

## WORLD STANDARDS FULL NAME

| TITLE  | FULL NAME / SPECIFICATION Title                                                                             |
|--------|-------------------------------------------------------------------------------------------------------------|
| AA     | Aluminum Association / Aluminum Atandards & Data                                                            |
| AAMA   | Architectural Aluminum Manufacturers Association / AAMA Std & Manual :                                      |
| AAR    | Association of American Railroad                                                                            |
| AASHTO | American Asssoiation of Atate Highway and Transpotation Officials                                           |
| AATCC  | American Association for Textile Chemists and Colorists / AATCC Technial Manual                             |
| ABNT   | Associacao Brasileira de Normas Teonicas                                                                    |
| ABS    | American Bureau of Shipping / ABS Rules                                                                     |
| ACI    | American Conerete Institute / ACI Manual of Concrete Practice                                               |
| ACS    | American Chemical Society                                                                                   |
| ADA    | American Dairy Association                                                                                  |
| AECMA  | Associaton Europeenne des Constructeurs de Material Aerospacial                                             |
| AFBMA  | Anti-Friction Bearing Manufacturers Association / AFBMA Std.                                                |
| AFNOR  | French Standards Insitution                                                                                 |
| AGA    | American Gas Association / AGA Std. AGA Reports and Manuals                                                 |
| AGMA   | American Gear Manufacturers Association / AGMA Std., AGMA Reports                                           |
| AHAM   | Association of Home Appliance Manufacturers / AHAM Std.                                                     |
| AIA    | American Institute of Architects / AIA Manuals. Masterspec.                                                 |
| AIA    | Aerospace Industries Association, Inc                                                                       |
| AISC   | American Institute of Steel Construction / Manual of Steel Construction / Manual of Steel Consruction(M016) |
| AISI   | American Iron and Steel Institute / Steel Products Manuals                                                  |
| AMCA   | Air Movement & Contorol Association / AMCA Standards                                                        |
| AMS    | Society of Automotive Eneiners                                                                              |
| AMS    | Aerospace Materials Specs                                                                                   |
| ANS    | American Nuclear Society / ANS Std.                                                                         |
| ANSI   | American National Standrads Institute / ANSI Std.                                                           |
| AOAC   | Association of Official Analytical Chemists / Official Methods of Analysis of AOAC                          |
| API    | American Petroleum Istitute / API Std. Bull, and Recommended Practices                                      |
| ARSO   | African Regional organization for Standardization                                                           |
| AS     | Australian Standards                                                                                        |
| ASA    | American Standards Association                                                                              |
| ASAE   | Smerican Society of Agricultural Engineers / ASAE Std. Eng' Practices                                       |
| ASC    | Adhesive and Sealant Council                                                                                |
| ASCE   | American Society of civil Engineers / ASCE Manual & Report                                                  |
| ASHRAE | American Society of Heating Refrigerating and Air-Conditioning engineers / ASHRAE Hanbook                   |
| ASLE   | American Society of Lubricant Engineers                                                                     |
| ASM    | American Society for Metals / Metals handbook                                                               |
| ASME   | American Society of Mechanical Engineers / ASME Boiler & Pressure Vessel Code                               |
| ASMO   | Arab Organization forStandardizaion and Metrology                                                           |
| ASSE   | American society for Nondestructive testing / Implementing Recommended Practice                             |

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| <b>ASTM</b>    | ASTM International                                                                                                                                                                                    |
| <b>AWPB</b>    | American Wood Preservers Bureau                                                                                                                                                                       |
| <b>AWS</b>     | American Welding Society . AWS Std., WHB                                                                                                                                                              |
| <b>AWWA</b>    | American Water Work Association / AWWA Std. Manual., H/B                                                                                                                                              |
| <b>BDS</b>     | Comite Superieur Normalizaion de la Republique Populaire de Bulgarie - INRA                                                                                                                           |
| <b>BHMA</b>    | Builders hardware Manufacturers Association                                                                                                                                                           |
| <b>BIA</b>     | Binding Industries of america                                                                                                                                                                         |
| <b>BSI</b>     | British Standards Institution / BS Std.                                                                                                                                                               |
| <b>BV</b>      | Bureau Veritas / Rules and Regulations for the construction and classification of Steel Vessel                                                                                                        |
| <b>CAGI</b>    | Compressed Air and Gas Institute                                                                                                                                                                      |
| <b>CEE</b>     | European Committee for Standardization                                                                                                                                                                |
| <b>CEN</b>     | European Committee for Standardization                                                                                                                                                                |
| <b>CENELEC</b> | European Committee for Electrotechnical Standardization                                                                                                                                               |
| <b>CEOC</b>    | Collogue European des Organisations de controole                                                                                                                                                      |
| <b>CFR</b>     | Code of Federal Regulations / USA Title NO.1 ~ No. 50                                                                                                                                                 |
| <b>CGA</b>     | Compressed Gas Association / Handbook of Compressed Gases                                                                                                                                             |
| <b>CGPM</b>    | General Conference of Weights and Measures                                                                                                                                                            |
| <b>CGSB</b>    | Canadian General Standards Boards                                                                                                                                                                     |
| <b>CMEA</b>    | Council for Mutual Economic Assistance                                                                                                                                                                |
| <b>CNS</b>     | national Bureau of Standards for Republic of China (Taiwan)                                                                                                                                           |
| <b>COPANT</b>  | Pan America Standards Commission - Brazil, Panama, Mexico, dominican Republic, Bolivia, Centralamerica (guaemala), Columbia, Chile, Equador, Paraguay, Arengtina, Pery, Trinidad, Tobago, and Uruguay |
| <b>CPSC</b>    | Consumer Products safety Commission / USA                                                                                                                                                             |
| <b>CRSI</b>    | Concrete Reinforcin Steel Institute / CRSI Handbook                                                                                                                                                   |
| <b>CS</b>      | Chinese Standareds - Peoples Republic of China                                                                                                                                                        |
| <b>CSA</b>     | Canadian Standards Association / CSA Std.                                                                                                                                                             |
| <b>CSN</b>     | Cechoslovakian Office for Standards and Measurements / Urad pro Vynalezy a Normalisaci                                                                                                                |
| <b>CTI</b>     | Cooling Tower Institute / CTI Code Tower Std.                                                                                                                                                         |
| <b>DIN</b>     | Deutsches Institute for Normung / DIN Std.                                                                                                                                                            |
| <b>DGN</b>     | Direccion General de Normas                                                                                                                                                                           |
| <b>DGQ</b>     | Portuguese Instittute for Quality / General Directorate of Quality                                                                                                                                    |
| <b>DNV</b>     | Det Norske Veritas / DNV Rule                                                                                                                                                                         |
| <b>DOD</b>     | United States Department of Depenses Specs                                                                                                                                                            |
| <b>DS</b>      | Dansk Standards                                                                                                                                                                                       |
| <b>EFTA</b>    | European Free Trade Association                                                                                                                                                                       |
| <b>EIA</b>     | Electronic industries Association / USA,ANSI/EIA 232E                                                                                                                                                 |
| <b>EIAJ</b>    | Standards of Electronic Industries Association of Japan                                                                                                                                               |
| <b>EJMA</b>    | Expansion Joint Manufacturers Association / EJMA Std.                                                                                                                                                 |
| <b>EN</b>      | European Standards                                                                                                                                                                                    |
| <b>EOQC</b>    | European Organization for Quality Control                                                                                                                                                             |
| <b>EPA</b>     | Environment Protection Agency / USA, in CFR Title NO.40                                                                                                                                               |
| <b>EPRI</b>    | Electric Power Research Institute / EPRI Report.                                                                                                                                                      |

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| <b>ETRTO</b>      | European Tire and Rim Technical Organization / ETRTO Standard Manual                                                                                             |
| <b>ETSI</b>       | European Telecommunication Standards Institute                                                                                                                   |
| <b>EURONORM</b>   | European Coal and Steel Community                                                                                                                                |
| <b>FCC</b>        | Federal Communications Commission / USA, in CFR Title No.47                                                                                                      |
| <b>FDA</b>        | Food and Drug Admin. / FDA Regulations, USA, in CFR Title No. 21, Part 1~1299                                                                                    |
| <b>FID</b>        | International Federation for Documentation                                                                                                                       |
| <b>FMS</b>        | Factory Mutual System / Approval Guide                                                                                                                           |
| <b>FMVSS</b>      | Natl. Highway Traffic safety Admin. / USA, in CFR Title No.49 Part 571                                                                                           |
| <b>FS</b>         | General Services Administration / Fed=Spec, Std.                                                                                                                 |
| <b>GB</b>         | Guojio Biaozhun / China                                                                                                                                          |
| <b>GL</b>         | Germanischer Lloyd / Rules for Classification and Construction of Seagoing Ship                                                                                  |
| <b>GOST</b>       | State Standards of Soviet                                                                                                                                        |
| <b>HEI</b>        | Heat Exchange Institute / USA, Standards for Steam Surface Condensers etc.                                                                                       |
| <b>HI</b>         | Hydraulic Institute / HI Std for Centrifugal, Rotary and Reciprocation Pumps                                                                                     |
| <b>HTI</b>        | Hand tools Institute                                                                                                                                             |
| <b>IAEA</b>       | International Atomic Energy Agency                                                                                                                               |
| <b>ICAO</b>       | International Civil Aviation Organization                                                                                                                        |
| <b>ICBO</b>       | Intl. Conference of Building Officials / UBC, UMC, UPC                                                                                                           |
| <b>ICEA</b>       | Insulated Cable Engineers Association                                                                                                                            |
| <b>IDF</b>        | International Dairy Federation                                                                                                                                   |
| <b>IEC</b>        | International Electrotechnical Commission                                                                                                                        |
| <b>IECEE</b>      | IEC System for Conformity Testing to Standards for Safety of Electrical Equipment                                                                                |
| <b>IEE</b>        | Institution of electrical Engineers / U.K.                                                                                                                       |
| <b>IEEE</b>       | Institute of Electrical and Electronics Engineers / IEEE Std.                                                                                                    |
| <b>IES</b>        | Illuminating Engineering society / IES Lighting H/B:2 Bol. Recomm, Practice.                                                                                     |
| <b>IFAN</b>       | International Federation for the Application of Standards                                                                                                        |
| <b>IFI</b>        | Industrial Fasteners Institute / Fasteners Std., Metric Fasteners Std.                                                                                           |
| <b>IIAR</b>       | International Institute of Ammonia Refrigeration                                                                                                                 |
| <b>IMO</b>        | International Maritime Organization                                                                                                                              |
| <b>INLITECNOR</b> | Instituto de Normas Colombianas                                                                                                                                  |
| <b>IOCU</b>       | International Organization of Consumers Unions                                                                                                                   |
| <b>IP</b>         | The Institute of Petroleum / IP Standards Methods for Analysis and Testing of Petroleum and Related Products                                                     |
| <b>IPC</b>        | The Institute for Interconnecting and Packaging Electronic Circuits / ANSI/IPC Cm Guidelines for Printed Board Component Mounting IPC-Tm-650 Test Methods Manual |
| <b>IRAM</b>       | Instituto Argentino de Racionalización de Materiales                                                                                                             |
| <b>IRANOR</b>     | National Institute of Rationalization and Normalization for Spain                                                                                                |
| <b>IS</b>         | Indian Standard Institution - ISI                                                                                                                                |
| <b>ISA</b>        | Instrument Society of America                                                                                                                                    |
| <b>ISO</b>        | International Organization for Standardization                                                                                                                   |
| <b>JAS</b>        | Japanese Agricultural Standards                                                                                                                                  |
| <b>JASO</b>       | Society of Automotive Engineers of Japan                                                                                                                         |
| <b>JCS</b>        | Japanese Cable Makers' Association                                                                                                                               |

