

## 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

**Salzgitter Mannesmann Grobblech GmbH**  
**Prüfzentrum Salzgitter Mannesmann Grobblech**  
**Sandstraße 140, 45473 Mülheim/Ruhr**

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

**mechanical-technological and metallographic tests as well as emission spectroscopy at metallic materials**

The accreditation certificate shall only apply in connection with the notice of accreditation of 30.10.2019 with the accreditation number D-PL-11299-01. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 7 pages.

Registration number of the certificate: **D-PL-11299-01-00**

Berlin,  
30.10.2019

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

Translation issued:  
27.11.2019

  
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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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](http://www.european-accreditation.org)

ILAC: [www.ilac.org](http://www.ilac.org)

IAF: [www.iaf.nu](http://www.iaf.nu)

# Deutsche Akkreditierungsstelle GmbH

## Annex to the Accreditation Certificate D-PL-11299-01-00 according to DIN EN ISO/IEC 17025:2018

**Valid from: 30.10.2019**

Date of issue: 30.10.2019

Holder of certificate:

**Salzgitter Mannesmann Grobblech GmbH  
Prüfzentrum Salzgitter Mannesmann Grobblech  
Sandstraße 140, 45473 Mülheim/Ruhr**

Tests in the fields:

**mechanical-technological and metallographic tests as well as emission spectroscopy at metallic materials**

**Within the scope of accreditation marked with \*, 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-technological tests**

#### **1.1 Tensile test \***

DIN EN ISO 6892-1  
2017-02

Metallic materials - Tensile testing - Part 1: Method of test at room temperature  
(here: *Method A and B*)

ASTM E 8/E 8M  
2016

Standard Test Methods for Tension Testing of Metallic Materials

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

Abbreviations used: see last page

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ASTM A 370 2017	Standard Test Methods and Definitions for Mechanical Testing of Steel Products (Section TENSION TEST)
DIN EN 10164 2005-03	Steel products with improved deformation properties perpendicular to the surface of the product - Technical delivery conditions
ASTM A 770/A 770M 2018	Standard Specification for Through-Thickness Tension Testing of Steel Plates for Special Applications
DIN EN ISO 4136 2013-02	Destructive tests on welds in metallic materials - Transverse tensile test
GOST 6996 1966	Welded joints - Methods of mechanical properties determination
GOST 1497 1984	Metals - Methods of tension test
GOST 10006 1980	Metal tubes - Tensile test method

**1.2 Hot tensile test \***

DIN EN ISO 6892-2 2018-09	Metallic materials - Tensile testing - Part 2: Method of test at elevated temperature (here: <i>Method A and B</i> )
ASTM E 21 2017	Standard Test Methods for Elevated Temperature Tension Tests of Metallic Materials

**1.3 Notch impact test \***

ASTM A 370 2015	Standard Test Methods and Definitions for Mechanical Testing of Steel Products (Section CHARPY IMPACT TESTING)
ASTM E 23 2018	Standard Test Methods for Notched Bar Impact Testing of Metallic Materials
DIN EN ISO 148-1 2017-05	Metallic materials - Charpy pendulum impact test - Part 1: Test method

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DIN EN ISO 148-1 Supplement 1 2014-02	Metallic materials - Charpy pendulum impact test - Part 1: Test method - Supplement 1: Special test pieces
GOST 6996 1966	Welded joints - Methods of mechanical properties determination
GOST 9454 1978	Metals - Method for testing the impact strength at low, room and high temperature
<b>1.4 Hardness test *</b>	
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 6508-1 2016-12	Metallic materials - Rockwell hardness test - Part 1: Test method
DIN EN ISO 642 2000-01	Steel - Hardenability test by end quenching (Jominy test)
ASTM E 10 2018	Standard Test Method for Brinell Hardness of Metallic Materials
ASTM E 18 2018	Standard Test Methods for Rockwell Hardness of Metallic Materials
ASTM E 384 2017	Standard Test Method for Microindentation Hardness of Materials
ASTM A 255 2018	Standard Test Methods for Determining Hardenability of Steel
<b>1.5 Bend test *</b>	
ASTM A 335/A 335Ma 2018	Standard Specification for Seamless Ferritic Alloy-Steel Pipe for High-Temperature Service

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DIN EN ISO 7438 2016-07	Metallic materials - Bend test
DIN EN ISO 5173 2012-02	Destructive tests on welds in metallic materials - Bend tests
GOST 6996 1966	Welded joints - Methods of mechanical properties determination
ASTM A 370 2017	Standard Test Methods and Definitions for Mechanical Testing of Steel Products (Section BEND TEST)

**1.6 Drift-expanding test \***

DIN EN ISO 8493 2004-10	Metallic materials - Tube - Drift-expanding test
GOST 8694 1975	Tubing - Expansion testing method

**1.7 Ring flattening test \***

DIN EN ISO 8492 2014-03	Metallic materials - Tube - Flattening test
GOST 8695 1975	Tubing - Flattening testing method
ASTM A 370 2017	Standard Test Methods and Definitions for Mechanical Testing of Steel Products (Section A2.5, Flattening test)

