



## WORLD CONSTRUCTION CHAMPIONSHIP

### Qualification criteria for applicants in the team nomination "Lighting Networks and Electrical Equipment Installation"

#### APPLICANTS

Currently employed specialists; students.

#### COUNTRIES

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

#### GENERAL DESCRIPTION

Lighting Networks and Electrical Equipment Installer performs installation of lighting networks in accordance with the wiring and installation diagrams: installs switchboards, equipment and wiring in the lighting board, mounts light fixtures and fittings, installs automatic lighting regulation and control systems, and lays wires and cables in various cable structures.

#### QUALIFICATION CRITERIA REQUIREMENTS

- marking out the places where cable steel structures will be installed;
- mounting cable structures;
- marking out the places where electrical equipment, lighting fittings, and wiring accessories will be installed;
- measuring, cutting, and cabling;
- installing electrical equipment, lighting fittings, and wiring accessories;
- connecting cables to electrical equipment; and
- programming automatic lighting regulation and control systems.

#### SKILLS REQUIREMENTS

Need to be able to:

- read working drawings, wiring diagrams, connection diagrams (tables), operation manuals, flow charts, production instructions;
- bundle wires and cables into ducts, trays, and on strings, including in potentially explosive areas;

- install light fixtures, including explosion-protected versions and those with ballasts;
- install power supply and switchboards and panels;
- check the installation results and remedy any faults detected;
- operate manual and electrical hand-held tools;
- operate the relevant technical equipment;
- use means for slinging and moving the equipment being assembled;
- comply with the applicable health and safety, fire safety, and environmental protection requirements;
- use primary fire-fighting equipment; and
- provide first aid to victims of occupational health and safety accidents or emergencies.

## **KNOWLEDGE REQUIREMENTS**

Need to know:

- how to use technical specifications, working drawings, design documents and detailed design documents;
- how to bundle wires and cables into ducts, trays, and on strings;
- how to install light fixtures;
- how to lay wires and cables, including in potentially explosive areas;
- how to test wires and cables, including in potentially explosive areas;
- how to install explosion-protected version of light fixtures and light fixtures with ballasts;
- how to test explosion-protected version of light fixtures and light fixtures with ballasts;
- how to install power supply and switchboards and panels;
- how to operate the required manual and electrical hand-held tools when performing installation works;
- how to operate the required technical equipment when performing installation works;
- how to use means for slinging and moving the equipment being assembled;
- occupational health and safety requirements for the operation of electrical installations;
- basics of electrical engineering;
- symbols on drawings and diagrams; and
- how to use personal protective equipment.

## **EDUCATION AND PERMIT REQUIREMENTS FOR CURRENTLY EMPLOYED SPECIALISTS**

The qualification (Grade 5 or higher) of a lighting equipment electrician.

Documents:

- document confirming the 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;
- proof of health and safety training, which is in force in the participant's country (copy).

## **EDUCATION AND PERMIT REQUIREMENTS FOR STUDENTS**

People of 18 or over who are students in a technical area or in Lighting Fixtures and Lighting Equipment Electrical Installation.

Proof of health and safety training, which is in force in the participant's country. A document confirming the right to work with electrical equipment up to 1000 V.

## **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 and light fixtures;
- marking out attaching points of electrical equipment, light fixtures, and cable routes;
- installing power supply boards, switchboards, and lighting panels;
- cutting, stripping, terminating, and connecting cables and wires in various ways;
- labelling cables and cable cores;
- laying cable structures (boxes, trays, etc.);

- measuring cable insulation resistance; identifying wires and cable cores;
- laying cables in boxes and trays; and
- installing light fixtures, fittings, and installation products.

