

COURSE: NR-11/12 - SAFETY TRAINING FOR AUTOMOTIVE OR SELF-PROPELLED MACHINERY OPERATORS - FORKLIFT TRUCKS

SCOPE AND APPLICABILITY:

Train participants to perform cargo handling operations with forklifts according to Brazilian corporate safety standards. Provide knowledge to properly select and inspect the necessary equipment and accessories for each operation.

REGULATIONS & STANDARDS

- NR 11 – Transport, Movement, Storage and Handling of Materials;
- NR-12 – Annex II – Safety at Work with Machinery and Equipment;
- OSHA-1910.178 – Handling and Storage of Materials.

COURSE CONTENT:

1. History of safety regulation on the specified machine;
 - a. Evolution of cargo handling until reaching the use of forklifts
 - b. The importance of an effective Human – Machine interface;
 - c. Classification of Forklift Trucks
 - d. Types of existing small forklifts;
 - e. Main implements that can be attached to forklifts and their specific use
2. Basic notions of Weight, Volume, Center of Gravity and Stability;
 - a. Basic concepts of metrology;
 - b. Weight x volume equivalence in the static and dynamic stability of the machines;
 - c. Capacity, operating limit
 - d. Definition of load center of gravity;
 - e. Definition of forklift center of gravity;
 - f. Definition of center of gravity combined center of gravity;
 - g. Risk of carrying suspended loads for the stability of the equipment/load set;
3. Information about legislation:
 - a. Traffic;
 - b. Driving Directions;
 - c. Safety signage;
 - d. Brief introduction to Defensive driving;
 - e. Safety and health at work;
 - f. Minimum safety requirements Provided for in NR-6 – Personal Protective Equipment;
 - g. Minimum safety requirements provided for in NR-11 - Transport, Handling, Storage and Handling of Materials;
 - h. Minimum safety requirements provided for in NR-12 - Occupational Safety in Machinery and Equipment;
 - i. Minimum safety requirements provided for in NR-10 - Safety in Electricity Installations and Services;
 - j. Minimum safety requirements provided for in NR-17 - Ergonomics;
 - k. Occupational Hazards;
4. The safety principles in the safe use/operation of the machine or equipment:
 - a. Differences between forklifts and automobiles;
 - b. Description and operation;
 - c. Identify the controls and instruments on the panel;
 - d. Identify the components of a forklift;
 - e. Controls and instrumentation: where they are located, what they do and how they work;
 - f. Operation of the engine and mechanisms;
 - g. Warnings and precautions for the types of forklift that the operator will be authorized to operate;
 - h. Inspection;
 - i. Cleaning;
 - j. Lubrication;
 - k. Regulation;
 - l. Safe maintenance;
 - m. Refueling.
5. Safe working method;
 - a. Visibility
 - b. Elevation Heights;
 - c. Speeds;
 - d. Main danger areas.
6. Description and identification of the operational risks associated with each machine and equipment and the specific protections against each of them;
 - a. Self confidence;
 - b. Safety measures and devices to prevent accidents;
 - c. Rollover.
7. Operation of the protections;
 - a. How they should be used;
 - b. Why they should be used;
 - c. Protections - doors;
 - d. Safety distances.

Forklift

8. How and under what circumstances a guard can be removed, and by whom, in most cases inspection or maintenance personnel only;
9. What to do, for example, contact the supervisor, if a protection was damaged or if it lost its function, failing to guarantee adequate safety;
10. Work permission; and
11. Machine and equipment operation blocking system during operations;
12. Notions about accidents and diseases resulting from exposure to risks in the machine, equipment and implements;
 - a. Accident Cases;
 - b. Illnesses common to operators.
13. Risk control measures:
 - a. Applicable Personal Protective Equipment
 - b. Applicable Collective Protection Equipment
 - c. Safety signage when operating
14. Procedures in an emergency situation; and
 - a. Call for help;
 - b. Emergency Team;
 - c. Procedure;
 - d. Emergency plan;
15. Basics of providing first aid;
 - a. scene analysis
 - b. Primary analysis
 - c. Secondary analysis
 - d. Head trauma
 - e. Spinal trauma.
16. Practical Stage
 - a. Practical demonstration of hazards and safety devices;
 - b. Practical stage with operating exercises:
 - i. Turning the equipment on and off;
 - ii. Engine operation;
- iii. Surface conditions on which the vehicle will be operated;
- iv. Steering and manoeuvring;
- v. Composition of loads to be transported;
- vi. load stability;
- vii. Cargo handling;
- viii. Stack and unstack;
- ix. Preview the route before starting the machine;
- x. Move the forklift straight forward and backward;
- xi. Move the forklift in curves, without load and with load;
- xii. Move the forklift with different types of loads;
- xiii. Move the forklift up and down ramps, as well as other inclined surfaces that may affect the stability of the vehicle;
- xiv. Pedestrian traffic in areas where the vehicle will be operated
- xv. Narrow aisles and other restricted locations where the vehicle will be operated
- xvi. Hazardous locations where the vehicle will be operated
- xvii. Indoors and other areas where poor ventilation or poor vehicle maintenance can cause carbon monoxide buildup or diesel exhaust
- xviii. Supply and / or charging and recharging of batteries, if applicable
- xix. Other unique or potentially hazardous environmental conditions in the workplace that may affect safe operation.
17. Final Evaluations.

COURSE DESIGN:

Theoretical – 12 hours
TOTAL: 20 hours

Practical – 8 hours

PREREQUISITE(S):

Recommended having driver's license – at least Category B.

MINIMUM/MAXIMUM NUMBER OF DELEGATES

This course requires a minimum of 1, and a maximum number of 12 trainees.

To offshore trainings, the course number of attendees will comply with the vessels/rig necessity.

MAIN SAFETY ISSUES:

- Observation of the surroundings;
- Drive according to skill and safety;
- Avoid distractions;
- Fork lowered during handling;
- Movement through the delimited areas;
- Pay attention to closed spaces and other areas where insufficient ventilation or poor maintenance of the vehicle can cause the accumulation of carbon monoxide or diesel exhaust;
- Checking of safety items before turning on the equipment.

REQUIRED EQUIPMENT:

- Forklift;
- Space for practice;
- Standard checklist;
- Operation authorization card.

PROCEDURE FOR PRACTICAL EXERCISES:

- Ensure that there is enough space for maneuvers and accompany the student starting with the most elementary movements, keeping the other students in a safe place for observation;
- Test communication and advise on the speed and positioning of the forks and variable capacity of the equipment;
- "The practical section must be supervised and documented, and can be performed on the same machine that will be operated."
- "Upon completion of the training and the candidate being approved in the theoretical and practical parts, a photo of the operator must be provided, in order to be affixed to the equipment / workplace and an identification card will be made."
- Turning the equipment on and off;
- Steering and maneuvering;
- Cargo handling, cargo handling, stacking and unstacking;
- Narrow aisles and other restricted places where the vehicle will be operated;
- Movements on ramps and other inclined surfaces that may affect vehicle stability, if applicable;
- Supply and / or battery charging and recharging, if applicable.

CERTIFICATION:

Training certificate signed by responsible Engineer accredited by Brazilian CREA.

CERTIFICATE VALIDITY PERIOD:

Recommendable: 3 years.