



Manual Materials Handling and Safe Lifting

Working-Area Related Factors. Working-area related factors, for both manual materials handling and assisted lifting that should be considered as a part of pre-planning include:

- Vessel and offshore installation layout in terms of space availability for the securing (e.g., strapping) or manually grasping the load
- The material's location with regard to access, pathways, hatches, doors, porches, and any obstructions (overhead or on the deck) in the path of movement
- The design of stairs, ladders, pathways, hatches, and doors
- Extremes of temperature, humidity, and/or air movement
- Area lighting where the loads are secured, grasped, lifted, and placed.

Working-area factors related solely to manual materials handling that should also be considered during pre-planning include:

- Walking/working surfaces (e.g., slippery, unstable, moving, variable, inclined)
- Design and condition of handling aides (e.g., hand trucks, carts, etc.).

Personnel Capacity-Related Factors. The factors related to the personnel involved with or performing the manual or assisted materials handling tasks that should be considered in relationship to the task, the load, and the work area factors during pre-planning include:

- Anthropometrics (e.g., international population differences)
- Strength
- Physical condition (e.g., cardiovascular and muscular endurance)
- Flexibility (range of motion)
- Health habits (e.g., smoking, alcohol consumption)
- History of previous injury or predisposition for injury
- Manual and assisted materials handling knowledge, training, and experience.

Safety Considerations. Safety must be considered for both manual and assisted materials handling. Safety concerns should be examined within the context of the task, load, working area, and the personnel involved with or performing the handling task. Safety considerations include:

- Clearance for equipment through walkways, passages, doorways, etc., and any obstructions (overhead or on the deck) in the path of movement
- Availability of motorized/mechanized equipment to support inspection and handling
- Vehicles and equipment securing (e.g., brakes, chocks, etc.) while loading and unloading
- Surfaces likely to be effected by wind gusts (e.g., sheets of boarding)
- Noise levels (e.g. ambient and impulse)
- Obstruction of vision (e.g., crane operator or other load handling personnel)
- Housekeeping requirements (e.g. is the work area provided with amenities for keeping the area free from clutter or obstructions)
- Load swinging (e.g. Room for the load to move freely while it is being transported)
- Flammable, corrosive, or reactive substances
- Surface characteristics for personnel or placement of temporary assisted lifting equipment (e.g., even surfaces, those that are likely to abrade, puncture, cut or burn)
- Exposure to vibration and shock for personnel or the load
- Personnel slip, trip, and fall hazards
- Consequences associated with dropping the load.