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| <b>JEC</b>       | Japanese Electrotechnical committee                                                                                                                       |
| <b>JEM</b>       | Japan Electrical Manufacturers' Association                                                                                                               |
| <b>JGMA</b>      | Japan Gear Manufacturers Association                                                                                                                      |
| <b>JIS</b>       | Japan Industrial Standards                                                                                                                                |
| <b>JPI</b>       | Japan Petroleum Institute                                                                                                                                 |
| <b>JWWA</b>      | Japan Water Works Association                                                                                                                             |
| <b>KS</b>        | Korean Industrial Standards                                                                                                                               |
| <b>LR</b>        | Lloyd's Register of Shipping / The Rules and Regulations for the Classification of Ships                                                                  |
| <b>MIL</b>       | Military Specifications and Standards / USA, Dept. of Defense, MIL-Index, H/B-217E,-STD-883C                                                              |
| <b>MSS</b>       | Manufacturers Standardization Society of the Fittings Industry                                                                                            |
| <b>NAS</b>       | Aerospace Industries Association                                                                                                                          |
| <b>NACE</b>      | National Association of Corrosion Engineers                                                                                                               |
| <b>NBBI</b>      | The National Board of Boiler and Pressure Vessel Inspectors                                                                                               |
| <b>NBN</b>       | Normas Belges / Institute Belge de Normalisation                                                                                                          |
| <b>NBS</b>       | United States National Bureau of Standards                                                                                                                |
| <b>NEC</b>       | National Electric Code / ANSI C1                                                                                                                          |
| <b>NEMA</b>      | National Electrical Manufacturers Association                                                                                                             |
| <b>NEN</b>       | Nederlandse Norm / Nederlands Normalisatie Instituut - NNI                                                                                                |
| <b>NF</b>        | Norme Francise                                                                                                                                            |
| <b>NFPA</b>      | National Fire Protection Association                                                                                                                      |
| <b>NNI</b>       | Negherlands Normalization Institute                                                                                                                       |
| <b>NORVEN</b>    | Comision Venezolana de Normas Industrias                                                                                                                  |
| <b>NORCUBA</b>   | Departamento de Normas Tecnicas                                                                                                                           |
| <b>NP</b>        | Norma Portugguesa                                                                                                                                         |
| <b>NPCA</b>      | National Paints and Coating Association                                                                                                                   |
| <b>NSF</b>       | National Sanitation Foundation                                                                                                                            |
| <b>NWMA</b>      | National Woodwork Manufacturer's Association                                                                                                              |
| <b>NZS</b>       | New Zealand Standards                                                                                                                                     |
| <b>OCMA</b>      | Oil Company materials Association                                                                                                                         |
| <b>OECD</b>      | Organization for Economic Cooperation and Development                                                                                                     |
| <b>OIML</b>      | International Organization for Legal metrology                                                                                                            |
| <b>ONORM(ON)</b> | Osterreichische Normungsinstitut / Austrian Standards Institute - ONA                                                                                     |
| <b>ORGALIME</b>  | Organization for Liaison between the European Electrical and Mechanical Engineering Industries                                                            |
| <b>OSHA</b>      | Occupational Safety and Health Administration                                                                                                             |
| <b>PNS</b>       | Philippine National Standard                                                                                                                              |
| <b>RAL</b>       | Ausschuss fur Lieferbedingungen und Gutesicherung / RAL Color File                                                                                        |
| <b>REA</b>       | Rural Electrification Admin / REA Spec                                                                                                                    |
| <b>RMA</b>       | Rubber Manufacturers Associoation                                                                                                                         |
| <b>RTCA</b>      | Rubber Manufacturers AssocioationRadio Technical Commission for Aeronautics / RTCA-Do-160C Environmental Condition and Test procedures Airborne Equipment |
| <b>RWMA</b>      | Resistance Welder Manufacturers; Association                                                                                                              |

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| <b>SAA</b>    | Standards Association of Australia                                   |
| <b>SABS</b>   | South African Bureau of Standards                                    |
| <b>SAE</b>    | Society of Automotive Engineers / SAE H/B, AMS Std.                  |
| <b>SEMKO</b>  | Svenska Elektriska Materielkontroll-Anstaltem                        |
| <b>SII</b>    | Standards Institute of Israel                                        |
| <b>SIS</b>    | Svensk Standard Sweden                                               |
| <b>SFS</b>    | Finnish Standards Association                                        |
| <b>SMACNA</b> | Sheet Metal and Air Conditioning Contractors' National Association   |
| <b>SMPTE</b>  | Society of Motion Picture and Television Engineers                   |
| <b>SNV</b>    | Schweizerisch Normen- Vereinigung                                    |
| <b>SPI</b>    | The Society of the Plastics Industry, inc.                           |
| <b>SS</b>     | Singapore Standards                                                  |
| <b>SSPC</b>   | Steel Structures Painting Council / Steel Structures Painting Manual |
| <b>STI</b>    | Steel Tank Institute                                                 |
| <b>TAPPI</b>  | Technical Association of Pulp and Paper Industry                     |
| <b>TEMA</b>   | Tubular Exchanger Manufacturers' Association / Std. of TEMA          |
| <b>TIS</b>    | Thai Industrial Standards                                            |
| <b>TSE</b>    | Turkish Standards Institute                                          |
| <b>TUV</b>    | Technischer Überwachungs Verein e. V. /German                        |
| <b>UBPVLS</b> | Uniform Boiler and Pressure Vessel Laws Society                      |
| <b>UIC</b>    | Intl. Union of Railways                                              |
| <b>UL</b>     | Underwriters Laboratories-USA / UL Standards                         |
| <b>UNCO</b>   | Instituto de Normas Colombianas                                      |
| <b>UNI</b>    | Ente Nazionale Italiano di Unificazione                              |
| <b>UNICE</b>  | Union of the Industrial Federations of the EEC Countries             |
| <b>UNS</b>    | Unified Numbering System                                             |
| <b>USCG</b>   | United States Coast Guard                                            |
| <b>UTE</b>    | Union Technique de l'Electricite / UTE Publication List              |
| <b>VDE</b>    | Verband Deutscher Elektrotechniker                                   |
| <b>VDEh</b>   | Berein Deusscher Eisenhüttenleute                                    |
| <b>VDI</b>    | Vere Deutscher Ingenieur                                             |
| <b>WRS</b>    | Welding Research Council                                             |
| <b>WES</b>    | Welding Engineering Standard                                         |

**ANSI- American National Standards Institute**

1430 Broadway New York, N.Y. 10018

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|------|------------|------------------------------------------------------------------------------------------------------------------------|
| ANSI | A182       | Forged or Rolled Alloy Steel Pipe Flange, Forged Fitting and Valve and parts for High Temperature Service.             |
| ANSI | A276       |                                                                                                                        |
| ANSI | A351       | Ferritic and Austenitic Steel Castings for High Temperature Service.                                                   |
| ANSI | A740       |                                                                                                                        |
| ANSI | B1.1       | Unified Inch Screw Threads(UN and UNS Thread Form)                                                                     |
| ANSI | B1.1,CL.2A | Male Thread.                                                                                                           |
| ANSI | B1.1,CL.2B | Female Thread.                                                                                                         |
| ANSI | B1.20.1    | Pipe threads, general purpose(Inch)                                                                                    |
| ANSI | B1.20.3    | Dryseal pipe threads(inch)                                                                                             |
| ANSI | B16.1      | Cast iron pipe flanges and flanged fittings.                                                                           |
| ANSI | B16.10     | Face to face and end to end dimensions of ferrous valves.                                                              |
| ANSI | B16.104    | Control Valve Seat Leakage.                                                                                            |
| ANSI | B16.11     | Forged Fitting, Socket Welding and Threaded                                                                            |
| ANSI | B16.20     | Ring Joint Gaskets and Grooves for Steel Pipe Flanges.                                                                 |
| ANSI | B16.21     | Nonmetallic Flat Gaskets for Steel Pipe Flanges.                                                                       |
| ANSI | B16.24     | Bronze pipe flanges and flanged fittings.                                                                              |
| ANSI | B16.25     | Butt Welding Ends.                                                                                                     |
| ANSI | B16.28     | Wrought Steel Butt-Welding Short Radius Elbows and Returns.                                                            |
| ANSI | B16.33     | Small Manually Operated Metallic Gas Valves, in Gas Distribution Systems.                                              |
| ANSI | B16.34     | Valves - flanged, threaded, and welding end.                                                                           |
| ANSI | B16.38     | Large Manually Operated Metallic Gas Valves in Gas Distribution Systems.                                               |
| ANSI | B16.40     | Manually Operated Thermoplastic Shut-offs and Valves in Gas Distribution Systems.                                      |
| ANSI | B16.42     | Ductile Iron Pipe Flanges and Flanged Fitting, Class 400 and 400.                                                      |
| ANSI | B16.47     | large Diameter Flanges.                                                                                                |
| ANSI | B16.5      | Pipe flange and flanged Fitting.                                                                                       |
| ANSI | B16.9      | Wrought Steel Butt-Welding Fittings.                                                                                   |
| ANSI | B18.2.1    | Square and Hex Bolts and Screws, INCH Series, including Hex Cap Screws, and Lag Screws.                                |
| ANSI | B18.2.2    | Square and Hex Nuts(Inch Series)                                                                                       |
| ANSI | B31G       | Manual for determining the remaining strength of corroded pipelines.                                                   |
| ANSI | B31.1      | Power piping.                                                                                                          |
| ANSI | B31.2      | Fuel gas piping.                                                                                                       |
| ANSI | B31.3      | Chemical Plant and Petroleum Refinery Piping.                                                                          |
| ANSI | B31.4      | Liquid Petroleum Transportation Piping Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia, and Alcohols |
| ANSI | B31.5      | Refrigeration Piping                                                                                                   |

