

# ASTM Volume 03.02, August 2017

## Corrosion of Metals; Wear and Erosion

### Table of Contents

B117-16 Standard Practice for Operating Salt Spray (Fog) Apparatus

B611-13 Standard Test Method for Determining the High Stress Abrasion Resistance of Hard Materials

C876-15 Standard Test Method for Corrosion Potentials of Uncoated Reinforcing Steel in Concrete

G1-03(2011) Standard Practice for Preparing, Cleaning, and Evaluating Corrosion Test Specimens

G3-14 Standard Practice for Conventions Applicable to Electrochemical Measurements in Corrosion Testing

G4-01(2014) Standard Guide for Conducting Corrosion Tests in Field Applications

G5-14 Standard Reference Test Method for Making Potentiodynamic Anodic Polarization Measurements

G16-13 Standard Guide for Applying Statistics to Analysis of Corrosion Data

G28-02(2015) Standard Test Methods for Detecting Susceptibility to Intergranular Corrosion in Wrought, Nickel-Rich, Chromium-Bearing Alloys

G30-97(2016) Standard Practice for Making and Using U-Bend Stress-Corrosion Test Specimens

G32-16 Standard Test Method for Cavitation Erosion Using Vibratory Apparatus

G33-99(2015) Standard Practice for Recording Data from Atmospheric Corrosion Tests of Metallic-Coated Steel Specimens

G34-01(2013) Standard Test Method for Exfoliation Corrosion Susceptibility in 2XXX and 7XXX Series Aluminum Alloys (EXCO Test)

G35-98(2015) Standard Practice for Determining the Susceptibility of Stainless Steels and Related Nickel-Chromium-Iron Alloys to Stress-Corrosion Cracking in Polythionic Acids

G36-94(2013) Standard Practice for Evaluating Stress-Corrosion-Cracking

Resistance of Metals and Alloys in a Boiling Magnesium Chloride Solution

G37-98(2016) Standard Practice for Use of Mattsson's Solution of pH 7.2 to Evaluate the Stress-Corrosion Cracking Susceptibility of Copper-Zinc Alloys

G38-01(2013) Standard Practice for Making and Using C-Ring Stress-Corrosion Test Specimens

G39-99(2016) Standard Practice for Preparation and Use of Bent-Beam Stress-Corrosion Test Specimens

G40-15 Standard Terminology Relating to Wear and Erosion

G41-90(2013) Standard Practice for Determining Cracking Susceptibility of Metals Exposed Under Stress to a Hot Salt Environment

G44-99(2013) Standard Practice for Exposure of Metals and Alloys by Alternate Immersion in Neutral 3.5 % Sodium Chloride Solution

G46-94(2013) Standard Guide for Examination and Evaluation of Pitting Corrosion

G47-98(2011) Standard Test Method for Determining Susceptibility to Stress-Corrosion Cracking of 2XXX and 7XXX Aluminum Alloy Products

G48-11(2015) Standard Test Methods for Pitting and Crevice Corrosion Resistance of Stainless Steels and Related Alloys by Use of Ferric Chloride Solution

G49-85(2011) Standard Practice for Preparation and Use of Direct Tension Stress-Corrosion Test Specimens

G50-10(2015) Standard Practice for Conducting Atmospheric Corrosion Tests on Metals

G51-95(2012) Standard Test Method for Measuring pH of Soil for Use in Corrosion Testing

G52-00(2016)e1 Standard Practice for Exposing and Evaluating Metals and Alloys in Surface Seawater

G56-10 Standard Test Method for Abrasiveness of Ink-Impregnated Fabric Printer Ribbons and Other Web Materials

G57-06(2012) Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method

G58-85(2015) Standard Practice for Preparation of Stress-Corrosion Test Specimens for Weldments

G59-97(2014) Standard Test Method for Conducting Potentiodynamic Polarization Resistance Measurements

