

ACA Standards Update

Welcome to the corrosion related standards report for May 2018.

The standards reporting for 2017 is scheduled against specific interests and as indicated below:

Issue 2018 Standards search for Specific Interests

February	Oil & Gas
May	Water & Wastewater
August	Concrete & CP
November	Asset Management / Coatings

This Standards report focuses on Water and Wastewater in relation to corrosion.

As previously this is in two stages, namely:

1. A global standards and publication focus at **16 April 2018**, searching through SAIGLOBAL Publications at <https://infostore.saiglobal.com/store>, for all current publications and standards relating to corrosion and its prevention for the topic of 'Water' and 'Wastewater'.

These results are shown in Table 1.

2. A SAI Global search, as previously, at <https://infostore.saiglobal.com/store/default.aspx?SearchType=power> for new standards, amendments or drafts for AS, AS/NZS, EN, ANSI, ASTM, BSI, DIN, ETSI, JSA, NSAI and standards and amendments for ISO & IEC published from **16 January - 16 April 2018**, using the key words and key word groups:

- 'durability'.
- 'corrosion' or 'corrosivity' or 'corrosive'; but not 'anodizing' or 'anodize(d)'.
- 'paint' or 'coating'; but not 'anodizing' or 'anodize(d)'.
- 'galvanize' or 'galvanized' or 'galvanizing'.
- 'electrochemical' or 'electrolysis' or 'electroplated'.
- 'cathode' or 'cathodic'.
- 'anode' or 'anodic'.
- 'corrosion' and 'concrete' or 'concrete' and 'coatings'.

These results are shown in Table 2.

Summary

1. Through SAIGLOBAL Publications at <https://infostore.saiglobal.com/store> for a search of current publications, from all publishers over the title (see Stage 1 Report Table);

- i. There were 56 citations on 'Water' and 'Corrosion' without 'Wastewater'; there were 0 from AS, AS/NZS & SNZ; 27 DIN; 14 BSI; 8 ASTM; 8 NACE; 6 ISO and 1 SAE. See Table 1a for these titles.

- B. on 'Corrosion' and 'Wastewater' without 'Water' there were 2 citations;

- i. NACE 08113:2013 Corrosion Problems And Renewal Technologies In Municipal Wastewater Systems; and
- ii. DWA-M 168:2010 Corrosion Of Wastewater Systems - Wastewater Discharge.

2. Across SAIGLOBAL online Standards Publications there was a total of 44 listings of new standards, Drafts and Amendments found that were issued from 16 January - 16 April 2018; 2 from AS, AS/NZS & SNZ;

- a. SNZ TS 3404:2018 Durability requirements for steel structures and components.
- b. AS 1559:2018 Hot-dip galvanized steel bolts and associated nuts and washers for tower construction.

These results are shown in Table 2 below.

See the attached Tables for details.

Regards

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Stage 1 Report on SAIGLOBAL Publications at <https://infostore.saiglobal.com/store>, for all current publications and standards relating to 'Water & Waste Water'

Table 1a for 'Corrosion' and 'Water' without 'Wastewater' high-lights

DIN	BSI	ASTM
DIN EN 10339 (2007-05) Steel tubes for onshore and offshore water pipelines - Internal liquid applied epoxy linings for corrosion protection	BS EN 10339:2007 Steel Tubes For Onshore And Offshore Water Pipelines - Internal Liquid Applied Epoxy Linings For Corrosion Protection	ASTM STP1086-90 Corrosion In Natural Waters
DIN EN 12502-1 (2005-03) Protection of metallic materials against corrosion - Guidance on the assessment of corrosion likelihood in water distribution and storage systems - Part 1: General	BS EN ISO 11306:1998 Corrosion of metals and alloys. Guidelines for exposing and evaluating metals and alloys in surface sea water	ASTM STP1300-97 Corrosion Testing In Natural Waters: 2nd Volume

