Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-11068-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: **09.08.2021**

Date of issue: 09.08.2021

Holder of certificate:

Karlsruher Institut für Technologie
KIT Stahl- und Leichtbau
Versuchsanstalt für Stahl, Holz und Steine
Otto-Ammann-Platz 1, 76131 Karlsruhe

Tests in the fields:

Manual non-destructive testing (radiographic, ultrasound, penetrant and magnetic particle testing and visual inspection), mechanical-technological testing of metal materials and products, plastics and composite materials; testing of metallic and organic coatings and coated metals; selected fire behaviour testing of steel and lightweight constructions and testing of building products, building kits and building types;

Testing of construction products (system of assessment and verification of constancy of performance 3) within the scope of the Regulation (EU) No. 305/2011 laying down harmonised conditions for the marketing of construction products (Construction Products Regulation)

The testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed in this document 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 may be found respectively in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH https://www.dakks.de/en/content/accredited-bodies-dakks.

1 Non-destructive testing

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 Section 6
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 2013-05	Non-destructive testing of welds – Radiographic testing – Part 1: X- and gamma-ray techniques with film
DIN EN 1435 2002-09 + Corrigenda 1 2004-05	Non-destructive testing of welds - Radiographic testing of welded joints (withdrawn standard)
DIN EN 12681-1 2018-02	Founding - Radiographic testing - Part 1: Film techniques

1.2.1 Ultrasonic testing

DIN EN ISO 16810 2014-07	Non-destructive testing – Ultrasonic testing – General principles
DIN EN ISO 17640 2019-02	Non-destructive testing of welds - Ultrasonic testing - Techniques, testing levels, and assessment Section 7-10 and annex A
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 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

1.2.2 Penetrant testing

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 EN 571-1 1997-03	Non-destructive testing - Penetrant testing - Part 1: General principles *(withdrawn standard)*
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 casting
DIN EN 10228-2 2016-10	Non-destructive testing of steel forgings - Part 2: Penetrant testing

1.2.3 Magnetic particle testing

DIN EN ISO 9934-1 2017-03	Non-destructive testing - Magnetic particle testing - Part 1: General principles Section 7-10
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
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

1.2.4 Visual inspection

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

2 Mechanical-technological Testing

DIN EN ISO 148-1 2017-05	Metallic materials - Charpy pendulum impact test - Part 1: Test method
DIN EN ISO 179-1 2010-11	Plastics - Determination of Charpy impact properties - Part 1: Non-instrumented impact 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 Section 9.2, 9.3, 9.6, 9.9, 9.13
DIN EN ISO 2702 2011-08	Heat-treated self-tapping screws – Mechanical properties Section 6.2.1: Screw-in test Section 6.2.2: testing of the torsional strength
DIN EN ISO 3506-1 2020-08	Fasteners - Mechanical properties of corrosion-resistant stainless steel fasteners - Part 1: Bolts, screws and studs with specified grades and property classes Section 7.2.2: tensile strength Section 7.2.3: 0,2%-proof stress Section 7.2.4: elongation at fracture Section 7.2.5: fracture torque Section 7.2.6 angular tensile test on screws from martensitic steel Section 7.2.7: hardness HB, HRC, or HV
DIN EN ISO 3506-2 2020-08	Fasteners - Mechanical properties of corrosion-resistant stainless steel fasteners - Part 2: Nuts with specified grades and property classes Section7.1: hardness, HB, HRC or HV Section 7.2: test force
DIN EN ISO 3506-3 2010-04	Mechanical properties of corrosion-resistant stainless steel fasteners - Part 3: Set screws and similar fasteners not under tensile stress Section 6: Test Methods
DIN EN ISO 3506-4 2010-04	Mechanical properties of corrosion-resistant stainless steel fasteners – Part 4: Tapping screws Section 6: Test Methods

