OTC349

# NR-33 and NR-35 - Emergency and Rescue Team - Leader Level - 32h

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| **Duration** | 32 hours |
| **Target group** | Industry workers in general, contracted or subcontracted, who perform work that requires an intermediate level of qualification for technical rescue at heights and in confined spaces, and/or people who are part of the emergency brigade of companies, in accordance with ABNT NBR 14276 Fire and Emergency Brigade - Requirements and Procedures, and its revisions. |
| **Prerequisites** | - RG and CPF;<br>- Passport (expatriates);<br>- Certificate of Occupational Health (ASO) or Certificate of good physical and mental health;<br>- Minimum education level: complete High School;<br>- Valid (up to date) NR-33 certificate - Emergency and Rescue Team - Operational Level;<br>- Valid (up to date) first aid training certificate with content and workload compatible with the risk scenarios and typical accidents identified;<br>- Valid (up to date) NR-33 certificate - Confined Spaces - Initial Training for Watchmen and Authorized Workers (16 hours); or<br>- Valid (up to date) certificate of periodic training (according to workload/periodicity) provided for by Regulatory Norm (NR) 33. |
| **Objective** | Enable the participant to apply a set of knowledge and skills to perform rescues at height and/or in confined spaces, specific to the Leader Level (Intermediate Level). Upon successful completion of the training, the participant will reach the Intermediate Rescue Qualification Level specified as the third level, for which the person is qualified to participate in a variety of rescues at height and/or in confined spaces, at any height level, which require basic movement or displacement of victims with or without stretchers, using assembled mechanical advantage systems, pre-engineered or pre-assembled manual or automatic rescue systems, and mechanical advantage systems, to access the casualty autonomously using different rope progression techniques, mechanical and electrical systems, specific for moving and rescuing people in all directions. |
| **Contents** | Theory:<br>•Official regulatory standards and applicable Brazilian Standards;<br>•Safety principles of a rescue operation;<br>•Identification of risks associated with a rescue operation;<br>•Evaluation of risk × benefit in a rescue operation;<br>•Certification of rescue equipment and systems;<br>•Selection and correct use of personal rescue equipment: Safety Harness; Slings or lanyards; connectors; helmet; gloves; descender; ascenders; fall arrest; stirrup;<br>•Selection and correct use of collective rescue equipment: ropes; slings; rings; ribbons or anchor beads; connectors; pulleys; blockers; stretcher; tripod; descenders; ascenders;<br>•Effect of the angles formed by the anchors on the distribution of loads;<br>•Performance limits of rope progression equipment used in casualty rescues; |

•Pre-use and periodic inspections of individual and collective rescue equipment used;
•Identification of operational readiness conditions or damage, defects and wear to refuse equipment that has been disapproved according to the manufacturers' instructions;
•Methods for cleaning, packing and transporting rescue equipment;
•Conceptualization of the shock force generated by retaining a fall from a height;
•Concept of fall factor;
•Knowledge of how inert suspension trauma develops and its main therapeutic measures;
•Use of available means of communication, as well as terminology used as standard language for emergencies;
•Conceptualization of vertical rope progression techniques for rescues;
•Technical factors that affect the efficiency of a rope and/or confined space rescue (for example: performance, speed, range, duration, weather conditions, confined space environment, rescuer, etc.).

Practice:
•Installation and operation of pre-engineered rescue or evacuation systems;
•Assembly  of the main stringing nodes used in rescues (blocking, finishing, splicing, anchoring, and securing);
•Assembly of simple anchorages, semi-equalised anchorages, fractional anchorages and deviations with string knots;
•Assembly and operation of single mechanical advantage systems (block);
•Performing rope progression techniques in rescues for ascending, descending, passing fractions, deviations and knots;
•Performing descent techniques on tensioned ropes;
•Performing progression techniques on horizontal and inclined zip lines;
•Use of means of fortune applied to rope rescue techniques;
•Performing rescue techniques with rope progression for descending with casualties passing fractions, deviations and knots;
•Performing rescue techniques with rope progression to move the casualty downwards or upwards;
•Performing rescue techniques with rope progression to unblock casualties suspended from descenders, ascenders or personal protection systems against falls;
•(Knowledge of) the different types of stretchers for vertical transport, as well as their compatibility with the type of operation or the casualty's injury;
•Techniques for immobilizing casualties on stretchers, with or without the use of spinal or limb immobilizers;
•Techniques for vertical movement of casualties at height or in confined spaces using pre-engineered rescue and evacuation systems or simple mechanical advantage systems;
•Assembly and operation of systems for vertical and horizontal movement of stretchers on tensioned ropes (zip lines) horizontally and diagonally;
•Basic stretcher movement techniques (vertical, horizontal and terrestrial);
•Techniques for using respiratory protective equipment applied to rescue.

Total Contact Time: 32 hours Theory: 08 hours Practice: 24 hours

**Exam**

Contents (continued):

Technical Reference:
NR-33 - Safety and Health at Work in Confined Spaces.
NR-35 - Work at Height.
ABNT NBR 14276 Fire and Emergency Brigade - Requirements and Procedures.
ABNT NBR 14626 Personal Protective Equipment Against Falls from a Height - Guided type fall arresters including flexible anchor line.
ABNT NBR 14628 Personal Protective Equipment Against Falls from a Height - Retractable type fall arresters.
ABNT NBR 14629 Personal Protective Equipment Against Falls from a Height - Energy absorber.

ABNT NBR 16577 Confined Space - Accidents prevention, protection procedures and measurements.
ABNT NBR 16710-1 Industrial Technical Rescue in Height and Confined Environment. Part 1: Guidelines for Professional Qualification.
ABNT NBR 16710-2 Industrial Technical Rescue in Height and Confined Environment. Part 2: Guidelines for Training Providers and Instructors for the Professional Qualification.

Exam:

Participants will be evaluated in order to assess the theoretical knowledge acquired through written evaluation and the skills acquired through direct observation and practical test during the practical activities of this training.

Validity: 2 years