DIN EN 12502-2 (2005-03) Protection of metallic against corrosion - Guidance on the assessment of corrosion likelihood in water distribution and storage systems - Part 2: Influencing factors for copper and copper alloys	BS EN 12502-1:2004 Protection of metallic materials against corrosion. Guidance on the assessment of corrosion likelihood in water distribution and storage systems. General	ASTM STP179-56 Symposium On High-purity Water Corrosion
DIN EN 12502-3 (2005-03) Protection of metallic materials against corrosion - Guidance on the assessment of corrosion likelihood in water distribution and storage systems - Part 3: Influencing factors for hot-dip galvanised ferrous materials	BS EN 12502-2:2004 Protection of metallic materials against corrosion. Guidance on the assessment of corrosion likelihood in water distribution and storage systems. Influencing factors for copper and copper alloys	Standard Test Method for Iron Chip Corrosion for Water-Miscible Metalworking Fluids
DIN EN 12502-4 (2005-03) Protection of metallic materials against corrosion - Guidance on the assessment of corrosion likelihood in water distribution and storage systems - Part 4: Influencing factors for stainless steels	BS EN 12502-3:2004 Protection of metallic materials against corrosion. Guidance on the assessment of corrosion likelihood in water distribution and storage systems. Influencing factors for hot dip galvanised ferrous materials	ASTM D4778-15 Standard Test Method for Determination of Corrosion and Fouling Tendency of Cooling Water Under Heat Transfer Conditions
DIN EN 12502-5 (2005-03) Protection of metallic materials against corrosion - Guidance on the assessment of corrosion likelihood in water distribution and storage systems - Part 5: Influencing factors for cast iron, unalloyed and low alloyed steels	BS EN 12502-4:2004 Protection of metallic materials against corrosion. Guidance on the assessment of corrosion likelihood in water distribution and storage systems. Influencing factors for stainless steels	ASTM D5969-11(2016) Standard Test Method for Corrosion-Preventive Properties of Lubricating Greases in Presence of Dilute Synthetic Sea Water Environments
DIN EN 14868 (2005-11) Protection of metallic materials against corrosion - Guidance on the assessment of corrosion likelihood in closed water circulation systems	BS EN 12502-5:2004 Protection of metallic materials against corrosion. Guidance on the assessment of corrosion likelihood in water distribution and storage systems. Influencing factors for cast iron, unalloyed and low alloyed steels	ASTM D6294/D6294M-13 Standard Test Method for Corrosion Resistance of Ferrous Metal Fastener Assemblies Used in Roofing and Waterproofing
DIN EN ISO 16784-1 (2008-07) Corrosion of metals and alloys - Corrosion and fouling in industrial cooling water systems - Part 1: Guidelines for conducting pilot-scale evaluation of corrosion and fouling control additives for open recirculating cooling water systems (ISO 16784-1:2006)	BS EN 14868:2005 Protection of metallic materials against corrosion. Guidance on the assessment of corrosion likelihood in closed water circulation systems	ASTM G2/G2M-06(2011)e1 Standard Test Method for Corrosion Testing of Products of Zirconium, Hafnium, and Their Alloys in Water at 680°F (360°C) or in Steam at 750°F (400°C)
DIN EN ISO 16784-2 (2008-07) Corrosion of metals and alloys - Corrosion and fouling in industrial cooling water systems - Part 2: Evaluation of the performance of cooling water treatment programmes using a pilot-scale test rig (ISO 16784-2:2006)	BS ISO 15106-7:2015 Plastics - Film And Sheeting - Determination Of Water Vapour Transmission Rate - Part 7: Calcium Corrosion Method	NACE
DIN 3476 (1996-08) Corrosion protection of water valves and pipe fittings by epoxy powder or liquid epoxy resin linings - Requirements and testing	BS ISO 16539:2013 Corrosion of metals and alloys. Accelerated cyclic corrosion tests with exposure to synthetic ocean water salt-deposition process. 'Dry' and 'wet' conditions at constant absolute humidity	NACE 11114:2014 A State-Of-The-Art Report On The Internal Corrosion Of Residential Water Heating Systems
DIN EN ISO 4404-1 (2012-10) Petroleum and related products - Determination of the corrosion resistance of fire-resistant hydraulic fluids - Part 1: Water-containing fluids (ISO 4404-1:2012)	BS EN ISO 16784-1:2008 Corrosion of metals and alloys. Corrosion and fouling in industrial cooling water systems. Guidelines for conducting pilot-scale evaluation of corrosion and fouling control additives for open recirculating cooling water systems	NACE 34108:2008 Review And Survey Of Alkaline Carbonate Stress Corrosion Cracking In Refinery Sour Waters
DIN 4753-3 (2011-11) Water Heaters, Water Heating Installations And Storage Water Heaters For Drinking Water - Part 3: Corrosion Protection On The Water Side By Enamelling And Cathodic Protection - Requirements And Testing	BS EN ISO 16784-2:2008 Corrosion of metals and alloys. Corrosion and fouling in industrial cooling water systems. Evaluation of the performance of cooling water treatment programmes using a pilot-scale test rig	NACE 46107:2007 Control Of Corrosion, Deposition, And Microbiological Growth In Recirculating Water Systems In Buildings

