CHAPTER 1: STANDARDS & ABBREVIATIONS

1.1 LIST OF SPECIFICATIONS GENERAL STANDARDS AND CODES

India Electricity Rules Indian Electricity Act

Indian Electricity (Supply) Act Indian Factories Act

IS-5, - Colors for Ready Mixed Paints and Enamels.

IS-335, - New Insulating Oils.

IS-617, - Aluminium and Aluminium Alloy Ingots and Castings for General Engineering Purposes

IS-1448 (P1 to P 145) - Methods of Test for Petroleum and its Products. IS-2071 (P1 to P3) - Methods of High Voltage Testing.

IS-12063 - Classification of degrees of protection provided by enclosures of electrical equipment.

IS-2165 P1:1997 - Insulation Coordination. P2:1983

IS-3043 - Code of Practice for Earthing

IS-6103 - Method of Test for Specific Resistance (Resistivity) of Electrical Insulating Liquids

IS-6104 - Method of Test for Interfacial Tension of Oil against Water by the Ring Method

IS-6262 - Method of test for Power factor & Dielectric Constant of Electrical Insulating Liquids.

IS-6792 - Method for determination of electric strength of insulating oils.

IS-5578 - Guide for marking of insulated conductors.

IS-11353 - Guide for uniform system of marking & Identification of conductors &apparatus terminals.

IS-8263 - Methods for Radio Interference Test on High voltage Insulators.

IS-9224(Part1, 2 &4) - Low Voltage Fuses IEC-60060(Part1 to P4) - High Voltage Test Techniques IEC60068 - Environmental Test

IEC-60117 - Graphical Symbols

IEC-60156, - Method for the Determination of the Electrical Strength of

Insulation Oils.

IEC-60270, - Partial Discharge Measurements.

IEC-60376 - Specification and Acceptance of New Sulphur Hexafloride IEC-60437 - Radio Interference Test on High Voltage Insulators.

IEC-60507 - Artificial Pollution Tests on High Voltage Insulators to be used

on AC Systems.

IEC-60694 - Common Specification for High Voltage Switchgear & Control

gear Standards.

IEC-60815 - Guide for the Selection of Insulators in respect of Polluted

Conditions.

IEC-60865(P1&P2) - Short Circuit Current - Calculation of effects. ANSI-C.1/NFPA.70 - National Electrical Code

ANSI-C37.90A - Guide for Surge Withstand Capability (SWC) Tests ANSI- C63.21, - Specification for Electromagnetic Noise and

C63.3 - Field Strength Instrumentation 10 KHz to 1 GHZ C36.4ANSI-C68.1 - Technique for Dielectric Tests

ANSI-C76.1/EEE21 - Standard General Requirements and Test Procedure for

Outdoor Apparatus Bushings.

ANSI-SI-4 - Specification for Sound Level Metres ANSI-Y32-2/C337.2 - Drawing Symbols

ANSI-Z55.11 - Gray Finishes for Industrial Apparatus and Equipment No.61

Light Gray

NEMA-107T - Methods of Measurements of RIV of High Voltage Apparatus NEMA-ICS-II - General Standards for Industrial Control and Systems

Part I CSI-109

CISPR-1 - Specification for CISPR Radio Interference Measuring Apparatus for the frequency range 0.15MHz to 30 MHz

CSA-Z299.1-1978h - Quality Assurance Program Requirements CSA-Z299.2-1979h - Quality Control Program Requirements CSA-Z299.3-1979h - Quality Verification Program Requirements CSA-Z299.4-1979h - Inspection Program Requirements

TRANSFORMERS AND REACTORS

IS: 10028 (Part2&3) - Code of practice for selection, installation & maintenance of

Transformers (P1:1993), (P2:1991), (P3:1991)

IS-2026(P1toP4) - Power Transformers

IS-3347(part 1 to Part 8) - Dimensions for Porcelain transformer Bushings for use in

lightly polluted atmospheres.

IS-3639 - Fittings and Accessories for Power Transformers

IS-6600 - Guide for Loading of Oil immersed Transformers. IEC-60076 (Part1to5) - Power Transformers

IEC-60214 - On-Load Tap-Changers.

IEC-60289 - Reactors.

IEC-60354 - Loading Guide for Oil -Immersed power transformers IEC-60076-10 - Determination of Transformer and Reactor Sound Levels

ANSI-C571280 - General requirements for Distribution, Power and Regulating

Transformers

ANSI-C571290 - Test Code for Distribution, Power and Regulation Transformers

ANSI-C5716 - Terminology &Test Code for Current Limiting Reactors

ANSI-C5721 - Requirements, Terminology and Test Code for Shunt Reactors

Rated over 500 kVA

ANSI-C5792 - Guide for Loading Oil-Immersed Power Transformers upto and

including 100 MVA with 55 deg C or 65 deg C Winding Rise ANSI-CG, IEEE- 4 - Standard Techniques for High Voltage Testing

CIRCUIT BREAKERS

IEC-62271-100 - High Voltage Alternating Current Circuit Breakers

IEC-60427 - Synthetic Testing of High Voltage alternating current circuit

Breakers.

