COMPENDIUM OF INDIAN STANDARDS ON

POWER CABLES AND ACCESSORIES

PREPARED BY:

ELECTROTECHNICAL DEPARTMENT

BUREAU OF INDIAN STANDARDS

Table of Contents

INTRODUCTION

Power cables are essential components of electrical power systems, designed to transmit and distribute electrical energy from generation sources to end users across various distances and voltage levels. These cables typically consist of one or more conductors, insulated with dielectric materials and protected by layers such as sheaths, armouring, and jackets to ensure reliability, durability, and safety under diverse environmental and operational conditions.

The Power Cables Sectional Committee, ETD 09, of the Bureau of Indian Standards (BIS) is responsible for formulating Indian Standards related to power cables, their accessories, test methods, and associated codes of practice.

This compendium presents a consolidated overview of key Indian Standards developed by BIS in the domain of power cables. It categorizes the standards into product specifications, test methods, accessories, and codes of practice, offering users a quick reference to the scope and main provisions of each standard. By doing so, it aims to promote consistency, standardization, and the adoption of best practices across the cable industry.

Product Standards

IS 1554 (Part 1): 1988 IS 1554 (Part 1): 1988 covers the requirements for PVC insulated, heavy-duty, single-core and multi-core, armoured and unarmoured, electric cables with aluminium or copper conductors, suitable for fixed installations. These cables are intended for operation at voltages up to and including 1100 volts (rms) between conductors and to earth, for use in power supply, lighting, and internal wiring systems.
IS 1554 (Part 2): 1988 IS 1554 (Part 2): 1988 specifies the requirements for PVC insulated, heavy-duty, armoured electric cables with aluminium or copper conductors, suitable for fixed installations at voltages from 3.3 kV up to and including 11 kV (phase to phase). These cables are intended for use in power distribution networks and industrial installations where medium voltage power transmission is required.
IS 694: 2010 This standard specifies general requirements for single and multicore cables or cords with rigid or flexible annealed bare/tinned copper or aluminium conductors, insulated and optionally sheathed with PVC, for rated voltages up to 1100V AC (50 Hz) and 1125V DC to earth. It covers cables used for electric power and lighting, including outdoor and low-temperature applications. The standard also includes fire performance categories FR (Flame Retardant) and FR-LSH (Flame Retardant Low Smoke and Halogen), with conductor temperature limits of 70°C or 85°C, requiring compliance with specified category-wise tests.
IS 7098 (Part 1): 1988 IS 7098 (Part 1):1988 specifies the requirements for cross-linked polyethylene (XLPE) insulated, PVC sheathed, armoured and unarmoured electric cables with aluminium or copper conductors, intended for use in electric supply and industrial systems operating at voltages up to and including 1100 V (rms). These cables are suitable for fixed installations, both indoor and outdoor, including in ducts, trenches and underground.
IS 7098 (Part 2): 2011 IS 7098 (Part 2):2011 covers the requirements for cross-linked polyethylene (XLPE) insulated, thermoplastic sheathed, armoured power cables with aluminium or copper conductors, intended for use in electric supply systems operating at voltages from 3.3 kV up to and including 33 kV. These cables are designed for fixed installations in both indoor and outdoor environments, including underground and ducts, where enhanced thermal and dielectric performance is needed.
IS 7098 (Part 3): 1993 This standard (Part 3) specifies the requirements for single-core, cross-linked polyethylene (XLPE) insulated, unarmoured or armoured cables, with or without a lead alloy sheath, and thermoplastic outer sheathing. These cables are intended for

use in three-phase AC earthed systems for electric supply at voltages ranging from 66 kV up to and including 220 kV.

IS 8130: 2013

This standard specifies the constructional requirements and properties of copper and aluminium conductors used in insulated electric cables and flexible cords. It does not apply to Conductors used in coils of machines or apparatus, Bare conductors for aerial lines, Conductors intended for telecommunication purposes and specially designed conductors, such as hollow-core conductors.

IS 9857: 1990

This standard specifies the requirements and test methods for single-core flexible cables used in welding circuits.
The cables covered are suitable for applications where the combined ambient temperature and load-induced heating result in a steady conductor temperature not exceeding:

- 60°C for general service normal duty elastomeric compound, and
- 90°C for heat-resisting, oil-resisting, flame-retardant (HOFR) normal duty elastomeric compound.

