

## Deutsche Akkreditierungsstelle

### Annex to the Accreditation Certificate D-PL-11140-01-00 according to DIN EN ISO/IEC 17025:2018

**Valid from:** 04.08.2023

**Date of issue:** 25.04.2024

Holder of accreditation certificate:

**Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung  
eingetragener Verein**

with its testing laboratory

**Fraunhofer-Institut für Großstrukturen in der Produktionstechnik (IGP)  
Albert-Einstein-Straße 30, 18059 Rostock**

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.

Tests in the Fields:

**Mechanical-technological testing of base materials (metals and plastics) and joints (bonding, welding, mechanical joining); corrosion and coating tests; chemical-physical tests; surface characterisation**

**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.**

*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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**1 Mechanical-technological tests**

**1.1 Testing of base materials (metals, plastics, fibre-reinforced plastics)**

DIN EN ISO 527-1 2019-12	Plastics - Determination of tensile properties - Part 1: General principles (here: <i>Chapter 9, Procedure</i> )
DIN EN ISO 527-2 2012-06	Plastics - Determination of tensile properties - Part 2: Test conditions for moulding and extrusion plastics (here: <i>Chapter 9, Procedure</i> )
DIN EN ISO 527-3 2019-02	Plastics - Determination of tensile properties - Part 3: Test conditions for films and sheets (here: <i>Chapter 9, Procedure</i> )
DIN EN ISO 527-4 2022-03	Plastics - Determination of tensile properties - Part 4: Test conditions for isotropic and orthotropic fibre-reinforced plastic composites (here: <i>Chapter 9, Procedure</i> )
DIN EN ISO 527-5 2022-05	Plastics - Determination of tensile properties - Part 5: Test conditions for unidirectional fibre-reinforced plastic composites (here: <i>Chapter 9, Procedure</i> )
ISO 6721-5 2019-04	Plastics - Determination of dynamic mechanical properties - Part 5: Flexural vibration - Non-resonance method
DIN EN ISO 604 2003-12	Plastics - Determination of compressive properties
DIN EN ISO 844 2021-07	Rigid cellular plastics - Determination of compression properties
DIN EN ISO 14125 2011-05	Fibre-reinforced plastic composites - Determination of flexural properties
DIN EN ISO 14126 2000-12 + Corrigenda 2003-06	Fibre-reinforced plastic composites - Determination of compressive properties in the in-plane direction

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DIN EN ISO 14129 1998-02	Fibre-reinforced plastic composites - Determination of the in-plane shear stress/shear strain reponse, including the in-plane schear modulus and strength, by $\pm 45^\circ$ tension test method
ASD-STAN prEN 6060 1995-12	Fibre reinforced plastics - Test method - Determination of the tensile single lap shear strength
DIN EN 6033 2016-02	Aerospace series - Carbon fibre reinforced plastics - Test method - Determination of interlaminar fracture toughness energy - Mode I - GIC
ASTM D 7078/ D 7087M 2020	Standard Test Method for Shear Properties of Composite Materials by V-Notched Rail Shear Method
ASTM C 273/C 273M 2020	Standard Test Method for Shear Properties of Sandwich Core Materials
ASTM C 365/C 365M 2022	Standard Test Method for Flatwise Compressive Properties of Sandwich Cores
ASTM C 297/C 297M 2016	Standard Test Method for Flatwise Tensile Strength of Sandwich Construction
ASTM C 393/C 393M 2020	Standard Test Method for Core Shear Properties of Sandwich Constructions by Beam Flexure
DIN EN ISO 6892-1 2020-06	Metallic materials - Tensile testing - Part 1: Method of test at room temperature
DIN EN ISO 6892-3 2015-07	Metallic materials - Tensile testing - Part 3: Method of test at low temperature
DIN EN ISO 7438 2021-03	Metallic materials - Bend test
DIN EN ISO 6507-1 2018-07	Metallic materials - Vickers hardness test - Part 1: Test method
DIN EN ISO 148-1 2017-05	Metallic materials - Charpy pendulum impact test - Part 1: Test method (here: <i>up to -60 °C</i> )

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DIN EN ISO 14556 2017-05	Metallic materials - Charpy V-notch pendulum impact test - Instrumented test method
DIN 50100 2022-12	Load controlled fatigue testing - Execution and evaluation of cyclic tests at constant load amplitudes on metallic specimens and components (here: <i>Chapter 8, Test Procedure</i> )
ISO 12135 2021-07	Metallic materials - Unified method of test for the determination of quasistatic fracture toughness
BS 7448-4 1997-12	Fracture mechanics toughness tests. Method for determination of fracture resistance curves and initiation values for stable crack extension in metallic materials

**1.2 Testing of welded joints**

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 4136 2022-09	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 15653 2018-06	Metallic materials - Method of test for the determination of quasistatic fracture toughness of welds
DIN EN ISO 17639 2022-05	Destructive tests on welds in metallic materials - Macroscopic and microscopic examination of welds

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**1.3 Testing of mechanically joined connections**

DIN EN 1090-2 2018-09	Execution of steel structures and aluminium structures - Part 2: Technical requirements for steel structures (here: <i>Annex G, Determination of slip factor</i> )
DIN EN ISO 14589 2001-08	Blind rivets - Mechanical testing (here: <i>Chapter 3, Shear and tensile tests</i> )
DIN EN ISO 16047 2013-01	Fasteners - Torque/clamp force testing
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 (here: <i>Section 9.6, Proof load test for finished bolts, screws and studs</i> <i>Section 9.7, Tensile test for machined test pieced</i> )
DIN 969 2020-02	Threaded fasteners - Axial load fatigue testing - Test methods and evaluation of results (here: <i>Chapter 6, Test procedure</i> )
ECCS No. 124 2nd edition	The Testing of connection in Steel - Sheetings and Sections Bestimmung der Querkrafttragfähigkeit bzw. Längskrafttragfähigkeit von Metallbauverbindungen bis zu einer Einzelblechdicke von 3,0 mm