DIN EN ISO 4136 2013-02	Destructive tests on welds in metallic materials - Transverse tensile test
DIN EN ISO 5173 2012-02	Destructive tests on welds in metallic materials - Bend tests
DIN EN ISO 6506-1 2015-02	Metallic materials - Brinell hardness test - Part 1: Test method
DIN EN ISO 6507-1 2018-07	Metallic materials - Vickers hardness test - Part 1: Test method
DIN EN ISO 6892-1 2017-02	Metallic materials - Tensile testing - Part 1: Method of test at room temperature – procedure B
DIN EN ISO 7438 2016-07	Metallic materials - Bend test
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
DIN EN ISO 9017 2018-04	Destructive tests on welds in metallic materials - Fracture test
DIN EN ISO 9018 2016-02	Destructive tests on welds in metallic materials - Tensile test on cruciform and lapped joints
DIN EN ISO 10666 2000-02	Drilling screws with tapping screw thread - Mechanical and functional properties Section 4.2.1: Drilling - and screw-in test Section 4.2.3: Torsional strength test
DIN EN ISO 14555 2017-10	Welding - Arc stud welding of metallic materials Section 11: Investigation and test
DIN EN ISO 14589 2001-08	Blind rivets - Mechanical testing
DIN EN ISO 15630-3 2020-02	Steel for the reinforcement and prestressing of concrete - Test methods - Part 3: Prestressing steel Section 5 tensile test Section 8 isothermal relaxation test Section 9 axial dynamic test

DIN EN ISO 17660-1 2006-12 + Corrigenda 1 2007-08	Welding - Welding of reinforcing steel - Part 1: Load-bearing welded joints Section 14.2: tensile test Section 14.3: shear test Section 14.4: bending test
DIN EN 1320 1996-12	Destructive tests on welds in metallic materials - Fracture test *(withdrawn standard)*
DIN EN 1382 2016-07	Timber structures - Test methods - Withdrawal capacity of timber fasteners
DIN EN 10002-1 2001-12	Metallic materials - Tensile testing - Part 1: Method of testing at ambient temperature *(withdrawn standard)*
DIN EN 12390-3 2019-10	Testing hardened concrete - Part 3: Compressive strength of test specimens
DIN EN 15048-2 2016-09	Non-preloaded structural bolting assemblies - Part 2: Fitness for purpose Section 6: Tensile Test of Bolt/Nut Assemblies
DIN EN 20898-2 1994-02	Mechanical properties of fasteners; part 2: nuts with specified proof load values; coarse thread
DIN 7337 1997-05	Break mandrel blind rivets Section 8 *(withdrawn standard)*
DIN 50106 2016-11	Testing of metallic materials - Compression test at room temperature
DIBt Guidelines of 01.08.1999	Principles for verification of compliance for fastening elements in lightweight metal constructions section 2: blind rivet Section 2.1 Dimensional Testing Section 2.3 Application and Functional Testing section: 3 screws Section 3.1 Verification of Dimensions and Manufacturer's Symbol Section 3.3.1 Testing of Thread Moulding Torque Section 3.4.1 Testing of Drilling and Thread Moulding Section 3.7 Testing of Tension Load Resistance section 4 bolts Section 4.1 Dimensional Testing
SEP 1390 1996-07	Weld bead bend test

3 Macroscopic and Microscopic Investigations

DIN EN ISO 17639 2013-12	Destructive tests on welds in metallic materials - Macroscopic and microscopic examination of welds
DIN EN 1321 1996-12	Destructive tests of welds in metallic materials - Macroscopic and microscopic examination of welds *(withdrawn standard)*

4 Testing of Coatings

4.1 Measurement of coating thickness

DIN EN ISO 1460 1995-01	Metallic coatings - Hot dip galvanized coatings on ferrous materials - Gravimetric determination of the mass per unit area
DIN EN ISO 1463 2004-08	Metallic and oxide coatings - Measurement of coating thickness - Microscopical method
DIN EN ISO 2178 2016-11	Non-magnetic coatings on magnetic substrates - Measurement of coating thickness - Magnetic method
DIN EN 13523-1 2017-05	Coil coated metals - Test methods - Part 1: Film thickness