IS 9968 (Part 1): 1988

This standard specifies the requirements for elastomer, rubber, or silicone insulated cables intended for fixed wiring, as well as flexible cables and cords used in electric power and lighting applications. These cables are suitable for use in single-phase or three-phase systems, whether earthed or unearthed, with rated voltages up to 1100 volts. Additionally, they are applicable for use in DC systems with rated voltages up to and including 1500 volts to earth.

IS 9968 (Part 2): 1988

This standard covers the requirements for heat-resisting elastomer insulated cables intended for fixed installations and flexible cables used in single-phase or three-phase systems. The cables are suitable for electricity supply applications at rated voltages (Uo/U) of 1.9/3.3 kV, 3.8/6.6 kV, 6.35/11 kV, 12.7/22 kV, and 19/33 kV. These cables are designed for environments where the combined effect of ambient temperature and load-induced heating results in a conductor temperature not exceeding:

- 90°C under normal operating conditions, and
- 250°C under short-circuit conditions.

IS 5831: 1984

This standard specifies the physical and electrical requirements for polyvinyl chloride (PVC) insulation and sheath materials used in electric cables.
The standard classifies PVC compounds into the following types:

- Type A: General-purpose insulation for cables rated up to and including 3.3/3.3 kV with a maximum conductor temperature of 70°C.
- Type B: General-purpose insulation for cables rated above 3.3/3.3 kV with a maximum conductor temperature of 70°C.

- Type C: Heat-resisting insulation for cables rated up to and including 1100 V, with a maximum conductor temperature of 85°C.
- Type D: General-purpose insulation for flexible cables rated up to and including 3.3/3.3 kV, with a maximum conductor temperature of 70°C.
- Type ST1: General-purpose sheath for use with cables operating at a maximum conductor temperature of 70°C.
- Type ST2: Heat-resisting sheath for use with cables operating at a maximum conductor temperature of 90°C.
- Type ST3: General-purpose sheath for flexible cables operating at a maximum conductor temperature of 70°C.

IS 5950: 2024

This standard specifies the requirements for "shot firing cables" used in mining and other similar applications other than in shafts. These cables are designed to withstand the harsh conditions typically found in such environments.

IS 6380: 2024

This standard specifies the physical and electrical requirements for elastomeric insulation and sheath materials used in electric cables. It covers a range of compound types suitable for different service conditions.
The types of elastomeric materials included are:

- Insulation Types:
  - General service elastomeric insulation
  - Heat-resisting elastomeric insulation
  - Silicon rubber insulation
- Sheath Types:
  - General service elastomeric sheath
  - Heat-resisting, oil-resisting, and flame-retardant (HOFR) elastomeric sheath
  - Silicon rubber sheath

IS 17505 (Part 1): 2021

This standard specifies the requirements for armoured, thermosetting insulated fire survival cables designed for fixed installations. These cables are intended for use in environments where circuit integrity is critical during fire conditions.
The standard applies to cables that:

- Are suitable for working voltages up to and including 1100 V A.C. and 1500 V D.C.
- Provide fire survival performance, maintaining circuit integrity under fire exposure
- Exhibit low emission of smoke and reduced emission of corrosive gases when affected by fire

These cables are intended for installations where continued cable operation during fire is essential, such as emergency lighting, alarms and critical control circuits.

IS 18833: 2024/ IEC 62895: 2017

High Voltage Direct Current (HVDC) Power Transmission – Cables with Extruded Insulation and Their Accessories for Rated Voltages up to 320 kV for Land Applications – Test Methods and Requirements. This standard specifies the test

methods and performance requirements for HVDC power cables with extruded insulation and their accessories, intended for use in land-based applications operating at rated voltages up to 320 kV.
It covers:

1. Cables with extruded insulation used for high voltage DC transmission
2. Cable accessories, including joints and terminations
3. Electrical, mechanical, and environmental tests required to verify the cable system's suitability for HVDC applications
4. Type testing and routine testing to ensure product reliability and compliance

The standard ensures that HVDC cable systems deliver reliable performance under normal and fault conditions, supporting the growing demand for efficient long-distance electric power transmission.