G60-01(2013) Standard Practice for Conducting Cyclic Humidity Exposures

G61-86(2014) Standard Test Method for Conducting Cyclic Potentiodynamic Polarization Measurements for Localized Corrosion Susceptibility of Iron-, Nickel-, or Cobalt-Based Alloys

G64-99(2013) Standard Classification of Resistance to Stress-Corrosion Cracking of Heat-Treatable Aluminum Alloys

G65-16 Standard Test Method for Measuring Abrasion Using the Dry Sand/Rubber Wheel Apparatus

G66-99(2013) Standard Test Method for Visual Assessment of Exfoliation Corrosion Susceptibility of 5XXX Series Aluminum Alloys (ASSET Test)

G67-13 Standard Test Method for Determining the Susceptibility to Intergranular Corrosion of 5XXX Series Aluminum Alloys by Mass Loss After Exposure to Nitric Acid (NAMLT Test)

G69-12 Standard Test Method for Measurement of Corrosion Potentials of Aluminum Alloys

G71-81(2014) Standard Guide for Conducting and Evaluating Galvanic Corrosion Tests in Electrolytes

G73-10 Standard Test Method for Liquid Impingement Erosion Using Rotating Apparatus

G75-15 Standard Test Method for Determination of Slurry Abrasivity (Miller Number) and Slurry Abrasion Response of Materials (SAR Number)

G76-13 Standard Test Method for Conducting Erosion Tests by Solid Particle Impingement Using Gas Jets

G77-05(2010) Standard Test Method for Ranking Resistance of Materials to Sliding Wear Using Block-on-Ring Wear Test

G78-15 Standard Guide for Crevice Corrosion Testing of Iron-Base and Nickel-Base Stainless Alloys in Seawater and Other Chloride-Containing Aqueous Environments

G81-97a(2013) Standard Test Method for Jaw Crusher Gouging Abrasion Test

G82-98(2014) Standard Guide for Development and Use of a Galvanic Series for Predicting Galvanic Corrosion Performance

G84-89(2012) Standard Practice for Measurement of Time-of-Wetness on Surfaces Exposed to Wetting Conditions as in Atmospheric Corrosion Testing

G85-11 Standard Practice for Modified Salt Spray (Fog) Testing

G87-02(2013) Standard Practice for Conducting Moist SO<sub>2</sub> Tests 2 Tests

G91-11 Standard Practice for Monitoring Atmospheric SO<sub>2</sub> Deposition Rate for Atmospheric Corrosivity Evaluation

G92-86(2015) Standard Practice for Characterization of Atmospheric Test Sites

G96-90(2013) Standard Guide for Online Monitoring of Corrosion in Plant Equipment (Electrical and Electrochemical Methods)

G97-97(2013) Standard Test Method for Laboratory Evaluation of Magnesium Sacrificial Anode Test Specimens for Underground Applications

G98-02(2009) Standard Test Method for Galling Resistance of Materials

G99-17 Standard Test Method for Wear Testing with a Pin-on-Disk Apparatus

G100-89(2015) Standard Test Method for Conducting Cyclic Galvanostaircase Polarization

G101-04(2015) Standard Guide for Estimating the Atmospheric Corrosion Resistance of Low-Alloy Steels

G102-89(2015)e1 Standard Practice for Calculation of Corrosion Rates and Related Information from Electrochemical Measurements

G103-97(2016) Standard Practice for Evaluating Stress-Corrosion Cracking Resistance of Low Copper 7XXX Series Al-Zn-Mg-Cu Alloys in Boiling 6 % Sodium Chloride Solution

G105-16 Standard Test Method for Conducting Wet Sand/Rubber Wheel Abrasion Tests

G106-89(2015) Standard Practice for Verification of Algorithm and Equipment for Electrochemical Impedance Measurements