4.2 Mechanical testing

DIN EN ISO 2409 2013-06	Paints and varnishes - Cross-cut test
DIN EN 10346 2015-10	Continuously hot-dip coated steel flat products for cold forming - Technical delivery conditions Section 8.5.5 Coating Mass
DIN EN 13523-6 2002-10	Coil coated metals - Test methods - Part 6: Adhesion after indentation (cupping test)
DIN EN 13523-7 2014-08	Coil coated metals - Test methods - Part 7: Resistance to cracking on bending (T-bend test)

4.3 Testing in artificial atmospheres

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 6988 1997-03	Metallic and other non-organic coatings - Sulphur dioxide test with general condensation of moisture
DIN EN ISO 9227 2017-07	Corrosion tests in artificial atmospheres - Salt spray tests
DIN EN 13523-8 2017-10	Coil coated metals - Test methods - Part 8: Resistance to salt spray (fog)
DIN EN 13523-13 2014-08	Coil coated metals – Test methods – Part 13: Resistance to accelerated ageing by the use of heat
DIN EN 13523-23 2015-09	Coil coated metals – Test methods – Part 23: Resistance to humid atmospheres containing sulphur dioxide
DIN EN 13523-26 2014-08	Coil coated metals - Test methods - Part 26: Resistance to condensation of water
DIN 50018 2013-05	Testing in a saturated atmosphere in the presence of sulphur dioxide

4.4 Other tests

CUAP 03.02/18	Thin Walled Steel Flat Products Predominately for Roofing and Cladding with Organic Coilcoating System - Testing according to section 2.4.8 to2.4.17

5 Timber products and fasteners

DIN EN 408 2012-10	Timber structures - Structural timber and glued laminated timber - Determination of some physical and mechanical properties Section 5 Determination of dimensions of test pieces Section 6 Determination of moisture content of test pieces Section 7 Determination of density of test pieces Section 8 Determination of local modulus of elasticity in bending Section 10 Determination of global modulus of elasticity in bending Section 11 Determination of the shear modulus according to section 11.2 Shear field test method Section 12 Determination of modulus of elasticity in tension parallel to the grain Section 13 Determination of tension strength parallel to the grain Section 14 Determination of modulus of elasticity in compression parallel to the grain Section 15 Determination of compression strength parallel to grain Section 16 Determination of tension an compression strength perpendicular to the grain Section 17 Determination of modulus of elasticity perpendicular to the grain Section 18 Determination of shear strength parallel to the grain Section 19 Bending strength parallel to grain
DIN EN 409 2009-08	Timber structures - Test methods - Determination of the yield moment of dowel type fasteners
DIN EN 1382 2016-07	Timber structures - Test methods - Withdrawal capacity of timber fasteners
DIN EN 1383 2016-07	Timber structures - Test methods - Pull through resistance of timber fasteners
EN 1995-1-1:2004 + AC:2006 + A1:2008	Eurocode 5: Design of timber structures - Part 1-1: General - Common rules and rules for buildings
DIN EN 13183-1 2002-07 + Corrigenda 1 2003-12	Moisture content of a piece of sawn timber - Part 1: Determination by oven dry method
DIN EN 14358 2016-11	Timber structures - Calculation and verification of characteristic values

DIN EN 15737 2009-12	Timber structures - Test methods - Torsional resistance of driving in screws

6 Reaction to fire tests

DIN EN ISO 11925-2 2011-02	Reaction to fire tests – Ignitability of products subjected to direct impingement of flame – Part 2: Single-flame source test	
	In conjunction with:	
	DIN EN 13501-01 2019-05	*Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests*
DIN 4102-1 1998-05	Fire behaviour of building materials and building components — Part 1 : Building materials, terminology, requirements and tests (B2)	

7 Testing of Building Products, Building Types, Building Parts and Building Structures in accordance with European Norms and Rules

