

Deutsche Akkreditierungsstelle

Annex to the Partial Accreditation Certificate D-PL-11166-01-02 according to DIN EN ISO/IEC 17025:2018

Valid from: 07.09.2022

Date of issue: 24.01.2023

This annex is a part of the accreditation certificate D-PL-11166-01-00.

Holder of partial accreditation certificate:

**Element Materials Technology Hamburg GmbH
Tempowerkring 11, 21079 Hamburg**

with its testing laboratories

**Tempowerkring 11, 21079 Hamburg
Lahnstraße 26, 45478 Mülheim a. d. Ruhr
Siemensstraße 17, 73733 Esslingen**

The testing laboratory meets the minimal requirements of DIN EN ISO/IEC 17025:2018 and, if applicable, additional legal and normative requirements, including those in relevant sectoral schemes, in order to carry out the conformity assessment activities listed 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 (ultrasonic testing, magnet particle testing, penetrant testing, visual testing and digital radiography) on metallic materials

Within the scope of accreditation marked with *, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use test standards or equivalent normative test procedures listed here with different issue dates.

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>.

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The calibration laboratory maintains a current list of all test standards / equivalent normative test procedures within the flexible scope of accreditation.

The test methods are indicated with the following symbols for the locations in which they are conducted:

MH = Mülheim, ES = Esslingen-Mettingen, HH = Hamburg

1	Ultrasonic tests *	MH, ES, HH
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	
DIN EN ISO 22825 2018-02	Non-destructive testing of welds - Ultrasonic testing - Testing of welds in austenitic steels and nickel-based alloys	
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	
DIN EN ISO 10893-8 2011-07	Non-destructive testing of steel tubes - Part 8: Automated ultrasonic testing of seamless and welded steel tubes for the detection of laminar imperfections (here: <i>Annex A</i>)	
DIN EN ISO 10893-9 2011-07	Non-destructive testing of steel tubes - Part 9: Automated ultrasonic testing for the detection of laminar imperfections in strip/plate used for the manufacture of welded steel tubes (here: <i>Annex A</i>)	

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DIN EN ISO 10893-10 2011-07	Non-destructive testing of steel tubes - Part 10: Automated full peripheral ultrasonic testing of seamless and welded (except submerged arc-welded) steel tubes for the detection of longitudinal and/or transverse imperfections (here: <i>Annex B</i>)
DIN EN ISO 10893-11 2011-07	Non-destructive testing of steel tubes - Part 11: Automated ultrasonic testing of the weld seam of welded steel tubes for the detection of longitudinal and/or transverse imperfections (here: <i>Annex A</i>)
DIN EN ISO 10893-12 2011-07	Non-destructive testing of steel tubes - Part 12: Automated full peripheral ultrasonic thickness testing of seamless and welded (except submerged arc-welded) steel tubes (here: <i>Annex A</i>)
SEP 1916 1989-12	Non-destructive testing fusion welded ferritic steel pipes
SEP 1917 1994-09	Non-destructive testing of resistance welded pipes of ferritic steels
DIN EN 12680-1 2003-06	Founding - Ultrasonic examination - Part 1: Steel castings for general purposes
DIN EN 12680-2 2003-06	Founding - Ultrasonic examination - Part 2: Steel castings for highly stressed components
DIN EN 12680-3 2012-02	Founding - Ultrasonic testing - Part 3: Spheroidal graphite cast iron castings
SEP 1923 2009-02	Ultrasonic testing of steel forgings to stringent standards, in particular for components in turbine and generator systems
DIN EN 10306 2002-04	Iron and steel - Ultrasonic testing of H beams with parallel flanges and IPE beams
AD 2000 HP 5/3 2015-04	Manufacture and testing of joints - Non-destructive testing of welded joints
DIN ISO 4386-1 2015-12	Plain bearings - Metallic multilayer plain bearings - Part 1: Non-destructive ultrasonic testing of bond of thickness $\geq 0,5$ mm
DIN EN 14127 2011-04	Non-destructive testing - Ultrasonic thickness measurement

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ASME Section V Article 4 & 5 2019	ASME Boiler & Pressure Vessel Code - Section 5: Nondestructive Examination (here: <i>Ultrasonic Examination</i>)
ASME Section V Article 4 & 5 & 23 2019	Straight-Beam Ultrasonic Examination of Steel Plates (UT)
ASME Section VIII 2019	ASME Boiler & Pressure Vessel Code - Section 8: Rules for Construction of Pressure Vessels (here: <i>Ultrasonic Examination of Welds</i>)
SEP 1921 1984-12	Ultrasonic testing of forgings and forged steel bars with diameters or edge lengths of ~ 100 mm and above (<i>withdrawn standard</i>)

2 Magnet particle testing * MH, ES, HH

DIN EN ISO 9934-1 2017-03	Non-destructive testing - Magnetic particle testing - Part 1: General principles
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
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
ASME Section V Article 7 & 25 ASME Section VIII 2019	ASME Boiler & Pressure Vessel Code - Section 5: Nondestructive Examination (here: <i>Magnetic Particle Examination</i>)

3 Penetrant testing * MH, ES, HH

DIN EN ISO 3452-1 2014-09	Non-destructive testing - Penetrant testing - Part 1: General principles
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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
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
ASME Section V Article 6 & 24 ASME Section VIII 2019	ASME Boiler & Pressure Vessel Code - Section 5: Nondestructive Examination (here: <i>Liquid Penetrant Examination</i>)

4 Visual testing *

DIN EN ISO 17637 2017-04	Non-destructive testing of welds - Visual testing of fusion-welded joints	MH, ES, HH
DIN EN 13018 2016-06	Non-destructive testing - Visual testing - General principles	MH, ES, HH
DIN EN 1370 2012-03	Founding - Examination of surface condition	MH, ES, HH
DIN EN 10163-1 Berichtigung 2007-05	Delivery requirements for surface condition of hot-rolled steel plates, wide flats and sections - Part 1: General requirements	MH, ES, HH
DIN EN 10163-2 2005-03	Delivery requirements for surface conditions of hot-rolled steel plates, wide flats and sections - Part 2: Plate and wide flats	MH, ES, HH
DIN EN 10163-3 2005-03	Delivery requirements for surface condition of hot-rolled steel plates, wide flats and sections - Part 3: Sections	MH, ES, HH

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DIN EN ISO 8501-1 2007-12	Preparation of steel substrates before application of paints and related products - Visual assessment of surface cleanliness - Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings	MH, ES, HH
DIN EN ISO 8501-2 2002-03	Preparation of steel substrates before application of paints and related products - Visual assessment of surface cleanliness - Part 2: Preparation grades of previously coated steel substrates after localized removal of previous coatings	MH, ES, HH
DIN EN ISO 8501-3 2007-10	Preparation of steel substrates before application of paints and related products - Visual assessment of surface cleanliness - Part 3: Preparation grades of welds, edges and other areas with surface imperfections	MH, ES, HH
5	Digital Radiography *	HH
DIN EN ISO 17636-2 2013-05	Non-destructive testing of welds - Radiographic testing - Part 2: X- and gamma-ray techniques with digital detectors	
6	Miscellaneous test methods *	MH
ASTM E 1004 2017	Standard Test Method for Determining Electrical Conductivity Using the Electromagnetic (Eddy Current) Method	

Abbreviations used:

ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
DIN	German Institute for Standardization
EN	European Standard
ISO	International Organisation for Standardisation
SEP	Steel-Iron Test Methods - publication from German Steel Institute of the Association of German Iron Works (VDEh)

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