

# Deutsche Akkreditierungsstelle

## Annex to the Partial Accreditation Certificate D-PL-19221-01-02 according to DIN EN ISO/IEC 17025:2018

**Valid from:** 18.10.2022

**Date of issue:** 15.02.2023

This annex is a part of the accreditation certificate D-PL-19221-01-00.

Holder of partial accreditation certificate:

**DEKRA Incos GmbH  
Bunsenstraße 29, 85053 Ingolstadt**

with its testing laboratories

**Bunsenstraße 29, 85053 Ingolstadt  
Kesselbodenstraße 6, 85391 Allershausen  
Fettweisstraße 2d, 76189 Karlsruhe  
Mausegatt 12, 47228 Duisburg  
Mausegatt 18, 47228 Duisburg  
Im Industriegelände 1, 33775 Versmold**

The testing laboratory meets the minimum 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.

**mechanical testing, metallographic tests, corrosion tests and X-ray fluorescence analyses of metallic materials; optical emission spectrometry of low alloy steels, chromium, chromium-nickel, tool and duplex steels**

*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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**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 standards or equivalent testing methods listed here with different issue dates.**

**The testing laboratory maintains a current list of all testing procedures within the flexible scope of accreditation.**

**The test methods are indicated with the following symbols of the locations at which they are carried out:**

AL = Allershausen	DU I = Duisburg I	DU II = Duisburg - Mausegatt 18 (MP-zP)
KA = Karlsruhe	IN = Ingolstadt	VE = Versmold

**1 Mechanical testing \***

**1.1 Tensile test DU II**

DIN EN ISO 4136 2013-02	Destructive tests on welds in metallic materials - Transverse tensile test
DIN EN ISO 6892-1 2020-06	Metallic materials - Tensile testing - Part 1: Method of test at room temperature <i>(here: methods B)</i>
DIN EN ISO 6892-2 2018-09	Metallic materials - Tensile testing - Part 2: Method of test at elevated temperature <i>(here: methods B)</i>
ASTM A 370 2020	Standard Test Methods and Definitions for Mechanical Testing of Steel Products
ASTM E 21 2020	Standard Test Methods for Elevated Temperature Tension Tests of Metallic Materials
ASTM E 8/E8Ma 2021	Standard Test Methods for Tension Testing of Metallic Materials

**1.2 Bend tests DU II**

DIN EN ISO 5173 2012-02	Destructive tests on welds in metallic materials - Bend tests
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DIN EN ISO 7438 2021-03	Metallic materials - Bend test
DIN EN ISO 7799 2000-07	Metallic materials - Sheet and strip 3 mm thick or less - Reverse bend test
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 8494 2014-03	Metallic materials - Tube - Flanging 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 1320 1996-12	Destructive tests on welds in metallic materials - Fracture test (withdrawn standard)
DIN EN ISO 9017 2018-04	Destructive tests on welds in metallic materials - Fracture test
ASTM E 190 2021	Standard Test Method for Guided Bend Test for Ductility of Welds
ASTM E 290 2014	Standard Test Methods for Bend Testing of Material for Ductility

**1.3 Impact tests**

**DU II**

DIN EN ISO 9016 2013-02	Destructive tests on welds in metallic materials - Impact tests - Test specimen location, notch orientation and examination
DIN EN ISO 148-1 2017-05	Metallic materials - Charpy pendulum impact test - Part 1: Test method
ASTM E 23 2018	Standard Test Methods for Notched Bar Impact Testing of Metallic Materials

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**1.4 Hardness test \* DU II**

**1.4.1 Basic test methods**

DIN EN ISO 6508-1 2016-12	Metallic materials - Rockwell hardness test - Part 1: Test method ( <i>scales C</i> )
DIN EN ISO 9015-1 2011-05	Destructive tests on welds in metallic materials - Hardness testing - Part 1: Hardness test on arc welded joints
ASTM E 10 2018	Standard Test Method for Brinell Hardness of Metallic Materials
ASTM E 18 2020	Standard Test Methods for Rockwell Hardness of Metallic Materials
DIN EN ISO 6506-1 2015-02	Metallic materials - Brinell hardness test - Part 1: Test method (Methods: <i>HBW 2,5 / 187,5; 2,5 / 62,5; 5 / 250</i> )
DIN EN ISO 6507-1 2018-07	Metallic materials - Vickers hardness test - Part 1: Test method
ASTM E 384 2017	Standard Test Methods for Microindentation Hardness of Materials
ASTM E 92 2017	Standard Test Methods for Vickers Hardness and Knoop Hardness of Metallic Materials (here: <i>only Vickers</i> )