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| ANSI | B31.8        | Gas transmission and Distribution Piping Systems.                             |
| ANSI | B36.10M      | Welded and Seamless Wrought Steel Piping.                                     |
| ANSI | B46.1        | Surface Texture.(Surface Roughness, Waviness, and Lay)                        |
| ANSI | FCI 70-2     | Control Valve Seat Leakage.                                                   |
| ANSI | ISA S75.04   | Face to Face Dimensions of Flangeless Control Valves.                         |
| ANSI | ISA S75.03   | Uniform Face to Face Dimensions for Flanged Globe Style Control Valve Bodies. |
| ANSI | AWWA C207-78 | Flanges for water-works service, 4 in through 144 in, steel                   |
| ANSI | AWWA C504-80 | Rubber-seated butterfly valves.                                               |
| ANSI | AWWA C606-78 | Joints, grooved and shouldered type.                                          |
| ANSI | NFPA 68      | Explosion venting.                                                            |

### API- American Petroleum Institute

2101 L Street, N.W. Washington, D.C. 20037

|     |          |                                                                                                       |
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| API | 526      | Flanged-steel safety relief valves.                                                                   |
| API | ANSI/527 | Commercial seat tightness of safety relief valves with metal-to-metal seats.                          |
| API | 593      | Ductile iron plug valves, flanged ends.                                                               |
| API | 594      | Wafer Check Valves.                                                                                   |
| API | 595      | Cast iron gate valves, flanged ends.                                                                  |
| API | 597      | Steel venturi gate valves, flanged or butt-welding ends.                                              |
| API | 598      | Valve Inspection and Test.                                                                            |
| API | 599      | Steel plug valves, flanged and butt-welding ends.                                                     |
| API | 600      | Steel gate valves, flanged and butt-welding ends.                                                     |
| API | 601      | Metallic gaskets for piping, double-jacketed corrugated an spiral wound, fourth edition, 1975         |
| API | 602      | Compact Steel Gate Valves                                                                             |
| API | 603      | Class 150, corrosion-resistant gate valves.                                                           |
| API | 604      | Ductile iron gate valves, flanged ends.                                                               |
| API | 605      | Lage diameter steel flanges(nominal pipe size 26 through 60; class 75,400,400,400.600, and 900)       |
| API | 606      | Compact carbon steel gate valves, extended body.                                                      |
| API | 607      | Fire Test for Quarter Turn Valves.                                                                    |
| API | 608      | Metal Ball Valves.                                                                                    |
| API | 609      | Butterfly Valves, Lug Type, and Wafer Type.                                                           |
| API | STD-610  | CENTRIFUGAL PUMPS FOR GENERAL REFINERY SERVICE                                                        |
| API | STD-611  | GENERAL-PURPOSE STEAM TURBINES FOR REFINERY SERVICE (ANSI/API STD.611)                                |
| API | STD-612  | SPECIAL-PURPOSE STEAM TURBINES FOR REFINERY SERVICE (ANSI/API STD.612)                                |
| API | STD-613  | SPECIAL-PURPOSE GEAR UNITS FOR REFINERY SERVICE                                                       |
| API | STD-614  | LUBRICATION,SHAFT-SEALING AND CONTROL-OIL SYSTEM FOR SPECIAL- PURPOSE APPLICATIONS (ANSI/API STD.614) |
| API | STD-615  | SOUND CONTROL OF MECHANICAL EQUIPMENT FOR REFINERY SERVICE                                            |
| API | STD-616  | GAS TURBINES FOR REFINERY SERVICE (ANSI/API STD.616)                                                  |
| API | STD-617  | CENTRIFUGAL COMPRESSORS FOR GENERAL REFINERY SERVICE                                                  |



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| API | STD-618      | RECIPROCATING COMPRESSORS FOR GENERAL REFINERY SERVICE(ANSI/API STD.618)                                  |
| API | STD-619      | ROTARY-TYPE POSITIVE DISPLACEMENT COMPRESSORS FOR GENERAL REFINERY SERVICE (ANSI/API STD.619)             |
| API | 5L           | Specification for Line Pipe.                                                                              |
| API | 5LX          | High Test Line Pipe.                                                                                      |
| API | 6A           | Specification for wellhead equipment(including flanges).                                                  |
| API | 6AB          | 30,000 Psi Flanged Wellhead Equipment                                                                     |
| API | 6D           | Specification for Pipeline Valves.end closures, connectors and swivels.                                   |
| API | 6FA          | Specification for Fire Test for Valves.                                                                   |
| API | 6FC          | Fire test for valve with selective backseats.                                                             |
| API | 14A          | Specification for subsurface safety valves.                                                               |
| API | 14D          | Specification for wellhead surface safety valves for offshore service.                                    |
| API | 1104         | Welding og Pipelines and Related Facilities.                                                              |
| API | STD-1104     | WELDING OF PIPELINES AND RELATED FACILITIES                                                               |
| API | RP-1107      | PIPELINE MAINTENANCE WELDING PRACTICES                                                                    |
| API | RP-1110      | PRESSURE TESTING OF LIQUID PETROLEUM PIPELINES                                                            |
| API | PUBL-1108    | API PETROLEUM PIPELINE MAPS (MAPS COVER UNTIED STATES)                                                    |
| API | PUBL-1113    | PIPELINE SUPERVISORY CONTROL CENTER CHECKLIST                                                             |
| API | RP-1118      | TRAINING AND QUALIFICATION OF LIQUID PIPELINE CONTROLLERS                                                 |
| API | RP-1119      | TRAINING AND QUALIFICATION OF LIQUID PIPELINE OPERATORS                                                   |
| API | RP-1120      | TRAINING AND QUALIFICATION OF LIQUID PIPELINE MAINTENANCE PERSONNEL                                       |
| API | RP-1122      | EMERGENCY PREPAREDNESS AND RESPONSE FOR HAZARDOUS LIQUID PIPELINE                                         |
| API | RP-1123      | DEVELOPMENT OF PUBLIC EDUCATION PROGRAMS BY HAZARDOUS LIQUID PIPELINE OPERATORS                           |
| API | RP5L1        | Recommended practice for railroad transportation of line pipe.                                            |
| API | RP5L5        | Recommended practice for marine transportation of line pipe.                                              |
| API | RP5L6        | Recommended practice for transportation of line pipe on inland waterways.                                 |
| API | RP6F         | Recommended practice for fire test for valves(tentative)                                                  |
| API | RP6G         | Through flowline(TFL) pump down systems                                                                   |
| API | RP 520       | Recommended practice for the design and istallation of pressure relieving systems in refineries.          |
|     | Part 1(1976) | Design                                                                                                    |
|     | Part 2(1973) | Installation.                                                                                             |
| API | RP-500       | RECOMMENDED PRACTICE FOR CLASSIFICATION OF LOCATIONS FOR ELECTRICAL INSTALLATIONS AT PETROLEUM FACILITIES |
| API | RP 521       | Guide for pressure relief and depressurizing systems.                                                     |
| API | 2521         | Use of pressure-vacuum vent valves for atmospheric pressure tanks to reduce evaporation loss.             |
| API | RP-530       | CALCULATION OF HEATER TUBE THICKNESS IN PETROLEUM (ANSI/API STD.530)                                      |
| API | RP-550       | INSTALLATION OF REFINERY INSTRUMENTS AND CONTROL SYSTEM                                                   |
| API | RP-572       | INSPECTION OF PRESSURE VESSELS (ANSI/API STD.572)                                                         |
| API | RP-573       | INSPECTION OF FIRED BOILERS AND HEATERS (ANSI/APE STD.573)                                                |
| API | RP-574       | INSPECTION OF PIPING,TUBING,VALVES,AND FITTINGS (ANSI/API STD.574)                                        |