IS 2465: 1984

This standard specifies the requirements and test methods for various types of cables used in motor vehicles. It covers:

1. Ignition cables of the following types:
- Elastomer insulated
- PVC insulated
2. General wiring cables for circuits where voltage does not exceed 100 V, including:
- Single-core PVC insulated cables
- Circular twin, three, and four-core PVC insulated and PVC sheathed cables
3. Earthing cables such as round and flat tinned copper braids without further covering

The standard ensures that the cables meet mechanical, thermal, and electrical performance criteria suited to the demanding conditions in automotive environments.

IS 2593: 2023

Flexible cables used in Miner's cap lamps require special features which are required to meet the environmental challenges in the gaseous and corrosive atmosphere present in the mines. To meet the performance and safety requirements the Indian Standard IS 2593, Flexible Cables Used in Miners' Cap Lamps, provides specifications for the flexible cables used in cap lamps designed for mining environments. Miners' cap lamps require specialized cables to ensure safety, durability, and flexibility in hazardous conditions.

IS 4289 (Part 1): 1984

This standard (Part 1) specifies the requirements and tests for circular lift cables that are elastomer insulated, with either an overall braid or elastomer sheath, and rated for voltages up to and including 1100 V.
Key features and limitations:

- Suitable for installations where the conductor temperature does not exceed 60°C under combined ambient and load-induced conditions.
- Intended for freely-suspended lengths up to 35 meters and speeds up to 1.6 m/s.
- Applications beyond these limits require mutual agreement between purchaser and manufacturer.
- May also be used in other applications requiring flexible cable connections.

IS 4289 (Part 2): 2000

This standard (Part 2) specifies the requirements and tests for circular lift cables that are PVC insulated, with an overall braid and PVC sheath, and rated for voltages up to and including 1100 V.
Key features and limitations:

- Designed for freely-suspended installations up to 35 meters.
- Applicable to lift systems where the speed of travel complies with limits specified in relevant Indian Standards on lifts.
- Suitable for environments where the conductor temperature does not exceed 70°C under combined ambient and load conditions.

IS 14255: 1995

This standard specifies the requirements for aerial bunched cables (ABC) consisting of polyethylene or cross-linked polyethylene (XLPE) insulated aluminium conductors, twisted around a bare or insulated aluminium alloy messenger wire, intended for overhead distribution systems.
Key details:

- Applicable for single-phase and three-phase AC systems, earthed or unearthed, with rated voltage up to and including 1100 V.
- Cable configurations covered include:
  - Single insulated phase conductor, optionally with an insulated neutral and/or insulated street light conductor.
  - Three insulated phase conductors, optionally with an insulated neutral and/or insulated street light conductor.

These cables are primarily used as overhead feeders in power distribution networks.

IS 14494: 2019

The standard specifies requirements for elastomer insulated flexible cables used in mines. These cables are designed for various voltage grades, including 1.1, 3.3, 3.8/6.6, and 6.35/11 kV. These cables are used in coal mines, quarries, and other miscellaneous mines. They are designed to withstand high temperatures and harsh conditions, ensuring reliable performance in demanding environments.

IS 17048: 2018

This standard specifies the general requirements for single-core and multicore cables/cords with rigid or flexible annealed bare/tinned copper or aluminium conductors, insulated and optionally sheathed with Thermoplastic or Crosslinked Halogen Free Flame Retardant (HFFR) material.
Key points:

- Rated for voltages up to and including 1100 V AC (50 Hz).
- Also suitable for DC systems up to and including 1500 V to earth.
- Applicable to power and lighting installations, including low temperature applications.
- Maximum permissible conductor temperatures:
  - 70°C for thermoplastic HFFR.
  - 90°C for crosslinked HFFR.

These cables are designed to offer enhanced fire safety through low smoke emission and non-corrosive gases in the event of fire.

IS 17293: 2020

This standard specifies the requirements for single-core cables used in photovoltaic (PV) systems, specifically for the direct current (DC) side of the installation. These cables are designed for long-term outdoor use, where they are directly exposed to solar radiation, air humidity and other environmental factors.

Key features:

- Suitable for DC applications in PV systems.
- Designed for UV and weather resistance.
- Rated for a normal continuous conductor temperature of 90°C.
- May be used at up to 120°C for a maximum of 20,000 hours.

These cables ensure durability and performance under harsh environmental conditions typically encountered in solar power installations.

IS 10418: 2024

This standard specifies the requirements for wooden drums used for winding, transporting and storing electric cables. Recognizing the critical role drums play in maintaining cable integrity during handling and logistics, the standard aims to rationalize drum sizes currently in use.