IEC-61264 - Pressurized Hollow Column Insulators

CURRENT TRANSFORMERS, VOLTAGE TRANSFORMERS AND COUPLING CAPACITOR VOLTAGE TRANSFORMERS

IS-2705-(P1 to P4) - Current Transformers. IS: 3156- (P1 to P4) - Voltage Transformers.

IS-4379 - Identification of the Contents of Industrial Gas Cylinders IEC-60044-1 - Current transformers.

IEC-60044-2 - Voltage Transformers.

IEC-60358 - Coupling capacitors and capacitor dividers.

IEC-60044-4 - Instrument Transformers: Measurement of Partial Discharges

IEC-60481 - Coupling Devices for power Line Carrier Systems.

ANSI-C5713 - Requirements for Instrument transformers

ANSIC92.2 - Power Line Coupling voltage Transformers

ANSI-C93.1 - Requirements for Power Line Carrier Coupling Capacitors

bushing

IS-2099 - Bushings for Alternating Voltages above 1000V

IEC-60137 - Insulated Bushings for Alternating Voltages above1000V

SURGE ARRESTERS

IS-3070(PART2) - Lightning arresters for alternating current systems Metal oxide lightning arrestors without gaps.

IEC-60099-4 - Metal oxide surge arrestors without gaps

IEC-60099-5 - Selection and application recommendation ANSI-C62.1 - IEE Standards for S A for AC Power Circuits

NEMA-LA 1 - Surge Arresters

CUBICLESAND PANELS & OTHER RELATED EQUIPMENTS

IS-722, IS-1248, - Electrical relays for power system protection IS-3231, 3231 (P-3)

IS: 5039 - Distributed pillars for Voltages not Exceeding 1000Volts. IEC-60068.2.2 - Basic environmental testing procedures

Part2: Test B: Dry heat

IEC-60529 - Degree of Protection provided by enclosures. IEC-60947-4-1 - Low voltage switchgear and control gear.

IEC-61095 - Electromechanical Contactors for household and similar

purposes.

IEC-60439(P1 & 2) - Low Voltage Switchgear and control gear assemblies

ANSI-C37.20 - Switchgear Assemblies, including metal enclosed bus. ANSI-C37.50 - Test Procedures for Low Voltage Alternating Current Power

Circuit Breakers

ANSI-C39 - Electric Measuring instrument

ANSI-C83 - Components for Electric Equipment

IS: 8623: (PartIto3) - Specification for Switchgear & Control Assemblies. NEMA-AB - Moulded Case Circuit and Systems

NEMA-CS - Industrial Controls and Systems

NEMA-PB-1 - Panel Boards

NEMA-SG-5 - Low voltage Power Circuit breakers

NEMA-SG-3 - Power Switchgear Assemblies

NEMA-SG-6 - Power switching Equipment

NEMA-5E-3 - Motor Control Centers

1248(P1 to P9) - Direct acting indicating analogue electrical measuring instruments & their accessories.

Disconnecting switches

IEC-60129 - Alternating Current Disconnectors (Isolators) and Earthing

switches

IEC-1129 - Alternating Current Earthing Switches Induced Current switching

IEC-60265(Part 1 & 2) - High Voltage switches

ANSI-C37.32 - Schedule of preferred Ratings, Manufacturing Specifications

and Application Guide for high voltage Air Switches, Bus supports and switch accessories

ANSI-C37.34 - Test Code for high voltage air switches NEMA-SG6 - Power switching equipment

PLCC and line traps

IS-8792 - Line traps for AC power system.

IS-8793 - Methods of tests for line traps.

IS-8997 - Coupling devices for PLC systems.

IS-8998 - Methods of test for coupling devices for PLC systems

IEC-60353 - Line traps for A.C. power systems.

IEC-60481 - Coupling Devices for power line carrier systems.

IEC-60495 - Single side board powerline carrier terminals

IEC-60683 - Planning of (single Side-Band) power line carrier systems.

CIGRE - Teleprotection report by Committee 34

&35. CIGRE - Guide on power line carrier 1979.

CCIR - International Radio Consultative Committee

CCITT - International Telegraph &Telephone Consultative Committee

EIA - Electric Industries Association

Protection and control equipment

IEC-60051: (P1 to P9) - Recommendations for Direct Acting indicating analogue

electrical measuring instruments and their accessories.

