

GEP 8011-TRAINING CODES, STANDARDS & DIRECTIVES

3-A SSI, Sanitary Standards, Inc. is an independent, not-for-profit corporation dedicated to advancing hygienic equipment design for the food, beverage, and pharmaceutical industries. 3-A SSI represents groups with a common commitment to promoting food safety and the public health—regulatory sanitarians, equipment fabricators and processors. Their registered mark shows that a product has been independently tested and certified to meet recognized standards for safety or performance.

AS/ Aerospace Standard 9100 - Quality Management Systems: Aviation, Space & Defense Organizations is the international management system standard for the Aviation, Space and Defense (AS&D) industry. The standard provides suppliers with a comprehensive quality system for providing safe and reliable products to the aerospace industry. AS 9100 also addresses civil & military aviation requirements.

ANSI/American National Standards Institute is a private non-profit organization that oversees the development of voluntary consensus standards for products, services, processes, systems, and personnel in the United States. The organization also coordinates U.S. standards with international standards so that American products can be used worldwide.

- ANSI/API 526 - Guide for pressure relief and depressurizing systems.
- ASME/ANSI B16 - Standards of Pipes and Fittings.
- ANSI B16.1 Cast iron Pipe flanges and flanged fittings.
- ANSI B16.5 Pipe flanges and flanged fittings.
- ANSI/API 527 Commercial seat tightness of safety relief valves and metal-to-metal seats.
- *ANSI/ASQ Z1.4. Sampling procedures. Reference CDC [MP-7006](#).*
- ANSI B16.10 Face-to-face and end-to-end dimensions of ferrous valves .
- ANSI B16.20 Ring Joint gaskets and grooves for steel pipe flanges.
- ANSI B1.20.1 Pipe threads general purpose.
- ANSI B1.20.3 Dry seal pipe threads.
- ANSI B16.24 Bronze pipe flanges and flanged fittings.
- ANSI B16.25 Butt-welding ends.

- ANSI B16.34 Steel valves flanged and butt welded ends

API /American Petroleum Institute maintains 500 standards covering all segments of the oil and gas industry. The API standards program has gone global, through active involvement with the International Organization for Standardization (ISO) and other international bodies. API is an American National Standards Institute (ANSI) accredited standards developing organization, operating with approved standards development procedures and undergoing regular audits of its processes. API produces standards, recommended practices, specifications, codes and technical publications, reports and studies that cover each segment of the industry. API standards promote the use of safe, interchangeable equipment and operations through the use of proven, sound engineering practices.

API Spec

- API Spec. 6A Specifications for wellhead equipment.
- API Spec. 6D Specifications for pipeline valves end enclosures connectors and swivels.
- API Spec. 6FA Fire test for valves.
- API Spec.6FC Fire test for selective backseat.

API Std

- API Std. 595 Cast Iron Gate valves flanged ends.
- API Std. 598 Valve inspection test.
- API Std. 600 Steel gate valves flanged and butt-welding ends.
- API Std. 602 Compact carbon steel gate valves.
- API Std. 603 Class 150 Corrosion-resistant gate valves.
- API Std. 604 Ductile Iron gate valves flanged ends.
- API Std. 605 Compact carbon steel gate valves.
- API Std. 607 Fire test for soft seated ball valves.
- API Std. 510 Pressure Vessel Inspection Code: In-service inspection, Rating, Repair and Alteration.
- API Std. 521 Pressure-relieving and de-pressuring systems.

- API Std. 594 Wafer type check valves
- API Std. 620 Design and Construction of large welded low pressure storage tanks.
- API Std. 650 Appendix F, Welded Steel Tanks for Oil Storage. Covers materials, design, fabrication, erection and testing requirements.
- API Std. 653 Tank Inspection, Repair, Alteration and Reconstruction.
- API Std. 1104 Welding Pipelines and Related Facilities.
- API Std. 2000 Section 4.5 for tank protection sizing procedures.
- API Std. 2513 The pressure and vacuum.
- API Std. 2521 "Pressure/vacuum valves on atmospheric pressure fixed-roof.