|     |         |                                                                                                       |
|-----|---------|-------------------------------------------------------------------------------------------------------|
| API | RP-576  | INSPECTION OF PRESSURE RELIEVING DEVICES (ANSI/API STD.576)                                           |
| API | RP-531M | MEASUREMENT OF NOISE FROM FIRED PROCESS HEATERS                                                       |
| API | RP-533  | AIR PREHEAT SYSTEMS FOR PROCESS HEATERS                                                               |
| API | STD-560 | FIRED HEATERS FOR GENERAL REFINERY SERVICES (ANSI/API STD.560)                                        |
| API | RP-632  | WINTERIZATION OF AIR-COOLED HEAT EXCHANGER                                                            |
| API | STD-660 | SHELL AND TUBE HEAT EXCHANGERS FOR GENERAL REFINERY SERVICES                                          |
| API | STD-661 | AIR-COOLED HEAT EXCHANGERS FOR GENERAL REFINERY SERVICES (ANSI/API STD.661)                           |
| API | STD-671 | SPECIAL-PURPOSE COUPLINGS FOR REFINERY SERVICE                                                        |
| API | STD-672 | PACKAGED INTEGRALLY GEARED CENTRIFUGAL AIR COMPRESSOR FOR GENERAL REFINERY SERVICE (ANSI/API STD.672) |
| API | STD-674 | POSITIVE DISPLACEMENT PUMPS-RECIPROCATING                                                             |
| API | STD-675 | POSITIVE DISPLACEMENT PUMPS-CONTROLLED VOLUME                                                         |
| API | STD-676 | POSITIVE DISPLACEMENT PUMPS-ROTARY (ANSI/API STD.676)                                                 |
| API | STD-677 | GENERAL-PURPOSE GEAR UNITS FOR REFINERY SERVICE                                                       |
| API | STD-678 | ACCELEROMETER-BASED VIBRATION MONITORING SYSTEM                                                       |
| API | STD-680 | PACKAGED RECIPROCATING PLANT AND INSTRUMENT,AIR-COMPRESSOR FOR GENERAL REFINERY SERVICE               |

| <PIPING COMPONENT STANDARDS FOR REFINERY SERVICE>      |                                                                                                         |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| API-STD-5B                                             | SPECIFICATION FOR THREADING,GAGING AND THREAD INSPECTION OF CASING,TUBING AND LINE PIPE THREADS         |
| API-SPEC-5L                                            | SPECIFICATION FOR LINE PIPE                                                                             |
| API-SPEC-6A                                            | SPECIFICATION FOR WELLHEAD EQUIPMENT                                                                    |
| API-SPEC-6D                                            | SPECIFICATION FOR PIPELINE VALVES,END CLOSURES,CONNECTORS AND SWELVEDS                                  |
| API-STD-590                                            | STEEL LINE BLANKS                                                                                       |
| API-RP-591                                             | USER ACCEPTANCE OF REFINERY VALVES                                                                      |
| API-STD-593                                            | DUCTILE IRON PLUG VALVES-FLANGED END                                                                    |
| API-STD-594                                            | WAFER CHECK VALVES                                                                                      |
| API-STD-595                                            | CAST IRON GATE VALVES                                                                                   |
| API-STD-597                                            | STEEL VENT GATE VALVES                                                                                  |
| API-STD-598                                            | VALVE INSPECTION AND TESTING                                                                            |
| API-STD-599                                            | STEEL PLUG VALVES-FLANGED OR BUTT-WELDING ENDS                                                          |
| API-STD-600                                            | STEEL GATE VALVES-FLANGED OR BUTT-WELDING ENDS                                                          |
| API-STD-601                                            | METALLIC GASKETS FOR PIPING (DOUBLE-JACKETED CORRUGATED AND SPIRALWOUND)                                |
| API-STD-602                                            | COMPACT STEEL GATE VALVES                                                                               |
| API-STD-603                                            | CLASS 150,CAST,CORROSION-RESISTANT,FLANGED-END GATE VALVES                                              |
| API-STD-604                                            | DUCTILE IRON GATE VALVES                                                                                |
| API-STD-605                                            | LARGE DIAMETER CARBON STEEL FLANGES (SIZE 26"-60", CLASS 75,150,300,400,600,900)                        |
| API-STD-606                                            | COMPACT CARBON STEEL GATE VALVES-EXTENDED BODY                                                          |
| API-STD-607                                            | FIRE TEST FOR SOFT-SEATED QUARTER-TURN VALVES                                                           |
| API-STD-608                                            | METAL BALL VALVES-FLANGED AND BUTT-WELDING ENDS                                                         |
| API-STD-609                                            | LUG AND WAFER TYPE BUTTERFLY LAVES                                                                      |
| <PRESSURE-RELIEVING SYSTEMS FOR REFINERY SERVICE>      |                                                                                                         |
| API-RP-520                                             | SIZING,SELECTION AND INSTALLATION OF PRESSURE-RELIEVING DEVICE IN REFINERIES (ANSI/API STD.520)         |
| API-RP-521                                             | GUIDE FOR PRESSURE-RELIEVING AND DEPRESSING SYSTEMS (ANSI/API STD.521)                                  |
| API-RP-526                                             | FLANGED STEEL SAFETY-RELIEF VALVES (ANSI/API STD.526)                                                   |
| API-RP-527                                             | SEAT TIGHTNESS OF PRESSURE RELIEF VALVES (ANSI/API STD.527)                                             |
| <PRESSURE-VESSELS AND TANKS AND MATERIALS ENGINEERING> |                                                                                                         |
| API-STD-510                                            | PRESSURE VESSEL INSPECTION CODE (MAINTENANCE INSPECTION,RATING,REPAIR AND ALTERATION (ANSI/API STD.510) |
| API-STD-620                                            | DESIGN AND CONSTRUCTION OF LARGE,WELDED, LOW PRESSURE STORAGE TANKS ANSI/API STD.620)                   |
| API-STD-650                                            | WELDED STEEL TANKS FOR OIL STORAGE                                                                      |
| API-RP-651                                             | CATHODIC PROTECTION OF ABOVEGROUND PETROLIUM STORAGE TANKS                                              |

|             |                                                                            |
|-------------|----------------------------------------------------------------------------|
|             | (ANSI/API STD.651)                                                         |
| API-RP-652  | LINING OF ABOVEGROUND PETROLEUM STORAGE TANK BOTTOMS<br>(ANSI/API STD.652) |
| API-STD-653 | TANK INSPECTION,REPAIR,ALTERATION AND RECONSTRUCTION                       |

## ASTM- American Society of Testing and Materials

|      |       |                                                                                                                 |
|------|-------|-----------------------------------------------------------------------------------------------------------------|
| ASTM | A53   | Welded and seamless pipe                                                                                        |
| ASTM | A105  | Forgings, m carbon steel, for piping components                                                                 |
| ASTM | A106  | Seamless pipe                                                                                                   |
| ASTM | A120  | Pipe, steel, black and hot dipped zinc-coated(galvanized) welded and seamless, for ordinary use.                |
| ASTM | A134  | Electric fusion(Arc) welded steel plate pipe(size 16 in. and over)                                              |
| ASTM | A135  | Electric resistance welded pipe                                                                                 |
| ASTM | A139  | Electric fusion(arc) welded pipe(size 4 in. and over)                                                           |
| ASTM | A182  | Forged or rolled alloy steel pipe flanges, forged fittings, and valves and parts for hghigh temperature service |
| ASTM | A193  | Alloy steel and stainless steel bolting materials for high temperature service                                  |
| ASTM | A194  | Carbon and alloy steel nuts for bolts for high-pressure and high-temperature service.                           |
| ASTM | A211  | Spiral-welded steel or iron pipe.                                                                               |
| ASTM | A216  | Steel casting, carbon, suitable for fusion welding, for high temperature service                                |
| ASTM | A234  | Piping fittings of wrought carbon steel and alloy steel for moderate and elevated temperature.                  |
| ASTM | A307  | Carbon steel externally threaded standard fasteners.                                                            |
| ASTM | A320  | Alloy steel bolting material for low-temerature service.                                                        |
| ASTM | A333  | Seamless and Welded Pipe for Low Temperutur Service                                                             |
| ASTM | A351  | Casting, Austentic, Austenite Ferrite(Duplex), for Pressure Containing Patrs.                                   |
| ASTM | A354  | Quenched and tempered alloy steel bolts, studs, and other externally threaded fasteners.                        |
| ASTM | A372  | Carbon and alloy steel forgings for thin-walled pressure vessels.                                               |
| ASTM | A381  | Metal- Arc- Welded Steel Pipe for use with High Pressure Transmission Systems.                                  |
| ASTM | A395  | Ferritic ductile iron pressure-retaining castings for use at elevated temperatures.                             |
| ASTM | A403  | Wrought Austenitic Stainless Steel Pipe Fittings.                                                               |
| ASTM | A420  | Piping Fittings of Wrought Carbon Steel and Alloy Steel for Low-Temperature Service.                            |
| ASTM | A449  | Quenched and tempered steel bolts and studs.                                                                    |
| ASTM | A559  | Mild steel electrodes for gas metal-arc welding.                                                                |
| ASTM | A671  | Erectric Fusion Welded steel pipe for atmospheric and lower temperatures.                                       |
| ASTM | A672  | Electric Fusion Welded steel pipe for high-pressure service at moderate temperature.                            |
| ASTM | A744  | Casting, iron-chormium-nickel, corrosion resistant, for severe service.                                         |
| ASTM | B88   | Seamless copper water tube.                                                                                     |
| ASTM | D696  | Test for coefficient of linear thermal expansion of plastics.                                                   |
| ASTM | D1599 | Test for shot-time rupture strength of plastic pipe, tubing, and fittings.                                      |
| ASTM | D2513 | Thermoplastic gas pressure pipe, tubing and fittings.                                                           |
| ASTM | D2517 | Reinforced epoxy resin gas pressure pipe and fittings.                                                          |
| ASTM | D2837 | Hydrostatic design basis for thermoplastic pipe materials, obtaining.                                           |
| ASTM | E380  | Metric practice.                                                                                                |

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## DIN - Deutsche Industrie Normen

|     |       |                                                                                |
|-----|-------|--------------------------------------------------------------------------------|
| DIN | 1629  | Seamless Tubes in Unalloyed Steel for Supply Purpose, Process Plant and Tanks. |
| DIN | 2605  | Tube Bends for Butt-Welding Fittings.                                          |
| DIN | 2606  | Tube Bends in Steel for Butt-Welding Type 5d.                                  |
| DIN | 2615  | Butt-Welding Steel Fittings Tees.                                              |
| DIN | 2616  | Butt-Welding Steel Fittings Reducers.                                          |
| DIN | 2617  | Butt-Welding Steel Fittings Caps.                                              |
| DIN | 3202  | Butterfly Valve Face to Face Dimension.                                        |
| DIN | 3359  | Membran-Absperrarmaturen aus metallischen Werkstoffen.                         |
| DIN | 17100 | Steels for General Structural Purposes Quality Specifications.                 |
| DIN | 17155 | Boiler Plates Technical Conditions of Delivery.                                |
| DIN | 17175 | Seamless Tubes of High-Temperature Steel Technical Conditions of Delivery.     |