Key features:

- Applies to wooden cable drums.
- Standardizes drum dimensions using a four-digit code:
    - First two digits: Diameter of disc (in decimetres).
    - Last two digits: Diameter of barrel (in decimetres).

IS 16246: 2015

This standard specifies requirements for Elastomer Insulated Cables designed to maintain circuit integrity during fire conditions, essential for applications like emergency lighting, fire detection systems and alarm circuits. These fire-resistant cables are critical for consumers looking for dependable, high-quality cables that ensure the uninterrupted flow of electricity during emergencies.

Cable Accessories Standards

IS 10877: 1984

This standard specifies the dimensions and requirements for moulds used in cast resin-based indoor terminations for medium voltage power cables, specifically:

- PVC insulated, unscreened cables with voltage grades from 3.3 kV to 6.6 kV.
- Paper insulated, belted type cables with voltage grades from 3.3 kV to 11 kV.

It also includes:

- Marking requirements for moulds.
- Reference to materials to be used in mould construction.
- Two mould types are defined based on the earthing configuration:
- Type A: For PVC cables, with earthing connection inside the mould.
- Type B: For paper insulated cables, with earthing connection outside the mould.

IS 11979: 1987

This standard specifies the dimensions and requirements for moulds used in cast resin-based straight-through joints for the following medium voltage cables:

- PVC insulated, unscreened cables, voltage grades from 3.3 kV to 6.6 kV.
- Paper insulated, belted type (PILC) cables, voltage grades from 3.3 kV to 11 kV.

Additionally, the standard outlines:

- Marking requirements for identification.
- Material references for mould manufacturing.

IS 12909: 1990

This standard specifies the dimensions and requirements for moulds used in cast resin-based outdoor terminations for the following medium voltage cables:

- PVC insulated, unscreened cables, voltage grade above 1.1 kV up to 6.6 kV.
- Paper insulated, belted type (PILC) cables, voltage grade above 1.1 kV up to 11 kV.

It also covers two mould types based on cable type:

- Type A: For PVC cables with earthing connection inside the mould; cores are terminated with insulator discs.
- Type B: For PILC cables, using precast bushings with at least one petticoat; earthing is arranged inside the mould, and the remaining core portions are resin cast in the bushing.

The standard also specifies marking and material references for the moulds.

IS 12943: 1990

This standard covers the requirements and dimensions for single compression brass glands used with PVC cables of voltage grade up to and including 3.3 kV. These glands are intended for general-purpose indoor applications. For other applications (e.g., corrosive or outdoor environments), the brass glands may be used if provided with suitable coatings such as cadmium plating.

IS 13573 (Part 1): 2011

This standard specifies the test methods and test requirements for cable accessories used with extruded (typically XLPE or EPR) insulated power cables for rated voltages from 1.1 kV up to and including 3.3 kV (E). It covers accessories such as straight-through joints, terminations and separable connectors, applicable for indoor and outdoor installations in power distribution networks. The aim is to ensure that accessories perform reliably under electrical, thermal and environmental stress.

IS 13573 (Part 2): 2011

The standard specifies the test requirements for cable accessories including joints, terminations, and separable connectors used with extruded insulated power cables (such as XLPE and EPR) rated for voltages from 3.3 kV (Ue) up to and including 33 kV (E).

IS 13573 (Part 3): 2011

The standard specifies the test methods for cable accessories such as joints, terminations and separable connectors used with extruded insulated power cables (eg. XLPE or EPR) designed for rated voltages from 3.3 kV (Ue) up to and including 33 kV (E). The standard ensures that these accessories meet stringent electrical, mechanical and environmental performance criteria for medium voltage power distribution and industrial applications.

IS 13705: 1993

IS 13705:1993 specifies the performance requirements and type test procedures for transition joints used to connect power cables operating at voltages from 11 kV up to and including 33 kV. These joints are designed to connect cables with different insulation materials or constructions, ensuring electrical continuity, mechanical strength and environmental protection in medium voltage power systems.

IS 7093: 1973

IS 7093:1973 specifies the requirements for straight-through joint boxes and lead sleeves used for jointing paper insulated, lead sheathed power cables for working voltages up to and including 11 kV. These joints are designed for use in underground installations, providing mechanical protection, environmental sealing and electrical continuity.

