

America Makes & ANSI Additive Manufacturing Standardization Collaborative (AMSC) <i>Standards Landscape</i> (version 2.0, June 2018)					
Developer	Designation / Title of Standard, Specification, or Other Publication	Publication Date / Target Date	Publication Status	New to v2?	AM Specific?
3MF Consortium	3D Manufacturing Format (3MF)	2015	Published	No	Yes
AAMI	AAMI TIR12:2010, Designing, testing and labeling reusable medical devices for reprocessing in health care facilities: A guide for medical device manufacturers	2010	Published	No	No
AAMI	AAMI TIR17:2008, Compatibility of materials subject to sterilization	2008	Published	No	No
AAMI	AAMI TIR30:2011 (R2016), A compendium of processes, materials, test methods, and acceptance criteria for cleaning reusable medical devices	2016	Published	No	No
AAMI	AAMI TIR37:2013, Sterilization of health care products-Radiation-Guidance on sterilization of biologics and tissue-based products	2013	Published	No	No
AAMI	ANSI/AAMI ST67:2011 (R2017), Sterilization of health care products - Requirements and guidance for selecting a sterility assurance level (SAL) for products labeled 'sterile'	2017	Published	No	No
AAMI	ANSI/AAMI/ISO 10993-1:2009(R2013), Biological evaluation of medical devices - Part 1:Evaluation and testing within a risk management process	2013	Published	No	No
AAMI	ANSI/AAMI/ISO 10993-15:2000 (R2011), Biological evaluation of medical devices - Part 15: Identification and quantification of degradation products from metals and alloys	2011	Published	Yes	No
AAMI	ANSI/AAMI/ISO 11135: 2014, Sterilization of health care products - Ethylene oxide - Requirements for development, validation and routine control of a sterilization process for medical device	2014	Published	No	No
AAMI	ANSI/AAMI/ISO 11137, Sterilization of Health Care Products Package; ANSI/AAMI/ISO 11137-1, ANSI/AAMI/ISO 11137-2 and ANSI/AAMI/ISO 11137-3	various	Published	No	No
AAMI	ANSI/AAMI/ISO 11607-1:2006 (R2010), Packaging for terminally sterilized medical devices - Part 1: Requirements for materials, sterile barrier systems and packaging (INCLUDES AMENDMENT 1)	2010	Published	No	No
AAMI	ANSI/AAMI/ISO 11607-2:2006 (R2010), Packaging for terminally sterilized medical devices - Part 2: Validation requirements for forming, sealing and assembly processes (INCLUDES AMENDMENT1)	2010	Published	No	No
AAMI	ANSI/AAMI/ISO 13022:2012, Medical products containing viable human cells - Application of risk management and requirements for processing practices	2012	Published	No	No
AAMI	ANSI/AAMI/ISO 13408, Aseptic Processing of Health Care Products Package	various	Published	No	No
AAMI	ANSI/AAMI/ISO 14160:2011 (R2016), Sterilization of health care products - Liquid chemical sterilizing agents for single-use medical devices utilizing animal tissues and their derivatives - Requirements for characterization, development, validation and routine control of a sterilization process for medical devices	2016	Published	No	No
AAMI	ANSI/AAMI/ISO 14937:2009 (R2013), Sterilization of healthcare products -General requirements for characterization of a sterilizing agent and the development, validation and routine control of a sterilization process for medical devices	2013	Published	No	No
AAMI	ANSI/AAMI/ISO 17664:2017, Processing of health care products - Information to be provided by the medical device manufacturer for the processing of medical devices (supersedes ST81)	2016	Published	Yes	No
AAMI	ANSI/AAMI/ISO 17665-1:2006 (R2013), Sterilization of health care products - Moist heat - Part1: Requirements for the development, validation, and routine control of a sterilization process for medical devices	2013	Published	No	No
AAMI	ANSI/AAMI/ISO 20857:2010 (R2015), Sterilization of health care products - Dry heat - Requirements for the development, validation and routine control of a sterilization process for medical devices	2015	Published	No	No
ABS	ABS Volume 1, Guidance Notes on the Application of Cybersecurity Principles to Marine and Offshore Operations (revised and expanded)	2016	Published	Yes	No
ABS	ABS Volume 2, Guide for Cybersecurity Implementation for the Marine and Offshore Industries	2016	Published	Yes	No
ABS	ABS Volume 3, Guidance Notes on Data Integrity for Marine and Offshore Operations	2016	Published	Yes	No
ABS	ABS Volume 4, Guide for Software Systems Verification	2016	Published	Yes	No

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ABS	ABS Volume 5, Guidance Notes on Software Provider Conformity Program	2016	Published	Yes	No
ACC	ANSI Z400.1/Z129.1-2010, Hazardous Workplace Chemicals - Hazard Evaluation and Safety Data Sheet and Precautionary Labeling Preparation	2010	Published	No	
AIA	NAS 410 Rev.4, NAS Certification & Qualification of Nondestructive Test Personnel, 2014 Edition	2014	Published	No	No
ASME	ASME B16.5/ASME B16.10/ASME B16.34, Valves and Fittings Package	various	Published	No	No
ASME	ASME B31.1 / B31.3, Power and Process Piping Package	2016	Published	No	No
ASME B107	ASME B107.100-2010, Flat Wrenches	2010	Published	No	No
ASME B107	ASME B107.110-2012, Socket Wrenches, Handles, and Attachments	2012	Published	No	No
ASME B107	ASME B107.300-2010 (R2016), Torque Instruments	2016	Published	No	No
ASME B107	ASME B107.400-2008, Striking Tools	2008	Published	No	No
ASME B107	ASME B107.410-2008, Struck Tools	2008	Published	No	No
ASME B107	ASME B107.500-2010, Pliers	2010	Published	No	No
ASME B107	ASME B107.600-2016, Screwdrivers and Screwdriver Bits	2016	Published	No	No
ASME B46	ASME B46.1-2009, Surface Texture (Surface Roughness, Waviness, and Lay)	2009	Published	No	No
ASME B89	ASME B89.4.23-201x, X-ray Computed Tomography (CT) Performance Evaluation Standard		(New) In Development	No	No
ASME BPTCS/BNCS	ASME XXX-2019, Use of Additive Manufacturing for Pressure Retaining Equipment		(New) In Development	Yes	Yes
ASME BPVC	ASME Boiler and Pressure Vessel Code - 2017 Edition	2017	Published	No	No
ASME V&V 40	ASME V&V 40, Assessing Credibility of Computational Models through Verification and Validation: Application to Medical Devices		(New) In Development	No	No
ASME V&V 50	ASME V&V 50, Verification and Validation of Computational Modeling for Advanced Manufacturing		(New) In Development	No	No
ASME Y14	ANSI/ASME Y14.36M-1996 (R2008), Surface Texture Symbols	2008	Published	No	No
ASME Y14	ASME Y14.100-2017, Engineering Drawing Practices	2017	Published	No	No
ASME Y14	ASME Y14.41-2012, Digital Product Definition Data Practices	2012	Published	No	No
ASME Y14	ASME Y14.46-2017, Product Definition for Additive Manufacturing [Draft Standard for Trial Use]	2017	Published	Yes	Yes
ASME Y14	ASME Y14.47-201x, Model Organization Schema Practices		(New) In Development	Yes	No
ASME Y14	ASME Y14.48, Universal Direction and Load Indicators		(New) In Development	No	No
ASME Y14	ASME Y14.5:2009, Dimensioning and Tolerancing	2009	Published	No	No
ASSP	ANSI/AIHA/ASSP Z9.2-2012, Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems	2012	Published	Yes	No
ASSP	ANSI/AIHA/ASSP Z9.4-2011 Abrasive-Blasting Operations – Ventilation and Safe Practices for Fixed Location Enclosures	2011	Published	Yes	No
ASSP	ANSI/AIHA/ASSP Z9.5-2012, Laboratory Ventilation	2012	Published	Yes	No
ASSP	ANSI/AIHA/ASSP Z9.6-2008, Exhaust Systems for Grinding, Polishing and Buffing	2008	Published	Yes	No
ASSP	ANSI/AIHA/ASSP Z9.7-2007, Recirculation of Air from Industrial Process Exhaust Systems	2007	Published	Yes	No
ASSP	ANSI/AIHA/ASSP Z9.9-2010, Portable Ventilation Systems	2010	Published	Yes	No
ASSP	ANSI/ASSP Z10-2012 (R2017), Occupational Health and Safety Management Systems	2017	Published	Yes	No
ASSP	ANSI/ASSP Z244.1-2016, The Control of Hazardous Energy Lockout, Tagout and Alternative Methods	2016	Published	Yes	No
ASSP	ANSI/ASSP Z590.3-2011 (R2016), Guidelines for Addressing Occupational Hazards and Risks in Design and Redesign Processes	2016	Published	Yes	No