**1.4.2 Mobile hardness testing AL, DU I, KA, IN, VE**

DIN EN ISO 16859-1 2016-02	Metallic materials - Leeb hardness test - Part 1: Test method
DIN 50157-1 2008-04	Metallic materials - Hardness testing with portable measuring devices operating with mechanical penetration depth - Part 1: Test method
DIN 50159-1 2015-01	Metallic materials - Hardness testing with the UCI method - Part 1: Test method ( <i>here: chapter 9 and annex B</i> )

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ASTM A 956-12 2012	Standard Test Method for Leeb Hardness Testing of Steel Products
ASTM A1038-19 2019	Standard Test Method for Portable Hardness Testing by the Ultrasonic Contact Impedance Method
DIN EN ISO 6507-1 2018-07	Metallic materials - Vickers hardness test - Part 1: Test method

**2 Metallographic examination \* DU II**

**2.1 test methods using comparison**

ISO 4967 2013-07	Steel - Determination of content of non-metallic inclusions - Micrographic method using standard diagrams
DIN EN ISO 945-1 2019-10	Microstructure of cast irons - Part 1: Graphite classification by visual analysis
DIN EN ISO 17639 2013-12	Destructive tests on welds in metallic materials - Macroscopic and microscopic examination of welds
DIN EN 1321 1996-12	Metallographic examination - microscopic examination of special steels using standard diagrams to assess the content of non-metallic inclusions <i>(withdrawn standard)</i>
DIN 50602 1985-09	Metallographic examination - microscopic examination of special steell using standard diagrams to assess the content of non-metallic inclusions <i>(withdrawn standard)</i>
DIN 54150 1977-08	Non-destructive testing - impression methods for surface examination (Replica-technique) <i>(withdrawn standard)</i>
ASTM E 45 2018	Standard Test Methods for Determining the Inclusion Content of Steel
SEP 1520 1998-09	Microscopic examination of carbide structure in steels by means of diagram series

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**2.2 test methods using measurement**

DIN EN ISO 643 2020-06	Steels - Micrographic determination of the apparent grain size
ASTM E 112 2013	Standard Test Methods for Determining Average Grain Size
ASTM E 562 2019	Bestimmung des Volumenanteils mittels Auszählverfahren

**3 Corrosion tests \***

**DU II**

DIN EN ISO 3651-1 1998-08	Determination of resistance to intergranular corrosion of stainless steels - Part 1: Austenitic and ferritic-austenitic (duplex) stainless steels - Corrosion test in nitric acid medium by measurement of loss in mass (Huey test)
DIN EN ISO 3651-2 1998-08	Determination of resistance to intergranular corrosion of stainless steels - Part 2: Ferritic, austenitic and ferritic-austenitic (duplex) stainless steels - Corrosion test in media containing sulfuric acid
ASTM A 262 2015	Standard Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels
ASTM A 923 2014	Standard Test Methods for Detecting Detrimental Intermetallic Phase in Duplex Austenitic/Ferritic Stainless Steels
ASTM G 28 2002	Standard Test Methods for Detecting Susceptibility to Intergranular Corrosion in Wrought, Nickel-Rich, Chromium-Bearing Alloys
ASTM G 48-11 2011	Standard Test Methods for Pitting and Crevice Corrosion Resistance of Stainless Steels and Related Alloys by Use of Ferric Chloride Solution
SEP 1877 1994-07	Test of the resistance of high-alloy, corrosion-proof materials against intercrystalline corrosion

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**4 Optical emissions spectroscopy**

**4.1 Quantitative test methods**

0311-09-PA 2022-05	Positive material identification (PMI) using mobile X-Ray emission analysis (Positive Material Identification PMI)	IN, DU I, KA, VE
0129-10-AA 2022-05	Optical emission spectroscopy with Spektrolab M10	DU II

**Abbreviations used:**

AA	Work instruction
ASTM	American Society for Testing Materials
DIN	German Institute for Standardizatio
EN	European Standard
IEC	International Electrotechnical Commission
ISO	International Organisation for Standardisation
SEP	Steel and iron test sheet of the Association of German Steel Institute

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