DIN 4753-3 (2017-08) Water Heaters, Water Heating Installations And Storage Water Heaters For Drinking Water - Part 3: Corrosion Protection On The Water Side By Enamelling And Cathodic Protection - Requirements And Testing	BS EN ISO 4404-1:2012 Petroleum and related products. Determination of the corrosion resistance of fire-resistant hydraulic fluids. Water-containing fluids	NACE RP 03 00:2003 Pilot-scale Evaluation Of Corrosion And Fouling Control Additives For Open Recirculating Cooling Water Systems
DIN 4753-4 (2011-11) Water Heaters, Water Heating Installations And Storage Water Heaters For Drinking Water - Part 4: Corrosion Protection On The Water Side By Means Of Hot-setting Resin-bonded Tank Linings	BS 5117-1.5:1992 Testing corrosion inhibiting, engine coolant concentrate ('antifreeze'). Methods of test for determination of physical and chemical properties. Coolant hard water stability test	NACE RP0300/ISO 16784-1:2006 Corrosion Of Metals And Alloys - Corrosion And Fouling In Industrial Cooling Water Systems - Part 1: Guidelines For Conducting Pilot-Scale Evaluation Of Corrosion And Fouling Control Additives For Open Recirculating Cooling Water Systems
DIN 4753-5 (2011-11) Water Heaters, Water Heating Installations And Storage Water Heaters For Drinking Water - Part 5: Corrosion Protection On The Water Side By Means Of Natural Or Synthetic Rubber Tank Linings	ISO	NACE SP 01 00:2014 Cathodic Protection To Control External Corrosion Of Concrete Pressure Pipelines And Mortar-Coated Steel Pipelines For Water Or Waste Water Service
DIN 4753-7 (2011-11) Water Heaters, Water Heating Installations And Storage Water Heaters For Drinking Water - Part 7: Tanks With A Capacity Of Up To 1000 L, Requirements Relating To Manufacture, Thermal Insulation And Corrosion Protection	ISO 11306:1998 Corrosion of metals and alloys - Guidelines for exposing and evaluating metals and alloys in surface sea water	NACE SP 03 00:2016 Corrosion Of Metals And Alloys - Corrosion And Fouling In Industrial Cooling Water Systems - Part 1: Guidelines For Conducting Pilot-Scale Evaluation Of Corrosion And Fouling Control Additives For Open Recirculating Cooling Water Systems
DIN 50930-6 (2013-10) Corrosion of metals - Corrosion of metallic materials under corrosion load by water inside of pipes, tanks and apparatus - Part 6: Evaluation process and requirements regarding the hygienic suitability in contact with drinking water	ISO 15106-7:2015 Plastics - Film and sheeting - Determination of water vapour transmission rate - Part 7: Calcium corrosion method	NACE TM 01 12:2012 Test To Determine The Potential Corrosion Effects Of Ballast Water Treatment Systems On Ballast Tanks
DIN 50934-1 (2000-04) Methods for evaluation of effectiveness of water treatment equipment for corrosion control - Part 1: General	ISO 16539:2013 Corrosion of metals and alloys - Accelerated cyclic corrosion tests with exposure to synthetic ocean water salt-deposition process - 'Dry' and 'wet' conditions at constant absolute humidity	SAE
DIN 50934-2 (2000-04) Methods for evaluation of effectiveness of water treatment equipment for corrosion control - Part 2: Equipment for reducing the release of corrosion products into drinking water	ISO 16784-1:2006 Corrosion of metals and alloys - Corrosion and fouling in industrial cooling water systems - Part 1: Guidelines for conducting pilot-scale evaluation of corrosion and fouling control additives for open recirculating cooling water systems	SAE AMS 3066:2001 (R2016) Compound, Corrosion-Inhibiting Water-Displacing, Soft Film, Aerosol Canned
DIN 50934-3 (2000-04) Methods for evaluation of effectiveness of water treatment equipment for corrosion control - Part 3: Field testing of equipment for removing scale	ISO 16784-2:2006 Corrosion of metals and alloys - Corrosion and fouling in industrial cooling water systems - Part 2: Evaluation of the performance of cooling water treatment programmes using a pilot-scale test rig	
DIN 50934-4 (2000-04) Methods for evaluation of effectiveness of water treatment equipment for corrosion control - Part 4: Laboratory testing of equipment for removing scale	ISO 4404-1:2012 Petroleum and related products - Determination of the corrosion resistance of fire-resistant hydraulic fluids - Part 1: Water-containing fluids	
DIN 51360-2 (1981-07) Testing of cooling lubricants; determination of corrosion preventing characteristics of cooling lubricants mixed with water; chip/filter paper method		