IS 8308: 1993

This standard prescribes the material and dimensional requirements for aluminium compression type tubular in-line connectors, intended for use with aluminium conductors of insulated cables for rated voltages up to and including 11 kV.

IS 8309: 1993

This standard prescribes the material and dimensional requirements for aluminium compression type tubular terminal ends, intended for use with aluminium conductors of insulated cables for rated voltages up to and including 11 kV.

IS 8337: 1976

This standard specifies the performance requirements and methods of tests for compression joints used with aluminium conductors in insulated cables for rated voltages up to and including 11 kV.

IS 8394: 1977

This standard specifies the material and dimensional requirements of copper, brass, and aluminium terminal ends - both soldering and welding types - for use with copper and aluminium conductors of insulated cables for rated voltages up to and including 11 kV.

IS 8438: 1987

This standard covers the requirements and dimensions of moulds used for cast resin based straight through joints for cables for voltages up to and including 1100 volts.

IS 9553: 1987

This standard covers the requirements and dimensions for moulds of cast resin-based terminations for:

- Power cables manufactured for voltages up to and including 1100 V.
- Control cables having up to 61 cores.

IS 9646: 1992

This standard specifies the dimensions for moulds of cast resin-based tee-joints for cables manufactured for voltages up to and including 1100 volts. The standard also specifies the markings to be given on the moulds and provides references to the materials used for their construction.

Test Method Standards

IS 10810 (Part 0): 1984 This standard, issued in different parts, prescribes methods of tests for electric cables, wires and cords in finished stage as well as their components, such as conductor insulation, sheath and armour.
IS 10810 (Part 1): 1984 The standard covers methods for determining the elongation properties of annealed copper wires, aluminium wires for welding cables and solidal conductors used in electric cables**.**
IS 10810 (Part 2): 1984 The standard covers method to determine tensile strength of aluminium wires used for conductor of electric cables.
IS 10810 (Part 3): 1984 The standard covers method to determine the ductility of aluminium wire used as conductors for electric cables.
IS 10810 (Part 4): 1984 The standard covers two methods for determination of exposed copper in case of tinned copper wire for conductors used in electrical cables.
IS 10810 (Part 5): 1984 The standard covers method to determine the dc resistance of copper and aluminium conductors.
IS 10810 (Part 6): 1984 The standard covers a method for verification of thickness of thermoplastic and elastomeric insulation and sheath of electric cables.
IS 10810 (Part 7): 1984 The standard covers the method to determine the tensile strength and elongation at break of thermoplastic and elastomeric insulation and sheath of electric cables.
IS 10810 (Part 8): 1984 The standard covers the method for determining breaking strength and elongation at break of impregnated paper insulation taken from a completed electric cable.
IS 10810 (Part 9): 1984 The standard covers the method for determining the force required to tear a specimen of cable insulating paper.
IS 10810 (Part 10): 1984 The standard covers method to determine the thermal effect on the mass of thermoplastic insulation and sheath.

IS 10810 (Part 11): 1984 The standard covers method for thermal ageing test in air of insulation and sheath of electric cables.
IS 10810 (Part 12): 1984 The standard covers determination of shrinkage characteristics of thermoplastic insulation and sheath of electric cables after exposure to specified elevated temperature.
IS 10810 (Part 13): 1984 The standard covers method for estimating the resistance of elastomeric material of electric cable to ozone attack.
IS 10810 (Part 14): 1984 The standard covers method for finding out cracking of the thermoplastic insulation and sheath of electric cables taking place on overheating.
IS 10810 (Part 15): 1984 The standard covers method to determine the resistance of thermoplastic insulation and sheath of electric cables to deformation when subjected to mechanical pressure at high temperature.
IS 10810 (Part 16): 1984 The standard covers method of heat ageing test under oxygen pressure for insulation and sheath of electric cables.
IS 10810 (Part 17): 1984 The standard covers method for determination of tear resistance of elastomeric heavy duty sheath.
IS 10810 (Part 19): 1984 The Standard method to determine the migration or oozing characteristics of pigment added to the thermoplastic insulation or sheath of electric cable when in contact with permeable medium.
IS 10810 (Part 20): 1984 The standard covers method to determine resistance to bend of thermoplastic or elastomeric insulation or sheath of electric cables at low temperatures and frost. This test is applicable to specimen of diameter up to and including 12.5 mm, above which this test is considered impracticable.
IS 10810 (Part 21): 1984 The standard covers method to determine the resistance to impact or shock of thermoplastic and elastomeric insulation or sheath at low temperature and frost. This test is an alternative to cold bend test which is considered impracticable for insulation or sheath whose diameter is larger than 12.5 mm.