IEC-60255(Part1to23) - Electrical relays.

IEC-60297 (P1to P4) - Dimensions of mechanical structures of the 482.6mm

(19inches) series.

IEC-60359 - Expression of the performance of electrical & Electronic

measuring equipment.

IEC-60387 - Symbols for Alternating-Current Electricity meters.

IEC-60447 - Man machine interface (MMI)-Actuating principles.

IEC-60521 - Class 0.5, 1 and 2 alternating current watthour meters

IEC-60547 - Modular plug-in Unit and standard 19-inch rack mounting unit

based on NIM Standard (for electronic nuclear instruments)

ANSI-81 - Screw threads

ANSI-B18 - Bolts and Nuts

ANSI-C37.1 - Relays, Station Control set.

ANSI-C37.2 - Manual and automatic station control, supervisory and associated telemetering equipment

ANSI-C37.2 - Relays and relay systems associated with electric power

apparatus

ANSI-C39.1 - Requirements for electrical analog indicating instruments

MOTORS

IS-325 - Three phase induction motors.

IS-4691 - Degree of protection provided by enclosure for rotating electrical machinery.

IEC-60034(P1 to P19 :) - Rotating electrical machines IEC-Document2 - Three phase induction motors (Central Office) NEMA-MGI Motors and Generators Electronic equipment and components

MIL-21B, MIL-833 & MIL-2750

IEC-60068(P1toP5) - Environmental testing

IEC-60326(P1 to P2) - Printed boards Material and workmanship standards IS-1363(P1 to P3) - Hexagon headbolts, screws and nuts of product grade C.

IS-1364(P1 to P5) Hexagon head bolts, screws and nuts of products grades A &

B.

IS-3138 - Hexagonal Bolts and Nuts (M42 to M150)

ISO-898 - Fasteners: Bolts, screws and studs

ASTM - Specification and tests for materials

Clamps& connectors

IS-5561 - Electric power connectors.

NEMA-CC1 - Electric Power connectors for sub station

NEMA-CC3 - Connectors for Use between aluminum or aluminum-Copper

Overhead Conductors

Bus hardware and insulators

IS: 2121 - Fittings for Aluminum and steel cored Al conductors for overhead power lines.

IS-731 - Porcelain insulators for overhead power lines with a nominal voltage greater than 1000 V.

IS-2486(P1 to P4) - Insulator fittings for overhead power lines with a nominal

voltage greater than 1000V
IEC-60120 - Dimensions of Ball and Socket Couplings of string insulator
units.
IEC-60137 - Insulated bushings for alternating voltages above 1000V.
IEC-60168 - Tests on indoor and outdoor post insulators of ceramic
material or glass for Systems with Nominal Voltages Greater than 1000V.
IEC-60233 - Tests on Hollow Insulators for use in electrical equipment.
IEC-60273 - Characteristics of indoor and outdoor post insulators for
systems with nominal voltages greater than 1000V.
IEC-60305 - Insulators for overhead lines with nominal voltage above
1000V-ceramic or glass insulator units for ac systems Characteristics of String Insulator Units of the cap and pin type.
IEC-60372(1984) - Locking devices for ball and socket couplings of string insulator
units: dimensions and tests.
IEC-60383(P1 and P2) - Insulators for overhead lines with nominal voltage above
1000V.
IEC-60433 - Characteristics of string insulator units of the long rod type.
IEC-60471 - Dimensions of Clevis and tongue couplings of string insulator
units.
ANSI-C29 - Wet process porcelain insulators
ANSI-C29.1 - Test methods for electrical power insulators
ANSI-C92.2 - For insulators, wet-process porcelain and toughened glass
suspension type
ANSI-C29.8 - For wet-process porcelain insulators apparatus, post-type ANSI-G.8 – Iron and steel hardware
CISPR-7B - Recommendations of the CISPR, tolerances of form and of
Position, Part1
ASTMA-153 - Zinc Coating (Hot-Dip) on iron and steel Hardware.
Strain and rigid bus-conductor
IS-2678 - Dimensions & tolerances for Wrought Aluminum and Aluminum Alloys drawn round tube.
IS-5082 - Wrought Aluminum and Aluminum Alloy Bars. Rods, Tubes and Chapters for Electrical purposes.
ASTM-B 230-82 - Aluminum 1350 H19 Wire for electrical purposes ASTM-B231-81 - Concentric -lay -stranded, aluminium
1350 conductors
ASTM-B221 - Aluminum -Alloy extruded bar, road, wire, shape ASTM-B236-83 - Aluminum bars for electrical purpose (Bus-bars)
ASTM-B 317-83 - Aluminum-Alloy extruded bar, rod, pipe and Structural shapes
for electrical purposes (Bus Conductors)
Batteries and batteries charger Battery
IS: 1651 - Stationary Cells and Batteries, Lead-Acid Type (With Tubular Positive Plates)
IS: 1652 - Stationary Cells and Batteries, Lead-Acid Type (With Planet Positive Plates)
IS: 1146 - Rubber and Plastic Containers for Lead-Acid Storage Batteries
IS: 6071 - Synthetic Separators for Lead-Acid Batteries
IS: 266 - Specification for Sulphuric Acid
IS: 1069 - Specification for Water for Storage Batteries
IS: 3116 - Specification for Sealing Compound for Lead-Acid Batteries
IS: 1248 - Indicating Instruments