DIN 81249-1 (2011-12) Corrosion of metals in sea water and sea atmosphere - Part 1: Terms and Definitions, basic information; Text in German and English		
DIN 81249-2 (2013-05) Corrosion of metals in sea water and sea atmosphere - Part 2: Free corrosion in sea water; Text in German and English		
DIN 81249-3 (2012-09) Corrosion of metals in sea water and sea atmosphere - Part 3: Galvanic corrosion in sea water; Text in German and English		
DIN 81249-4 (2012-09) Corrosion of metals in sea water and sea atmosphere - Part 4: Corrosion in sea atmosphere; Text in German and English		
DIN 86290 (2011-02) Facilities And Chemical And Microbiological Procedures Used On Water Vehicles And Maritime Constructions For Drinking Water Protection, Taking Corrosion And Water Quality Into Consideration		

Table 1b for 'Corrosion' and 'Wastewater' without 'Water' highlights

NACE	DWA (German Association for water, wastewater and waste)
NACE 08113:2013 Corrosion Problems And Renewal Technologies In Municipal Wastewater Systems	DWA-M 168:2010 Corrosion Of Wastewater Systems - Wastewater Discharge

Table 2 Standards for AS, AS/NZS, EN, ANSI, ASTM, BSI, DIN, ETSI, JSA, NSAI and Standards and Amendments for ISO & IEC PUBLISHED from 21 16 January 2018 to 16 April 2018 for:

New standards, amendments or drafts for AS, AS/NZS, EN, ANSI, ASTM, BSI, DIN, ETSI, JSA, NSAI and Standards or Amendments for ISO & IEC PUBLISHED between 16 January 2018 to 16 April 2018	
Key word search on 'durability'- 3 citation with 1 New Zealand corrosion related citations found.	
SNZ TS 3404:2018	Durability requirements for steel structures and components
ASTM D5819-18	Standard Guide for Selecting Test Methods for Experimental Evaluation of Geosynthetic Durability
ISO 19833:2018	Furniture - Beds - Test methods for the determination of stability, strength and durability
Key word search on 'corrosion' or 'corrosivity' or 'corrosive'; but not 'anodizing' or 'anodize(d)' or paint/coatings related - 13 citation found; 1 amendment from AS, AS/NZS & SNZ.	
I.S. EN ISO 11130:2018	Corrosion of Metals and Alloys - Alternate Immersion Test in Salt Solution (ISO 11130:2017)
DIN EN ISO 2063-1 (2018-02)	Thermal spraying - Zinc, aluminium and their alloys - Part 1: Design considerations and quality requirements for corrosion protection systems (ISO 2063-1:2017)
DIN EN ISO 2063-2 (2018-02)	Thermal spraying - Zinc, aluminium and their alloys - Part 2: Execution of corrosion protection systems (ISO 2063-2:2017)
I.S. EN ISO 28706-3:2018	Vitreous and Porcelain Enamels - Determination of Resistance to Chemical Corrosion - Part 3: Determination of Resistance to Chemical Corrosion by Alkaline Liquids Using a Hexagonal Vessel or a Tetragonal Glass Bottle (ISO 28706-3:2017)
IEC/TR 62697-3 Ed. 1.0	Test methods for quantitative determination of corrosive sulfur compounds in unused and used insulating liquids - Part 3: Test method for quantitative determination of elemental sulfur
DIN 65270 (2018-02)	Aerospace - Nuts, hexagon, slotted/castellated with MJ thread, self-locking, corrosion-resisting steel, classification: 1 100 MPa/120 øC; Text in German and English; Inactive for new design
ASTM A606/A606M-18	Standard Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance
ASTM A690/A690M-13a(2018)	Standard Specification for High-Strength Low-Alloy Nickel, Copper, Phosphorus Steel H-Piles and Sheet Piling with Atmospheric Corrosion Resistance for Use in Marine Environments
ASTM B858-06(2018)	Standard Test Method for Ammonia Vapor Test for Determining Susceptibility to Stress Corrosion Cracking in Copper Alloys
ASTM F1089-18	Standard Test Method for Corrosion of Surgical Instruments

JIS G 0597:2017	Accelerated Cyclic Corrosion Tests With Dry And Wet Conditions At Constant Absolute Humidity For Stainless Steels
DIN EN 10283 (2018-03)	Corrosion resistant steel castings; German and English version prEN 10283:2018
ISO/DIS 11907-1	Plastics - Smoke generation - Determination of the corrosivity of fire effluents - Part 1: General requirements and applicability
Key word search on 'paint' and or 'coating'; but not 'anodizing' or 'anodize(d)' or corrosion– 16 relevant Publications found; 0 from AS, AS/NZS & SNZ.	
DIN EN ISO 11126-10 (2018-03)	Preparation of steel substrates before application of paints and related products - Specifications for non-metallic blast-cleaning abrasives - Part 10: Almandite garnet (ISO 11126-10:2017)
ISO 12944-5:2018	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 5: Protective paint systems
ISO 12944-6:2018	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 6: Laboratory performance test methods
I.S. EN ISO 12944-6:2018	Paints and Varnishes - Corrosion Protection of Steel Structures by Protective Paint Systems - Part 6: Laboratory Performance Test Methods (iso 12944-6:2018)
ISO 12944-9:2018	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 9: Protective paint systems and laboratory performance test methods for offshore and related structures
DIN EN ISO 19399 (2018-02)	Paints and varnishes - Wedge-cut method for determination of film thickness (scribe and drill method) (ISO 19399:2016)
DIN EN ISO 2812-1 (2018-03)	Paints and varnishes - Determination of resistance to liquids - Part 1: Immersion in liquids other than water (ISO 2812-1:2017)
DIN EN ISO 2812-4 (2018-03)	Paints and varnishes - Determination of resistance to liquids - Part 4: Spotting methods (ISO 2812-4:2017)
I.S. EN ISO 6270-1:2018	Paints and Varnishes - Determination of Resistance to Humidity - Part 1: Continuous Condensation (single-sided Exposure) (ISO 6270-1:2017)
I.S. EN ISO 6270-2:2018	Paints and Varnishes - Determination of Resistance to Humidity - Part 2: Condensation (in-cabinet Exposure With Heated Water Reservoir) (ISO 6270-2:2017)
I.S. EN ISO 8028:2018	Rubber And/or Plastics Hoses and Hose Assemblies for Airless Paint Spraying - Specification (ISO 8028:2017)
ASTM D2201-18	Standard Practice for Preparation of Zinc-Coated and Zinc-Alloy-Coated Steel Panels for Testing Paint and Related Coating Products
ASTM D2805-11(2018)	Standard Test Method for Hiding Power of Paints by Reflectometry
ASTM D823-18	Standard Practices for Producing Films of Uniform Thickness of Paint, Coatings and Related Products on Test Panels
ASTM E1610-18	Standard Guide for Forensic Paint Analysis and Comparison
ASTM E2937-18	Standard Guide for Using Infrared Spectroscopy in Forensic Paint Examinations
Key word search on 'galvanize' or 'galvanized' or galvanizing' (and the galvanise variants) – 3 citations found, 1 from AS, AS/NZS & SNZ.	
AS 1559:2018	Hot-dip galvanized steel bolts and associated nuts and washers for tower construction
I.S. EN 15773:2018	Industrial Application of Powder Organic Coatings to hot dip Galvanized or Sherardized Steel Articles [duplex Systems] - Specifications, Recommendations and Guidelines
DIN EN 15773 (2018-03)	Industrial application of powder organic coatings to hot dip galvanized or sherardized steel articles [duplex systems] - Specifications, recommendations and guidelines
Key word search on 'corrosion' and 'concrete' or 'concrete' and 'coatings' – 0 publications found.	
Key word search on 'cathode' or 'cathodic' – 2 Standard Publications found; 0 form AS, AS/NZS & SNZ.	
ISO 19097-1:2018	Accelerated life test method of mixed metal oxide anodes for cathodic protection - Part 1: Application in concrete
ISO 19097-2:2018	Accelerated life test method of mixed metal oxide anodes for cathodic protection - Part 2: Application in soils and natural waters
Key word search on 'anode' or 'anodes' or 'anodic' – 3 Standard Publications found; 0 form AS, AS/NZS & SNZ.	
ISO 19097-1:2018	Accelerated life test method of mixed metal oxide anodes for cathodic protection - Part 1: Application in concrete
ISO 19097-2:2018	Accelerated life test method of mixed metal oxide anodes for cathodic protection - Part 2: Application in soils and natural waters

