

Deutsche Akkreditierungsstelle GmbH

Entrusted according to Section 8 subsection 1 AkkStelleG in connection with Section 1 subsection 1 AkkStelleGBV

Signatory to the Multilateral Agreements of EA, ILAC and IAF for Mutual Recognition

Accreditation



The Deutsche Akkreditierungsstelle GmbH attests that the testing laboratory

Karl Berrang GmbH
Elsa-Brändström-Straße 12, 68229 Mannheim

is competent under the terms of DIN EN ISO/IEC 17025:2018 to carry out tests in the following fields:

mechanical tests, hardness and dimensional tests, surface roughness test as well as optical spark emission spectroscopy (OES) at high- and low-alloy steels of fasteners

The accreditation certificate shall only apply in connection with the notice of accreditation of 04.06.2019 with the accreditation number D-PL-19487-01. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 4 pages.

Registration number of the certificate: **D-PL-19487-01-00**

Berlin,
04.06.2019

Dipl.-Ing. (FH) Ralf Egnér
Head of Division

Translation issued:
24.06.2019



Head of Division

The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH.

<https://www.dakks.de/en/content/accredited-bodies-dakks>

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

See notes overleaf.

Deutsche Akkreditierungsstelle GmbH

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60327 Frankfurt am Main

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38116 Braunschweig

The publication of extracts of the accreditation certificate is subject to the prior written approval by Deutsche Akkreditierungsstelle GmbH (DAkKS). Exempted is the unchanged form of separate disseminations of the cover sheet by the conformity assessment body mentioned overleaf.

No impression shall be made that the accreditation also extends to fields beyond the scope of accreditation attested by DAkKS.

The accreditation was granted pursuant to the Act on the Accreditation Body (AkkStelleG) of 31 July 2009 (Federal Law Gazette I p. 2625) and the Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products (Official Journal of the European Union L 218 of 9 July 2008, p. 30). DAkKS is a signatory to the Multilateral Agreements for Mutual Recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Cooperation (ILAC). The signatories to these agreements recognise each other's accreditations.

The up-to-date state of membership can be retrieved from the following websites:

EA: www.european-accreditation.org

ILAC: www.ilac.org

IAF: www.iaf.nu

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-19487-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 04.06.2019

Date of issue: 04.06.2019

Holder of certificate:

Karl Berrang GmbH
Elsa-Brändström-Straße 12, 68229 Mannheim

Tests in the fields:

mechanical tests, hardness and dimensional tests, surface roughness test as well as optical spark emission spectroscopy (OES) at high- and low-alloy steels of fasteners

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 Mechanical tests

1.1 Tensile tests

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 9.1: Tensile test under wedge loading of finished bolts and screws
Section 9.2: Tensile test for finished bolts, screws and studs for determination of tensile strength, R_m
Section 9.6: Proof load test for finished bolts, screws and studs

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

Abbreviations used: see last page

The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH.
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Annex to the accreditation certificate D-PL-19487-01-00

DIN EN ISO 898-2 2012-08	Mechanical properties of fasteners made of carbon steel and alloy steel - Part 2: Nuts with specified property classes - Coarse thread and fine pitch thread Section 9.1: Proof Load
DIN EN ISO 3506-1 2018-02	Mechanical properties of corrosion-resistant stainless steel fasteners - Part 1: Bolts, screws and studs with specified property classes - Coarse pitch thread and fine pitch thread Section 7.2.2: Tensile Strength Rm Section 7.2.3: 0.2% - strain rate
DIN EN ISO 3506-2 2018-02	Mechanical properties of corrosion-resistant stainless steel fasteners - Part 2: Nuts with specified property classes - Coarse pitch thread and fine pitch thread Section 7.2: Proof load
DIN 267-13 2007-05	Fasteners - Technical specifications - Part 13: Parts for bolted connection: with specific mechanical properties for use at temperatures ranging from -200 °C to +700 °C Section 5: tests Section 5.2: full loadable bolts Section 5.3: full loadable studs
DIN EN 14399-1 2015-04	High-strength structural bolting assemblies for preloading - Part 1: General requirements Section 5.3.3: Tensile strength (screws) Section 5.3.4: Tensile test under wedge loading (screws) Section 5.3.6: Proof load (bolts and screws)
1.2 Hardness test	
DIN EN ISO 6507-1 2018-07	Metallic materials - Vickers hardness test - Part 1: Test method (universal Vickers hardness tester, Vickers small load hardness tester)
DIN EN ISO 6508-1 2016-12	Metallic materials - Rockwell hardness test - Part 1: Test method (here: <i>Scale C</i>)
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 9.9: Hardness test

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DIN 7500-1 2009-06	Thread rolling screws for ISO metric thread - Part 1: Technical specifications for case hardened and tempered screws Section 4.4.3: Hardness Section 4.4.4: Case hardness
DIN EN ISO 898-2 2012-08	Mechanical properties of fasteners made of carbon steel and alloy steel - Part 2: Nuts with specified property classes - Coarse thread and fine pitch thread Section 9.2: Hardness test
DIN EN ISO 898-5 2012-09	Mechanical properties of fasteners made of carbon steel and alloy steel - Part 5: Set screws and similar threaded fasteners with specified hardness classes - Coarse thread and fine pitch thread Section 9.1: Hardness test
DIN EN ISO 2702 2011-08	Heat-treated steel tapping screws - Mechanical properties Section 6.1.1: Testing the surface Section 6.1.2: Case hardness Section 6.1.3: Testing the core hardness
1.3 Torque	
DIN EN ISO 2320 2016-05	Fasteners - Prevailing torque steel nuts - Functional properties Section 9.3: Testing the clamping torque
DIN 267-27 2009-09	Fasteners - Part 27: Steel screws, bolts and studs with adhesive coating, Technical specifications
DIN 7500-1 2009-06	Thread rolling screws for ISO metric thread - Part 1: Technical specifications for case hardened and tempered screws Section 5.6: Self tapping screw test
DIN EN ISO 2702 2011-08	Heat-treated steel tapping screws - Mechanical properties Section 6.2.1: Self tapping screw tests
DIN 267-28 2009-09	Fasteners - Part 28: Steel screws, bolts and studs with locking coating, Technical specifications

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DIN EN ISO 16047 Fasteners - Torque/clamp force testing
2013-01

2 Dimensional and visual test

ANW 1-000-02-12-001 Technical tests
2018-05-04

ANW 2-010-05-22-004 Konturograph T8000, Roughness testing and profile testing
2015-12-17

3 Optical Spark emission spectrometry

ANW 2-010-05-22-001 Optical spark emission spectroscopy of fasteners made of unalloyed,
2019-04-17 low-alloyed and high-alloyed steel for the determination of 22 elements

4 Determination of the coating thickness

DIN EN ISO 3497 Metallic coatings - Measurement of coating thickness - X-ray
2001-12 spectrometric methods

Abbreviations used:

ANW-X-XXX-XX-XX-XXX	In house method of the Firma Karl Berrang GmbH
DIN	DIN German Institute for Standardization
EN	European Standard
ISO	International Organization for Standardization

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Abbreviations used: see last page

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