**1.4 Testing of bonded joints and adhesives**

DIN EN 1465 2009-07	Adhesives - Determination of tensile lap-shear strength of bonded assemblies
DIN EN 14869-2 2011-07	Structural adhesives - Determination of shear behaviour of structural bonds - Part 2: Thick adherends shear test
ASTM D 3528 1996 (reapproved 2016)	Standard Test Method for Strength Properties of Double Lap Shear Adhesive Joints by Tension Loading
DIN EN ISO 9664 1995-08	Adhesives - Test methods for fatigue properties of structural adhesives in tensile shear
DIN EN 15870 2009-08	Adhesives - Determination of tensile strength of butt joints

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DIN EN ISO 11339 2022-05	Adhesives - T-peel test for flexible-to-flexible bonded assemblies
DIN 54457 2014-09	Structural adhesives - Testing of adhesively bonded joints - Bead peel test
DIN ISO 21194 2020-12	Elastic adhesives - Testing of adhesively bonded joints - Bead peel test
DIN EN 14869-1 2011-07	Structural adhesives - Determination of shear behaviour of structural bonds - Part 1: Torsion test method using butt-bonded hollow cylinders
ISO 11003-1 2019-04	Adhesives - Determination of shear behaviour of structural adhesives - Part 1: Torsion test method using butt-bonded hollow cylinders

**2 Corrosion testing**

**2.1 Laboratory tests**

VDA 621-415 1982-02	Testing of Corrosion Protection of Vehicle Paint by Alternating Cycles
DVS-EFB 3480-1 2021-06	Testing of properties of joints - Testing of properties of mechanical and hybrid (mechanical/bonded) joints (here: <i>Section 5.7, Corrosion and ageing test methods</i> )
DIN EN ISO 2409 2020-12	Paints and varnishes - Cross-cut test
DIN EN ISO 4624 2016-08	Paints and varnishes - Pull-off test for adhesion
DIN EN ISO 12944-6 2018-06	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 6: Laboratory performance test methods
DIN EN ISO 12944-9 2018-06	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 9: Protective paint systems and laboratory performance test methods for offshore and related structures
DIN EN ISO 14916 2017-08	Thermal spraying - Determination of tensile adhesive strength

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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 9227 2017-07	Corrosion tests in artificial atmospheres - Salt spray tests
DIN EN ISO 11507 2007-05	Paints and varnishes - Exposure of coatings to artificial weathering - Exposure to fluorescent UV lamps and water
DIN EN ISO 11997-1 2018-01	Paints and varnishes - Determination of resistance to cyclic corrosion conditions - Part 1: Wet (salt fog)/dry/humid
DIN EN ISO 11997-2 2013-12	Paints and varnishes - Determination of resistance to cyclic corrosion conditions - Part 2: Wet (salt fog)/dry/humidity/UV light

**2.2 Outdoor weathering**

DIN EN ISO 2810 2021-01	Paints and varnishes - Natural weathering of coatings - Exposure and assessment
DIN 55665 2022-11	Paints and varnishes - Natural weathering of coatings - Determination of corrosion protection performance

**3 Chemical-physical tests**

ASTM E 1019 2018	Standard Test Methods for Determination of Carbon, Sulfur, Nitrogen, and Oxygen in Steel, Iron, Nickel, and Cobalt Alloys by Various Combustion and Fusion Techniques (here: <i>Oxygen and nitrogen analysis</i> )
DIN EN ISO 1172 1998-12	Textile-glass-reinforced plastics - Prepregs, moulding compounds and laminates - Determination of the textile-glass and mineral-filler content; calcination methods
DIN EN 2564 2019-08	Aerospace series - Carbon fibre laminates - Determination of the fibre, resin and void contents

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DIN EN ISO 1183-1 2019-09	Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method, liquid pycnometer method and titration method (here: <i>only Procedure A and B</i> )
ASTMC 271/C 271M 2016	Standard Test Method für Density of Sandwich Core Materials
DIN EN ISO 11357-2 2020-08	Plastics - Differential scanning calorimetry (DSC) - Part 2: Determination of glass transition temperature and step height

**4 Surface characterisation**

DIN EN ISO 2178 2016-11	Non-magnetic coatings on magnetic substrates - Measurement of coating thickness - Magnetic method
DIN EN ISO 2808 2019-12	Paints and varnishes - Determination of film thickness (here: <i>Section 5.2.4, Procedure 4A By difference in thickness, Section 5.5.4, Procedure 6A Cross-sectioning, Section 5.5.7, Procedure 7C - Eddy current gauge</i> )
DIN EN ISO 4288 1998-04	Geometrical Product Specifications (GPS) - Surface texture: Profile method - Rules and procedures for the assessment of surface texture

**Abbreviations used:**

ASD-STAN	AeroSpace and Defence Industries Association of Europe - Standardisation
ASTM	American Society for Testing and Materials
BS	British Standard
DIN	German institute for standardization
DVS	German Welding Society
EFB	European Research Association for Sheet Metal Processing
EN	European Standard
IEC	International Electrotechnical Commission
ISO	International Organisation for Standardisation
prEN	European standard in draft version
VDA	German Association of the Automotive Industry

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