

ACA Standards Update

Welcome to the corrosion related standards report for May 2019.

The standards reporting for 2019 is scheduled against specific interests and as indicated below:

Issue 2019 Standards search for Specific Interests

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

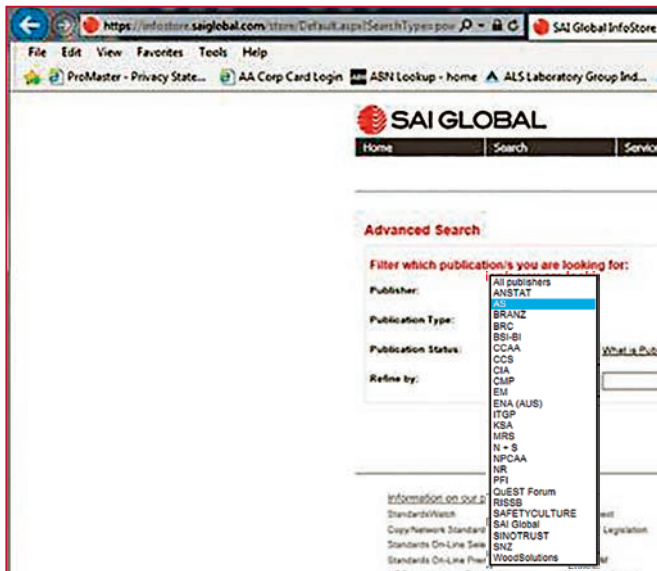
This Standards report focuses on Water & Wastewater in relation to corrosion.

As previously this is in two stages, namely:

1. A global standards and publication focus at 9 April 2019, searching through SAIGLOBAL Publications at <https://infostore.saiglobal.com/store>, for all current publications and standards relating to corrosion and its prevention for the topics water and wastewater.

These results are shown in Tables 1.

2. Previously I was able to search across all standards for publications after a set date in SAI Global 'advanced search' but changes to the SAI Global Website has prevented this type of search across all standards; the site is **only available for the following standards list;**



After many communications with SAI Global, I have not been able to resolve this with the search for standards published after 15 January - 5 April 2019. Instead I have only been able to search the following individual publishers and selective 2019 publications. Arthur Austin

Publishers searched; ACI, API, AS, ASME, ASTM, CIA, ISO, NACE NORSEK with 2019 publications selected; the specific search for publications after 1 January - 5 April 2019; the key word groups are:

- '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

SAI Global site exhibited a very minimal set of publishers for advanced search where complex search algorithms could be used; thus, a general search was used.

1. Through SAIGLOBAL Publications on 9 April 2019, for current Titles searches at <https://infostore.saiglobal.com/store>, there were 43 citations that are relevant to Corrosion in relation to water or wastewater, these are shown in Table 1 a for 'water and corrosion' (41) and Table 1b for 'wastewater and corrosion' (2).
2. Across SAIGLOBAL online Standards Publications there was a total of 8 Citations found that were issued from in 2019 - 5 April 2019, AS publications were:

- a. DR AS 4312:2019 Atmospheric corrosivity zones in Australia.
- b. DR AS 2699.3:2019 Built-in components for masonry construction - Lintels and shelf angles (durability requirements)

The full search results are shown in

Table 1b for 'wastewater and corrosion' results

NACE 08113:2013 Corrosion Problems and Renewal Technologies in Municipal Wastewater Systems	DWA-M 168:2010 Corrosion of Wastewater Systems - Wastewater Discharge
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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 'asset management'.

A search for 'water and corrosion' produced 41 current citations, 16 from DIN, 9 from ASTM, 8 from NACE, 6 from ISO, 4 from BS EN, and 1 each from AWWA and SAE; these are in Table 1a below. A further search for 'wastewater and corrosion' gave 1 NACE and 1 DWA (German Association for water, wastewater and waste) citations listed in Table 1b below.