IS 10810 (Part 22): 1984 The standard covers the procedure for measuring vicat softening point of polyethylene insulation and sheath of electrical cables.
IS 10810 (Part 23): 1984 The standard covers method for finding melt-flow index of polyethylene insulation and sheath of electrical cables by measuring the rate of extrusion of polyethylene through an orifice of a specified length and diameter, under prescribed conditions of temperature and pressure.
IS 10810 (Part 24): 1984 The standard covers the procedure of determining water soluble impurities (if any) present in the insulating -paper for electric cables.
IS 10810 (Part 25): 1984 The standard covers method to detect the presence of electrolytic impurities in the water extract of insulating paper for electric cables.
IS 10810 (Part 26): 1984 The standard covers method is designed to indicate the active and the total acidity or alkalinity of an aqueous extract of insulating papers for electric cables. Since the aqueous extracts of most untreated papers used for electrical insulation are normally unbuffered and are readily affected by atmospheric conditions, this method embodies features to minimize errors from this source.
IS 10810 (Part 27): 1984 The standard covers method for determination of the ash content in insulating paper for electric cables.
IS 10810 (Part 28): 1984 The standard covers methods of measurement of water absorption by elastomeric insulation of electric cables.
IS 10810 (Part 29): 1984 The standard covers the procedure of test for cracking due to environmental stresses on electric polyethylene insulation or sheath of cables.
IS 10810 (Part 30): 1984 The standard covers method for determination of elongation and permanent set under load at specified temperature of insulation of electric cables.
IS 10810 (Part 31): 1984 The standard covers method the procedure of oil resistance test applicable to insulation/nonmetallic sheathing materials of electric cable.

IS 10810 (Part 32): 1984 The standard covers the method for determination of carbon black content in polyethylene insulation sheath of electric cable.
IS 10810 (Part 33): 1984 The standard covers the test procedure for determination of water absorbed by insulation or sheath of electric cables.
IS 10810 (Part 34): 1984 The standard covers method for measurement of thickness of metallic sheath of electric cable.
IS 10810 (Part 35): 1984 The standard covers the method for the quantitative determination of tin in lead alloy for sheathing electric cables.
IS 10810 (Part 36): 1984 The standard covers method for measurement of dimensions of materials used for armouring of electric cables, as purchased or as taken out from the finished cable, without removing the zinc coating in the case of galvanized materials.
IS 10810 (Part 37): 1984 The standard covers method for determination of tensile strength and elongation at break of armouring materials for electric cables.
IS 10810 (Part 38): 1984 The standard covers method for torsion test on galvanized steel wires for armouring of electric cables.
IS 10810 (Part 39): 1984 The standard covers method for the winding test on galvanized steel strips for armouring of cables.
IS 10810 (Part 40): 1984 The standard covers the method for checking uniformity of zinc coating on galvanized mild steel wires, strips and tapes of armour for electric cables.
IS 10810 (Part 41): 1984 The standard covers method for determination of mass of zinc coating on galvanized mild steel wires, strips and tapes of armour for electric cables.
IS 10810 (Part 42): 1984 The standard covers method for determination of the resistivity of the armour wires and strips used in electric cables and the conductance of the armour of electric cables.

IS 10810 (Part 43): 1984 The standard covers method of determinations of insulation resistance, calculation of volume resistivity and insulation resistance constant of the dielectric material of electric cable by direct current method.
IS 10810 (Part 44): 1984 The standard covers the method for ac spark testing of insulation and non-metallic sheath of electric cables.
IS 10810 (Part 45): 1984 The standard covers the method for high voltage test on electric cables.
IS 10810 (Part 46): 1984 The standard covers detection and measurement of partial discharge occurring in screened electric cables.
IS 10810 (Part 47): 1984 The standard covers the method of impulse testing (simulated lightning impulse) of electric cables.
IS 10810 (Part 48): 1984 The standard covers the determination of dielectric power factor of the dielectric material of electric cable as a function of either voltage or temperature or both.
IS 10810 (Part 49): 1984 The standard covers the method of heating cycle test of electric cables.
IS 10810 (Part 50): 1984 The standard prescribes the method for carrying out bending test on cables.
IS 10810 (Part 51): 1984 The standard covers the method to determine the non-dripping properties of the compound used in lapped bedding and serving of paper insulated electric cables.
IS 10810 (Part 53): 1984 The standard prescribes method of test on electric cables under fire conditions.
IS 10810 (Part 54): 1984 The standard covers method to determine the static flexibility of cables.
IS 10810 (Part 55): 1984 The standard covers test method for assessing the resistance of extruded outer sheath of armoured cables to abrasive wear.
IS 10810 (Part 56): 1984 The standard covers method of heat ageing test under air pressure for insulation and sheath of electric cables.

