

Electrical Engineering: Background Knowledge

TRAINING OBJECTIVE

At the end of the course, the trainees will know the basics of electricity in order to operate electrical installations.

Length of the course: 5 days

PEDAGOGY

- Individual testing of knowledge at the beginning in order to adapt the training program
- Alternate exercises and presentations
- Individual testing of knowledge at the end of the course, with relevant comments by the trainer

TRAINING PROGRAM

- Elements in an electrical circuit
- Electrical parameters (voltage, current, resistance, power, alternating current, direct current, Ohm law, Joule effect, etc.)
- Single-phase alternating current circuits (principles, schematic representation, sinusoidal signal, phase shift, power factor, etc.)
- Balanced three-phase circuits (voltage drop, cable diameter and protections)
- Powers (active, reactive and apparent)
- Unbalanced three-phase circuits and role of the neutral
- Fault currents (overload, short circuit and earth fault)
- Principles of electromagnetism
- Transformer
- Electrical measuring devices
- Circuit breaker, fuses and meter
- Rotating machines (direct and alternating current)
- Protection equipment, breaking capacity, insulation, etc.
- The risks of working with electricity
- Electrical safety rules