IS: 10918 - Vented type nickel Cadmium Batteries
IEC: 60896-21&22 - Lead Acid Batteries Valve Regulated types – Methods of Tests & Requirements
IEC: 60623 - Vented type nickel Cadmium Batteries
IEC: 60622 - Secondary Cells &Batteries – Sealed Ni-Cd rechargeable single cell
IEC: 60623 - Secondary Cells &Batteries – Vented Ni-Cd rechargeable single cell
IEC: 60896-11 - Stationary Lead Acid Batteries – Vented Type – General requirements & method of tests
IEEE-485 - Recommended practices for sizing of Lead Acid Batteries
IEEE-1115 - Sizing of Ni-Cd Batteries
IEEE-1187 - Recommended practices for design &installation of VRLA Batteries
IEEE-1188 - Recommended practices for design &installation of VRLA batteries
IEEE-1189 - Guide for selection of VRLA Batteries
Battery Charger
IS: 3895 - Mono-crystalline Semiconductor Rectifier Cells and Stacks
IS: 4540 - Mono-crystalline Semiconductor Rectifier Assemblies and Equipment.
IS: 6619 - Safety Code for Semiconductor Rectifier Equipment
IS: 2026 - Power Transformers
IS: 2959 - AC Contactors for Voltages not Exceeding 1000V
IS: 1248 - Indicating Instruments
IS: 2208 - HRC Fuses
IS: 13947(Part-3) - Airbreak switches, airbreak disconnectors & fuse combination units for voltage not exceeding 1000V AC or 1200V DC
IS: 2147 - Degree of protection provided by enclosures for low voltage switchgear and control gear.
IS: 6005 - Code of practice for phosphating of Iron and Steel
IS: 3231 - Electrical relays for power system protection
IS: 3842 - Electrical relay for AC Systems
IS: 5 - Colors for ready mix paint
IEEE-484 - Recommended Design for installation design and installation of large lead storage batteries for generating station sand substations.
IEEE-485 - Sizing large lead storage batteries for generating stations and substations
Wires and cables
ASTMD-2863 - Measuring the minimum oxygen concentration to support candle like combustion of plastics (oxygen index)
IS-694 - PVC insulated cables for working voltages up to and including 1100 Volts.
IS-1255 - Code of practice for installation and maintenance of power cables, up to and including 33 kV rating
IS-1554(P1 and P2) - PVC insulated (heavy duty) electric cables (part1)
For working voltage up to and including 1100 V.

- Part (2) for working voltage from 3.3 kV up to and including11kV.

IS:1753 - Aluminium conductor for insulated cables

IS:2982 - Copper Conductor in insulated cables.

IS-3961(P1 to P5) - Recommended current ratings for cables.

IS-3975 - Mild steel wires, formed wires and tapes for armouring of cables.

IS-5831 - PVC insulating and sheath of electric cables.

IS-6380 - Elastometric insulating and sheath of electric cables.

IS-7098 - Cross linked polyethylene insulated PVC sheathed cables for working voltage up to and including 1100 volts.

IS-7098 - Cross-linked polyethylene insulated PVC sheathed cables for working voltage from 3.3kV up to and including 33kV.

IS-8130 - Conductors for insulated electrical cables and flexible cords.

IS-1753 - Aluminum Conductors for insulated cables.

IS-10418 - Specification for drums for electric cables. IEC-60096 (part 0 to p4) - Radio Frequency cables.

IEC-60183 - Guide to the Selection of High Voltage Cables.

IEC-60189(P1 to P7) - Low frequency cables and wires with PVC Insulation and PVC
sheath.

IEC-60227(P1 to P7) - Polyvinyl Chloride insulated cables of rated voltages upto and
including 450/750V.

IEC-60228 - Conductors of insulated cables

IEC-60230 - Impulse tests on cables and their accessories.

