

NR-10 - Basic Training - Electrical Instalation and Services Safety - 40h

Duration	5 days
Target group	Industrial and maritime workers who deal directly or indirectly with electricity.
Prerequisites	<ul style="list-style-type: none"> - RG and CPF; - Passport (Expatriate); - Grade School; - Occupational Health Certificate (ASO) or certificate of good physical and mental health conditions.
Objective	Qualify workers from industrial and maritime areas who deal directly or indirectly with electricity.
Contents	<p>Theory-36 Hours</p> <ol style="list-style-type: none"> 1. Introduction to Safety with Electricity; 2. Risks in Facilities and Services with Electricity: <ol style="list-style-type: none"> a) electric shock, mechanisms and effects; b) electric arcs; burns and falls; c) electromagnetic fields. 3. Risk Analysis Techniques; 4. Electrical Risk Control Measures: <ol style="list-style-type: none"> a) de-energization; b) functional grounding (TN/TT/IT); protection; temporary c) equipotentialization; d) automatic feeding sectioning; e) leakage current devices; f) extra-low voltage; g) barriers and casings; h) blockages and impediments; i) obstacles and shields; j) insulation of the living parts; k) double or reinforced insulation; l) out-of-reach placement; m) electrical separation. 5. Brazilian Technical Standards - NBR of ABNT: NBR-5410, NBR 14039 and others; 6. Ministry of Labor Regulations: <ol style="list-style-type: none"> a) NR's; b) NR-10 (Safety in Electrical Installations and Services); c) qualification; license, empowerment, and authorization. 7. Collective Protective Equipment; 8. Personal Protective Equipment; 9. Work Routines - Procedures: <ol style="list-style-type: none"> a) de-energized installations; b) release for services; c) signaling; d) inspections of areas, services, tooling and equipment. 10. Electrical Installation Documentation; 11. Additional Risk: <ol style="list-style-type: none"> a) height;

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- b) confined spaces;
 - c) Hazardous areas;
 - d) humidity;
 - e) weather conditions.
12. Fire Fighting and Protection:
- a) basic concepts;
 - b) preventive measures;
 - c) extinguishing methods;
 - d) practices.
13. Accident of Electrical Origin:
- a) direct and indirect causes;
 - b) discussion of cases.
14. First Aid:
- a) concepts about injuries;
 - b) prioritization of care;
 - c) use of artificial respiration;
 - d) cardiac massage;
 - e) techniques for removal and transport of injured;
 - f) practices.
15. Responsibilities.

Practical – 4 Hours

- Fire Fighting;
- First Aid.

Technical Reference: NR-10; NBR 5410; NBR 14039.

Exam

Multiple choice exam with minimum passing grade of 60%.

Validity: 2 years