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ASSP	ANSI/ASSP Z690.1-2011, Vocabulary for Risk Management (National Adoption of: ISO Guide 73:2009)	2011	Published	Yes	No
ASSP	ANSI/ASSP Z690.2-2011, Risk Management - Principles and Guidelines (Identical National Adoption of: ISO 31000:2009)	2011	Published	Yes	No
ASSP	ANSI/ASSP Z690.3-2011, Risk Assessment Techniques (National Adoption of: IEC/ISO 31010:2009)	2011	Published	Yes	No
ASSP	ANSI/ASSP Z9.10-2017, Fundamentals Governing the Design and Operation of Dilution Ventilation Systems in Industrial Occupancies	2017	Published	Yes	No
ASSP	ANSI/ASSP Z9.1-2016, Ventilation and Control of Airborne Contaminants During Open-Surface Tank Operations	2016	Published	Yes	No
ASSP	ANSI/ASSP Z9.3-2017, Spray Finishing Operations: Safety Code for Design, Construction and Ventilation	2017	Published	Yes	No
ASSP	ISO/ANSI/ASSP TR-31004-2014, Risk Management - Guidance for the Implementation of ISO 31000 (identical national adoption of ISO/TR 31004:2013)	2014	Published	Yes	No
ASTM	MNL45, Radiation Curing of Coatings	2002	Published	No	No
ASTM A01.14	ASTM A380/A390M-17, Standard Practice for Cleaning, Descaling, and Passivation of Stainless Steel Parts, Equipment, and Systems	2017	Published	No	No
ASTM A01.14	ASTM A967/A967M-17, Standard Specification for Chemical Passivation Treatments for Stainless Steel Parts	2017	Published	No	No
ASTM A01.18	ASTM A1080-15, Standard Practice for Hot Isostatic Pressing of Steel, Stainless Steel, and Related Alloy Castings	2015	Published	No	No
ASTM A01.22	ASTM A858/A858M-14, Standard Specification for Heat-Treated Carbon Steel Fittings for Low-Temperature and Corrosive Service	2014	Published	Yes	No
ASTM A01.22	ASTM A988/A988M-17, Standard Specification for Hot Isostatically-Pressed Stainless Steel Flanges, Fittings, Valves, and Parts for High Temperature Service	2017	Published	No	No
ASTM A04.21	ASTM A247-17, Standard Test Method for Evaluating the Microstructure of Graphite in Iron Castings	2017	Published	No	No
ASTM B07.01	ASTM B998-17, Standard Guide for Hot Isostatic Pressing (HIP) of Aluminum Alloy Castings	2017	Published	Yes	No
ASTM B07.05	ASTM B557-15, Standard Test Methods for Tension Testing Wrought and Cast Aluminum- and Magnesium-Alloy Products	2015	Published	No	No
ASTM B07.05	ASTM B645-10 (2015), Standard Practice for Linear-Elastic Plane-Strain Fracture Toughness Testing of Aluminum Alloys	2015	Published	No	No
ASTM B07.05	ASTM B646-17, Standard Practice for Fracture Toughness Testing of Aluminum Alloys	2017	Published	No	No
ASTM B07.05	ASTM B962-17, Standard Test Methods for Density of Compacted or Sintered Powder Metallurgy (PM) Products Using Archimedes' Principle	2017	Published	No	No
ASTM B07.05	ASTM B985-12, Standard Practice for Sampling Aluminum Ingots, Billets, Castings and Finished or Semi-Finished Wrought Aluminum Products for Compositional Analysis	2012	Published	No	No
ASTM B08.02	ASTM B851-04 (2014), Standard Specification for Automated Controlled Shot Peening of Metallic Articles Prior to Nickel, Autocatalytic Nickel, or Chromium Plating, or as Final Finish	2014	Published	No	No
ASTM B09.01	ASTM B243-17, Standard Terminology of Powder Metallurgy	2017	Published	No	No
ASTM B09.02	ASTM B212-17, Standard Test Method for Apparent Density of Free-Flowing Metal Powders Using the Hall Flowmeter Funnel	2017	Published	No	No
ASTM B09.02	ASTM B213-17, Standard Test Methods for Flow Rate of Metal Powders Using the Hall Flowmeter Funnel	2017	Published	No	No
ASTM B09.02	ASTM B214-16, Standard Test Method for Sieve Analysis of Metal Powders	2016	Published	Yes	No
ASTM B09.02	ASTM B215-15, Standard Practices for Sampling Metal Powders	2015	Published	No	No
ASTM B09.02	ASTM B822-17, Standard Test Method for Particle Size Distribution of Metal Powders and Related Compounds by Light Scattering	2017	Published	No	No

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ASTM B09.02	ASTM B855-17, Standard Test Method for Volumetric Flow Rate of Metal Powders Using the Arnold Meter and Hall Flowmeter Funnel	2017	Published	No	No
ASTM B09.02	ASTM B964-16, Standard Test Methods for Flow Rate of Metal Powders Using the Carney Funnel	2016	Published	No	No
ASTM B09.03	ASTM B527-15, Standard Test Method for Tap Density of Metal Powders and Compounds	2015	Published	No	No
ASTM B09.03	ASTM B922-17, Standard Test Method for Metal Powder Specific Surface Area by Physical Adsorption	2017	Published	Yes	No
ASTM B09.03	ASTM B923-16, Standard Test Method for Metal Powder Skeletal Density by Helium or Nitrogen Pycnometry	2016	Published	Yes	No
ASTM B09.04	ASTM B946-11(2016), Standard Test Method for Surface Finish of Powder Metallurgy (PM) Products	2016	Published	No	No
ASTM B09.05	ASTM E3-11(2017), Standard Guide for Preparation of Metallographic Specimens	2017	Published	No	No
ASTM B09.11	ASTM B311-17, Standard Test Method for Density of Powder Metallurgy (PM) Materials Containing Less Than Two Percent Porosity	2017	Published	No	No
ASTM B09.11	ASTM B796-14, Standard Test Method for Nonmetallic Inclusion Content of Ferrous Powders Intended for Powder Forging (PF) Applications	2014	Published	Yes	No
ASTM B10.01	ASTM B600-11(2017), Standard Guide for Descaling and Cleaning Titanium and Titanium Alloy Surfaces	2017	Published	No	No
ASTM D01.24	ASTM D4144-94(2014), Standard Test Method for Estimating Package Stability of Coatings for Ultraviolet Curing	2014	Published	No	No
ASTM D01.24	ASTM D4212-16, Standard Test Method for Viscosity by Dip-Type Viscosity Cups	2016	Published	Yes	No
ASTM D01.46	ASTM D4417-14, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel	2014	Published	No	No
ASTM D01.46	ASTM D7127-17, Standard Test Method for Measurement of Surface Roughness of Abrasive Blast Cleaned Metal Surfaces Using a Portable Stylus Instrument	2017	Published	No	No
ASTM D01.55	ASTM D3732-82(2017), Standard Practice for Reporting Cure Times of Ultraviolet-Cured Coatings	2017	Published	No	No
ASTM D01.55	ASTM D5403-93(2013), Standard Test Methods for Volatile Content of Radiation Curable Materials	2013	Published	No	No
ASTM D09.12	ASTM D150-11, Standard Test Methods for AC Loss Characteristics and Permittivity (Dielectric Constant) of Solid Electrical Insulation	2011	Published	No	No
ASTM D09.12	ASTM D257-14, Standard Test Methods for DC Resistance or Conductance of Insulating Materials	2014	Published	No	No
ASTM D10.21	ASTM D4169-16, Standard Practice for Performance Testing of Shipping Containers and Systems	2016	Published	No	No
ASTM D10.21	ASTM F2825-10(2015), Standard Practice for Climatic Stressing of Packaging Systems for Single Parcel Delivery	2015	Published	No	No
ASTM D12.16	ASTM D7225-13, Standard Guide for Blood Cleaning Efficiency of Detergents and Washer-Disinfectors	2013	Published	No	No
ASTM D14.10	ASTM D1084-16, Standard Test Methods for Viscosity of Adhesives	2016	Published	Yes	No
ASTM D18.24	ASTM 6683-14, Standard Test Method for Measuring Bulk Density Values of Powders and Other Bulk Solids as Function of Compressive Stress	2014	Published	No	No
ASTM D18.24	ASTM D6128-16, Standard Test Method for Shear Testing of Bulk Solids Using the Jenike Shear Tester	2016	Published	No	No
ASTM D18.24	ASTM D6393-14, Standard Test Method for Bulk Solids Characterization by Carr Indices	2014	Published	No	No
ASTM D18.24	ASTM D6773-16, Standard Test Method for Bulk Solids Using Schulze Ring Shear Tester	2016	Published	No	No
ASTM D18.24	ASTM D6940-10, Standard Practice for Measuring Sifting Segregation Tendencies of Bulk Solids	2010	Published	No	No
ASTM D18.24	ASTM D6941-12, Standard Practice for Measuring Fluidization Segregation Tendencies of Powders	2012	Published	No	No
ASTM D18.24	ASTM D7481-09, Standard Test Methods for Determining Loose and Tapped Bulk Densities of Powders using a Graduated Cylinder	2009	Published	No	No
ASTM D18.24	ASTM D7743-12, Standard Test Method for Measuring the Minimum Fluidization Velocities of Free Flowing Powders	2012	Published	No	No
ASTM D18.24	ASTM D7891-15, Standard Test Method for Shear Testing of Powders Using the Freeman Technology FT4 Powder Rheometer Shear Cell	2015	Published	No	No

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ASTM D18.24	ASTM WK41539, Revision of D6682 - 08 Standard Test Method for Measuring Shear Stresses of Powders Using Pechl Rotational Split Level Shear Tester		(Revision) In Development	No	No
ASTM D20.10	ASTM D4440-15, Standard Test Method for Plastics: Dynamic Mechanical Properties Melt Rheology	2015	Published	Yes	No
ASTM D20.10	ASTM D4473-08(2016), Standard Test Method for Plastics: Dynamic Mechanical Properties: Cure Behavior	2016	Published	No	No
ASTM D20.10	ASTM D638-14, Standard Test Method for Tensile Properties of Plastics	2014	Published	No	No
ASTM D20.15	ASTM D3012-13, Standard Test Method for Thermal-Oxidative Stability of Polypropylene Using a Specimen Rotator Within an Oven	2013	Published	Yes	No
ASTM D20.15	ASTM D4101-17, Standard Classification System and Basis for Specification for Polypropylene Injection and Extrusion Materials	2017	Published	Yes	No
ASTM D20.15	ASTM D6779-17, Standard Classification System for and Basis of Specification for Polyamide Molding and Extrusion Materials (PA)	2017	Published	Yes	No
ASTM D20.30	ASTM D1238-13, Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer	2013	Published	Yes	No
ASTM D20.30	ASTM D1929-16, Standard Test Method for Determining Ignition Temperature of Plastics	2016	Published	Yes	No
ASTM D20.30	ASTM D3418-15, Standard Test Method for Transition Temperatures and Enthalpies of Fusion and Crystallization of Polymers by Differential Scanning Calorimetry	2015	Published	Yes	No
ASTM D20.30	ASTM D3795-00a (2012), Standard Test Method for Thermal Flow, Cure, and Behavior Properties of Pourable Thermosetting Materials by Torque Rheometer	2012	Published	No	No
ASTM D20.30	ASTM D3895-14, Standard Test Method for Oxidative-Induction Time of Polyolefins by Differential Scanning Calorimetry	2014	Published	Yes	No
ASTM D20.70	ASTM D4526-12, Standard Practice for Determination of Volatiles in Polymers by Static Headspace Gas Chromatography	2012	Published	Yes	No
ASTM D20.70	ASTM D6980-17, Standard Test Method for Determination of Moisture in Plastics by Loss in Weight	2017	Published	Yes	No
ASTM D20.70	ASTM D7191-10, Standard Test Method for Determination of Moisture in Plastics by Relative Humidity Sensor	2010	Published	Yes	No
ASTM D20.94	ASTM D4000-16, Standard Classification System for Specifying Plastic Materials	2016	Published	Yes	No
ASTM D30.04	ASTM D7028-07(2015), Standard Test Method for Glass Transition Temperature (DMA Tg) of Polymer Matrix Composites by Dynamic Mechanical Analysis (DMA)	2015	Published	No	No
ASTM E01.01	ASTM E1019-11, Standard Test Methods for Determination of Carbon, Sulfur, Nitrogen, and Oxygen in Steel, Iron, Nickel, and Cobalt Alloys by Various Combustion and Fusion Techniques	2011	Published	No	No
ASTM E01.01	ASTM E1085-16, Standard Test Method for Analysis of Low-Alloy Steels by Wavelength Dispersive X-Ray Fluorescence Spectrometry	2016	Published	No	No
ASTM E01.01	ASTM E322-12, Standard Test Method for Analysis of Low-Alloy Steels and Cast Irons by Wavelength Dispersive X-Ray Fluorescence Spectrometry	2012	Published	No	No
ASTM E01.01	ASTM E353-14, Standard Test Methods for Chemical Analysis of Stainless, Heat-Resisting, Maraging, and Other Similar Chromium-Nickel-Iron Alloys	2014	Published	No	No
ASTM E01.01	ASTM E572-13, Standard Test Method for Analysis of Stainless and Alloy Steels by Wavelength Dispersive X-Ray Fluorescence Spectrometry	2013	Published	No	No
ASTM E01.04	ASTM E1251-17a, Standard Test Method for Analysis of Aluminum and Aluminum Alloys by Spark Atomic Emission Spectrometry	2017	Published	No	No
ASTM E01.04	ASTM E34-11e1, Standard Test Methods for Chemical Analysis of Aluminum and Aluminum-Base Alloys	2011	Published	No	No
ASTM E01.06	ASTM E1409-13, Standard Test Method for Determination of Oxygen and Nitrogen in Titanium and Titanium Alloys by Inert Gas Fusion	2013	Published	No	No
ASTM E01.06	ASTM E1447-09(2016), Standard Test Method for Determination of Hydrogen in Titanium and Titanium Alloys by Inert Gas Fusion Thermal Conductivity/Infrared Detection Method	2016	Published	No	No