IEC-60287 (P1 to P3) - Calculation of the continuous current rating of Cables (100%
load factor).

IEC-60304 - Standard colors for insulation for low frequency cables and
wires.

IEC-60331 - Fire resisting characteristics of Electric cables. IEC-60332 (P1 to P3) - Tests on electric cables under fire conditions.

IEC-60502 - Extruded solid dielectric insulated power cables for rated
voltages from1kV up to 30 kV

IEC-754(P1 and P2) - Tests on gases evolved during combustion of electric cables.

Galvanizing

IS-209 - Zinc Ingot

IS-2629 - Recommended Practice for Hot-Dip galvanizing on iron and steel.

IS-2633 - Methods for testing uniformity of coating of zinc coated articles. ASTM-A-123 - Specification for zinc (Hot Galvanizing) Coatings, on products

Fabricated from rolled, pressed and forged steel shapes, plates, bars and strips.

ASTM-A-121-77 - Zinc-coated (Galvanized) steel barbed wire

Painting

IS-6005 - Code of practice for phosphating of iron and steel.

ANSI-Z551 - Gray finishes for industrial apparatus and Equipment

SSPEC - Steel structure painting council

Fire protection system

Fire protection manual issued by tariff advisory committee (TAC), NFPA and National Building code 2016 of India

HORIZONTAL CENTRIFUGAL PUMPS

IS: 6595(Part2) - Horizontal centrifugal pumps for clear, cold water

IS: 9137 - Code for acceptance test for centrifugal & axial pumps

IS: 5120 - Technical requirement- Rotodynamic special purpose pumps

API-610 - Centrifugal pumps for general services - Hydraulic Institutes Standards

BS: 599 - Methods of testing pumps

PTC-8.2 - Power Test Codes-Centrifugal pumps\

DIESEL ENGINES

IS: 10000 - Methods of tests for internal combustion engines

IS: 10002 - Specification for performance requirements for constant speed

compression ignition engines for general purposes (above 20 kW)

BS: 5514 - The performance of reciprocating compression ignition (Diesel) engines, utilizing liquid fuel only, for general purposes

ISO: 3046 - Reciprocating internal combustion engines performance

IS: 554 - Dimensions for pipe threads where pressure tight joints are required on threads

ASME Power Test Code - Internal combustion engine PTC-17 - Codes of Diesel Engine Manufacturer’s Association, USA

PIPINGVALVES & SPECIALITIES

IS: 636 - Non percolating flexible fire fighting delivery hose

IS: 638 - Sheet rubber jointing and rubber inserting jointing

IS: 778 - Gun metal gate, globe and check valves for general purpose

IS: 780 - Sluice valves for water works purposes (50 to300 mm)

IS: 901 - Couplings, double male and double female instantaneous pattern for fire fighting

IS: 902 - Suction hose couplings for firefighting purposes

IS: 903 - Fire hose delivery couplings branch pipe nozzles and nozzle spanner

IS: 1538 - Cast iron fittings for pressure pipes for water, gas and sewage

IS: 1903 - Ball valve (horizontal plunger type) including floats for water supply purposes

IS: 2062 - SP for weldable structural steel

IS: 2379 - Color Code for the identification of pipelines

IS: 2643 - Dimensions of pipe threads for fastening purposes

IS: 2685 - Code of Practice for selection, installation and Maintenance of sluice valves

IS: 2906 - Sluice valves for water-works purposes (350 to 1200mm size)

IS: 3582 - Basket strainers for firefighting purposes (Cylindrical type)

IS: 3589 - Electrically welded steel pipes for water, gas and sewage (150 to2000 mm nominal diameter)

IS: 4038 - Foot valves for water works purposes

IS: 4927 - Unlined flax canvas hose for fire fighting

IS: 5290 - Landing valves (internal hydrant)

IS: 5312 - Swing check type reflex (non-return) valves (Part-I)

IS: 5306 - Code of practice for fire extinguishing installations and equipment on premises

Part-I - Hydrant systems, hose reels and foam inlets Part-II - Sprinkler systems

BS: 5150 - Specification for cast iron gate valves

MOTORS & ANNUNCIATION PANELS

IS: 325 - Three phase induction motors

IS: 900 - Code of practice for installation and maintenance of induction motors

IS: 996 - Single phase small AC and universal electric motors

IS: 1231 - Dimensions of three phase foot mounted induction motors

IS: 2148 - Flame proof enclosure of electrical apparatus

IS: 2223 - Dimensions of flange mounted AC induction motors

IS: 2253 - Designations for types of construction and mounting arrangements of rotating electrical machines