## BS - British Standards Institution

2 Park Street London W1A 2BS

|    |            |                                                                                                                                        |
|----|------------|----------------------------------------------------------------------------------------------------------------------------------------|
| BS | 10         | Flanges and bolting for pipes, valves, and fittings (obsolescent)                                                                      |
| BS | 21         | Pipe threads for tubes and fittings where pressure-tight joints are made on the threads. (metric dimensions)                           |
| BS | 66 / 99    | Flanged and bolting for pipes, valves and fittings. - 1970                                                                             |
| BS | 143 / 1256 | Malleable cast iron and cast copper alloy screwed pipe fittings for steam, air, water, gas, oil.                                       |
| BS | 759        | Valves, gauges and other safety fittings for application to boilers and to piping installations for and in connection with boilers.    |
| BS | 864        | Capillary and compression tube fittings of copper and copper alloy.                                                                    |
|    | Part 1     | Metric units.                                                                                                                          |
|    | Part 2     | Compression fittings for polyethylene pipes.                                                                                           |
| BS | 1414       | Steel wedge gate valves (flanged and butt-welding ends) for the petroleum, petrochemical and allied industries.                        |
| BS | 1560       | Steel pipe flanges and flanged fittings (nominal sizes 1/2 in to 24 in) for the petroleum industry.                                    |
| BS | 1640       | Steel Butt-Welding Pipe Fitting for the Petroleum Industry.                                                                            |
|    | part-1     | Wrought Carbon and Ferritic Alloy Steel Fittings.                                                                                      |
|    | part-2     | Wrought and Cast Austenitic Chromium-Nickel Steel Fittings.                                                                            |
| BS | 1868       | Steel check valves (flange and butt-welding ends)                                                                                      |
| BS | 1873       | Steel globe valves and stop and check valves (flanged and butt-welding ends), for the petroleum, petrochemical, and allied industries. |
| BS | 1965       | Butt-Welding Pipe Fittings for Pressure Purposes.                                                                                      |
|    | Part-1     | Carbon Steel                                                                                                                           |
|    | Part-2     | Austenitic Stainless Steel.                                                                                                            |
| BS | 2080       | Face to face, centre to face, end 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 24 in nominal size) for the petroleum industry.                                                                                           |
| BS | 3636         | Method for proving the gas tightness of vacumm or pressurized plant.                                                                                                |
| BS | 4371         | Fibrous gland packings.                                                                                                                                             |
| BS | 4504         | Flanges and bolting for pipes, valves, and fittings, metric series.                                                                                                 |
|    | Part-1(1969) | Ferrous                                                                                                                                                             |
|    | Part-2(1974) | Copper alloys 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 purpose valves.                                                                                                           |
| BS | 5148         | Marking of general purpose industrial valves.                                                                                                                       |
| BS | 5150         | Cast iron wedge and double-disc gate valves, for general purpose.                                                                                                   |
| BS | 5151         | Cast iron globe and globe stop and check valves, 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 purpose valves.                                                                                                                  |
| BS | 5154         | Copper alloy globe, blobe stop and check, check, and gate valves(including parallel slide type), for general purpose.                                               |
| BS | 5155         | Cast Iron and Carbon Steel Butterfly Valves for General purposes.                                                                                                   |
| BS | 5156         | Screwdown daiphragm valves for general purposes.                                                                                                                    |
| BS | 5157         | Steel parallel slide gate valves, for general purpose.                                                                                                              |
| BS | 5158         | Cast iron and cast steel plug valves for general purpose.                                                                                                           |
| BS | 5159         | Cast iron carbon steel ball valves for general purpose.                                                                                                             |
| BS | 5160         | Specification for flanged steel globe valves, globe stop and check valves, and lift-type check valves for general purpose.                                          |
| BS | 5163         | Double-flanged cast iron wedge gate valves for water works purposes.                                                                                                |
| BS | 5209         | Marking of general purpose industrial valves.                                                                                                                       |
| BS | 5222         | Aluminum piping systems.                                                                                                                                            |
|    | Part 1       | 1975, Dimensions, materials and construction of components.                                                                                                         |
|    | Part 2       | 1976, Design.                                                                                                                                                       |
| BS | 5351         | Steel Ball Valves for the Petroleum, Petrochemical and Allied Industries.                                                                                           |
| BS | 5352         | Cast and forged steel wedge gate, globe, check, and plug valves, screwed and socket welding, sizes 50 mm and smaller, for the petrochemical, and sllied industries. |
| BS | 5353         | Specification for plug valves.                                                                                                                                      |
| BS | 6364         | Valves for Cryogenic service.                                                                                                                                       |
| BS | 6477         | 1976, Metric dimensions of steel tubes for hydraulic cylinders used in the construction of powered roof supports in the mining industry.                            |
| BS | 6755         | Testing of Valves.                                                                                                                                                  |
|    | Part-1       | Specification for Production Pressure Testing Requirements.                                                                                                         |
|    | Part-2       | Specification for Fire type Testing Requirements.                                                                                                                   |
| BS | 6759         | Safety valves.                                                                                                                                                      |

|  |        |                                                  |
|--|--------|--------------------------------------------------|
|  | Part 1 | Safety valves for steam and hot water..          |
|  | Part 2 | Safety valves for compressed air or inert gases. |

## ISO - International Standardization Organization

|     |        |                                                  |
|-----|--------|--------------------------------------------------|
| ISO | 4126   | Safety valves.                                   |
| ISO | 5208   | Industrial Valves - Pressure Testing of Valves.  |
| ISO | 5211   | Part-Turn Valve Actuator Attachment              |
|     | Part-1 | Flange Dimensions.                               |
|     | Part-2 | Flange and Coupling Performance Characteristics. |
| ISO | 5752   | Butterfly Valve Face to Face Dimension           |
| ISO | 6718   | Bursting discs and bursting-disc devices.        |

## JIS - Japanese Industrial Standards

|     |       |                                                                            |
|-----|-------|----------------------------------------------------------------------------|
| JIS | B2003 | General rules for inspection of valves.                                    |
| JIS | B2201 | Pressure rating for ferrous material pipe flanges.                         |
| JIS | B2203 | Tolerances for pipe flanges.                                               |
| JIS | B2210 | Basic dimensions of ferrous material pipe flanges.                         |
| JIS | B2071 | 10 kgf/cm <sup>2</sup> Cast steel flanged globe valves.                    |
| JIS | B2073 | 10 kgf/cm <sup>2</sup> Cast steel flanged gate valves.(outside screw type) |
| JIS | B2074 | 10 kgf/cm <sup>2</sup> Cast steel flanged swing check valves.              |
| JIS | B2081 | 20 kgf/cm <sup>2</sup> Cast steel flanged globe valves.                    |
| JIS | B2083 | 20 kgf/cm <sup>2</sup> Cast steel flanged gate valves.(outside screw type) |
| JIS | B2084 | 20 kgf/cm <sup>2</sup> Cast steel flanged swing check valves.              |

## NACE

|      |          |                                                                               |
|------|----------|-------------------------------------------------------------------------------|
| NACE | MR-01-75 | Sulfide Stress Cracking Resistance Metallic Material for Oil Field Equipment. |
| VDI  | 3673     | Pressure release of dust explosions.                                          |



**MSS - Manufacturers Standardization Society of the Valves and fittings Industry, Inc.**

|        |    |                                                                                                          |
|--------|----|----------------------------------------------------------------------------------------------------------|
| MSS-SP | 6  | Standard finishes for contact faces pipe flanges and connecting-end flanges of valves and fittings.      |
| MSS-SP | 9  | Spot facing for bronze, iron, and steel flanges.                                                         |
| MSS-SP | 25 | Standard Marking System for Valves, Fittings, Flanges, and Unions.                                       |
| MSS-SP | 42 | Class 400 corrosion resistant gate, globe, angle and check valves with flanged butt weld ends            |
| MSS-SP | 43 | Wrought Stainless Steel Butt-Welding Fittings.                                                           |
| MSS-SP | 44 | Steel pipeline flanges.                                                                                  |
| MSS-SP | 45 | Bypass and drain connection standard.                                                                    |
| MSS-SP | 48 | Steel Butt-Welding Fitting(26" and Larger).                                                              |
| MSS-SP | 51 | Class 150 LW corrosion resistant cast flanges and flanged fittings                                       |
| MSS-SP | 53 | Magnetic Particle Inspection.                                                                            |
| MSS-SP | 54 | Radiographic Inspection.                                                                                 |
| MSS-SP | 55 | Quality Standard for Steel Castings for Valves, Flanges and Fittings and Other Components(Visual Method) |
| MSS-SP | 58 | Pipe Hangers and Supports Materials, Design and Manufacture                                              |
| MSS-SP | 60 | Connecting Flange Joint Between Tapping Sleeves and Tapping Valves                                       |
| MSS-SP | 61 | Pressure testing of steel valves.                                                                        |
| MSS-SP | 65 | High pressure chemical industry flanges and threaded stubs for use with lens gaskets                     |
| MSS-SP | 67 | Butterfly Valves.                                                                                        |
| MSS-SP | 68 | High Pressure Offset Seat Butterfly Valves                                                               |
| MSS-SP | 69 | Pipe Hangers and Supports Selection and Application                                                      |
| MSS-SP | 70 | Cast iron gate valves, flanged and threaded ends..                                                       |
| MSS-SP | 71 | Cast Iron Swing Check Valves.                                                                            |
| MSS-SP | 72 | Ball Valve with Flanged or Butt Welding Ends for General Service                                         |
| MSS-SP | 73 | Brazing Joints for Wrought and Cast Copper Alloy Solder Joint Pressure Fittings                          |
| MSS-SP | 75 | Specification for High Test Wrought Welding Fittings.                                                    |
| MSS-SP | 77 | Guideline for Pipe Support Contractual Relationships                                                     |
| MSS-SP | 78 | Cast iron plug valves, flanged and threaded ends                                                         |
| MSS-SP | 79 | Socket Welding Reducer Inserts                                                                           |
| MSS-SP | 80 | Bronze gate, globe, angle and check valves                                                               |
| MSS-SP | 81 | Stainless steel, bonnetless, flanged, wafer, knife gate valves.                                          |
| MSS-SP | 82 | Valve Pressure Testing Methods                                                                           |
| MSS-SP | 83 | Carbon Steel Pipe Unions Socket Welding and Threaded                                                     |
| MSS-SP | 84 | Steel valves - socket welding and threaded ends                                                          |
| MSS-SP | 85 | Cast iron globe and angle valves flanged and threaded ends                                               |
| MSS-SP | 86 | Guideline for Metric Data in Standards for Valves, Flanges, and Fittings                                 |
| MSS-SP | 87 | Factory made Butt Welding Fittings for Class 1 Nuclear Piping Applications                               |
| MSS-SP | 88 | Diaphragm Type Valves                                                                                    |