G107-95(2015) Standard Guide for Formats for Collection and Compilation of

## Corrosion Data for Metals for Computerized Database Input

G108-94(2015) Standard Test Method for Electrochemical Reactivation (EPR) for Detecting Sensitization of AISI Type 304 and 304L Stainless Steels

G109-07(2013) Standard Test Method for Determining Effects of Chemical Admixtures on Corrosion of Embedded Steel Reinforcement in Concrete Exposed to Chloride Environments

G110-92(2015) Standard Practice for Evaluating Intergranular Corrosion Resistance of Heat Treatable Aluminum Alloys by Immersion in Sodium Chloride + Hydrogen Peroxide Solution

G111-97(2013) Standard Guide for Corrosion Tests in High Temperature or High Pressure Environment, or Both

G112-92(2015) Standard Guide for Conducting Exfoliation Corrosion Tests in Aluminum Alloys

G115-10(2013) Standard Guide for Measuring and Reporting Friction Coefficients

G116-99(2015) Standard Practice for Conducting Wire-on-Bolt Test for Atmospheric Galvanic Corrosion

G119-09(2016) Standard Guide for Determining Synergism Between Wear and Corrosion

G123-00(2015) Standard Test Method for Evaluating Stress-Corrosion Cracking of Stainless Alloys with Different Nickel Content in Boiling Acidified Sodium Chloride Solution

G129-00(2013) Standard Practice for Slow Strain Rate Testing to Evaluate the Susceptibility of Metallic Materials to Environmentally Assisted Cracking

G132-96(2013) Standard Test Method for Pin Abrasion Testing

G133-05(2016) Standard Test Method for Linearly Reciprocating Ball-on-Flat Sliding Wear

G134-95(2010)e1 Standard Test Method for Erosion of Solid Materials by a Cavitating Liquid Jet

G135-95(2013) Standard Guide for Computerized Exchange of Corrosion Data for Metals

G137-97(2009) Standard Test Method for Ranking Resistance of Plastic Materials to Sliding Wear Using a Block-On-Ring Configuration

G139-05(2015) Standard Test Method for Determining Stress-Corrosion Cracking Resistance of Heat-Treatable Aluminum Alloy Products Using Breaking Load Method

G140-02(2014) Standard Test Method for Determining Atmospheric Chloride Deposition Rate by Wet Candle Method

G142-98(2016) Standard Test Method for Determination of Susceptibility of Metals to Embrittlement in Hydrogen Containing Environments at High Pressure, High Temperature, or Both

G143-03(2013) Standard Test Method for Measurement of Web/Roller Friction Characteristics

G146-01(2013) Standard Practice for Evaluation of Disbonding of Bimetallic Stainless Alloy/Steel Plate for Use in High-Pressure, High-Temperature Refinery Hydrogen Service

G148-97(2011) Standard Practice for Evaluation of Hydrogen Uptake, Permeation, and Transport in Metals by an Electrochemical Technique

G150-13 Standard Test Method for Electrochemical Critical Pitting Temperature Testing of Stainless Steels

G157-98(2013) Standard Guide for Evaluating Corrosion Properties of Wrought Iron- and Nickel-Based Corrosion Resistant Alloys for Chemical Process Industries

G158-98(2016) Standard Guide for Three Methods of Assessing Buried Steel Tanks

G161-00(2013) Standard Guide for Corrosion-Related Failure Analysis

G162-99(2010) Standard Practice for Conducting and Evaluating Laboratory Corrosions Tests in Soils

G164-99(2013) Standard Test Method for Determination of Surface Lubrication on Flexible Webs

G165-99(2017) Standard Practice for Determining Rail-to-Earth Resistance

G168-00(2013) Standard Practice for Making and Using Pre-cracked Double Beam Stress Corrosion Specimens

G170-06(2012) Standard Guide for Evaluating and Qualifying Oilfield and Refinery Corrosion Inhibitors in the Laboratory

G171-03(2009)e2 Standard Test Method for Scratch Hardness of Materials Using a Diamond Stylus