API RP/Recommended practice

- API RP 6F Recommended practice for fire test for valves.
- API RP 520 Recommended Practice for the design and installation of pressure relieving systems in refineries.

Part 1 Design

Part 2 Installation
- API RP 521 Recommended Practice Guide for pressure relief and depressurizing systems.
- API RP 578 Material Verification Program for New and Existing Alloy Piping Systems. The purpose of this recommended practice (RP) is to provide the guidelines for a material and quality assurance system to verify that the nominal composition of alloy components within the pressure envelope of a piping system is consistent with the selected or specified construction materials to minimize the potential for catastrophic release of toxic or hazardous liquids or vapors.

- API RP 2016 Recommended practice (RP) Guidelines and Procedures for entering and cleaning Petroleum Storage Tanks.

ASME / American Society of Mechanical Engineers is an engineering society, focused on mechanical engineering. The organization is known for setting codes and standards for mechanical devices. The ASME conducts one of the world's largest technical publishing operations through its ASME Press, holds numerous technical conferences and hundreds of professional development courses each year, and sponsors numerous outreach and educational programs.

ASME BPE/ Bio-Processing Equipment Standard provides designers and process engineers with a reliable and measurable way of specifying Valves and Fittings for use in High Purity applications such as Water-for-Injection (WFI), clean steam, ultra filtration, etc.

ASME Boiler and Pressure Vessel Code, Section VIII Division 1 UG 125 through 136 ASMEB16.34 - 2009 Valves Flanged, Threaded and Welding End

This standard applies to new construction and covers pressure-temperature ratings, dimensions, tolerances, materials, nondestructive examination requirements, testing, and marking for cast, forged, and fabricated flanged, threaded, and welding end and wafer or flangeless valves of steel, nickel-base alloys, and other alloys. Wafer or flangeless valves, bolted or through-bolt types that are installed between flanges or against a flange are treated as flanged-end valves.

ASTM/ International, American Society for Testing and Materials, is an international standards organization that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems, and services. ASTM has a dominant role among standards developers in the USA, and claims to be the world's largest developer of standards.

ATEX (*Atmosphères Explosibles*) directive consists of two EU directives describing what equipment and work environment is allowed in an environment with an explosive atmosphere.

- ATEX 95 *equipment* directive 94/9/EC, Equipment and protective systems intended for use in potentially explosive atmospheres.
- ATEX 137 *workplace* directive 99/92/EC, Minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres.

AWWA/ American Water Works Association is an international non-profit professional organization dedicated to the improvement of water quality and supply. Founded in 1881, it claims a membership of around 56,000 members worldwide. AWWA is the largest organization of water professionals in the world, representing more than 100 countries. AWWA members represent the full spectrum of the water community: water utilities, treatment plant operators and managers, scientists, environmentalists, manufacturers, academics, regulators, and others with an interest in water supply and public health.

- ANSI/AWWA C207-78 Flanges for water-works service, 4 in through 144 in steel.
- ANSI/AWWA C606-78 Joint, grooved and shouldered type.

BSI /British Standard Institution produce British Standards, and, as the UK's National Standards Body, are also responsible for the UK publication, in English, of international and European standards. BSI is obliged to adopt and publish all European Standards as identical British Standards (prefixed BS EN) and to withdraw pre-existing British Standards that are in conflict. However, it has the option to adopt and publish international standards (prefixed BS ISO or BS IEC). Formally, as per the 2002 Memorandum of Understanding between the BSI and the United Kingdom Government, British Standards are defined as:

"British Standards" means formal consensus standards as set out in BS 0-1 paragraph 3.2 and based upon the principles of standardization recognized *inter alia* in European standardization policy.

—MEMORANDUM OF UNDERSTANDING BETWEEN THE UNITED KINGDOM GOVERNMENT AND THE BRITISH STANDARDS INSTITUTION IN RESPECT OF ITS ACTIVITIES AS THE UNITED KINGDOM'S NATIONAL STANDARDS BODY, United Kingdom Department for Business, Innovation, and Skills

Following the move on harmonization of the standard in Europe, some British Standards are gradually superseded or replaced by the relevant European Standards (EN).