ASTM F1973-13(2018)	Standard Specification for Factory Assembled Anodeless Risers and Transition Fittings in Polyethylene (PE) and Polyamide 11 (PA11) and Polyamide 12 (PA12) Fuel Gas Distribution Systems
Keyword Search on 'electrochemical' or 'electrolysis' or 'electroplated' – 1 Standard Publications found, none from AS, AS/NZS & SNZ.	
ISO 2081:2018	Metallic and other inorganic coatings - Electroplated coatings of zinc with supplementary treatments on iron or steel
Keyword Search on 'anodize' or 'anodized' - 6 Publications found; 0 form AS, AS/NZS & SNZ.	
ISO 10215:2018	Anodizing of aluminium and its alloys - Visual determination of image clarity of anodic oxidation coatings - Chart scale method
DIN EN ISO 2143 (2018-03)	Anodizing of aluminium and its alloys - Estimation of loss of absorptive power of anodic oxidation coatings after sealing - Dye-spot test with prior acid treatment (ISO 2143:2017)
I.S. EN ISO 2931:2018	Anodizing of Aluminium and its Alloys - Assessment of Quality of Sealed Anodic Oxidation Coatings by Measurement of Admittance (ISO 2931:2017)
DIN EN ISO 3210 (2018-03)	Anodizing of aluminium and its alloys - Assessment of quality of sealed anodic oxidation coatings by measurement of the loss of mass after immersion in acid solution(s) (ISO 3210:2017)
I.S. EN ISO 7599:2018	Anodizing of Aluminium and its Alloys - Method for Specifying Decorative and Protective Anodic Oxidation Coatings on Uminium (SIC) (ISO 7599:2018)
ISO 7668:2018	Anodizing of aluminium and its alloys - Measurement of specular reflectance and specular gloss of anodic oxidation coatings at angles of 20 degrees, 45 degrees, 60 degrees or 85 degrees