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ASTM E01.06	ASTM E1941-10(2016), Standard Test Method for Determination of Carbon in Refractory and Reactive Metals and Their Alloys by Combustion Analysis	2016	Published	No	No
ASTM E01.06	ASTM E2371-13, Standard Test Method for Analysis of Titanium and Titanium Alloys by Direct Current Plasma and Inductively Coupled Plasma Atomic Emission Spectrometry (Performance-Based Test Methodology)	2013	Published	No	No
ASTM E01.06	ASTM E539-11, Standard Test Method for Analysis of Titanium Alloys by X-Ray Fluorescence Spectrometry	2011	Published	No	No
ASTM E01.08	ASTM E2465-13, Standard Test Method for Analysis of Ni-Base Alloys by Wavelength Dispersive X-Ray Fluorescence Spectrometry	2013	Published	No	No
ASTM E01.08	ASTM E2594-09 (2014), Standard Test Method for Analysis of Nickel Alloys by Inductively Coupled Plasma Atomic Emission Spectrometry (Performance-Based Method)	2014	Published	No	No
ASTM E01.08	ASTM E2823-17, Standard Test Method for Analysis of Nickel Alloys by Inductively Coupled Plasma Mass Spectrometry (Performance-Based)	2017	Published	No	No
ASTM E01.20	ASTM E1097-12(2017), Standard Guide for Determination of Various Elements by Direct Current Plasma Atomic Emission Spectrometry	2017	Published	No	No
ASTM E01.20	ASTM E1479-16, Standard Practice for Describing and Specifying Inductively Coupled Plasma Atomic Emission Spectrometers	2016	Published	No	No
ASTM E04.01	ASTM E3-11(2017), Standard Guide for Preparation of Metallographic Specimens	2017	Published	No	No
ASTM E04.01	ASTM E407-07(2015)e1, Standard Practice for Microetching Metals and Alloys	2015	Published	No	No
ASTM E04.05	ASTM E384-17, Standard Test Method for Microindentation Hardness of Materials	2017	Published	Yes	No
ASTM E04.05	ASTM WK47301, New Guide for Nondestructive Testing of Additive Manufactured Metal Parts Used in Aerospace Applications		(New) In Development	No	Yes
ASTM E04.08	ASTM E112-13, Standard Test Methods for Determining Average Grain Size	2013	Published	No	No
ASTM E04.08	ASTM E1181-02 (2015), Standard Test Methods for Characterizing Duplex Grain Sizes	2015	Published	No	No
ASTM E04.08	ASTM E930-99(2015), Standard Test Methods for Estimating the Largest Grain Observed in a Metallographic Section (ALA Grain Size)	2015	Published	No	No
ASTM E04.11	ASTM E2627-13, Standard Practice for Determining Average Grain Size Using Electron Backscatter Diffraction (EBSD) in Fully Recrystallized Polycrystalline Materials	2013	Published	No	No
ASTM E04.14	ASTM E1268-01(2016), Standard Practice for Assessing the Degree of Banding or Orientation of Microstructures	2016	Published	No	No
ASTM E04.14	ASTM E1382-97 (2015), Standard Test Methods for Determining Average Grain Size Using Semiautomatic and Automatic Image Analysis	2015	Published	No	No
ASTM E07.01	ASTM E1030/E1030M-15, Standard Practice for Radiographic Examination of Metallic Castings	2015	Published	No	No
ASTM E07.01	ASTM E1570-11, Standard Practice for Computed Tomographic (CT) Examination	2011	Published	No	No
ASTM E07.01	ASTM E1742/E1742M-12, Standard Practice for Radiographic Examination	2012	Published	No	No
ASTM E07.01	ASTM E1814-14, Standard Practice for Computed Tomographic (CT) Examination of Castings	2014	Published	No	No
ASTM E07.01	ASTM E2160-04(2012), Standard Test Method for Heat of Reaction of Thermally Reactive Materials by Differential Scanning Calorimetry	2012	Published	No	No
ASTM E07.01	ASTM E2550-17, Standard Test Method for Thermal Stability by Thermogravimetry	2017	Published	No	No
ASTM E07.02	ASTM E1320-15, Standard Reference Radiographs for Titanium Castings	2015	Published	No	No
ASTM E07.03	ASTM E1444/E1444M-16e1, Standard Practice for Magnetic Particle Testing	2016	Published	No	No
ASTM E07.06	ASTM E127-15, Standard Practice for Fabrication and Control of Aluminum Alloy Ultrasonic Standard Reference Blocks	2015	Published	No	No
ASTM E07.06	ASTM E2375-16, Standard Practice for Ultrasonic Testing of Wrought Products	2016	Published	No	No

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ASTM E07.06	ASTM E428-08 (2013), Standard Practice for Fabrication and Control of Metal, Other than Aluminum, Reference Blocks Used in Ultrasonic Testing	2013	Published	No	No
ASTM E07.10	ASTM E2533-17e1, Standard Guide for Nondestructive Testing of Polymer Matrix Composites Used in Aerospace Applications	2017	Published	No	No
ASTM E07.10	ASTM WK47031, New Guide for Nondestructive Testing of Additive Manufactured Metal Parts Used in Aerospace Applications		(New) In Development	No	Yes
ASTM E07.92	ASTM E1316-18a, Standard Terminology for Nondestructive Examinations	2018	Published	No	No
ASTM E08.03	ASTM E467-08 (2014), Standard Practice for Verification of Constant Amplitude Dynamic Forces in an Axial Fatigue Testing System	2014	Published	No	No
ASTM E08.05	ASTM E466-15, Standard Practice for Conducting Force Controlled Constant Amplitude Axial Fatigue Tests of Metallic Materials	2015	Published	No	No
ASTM E08.05	ASTM E468-11, Standard Practice for Presentation of Constant Amplitude Fatigue Test Results for Metallic Materials	2011	Published	No	No
ASTM E08.05	ASTM E606/E606M-12, Standard Test Method for Strain-Controlled Fatigue Testing	2012	Published	No	No
ASTM E08.06	ASTM E647-15e1, Standard Test Method for Measurement of Fatigue Crack Growth Rates	2015	Published	No	No
ASTM E08.07	ASTM E399-17, Standard Test Method for Linear-Elastic Plane-Strain Fracture Toughness K_{IC} of Metallic Materials	2017	Published	No	No
ASTM E08.07	ASTM E561-15a, Standard Test Method for KR Curve Determination	2015	Published	No	No
ASTM E10.05	ASTM E562-11, Standard Test Method for Determining Volume Fraction by Systematic Manual Point Count	2011	Published	No	No
ASTM E11.20	ASTM E691-16, Standard Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method	2016	Published	No	No
ASTM E21.05	ASTM E1559-09(2016), Standard Test Method for Contamination Outgassing Characteristics of Spacecraft Materials	2016	Published	No	No
ASTM E21.05	ASTM E595-15, Standard Test Method for Total Mass Loss and Collected Volatile Condensable Materials from Outgassing in a Vacuum Environment	2015	Published	No	No
ASTM E27.05	ASTM E1226-12a, Standard Test Method for Explosibility of Dust Clouds	2012	Published	Yes	No
ASTM E27.05	ASTM E2019-03(2013), Standard Test Method for Minimum Ignition Energy of a Dust Cloud in Air	2013	Published	Yes	No
ASTM E28.04	ASTM E8/E8M-16a, Standard Test Methods for Tension Testing of Metallic Materials	2016	Published	No	No
ASTM E28.04	ASTM E9-09(2018), Standard Test Methods of Compression Testing of Metallic Materials at Room Temperature	2018	Published	No	No
ASTM E28.06	ASTM E10-17 Standard Test Method for Brinell Hardness of Metallic Materials	2017	Published	No	No
ASTM E28.06	ASTM E18-17e1, Standard Test Methods for Rockwell Hardness of Metallic Materials	2017	Published	No	No
ASTM E35.15	ASTM E2314-03(2014), Standard Test Method for Determination of Effectiveness of Cleaning Processes for Reusable Medical Instruments Using a Microbiologic Method (Simulated Use Test)	2014	Published	No	No
ASTM E37.01	ASTM E2602-09(2015), Standard Test Methods for the Assignment of the Glass Transition Temperature by Modulated Temperature Differential Scanning Calorimetry	2015	Published	No	No
ASTM E37.03	ASTM E2161-15, Standard Terminology Relating to Performance Validation in Thermal Analysis and Rheology	2015	Published	No	No
ASTM E37.10	ASTM E1356-08(2014), Standard Test Method for Assignment of the Glass Transition Temperatures by Differential Scanning Calorimetry	2014	Published	No	No
ASTM E37.10	ASTM E1545-11 (2016), Standard Test Method for Assignment of the Glass Transition Temperature by Thermomechanical Analysis	2016	Published	No	No
ASTM E37.10	ASTM E1640-13, Standard Test Method for Assignment of the Glass Transition Temperature By Dynamic Mechanical Analysis	2013	Published	No	No