- BS 21 Pipe threads for tubes and fittings where pressure-tight joints are made on the threads (Metric).
- BS 1414 Steel gate valves for the petroleum, petrochemical and allied industries.
- BS 1560 Steel pipe flanges and flanged fittings for the petroleum industry.
- BS 1868 Steel Check Valves for the petroleum, petrochemical and allied industries.
- BS 1873 Steel globe valves and stop and check valves for the petroleum, petrochemical and allied industries.
- BS 2080 Face-to-face, Center-to-center, end-to-end and center-to-end dimensions of flanged and butt-welding end steel valves for the petroleum, petrochemical and allied industries.
- BS 2915 Bursting Discs and Bursting-disc Devices.
- BS 3293 Carbon steel flanges over 24in in the petroleum industry.
- BS 3636 Methods of proving the gas tightness of vacuum and pressurized plant.
- BS 4126 Safety Valves.
- BS 4371 Ferrous gland packing.
- BS 4504 Flanges and bolting for pipes valves and fittings (metric) Part 1 Ferrous Part 2 Copper alloy and composite flanges.
- BS 5146 Inspection and test of valves Part 1 Steel valves for the petroleum, petrochemical and allied industries Part 2 Pressure testing requirements for general purposes.
- BS 5152 Cast iron globe and globe stop and check valves for general purposes.
- BS 5153 Cast Iron check valves for general purposes.

- BS 5154 Copper alloy globe, globe stop, check and check and gate valves for general purposes.
- BS 5160 Specification for flanged steel globe valves, globe stops and check valves for general purposes.
- BS 5352 Cast and forged steel wedge gate, globe check and plug valves, screwed and socket welding.
- BS 5418 Marking of general purpose industrial valves.
- BS 6759 Safety Valves.

Part 1 Safety Valves for steam and hot water.

Part 2 safety valves for compressed air or inert gases part 3 safety valves for process fluids.

CE-PED /Conformité Européenne Certification, Certification and PED (Pressure Equipment Directive) The Directive concerns items such as vessels, pressurized storage containers, heat exchangers, steam generators, boilers, industrial piping, safety devices and pressure accessories. Such pressure equipment is widely used in the process industries (oil & gas, chemical, pharmaceutical, plastics and rubber and the food and beverage industry), high temperature process industry (glass, paper and board), and energy production and in the supply of utilities, heating, air conditioning and gas storage and transportation.

CGA /Compressed Gas Association develops and publishes the broadest distribution of technical information, standards, and recommendations for safe and environmentally responsible practices in the manufacture, storage, transportation, distribution, and use of industrial gases.

CSA/ Canadian Standards Association - is a not-for-profit membership-based association serving business, industry, government and consumers in Canada and the global marketplace. As a solutions-oriented organization, to develop standards that address real needs, such as enhancing public safety and health, advancing the quality of life and help to preserve the environment.

DIN/ Deutsches Institut für Normung (Translation: German Standards Institute) - is the German national organization for standardization and is that country's ISO member body. DIN is a Registered German Association headquartered in Berlin. There are currently around thirty thousand DIN Standards, covering nearly every field of technology. It is the official national-standards body, representing German interests at the international and European levels.

- DIN 3359 Membran-absperreamaturen aus metallischen Werkstoffen.

DOT/Department of Transportation The Office of the Secretary (OST) oversees the formulation of national transportation policy and promotes intermodal transportation. Other responsibilities range from negotiation and implementation of international transportation agreements, assuring the fitness of US airlines, enforcing airline consumer protection regulations, issuance of regulations to prevent alcohol and illegal drug misuse in transportation systems and preparing transportation legislation European industry to develop new techniques increasing international competitiveness. The pressure equipment directive is one of a series of technical directives for machinery, electrical equipment, medical devices, simple pressure vessels, gas appliances etc.

EN, CEN The European Committee for Standardization or Comité Européen de Normalisation is a non-profit organization whose mission is to foster the European economy in global trading, the welfare of European citizens and the environment by providing an efficient infrastructure to interested parties for the development, maintenance and distribution of coherent sets of standards and specifications. The CEN was founded in 1961. Its thirty national members work together to develop European Standards (ENs) in various sectors to build a European internal market for goods and services and to position Europe in the global economy.