IS 10810 (Part 57): 1984 The standard covers the test procedure to determine the flexibility of flexible cable. Flexible cables having conductors with nominal cross-sectional area exceeding 4 mm^2 and all single core cables are not subjected to this test.
IS 10810 (Part 58): 1984 The standard covers method describes a procedure for determining the relative flammability of materials used in electric cables by measuring the minimum concentration of oxygen in a mixture of oxygen and nitrogen that will just support flaming combustion. This method is at present limited to the use of physically self-supporting test specimens.
IS 10810 (Part 59): 1984 The standard describes method for determination of the amount of halogen acid gas other than hydrofluoric acid evolved during the combustion of compounds based on halogenated polymers and compounds containing halogenated additives taken from cable insulation and outer sheath.
IS 10810 (Part 60): 1984 The standard covers method to test the thermal stability of PVC insulation or sheath of electrical cables.
IS 10810 (Part 61): 1984 The Standard covers method to assess the ability of electric cable to resist ignition and to prevent fire from spreading.
IS 10810 (Part 62): 1984 The standard covers the method for testing of a bunch of cables mounted vertically to determine their relative ability to resist flame propagation. This standard recommends three test categories, these being assessed by the amount of combustible non-metallic) material contained in one meter of bunched cables being tested.
IS 10810 (Part 63): 1984 The standard gives the test method for the measurement of smoke emitted when electric cables are burnt under defined conditions.
IS 10810 (Part 64): 1984 The standard covers test method is applicable for testing the temperature index of insulation or sheath of electric cables and is limited to physically self-supporting test specimens.

Code of Practice Standards

IS 10462 (Part 1): 1983 This standard covers the fictitious calculation method used to determine the dimensions of protective coverings for cables insulated with elastomeric materials (including cross-linked polyethylene) and thermoplastic materials.
IS 1255: 1983 This standard provides recommendations and broad guidelines for the selection, transportation, laying, jointing, termination, testing, commissioning, maintenance and fault localization of power cables rated up to and including 33 kV. This standard does not cover cable installation for special applications like mines, quarries and oil fields where other statutory regulations apply.
IS 16269: 2018 This standard provides recommendations on short-circuit temperature limits, the method for calculating short-circuit current, and the cross-sectional area requirements of cable components to safely carry short-circuit currents. It applies to electric cables with rated voltages ranging from 1.1 kV up to 220 kV.
IS 3961 (Part 2): 2017 This standard provides recommended current ratings for PVC insulated and PVC sheathed heavy duty cables covered by IS 1554 (Part 1), either laid in ground, in ducts or in air.
IS 3961 (Part 3): 1968 This standard provides the recommended current ratings for rubber insulated cables with both copper and aluminium conductors. It applies to cables with voltage ratings of 250/440 volts and 650/1100 volts.
IS 3961 (Part 5): 1968 This standard covers the recommended current ratings for both copper and aluminium conductor PVC insulated cables, as well as copper conductor flexible cords. It applies to cables and cords covered under IS 694.
IS 3961 (Part 6): 2016 This standard provides recommended current ratings for crosslinked polyethylene insulated PVC sheathed cables covered by IS 7098 (Part 1), either laid in ground, in ducts or in air.
IS 3961 (Part 7): 2017 This standard provides recommended current ratings for crosslinked polyethylene insulated PVC sheathed cables covered by IS 7098 (Part 2), either laid in ground, in ducts or in air.

IS 5819: 2024

This standard covers the recommended short-circuit ratings of high voltage heavy duty PVC insulated cables conforming to IS 1554 (Part 2).