



9th International  
Abilympics  
Bordeaux 2016

# Vocational Skills Contest

## V35 Electrical Installation

### 1. Task Assignment

The task consists in the completion of 3 modules.

- Module n°1: Installation and wiring of different elements.

Using a layout plan, contestants will install electrical outlets and a lighting system on a BA13 type support. They will then wire everything to the distribution board. Part of the lighting system will be regulated by a clock and a twilight switch.

- Module n°2: Installation of a distribution board destined to the protection of goods and people. Using their technical instructions, wiring of all the elements: circuit breaker, differential circuit breaker, trip switch, twilight switch and clock.

- Module n°3: Starting and calibrating of a house automation system.

### 2. Allocated time: 5h00

5 hours of competition.

Module n°1: 2 hours and 30 minutes.

Module n°2: 1 hour and 45 minutes.

Module n°3: 45 minutes.



### 3. Requirements

- Contestants must respect the safety rules.
- Contestants must follow the installation instructions.
- Contestants will tidy up and clean their workstation.
- Contestants will follow the starting procedure.
- Any contestant caught cheating, talking to someone from the public or using a communication device will suffer a penalty of 5 points for the first transgression. A second transgression will lead to an exclusion from the contest.

### 4. Procedure

**Day -1 (March 24<sup>th</sup>):** On the day before the competition, contestants will be welcomed by members of the jury. A briefing about the organization of the competition and the safety rules will be arranged. Contestants will draw lots to be assigned to a work station.









**Day 1 (March 25<sup>th</sup>):** Contestants will have 2 hours and 30 minutes to complete module n°1.


**Day 2 (March 26<sup>th</sup>):** Contestants will have 1 hour and 45 minutes to complete module n°2, and 45 minutes to complete module n°3.

## 5. List of the provided equipment

*Non-exhaustive list.*










| N° | Equipment   | Photo   | Qty per contestant | Notes               |
|----|---|---|--------------------|---------------------|
| 01 | Distribution board, 2 rows, 13 modules/row, brand: Legrand    |    | 1                  |                     |
| 02 | Differential circuit breaker, 40A 30mA Type A, brand: Legrand |    | 1                  |                     |
| 03 | Circuit breakers, 1P+N 10A brand: Legrand                     |   | 3                  |                     |
| 04 | Batibox ø 67 mm, brand: Legrand                               |  | 8                  |                     |
| 05 | Electrical outlets 2P+T, brand: Legrand.                      |  | 3                  |                     |
| 06 | Toggle switches, brand: Legrand                               |  | 2                  |                     |
| 07 | Light switches, brand: Legrand                                |  | 3                  |                     |
| 08 | Electrical wire, 1,5 mm diameter, red                         |  |                    | Sufficient quantity |

|    |  |   |   |                     |
|----|--|---|---|---------------------|
| 09 | Electrical wire, 1,5 mm diameter, blue         |    |   | Sufficient quantity |
| 10 | Electrical wire, 1,5 mm diameter, yellow/green |    |   | Sufficient quantity |
| 11 | Electrical wire, 1,5 mm diameter, orange       |    |   | Sufficient quantity |
| 12 | Electrical wire, 1,5 mm diameter, purple       |   |   | Sufficient quantity |
| 13 | Electrical wire, 1,5 mm diameter, black        |  |   | Sufficient quantity |
| 14 | Trip switch, 230 V, brand: Legrand             |  | 1 |                     |
| 15 | Time switch, brand: Legrand                    |  | 1 |                     |
| 16 | Twilight switch                                |  | 1 |                     |



|    |  |   |   |                              |
|----|--|---|---|------------------------------|
| 17 | 12 V built-in spotlight with transformer |    | 3 |                              |
| 18 | Wall-mounted round light covers          |    | 2 |                              |
| 19 | Light bulbs                              |    | 2 |                              |
| 20 | Corrugated sheathing duct                |   |   | Sufficient quantity          |
| 21 | Hollow wall anchors                      |  |   | Sufficient quantity          |
| 22 | Assembly plier for hollow wall anchors   |  | 1 | For fixation in plasterboard |
| 23 | Hole saw                                 |  | 1 | 67 mm diameter               |
| 24 | Step ladder                              |  | 1 | 3 marches                    |



## 6. List of tools to be brought for each contestant

| N° | Tool                                     | Photo   | Qty       | Notes   |
|----|--|---|-----------|---|
| 01 | Flat-head and cross-head screwdrivers    |    | 1 set     |   |
| 02 | Cutting pliers, stripping pliers, etc... |    | 1 set     |   |
| 03 | Spirit level                             |    | 1         | Contestant's choice                                       |
| 04 | Measuring tape                           |   | 1         |   |
| 05 | Screw gun                                |  | 1         | + bit holder, flat-head and cross-head bits               |
| 06 | Pencils                                  |  | 1 or more |   |
| 07 | Hammer                                   |  | 1         | Contestant's choice                                       |
| 08 | Hacksaw                                  |  | 1         |   |
| 09 | Toolbox                                  |  | 1         | Contestant's choice of tools, to be validated by the jury |

## 7. List of facilities installed at the contest site

| N° | Equipment         | Photo   | Qty    | Notes                      |
|----|-------------------|---|--------|----------------------------|
| 01 | Competition space | Two plasterboard walls built into a reflex angle                                  | 1      | 1 spot for each contestant |
| 02 | Trestles          |  | 1 pair | Foldable                   |
| 03 | Work surface      |  | 1      | 60 x 120cm                 |

## 8. Evaluation Criteria



| N° | Items to be Evaluated                    | Scoring scale |
|----|--|---------------|
|    | <b>Distribution of points per module</b> |               |
|    | Module 1: 40/100                         |               |
|    | Module 2: 40/100                         |               |
|    | Module 3: 20/100                         |               |
|    | <b>Main evaluation criteria</b>          |               |
| 01 | Respect of the subject, installation     | 30            |
| 02 | Organization of the work station         | 10            |
| 03 | Functioning                              | 40            |
| 04 | General appearance                       | 20            |
|    | <b>Total</b>                             | <b>100</b>    |