- EN 14015; 2004 Specification for the design and manufacture of site built, vertical, cylindrical, flat-bottomed, above ground, welded, steel tanks for the storage of liquids at ambient temperature and above.
- EN ISO 4126-2 - European standard for safety devices for protection against excessive pressure – Part 2 Bursting disc Safety devices.
- EN ISO 4126-6 - European standard which provides guidance to the application, selection and installation of bursting disc safety devices used to protect pressure equipment from excessive pressure and/or excessive vacuum.

- EN 12874:2001: Flame arresters. Performance requirements, test methods and limits for use.
- EN 14620: Design and manufacture of site built, vertical, cylindrical, flat-bottomed steel tanks for the storage of refrigerated, liquefied gases with operating temperatures between 0 °C and -165 °C.

EPA or sometimes **USEPA**/ **The U.S. Environmental Protection Agency** The agency conducts environmental assessment, research, and education. It has the primary responsibility for setting and enforcing national standards under a variety of environmental laws, in consultation with state, tribal, and local governments. It delegates some permitting, monitoring, and enforcement responsibility to U.S. states and Native American tribes. EPA enforcement powers include fines, sanctions, and other measures.

METHOD 21 - DETERMINATION OF VOLATILE ORGANIC COMPOUND LEAKS

FM: Factory Mutual

FM6061: Guidelines for stabilized burn testing

- ISO 9001:2008 (International standard for quality assurance programs) A quality standard published by the ISO. CDC's Quality Assurance program has been certified by TUEV-Cert, a German organization, as meeting the requirements of this standard.
- ISO 28300:2008

FAA /Federal Aviation Administration

FDA or USFDA ,Food and Drug Administration is an agency of the United States Department of Health and Human Services, one of the United States federal executive departments, responsible for protecting and promoting public health through the regulation and supervision of food safety, tobacco products, dietary supplements, prescription and over-the-counter pharmaceutical drugs (medications), vaccines, biopharmaceuticals, blood transfusions, medical devices, electromagnetic radiation emitting devices (ERED), veterinary products, and cosmetics. The FDA also enforces other laws, these include sanitation requirements on interstate travel and control of disease.

FHWA /Federal Highway Administration

FMCSA / Federal Motor Carrier Safety Administration

FRA/ Federal Railroad Administration

GMP/The Good Manufacturing Practice Regulations promulgated by the US Food and Drug Administration under the authority of the Federal Food, Drug, and Cosmetic Act. These regulations, which have the force of law, require that manufacturers, processors, and packagers of drugs, medical devices, some food, and blood take proactive steps to ensure that their products are safe, pure, and effective. GMP regulations require a quality approach to manufacturing, enabling companies to minimize or eliminate instances of contamination, mix-ups, and errors.

GMP / Compliance for the Medical & Food Industry, also known as cGMP, stands for (current) Good Manufacturing Practice, and is a set of regulations set forth by the FDA to help ensure that various products intended for human consumption and use are safe and effective. GMP regulations mandate a quality-related methodology to manufacturing, enabling businesses to minimize product contamination, mislabeling and other errors. This protects the consumer from purchasing a product that may be effective or even dangerous. Most of the GMP regulations primarily address issues such as sanitation, process validation, equipment and document traceability, and personnel qualification.

ISO / International Organization for Standardization - an international-standard-setting body composed of representatives from various national standards organizations. The organization promulgates worldwide proprietary industrial and commercial standards. It has its headquarters in Geneva, Switzerland. While ISO defines itself as a non-governmental organization, its ability to set standards that often become law, either through treaties or national standards, makes it more powerful than most non-governmental organizations. In practice, ISO acts as a consortium with strong links to governments.