IS: 2254 - Dimensions of vertical shaft motors for pumps

IS: 3202 - Code of practice for climate proofing of electrical equipment

IS: 4029 - Guide for testing three phase induction motors

IS: 4691 - Degree of protection provided by enclosure for rotating electrical machinery

IS: 4722 - Rotating electrical machines

IS: 4729 - Measurement and evaluation of vibration of rotating electrical machines

IS: 5572 - Classification of hazardous areas for electrical (Part-I) installations (Areas having gases and vapours)

IS: 6362 - Designation of methods of cooling for rotating electrical machines

IS: 6381 - Construction and testing of electrical apparatus with type of protection ‘e’

IS: 7816 - Guide for testing insulation for rotating machine

IS: 4064 - Air break switches

IECDOCUMENT 2 - Three Phase Induction Motor (Control Office) 432 VDE0530 Part I / 66 - Three Phase Induction Motor

IS: 9224 - HRC Fuses

(Part-II)

IS: 6875 - Push Button and Control Switches

IS: 694 - PVC Insulated cables

IS: 1248 - Indicating instruments

IS: 375 - Auxiliary wiring & busbar markings

IS: 2147 - Degree of protection

IS: 5 - Color Relay and timers

IS: 2959 - Contactors

PG Test Procedures

NFPA-13 - Standard for the installation of sprinkler system

NFPA-15 - Standard for water spray fixed system for the fire protection

NFPA-12A - Standard for Halon 1301 Fire Extinguishing System

NFPA-72E - Standard on Automatic Fire Detectors

Fire Protection Manual by TAC (Latest Edition)

NFPA-12 - Standard on Carbon dioxide extinguisher systems

IS: 3034 - Fire of industrial building: Electrical generating and Distributing stations code of practice

IS: 2878 - CO2 (Carbon dioxide) Type Extinguisher

IS: 2171 - DC (Dry Chemical Powder) type

IS: 940 - Pressurized Water Type

D.G.SET

IS: 10002 - Specification for performance requirements for constant speed

compression ignition (diesel engine) for general purposes

IS: 10000 - Method of tests for internal combustion engines

IS: 4722 - Rotating electrical machines-specification

IS: 12063 - Degree of protection provided by enclosures

IS: 12065 - Permissible limit of noise levels for rotating electrical machines.

- Indian Explosive Act1932

Steel structures for Substation.

IS-228(1992) - Method of Chemical Analysis of pig iron, cast iron and plain

carbon and low alloy steels.
IS-802(2015/P1 to 3) - Code of practice for use of structural steel in overhead
transmission line towers.
IS-806 - Code of practice for ruse of steel tubes in general building construction
IS-808 - Dimensions for hot rolled steel beam, column channel and angle chapters.
IS-814 - Covered electrodes for manual arc welding of carbon of carbon manganese steel.
IS-816 - Code of Practice for use of metal arc welding for general construction in Mild steel
IS-817 - Code of practice for training and testing of metal arc welders.
Part 1: Manual Metal arc welding.
IS-875(P1 to P4) - Code of practice for design loads (other than earthquake) for
buildings and structures.
IS-1161 - Steel tubes for structural purposes.
IS-1182 - Recommended practice for radiographic examination of fusion welded butt joints in steel plates.
IS-1363(P1 to P3) - Hexagonal head bolts, screws &nuts of products grade C.
IS-1364 - Hexagon headbolts, screws and nuts of product grades A and B.
IS-1367 (P1 to P18) - Technical supply condition for threaded steel fasteners. IS-1599 - Methods for bend test.
IS-1608 - Method for tensile testing of steel products.
IS-1893 - Criteria for earthquake resistant design of Structures
IS-1978 - Line Pipe.
IS-2062 - Steel for general structural purposes.
IS-2595 - Code of practice for Radiographic testing.
IS-3063 - Single coil rectangular section spring washers for bolts, nuts and screws.
IS-3664 - Code of practice for ultrasonic pulse echo testing by contact and immersion methods.
IS-7205 - Safety code for erection of structural steel work.
IS-9595 - Recommendations for metal arc welding of Carbon and carbon manganese steels.
ANSI-B18.2.1 - Inch series square and Hexagonal bolts and screws ANSI-B18.2.2 - Square and hexagonal nuts
ANSI-G8.14 - Round head bolts
ASTM-A6 - Specification for General Requirements for rolled steel plates,
shapes, sheet piling and bars of structural use
ASTM-A36 - Specifications of structural steel
ASTM-A47 - Specification for malleable iron castings
ASTM-A143 - Practice for safeguarding against embalmment of Hot
Galvanized structural steel products and procedure for detaching embroilments
ASTM-A242 - Specification for high strength low alloy structural steel
ASTM-A283 - Specification for low and intermediate tensile strength carbon
steel plates of structural quality
ASTM-A394 - Specification for Galvanized steel transmission tower bolts and
nuts
ASTM-441 - Specification for High strength low alloy structural manganese
vanadium steel.
ASTM-A572 - Specification for High strength low alloy columbium-Vanadium
steel of structural quality
AWSD1-0 - Code for welding in building construction welding inspection

