Deutsche Akkreditierungsstelle

Annex to the Accreditation Certificate D-PL-18989-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: **07.07.2023**

Date of issue: 07.07.2023

Holder of accreditation certificate:

HWD Haase Werkstoffprüfung Duisburg GmbH
Wanheimer Straße 431, 47055 Duisburg

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 confirm generally with the principles of DIN EN ISO 9001.

manual non-destructive testing (radiographic-, ultrasonic-, magnetic particle-, penetration-, visual- and leaktesting) at metallic materials of the plant technology and plant construction

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 ISO 5579 2014-04	Non-destructive testing - Radiographic testing of metallic materials using film and X- or gamma rays - Basic rules (here: *chapter 6*)
DIN EN 12681-1 2018-02	Founding - Radiographic testing - Part 1: Film techniques
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 16407-1 2014-04	Non-destructive testing - Radiographic inspection of corrosion and deposits in pipes by X- and gamma rays - Part 1: Tangential radiographic inspection
DIN EN 16407-2 2014-04	Non-destructive testing - Radiographic inspection of corrosion and deposits in pipes by X- and gamma rays - Part 2 : Double Wall radiographic inspection

2 Ultrasonic testing

DIN EN 14127 2014-11	Non-destructive testing - Ultrasonic thickness measurement
DIN EN ISO 16810 2014-07	Non-destructive testing - Ultrasonic testing - General principles (here: *chapter 9*)
DIN EN ISO 16823 2014-07	Non-destructive testing - Ultrasonic testing - Transmission technique
DIN EN ISO 16826 2014-06	Non-destructive testing - Ultrasonic testing - Examination for discontinuities perpendicular to the surface
DIN EN ISO 16828 2014-06	Non-destructive testing - Ultrasonic testing - Characterization and sizing of discontinuities (TOF) (here: *chapter 7, 8, 12*)
DIN EN ISO 17405 2014-10	Non-destructive testing - Ultrasonic testing - Technique of testing claddings produced by welding, rolling and explosion

DIN EN ISO 17640 2018-03	Non-destructive testing of welds - Ultrasonic testing - Techniques, testing levels, and assessment
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
SEP 1920 1984-12	Ultrasonic testing of rolled semi-finished products on internal material discontinuities
SEP 1923 2009-02	Ultrasonic testing of steel forgings to stringent standards, in particular for components in turbine and generator systems

3 Magnetic particle testing

DIN EN ISO 9934-1 2017-03	Non-destructive testing - Magnetic particle testing - Part 1: General principles (here: *chapters 7 to 14*)
DIN EN ISO 17638 2017-03	Non-destructive testing of welds - Magnetic particle testing
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

4 Penetration 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 2014-09	Non-destructive testing - Penetrant testing - Part 1: General principles (here: *chapter 8*)

5 Visual testing

DIN EN ISO 17637 2017-04	Non-destructive testing of welds - Visual testing of fusion-welded joints
DIN EN 13018 2016-06	Non-destructive testing - Visual testing - General principles

6 Leak Testing

DIN EN 1593 1999-11	Non-destructive testing - Leak testing - Bubble emission techniques
DIN EN 1779 1999-10	Non-destructive testing - Leak testing - Criteria for the method and technique selection (here: *only chapters 6 to 8*)
DIN EN 13185 2001-07	Non-destructive testing - Leak testing - Tracer gas method

7 Cross standards for NDT (here for: RT, UT, MT, PT, and VT)

AD 2000-Merkblatt HP 5/3 Annex 1 2015-04	Manufacture and testing of joints - Non-destructive testing of welded joints (*here*: Chapters 3 (UT) and 4 (MT), other procedures according to the referenced test standard)
DVGW GW 350 2015-06	Welding Joints of Steel Pipelines for Gas and Water Supply - Manufacturing, Testing and Evaluation (here: *only chapter 9*)

Abbreviations used:

AD-HP	Arbeitsgemeinschaft Druckbehälter
DIN	German Institute for Standardization
DVGW	German association of gas- and water industry
EN	European Standard
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
MT	Magnetic particle testing
PT	Penetration testing
RT	Radiographic testing
SEP	Steel and iron test sheet of the Association of German Steel Institute
UT	Ultrasonic testing
VT	Visual testing