- ISO 4126-1
- ISO 4126-4:2003 is applicable to pilot operated safety valves having a valve flow diameter of 6 mm and above which are for use at set pressures of 0,1 bar gauge and above. No limitation is placed on temperature, specifies general requirements for pilot operated safety valves, other than those covered in ISO 4126-1, irrespective of the fluid for which they are designed. In all cases, the operation is carried out by the fluid in the system to be protected.
- ISO 9001 (International standard for quality assurance programs) A quality standard published by the ISO. CDC's Quality Assurance program has been certified by TUEV-Cert, a German organization, as meeting the requirements of this standard.
- ISO 6718 Bursting discs and bursting-disc devices
- ISO 4126 Safety Valves
- ISO 5209 Marking of general purpose industrial valves ITR/International Traffic and Arms Regulation- A regulation set forth in parts 120-130 of title 22 of the code of federal regulations which govern the export of Defense articles and Defense services under the US Department of State.

JIS /Japanese Industrial Standard.- Specifies the standards used for industrial activities in Japan. The standardization process is coordinated by Japanese Industrial Standards Committee and published through Japanese Standards Association.

KOSHA / Korea Occupational Safety and Health Agency aims to contribute to the national economy by maintaining and improving the safety and health conditions at work through the efficient implementation of projects such as research and development, promotion of industrial accident prevention technologies, provision of technical assistance and training on occupational safety and health, inspection on dangerous facilities and equipment, etc. Reference CDC [MP-5107](#).

MIL-STD", "MIL-SPEC", "MILSPEC'S", Military standard, is used to help achieve standardization objectives by the U.S. Department of Defense. Standardization is beneficial in achieving interoperability, ensuring products meet certain requirements, commonality, reliability, total cost of ownership, compatibility with logistics systems, and similar defense-related objectives. Defense standards are also used by other non-defense government organizations, technical organizations, and industry. Standards range but are not limited to, packaging, testing, material and purchasing requirements. Reference CDC [MP-6004](#).

MSS/Manufacturers Standardization Society of the valves and fittings industry Inc.

- MSS-SP-42 Corrosive resistant gate, globe angle and check valves with flanged and butt weld ends
- MSS-SP-45 Bypass and drain connections standard
- MSS-SP-61 Hydrostatic and pressure testing of steel valves
- MSS-SP-70 Cast iron gate valves flanged and threaded ends
- MSS-SP-71 Cast iron swing valves flanged and threaded ends
- MSS-SP-78 Cast iron plug valves flanged and threaded ends
- MSS-SP-80 Bronze gate globe and angle and check valves
- MSS-SP-81 Stainless steel bonnet less flanged wafer knife gate valves
- MSS-SP-82 Valve-pressure testing methods
- MSS-SP-84 Steel valves-socket welding and threaded ends
- MSS-SP-88 Diaphragm valves
- ASME B16.47 Series A (MSS SP-44) Flanges Class 150lbs

NACE, International is a professional organization for the corrosion control industry established in 1943. NACE is involved in every industry and area of corrosion prevention and control, from chemical processing and water systems, to transportation and infrastructure protection. NACE's main focus of activities includes cathodic protection, coatings for industry and material selection for specific chemical resistance. Reference CDC [MP-7002](#)

- *NACE MR0175/ISO 15156-1 Petroleum and natural gas industries—Materials for use in H₂S-containing Environments in oil and gas production.*

NEMA / The National Electrical Manufacturers Association is a U.S.-based association, which was created on September 1, 1926, It sets many common standards used in electrical standards in the U.S. NEMA has established a range of standards for electrical equipment enclosures.

NEMA Standards Publication 250-2008: Enclosures for Electrical Equipment (1000 Volts Maximum)

ANSI/NFPA National Fire Protection Association. The mission of the international nonprofit NFPA, established in 1896, is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education. NFPA develops, publishes, and disseminates more than 300 consensus codes and standards intended to minimize the possibility and effects of fire and other risks.

- ANSI/NFPA 68 Explosive venting
- NFPA 497: Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical API
- NIOSH/National Institute for Occupational Safety and Health- The OSH Act, which created OSHA also created the NIOSH as a research agency focusing on occupational health and safety. NIOSH, however, is not a part of the U.S. Department of Labor.
- OSHA / United States Occupational Safety and Health Administration is an agency of the United States Department of Labor. Its mission is to prevent work-related injuries, illnesses, and occupational fatality by issuing and enforcing standards for workplace safety and health.