AWSD1-1 - Structural welding code

AISC - American institute of steel construction

NEMA-CG1 - Manufactured graphite electrodes

Piping and pressure vessels

IS-1239(Part 1 and 2) - Mild steel tubes, tubulars and other wrought steel fittings

IS-3589 - Seamless electrically welded steel pipes for water, gas and sewage.

IS-6392 - Steel pipe flanges

ASME - Boiler and pressure vessel code

ASTM-A120 - Specification for pipe steel, black and hot dipped, zinc-coated

(Galvanized) welded and seamless steel pipe for ordinary use

ASTM-A53 - Specification for pipe, steel, black, and hot- dipped, zinc

coated welded and seamless

ASTM-A106 - Seamless carbon steel pipe for high temperature service ASTM-A284 - Low and intermediate tensile strength carbon-silicon steel

plates for machine parts and general construction.

ASTM-A234 - Pipe fittings of wrought carbon steel and alloy steel for

moderate and elevated temperatures

ASTM-S181 - Specification for forgings, carbon steel for general purpose

piping

ASTM-A105 - Forgings, carbon steel for piping components ASTM-A307 - Carbon steel externally treated standard fasteners

ASTM-A193 - Alloy steel and stainless steel bolting materials for high

temperature service

ASTM-A345 - Flat rolled electrical steel for magnetic applications ASTM-A197 - Cupola malleable iron

ANSI-B2.1 - Pipe threads (Except dry seal)

ANSI-B16.1 - Cast iron pipe flanges and glanged fitting. Class 25,125, 250 and 800

ANSI-B16.1 - Malleable iron threaded fittings, class 150 and 300

ANSI-B16.5 - Pipe flanges and flanged fittings, steel nickel alloy and other

special alloys

ANSI-B16.9 - Factory-made wrought steel butt welding

Fittings

ANSI-B16.11 - Forged steel fittings, socket-welding and threaded

ANSI-B16.14 - Ferrous pipe plug, bushings and locknuts with piple threads

ANSI-B16.25 - Butt welding ends

ANSI-B18.1.1 - Fire hose couplings screw thread.

ANSI-B18.2.1 - Inch series square and hexagonal bolts and screws ANSI-B18.2.2 - Square and hexagonal nuts

NSI-B18.21.1 - Lock washers ANSI-B18.21.2 - Plain washers

ANSI-B31.1 - Power piping

ANSI-B36.10 - Welded and seamless wrought steel pipe ANSI-B36.9 - Stainless steel pipe

ACSR MOOSE CONDUCTOR

IS:6745 Methods for Determination of

BS:443-1969 Mass of zinc coating on zinc

IS:8263 Coated Iron and Steel Articles

Methods for Radio Interference

IEC: 437-1973 Test on High Voltage Insulators NEMA: 107-1964 CISPR

IS: 209 Zinc Ingots BS: 3436-1961

IS: 398 Aluminum Conductors for Overhead Transmission Purposes IEC: 209-1966

Part-V

BS: 215(Part-II) Aluminum Conductors galvanized

IEC: 209-1966 Steel reinforced extra high Voltage (400 kV and above) IS: 1778 Reels and Drums for

BS: 1559-1949 Bare Conductors

IS: 1521 Method for Tensile Testing ISO/R89-1959of steel wire

IS: 2629 Recommended practice for Hot dip Galvanizing on Iron and Steel.

IS: 2633 Method for Testing Uniformity of coating of zinc Coated Articles.

IS: 4826 Hot dip galvanised coatings On round steel wires ASTMA-472- 729

GALVANISED STEEL EARTHWIRE

IS: 1521 Method for Tensile Testing ISO/R:89-1959 of Steel Wire

IS: 1778 Reels and Drums for Bare Conductors

IS: 2629 Recommended practice for Hot Dip Galvanizing on Iron and Steel.

IS: 2633 Methods for testing Uniformity of Coating of Zinc Coated Articles.

IS: 4826 Hot dip Galvanised Coatings ASTM:A 475-72aon Round Steel Wires

BS: 443-1969

IS: 6745 Method for Determination BS: 443-1969 of mass of Zinc Coating on Zinc coated Iron and Steel Articles.