**1.8 Ring-expanding test \***

DIN EN ISO 8495 2014-03	Metallic materials - Tube - Ring-expanding test
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**1.9 Ring tensile test \***

DIN EN ISO 8496 2014-03	Metallic materials - Tube - Ring tensile test
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### 1.10 Compression test \*

DIN 50106 2016-11	Testing of Metallic Materials - Compression Test
ASTM E 9 2018	Standard Test Methods of Compression Testing of Metallic Materials at Room Temperature

### 1.11 Drop weight tear test \*

DIN EN 10274 1999-07	Metallic materials - Drop weight tear test
API RP 5L 3 2014-08	Recommended Practice for Conducting Drop-Weight Tear Tests on Line Pipe
ASTM E 436 2014	Standard Test Method for Drop-Weight Tear Tests of Ferritic Steels
GOST 30456 1997	Metal production - Rolled steel and tubes - Methods of blow bending tests
ASTM E 208 2012	Standard Test Method for Conducting Drop-Weight Test to Determine Nil-Ductility Transition Temperature of Ferritic Steels
SEP 1325 1982-12	Falling weight test according to W. S. Pellini

### 1.12 Fracture mechanical tests \*

BS 7448-1 1991-12	Fracture mechanics toughness tests - Method for determination of $K_{Ic}$ , critical CTOD and critical J values of metallic materials
ASTM E 1290 2008	Standard Test Method for Crack-Tip Opening Displacement (CTOD) Fracture Toughness Measurement <i>(withdrawn document)</i>
ISO 12135 2016-11	Metallic materials - Unified method of test for the determination of quasistatic fracture toughness
DIN EN ISO 15653 2018-06	Metallic materials - Method of test for the determination of quasistatic fracture toughness of welds

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## 2 Metallography

### 2.1 Metallography - Standard procedures \*

DIN EN ISO 3887 2018-05	Steels - Determination of depth of decarburization
DIN EN ISO 643 2013-05	Steels - Micrographic determination of the apparent grain size
DIN EN ISO 945-1 2018-05	Microstructure of cast irons - Part 1: Graphite classification by visual analysis
DIN EN 10247 2017-09	Micrographic examination of the non-metallic inclusion content of steels using standard pictures
DIN 50602 1985-09	Metallographic examination - Microscopic examination of special steels using standard diagrams to assess the content of non-metallic inclusions <i>(withdrawn standard)</i>
ISO 4967 2013-07	Steel - Determination of content of non-metallic inclusions - Micrographic method using standard diagrams
ASTM E 45 2018	Standard Test Methods for Determining the Inclusion Content of Steel
ASTM E 381 2017	Standard Method of Macroetch Testing Steel Bars, Billets, Blooms, and Forgings
ASTM E 112 2013	Standard Test Methods for Determining Average Grain Size
ASTM E 1181 2015	Standard Test Methods for Characterizing Duplex Grain Sizes
SEP 1520 1998-09	Microscopic examination of carbide structure in steels by means of diagram series
GOST 5639 1982	Steel and alloys - Methods for detection and determination of grain size
GOST 5640 1968	Steel and alloys - Methods for evaluation of sheets and strips microstructure

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**Annex to the accreditation certificate D-PL-11299-01-00**

VdTÜV MB WERK 1272                      Microscopic determination of the ferrite content of seamless  
2011-10    pipes and forgings of hot-ferritic/martensitic 9-12 % Cr steels by  
image series

**2.2     Metallography - In-house methods**

A 4.4.01    Quantitative determination of individual structural components  
Rev. 02  
2018-07

A 4.4.02    Metallographic assessment of steel samples according to NACE  
Rev. 04    TM0284  
2018-01

**3        Emission spectrometry (FES)**

A 4.4.04    Product analysis - FE-basis for non-low-, low alloyed and high-  
Rev. 3    alloyed steels (C, Si, Mn, P, S, Cr, Mo, Ni, Al, Co, Cu, Nb, Ti, V, W,  
2014-05    Pb, Sn, As, Ca, Ce, Ta, B, Sb, Bi, N, Zr, Mg, Zn) by means of spark  
emission spectrometry

**4        Surface inspection \***

DIN EN ISO 4288                              Geometrical Product Specifications (GPS) - Surface texture:  
1998-04    Profile method - Rules and procedures for the assessment of  
surface texture  
(Determination of the parameters: Ra, Rz, Rmax, Rt, Rq, Rv)

**abbreviations used:**

ASTM	American Society for Testing and Materials
BS	British Standard
GOST	Gossudarstvennyj Standart (Federal Agency on Technical Regulating and Metrology of the Russian Federation)
NACE	National Association of Corrosion Engineers
SEP	Steel-iron test sheets from the Association of German Ironworks
A 4.4.XX	Work instruction of the Salzgitter Mannesmann Grobblech GmbH
VdTÜV MB	Leaflets from the Association of TÜV e. V.

**- Translation-**