7.1 Testing of building products and building types

DIN EN 14509 2013-12	Self-supporting double skin metal faced insulating panels – Factory made products – Specifications - Annex A.1: Cross panel tensile test - Annex A.2: Compressive strength and modulus of the core material - Annex A.3: Shear test on the core material - Annex A.3.5: Calculations and results - short-term loading - Annex A.3.6: Test procedures, calculations and results - long term loading - Annex A.4: Test to determine the shear properties of a complete panel - Annex A.5: Test to determine the bending moment capacity of a simply supported panel - Annex A.6: Determination of the creep coefficient (φt) - Annex A.7: Interaction between bending moment and support force - Annex A.8: Determination of apparent core density and mass of panel - Annex A.9: Test for resistance to point loads and repeated loads - Annex A.15: Support reaction capacity at the end of a panel - Annex B.2: Test DUR1 - Annex B.3: Test DUR2 - Annex B.5: Adhesive bond between faces and prefabricated core material (wedge test) - Annex B.6: Repeated loading test - Annex C.1.2: Fire test EN ISO 11925-2 (ignitability test) - Annex C.4: Determination of the amount and thickness of the adhesive layer - Annex D.2: Dimensional tolerances
DIN EN 1382 2016-07	Timber structures - Test methods - Withdrawal capacity of timber fasteners
EAD 030351-00-0402 2019-02	Systems of mechanically fastened flexible roof waterproofing sheets – here tests according table 7 except for the unwinding test
ETAG 006 2000-03 + draft of change of 05.01.2007	Guideline for European technical approval of systems of mechanically fastened flexible roof waterproofing membranes in accordance with Annex D of the change version draft in conjunction with DIN EN 12691:2006-06-00 and ISO 179-1:2010-11-00, except for the unwinding test

7.2 Testing of building parts and building structures

DIN EN 74-1 2005-12	Couplers, spigot pins and baseplates for use in falsework and scaffolds – Part 1: Couplers for tubes – Requirements and test procedures
DIN EN 12810-2 2004-03	Façade scaffolds made of prefabricated components – Part 2: Particular methods of structural design
DIN EN 12811-3 2003-02	Temporary works equipment - Part 3: Load testing
DIN EN 14782 2006-03	Self-supporting metal sheet for roofing, external cladding and internal lining – Product specification and requirements Section 4.3.2: Resistance of roofing products to concentrated forces
DIBt publications, Series B, Volume 5, 2008-04 *(Schriften des DIBt, Reihe B, Heft 5 2008-04)*	Approval assessment procedures for service and working scaffolds - requirements, structural analysis, load testing and proof of conformity *(Zulassungsgrundsätze für Arbeits- und Schutzgerüste - Anforderungen, Berechnungsannahmen, Versuche und Übereinstimmungsnachweis)*
CUAP 03.02/14	Cable net systems – Chapter 2.4.1: Tension resistance of stainless steel wire ropes for static load Chapter 2.4.2: Modulus of elasticity of stainless steel wire ropes for static loads Chapter 2.4.3: Slipping resistance of clamp for static loads Chapter 2.4.4: Tension resistance of shackles for static loads Chapter 2.4.5 Safety of horizontal cable net systems against impact loads Chapter 2.4.6: Safety of vertical cable net systems against impact loads
CUAP 06.02/02	Tension Rod System Section 4.1: Determination of characteristic values of tension resistance by tension test
CUAP 06.02/03	Point Fastener – Testing of load bearing capacity Section 2.4.1.1 Methods of verification