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ASTM E37.10	ASTM E1824-13, Standard Test Method for Assignment of a Glass Transition Temperature Using Thermomechanical Analysis: Tension Method	2013	Published	No	No
ASTM F02.15	ASTM F1608-16, Standard Test Method for Microbial Ranking of Porous Packaging Materials (Exposure Chamber Method)	2016	Published	No	No
ASTM F02.15	ASTM F2475-11, Standard Guide for Biocompatibility Evaluation of Medical Device Packaging Materials	2011	Published	No	No
ASTM F02.15	ASTM F2638-12e1, Standard Test Method for Using Aerosol Filtration for Measuring the Performance of Porous Packaging Materials as a Surrogate Microbial Barrier	2012	Published	No	No
ASTM F02.20	ASTM F1140/F1140M-13, Standard Test Methods for Internal Pressurization Failure Resistance of Unrestrained Packages	2013	Published	No	No
ASTM F02.20	ASTM F2054/F2054M-13, Standard Test Method for Burst Testing of Flexible Package Seals Using Internal Air Pressurization Within Restraining Plates	2013	Published	No	No
ASTM F02.20	ASTM F2203-13, Standard Test Method for Linear Measurement Using Precision Steel Rule	2013	Published	No	No
ASTM F02.20	ASTM F2217/F2217M-13, Standard Practice for Coating/Adhesive Weight Determination	2013	Published	No	No
ASTM F02.20	ASTM F2250-13, Standard Practice for Evaluation of Chemical Resistance of Printed Inks and Coatings on Flexible Packaging Materials	2013	Published	No	No
ASTM F02.20	ASTM F2251-13, Standard Test Method for Thickness Measurement of Flexible Packaging Material	2013	Published	No	No
ASTM F02.20	ASTM F2252/F2252M-13e1, Standard Practice for Evaluating Ink or Coating Adhesion to Flexible Packaging Materials Using Tape	2013	Published	No	No
ASTM F02.20	ASTM F88/F88M-15, Standard Test Method for Seal Strength of Flexible Barrier Materials	2015	Published	No	No
ASTM F02.40	ASTM D3078-02(2013), Standard Test Method for Determination of Leaks in Flexible Packaging by Bubble Emission	2013	Published	No	No
ASTM F02.40	ASTM F1886/F1886M-16, Standard Test Method for Determining Integrity of Seals for Flexible Packaging by Visual Inspection	2016	Published	No	No
ASTM F02.40	ASTM F1929-15, Standard Test Method for Detecting Seal Leaks in Porous Medical Packaging by Dye Penetration	2015	Published	No	No
ASTM F02.40	ASTM F2095-07(2013), Standard Test Methods for Pressure Decay Leak Test for Flexible Packages With and Without Restraining Plates	2013	Published	No	No
ASTM F02.40	ASTM F2096-11, Standard Test Method for Detecting Gross Leaks in Packaging by Internal Pressurization (Bubble Test)	2011	Published	No	No
ASTM F02.40	ASTM F2228-13, Standard Test Method for Non-Destructive Detection of Leaks in Packaging Which Incorporates Porous Barrier Material by CO2 Tracer Gas Method	2013	Published	No	No
ASTM F02.40	ASTM F2338-09(2013), Standard Test Method for Nondestructive Detection of Leaks in Packages by Vacuum Decay Method	2013	Published	No	No
ASTM F02.40	ASTM F2391-05(2016), Standard Test Method for Measuring Package and Seal Integrity Using Helium as the Tracer Gas	2016	Published	No	No
ASTM F02.50	ASTM 2097-16, Standard Guide for Design and Evaluation of Primary Flexible Packaging for Medical Products	2016	Published	No	No
ASTM F02.50	ASTM F17-17, Standard Terminology Relating to Flexible Barrier Packaging	2017	Published	No	No
ASTM F02.50	ASTM F1980-16, Standard Guide for Accelerated Aging of Sterile Barrier Systems for Medical Devices	2016	Published	No	No
ASTM F04.11	ASTM F2042-00(2011), Standard Guide for Silicone Elastomers, Gels, and Foams Used in Medical Applications Part II—Crosslinking and Fabrication	2011	Published	No	No
ASTM F04.11	ASTM F2902-16e1, Standard Guide for Assessment of Absorbable Polymeric Implants	2016	Published	Yes	No
ASTM F04.12	ASTM F3160-16, Standard Guide for Metallurgical Characterization of Absorbable Metallic Materials for Medical Implants	2016	Published	Yes	No

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ASTM F04.12	ASTM F86-13, Standard Practice for Surface Preparation and Marking of Metallic Surgical Implants	2013	Published	No	No
ASTM F04.15	ASTM F1160-14(2017)e1, Standard Test Method for Shear and Bending Fatigue Testing of Calcium Phosphate and Metallic Medical and Composite Calcium Phosphate/Metallic Coatings	2017	Published	Yes	No
ASTM F04.15	ASTM F1635-16, Standard Test Method for in vitro Degradation Testing of Hydrolytically Degradable Polymer Resins and Fabricated Forms for Surgical Implants	2016	Published	Yes	No
ASTM F04.15	ASTM F1854-15, Standard Test Method for Stereological Evaluation of Porous Coatings on Medical Implants	2015	Published	Yes	No
ASTM F04.15	ASTM F2459-12, Standard Test Method for Extracting Residue from Metallic Medical Components and Quantifying via Gravimetric Analysis	2012	Published	No	No
ASTM F04.15	ASTM F2847-10, Standard Practice for Reporting and Assessment of Residues on Single Use Implants and Single-Use Sterile Instruments	2010	Published	No	No
ASTM F04.15	ASTM F3127-16, Standard Guide for Validating Cleaning Processes Used During the Manufacture of Medical Devices	2016	Published	No	No
ASTM F04.15	ASTM F3208-17, Standard Guide for Selecting Test Soils for Validation of Cleaning Methods for Reusable Medical Devices	2017	Published	Yes	No
ASTM F04.15	ASTM WK52640, New Guide for In-Vitro Degradation Testing of Absorbable Metals		New (In Development)	Yes	No
ASTM F04.15	ASTM WK53082, New Guide for Characterizing the Cleaning Performance of Brushes Designed to Clean the Internal Channel of a Medical Device		(New) In Development	Yes	No
ASTM F04.15	ASTM WK60265, New Guide for Assessing the Removal of Additive Manufacturing Residues in Medical Devices Fabricated by Powder-bed Fusion		(New) In Development	Yes	Yes
ASTM F04.15	ASTM WK61103, New Guide for Corrosion Fatigue Evaluation of Absorbable Metals		New (In Development)	Yes	No
ASTM F04.44	ASTM F2884-12, Standard Guide for Pre-clinical in vivo Evaluation of Spinal Fusion	2012	Published	No	No
ASTM F07.04	ASTM F1459-06(2017), Standard Test Method for Determination of the Susceptibility of Metallic Materials to Hydrogen Gas Embrittlement (HGE)	2017	Published	No	No
ASTM F07.04	ASTM F1624-12, Standard Test Method for Measurement of Hydrogen Embrittlement Threshold in Steel by the Incremental Step Loading Technique	2012	Published	No	No
ASTM F07.04	ASTM F2078-15, Standard Terminology Relating to Hydrogen Embrittlement Testing	2015	Published	No	No
ASTM F07.04	ASTM F519-17a, Standard Test Method for Mechanical Hydrogen Embrittlement Evaluation of Plating/Coating Processes and Service Environments	2017	Published	No	No
ASTM F25.11	ASTM F1330-91 (2012), Standard Guide for Metallic Abrasive Blasting to Descale the Interior of Pipe	2012	Published	No	No
ASTM F42.01	ASTM F2971-13, Standard Practice for Reporting Data for Test Specimens Prepared by Additive Manufacturing	2013	Published	No	Yes
ASTM F42.01	ASTM F3122-14, Standard Guide for Evaluating Mechanical Properties of Metal Materials Made via Additive Manufacturing Processes	2014	Published	No	Yes
ASTM F42.01	ASTM WK49229, New Guide for Orientation and Location Dependence Mechanical Properties for Metal Additive Manufacturing		(New) In Development	No	Yes
ASTM F42.01	ASTM WK55610, New Test Methods for the Characterization of Powder Flow Properties for Additive Manufacturing Applications		(New) In Development	No	Yes
ASTM F42.01	ASTM WK56649, New Guide for Standard Practice/Guide for Intentionally Seeding Flaws in Additively Manufactured (AM) Parts		(New) In Development	No	Yes
ASTM F42.01	ASTM WK60941 Additive Manufacturing - General Principles - Effective Compressive Properties for Ordered Cellular Additively Manufactured (AM) Materials		(New) In Development	Yes	Yes

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ASTM F42.01	ASTM WK60942 Additive Manufacturing - General Principles - Effective Shear Properties for Ordered Cellular Additively Manufactured (AM) Materials		(New) In Development	Yes	Yes
ASTM F42.01	ASTM WK60943 Additive Manufacturing - General Principles - Effective Tensile Properties for Ordered Cellular Additively Manufactured (AM) Materials		(New) In Development	Yes	Yes
ASTM F42.04	ASTM WK48549, New Specification for AMF Support for Solid Modeling: Voxel Information, Constructive Solid Geometry Representations and Solid Texturing		(New) In Development	No	Yes
ASTM F42.04	ASTM WK54856, <i>New Guide for Principles of Design Rules in Additive Manufacturing</i>	late 2018-early 2019	(New) In Development	No	Yes
ASTM F42.04	ASTM WK59131 Additive manufacturing, Technical Design Guideline for Powder Bed Fusion, Part 1: Laser-based Powder Bed Fusion of Metals		(New) In Development	Yes	Yes
ASTM F42.04	ASTM WK59167 Additive manufacturing, Technical Design Guideline for Powder Bed Fusion, Part 2: Laser-based Powder Bed Fusion of Polymers		(New) In Development	Yes	Yes
ASTM F42.05	ASTM F2924-14, Standard Specification for Additive Manufacturing Titanium-6 Aluminum-4 Vanadium with Powder Bed Fusion	2014	Published	No	Yes
ASTM F42.05	ASTM F3001-14, Standard Specification for Additive Manufacturing Titanium-6 Aluminum-4 Vanadium ELI (Extra Low Interstitial) with Powder Bed Fusion	2014	Published	No	Yes
ASTM F42.05	ASTM F3049-14, Standard Guide for Characterizing Properties of Metal Powders Used for Additive Manufacturing Processes	2014	Published	No	Yes
ASTM F42.05	ASTM F3055-14a, Standard Specification for Additive Manufacturing Nickel Alloy (UNS N07718) with Powder Bed Fusion	2014	Published	No	Yes
ASTM F42.05	ASTM F3056-14e1, Standard Specification for Additive Manufacturing Nickel Alloy (UNS N06625) with Powder Bed Fusion	2014	Published	No	Yes
ASTM F42.05	ASTM F3091/F3091M-14, Standard Specification for Powder Bed Fusion of Plastic Materials	2016	Published	No	Yes
ASTM F42.05	ASTM F3184-16, Standard Specification for Additive Manufacturing Stainless Steel Alloy (UNS S31603) with Powder Bed Fusion	2016	Published	No	Yes
ASTM F42.05	ASTM F3187-16, Standard Guide for Directed Energy Deposition of Metals	2016	Published	No	Yes
ASTM F42.05	ASTM F3301-18, Standard for Additive Manufacturing – Post Processing Methods – Standard Specification for Thermal Post-Processing Metal Parts Made Via Powder Bed Fusion	2018	Published	Yes	Yes
ASTM F42.05	ASTM WK51329, New Specification for Additive Manufacturing Cobalt-28 Chromium-6 Molybdenum Alloy (UNS R30075) with Powder Bed Fusion1		(New) In Development	No	Yes
ASTM F42.05	ASTM WK53423, New Specification for Additive Manufacturing-Finished Part Properties-Standard Specification for AlSi10Mg via Powder Bed Fusion		(New) In Development	No	Yes
ASTM F42.05	ASTM WK53878, New Specification for Additive Manufacturing - Material Extrusion Based Additive Manufacturing of Plastic Materials - Part 1: Feedstock materials		(New) In Development	No	Yes
ASTM F42.05	ASTM WK58220 Additive Manufacturing – Process Characteristics and Performance -Standard Guidance for Specifying Gases and Nitrogen Generators Used with Metal Powder Bed Fusion Machines		(New) In Development	Yes	Yes
ASTM F42.05	ASTM WK60552 Additive Manufacturing-Finished Part Properties-Standard Specification for Additive Manufacturing Titanium Alloys via Powder Bed Fusion		(New) In Development	Yes	Yes
ASTM F42.06	ASTM WK59813, New Guide for Hazard Risk Ranking and Safety Defense		(New) In Development	Yes	Yes
ASTM G01.05	ASTM B117-16, Standard Practice for Operating Salt Spray (Fog) Apparatus	2016	Published	No	No
ASTM G01.06	ASTM 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	2016	Published	No	No
AWS B2	AWS B2.1/B2.1M:2014, Specification for Welding Procedure and Performance Qualification	2014	Published	No	No