G174-04(2009)e1 Standard Test Method for Measuring Abrasion Resistance of Materials by Abrasive Loop Contact

G176-03(2009) Standard Test Method for Ranking Resistance of Plastics to Sliding Wear using Block-on-Ring Wear Test—Cumulative Wear Method

G180-13 Standard Test Method for Corrosion Inhibiting Admixtures for Steel in Concrete by Polarization Resistance in Cementitious Slurries

G181-11 Standard Test Method for Conducting Friction Tests of Piston Ring and Cylinder Liner Materials Under Lubricated Conditions

G182-13 Standard Test Method for Determination of the Breakaway Friction Characteristics of Rolling Element Bearings

G184-06(2016) Standard Practice for Evaluating and Qualifying Oil Field and Refinery Corrosion Inhibitors Using Rotating Cage

G185-06(2016) Standard Practice for Evaluating and Qualifying Oil Field and Refinery Corrosion Inhibitors Using the Rotating Cylinder Electrode

G186-05(2016) Standard Test Method for Determining Whether Gas-Leak-Detector Fluid Solutions Can Cause Stress Corrosion Cracking of Brass Alloys

G187-12a Standard Test Method for Measurement of Soil Resistivity Using the Two-Electrode Soil Box Method

G188-05(2011) Standard Specification for Leak Detector Solutions Intended for Use on Brasses and Other Copper Alloys

G189-07(2013) Standard Guide for Laboratory Simulation of Corrosion Under Insulation

G190-15 Standard Guide for Developing and Selecting Wear Tests

G192-08(2014) Standard Test Method for Determining the Crevice Repassivation Potential of Corrosion-Resistant Alloys Using a Potentiodynamic-Galvanostatic-Potentiostatic Technique

G194-08(2013) Standard Test Method for Measuring Rolling Friction Characteristics of a Spherical Shape on a Flat Horizontal Plane

G195-13a Standard Guide for Conducting Wear Tests Using a Rotary Platform

Abraser

G196-08(2016) Standard Test Method for Galling Resistance of Material Couples

G198-17 Standard Test Method for Determining the Relative Corrosion Performance of Driven Fasteners in Contact with Treated Wood

G199-09(2014) Standard Guide for Electrochemical Noise Measurement

G200-09(2014) Standard Test Method for Measurement of Oxidation-Reduction Potential (ORP) of Soil

G202-12(2016) Standard Test Method for Using Atmospheric Pressure Rotating Cage

G203-10(2016) Standard Guide for Determining Friction Energy Dissipation in Reciprocating Tribosystems

G204-15 Standard Test Method for Damage to Contacting Solid Surfaces under Fretting Conditions

G205-16 Standard Guide for Determining Emulsion Properties, Wetting Behavior, and Corrosion-Inhibitory Properties of Crude Oils

G206-11 Standard Guide for Measuring the Wear Volumes of Piston Ring Segments Run against Flat Coupons in Reciprocating Wear Tests

G208-12(2016) Standard Practice for Evaluating and Qualifying Oilfield and Refinery Corrosion Inhibitors Using Jet Impingement Apparatus

G209-14 Standard Practice for Detecting mu-phase in Wrought Nickel-Rich, Chromium, Molybdenum-Bearing Alloys

G210-13 Standard Practice for Operating the Severe Wastewater Analysis Testing Apparatus

G211-14 Standard Test Method for Conducting Elevated Temperature Erosion Tests by Solid Particle Impingement Using Gas Jets

G215-17 Standard Guide for Electrode Potential Measurement

G217-16 Standard Guide for Corrosion Monitoring in Laboratories and Plants with Coupled Multielectrode Array Sensor Method

NACE/ASTMG31-12a Standard Guide for Laboratory Immersion Corrosion Testing of Metals

NACE/ASTMG193-12d Standard Terminology and Acronyms Relating to  
Corrosion