OSHA /Occupational Safety and Health Administration states that tanks storing Class 1 liquids shall be equipped with venting devices which shall be normally closed except under pressure or vacuum condition.

PED / European "Pressure Equipment Directive"- sets out the standards for the design and fabrication of pressure vessels, piping, safety valves and other components and assemblies subject to pressure loading and having a maximum pressure more than 0.5 bar gauge. It also sets the administrative procedures requirements for the "conformity assessment" of pressure equipment, for the free placing on the European market without local legislative barriers. Reference CDC [MP-7007](#).

TPED European Transportable Pressure Equipment Directive - Directive 1999/36/EC is commonly referred to as TPED (Transportable Pressure Equipment Directive). In order to facilitate the use of the Directive, the Commission together with Member States' experts has elaborated TPED Guidelines, which may be found here. These will be completed as new Guidelines are adopted.

PHMSA /Pipeline and Hazardous Material Safety Administration President George W. Bush signed the legislation into law on November 30, 2004. PHMSA is an agency of the United States Department of Transportation. PHMSA is the federal agency charged with the safe and secure movement of almost 1 million daily shipments of hazardous materials by all modes of transportation. The agency also oversees the nation's pipeline infrastructure which accounts for 64 percent of the energy commodities consumed in the United States.

RTR / RosTechRegulirovanie, former Gosstandard, The certificate is to verify that the goods listed in the Certificate conform to applicable GOST's requirements (Russian State Standards). Conformity of goods is being established by GOST R Certification Bodies accredited by RosTechRegulirovanie, or RTR, former Gosstandard, in a certain field, e.g. mechanical, electrical, electronic equipment, construction goods, chemical substances, consumer goods etc. Conformity of goods to appropriate Russian State Standards (GOSTs) is established on the basis of:- applicant's documents – test reports, QA documents (ISO 9001 certificate), product data sheets and specifications, drawings and diagrams etc.:- sample testing at the testing lab accredited by Federal Agency on Technical Regulating and Metrology;- factory inspection visit by certification body experts. There are several types of GOST R certificate

SQL /Safety Quality License- is issued by the Chinese Government. "T" stamp on the rupture disc tag, indicates that Continental Disc Corporation is in full compliance with the provisions of the Peoples Republic of China Import Regulations for Boiler and Pressure Vessel safety devices

TUEV /Technische Überwachungs-Vereine Technical Inspection Agency- German and Austrian organizations responsible for certifying the burst pressure of rupture discs used in certain installations in those countries. TUEV Testing Burst - testing witnessed by a representative certified by TUEV.

USCG: United States Coast Guard

USCG § 154.822 33 CFR Ch. I (7–1–02 Edition)

- *ED) and European Transportable PED (ETPED) Marking burst certificates and box labeling.*

USP, United States Pharmacopeia is a non–governmental, official public standards–setting authority for prescription and over–the–counter medicines and other healthcare products manufactured or sold in the United States. USP also sets widely recognized standards for food ingredients and dietary supplements. USP sets standards for the quality, purity, strength, and consistency of these products–critical to the public health. USP's standards are recognized and used in more than 130 countries around the globe. These standards have helped to ensure public health throughout the world for close to 200 years.

VDI /Verein Deutscher Ingenieure

- VDI 3673 Pressure release of dust explosions

CDC Manufacturing Procedures (MP) with standards applied

MP-4003 - *Cleaning for Oxygen Service and Dry Chlorine Service.* The scope of this procedure is for cleaning, inspection, protection, and identification of rupture disc components holders and or accessories specified for use in the production, storage, or transportation of liquid, gaseous oxygen or dry chlorine. This procedure provides direction for complete removal of contaminants including but not limited to; paints, marker ink, alcohol, lubricants, weld splatter, or other foreign material.