|        |    |                                                                  |
|--------|----|------------------------------------------------------------------|
| MSS-SP | 89 | Pipe Hangers and Supports Fabrication and Installation Practices |
| MSS-SP | 90 | Guideline on Terminology for Pipe Hangers and Supports           |
| MSS-SP | 91 | Guidelines for Manual Operation of Valves                        |
| MSS-SP | 92 | Mss Valve User Guide                                             |
| MSS-SP | 93 | Liquid Penetrate Inspection.                                     |
| MSS-SP | 94 | Ultrasonic Inspection.                                           |

## ISA- Instrument Society of America

67 Alexander Drive P.O. Box 12277 Research Triangle Park, NC 27709

|                                          |                                       |                                                                                                                                          |
|------------------------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| ISA-75.01-1985<br>(Reaffirmed 1995)      | formerly ISA-S75.01-1985 (R1995)      | Flow Equations for Sizing Control Valves                                                                                                 |
| ANSI/ISA-75.02-1996                      | formerly ANSI/ISA-S75.02-1996         | Control Valve Capacity Test Procedures                                                                                                   |
| ISA-75.03-1992                           | formerly ISA-S75.03-1992              | Face-to-Face Dimensions for Integral Flanged Globe-Style Control Valve Bodies (ANSI Classes 125, 150, 250, 300, and 600)                 |
| ANSI/ISA-75.04-1995                      | formerly ANSI/ISA-S75.04-1995         | Face-to-Face Dimensions for Flangeless Control Valves (ANSI Classes 150, 300, and 600)                                                   |
| ANSI/ISA-TR75.04.01-1998                 |                                       | Control Valve Position Stability                                                                                                         |
| ISA-75.05-1983                           | formerly ISA-75.05-1983               | Control Valve Terminology                                                                                                                |
| ISA-75.07-1997                           | formerly ISA-S75.07                   | Laboratory Measurement of Aerodynamic Noise Generated by Control Valves                                                                  |
| ANSI/ISA-75.08-1985<br>(Reaffirmed 1996) | formerly ANSI/ISA-S75.08-1985 (R1996) | Installed Face-to-Face Dimensions for Flanged Clamp or Pinch Valves                                                                      |
| ISA-75.11-1985<br>(Reaffirmed 1997)      | formerly ISA-S75.11-1985 (R1997)      | Inherent Flow Characteristics and Rangeability of Control Valves                                                                         |
| ANSI/ISA-75.12-1993                      | formerly ANSI/ISA-S75.12-1993         | Face-To-Face Dimensions for Socket Weld-End and Screwed-End Globe-Style Control Valves (ANSI Classes 150, 300, 600, 900, 1500, and 2500) |
| ISA-75.13-1996                           | formerly ISA-S75.13-1996              | Method of Evaluating the Performance of Positioners with Analog Input Signals and Pneumatic Output                                       |
| ANSI/ISA-75.14-1993                      | formerly ANSI/ISA-S75.14-1993         | Face-to-Face Dimensions for Butt-weld-End Globe-Style Control Valves (ANSI Class 4500)                                                   |
| ANSI/ISA-75.15-1994                      | formerly ANSI/ISA-S75.15-1994         | Face-to-Face Dimensions for Butt-weld-End Globe-Style Control Valves (ANSI Classes 150, 300, 600, 900, 1500, and 2500)                   |
| ANSI/ISA-75.16-1994                      | formerly ANSI/ISA-S75.16-1994         | Face-to-Face Dimensions for Flanged Globe-Style Control Valve Bodies (ANSI Classes 900, 1500, and 2500)                                  |
| ANSI/ISA-75.17-1989                      | formerly ANSI/ISA-S75.17-1989         | Control Valve Aerodynamic Noise Prediction ANSI/ISA-75.17-1989 formerly ANSI/ISA-S75.17-1989 Control Valve Aerodynamic Noise Prediction  |
| ANSI/ISA-75.19-1995                      | formerly ANSI/ISA-S75.19-1995         | Hydrostatic Testing of Control Valves                                                                                                    |



|                                                                                                                                    |                                  |                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| ANSI/ISA-75.20-1991                                                                                                                | formerly ANSI/ISA-S75.20-1991    | Face-to-Face Dimensions for Separable Flanged Globe-Style Control Valves (ANSI Classes 150, 300, and 600)                                         |
| ISA-RP75.21-1989<br>(Reaffirmed 1996)<br>Process Data<br>Presentation for Control<br>Valves ISA-RP75.21-<br>1989 (Reaffirmed 1996) |                                  | Process Data Presentation for Control Valves                                                                                                      |
| ANSI/ISA-75.22-1999                                                                                                                | formerly ANSI/ISA-S75.22-1999    | Face-to-Centerline Dimensions for Flanged Globe-Style Angle Control Valve Bodies (ANSI Classes 150, 300, and 600)                                 |
| ISA-RP75.23-1995                                                                                                                   |                                  | Considerations for Evaluating Control Valve Cavitation                                                                                            |
| SA-12.00.01-1999                                                                                                                   | formerly ISA-S12.00.01-1999      | (IEC 60079-0 Mod) Electrical Apparatus for Use in Class I, Zone 0 and 1 Hazardous (Classified) Locations General Requirements                     |
| ISA-12.01.01-1999                                                                                                                  | formerly ISA-S12.01.01-1999      | Definitions and Information Pertaining to Electrical Instruments in Hazardous (Classified) Locations                                              |
| ISA-12.02.01-1999                                                                                                                  | formerly ISA-S12.02.01-1999      | Electrical Apparatus for Use in Class I, Zones 0, 1, & 2 Hazardous (Classified) Locations - Intrinsic Safety'i                                    |
| ANSI/ISA-TR12.06.01-1999                                                                                                           |                                  | Electrical Equipment in a Class I, Division 2/Zone 2 Hazardous Location                                                                           |
| ISA-12.10-1988                                                                                                                     | formerly ISA-S12.10-1988         | Area Classification in Hazardous (Classified) Dust Locations                                                                                      |
| ANSI/ISA-12.12-1994                                                                                                                | formerly ANSI/ISA-S12.12-1994    | Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations         |
| ISA-12.13, Part I-1995                                                                                                             | formerly ISA-S12.13, Part I-1995 | Performance Requirements, Combustible Gas Detectors                                                                                               |
| ISA-RP12.13, Part II-1987                                                                                                          |                                  | Installation, Operation, and Maintenance of Combustible Gas Detection Instruments                                                                 |
| ANSI/ISA-TR12.13.01-1999                                                                                                           |                                  | Flammability Characteristics of Combustible Gases and Vapors                                                                                      |
| ANSI/ISA-TR12.13.02-1999                                                                                                           |                                  | Investigation of Fire and Explosion Accidents in the Chemical, Mining, and Fuel-Related Industries - A Manual by Kuchta                           |
| ANSI/ISA-12.16.01-1998                                                                                                             | formerly ANSI/ISA-S12.16.01-1998 | (IEC 79-7 Mod) Electrical Apparatus for Use in Class I, Zone 1 Hazardous (Classified) Locations: Type of Protection - Increased Safety 'e'        |
| ISA-TR12.2-1995                                                                                                                    |                                  | Intrinsically Safe System Assessment Using the Entity Concept                                                                                     |
| ISA-RP12.2.02-1996                                                                                                                 |                                  | Recommendations for the Preparation, Content, and Organization of Intrinsic Safety Control Drawings                                               |
| ANSI/ISA-12.22.01-1998                                                                                                             | formerly ANSI/ISA-S12.22.01-1998 | (IEC 79-1 Mod) Electrical Apparatus for Use in Class I, Zone 1 Hazardous (Classified) Locations: Type of Protection - Flameproof 'd'              |
| ANSI/ISA-12.23.01-1998                                                                                                             | formerly ANSI/ISA-S12.23.01-1998 | (IEC 79-18 Mod) Electrical Apparatus for Use in Class I, Zone 1 Hazardous (Classified) Locations: Type of Protection - Encapsulation 'm'          |
| ANSI/ISA-TR12.24.01-1998                                                                                                           |                                  | (IEC 79-10 Mod) Recommended Practice for Classification of Locations for Electrical Installations Classified as Class I, Zone 0, Zone 1, or Zone2 |
| ANSI/ISA-12.25.01-1998                                                                                                             | formerly ANSI/ISA-S12.25.01-1998 | (IEC 79-5 Mod) Electrical Apparatus for Use in Class I, Zone 1 Hazardous (Classified) Locations: Type of Protection - Powder Filling 'q'          |

