



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Standard for construction and acceptance of cable line electric
equipment installation engineering**

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1.0.1 This standard is formulated in order to ensure the quality of cable line engineering

construction, unify construction and acceptance criteria, standardize quality control requirements and acceptance conditions in the construction process.

1.0.2 This standard applies to the construction and acceptance of cable lines, which

have a rated voltage of 500 kV and below, as well as their ancillary facilities.

1.0.3 The installation engineering of cable lines, which have special requirements, such

as mines, ships, submarine, metallurgy, chemical industry, shall comply with the relevant provisions of relevant professional standards.

1.0.4 The construction and acceptance of cable lines shall not only comply with this

standard, but also comply with the current relevant national standards.

2.0.1 Cable line

The entire system, which is composed of cables, accessories, auxiliary equipment, and auxiliary facilities.

2.0.2 Metallic sheath

Uniform and continuous sealed metal tubular cladding.

2.0.3 Armor

A cladding consisting of metal strips or wires. It is usually used to protect cables from external mechanical forces.

2.0.4 Cable termination

A device, which is installed at the end of a cable, to connect the cable to other electrical equipment or overhead power lines AND to maintain insulation up to the point of connection.

2.0.5 Cable joint

A device, that connects the conductor, insulation, shielding layer and protective layer of the cable to the cable, to make the cable line continuous.

2.0.6 Flexible joint

The intermediate joint, which is made by connecting unarmored cables under factory-controlled conditions, AND continuously armored with the cables.

2.0.7 Cable dividing box

A special electrical connection equipment, which completes the collection and branching functions of the cable lines in the power distribution system, BUT generally does not have secondary auxiliary configurations, such as control and measurement.

2.0.8 Cable tunnel and cable line online monitoring system

It is a system for monitoring, analyzing, auxiliary diagnosis, alarm, remote control of cable running status and cable tunnel and other line facilities. The monitoring system consists of six parts. field equipment, sensors, signal acquisition unit, monitoring host, monitoring sub-station, remote monitoring center.

2.0.9 Cable ducts

A duct, in which the cable is laid, for protection purposes AND for easy pulling out of the cable for replacement after a cable failure. There are structural forms such as single duct and row duct, also known as cable tube.

2.0.10 Cable bearer

A device, which is used to support and fix cables, is usually assembled by integral casting, profiles welding or fastener splicing.

3.0.1 Cables, accessories, auxiliary equipment shall meet the requirements of product

technical documents; they shall have product identification and qualification certificates.

3.0.2 Safety technical measures shall be formulated for the construction of cable lines.

Construction safety technical measures shall comply with the provisions of this standard and product technical documents.

3.0.4 For cable lines with anti-interference requirements, anti-interference measures

shall be taken, according to design requirements.

4.0.1 The transportation and storage of cables and accessories shall comply with the

requirements of product technical documents. It shall avoid strong vibration, overturning, moisture, corrosion. It shall ensure that the outer surface of the box and the components inside the box are not damaged.

4.0.2 During transportation and loading & unloading, the cables and cable reels shall

be prevented from being damaged. Cable reels shall not be transported or stored flat.

4.0.3 Before transporting or rolling the cable reel, it shall ensure that the cable reel is

firm AND the cable shall be wound tightly. The oil pipe -- between the oil-filled cable and the pressure oil tank -- shall be fixed without damage. The pressure oil tank shall be firm; the pressure value shall meet the technical requirements of the product. When rolling, follow the arrow on the cable reel or the direction in which the cable is tightened.

4.0.6 During the storage period, the cable reel and packaging shall be intact; the marks

shall be complete; the end sealing shall be tight. When there is a defect, it shall be dealt with in time. For oil-filled cables, it shall check the oil pressure regularly and make records. The oil pressure shall not be lower than the lower limit.

5.1.1 There shall be no perforations, cracks, obvious unevenness in the cable duct; the

inner wall shall be smooth; the metal cable duct shall not be severely corroded; the performance of the plastic cable duct shall meet the design requirements.

5.1.8 The position of the cable duct, which is leading to the equipment, shall be

convenient for connection with the equipment AND shall not hinder the disassembly and access of the equipment. The nozzles of cable ducts, which are laid side by side, shall be arranged neatly.

5.1.9 When using the cable protection steel pipe as the grounding wire, the grounding

wire shall be installed first; then the cable shall be laid; for the cable duct with threaded connection, the jumper shall be welded at the pipe joint; the cross-section of the jumper shall not be less than 30 mm².

5.2.2 The allowable minimum distance between layers of the cable holder shall meet

the design requirements. If there is no design requirement, it may comply with the provisions in Table 5.2.2; meanwhile the net distance between layers shall not be less than 2 times the outer diameter of the cable plus 10 mm. For 35 kV and above high voltage cable, it shall not be less than 2 times the outer diameter of the cable plus 50 mm.

5.2.3 The cable holder shall be installed firmly. The fixing method of brackets and