

PREVENTING SERIOUS INJURIES FROM

DROPPED

OBJECTS

IN THE MARITIME INDUSTRY

OBJECTS DROPPED FROM A HEIGHT CAN CAUSE SERIOUS, OFTEN FATAL, INJURIES TO PERSONNEL BELOW. ALTHOUGH THIS HAZARD CAN BE EASILY OVERLOOKED AMID OTHER COMPETING CONCERNS, ASSESSING THE LIKELIHOOD AND CONSEQUENCES OF DROPPED OBJECTS MUST REMAIN A TOP PRIORITY.

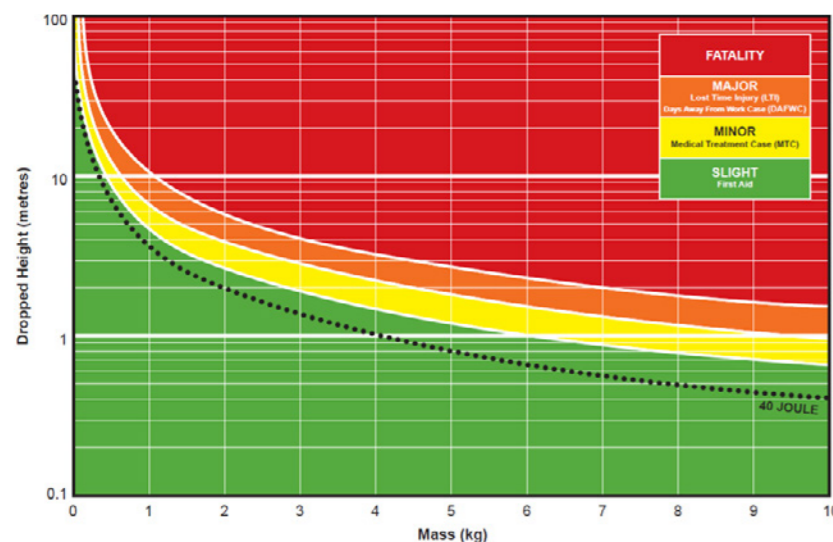
Dropped objects come in many forms, and result from various scenarios. Examples include hand tools slipping from someone's grasp, equipment failure causing parts to fall, and unsecured items being disturbed and falling to a lower level.

A falling object, due to its mass and the effects of gravity, generates kinetic energy. This energy then creates an impact force on whatever or whoever it hits. The unit of energy is the Joule (J). Many studies have been conducted within the industry, and a figure of 40J has been agreed as an approximate figure where a blunt object would be likely to cause serious injury when striking a person.

The example below shows a calculation tool that estimates the likely injury type for different weights dropped from various heights. Many other tools like this exist, and your employer may have their own version, which should always take precedence.

For example, if a container twistlock, which typically weighs around 5 kg, were dropped from a height of about 2 metres, it could cause a major injury. If it was dropped from 3 metres, the likelihood of a fatal injury increases significantly.

Source - <https://www.dropsonline.org/drops-guidance-and-resources/drops-calculator/drops-calculator-imperial/>



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Here are several recommended actions to help reduce the likelihood and impact of dropped objects:

- **Conduct regular inspections:** Regularly inspect all areas on board, with special attention to elevated areas, especially those not frequently accessed. Secure any loose materials to prevent them from falling. Check the condition and stability of equipment at height, repairing any defects promptly. Remove and safely dispose of redundant equipment, as there have been cases where old antennas or floodlights, no longer in use, have fallen from heights
- **Risk assessment during task planning:** Assess the risk of dropped objects when planning a task and implement mitigation measures. For example, barrier off the area below the worksite if necessary. When working on platforms, install kickplates to prevent objects from being knocked or rolled off the edge. Use temporary load-bearing devices before removing securing arrangements from equipment and lash any removed parts to prevent movement due to ship motion or environmental factors. Plan how waste or leftover materials will be safely removed from the worksite
- **Worksite briefings:** Discuss dropped object prevention during toolbox talks or worksite briefings. Fit hand tools with tethers and handheld equipment with neck straps to prevent dropping them during use. Avoid carrying tools or equipment in pockets while climbing ladders. If tools cannot be secured with a belt or shoulder strap, use a rope and container to hoist them to the worksite. Workers should take only the necessary tools and check their pockets for unnecessary items before ascending
- **Safety helmets:** Encourage the use of safety helmets for all tasks. Helmets provide critical protection against serious head injuries, and there are numerous cases of people surviving major incidents because they were wearing helmets properly
- **Report near misses:** Promote the reporting of near misses involving dropped objects and share this information across ships and crews within your company. Incorporate lessons learned into future work planning and risk assessments
- **Additional equipment:** Consider supplying extra equipment where necessary. For instance, some companies use retaining wires for high-risk equipment to prevent it from falling in case of a securing failure
- **Never stand under a suspended load!**

Injuries from dropped objects occur without warning and can have devastating consequences, but they are not inevitable in the shipping industry. The causes are well known and completely preventable. By raising awareness and practicing good seamanship, the risk of dropped objects can be significantly reduced.