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AWS D1	AWS D1.1/D1.1M:2015, Structural Welding Code -Steel (second printing)	2015	Published	No	No
AWS D1	AWS D1.2/D1.2M:2014, Structural Welding Code - Aluminum	2014	Published	No	No
AWS D17	AWS D17.1/D17.1M:2017-AMD1, Specification for Fusion Welding for Aerospace Applications	2017	Published	No	No
AWS D20	AWS D20.1, Standard for Fabrication of Metal Components using Additive Manufacturing	2019	(New) In Development	No	Yes
B11 Standards, Inc.	ANSI B11.10-2003 (R2015), Safety Requirements for Metal Sawing Machines	2015	Published	Yes	No
B11 Standards, Inc.	ANSI B11.11-2001 (R2012), Safety Requirements for Gear and Spline Cutting Machines	2012	Published	Yes	No
B11 Standards, Inc.	ANSI B11.1-2009, Safety Requirements for Mechanical Power Presses	2009	Published	Yes	No
B11 Standards, Inc.	ANSI B11.12-2005 (R2015), Safety Requirements for Roll Forming & Roll Bending Machines	2015	Published	Yes	No
B11 Standards, Inc.	ANSI B11.13-1992 (R2007), Single and Multiple-Spindle Automatic Bar, and Chucking Machines- Safety Requirements for Construction, Care and Use	2012	Published	Yes	No
B11 Standards, Inc.	ANSI B11.16-2014, Safety Requirements for Powder/Metal Compacting Presses (MPIF #47)	2014	Published	Yes	No
B11 Standards, Inc.	ANSI B11.17-2004 (R2015), Safety Requirements for Horizontal Hydraulic Extrusion Presses	2015	Published	Yes	No
B11 Standards, Inc.	ANSI B11.19-2010, Performance Criteria for Safeguarding	2010	Published	Yes	No
B11 Standards, Inc.	ANSI B11.20-2017, Safety Requirements for Integrated Manufacturing Systems	2017	Published	Yes	No
B11 Standards, Inc.	ANSI B11.21-2006 (R2012), Safety Requirements for Machine Tools Using Lasers for Processing Materials	2012	Published	Yes	No
B11 Standards, Inc.	ANSI B11.2-2013, Safety Requirements for Hydraulic and Pneumatic Power Presses	2013	Published	Yes	No
B11 Standards, Inc.	ANSI B11.22-2002 (R2012), Safety Requirements for Turning Centers and Automatic Numerically Controlled Turning Machines	2012	Published	Yes	No
B11 Standards, Inc.	ANSI B11.23-2002 (R2012), Safety Requirements for Machining Centers and Automatic Numerically Controlled Milling, Drilling and Boring Machines	2012	Published	Yes	No
B11 Standards, Inc.	ANSI B11.24-2002 (R2012), Safety Requirements for Transfer Machines	2012	Published	Yes	No
B11 Standards, Inc.	ANSI B11.25-2015, Safety Requirements for Large Machines	2015	Published	Yes	No
B11 Standards, Inc.	ANSI B11.26—201X: Functional Safety for Equipment (Electrical/Fluid Power Control Systems) – Application of ISO 13849 - General Principles for Design			Yes	No
B11 Standards, Inc.	ANSI B11.3-2012, Safety Requirements for Power Press Brakes	2012	Published	Yes	No
B11 Standards, Inc.	ANSI B11.4-2003 (R2013), Safety Requirements for Shears	2013	Published	Yes	No
B11 Standards, Inc.	ANSI B11.5-1988 (R2008), Machines - Ironworkers - Safety Requirements for Construction, Care and Use	2008	Published	Yes	No
B11 Standards, Inc.	ANSI B11.6-2001 (R2012), Safety Requirements for Manual Turning Machines w/ or without Auto Control	2012	Published	Yes	No
B11 Standards, Inc.	ANSI B11.9-2010 (R2015), Safety Requirements for Grinding Machines	2015	Published	Yes	No
B11 Standards, Inc.	ANSI B11.TR2-1997, Mist Control Considerations for the Design, Installation And Use of Machine Tools Using Metalworking Fluids	1997	Published	Yes	No
B11 Standards, Inc.	ANSI B11.TR4-2004, Selection of Programmable Electronic Systems (PES/PLC) for Machine Tools	2004	Published	Yes	No
B11 Standards, Inc.	ANSI B11.TR5-2006 (R2017), ANSI Technical Report for Machines -Noise Level Measurement Guidelines - A guide for measuring, evaluating, documenting and reporting noise levels emitted by machinery	2017	Published	Yes	No
B11 Standards, Inc.	ANSI B11.TR6-2010, Safety Control Systems for Machines	2010	Published	Yes	No
B11 Standards, Inc.	ANSI B11.TR7-2007, Designing for Safety and Lean Manufacturing: A guide on integrating safety and lean manufacturing principles in the use of machinery	2007	Published	Yes	No
B11 Standards, Inc.	ANSI/ISO 12100:2012, Safety of Machinery - General Principles for Design – Risk Assessment and Risk Reduction	2012	Published	Yes	No
Battelle Memorial Institute	Metallic Materials Properties Development and Standardization (MMPDS) Handbook	2016	Published	No	No
CEN	CSN EN 14242, Aluminium and aluminium alloys - Chemical analysis - Inductively coupled plasma optical emission spectral analysis	2004	Published	No	No

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DMSC	ANSI QIF v2.1 2016	2016	Published	No	No
DoD	Defense Federal Acquisition Regulation Supplement (DFARS) Publication Notice 20160802; Detection and Avoidance of Counterfeit Electronic Parts-Further Implementation (DFARS Case 2014-D005	2014	Published	No	No
DoD	Depot Source of Repair (DSOR): A Guide for Acquisition Personnel- DTD Oct 05	2005	Published	No	No
DoD	DoD Directive 8320.03, Unique Identification (UID) Standards for Supporting the DoD Information Enterprise	2017	Published	No	No
DoD	MIL-STD-1907(4) NOT 3, Inspection, Liquid Penetrant And Magnetic Particle, Soundness Requirements For Materials, Parts And Weldments	2014	Published	No	No
DoD	MIL-STD-3021(2), Materials Deposition, Cold Spray	2015	Published	No	No
DoD	MIL-STD-3049(1), Materials Deposition, DDM: Direct Deposition of Metal for Remanufacture, Restoration and Recoating	2014	Published	No	No
DoD	MIL-STD-31000A, Technical Data Packages		Published	No	No
FDA	Design Control Guidance For Medical Device Manufacturers (This Guidance relates to FDA 21 CFR 820.30 and Sub-clause 4.4 of ISO 9001)	1997	Published	Yes	No
FDA	FDA 21CFR 800-1099		Published	No	No
FDA	FDA 21CFR 820.140, Handling	2017	Published	Yes	No
FDA	FDA 21CFR 820.150, Storage	2017	Published	Yes	No
FDA	FDA 21CFR 820.181, Device master record	2017	Published	Yes	No
FDA	FDA 21CFR 820.186, Quality System Record	2017	Published	Yes	No
FDA	FDA 21CFR 820.65, Traceability	2017	Published	Yes	No
FDA	FDA 21CFR 820.70, Production and process controls	2017	Published	Yes	No
FDA	FDA Quality System (QS) Regulation/Medical Device Good Manufacturing Practices	1996	Published	No	No
FDA	Guidance for Industry: Current Good Tissue Practice (CGTP) and Additional Requirements for Manufacturers of Human Cells, Tissues, and Cellular and Tissue-Based Products (HCT/Ps)	2011	Published	Yes	No
FDA	Technical Considerations for Additive Manufactured Devices: Final Guidance for Industry and Food and Drug Administration Staff (AM Technical Guidance)	2017	Published	No	Yes
FDA	Use of International Standard ISO 10993-1, Biological evaluation of medical devices Part 1: Evaluation and testing within a risk management process	2016	Published	No	No
HL7	HL7 Standard for CDA® Release 2: Imaging Integration; Basic Imaging Reports in CDA and DICOM, Release 1	2009	Published	No	No
IEEE P1838 C/TT/3DT-WG	IEEE P1838, Standard for Test Access Architecture for Three-Dimensional Stacked Integrated Circuits		(New) In Development	No	No
IEEE P3030 CES/SC/C3DP	IEEE P3030, Standard for Consumer 3D Printing: Overview and Architecture		(New) In Development	No	Yes
IEEE P3333 C/SAB/3333-2_WG	IEEE 3333.2.1-2015, IEEE Recommended Practice for Three-Dimensional (3D) Medical Modeling	2015	Published	No	No
IEEE P3333 C/SAB/3333-2_WG	IEEE P3333.2.2, Standard for Three-Dimensional (3D) Medical Visualization		(New) In Development	No	No
IEEE P3333 C/SAB/3333-2_WG	IEEE P3333.2.3, Standard for Three-Dimensional (3D) Medical Data Management		(New) In Development	No	No
IEEE P3333 C/SAB/3333-2_WG	IEEE P3333.2.4, Standard for Three-Dimensional (3D) Medical Simulation		(New) In Development	No	No
IEEE P3333 C/SAB/3333-2_WG	IEEE P3333.2.5, Standard for Bio-CAD File Format for Medical Three-Dimensional (3D) Printing		(New) In Development	No	Yes