Table 1a for 'water and corrosion' results

ASTM	NACE	ISO
ASTM STP179-56 Symposium on High-purity Water Corrosion	NACE 11114:2014 A State-Of-The-Art Report on the internal Corrosion of Residential Water Heating Systems	ISO 15106-7:2015 Plastics - Film and sheeting - Determination of water vapour transmission rate - Part 7: Calcium corrosion method
ASTM D4627-12(2017) Standard Test Method for Iron Chip Corrosion for Water-Miscible Metalworking Fluids	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	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
ASTM STP1086-90 Corrosion in Natural Waters	NACE TM 01 12:2012 Test to Determine the Potential Corrosion Effects of Ballast Water Treatment Systems on Ballast Tanks	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
ASTM STP1300-97 Corrosion Testing in Natural Waters: 2nd Volume	NACE 34108:2008 Review and Survey of Alkaline Carbonate Stress Corrosion Cracking in Refinery Sour Waters	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
ASTM D6294/D6294M-13 Standard Test Method for Corrosion Resistance of Ferrous Metal Fastener Assemblies used in Roofing and Waterproofing	NACE 46107:2007 Control of Corrosion, Deposition, and Microbiological Growth in Recirculating Water Systems in Buildings	ISO/TR 10217:1989 Solar energy - Water heating systems - Guide to material selection with regards to internal corrosion
ASTM D4778-15 Standard Test Method for Determination of Corrosion and Fouling Tendency of Cooling Water Under Heat Transfer Conditions	NACE RP 03 00:2003 Pilot-scale Evaluation of Corrosion and Fouling Control Additives for Open Recirculating Cooling Water Systems	ISO 11306:1998 Corrosion of metals and alloys - Guidelines for exposing and evaluating metals and alloys in surface sea water
ASTM D5969-11(2016) Standard Test Method for Corrosion-Preventive Properties of Lubricating Greases in Presence of Dilute Synthetic Sea Water Environments	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	SAE
		SAE AMS 3066:2001 (R2016) Compound, Corrosion-Inhibiting Water-Displacing, Soft Film, Aerosol Canned
ASTM D5969-11e1 (Superseded) Standard Test Method for Corrosion-Preventive Properties of Lubricating Greases in Presence of Dilute Synthetic Sea Water Environments	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	
ASTM G2/G2M-19 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)		BS EN

AWWA		
AWWA M58:2017 Internal Corrosion Control in Water Distribution Systems	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	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
	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	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
DIN		
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	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 50929-3 SUPP 1 (2014-11) Corrosion of Metals - Probability of Corrosion of Metallic Materials When Subject to Corrosion from the Outside - Part 3: Buried and Underwater Pipelines and Structural Components; Supplement 1: Corrosion Rates of Structural Components in Water	DIN 50934-1 (2000-04) Methods for evaluation of effectiveness of water treatment equipment for corrosion control - Part 1: General	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 81249-4 (2012-09) Corrosion of metals in sea water and sea atmosphere - Part 4: Corrosion in sea atmosphere; Text in German and English	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
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	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	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
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	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	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
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 in to Consideration		

Table 1b for 'wastewater and corrosion' results

NACE 08113:2013 Corrosion Problems and Renewal Technologies in Municipal Wastewater Systems	DWA-M 168:2010 Corrosion of Wastewater Systems - Wastewater Discharge	
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Table 2 Standard publications for ACI, API, AS, ASME, ASTM, CIA, ISO, NACE NORSEK 2019 up to 5 April 2019 for:

New standards, amendments or drafts related to corrosion, published between 1 January - 5 April 2019	
Key word search on 'durability'- 1 citations found with the following of possible interest:1 from AS.	
DR AS 2699.3:2019	Built-in components for masonry construction - Lintels and shelf angles (durability requirements)
Key word search on 'corrosion' or 'corrosivity' or 'corrosive'; but not 'anodizing' or 'anodize(d)'- 2 citations, 1 from AS.	
DR AS 4312:2019	Atmospheric corrosivity zones in Australia
ISO 5952:2019	Steel sheet, hot-rolled, of structural quality with improved atmospheric corrosion resistance
ASTM G135-95(2019)	Standard Guide for Computerized Exchange of Corrosion Data for Metals
ASTM G16-13(2019)	Standard Guide for Applying Statistics to Analysis of Corrosion Data
Key word search on 'paint' and or 'coating'; but not 'anodizing' or 'anodize(d)' or corrosion- 0 relevant Citations found;	
Key word search on 'galvanize' or 'galvanized' or galvanizing' (and the galvanise variants) - 1 from ASTM	
ASTM D7803-19	Standard Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Powder Coating
Key word search on 'corrosion' and 'concrete' or 'concrete' and 'coatings' - 0 citations found.	
Key word search on 'cathode' or 'cathodic' - 0 Citations found	
Key word search on 'anode' or 'anodes' or 'anodic' - 0 Citations found	
Keyword Search on 'electrochemical' or 'electrolysis' or 'electroplated' - 0 Citations found corrosion related	
Keyword Search on 'anodize' or 'anodized' - 2 Citations found from ISO	
ISO 2376: 2019	Anodizing of aluminium and its alloys - Determination of breakdown voltage and withstand voltage
ISO 18771:2019	Anodizing of aluminium and its alloys - Method to test the surface abrasion resistance using glass-coated abrasive paper