



## WORLD CONSTRUCTION CHAMPIONSHIP

### Qualification criteria for applicants in the team nomination "Power Cables and Cable Fittings Electrical Installation"

#### APPLICANTS

Currently employed specialists; students.

#### COUNTRIES

Russia,  
India,  
Kazakhstan,  
Kyrgyzstan,  
Pakistan,  
Uzbekistan,  
Tajikistan,  
Belarus,  
Armenia,  
Azerbaijan,  
Moldova,  
Turkmenistan,  
Turkey,  
Egypt,  
Bangladesh,  
Hungary.

#### TEAM MEMBERS

Cable networks electrician — 2 people; or

Cable networks electrician — 1 person and power networks and electrical equipment electrician — 1 person.

#### GENERAL DESCRIPTION

The cable networks electrician performs installation of cable lines using cable metal structures, various types of cable products, installing end and branch joints and connecting cables to automatic switches in a power shield. This electrician also performs installation of cable lines from trays on consoles and racks, lays power cables up to 10 kV, installs power shields, branch joints, and end joints, and connects cables to automatic switches in a power shield.

#### QUALIFICATION CRITERIA REQUIREMENTS

- marking out the places where cable steel structures will be installed;
- installing steel structures;
- marking out installation points of electrical equipment and cable joints;
- measuring, cutting, and cabling;
- installing branch and end joints;
- connecting cables to electrical equipment.

## **REQUIREMENTS FOR EDUCATION AND AVAILABILITY OF SPECIAL PERMITS**

### **For currently employed specialists:**

The relevant qualification.

Documents:

- document confirming the relevant qualification/or a document confirming the right to carry out this type of work.
- document confirming the right to work with electrical equipment up to 1000 V; and
- proof of health and safety training, which is in force in the participant's country (copy).

### **For students:**

Those who are studying cable networks electrical installation or electrical installation of power networks and electrical equipment. Training in first aid skills and techniques according to international, Red Cross, and EFR standards. A document confirming the right to work with electrical equipment up to 1000 V.

## **SKILLS REQUIREMENTS**

Need to be able to:

- read working drawings, wiring diagrams, connection diagrams (tables), operation manuals, flow charts, production instructions;
- use manual and electrical hand-held tools when cutting cable, for connection, termination, and labeling of cable cores, and installation of cable joints;
- use electrical instruments to measure current, voltage, and insulation resistance and to identify cable cores;
- mark out and install metal structures for laying cables;
- lay cables inside premises; and
- understand and apply rules of technical specifications and documents describing how to install cable networks.

## **KNOWLEDGE REQUIREMENTS**

Need to know:

- how to use technical specifications, working drawings, design documents, and detailed design documents;
- how to apply the relevant instructions when installing cable networks;
- basics of electrical engineering;
- symbols on drawings and diagrams;
- the main brands of cables and their design;
- types of materials used in fabrication and installation of steel structures and cable wiring products;
- rules and methods of laying cable trays, perforated mounting profiles, and steel ducts;
- how to install earthing;
- how to install end joints and couplings;
- how to connect and terminate cable cores;
- how to lay and label cables and cable cores;
- how to use electrical tools; and
- regulatory requirements in health and safety, fire safety, environmental protection; occupational health and safety requirements at hazardous production facilities; and rules of sanitary and personal hygiene.

## **JOB RESPONSIBILITY REQUIREMENTS**

- organising one's workplace in accordance with the assignment and health and safety requirements for this assignment;
- reading (working with, familiarising oneself with) electrical drawings, diagrams, and flow charts;
- installing and inspect electrical equipment;
- labelling cables and cable cores;
- cutting, stripping, terminating, coupling, and connecting cables in different ways;
- installing couplings, branch joints, and end joints;

- measuring cable insulation resistance; identifying cable cores; and
- laying cable in metal structures.