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IEEE-ISTO PWG	PWG 5100.12-2015, IPP 2.0, 2.1, and 2.2	2015	Published	No	No
IEEE-ISTO PWG	PWG 5100.20-2016, IPP Everywhere Printer Self-Certification Manual v1.0 (SELFCERT)	2016	Published	No	No
IEEE-ISTO PWG	PWG 5100.21-2017, IPP 3D Printing Extensions v1.0 (3D)	2017	Published	No	Yes
IPC D-11	IPC 2223D-2016, Sectional Design Standard for Flexible Printed Boards	2016	Published	No	Yes
IPC D31b	IPC 2221B-2012, Generic Standard on Printed Board Design	2012	Published	No	Yes
IPC D31b	IPC 2222A-2010, Sectional Design Standard for Rigid Organic Printed Boards	2010	Published	No	Yes
IPC D-61	IPC/JPCA 2291-2013, Design Guideline for Printed Electronics	2013	Published	No	Yes
IPC D-61	IPC-2292, Design Standard for Printed Electronics on Flexible Substrates	2018	Published	No	Yes
IPC D-62	IPC 4921A-2017, Requirements for Printed Electronics Base Materials (Substrates)	2017	Published	No	Yes
IPC D-63	IPC/JPCA 4591-2012, Requirements for Printed Electronics Functional Conductive Materials	2012	Published	No	Yes
IPC D-63	IPC-4591A, Requirements for Printed Electronics Functional Conductive Materials		(Revision) In Development	No	Yes
IPC D-64	IPC-6902, Qualification and Performance Specifications for Printed Electronics (Additive Circuitry)		(New) In Development	No	Yes
IPC D-64a	IPC 6903-2015, Terms and Definitions for the Design and Manufacture of Printed Electronics (Additive Circuitry)	2015	Published	No	Yes
IPC D-64a	IPC/JPCA 6901-2015, Application Categories for Printed Electronics	2015	Published	No	Yes
IPC D-64a	IPC-6903A, Terms and Definitions for Design, Production and Performance of Printed Electronics		(Revision) In Development	No	Yes
IPC D-65	IPC TM-650-2007, Test Methods Manual	2007	Published	No	Yes
IPC D-65	IPC-9204, Guideline on Flexibility and Stretchability Test Methods for Printed Electronics - Final Draft for Industry Review		(New) In Development	No	Yes
IPC D-66	IPC/SGIA-5222, Process Guideline for Screen Printing for Printed Electronics (Additive Manufacturing)		(New) In Development	No	Yes
ISO/CASCO	ISO/IEC 17000:2004, Conformity assessment – Vocabulary and general principles	2004	Published	No	No
ISO/CASCO	ISO/IEC 17025:2017, General requirement for the competence of testing and calibration laboratories	2017	Published	No	No
ISO/IEC JTC 1	ISO/IEC NWIP, Information technology — 3D Printing and Scanning — Framework for Additive Manufacturing Service Platform (AMSP)		New (In Development)	Yes	Yes
ISO/PC 283	ISO 45001:2018, Occupational health and safety management systems — Requirements with guidance for use	2018	Published	Yes	No
ISO/TC 10	ISO 16792:2015, Technical product documentation -- Digital product definition data practices	2015	Published	No	No
ISO/TC 10	ISO 8887-1:2017, Technical product documentation - Design for manufacturing, disassembling and end-of-life processing - Part 1: General concepts and requirements	2017	Published	No	No
ISO/TC 108/SC 5	ISO 13379-1:2012, Condition monitoring and diagnostics of machines - Data interpretation and diagnostics techniques - Part 1: General guidelines	2012	Published	No	No
ISO/TC 108/SC 5	ISO 13381-1:2015, Condition monitoring and diagnostics of machines - Prognostics - Part 1: General guidelines	2015	Published	No	No
ISO/TC 119/SC 2	ISO 13947:2011, Metallic powders - Test method for the determination of non-metallic inclusions in metal powders using a powder-forged specimen	2011	Published	Yes	No
ISO/TC 119/SC 2	ISO 3923-1:2008, Metallic powders - Determination of apparent density - Part 1: Funnel method	2008	Published	No	No
ISO/TC 119/SC 2	ISO 3927:2017, Metallic powders, excluding powders for hardmetals -- Determination of compressibility in uniaxial compression	2017	Published	No	No
ISO/TC 119/SC 2	ISO 3953:2011, Metallic powders - Determination of tap density	2011	Published	No	No
ISO/TC 119/SC 2	ISO 3954:2007, Powders for powder metallurgical purposes—Sampling	2007	Published	Yes	No

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ISO/TC 119/SC 2	ISO 4490:2014, Metallic powders - Determination of flow rate by means of a calibrated funnel (Hall flowmeter)	2014	Published	No	No
ISO/TC 119/SC 2	ISO 4497:1983, Metallic powders -- Determination of particle size by dry sieving	1983	Published	No	No
ISO/TC 119/SC 3	ISO 2738:1999, Sintered metal materials, excluding hardmetals -- Permeable sintered metal materials -- Determination	1999	Published	No	No
ISO/TC 119/SC 3	ISO 2740:2009, Sintered metal materials, excluding hardmetals -- Tensile test pieces	2009	Published	No	No
ISO/TC 119/SC 3	ISO 4498:2010, Sintered metal materials, excluding hardmetals -- Determination of apparent hardness and microhardness	2010	Published	No	No
ISO/TC 138/SC 5	ISO 10147:2011, Pipes and fittings made of crosslinked polyethylene (PE-X) - Estimation of the degree of crosslinking by determination of the gel content	2011	Published	No	No
ISO/TC 150	ISO 19227:2018, Implants for surgery -- Cleanliness of orthopedic implants -- General requirements	2018	Published	Yes	No
ISO/TC 150	ISO/AWI TS 20721, Implants for surgery -- Standard guide to assessment of absorbable metallic implants		New (In Development)	Yes	No
ISO/TC 150/SC 6	ISO 14708-1:2014, Implants for surgery - Active implantable medical devices - Part 1: General requirements for safety, marking and for information to be provided by the manufacturer	2014	Published	No	No
ISO/TC 164/SC 3	ISO 6506-1:2014, Metallic materials -- Brinell hardness test -- Part 1: Test method	2014	Published	No	No
ISO/TC 164/SC 3	ISO 6507-1:2018, Metallic materials -- Vickers hardness test -- Part 1: Test method	2018	Published	No	No
ISO/TC 164/SC 3	ISO 6508-1:2016, Metallic materials -- Rockwell hardness test -- Part 1: Test method	2016	Published	No	No
ISO/TC 164/SC 3	ISO 6508-2:2015, Metallic materials -- Rockwell hardness test -- Part 2: Verification and calibration of testing machines and indenters	2015	Published	No	No
ISO/TC 164/SC 3	ISO 6508-3:2015, Metallic materials -- Rockwell hardness test -- Part 3: Calibration of reference blocks	2015	Published	No	No
ISO/TC 176/SC 1	ISO 9000:2015, Quality management systems - Fundamentals and vocabulary	2015	Published	No	No
ISO/TC 184/SC4	ISO 10303-238:2007, Industrial automation systems and integration - Product data representation and exchange - Part 238: Application protocol: Application interpreted model for computerized numerical controllers	2007	Published	No	No
ISO/TC 184/SC4	ISO 10303-242:2014, Industrial automation systems and integration - Product data representation and exchange --Part 242: Application protocol: Managed model-based 3D engineering (revises ISO 10303-203:2011)	2014	Published	No	No
ISO/TC 194	ISO 10993-1/Cor1:2010, Biological evaluation of medical devices - Part 1: Guidance on selection of tests - Corrigendum	2010	Published	No	No
ISO/TC 194	ISO 10993-1:2009, Biological evaluation of medical devices - Part 1: Evaluation and testing within a risk management process	2009	Published	No	No
ISO/TC 194	ISO 10993-13:2010, Biological evaluation of medical devices -- Part 13: Identification and quantification of degradation products from polymeric medical devices	2010	Published	Yes	No
ISO/TC 194	ISO/DTR 37137-2, Cardiovascular biological evaluation of medical devices -- Guidance for absorbable implants -- Part 2: Standard guide for absorbable metals		New (In Development)	Yes	No
ISO/TC 194	ISO/TR 37137:2014, Cardiovascular biological evaluation of medical devices -- Guidance for absorbable implants	2014	Published	Yes	No
ISO/TC 198	ISO 11737-1:2018, Sterilization of medical devices - Microbiological methods - Part 1: Determination of a population of microorganisms on products	2018	Published	No	No
ISO/TC 198	ISO 18362:2016, Manufacture of cell-based health care products - Control of microbial risks during processing	2016	Published	No	No

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Developer	Designation / Title of Standard, Specification, or Other Publication	Publication Date / Target Date	Publication Status	New to v2?	AM Specific?
ISO/TC 198	ISO/TS 19930:2017, Guidance on aspects of a risk-based approach to assuring sterility of terminally sterilized, single-use health care product that is unable to withstand processing to achieve maximally a sterility assurance level of 10-6	2017	Published	No	No
ISO/TC 202	ISO 13067:2011, Microbeam analysis - Electron backscatter diffraction - Measurement of average grain size	2011	Published	No	No
ISO/TC 209	ISO 14644-1:2015, Cleanrooms and associated controlled environments - Part 1: Classification of air cleanliness by particle concentration	2015	Published	No	No
ISO/TC 210	ISO 13485:2016, Medical devices - Quality management systems - Requirements for regulatory purposes	2016	Published	No	No
ISO/TC 213	ISO 12085/Cor1:1998, Geometrical Product Specifications (GPS) -- Surface texture: Profile method -- Motif parameters	1998	Published	No	No
ISO/TC 213	ISO 12085:1996, Geometrical Product Specifications (GPS) - Surface texture: Profile method - Motif parameters	1996	Published	No	No
ISO/TC 213	ISO 1302:2002, Geometrical Product Specifications (GPS) - Indication of surface texture in technical product documentation	2002	Published	No	No
ISO/TC 213	ISO 15530-3:2011, Geometrical product specifications (GPS) - Coordinate measuring machines (CMM): Technique for determining the uncertainty of measurement - Part 3: Use of calibrated workpieces or measurement standards	2011	Published	No	No
ISO/TC 213	ISO 17450-1:2011, Geometrical product specifications (GPS) - General concepts - Part 1: Model for geometrical specification and verification	2011	Published	No	No
ISO/TC 213	ISO 25178-1:2016, Geometrical product specifications (GPS) - Surface texture: Areal - Part 1: Indication of surface texture	2016	Published	Yes	No
ISO/TC 213	ISO 25178-2:2012, Geometrical product specifications (GPS) - Surface texture: Areal - Part 2: Terms, definitions and surface texture parameters	2012	Published	Yes	No
ISO/TC 213	ISO 25178-3:2012, Geometrical product specifications (GPS) - Surface texture: Areal - Part 3: Specification operators	2012	Published	Yes	No
ISO/TC 213	ISO 25178-6:2010, Geometrical product specifications (GPS) - Surface texture: Areal - Part 6: Classification of methods for measuring surface texture	2010	Published	Yes	No
ISO/TC 213	ISO 4287/Amd1:2009, Geometrical Product Specifications (GPS) - Surface texture: Profile method - Terms, definitions and surface texture parameters - Amendment 1: Peak count number	2009	Published	No	No
ISO/TC 213	ISO 4288/Cor1:1998, Corrigendum	1998	Published	No	No
ISO/TC 213	ISO 4288:1996, Geometrical Product Specifications (GPS) - Surface texture: Profile method - Rules and procedures for the assessment of surface texture	1996	Published	No	No
ISO/TC 215	ISO 12052:2017, Health informatics - Digital imaging and communication in medicine (DICOM) including workflow and data management	2017	Published	No	No
ISO/TC 24/SC 4	ISO 13320:2009, Particle size analysis - Laser diffraction methods	2009	Published	No	No
ISO/TC 24/SC 4	ISO 9276:Parts 1-6, Representation of results of particle size analysis	various	Published	No	No
ISO/TC 261	ISO 17296-2:2015, Additive manufacturing -- General principles -- Part 2: Overview of process categories and feedstock	2015	Published	No	Yes
ISO/TC 261	ISO 17296-3:2014, Additive manufacturing -- General principles -- Part 3: Main characteristics and corresponding test methods	2014	Published	No	Yes
ISO/TC 261	ISO 17296-4:2014, Additive manufacturing -- General principles -- Part 4: Overview of data processing	2014	Published	No	Yes
ISO/TC 261/ASTM F42	ISO/ASTM 52910-17, Standard Guidelines for Design for Additive Manufacturing	2017	Published	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM 52915:2016, Specification for Additive Manufacturing File Format (AMF) Version 1.2	2016	Published	No	Yes