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| ANSI/ISA-12.26.01-1998              | formerly ANSI/ISA-S12.26.01-1998     | (IEC 79-6 Mod) Electrical Apparatus for Use in Class I, Zone 1 Hazardous (Classified) Locations: Type of Protection - Oil-Immersion 'o'                                |
| ISA-RP12.4-1996                     |                                      | Pressurized Enclosures                                                                                                                                                 |
| ANSI/ISA-RP12.6-1995                |                                      | Wiring Practices for Hazardous (Classified) Locations Instrumentation Part 1: Intrinsic Safety                                                                         |
| ISA-RP16.1,2,3-1959                 |                                      | Terminology, Dimensions and Safety Practices for Indicating Variable Area Meters (Rotameters) - RP16.1 Glass Tube, RP16.2 Metal Tube, RP16.3 Extension-Type Glass Tube |
| ISA-RP16.4-1960                     |                                      | Nomenclature and Terminology for Extension-Type Variable Area Meters (Rotameters)                                                                                      |
| ISA-RP16.5-1961                     |                                      | Installation, Operation, and Maintenance Instructions for Glass Tube Variable Area Meters (Rotameters)                                                                 |
| ISA-RP16.6-1961                     |                                      | Methods and Equipment for Calibration of Variable Area Meters (Rotameters)                                                                                             |
| ANSI/ISA-18.1-1979(Reaffirmed 1992) | formerly ANSI/ISA-S18.1-1979 (R1992) | Annunciator Sequences and Specifications                                                                                                                               |
| ISA-RP2.1-1978                      |                                      | Manometer Tables                                                                                                                                                       |
| ISA-20-1981                         | formerly ISA-S20-1981                | Specification Forms for Process Measurement and Control Instruments, Primary Elements, and Control Valves                                                              |
| ISA-26-1968                         | formerly ISA-S26-1968                | Dynamic Response Testing of Process Control Instrumentation                                                                                                            |
| ISA-RP31.1-1977                     |                                      | Specification, Installation, and Calibration of Turbine Flowmeters                                                                                                     |
| ISA-37.1-1975 (Reaffirmed 1982)     | formerly ISA-S37.1-1975 (R1982)      | Electrical Transducer Nomenclature and Terminology ( formerly ANSI MC6.1-1975)                                                                                         |
| ISA-37.10-1982 (Reaffirmed 1995)    | formerly ISA-S37.10-1982 (R1995)     | Specifications and Tests for Piezoelectric Pressure and Sound-Pressure Transducers                                                                                     |
| ISA-37.12-1982 (Reaffirmed 1995)    | formerly ISA-S37.12-1982 (R1995)     | Specifications and Tests for Potentiometric Displacement Transducers                                                                                                   |
| ISA-RP37.2-1982 (Reaffirmed 1995)   |                                      | Guide for Specifications and Tests for Piezoelectric Acceleration Transducers for Aerospace Testing                                                                    |
| ISA-37.3-1982 (Reaffirmed 1995)     | formerly ISA-S37.3-1982 (R1995)      | Specifications and Tests for Strain Gage Pressure Transducers                                                                                                          |
| ISA-37.5-1982(Reaffirmed 1995)      | formerly ISA-S37.5-1982 (R1995)      | Specifications and Tests for Strain Gage Linear Acceleration Transducers                                                                                               |
| ISA-37.6-1982 (Reaffirmed 1995)     | formerly ISA-S37.6-1982 (R1995)      | Specifications and Tests for Potentiometric Pressure Transducers                                                                                                       |
| ISA-37.8-1982 (Reaffirmed 1995)     | formerly ISA-S37.8-1982 (R1995)      | Specifications and Tests for Strain Gage Force Transducers                                                                                                             |
| ISA-RP42.1-1992                     |                                      | Nomenclature for Instrument Tube Fittings                                                                                                                              |
| ANSI/ISA-5.1-1984 (Reaffirmed 1992) | formerly ANSI/ISA-S5.1-1984 (R1992)  | Instrumentation Symbols and Identification                                                                                                                             |

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| ANSI/ISA-5.2-1976<br>(Reaffirmed 1992)  | formerly ANSI/ISA-S5.2-1976 (R1992)   | Binary Logic Diagrams For Process Operations                                                                           |
| ISA-5.3-1983                            | formerly ISA-S5.3-1983                | Graphic Symbols for Distributed Control/Shared Display Instrumentation, Logic, and Computer Systems                    |
| ANSI/ISA-5.4-1991                       | formerly ANSI/ISA-S5.4-1991           | Instrument Loop Diagrams                                                                                               |
| ISA-5.5-1985                            | formerly ISA-S5.5-1985                | Graphic Symbols for Process Displays                                                                                   |
| ANSI/ISA-50.02, Part 2-1992             | formerly ANSI/ISA-S50.02, Part 2-1992 | Fieldbus Standard for Use in Industrial Control Systems Part 2: Physical Layer Specification and Service Definition    |
| ANSI/ISA-50.02, Part 3-1997             | formerly ANSI/ISA-S50.02, Part 3-1997 | Fieldbus Standard for Use in Industrial Control Systems Part 3: Data Link Service Definition                           |
| ANSI/ISA-50.02, Part 4-1997             | formerly ANSI/ISA-S50.02, Part 4-1997 | Fieldbus Standard for Use in Industrial Control Systems Part 4: Data Link Protocol Specification                       |
| ANSI/ISA-50.02, Part 5-1998             | formerly ANSI/ISA-S50.02, Part 5-1998 | Fieldbus Standard for Use in Industrial Control Systems Part 5: Application Layer Service Definition                   |
| ANSI/ISA-50.02, Part 6-1998             | formerly ANSI/ISA-S50.02, Part 6-1998 | Fieldbus Standard for Use in Industrial Control Systems Part 6: Application Layer Protocol Specification               |
| ANSI/ISA-TR50.02, Parts 3 & 4           |                                       | Fieldbus Standard for Use in Industrial Control Systems, TR1: Technical Report for Fieldbus Data Link Layer - Tutorial |
| ISA-TR50.02, Part 9-2000                |                                       | Fieldbus Standard for Use in Industrial Control Systems: User Layer Technical Report                                   |
| ANSI/ISA-50.1-1982<br>(Reaffirmed 1992) | formerly ANSI/ISA-S50.1-1982 (R1992)  | Compatibility of Analog Signals for Electronic Industrial Process Instruments                                          |
| ANSI/ISA-51.1-1979<br>(Reaffirmed 1993) | formerly ANSI/ISA-S51.1-1979 (R1993)  | Process Instrumentation Terminology                                                                                    |
| ISA-RP52.1-1975                         |                                       | Recommended Environments for Standards Laboratories                                                                    |
| ISA-RP55.1-1975<br>(Reaffirmed 1983)    |                                       | - Hardware Testing of Digital Process Computers                                                                        |
| ISA-RP55.1-1983<br>(Reaffirmed 1983)    |                                       | - Hardware Testing of Digital Process Computers                                                                        |
| ISA-RP60.1-1990                         |                                       | Control Center Facilities                                                                                              |
| ISA-RP60.11-1991                        |                                       | Crating, Shipping, and Handling for Control Centers                                                                    |
| ISA-RP60.2-1995                         |                                       | Control Center Design Guide and Terminology                                                                            |
| ISA-RP60.3-1985                         |                                       | Human Engineering for Control Centers                                                                                  |
| ISA-RP60.4-1990                         |                                       | Documentation for Control Centers                                                                                      |
| ISA-RP60.6-1984                         |                                       | Nameplates, Labels, and Tags for Control Centers                                                                       |

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| ISA-RP60.8-1978          |                                  | Electrical Guide for Control Centers                                                                      |
| ISA-RP60.9-1981          |                                  | Piping Guide for Control Centers                                                                          |
| ANSI/ISA-67.01-1994      | formerly ANSI/ISA-S67.01-1994    | Transducer and Transmitter Installation for Nuclear Safety Applications                                   |
| ANSI/ISA-67.02.01-1999   | formerly ANSI/ISA-S67.02.01-1999 | Nuclear Safety-Related Instrument Sensing Line Piping and Tubing Standard for Use in Nuclear Power Plants |
| ISA-67.03-1982           | formerly ISA-S67.03-1982         | Standard for Light Water Reactor Coolant Pressure Boundary Leak Detection                                 |
| ANSI/ISA-67.04.01-2000   | formerly ANSI/ISA-S67.04.01-2000 | Setpoints for Nuclear Safety-Related Instrumentation                                                      |
| ISA-RP67.04.02-2000      |                                  | Methodologies for the Determination of Setpoints for Nuclear Safety-Related Instrumentation               |
| ANSI/ISA-TR67.04.08-1996 |                                  | Setpoints for Sequenced Actions                                                                           |
| ISA-67.06-1984           | formerly ISA-S67.06-1984         | Response Time Testing of Nuclear Safety-Related Instrument Channels in Nuclear Power Plants               |
| ANSI/ISA-67.14.01-2000   | formerly ANSI/ISA-S67.14.01-2000 | Qualifications and Certification of Instrumentation and Control Technicians in Nuclear Facilities         |
| ANSI/ISA-7.0.01-1996     | formerly ANSI/ISA-S7.0.01-1996   | Quality Standard for Instrument Air                                                                       |
| ISA-71.01-1985           | formerly ISA-S71.01-1985         | Environmental Conditions for Process Measurement and Control Systems: Temperature and Humidity            |
| ISA-71.02-1991           | formerly ISA-S71.02-1991         | Environmental Conditions for Process Measurement and Control Systems: Power                               |
| ANSI/ISA-71.03-1995      | formerly ANSI/ISA-S71.03-1995    | Environmental Conditions for Process Measurement and Control Systems: Mechanical Influences               |
| ISA-71.04-1985           | formerly ISA-S71.04-1985         | Environmental Conditions for Process Measurement and Control Systems: Airborne Contaminants               |
| ISA-72.01-1985           | formerly ISA-S72.01-1985         | PROWAY-LAN Industrial Data Highway                                                                        |
| ANSI/ISA-72.02-1993      | formerly ANSI/ISA-S72.02-1993    | Manufacturing Message Specification: Companion Standard for Process Control (Identical to ISO/IEC 9506-6) |
| ANSI/ISA-72.02-1993      | formerly ANSI/ISA-S72.02-1993    | Manufacturing Message Specification: Companion Standard for Process Control (Identical to ISO/IEC 9506-6) |
| ISA-RP74.01-1984         |                                  | Application and Installation of Continuous-Belt Weighbridge Scales                                        |
| ISA-RP76.0.01-1998       |                                  | Analyzer System Inspection and Acceptance                                                                 |
| ANSI/ISA-77.13.01-1999   | formerly ANSI/ISA-S77.13.01-1999 | Fossil Fuel Power Plant Steam Turbine Bypass System                                                       |
| ANSI/ISA-77.20-1993      | formerly ANSI/ISA-S77.20-1993    | Fossil Fuel Power Plant Simulators - Functional Requirements                                              |

