part 1: Method of test at room temperature  
(here: *method B*)

DIN EN ISO 6892-2  
2018-09                      Metallic materials - Tensile testing - Part 1: Method of test at elevated temperature  
(here: *method B*)

DIN EN ISO 5178  
2011-05                      Destructive tests on welds in metallic materials - Longitudinal tensile test on weld metal in fusion welded joints

DIN EN ISO 4136  
2013-02                      Destructive tests on welds in metallic materials - Transverse tensile test

DIN EN ISO 898-1  
2013-05                      Mechanical properties of fasteners made of carbon steel and alloy steel - Part 1: Bolts, screws and studs with specified property classes - Coarse thread and fine pitch thread  
chapter 9.1- angular tensile tests on screws (without studs)  
chapter 9.2 - Tensile test for finished bolts, screws and studs for determination of tensile strength,  $R_m$   
chapter 9.4 - Tensile test for bolts and screws with reduced loadability due to head design  
chapter 9.5 - Tensile test for fasteners with waisted shank  
chapter 9.7 - Tensile test for machined test pieces

DIN EN ISO 898-2  
2012-08                      Mechanical properties of fasteners made of carbon steel and alloy steel - Part 2: Nuts with specified property classes - Coarse thread and fine pitch thread

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DIN EN 10002-1  
2001-12  
Metallic materials - Tensile testing - Part 1: Method of testing at ambient temperature  
*(withdrawn standard)*

**2.4 Bend tests**

DIN EN ISO 5173  
2012-02  
Destructive tests on welds in metallic materials - Bend tests

DIN EN ISO 8492  
2014-03  
Metallic materials - Tube - Flattening test

DIN EN ISO 8493  
2004-10  
Metallic materials - Tube - Drift-expanding test

DIN EN ISO 8495  
2014-03  
Metallic materials - Tube - Ring-expanding test

DIN EN ISO 8496  
2014-03  
Metallic materials - Tube - Ring tensile test

DIN EN ISO 7438  
2016-07  
Metallic materials - Bend test

DIN EN 1320  
1996-12  
Destructive tests on welds in metallic materials - Fracture test  
*(withdrawn standard)*

SEP 1390  
1996-07  
Weld bead bend test

**3 Analytical tests**

**3.1 Metallographic analysis**

DIN EN ISO 643  
2013-05  
Steels - Micrographic determination of the apparent grain size

DIN 50602  
1985-09  
Metallographic examination - Microscopic examination of special steels using standard diagrams to assess the content of non-metallic inclusions  
*(withdrawn standard)*

DIN EN ISO 945-1  
2018-05  
Microstructure of cast irons - Part 1: Graphite classification by visual analysis

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ISO 4967 2013-07	Steel - Determination of content of non-metallic inclusions - Micrographic method using standard diagrams
ISO 4968 1979-11	Steel - Macrographic examination by sulfur print (Baumann method)
DIN EN ISO 2639 2003-04	Steels - Determination and verification of the depth of carburized and hardened cases
DIN EN ISO 3887 2018-05	Steels - Determination of the depth of decarburization
DIN EN 10328 2005-04	Iron and steel - Determination of the conventional depth of hardening after surface heating
DIN 50190-3 1979-03	Hardness depth of heat-treated parts; determination of the effective depth of hardening after nitriding
DIN EN 1321 1996-12	Destructive tests of welds in metallic materials - Macroscopic and microscopic examination of welds <i>(withdrawn standard)</i>
ASTM E 112 2013	Standard Test Methods for Determining Average Grain Size
ASTM E 45 2013	Standard Test Methods for Determining the Inclusion Content of Steel <i>(withdrawn document)</i>
DIN EN ISO 1463 2004-08	Metallic and oxide coatings - Measurement of coating thickness - Microscopical method
DIN 54150 1977-08	Non-destructive testing; impression methods for surface examination (Replica-technique) <i>(withdrawn standard)</i>
DIN EN ISO 898-1 2013-05	Mechanical properties of fasteners made of carbon steel and alloy steel - Part 1: Bolts, screws and studs with specified property classes - Coarse thread and fine pitch thread chapter 9.10 - decarburization tests chapter 9.11 - carburization test chapter 9.12 - tempering test
SEP 1520 1998-09	Microscopic examination of carbide structure in steels by means of diagram series

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**3.2 Spectrometric analysis**

(\*In-house test methods are excluded to the flexible scope)

AA\_08\_03\*  
2018-10 Stationäre spektrometrische Untersuchungen  
Basiselement Fe (unlegiert, niedriglegiert und hochlegiert und Guss-  
eisen) Basiselemente: Cu, Al

AA\_08\_50\*  
2018-10 Mobile spektrometrische Untersuchungen  
Basiselement: Fe (unlegiert, niedriglegiert und hochlegiert)

**3.3 Corrosion tests**

DIN EN ISO 9227  
2017-07 Corrosion tests in artificial atmospheres - Salt spray tests

DIN 74069  
2016-05 Retro-reflective registration plates, seal-sticker and sticker-cover for  
motor vehicles and their trailers  
chapter 6.2.1 - Dimension test  
chapter 6.3.3 - Test due to chemical resistance  
chapter 6.4.2 - Adhäsion to the substrate  
chapter 6.4.4 - Testing the embossing ability  
chapter 6.5 - Checking the execution  
chapter 6.8.2 - Bending resistance  
chapter 6.9 - Test of temperature resistance

DIN EN ISO 6988  
1997-03 Metallic and other non-organic coatings - Sulfur dioxide test with  
general condensation of moisture

ASTM G 48  
2011-09 Standard Test Methods for Pitting and Crevice Corrosion Resistance  
of Stainless Steels and Related Alloys by Use of Ferric Chloride  
Solution  
(hier: *Methode A*)

DIN EN ISO 6270-1  
2018-04 Paints and varnishes - Determination of resistance to humidity -  
Part 1: Condensation (single-sided exposure)

DIN EN ISO 6270-2  
2018-04 Paints and varnishes - Determination of resistance to humidity -  
Part 2: Condensation (in-cabinet exposure with heated water  
reservoir)

DIN EN ISO 4892-2  
2013-06 Plastics - Methods of exposure to laboratory light sources - Part 2:  
Xenon-arc lamps  
(here: *method A*)

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DIN EN ISO 2409 2013-06	Paints and varnishes - Cross-cut test (here: <i>method A</i> )
DIN ISO 4532 1995-10	Vitreous and porcelain enamels - Determination of the resistance of enamelled articles to impact - Pistol test

**Abbreviations used:**

AD-HP	Working group on pressure vessels, - Production and testing
ASTM	American Society for Testing and Materials
DIN	German Institute for Standardization
DVGW	German Gas and Water Association r. a.
EN	European Standard
ISO	International Organization for Standardization
SEL	Steel-iron delivery conditions from the Association of German Ironworkers
SEP	Steel-iron test sheets from the Association of German Ironworkers
AA	In-house method of the JR-WP Ausbildung und Dienstleistungs GmbH