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Developer	Designation / Title of Standard, Specification, or Other Publication	Publication Date / Target Date	Publication Status	New to v2?	AM Specific?
ISO/TC 261/ASTM F42	ISO/ASTM DIS 52911-1, Additive manufacturing -- Technical design guideline for powder bed fusion -- Part 1: Laser-based powder bed fusion of metals		(New) In Development	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM DIS 52911-2, Additive manufacturing -- Technical design guideline for powder bed fusion -- Part 2: Laser-based powder bed fusion of polymers		(New) In Development	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM NP 52903-3, Additive Manufacturing -- Standard Specification for Material Extrusion Based Additive Manufacturing of Plastic Materials -- Part 3: Part 3: Final parts		(New) In Development	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM NP 52932, Additive manufacturing -- Environmental health and safety -- Standard test method for determination of particle emission rates from desktop 3D printers using material extrusion		(New) In Development	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM PWI 52904, Additive Manufacturing -- Process Characteristics and Performance: Standard Practice for Metal Powder Bed Fusion Process to Meet Critical Applications (ISO/TC 261/ASTM F42/JG 56)		(New) In Development	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM PWI 52931, Additive manufacturing -- Environmental health and safety -- Standard guideline for use of metallic materials		(New) In Development	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM WD 52941, Additive manufacturing -- System performance and reliability -- Standard test method for acceptance of powder-bed fusion machines for metallic materials for aerospace application		(New) In Development	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM WD 52942, Additive manufacturing -- Qualification principles -- Standard guideline for qualifying machine operators of powder bed based laser beam machines in aerospace applications		(New) In Development	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM NP 52916, Additive manufacturing -- Data formats -- Standard specification for optimized medical image data		(New) In Development	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM 52900:2015, Additive manufacturing -- General principles -- Terminology	2015	Published	No	Yes
ISO/TC 261/ASTM F42	ISO/ASTM 52901:2017, Additive manufacturing - General principles - Requirements for purchased AM parts	2017	Published	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM 52921:2013, Standard Terminology for Additive Manufacturing - Coordinate Systems and Test Methodologies	2013	Published	No	Yes
ISO/TC 261/ASTM F42	ISO/ASTM CD 52903-2, Additive manufacturing -- Standard specification for material extrusion based additive manufacturing of plastic materials -- Part 2: Process -- Equipment		(New) In Development	No	Yes
ISO/TC 261/ASTM F42	ISO/ASTM CD 52905, Additive Manufacturing -- Non-Destructive Testing and Evaluation -- Standard Guideline for Defect Detection in Metallic Parts		(New) In Development	No	Yes
ISO/TC 261/ASTM F42	ISO/ASTM DIS 52900, Additive manufacturing -- General principles -- Terminology		Revision (In Development)	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM DIS 52902, Additive manufacturing -- Test artefacts -- Standard guideline for geometric capability assessment of additive manufacturing systems		(New) In Development	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM DIS 52903-1, Additive Manufacturing -- Standard Specification for Material Extrusion Based Additive Manufacturing of Plastic Materials -- Part 1: Feedstock materials		(New) In Development	No	Yes
ISO/TC 261/ASTM F42	ISO/ASTM DIS 52907, Additive manufacturing -- Technical specifications on metal powders		(New) In Development	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM DIS 52915, Specification for additive manufacturing file format (AMF) Version 1.2		(Revision) In Development	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM NP TR 52912, Design of functionally graded additive manufactured parts		(New) In Development	No	Yes
ISO/TC 261/ASTM F42	ISO/ASTM PWI 52908, Additive manufacturing -- Post-processing methods -- Standard specification for quality assurance and post processing of powder bed fusion metallic parts		(New) In Development	Yes	Yes
ISO/TC 261/ASTM F42	ISO/ASTM PWI 52909, Additive manufacturing -- Finished part properties -- Standard guideline for orientation and location dependence of mechanical properties for metal powder bed fusion		(New) In Development	Yes	Yes

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Developer	Designation / Title of Standard, Specification, or Other Publication	Publication Date / Target Date	Publication Status	New to v2?	AM Specific?
ISO/TC 35/SC 12	ISO 8503-2:2012, 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 -	2012	Published	No	No
ISO/TC 44/SC 10	ISO 15609-1:2004, Specification and qualification of welding procedures for metallic materials - Welding procedure specification - Part 1: Arc welding	2004	Published	No	No
ISO/TC 51/SC 12	ISO 14322:2012, Plastics - Epoxy resins - Determination of degree of crosslinking of crosslinked epoxy resins by differential scanning calorimetry	2012	Published	No	No
ISO/TC 69/SC 6	ISO 21748:2017, Guidance for the use of repeatability, reproducibility and trueness estimates in measurement uncertainty evaluation (British Standard)	2017	Published	No	No
ISO/TC 69/SC 6	ISO 5725, Accuracy of Measurement Methods and Results Package	various	Published	No	No
ISO/TC 69/SC 7	ISO/TR 12888:2011, Selected illustrations of gauge repeatability and reproducibility studies	2011	Published	No	No
LIA (ASC Z136)	ANSI Z136.1-2014, American National Standard for Safe Use of Lasers	2014	Published	Yes	No
LIA (ASC Z136)	ANSI Z136.2-2012, American National Standard for Safe Use of Optical Fiber Communication Systems Utilizing Laser Diode and LED Sources	2012	Published	Yes	No
LIA (ASC Z136)	ANSI Z136.3-2011, American National Standard for Safe Use of Lasers in Health Care	2011	Published	Yes	No
LIA (ASC Z136)	ANSI Z136.4-2010, American National Standard Recommended Practice for Laser Safety Measurements for Hazard Evaluation	2010	Published	Yes	No
LIA (ASC Z136)	ANSI Z136.7-2008, American National Standard for Testing and Labeling of Laser Protective Equipment	2008	Published	Yes	No
LIA (ASC Z136)	ANSI Z136.8-2012, American National Standard for Safe Use of Lasers in Research, Development, or Testing	2012	Published	Yes	No
LIA (ASC Z136)	ANSI Z136.9-2013, American National Standard for Safe Use of Lasers in Manufacturing Environments	2013	Published	Yes	No
MPIF	Standard 58 (ASTM B946-11(2016), Standard Test Method for Surface Finish of Powder Metallurgy (PM) Products)	2016	Published	No	No
MPIF	Standard Test Method 01, Method for Sampling Metal Powders	2016	Published	No	No
MPIF	Standard Test Method 02, Method for Determination of Loss of Mass in a Reducing Atmosphere for Metal Powders (Hydrogen Loss)	2016	Published	No	No
MPIF	Standard Test Method 03, Method for Determination of Flow Rate of Free-Flowing Metal Powders Using the Hall Apparatus	2016	Published	No	No
MPIF	Standard Test Method 04, Method for Determination of Apparent Density of Free-Flowing Metal Powders Using the Hall Apparatus	2016	Published	No	No
MPIF	Standard Test Method 05, Method for Determination of Sieve Analysis of Metal Powders	2016	Published	No	No
MPIF	Standard Test Method 06, Method for Determination of Acid Insoluble Matter in Iron and Copper Powders	2016	Published	No	No
MPIF	Standard Test Method 28, Method for Determination of Apparent Density of Non-Free-Flowing Metal Powders Using the Carney Apparatus	2016	Published	No	No
MPIF	Standard Test Method 32, Methods for Estimating Average Particle Size of Metal Powders Using Air Permeability	2016	Published	No	No
MPIF	Standard Test Method 42, Method for Determination of Density of Compacted or Sintered Powder Metallurgy (PM) Products Materials	2016	Published	No	No
MPIF	Standard Test Method 43, Method for Determination of the Apparent Hardness of Powder Metallurgy Products	2016	Published	No	No
MPIF	Standard Test Method 46, Method for Determination of Tap Density of Metal Powders	2016	Published	No	No
MPIF	Standard Test Method 48, Method for Determination of Apparent Density of Metal Powders Using the Arnold Meter	2016	Published	No	No