MP-4004 - *Special Cleaning/Packaging for Special Application Products*

The purpose of this procedure is to outline requirements for handling, preservation cleaning drying and packaging of aerospace, aircraft, OEM, high tech products that require higher level requirements

MP-4005 - Blue Gold Cleaning for Oxygen Service & Dry Chlorine Service. The scope of this procedure is for cleaning, inspecting protecting and identification of MP rupture disc components holders and or accessories that require cleaning with Blue Gold Cleaner/degreaser for products for use in the production, storage, or transportation of liquid, gaseous oxygen or dry chlorine.

MP-4006 - Standard Cleaning Procedure for Disc and Holder Components. The scope of this procedure is to clean and inspect components that need a higher level of cleaning. Cleaning by Immersion, Ultrasonic cleaner and/or wiping with acetone Continental Cleaner Windex Slink Simple Green and Citrus Cleaner.

MP-5102 - Code Compliance to Merkblatt A1. The scope of this standard is to provide instruction for complying with the requirements for A D-Merkblatt A1

MP-5103 - Code Compliance to BS 2915-1990. The scope of this index is to provide instruction on testing documentation and packaging IAW BS 2915-1990.

MP-5104 - Testing, Marking & Inspection Req. for Disc Mfg. ASME Code Section VIII. The scope of this procedure is to ensure that the testing marking and inspection that is required by Section VIII of ASME is followed for devices purchased by Zook.

MP-5106 - Tagging/Marking/Labeling Discs for Section III. This instruction is to establish guidelines for testing, tagging and marking box labeling and burst certificate requirements per ASME Section III (1974-1998).

MP-5107 - Marking Rupture Discs and Holders for KOSHA. The scope of this instruction is to provide guidance for marking discs and holders shipped to Korea.

MP-5200 - Universal Holder Nameplate Marking. This procedure outlines the requirements for nameplate identification of the Continental Disc / LaMot brand Rupture Disc holders. This procedure instruction is used to develop information for the "Automated Tag Machine" or the manual stamping operation.

MP-5201 - Rating, Marking, and Tagging of Discs. This procedure describes the proper tagging and marking procedures for Continental Disc Corporation and LAMOT rupture disc products. This procedure does not include rupture discs tested or tagged per ASME Section VIII, Division 1.

MP-5301 - Raw Material Identification and Traceability. This procedure provides instruction to assure maintenance of raw material identification and traceability.

MP-6002 - *Packaging Discs and Holders for Shipment.* This document provides the sequential instructions for packaging and packing of CDC products, to assure that the customer receives CDC products undamaged.

MP-6005 - *Packaging HV3 Hose Valve and HV3 Wand Extension for Shipment From Continental Disc Corporation.*

MP-6004 - *Creating Bar Code, RFID, and Shipping Labels.* This procedure provides instruction for guidance to comply with MIL-STD-129. Instructions in this document establish the methods for developing Bar Coded, Radio Frequency Identification, and Shipping Labels for packaging of standard and special product.

MP-7002 - *Hardness Testing for Material Certification per NACE Standard MR-0175.* The scope of this instruction is for components in contact with Hydrogen Sulfide and Sour Gas Media.

MP-7006 - *Final Lot Disc Burst Testing.* The scope of this instruction is to meet the requirements of ANSI/ASQ Z1.4, and provide instruction for Lot sampling testing procedures

MP-7007 - *European Pressure Equipment Directive (PED).* The scope of this instruction is to meet the requirements for European Pressure Equipment Directive.

UD Code Symbol - *UD stands for unfired disc. Per ASME Code, Section VIII, 1997 Addenda, all Stamp rupture discs manufactured to comply with ASME Section VIII, must have the UD code symbol stamp, the certified flow resistance factor KR and the minimum net flow area stamped on the tag.*

APPROVALS:Effective Date: 11/17/11Engineering: : E. Frank KurtzDate: 11/22/2011Quality Assurance: Todd HawkinsDate: 10/10/2012**REVISION STATUS:**

<u>REV</u>	<u>ECN #</u>	<u>EFFECTIVE DATE</u>	<u>ENG. APPROVAL</u>	<u>DATE</u>	<u>Q.A. APPROVAL</u>	<u>DATE</u>
A	100254	08/30/13	E. Frank Kurtz	11/05/13	Shane Bacon	11/06/13