Version published 02/2019
www.arnold-fastening.com

ARNOLD®
BlueFastening Systems

Fastener Testing Center

Testing and examining metal components

- mechanical testing
- metallography
- characteristics of the product
- technical cleanliness
- corrosion investigations
- metrics

www.arnold-fastening.com

Support during the Fasteneering process: The Fastener Testing Centre

ARNOLD UMFORMTECHNIK's Fastener Testing Center offers you a full service programme wherever you need to carry out checks, tests, measurements or qualifications on metal components. The most up-to-date test equipment and highly qualified staff provide the right platform for high-quality and neutral results.

Mechanical Inspections

Inspecting the mechanical properties of components

Testing range:

1.1 Pulling tests to DIN EN 10002-1 / DIN EN ISO 898-1
- at ambient temperature on screws
- at ambient temperature on wire sections

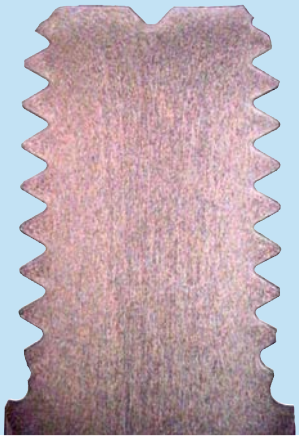
1.2 Torque / breaking torque to DIN EN 20898-7
1.3 Pressure test/pressure resistance to DIN 50106
1.4 Hardness test to DIN EN ISO 6507 (HV10, HV0.3)
1.5 EHT measurement
1.6 Hardness processes

Metallography

Assessment of joints in heat-treated and case-hardened steels

Testing range:

2.1 Macro and micro-grinding
2.2 Micro-structure analysis
2.3 Carbonisation condition
2.4 Degree of cleanliness DIN 50602
2.5 Ascertaining grain size ASTM E112
2.6 Ascertaining coating thickness
2.7 Measurement



Metrics

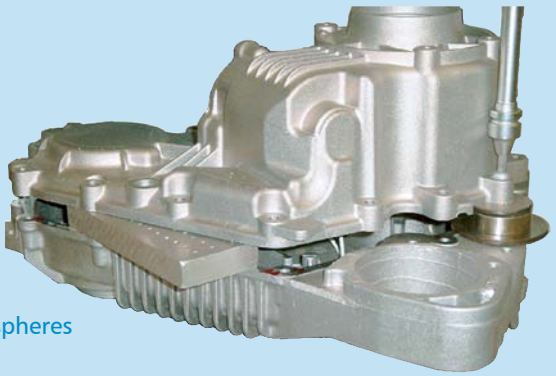
Measurement of components

Testing range:

3.1 3D measurement
3.2 Profile measurement
3.3 Length and diameter
3.4 Radii and angles

Application investigations

Carrying out pre-defined trials

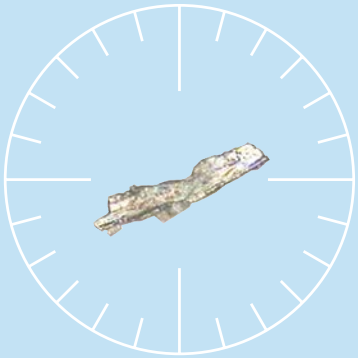


Testing range:

4.1 Friction coefficient DIN EN ISO 16047
4.2 Tapping torque DIN 7500 / DIN 267 T30
4.3 Pre-load force
4.4 Long-term pre-load force measurement
4.5 Heat release behaviour VDA 235-203
4.6 Long-term pre-load force measurement in alternating atmospheres
4.7 Application analysis

Technical cleanliness

Cleanliness and residual contamination analyses



Testing range:

5.1 Particle size distribution as per VDA vol. 19 ISO 16232 - WPA 159)
5.2 Gravimetry WPA 160
5.3 Extraction curve

Corrosion investigations

Determining a component's resistance to corrosion

Testing range:

6.1 Salt water spray test DIN EN ISO 9227
6.2 Industrial atmosphere DIN 50018

Documentation

You receive meaningful documentation and test reports for the analyses we carry out.


ARNOLD UMFORMTECHNIK GmbH & Co. KG

In addition to the standardised test processes, we will be delighted to offer you test programmes within the areas of investigation we have shown, tailored to your individual needs. Please use the comments field on the questionnaire printed on the reverse of this page.

ARNOLD®
BlueFastening Systems

www.arnold-fastening.com

Order form to carry out testing on metallic parts

Company

Name

Department

Telephone

Email

Description of component

Please carry out the investigations marked with an “x”

☐ Mechanical tests

- ☐ Pulling tests to DIN EN 10002-1 / DIN EN ISO 898-1
  - ☐ at ambient temperature on screws
  - ☐ at ambient temperature on wire sections
- ☐ Torque / breaking torque to DIN EN 20898-7
- ☐ Pressure test/pressure resistance to DIN 50106
- ☐ Hardness test DIN EN ISO 6507
- ☐ EHT measurement
- ☐ Hardness processes

☐ Metallography

- ☐ Macro and micro-grinding
- ☐ Micro-structure analysis
- ☐ Condition of carburisation
- ☐ Degree of cleanliness DIN 50602
- ☐ Ascertaining grain size ASTM E112
- ☐ Assessing coating thickness
- ☐ Measurement

☐ Metrics

- ☐ Z3-D measurement
- ☐ Profile measurement
- ☐ Length and diameter
- ☐ Radii and angles

☐ Application investigations

- ☐ Friction coefficient DIN EN ISO 16047
- ☐ Tapping torque DIN 7500 / ISO 7085 / DIN 267 T30
- ☐ Pre-load force
- ☐ Long-term measurement of pre-load force
- ☐ Heat release behaviour VDA 235-203
- ☐ Long-term pre-load force measurement in alternating atmospheres
- ☐ Application analysis

☐ Technical cleanliness

- ☐ Particle size distribution as per VDA vol. 19 ISO 16232 – (WPA 159)
- ☐ Gravimetry WPA 160
- ☐ Extraction curve

☐ Corrosion investigations

- ☐ Salt water spray test DIN EN ISO 9227
- ☐ Industrial atmosphere DIN 50018

Comments relating to the required investigations

ARNOLD FASTENING SYSTEMS Inc.
1873 Rochester Industrial Ct.,
Rochester Hills, MI 48309-3336, USA
T +1 248 997-2000
F +1 248 475-9470

ARNOLD UMFORMTECHNIK GmbH & Co. KG
Carl-Arnold-Straße 25
D-74670 Forchtenberg-Ernsbach
T +49 7947 821-0
F +49 7947 821-111

ARNOLD UMFORMTECHNIK GmbH & Co. KG
Max-Planck-Straße 19
D-74677 Dörzbach
T +49 7947 821-0
F +49 7947 821-111

ARNOLD FASTENERS (SHENYANG) Co., Ltd.
No. 119-2 Jianshe Road
CN-110122 Shenyang
T +86 24887 90633
F +86 24887 90999