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Developer	Designation / Title of Standard, Specification, or Other Publication	Publication Date / Target Date	Publication Status	New to v2?	AM Specific?
MPIF	Standard Test Method 51, Method for Determination of Microindentation Hardness of Powder Metallurgy Materials	2016	Published	No	No
MPIF	Standard Test Method 53, Method for Measuring the Volume of the Apparent Density Cup Used with the Hall and Carney Apparatus (Standards 04 and 28)	2016	Published	No	No
MPIF	Standard Test Method 54, Method for Determination of Density of Impermeable Powder Metallurgy (PM) Materials	2016	Published	No	No
MPIF	Standard Test Method 66, Method for Sample Preparation for the Determination of the Total Carbon Content of Powder Metallurgy (PM) Materials (Excluding Cemented Carbides)	2016	Published	No	No
MPIF	Standard Test Method 67, Guide to Sample Preparation for the Chemical Analysis of the Metallic Elements in PM Materials	2016	Published	No	No
MPIF	Standard Test Method 69, Guide for the Determination of the Porosity in Powder Metallurgy Products Using Automated Image Analysis	2016	Published	No	No
NACE International	ANSI/NACE MR0175/ISO 15156, Petroleum and natural gas industries - Materials for use in H2S-containing environments in oil and gas production (includes parts 1, 2, and 3)	2015	Published	No	No
NACE International, TG 419	NACE SP0287-2016, Field Measurement of Surface Profile of Abrasive Blast-Cleaned Steel Surfaces Using a Replica Tape	2016	Published	No	No
NASA MSFC	MSFC-SPEC-3717, Specification for Control and Qualification of Laser Powder Bed Fusion Metallurgical Processes	2017	Published	Yes	Yes
NASA MSFC	MSFC-STD-3716, Standard for Additively Manufactured Spaceflight Hardware by Laser Powder Bed Fusion in Metals	2017	Published	Yes	Yes
NEMA	NEMA CPSP 1-2015, Supply Chain Best Practices	2015	Published	No	No
NEMA/MITA	DICOM Part 1-Part 20	2016	Published	No	No
NEMA/MITA	NEMA/MITA CSP 1-2016, Cybersecurity for Medical Imaging	2016	Published	No	No
NFPA	NFPA 484-2015, Standard for Combustible Metals, 2015 Edition	2015	Published	No	No
NFPA	NFPA 499-2017, NFPA 499 Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas, 2017 edition	2017	Published	No	No
NFPA	NFPA 652-2016, Standard on the Fundamentals of Combustible Dust, 2016 edition	2016	Published	No	No
NFPA	NFPA 654-2017, NFPA 654 Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, 2017 edition	2017	Published	No	No
NFPA	NFPA 68-2018, NFPA 68 Standard on Explosion Protection by Deflagration Venting, 2013 Edition	2018	Published	No	No
NFPA	NFPA 69-2014, Standard on Explosion Prevention Systems, 2014 Edition	2014	Published	No	No
NFPA	NFPA 70-2014, National Electrical Code (NEC) Softbound, 2014 Edition	2014	Published	No	No
NFPA	NFPA 77-2014, Recommended Practice on Static Electricity, 2014 Edition	2014	Published	No	No
NFPA	NFPA 91-2015, NFPA 91 Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Particulate Solids, 2015 edition	2015	Published	No	No
NIST	Framework for Improving Critical Infrastructure Cybersecurity (Cybersecurity Framework)	2014	Published	No	No
NIST	NIST Additive Manufacturing Material Database (AMMD)		Published	Yes	Yes
NIST	NIST Special Publication 800-53 Revision 4, Security and Privacy Controls for Federal Information Systems	2013	Published	No	No
NIST	NIST Special Publication 800-82 Revision 2, Guide to Industrial Control Systems (ICS) Security	2015	Published	No	No
NIST	NISTIR 8012, Standards Related to Prognostics and Health Management (PHM) for Manufacturing	2014	Published	No	No
NIST	NISTIR 8041, Proceedings of the Cybersecurity for Direct Digital Manufacturing (DDM) Symposium	2015	Published	No	Yes
NIST	NISTIR 8183, Cybersecurity Framework Manufacturing Profile	2016	New (In Development)	No	No
SAE	Composite Materials Handbook (CMH-17)	2012	Published	No	No

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SAE	SAE J911, Surface Texture, Roughness (Ra), Peak Count (Pc), and Mean Profile Spacing, (Rsm) Measurement of Metallic Coated and Uncoated Steel Sheet/Strip to be Formed and/or to be Painted	2017	Published	No	No
SAE AMS B	SAE AMS03-2A-2017, Cleaning and Preparation of Metal Surfaces	2017	Published	No	No
SAE AMS B	SAE AMS2680C-2001, Electron-Beam Welding for Fatigue Critical Applications	2010	Published	No	No
SAE AMS B	SAE AMS2750E, Pyrometry	2012	Published	Yes	No
SAE AMS B	SAE ARP1962A, Training and Approval of Heat-Treating Personnel	2007	Published	Yes	No
SAE AMS D	SAE AMS2770N, Heat Treatment of Wrought Aluminum Alloy Parts	2015	Published	Yes	No
SAE AMS D	SAE AMS2771F, Heat Treatment of Aluminum Alloy Castings	2017	Published	Yes	No
SAE AMS E	SAE AMS2759E, Heat Treatment of Steel Parts, General Requirements	2008	Published	Yes	No
SAE AMS E	SAE AMSH6875B, Heat Treatment of Steel Raw Materials	2010	Published	Yes	No
SAE AMS F	SAE AMS2759/3F, Heat Treatment Precipitation-Hardening Corrosion-Resistant and Maraging Steel Parts	2015	Published	Yes	No
SAE AMS F	SAE AMS2774E, Heat Treatment Wrought Nickel Alloy and Cobalt Alloy Parts	2016	Published	Yes	No
SAE AMS G	SAE AMS2801B, Heat Treatment of Titanium Alloy Parts	2014	Published	Yes	No
SAE AMS G	SAE AMS4998E, Titanium Alloy Powder 6Al 4V	2013	Published	No	No
SAE AMS G	SAE AMS4999A, Titanium Alloy Laser Deposited Products~6Al - 4V~Annealed	2011	Published	No	Yes
SAE AMS K	SAE AMSSTD154C, Inspection, Ultrasonic, Wrought Metals, Process	2017	Published	No	No
SAE AMS-AM Metals	SAE AMS7000, Laser-Powder Bed Fusion (L-PBF) Produced Parts, Nickel Alloy, Corrosion and Heat-Resistant, 62Ni – 21.5Cr – 9.0Mo – 3.65 Nb Stress Relieved, Hot Isostatic Pressed and Solution Annealed	2018	Published	No	Yes
SAE AMS-AM Metals	SAE AMS7001, Nickel Alloy, Corrosion and Heat-Resistant, Powder for Additive Manufacturing, 62Ni - 21.5Cr - 9.0Mo - 3.65 Nb	2018	Published	No	Yes
SAE AMS-AM Metals	SAE AMS7002, Process Requirements for Production of Powder Feedstock for use in Laser Powder Bed Additive Manufacturing of Aerospace parts	2018	Published	No	Yes
SAE AMS-AM Metals	SAE AMS7003, Laser Powder Bed Fusion Process	2018	Published	No	Yes
SAE AMS-AM Metals	SAE AMS7004, Titanium Alloy Preforms from Plasma Arc Directed Energy Deposition Additive Manufacturing on Substrate- Ti6Al4V-Stress Relieved		(New) In Development	Yes	Yes
SAE AMS-AM Metals	SAE AMS7005, Plasma Arc Directed Energy Deposition Additive Manufacturing Process		(New) In Development	Yes	Yes
SAE AMS-AM Metals	SAE AMS7006, Alloy 718 Powder		(New) In Development	Yes	Yes
SAE AMS-AM Metals	SAE AMS7007, Electron Beam Powder Bed Fusion Process		(New) In Development	Yes	Yes
SAE AMS-AM Metals	SAE AMS7008, Nickel Alloy, Corrosion and Heat-Resistant, Powder for Additive Manufacturing, Ni-Cr22-Fe18-Mo9-Co		(New) In Development	Yes	Yes
SAE AMS-AM Metals	SAE AMS7009, Additive Manufacturing of Titanium 6Al4V with Laser-Wire Deposition - Annealed and Aged		(New) In Development	Yes	Yes
SAE AMS-AM Metals	SAE AMS7010, Laser-Wire Directed Energy Deposition Additive Manufacturing Process		(New) In Development	Yes	Yes
SAE AMS-AM Metals	SAE AMS7011, Additive Manufacture of Aerospace Parts from T-6Al-4V using the Electron Beam Powder Bed Fusion (EB-PBF) Process		(New) In Development	Yes	Yes
SAE AMS-AM Metals	SAE AMS7012, 17-4PH Powder for Additive Manufacturing		(New) In Development	Yes	Yes
SAE AMS-AM Polymer	SAE AMS7100, Fused Filament Fabrication Process		(New) In Development	Yes	Yes

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SAE AMS-AM Polymer	SAE AMS7100/1, Fused Filament Fabrication – Stratasys Fortus 900 mc Plus with Type 1, Class 1, Grade 1, Natural Material		(New) In Development	Yes	Yes
SAE AMS-AM Polymer	SAE AMS7101, Material for Fused Filament Fabrication		(New) In Development	Yes	Yes
SAE E-25	SAE AS291F, Surface Texture, Roughness, Waviness and Lay	2014	Published	No	No
SAE G-11	SAE JA1011, Evaluation Criteria for Reliability-Centered Maintenance (RCM) Processes	2009	Published	No	No
SAE G-11M	SAE JA1012, A Guide to the Reliability-Centered Maintenance (RCM) Standard	2011	Published	No	No
SAE G-14	SAE AS9100D, Quality Management Systems - Quality Management Systems - Requirements for Aviation, Space, and Defense Organizations	2016	Published	No	No
SAE G-33	SAE EIA649C, Configuration Management Standard	2018	(New) In Development	Yes	No
SAE LCLS	SAE AS1390, Level of Repair Analysis (LORA)	2014	Published	No	No
U.S. Pharmacopeia	USP29-NF24 <161>, Transfusion and Infusion Assemblies and Similar Medical Devices	2005	Published	No	No
U.S. Pharmacopeia	USP35-NF30 <85>, Bacterial Endotoxins Test	2012	Published	No	No
U.S. Pharmacopeia	USP36-NF31 <788>, Particulate Matter in Injections	2012	Published	No	No
UL	ANSI/UL746C, Standard for Polymeric Materials – Use in Electrical Equipment Evaluations	2018	Published	Yes	No
UL	Proposed UL 2904, Standard Test Method for Particle and Chemical Emissions from 3D Printers		New (In Development)	Yes	Yes
UL	UL 2900-1, Standard for Software Cybersecurity for Network-Connectable Products, Part 1: General Requirements	2017	Published	No	No
UL	UL 2900-2-1, Software Cybersecurity for Network-Connectable Products, Part 2-1: Particular Requirements for Network Connectable Components of Healthcare and Wellness Systems	2017	Published	No	No
UL	UL 2900-2-2, Outline of Investigation for Software Cybersecurity for Network-Connectable Products, Part 2-2: Particular Requirements for Industrial Control Systems	2016	New (In Development)	No	No
UL	UL 2900-2-3, Outline of Investigation for Software Cybersecurity for Network-Connectable Products, Part 2-3: Particular Requirements for Security and Life Safety Signaling Systems		New (In Development)	Yes	No
UL	UL 3400, Outline of Investigation for Additive Manufacturing Facility Safety Management	2017	Published	Yes	Yes
VDI	VDI 3405 Blatt 3-2015, 2015 Additive manufacturing processes, rapid manufacturing - Design rules for part production using laser sintering and laser beam melting	2015	Published	No	Yes
VDI	VDI/VDE 2630 Blatt 1.4, Computed tomography in dimensional metrology - Measurement procedure and comparability	2010	Published	No	No