

DAP Deutsches Akkreditierungssystem Prüfwesen GmbH

Annex to Accreditation Certificate DAP-PL-3154.00 in compliance with DIN EN ISO/IEC 17025:2005

Period of validity: 2007-10-31 to 2012-10-30

Certificate-holder: **SFS intec AG, Testing Laboratory**

Rosenbergsaustraße 10
9435 Heerbrugg
SWITZERLAND

Testing in the fields of: **mechanico-technological and metallographic testing,
surface and dimensional testing as well as spark
emission spectro-analytical element determination
and corrosion testing of metal fasteners**

abbreviations used: see last page

1 **Mechanico-technological testing**

1.1 **Tensile testing** (without determination of elongation by extensometer)

DIN EN ISO 898-1
1999-11 Mechanical properties of fasteners made of carbon steel and
alloy steel - Part 1: Bolts, screws and studs
Paragraph 8.2: Tensile testing of whole screws

ISO 898-1
1999-08 Mechanical properties of fasteners made of carbon steel and
alloy steel - Part 1: bolts, screws and studs
Paragraph 8.6: Test for strength under wedge loading of full-
size bolts and screws (not studs)

DIN EN 10002-1
2001-12 Metallic materials - Tensile testing - Part 1: Method of testing
at ambient temperature

in each case in conjunction with:

SFS 7304 WI 01

Making of a control plan

SFS 7602 WI 15

*Instructions regarding the sequence of
operations using the RK 1000 universal
testing machine / Item 4.1: Procedure for
acceptance testing*

SFS 8205 WI 08

Performing of final control

1.2 Hardness testing

DIN EN ISO 898-1 1999-11	Mechanical properties of fasteners made of carbon steel and alloy steel - Part 1: Bolts, screws and studs Paragraph 8.4: Hardness testing
DIN EN ISO 6506-1 2006-03	Metallic materials Brinell hardness test - Part 1: Test method
DIN EN ISO 6507-1 2006-03	Metallic materials Vickers hardness test - Part 1: Test method
DIN EN ISO 6508-1 2006-03	Metallic materials Rockwell hardness test - Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)

in conjunction with:

<i>SFS 7304 WI 01</i>	<i>Making of a control plan</i>
<i>SFS 7602 WI 03</i>	<i>Instructions regarding the sequence of operations in the metallographic laboratory</i>
<i>SFS 8205 WI 08</i>	<i>Performing of final control</i>
<i>SFS 7602 WI 16</i>	<i>Instructions for working with the Reicherter - Stiefelmayer hardness testing machine</i>
<i>SFS 7602 WI 11</i>	<i>LECO hardness testing machines</i>
<i>SFS 7602 WI 17</i>	<i>Light-optical microscope</i>

2 Metallographic testing

DIN EN ISO 898-1 1999-11	Mechanical properties of fasteners made of carbon steel and alloy steel - Part 1: Bolts, screws and studs Paragraph 8.9: Determining carburisation status
DIN EN ISO 6507-1 2006-03	Metallic materials Vickers hardness test - Part 1: Test method
in conjunction with:	
<i>SFS 7602 WI 11</i>	<i>LECO hardness testing machines</i>
DIN 50602 1985-09	Metallographic examination; microscopic examination of special steels using standard diagrams to assess the content of non-metallic inclusions
DIN EN ISO 643 2003-09	Steels - Micrographic determination of the apparent grain size

in conjunction with:

<i>SFS 7304 WI 01</i>	<i>Making of a control plan</i>
<i>SFS 8205 WI 08</i>	<i>Performing of final control</i>
<i>SFS 7602 WI 03</i>	<i>Instructions regarding the sequence of operations in the metallographic laboratory</i>
<i>SFS 7602 WI 17</i>	<i>Light-optical microscope</i>

DIN EN ISO 3887
2003-10 Steels - Determination of depth of decarburization
Paragraph 4.2; Microscopic determination

3 Surface testing (visual inspection only, without using non-destructive testing aids and examination by means of metallographic sections)

DIN EN ISO 898-1
1999-11 Mechanical properties of fasteners made of carbon steel and alloy steel - Part 1: Bolts, screws and studs
Paragraph 8.11: Determining surface quality

DIN EN 26157-1+3
1991-12 Fasteners
Surface discontinuities

in conjunction with:

<i>SFS 7304 WI 01</i>	<i>Making of a control plan</i>
<i>SFS 8205 WI 08</i>	<i>Performing of final control</i>

4 Dimensional testing

DIN 862
1988-12 Vernier callipers
requirements and testing

DIN 863 1-4
1999-04 Verification of geometrical parameters - Micrometers
Part 1: Standard design micrometer callipers for external measurement; concepts, requirements, testing

DIN ISO 1502
1996-12 ISO general purpose metric screw threads
Gauges and gauging

DIN EN ISO 4759-1
2001-04 Tolerances for fasteners
Part 1: Bolts, screws, studs and nuts
Product grades A, B and C

DIN EN ISO 898-1
1999-11 Mechanical properties of fasteners made of carbon steel and alloy steel - Part 1: Bolts, screws and studs
Paragraph 9: Marking

in conjunction with:

<i>SFS 7304 WI 01</i>	<i>Making of a control plan</i>
<i>SFS 7602 WI 15</i>	<i>Instructions regarding the sequence of operations using the RK 1000 universal testing machine / Item 4.1: Procedure for acceptance testing</i>
<i>SFS 8205 WI 08</i>	<i>Performing of final control</i>

5 Spark emission spectro-analytical element determination in iron and its alloys

SFS 7602 WI 05 Operating sequence on the spectrometer

in conjunction with:

<i>SFS 7304 WI 01</i>	<i>Making of a control plan</i>
<i>SFS 8205 WI 08</i>	<i>Performing of final control</i>

6 Corrosion testing

DIN EN ISO 6988 1997-03	Metallic and other non-organic coatings - Sulfur dioxide test with general condensation of moisture
DIN 50015 1975-08	Atmospheres and their Technical Application; Constant Test Atmospheres
DIN EN ISO 6270-2 2005-09	Paints and varnishes - Determination of resistance to humidity; Part 2: Procedure for exposing test specimens in condensation-water atmospheres
DIN 50018 1997-06	Testing in a saturated atmosphere in the presence of sulfur dioxide
DIN EN ISO 9227 2006-10	Corrosion tests in artificial atmospheres Salt spray tests

abbreviations used:

DIN	Deutsches Institut für Normung e. V.
EN	European Norm
ISO	International Organization for Standardization
SFS	In-house method - SFS Presswerk Heerbrugg AG