CUAP 06.02/07	Fastening screws for metal members and sheeting Chapter 2.4.1: Shear resistance of the connections Chapter 2.4.2: Tension resistance of the connections Measurement of the geometry in accordance with Table 3 in conjunction with the DIBt Guideline of 01.08.1999, Section 3.1 Shear fracture testing in accordance with Table 3 in conjunction with ECCS publication no. 42, Section B.3.4.2 Shear fracture testing in accordance with Table 3 in conjunction with the DIBt Guideline of 01.08.1999, Section 3.7 Bolt penetration behaviour and torsion fracture in accordance with Table 3 in conjunction with the DIBt Guideline of 01.08.1999, Sections 3.3.1, 3.3.2, 3.4.1 and 3.4.2 Hydrogen embrittlement in accordance with Table 3 in conjunction with the DIBt Guideline of 01.08.1999, Section 3.6 Ductility (bolt head impact testing) in accordance with Table 3 in conjunction with the DIBt Guideline of 01.08.1999, Section 3.5 and DIN EN ISO 898-1
CUAP 06.02/09	Prefabricated steel and stainless steel wire ropes with end connectors Chapter 2.4.1: Tension resistance Chapter 2.4.2: Modulus of elasticity
CUAP 06.02/12	Fastening Screws for Sandwich Panels Chapter 2.4.1: Shear resistance of the connections Chapter 2.4.2: Tension resistance of the connections Chapter2.4.3: Design resistance in case of combined tension and shear forces Chapter 2.4.4: Check of bending capacity in case of thermal expansion (bending test) Measurement of the geometry in accordance with Table 3 in conjunction with the DIBt Guideline of 01.08.1999, Section 3.1 Shear fracture testing in accordance with Table 3 in conjunction with ECCS publication no. 42, Section B.3.4.2 Shear fracture testing in accordance with Table 3 in conjunction with the DIBt Guideline of 01.08.1999, Section 3.7 Bolt penetration behaviour and torsion fracture in accordance with Table 3 in conjunction with the DIBt Guideline of 01.08.1999, Sections 3.3.1, 3.3.2, 3.4.1 and 3.4.2 Hydrogen embrittlement in accordance with Table 3 in conjunction with the DIBt Guideline of 01.08.1999, Section 3.6 Ductility (bolt head impact testing) in accordance with Table 3 in conjunction with the DIBt Guideline of 01.08.1999, Section 3.5 and DIN EN ISO 898-1

CUAP 06.02/13	Blind rivets for metal members and sheeting Chapter 2.4.1: Shear resistance of the connections Chapter 2.4.2: Tension resistance of the connections Chapter 2.4.3: Shear resistance of blind rivet Chapter 2.4.4: Tension resistance of blind rivet Chapter 2.4.5: Design resistance in case of combined tension and shear forces Measurement of the geometry in accordance with Table 4 in conjunction with the DIBt Guideline of 01.08.1999, Section 2.1
CUAP 03.02/16	Roof and Wall Systems with Hidden Fastenings Chapter 2.4.1: Mechanical resistance and stability, safety in use Chapter 2.4.3: Corrosion protection of elements made of metal
EAD 331072-00-0601 2017-10	Anchor Devices for Fastening Personal Fall Protection Systems to Concrete Structures Chapter 2.2.4: Static load Chapter 2.2.5: Dynamic loading Chapter 2.2.6: Check of deformation capacity in case of constraining forces Chapter 2.2.7: Durability
ECCS publication no. 124	The Testing of Connections with Mechanical Fasteners in Steel Sheeting and Sections Chapter 3: Test Procedures
CIB Report publication 320/ECCS publication no. 127	Preliminary European Recommendations for testing and design of fastenings for sandwich panels Chapter 2: Testing of fastenings used to fix the panels to the frames of buildings Chapter 3: Testing of fastenings installed to a face layer Chapter 4: Additional tests

8 Testing of construction products (system of assessment and verification of constancy of performance 3) within the scope of the Regulation (EU) No. 305/2011 laying down harmonised conditions for the marketing of construction products (Construction Products Regulation)

Decision / Resolution of the Commission	System[1)]	Technical Specification
1997/176/EC structural timber products	3	**EN 14545:2008** Timber structures - Connectors - Requirements
	3	**EN 14592:2008+A1:2012** Timber structures - Dowel-type fasteners - Requirements

[1)] System of assessment and verification of consistency of performance

The requirements for a testing laboratory in accordance with Article 43 of the Construction Products Regulation are fulfilled.

Without prior approval by the DAkkS German Accreditation Body, the testing laboratory body is permitted to use new revisions of harmonised technical specifications.

Abbreviations used:

CIB	International Council for Research and Innovation in Building and Construction
CUAP	Common Understanding Assessment Procedure
DIBt	Deutsches Institut für Bautechnik
DIN	Deutsches Institut für Normung e. V.
EAD	European Assessment Document
EN	European Standard
ECCS	European Convention for Constructional Steelwork
ETAG	European Technical Approval Guideline
ISO	International Organization for Standardization
SEP	Stahl-Eisen-Prüfblatt (Steel-Iron Test Sheet)