

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-IS-11166-01-00 according to DIN EN ISO/IEC 17020:2012

Period of validity: 21.11.2017 to 20.11.2022

Date of issue: 18.12.2017

Holder of certificate:

Element Materials Technology Hamburg GmbH
Tempowerkring 11, 21079 Hamburg

for its inspection body Type A

Inspections in the fields:

Inspections in the context of failure analysis in materials technology and condition surveys regarding quality assurance of welding work, corrosion protection as well as qualification of welding procedures and determination of their conformity with certain normative requirements or with general requirements on the basis of an expert assessment.

Abbreviations used: see last page

Inspections according to:

EHH-22-04D, Rev. 0 2017-06	Quality assurance of welding work
EHH-22-03D, Rev.0 2017-06	Inspection of corrosion protection
EHH-22-02D, Rev.0 2017-06	Qualification of welding procedures
EHH-22-01D, Rev.0 2017-06	Processing of failure analysis

On the basis of:

1 Welding technology

DIN EN ISO 15614-1 2012-06	Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys
DIN EN ISO 15614-2 2005-07	Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 2: Arc welding of aluminium and its alloys
DIN EN ISO 15614-3 2008-06	Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 3: Fusion welding of non-alloyed and low-alloyed cast irons
DIN EN ISO 15614-4 2005-09	Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 4: Finishing welding of aluminium castings
DIN EN ISO 15614-5 2004-07	Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 5: Arc welding of titanium, zirconium and their alloys
DIN EN ISO 15614-6 2007-01	Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 6: Arc and gas welding of copper and its alloys
DIN EN ISO 15614-7 2017-03	Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 7: Overlay welding
DIN EN ISO 15614-8 2016-11	Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 8: Welding of tubes to tube-plate joints
DIN EN ISO 15614-11 2002-10	Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 11: Electron and laser beam welding
DIN EN ISO 15613 2004-09	Specification and qualification of welding procedures for metallic materials - Qualification based on pre-production welding test

DIN EN ISO 14555 2017-10	Welding - Arc stud welding of metallic materials
DIN EN ISO 17660-1 2006-12	Welding - Welding of reinforcing steel - Part 1: Load-bearing welded joints
DIN EN ISO 17660-2 2006-12	Welding - Welding of reinforcing steel - Part 2: Non load-bearing welded joints

2 Corrosion protection

DIN EN ISO 12944-1 1998-07	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 1: General introduction
DIN EN ISO 12944-2 1998-07	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 2: Classification of environments
DIN EN ISO 12944-3 1998-07	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 3: Design considerations
DIN EN ISO 12944-4 1998-07	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 4: Types of surface and surface preparation
DIN EN ISO 12944-5 2008-01	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 5: Protective paint systems
DIN EN ISO 12944-6 1998-07	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 6: Laboratory performance test
DIN EN ISO 12944-7 1998-07	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 7: Execution and supervision of paint work
DIN EN ISO 12944-8 1998-07	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 8: Development of specifications for new work and maintenance
DIN EN ISO 8501-3 2007-10	Preparation of steel substrates before application of paints and related products - Visual assessment of surface cleanliness - Part 3: Preparation grades of welds, edges and other areas with surface imperfections

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DIN EN ISO 8502-3 2017-05	Preparation of steel substrates before application of paints and related products - Tests for the assessment of surface cleanliness - Part 3: Assessment of dust on steel surfaces prepared for painting (pressure-sensitive tape method)
DIN EN ISO 8502-4 2017-05	Preparation of steel substrates before application of paints and related products - Tests for the assessment of surface cleanliness - Part 4: Guidance on the estimation of the probability of condensation prior to paint application
DIN EN ISO 8502-6 2006-10	Preparation of steel substrates before application of paints and related products - Tests for the assessment of surface cleanliness - Part 6: Extraction of soluble contaminants for analysis - The Bresle method
DIN EN ISO 8503-2 2012-06	Preparation of steel substrates before application of paints and related products - Surface roughness characteristics of blast-cleaned steel substrates - Part 2: Method for the grading of surface profile of abrasive blast-cleaned steel - Comparator procedure
DIN EN ISO 1461 2009-10	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods
DIN EN ISO 2178 2016-11	Non-magnetic coatings on magnetic substrates - Measurement of coating thickness - Magnetic method
DIN EN ISO 2360 2004-04	Non-conductive coatings on non-magnetic electrically conductive basis materials - Measurement of coating thickness - Amplitude-sensitive eddy current method
DIN EN ISO 2409 2013-06	Paints and varnishes - Cross-cut test
DIN EN ISO 2808 2007-05	Paints and varnishes - Determination of film thickness
DIN EN ISO 4624 2016-08	Paints and varnishes - Pull-off test for adhesion
DIN EN ISO 16276-1 2007-08	Corrosion protection of steel structures by protective paint systems - Assessment of, and acceptance criteria for, the adhesion/cohesion (fracture strength) of a coating - Part 1: Pull-off testing

DIN EN ISO 16276-2
2007-08 Corrosion protection of steel structures by protective paint systems - Assessment of, and acceptance criteria for, the adhesion/cohesion (fracture strength) of a coating - Part 2: Cross-cut testing and X-cut testing

ISO 19840
2012-09 Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Measurement of, and acceptance criteria for, the thickness of dry films on rough surfaces

3 Failure Analysis

VDI 3822
2011-11 Failure analysis - Fundamentals and performance of failure analysis

VDI 3822 Blatt 1.3
2017-06 Failure analysis - Failures on metal products caused by tribology working conditions

VDI 3822 Blatt 1.4
2011-10 Failure analysis - Failures caused by thermal loading

VDI 3822 Blatt 1.6
2010-11 Failure analysis - Liquid metal induced crack growth by hot dip galvanising

VDI 3822 Blatt 2
2008-04 Failure analysis - Failures caused by mechanical working conditions

VDI 3822 Blatt 3
2007-03 Failure analysis - Failures caused by corrosion in electrolytes

Abbreviations used:

DIN German Institute for Standardization
EN European Standard
ISO International Organization for Standardization
VDI The Association of German Engineers
EHH Element Materials Technology Hamburg GmbH