IS: 209 Zinc ingot BS: 3463-1961

IS: 398(Pt. I to Aluminum Conductors for BS: 215 (Part-II) P5:1992) overhead transmission purposes.

Lighting Fixtures and Accessories

IS: 16103 (All parts) LED module for General Lightning

IS: 1913 General and safety requirements for electric lighting fittings.

IS: 3528 Waterproof electric lighting fittings.

IS: 4012 Dust proof electric lighting fittings.

IS: 4013 Dust tight proof electric lighting fittings.

IS: 10322 Industrial lighting fittings with metal reflectors.

IS: 10322 Industrial lighting fittings with plastic reflectors.

IS: 2206 Well glass lighting fittings for use underground in mines (non- flameproof type).

IS: 10322 Specification for flood light.

IS: 10322 Specification for decorative lighting outfits.

IS: 10322 Luminaries for street lighting

IS: 2418 Tubular fluorescent lamps

IS: 9900 High pressure mercury vapour lamps.

IS: 1258 Specification for Bayonet lamp fluorescent lamp.

IS: 3323 Bi-pin lamp holder tubular fluorescent lamps.

IS: 1534 Ballasts for use in fluorescent lighting fittings. (Part-I)

IS: 1569 Capacitors for use in fluorescent lighting fittings.

IS: 2215 Starters for fluorescent lamps.

IS: 3324 Holders for starters for tubular fluorescent lamps IS: 418 GLS lamps

IS: 3553 Water tight electric fittings

IS: 2713 Tubular steel poles

IS: 280 MS wire for general engg. Purposes

Conduits, Accessories and Junction Boxes

IS: 9537 Rigid steel conduits for electrical wiring

IS: 3480 Flexible steel conduits for electrical wiring

IS: 2667 Fittings for rigid steel conduits for electrical wiring

IS: 3837 Accessories for rigid steel conduits for electrical wiring

IS: 4649 Adaptors for flexible steel conduits.

IS: 5133 Steel and Cast Iron Boxes

IS: 2629 Hot dip galvanizing of Iron &Steel.

Lighting Panels

IS: 13947 LV Switchgear and Control gear (Part 1 to 5)

IS: 8828 Circuit breakers for over current protection for house hold and similar installations.

IS: 5 Ready mix paints

IS: 2551 Danger notice plates

IS: 2705 Current transformers

IS: 9224 HRC Cartridge fuse links for voltage above 650V (Part-2)

IS: 5082 Wrought aluminium and Al. alloys, bars, rods, tubes and sections for electrical purposes.

IS: 8623 Factory built Assemblies of Switchgear and Control Gear for voltages upto and including 1000VAC and1200VDC.

IS: 1248 Direct Acting electrical indicating instruments

Electrical Installation

IS: 1293 3 pin plug

IS: 371 Two to three ceiling roses

IS: 3854 Switches for domestic and similar purposes

IS: 5216 Guide for safety procedures and practices in electrical work.

IS: 732 Code of practice for electrical wiring installation (system voltage not exceeding 650Volts.)

IS: 3043 Code of practice for earthing.

IS: 3646 Code of practice of interior illumination part II &III.

IS: 1944 Code of practice for lighting of public through fares.

IS: 5571 Guide for selection of electrical equipment for hazardous areas.

IS: 800 Code of practice for use of structural steel in general building construction.

IS: 2633 Methods of Testing uniformity of coating on zinc coated articles.

IS: 6005 Code of practice for phosphating iron and steel.

INDIAN ELECTRICITY ACT INDIAN ELECTRICITY RULES LT SWITCHGEAR

IS: 8623(Part-I) Specification for low voltage switchgear and control gear

assemblies

IS: 13947(Part-I) Specification for low voltage switchgear and control gear, Part 1 General Rules

Part 2 circuit breakers.

Part3 Switches, Disconnectors, and fuse combination units

Part4 Contactors and motors starters.

Part5 Control-circuit devices and switching elements

Part6 Multiple function switching devices.

Part7 Ancillary equipment

IS: 12063 Degree of protection provided by enclosures

IS: 2705 Current Transformers

IS: 3156 Voltage Transformers

IS: 3231 Electrical relays for power system protection

IS: 1248 Electrical indicating instruments

IS: 722 AC Electricity meters

IS: 5578 Guide for marking of insulated conductors of apparatus terminals

IS: 13703(part1) Low voltage fuses for voltage not exceeding 1000V AC or 1500VDC

Part1 General Requirements

Part 2 Fuses for use of authorized persons

IS: 6005 Code of practice of phosphating iron and steel

IS: 5082 Wrought Aluminum and Aluminum alloys for electrical purposes

IS: 2633 Hot dip galvanizing.

All Equipments/Materials/Accessories shall comply with these standards