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| ISA-77.41-1992                 | formerly ISA-S77.41-1992                 | Fossil Fuel Power Plant Boiler Combustion Controls                                                                                                                       |
| ANSI/ISA-77.42.01-1999         | formerly ANSI/ISA-S77.42.01-1999         | Fossil Fuel Power Plant Feedwater Control System - Drum Type                                                                                                             |
| ANSI/ISA-77.43-1994            | formerly ANSI/ISA-S77.43-1994            | Fossil Fuel Power Plant Unit/Plant Demand Development (Drum Type)                                                                                                        |
| ANSI/ISA-77.44-1995            | formerly ANSI/ISA-S77.44-1995            | Fossil Fuel Plant Steam Temperature Control System (Drum-Type)                                                                                                           |
| ISA-TR77.60.04-1996            |                                          | Fossil Fuel Power Plant Human-Machine Interface-CRT Displays                                                                                                             |
| ANSI/ISA-77.70-1994            | formerly ANSI/ISA-S77.70-1994            | Fossil Fuel Power Plant Instrument Piping Installation                                                                                                                   |
| ANSI/ISA-TR77.81.05-1995       |                                          | Standard Software Interfaces for CEMS Relative Accuracy Test Audit Data                                                                                                  |
| ANSI/ISA-82.02.01-1999         | formerly ANSI/ISA-S82.02.01-1999         | Safety Standard for Electrical and Electronic Test, Measuring, Controlling, and Related Equipment - General Requirements (Harmonized Standard to IEC Publication 1010-1) |
| ANSI/ISA-82.02.01-1999         | formerly ANSI/ISA-S82.02.01-1999         | Safety Standard for Electrical and Electronic Test, Measuring, Controlling, and Related Equipment - General Requirements (Harmonized Standard to IEC Publication 1010-1) |
| ANSI/ISA-82.02.02-1996         | formerly ANSI/ISA-S82.02.02-1996         | Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use                                                                                |
| ANSI/ISA-82.02.04-1996         | formerly ANSI/ISA-S82.02.04-1996         | Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use                                                                                |
| ISA-82.03-1988                 | formerly ISA-S82.03-1988                 | Safety Standard for Electrical and Electronic Test, Measuring, Controlling, and Related Equipment (Electrical and Electronic Process Measurement and Control Equipment)  |
| ANSI/ISA-84.01-1996            | formerly ANSI/ISA-S84.01-1996            | Application of Safety Instrumented Systems for the Process Industries                                                                                                    |
| ISA-TR88.0.03-1996             |                                          | Possible Recipe Procedure Presentation Formats                                                                                                                           |
| ANSI/ISA-88.01-1995            | formerly ANSI/ISA-S88.01-1995            | Batch Control Part 1: Models and Terminology                                                                                                                             |
| ANSI/ISA-91.01-1995            | formerly ANSI/ISA-S91.01-1995            | Identification of Emergency Shutdown Systems and Controls that are Critical to Maintaining Safety in Process Industries                                                  |
| ISA-92.0.01, Part I-1998       | formerly ISA-S92.0.01, Part I-1998       | Performance Requirements for Toxic Gas-Detection Instruments: Hydrogen Sulfide (Replaces ISA-S12.15, Part I-1990)                                                        |
| ISA-RP92.0.02, Part II-1998)   |                                          | Installation, Operation, and Maintenance of Toxic Gas-Detection Instruments: Hydrogen Sulfide (Replaces ISA RP12.15, Part II-1990)                                       |
| ANSI/ISA-92.02.01, Part I-1998 | formerly ANSI/ISA-S92.02.01, Part 1-1998 | Performance Requirements for Carbon Monoxide Detection Instruments (50-1000 ppm Full Scale)                                                                              |
| ISA-RP92.02.02, Part II-1998   |                                          | Installation, Operation, and Maintenance of Carbon Monoxide Detection Instruments (50-1000 ppm Full Scale)                                                               |
| ISA-92.03.01-1998              | formerly ISA-S92.03.01-1998              | Performance Requirements for Ammonia Detection Instruments (25-500 ppm)                                                                                                  |
| ISA-RP92.03.02-1999            |                                          | Installation, Operation, and Maintenance of Ammonia Detection Instruments (25-500 ppm - Full Scale)                                                                      |

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| ANSI/ISA-92.04.01, Part I-1996 | formerly ANSI/ISA-S92.04.01, Part I-1996 | Performance Requirements for Instruments Used to Detect Oxygen-Deficient/Oxygen-Enriched Atmospheres                                                          |
| ISA-RP92.04.02, Part II-1996   |                                          | Installation, Operation, and Maintenance of Instruments Used to Detect Oxygen-Deficient/Oxygen Enriched Atmospheres                                           |
| ISA-92.06.01-1998              | formerly ISA-S92.06.01-1998              | Performance Requirements for Chlorine Detection Instruments (0.5-30 ppm Full Scale)                                                                           |
| ISA-RP92.06.02-1999            |                                          | Installation, Operation, and Maintenance of Chlorine Detection Instruments (0.5-30 ppm - Full Scale)                                                          |
| ANSI/ISA-TR92.06.03-1999       |                                          | Feasibility of Chlorine Detection Instrument Testing                                                                                                          |
| ANSI/ISA-93.00.01-1999         | formerly ANSI/ISA-S93.00.01-1999         | Standard Method for the Evaluation of External Leakage of Manual and Automated On-Off Valves                                                                  |
| ANSI/ISA-95.00.01-2000         | formerly ANSI/ISA-S95.00.01-2000         | Enterprise-Control System Integration Part 1: Models and Terminology                                                                                          |
| IEC 60079-14-1996              |                                          | Electrical Apparatus for Explosive Gas Atmospheres: Part 14 - Electrical Installations in Hazardous Areas (Other than Mines)                                  |
| IEC 60079-19-1993              |                                          | Electrical Apparatus for Explosive Gas Atmospheres, Part 19: Repair and Overhaul for Apparatus Used in Explosive Atmospheres (Other than Mines or Explosives) |
| IEC 60079-3-1990               |                                          | Electrical Apparatus for Explosive Gas Atmosphere, Part 3: Spark-Test Apparatus for Intrinsically Safe Circuits                                               |
| IEC 60534-4-1982               |                                          | Industrial Process Control Valves, Part 4: Inspection and Routine Testing                                                                                     |
| IEC 60534-5-1982               |                                          | Industrial Process Control Valves, Part 5: Marking                                                                                                            |
| IEC 60534-8-2-1991             |                                          | Industrial-Process Control Valve, Part 8: Noise Generations, Section 2: Laboratory Measurement of Noise Generated by Hydrodynamic Flow Through Control Valves |
| IEC 60534-8-4-1994             |                                          | Industrial Process Control Valves, Part 8: Noise                                                                                                              |
| IEC 60546-1-1987               |                                          | Controllers with Analog Signals for Use in Industrial-Process Control Systems, Part 1: Methods of Evaluating the Performance                                  |
| IEC 60546-2-1987               |                                          | Controllers with Analog Signals for Use in Industrial-Process Control Systems, Part 2: Guidance for Inspection and Routine Testing                            |
| IEC 60746-1-1982               |                                          | Expression of Performance of Electrochemical Analyzers, Part 1: General                                                                                       |
| IEC 60746-2-1982               |                                          | Expression of Performance of Electrochemical Analyzers, Part 2: pH Value IEC 61131-1-1992 Programmable Controllers, Part 1: General Information               |
| IEC 61131-2-1992               |                                          | Programmable Controllers, Part 2: Equipment Requirements and Tests                                                                                            |
| IEC 61131-3-1993               |                                          | Programmable Controllers, Part 3: Programming Languages                                                                                                       |
| IEC 61131-4-1995               |                                          | Programmable Controllers, Part 4: User Guidelines                                                                                                             |
| ISA-MC96.1-1982                |                                          | Temperature Measurement Thermocouples                                                                                                                         |

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| ISA-MC96.1-1982 |  | Temperature Measurement Thermocouples |
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| FCI | 55-1 | Standard Classification and Terminology for Power Actuated Valves.                                        |
| FCI | 58-2 | Standards for Measurement Procedure for Determining Control Valve Flow Capacity.                          |
| FCI | 62-1 | Standard Formulas for Sizing Control Valves.                                                              |
| FCI | 65-1 | Guide to Material Selection for Industrial Regulators.                                                    |
| FCI | 65-2 | Standards for face to face Dimensions of Control Valves.                                                  |
| FCI | 65-3 | Standards for Determining Industrial Steam Trap Capacity Rating.                                          |
| FCI | 68-1 | Procedure in Rating Flow and Pressure Characteristics of Solenoid valves for Gas Service.                 |
| FCI | 68-2 | Procedure in Rating Flow and Pressure Characteristics of Solenoid valves for Liquid Service.              |
| FCI | 68-4 | Nomenclature and Definitions for Space Heating Manual Supply Valves.                                      |
| FCI | 68-5 | Standard for Pipe Line Strainer Mesh and Perforation Size.                                                |
| FCI | 69-1 | Pressure rating Standard for Steam Traps.                                                                 |
| FCI | 70-1 | Standard Terminology and Definition for Filled Thermal Systems for Remote Sensing Temperature Regulators. |
| FCI | 70-2 | Quality Control Standard for Control Valve Seat Leakage.                                                  |
| FCI | 71-1 | Standard Terminology for Regulators                                                                       |
| FCI | 73-1 | Pressure Rating standard for "Y" type Strainers.                                                          |
| FCI | 74-1 | Silent Check Valve standard                                                                               |
| FCI | 75-1 | Test Conditions and Procedures for Measuring Electrical Characteristics of Solenoid Valves.               |

