

Marine Safety Challenges And Solutions

Your Guide To Mitigating
Risks At Your
Ship Loading Site





In comparison to other shipping vehicles, marine vessels are perhaps the most difficult to secure. Workers are at greater risk of falls and accidents because ships are in constant motion. Add changing tides to the equation, and providing safe access becomes even harder.

Despite the challenges, improving marine safety offers significant benefits. Your workforce will be more surefooted on steady marine gangways with handrails, improving loading and unloading efficiency. Other forms of marine safety equipment, such as ship towers, make it easier to access vessels of any height.

Marine Safety Challenges

To safeguard your site, it's important to take proactive steps. Don't wait until an accident happens to analyze your risks. Consider your current ship and dock safety measures, and ask yourself whether your systems address common marine safety risks.

Mitigate The Risk Of Boarding

Barges and ships generally come to your facility for one of two reasons: to load or unload. Docks are outfitted well for loading devices that attach to the ship. However, you have to figure out how to get people on and off the vessel. This is the risky part, because the docks are built for loading, not boarding.

Equipment may be in your workers' way, or varying ship configurations might make boarding difficult. Space may also be limited. Variations in water height mean your access equipment must be able to move, while still providing stability.

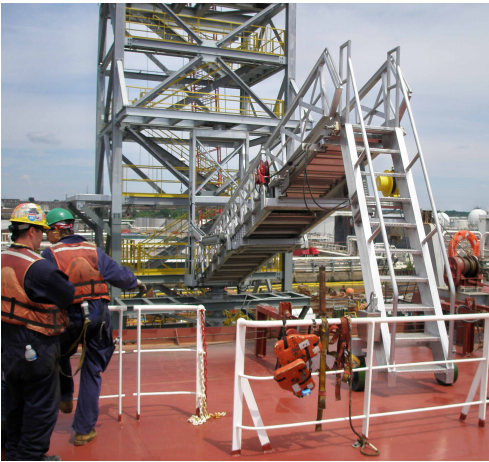
If your dock is not the ideal configuration for getting on and off a vessel, you have the option to customize access equipment that works within a limited space or mitigates other obstacles. You must analyze your risk and exposure to accidents to determine how deeply you customize your safety solutions.

Prevent Workers From Falling In The Water

If a worker at your site were to fall, the biggest risk would be that he would go into the water. The worker may get caught in a current, putting him in danger of injury or death even if he is wearing a life jacket.

Being pressed between the dock and ship is another risk. Workers also have to worry about falling into barges, especially those with open hatches for transporting products such as grain and coal.

The right **marine fall prevention equipment reduces the risk of worker accidents**. You must choose a solution suited to your facility and needs. Work with your safety equipment provider and consider the following factors as you develop a solution:



- Ship drafts
- How much cargo you need to load and unload
- How elevation is going to change
- Different vessel sizes
- High water and low water
- Where you're going to store equipment like gangways
- How long the vessel is going to be docked
- Whether the ship has a sloped deck
- Weather conditions at your site

An expert can provide safety equipment sketches, specifications and plans, or you may simply have a conversation about what you hope to accomplish. You might have a general idea that you want to improve safety, but developing more specific goals will help you be more successful in implementing changes.

Improving Marine Safety

Marine safety risks affect everyone who needs to access your vessel while it's in port, from pilots and supervisors to longshoremen. Ships are in constant motion on the water, so you must provide stable, safe access to avoid falls. Every ship gangway in use at your site must be sturdy and well secured.

You may already be working to meet local port and marine terminal agreements regarding fall prevention. However, are you ensuring your safety systems account for all of the risks your workers are exposed to? Consider how you can drastically improve ship gangway safety.



Protect Against Common Gangway Risks

In the interest of “getting the job done,” employers sometimes let convenience take precedence over safety. For example, workers may use makeshift wooden planks to access vessels docked next to one another. Such tactics increase the risk of falling into the water.

In addition to providing safe dock gangways, use security netting underneath gangways as an extra precaution if the lower end overhangs the water. As you develop a safer work culture, take steps to mitigate the following **gangway safety risks**:

- Loose handrails
- Insufficient lighting
- Wet and slippery surfaces
- Unsecured gangway netting
- Poorly positioned netting

Cluttered gangways also cause trips, so be sure to practice regular housekeeping. Remove ropes, tools and other objects from gangways so everyone can access the vessel safely.

Finally, training is a challenge when your workforce includes longshoremen who aren't employees. Longshoremen may only work for you occasionally, and some may be entirely new to your processes and safety equipment. Provide ongoing point-of-use training to ensure all workers know how to set up and use ship gangways properly.

Follow OSHA Gangway Requirements

As the expert on workplace safety, **OSHA is a valuable resource** for developing safer gangway practices. OSHA states that workers shouldn't board or leave a vessel, except a barge or river towboat, unless the following requirements are met:



- The gangway is maintained in safe repair
- The gangway is secured
- Each side of the gangway has a railing with a minimum height of 33 inches
- The gangway is equipped with midrails
- Rails are made of wood, pipe, chain, wire or rope and are kept taut
- Each gangway is properly trimmed
- A walkway is provided if the foot of the gangway is more than one foot away from the edge of the apron
- Supporting bridles are kept clear
- Drafts of cargo do not pass over the access point

Complying with OSHA regulations protects your business against citations and fines. More importantly, it helps to prevent dangerous falls that put your workers' lives at risk.

Selecting The Proper Safety Equipment

Safe access equipment improves productivity and, ultimately, worker satisfaction. While you may have an idea of what type of equipment you're looking for, it's important to not miss any details. Always shop for safety equipment that protects your workers, procedures and budget.

Choose Equipment That's Adaptable To Various Conditions

No two days at your marine facility are exactly alike. Whether you run into problems with limited dock space, variable water heights or obstructions blocking ship access points, you need safety equipment that's flexible. Marine safety equipment must adapt to changing conditions within your work environment.

For example, the barges you're working on and their access points may change throughout the day. For a barge gangway, your safety solutions provider should give you the following mounting options to choose from:

- **FLOAT MODE:** As water levels rise and fall, your barge remains accessible close beneath the gangway.
- **PIVOT MOUNTING:** From one fixed mounting position, you can access several points on the barge.
- **TRACK MOUNTING:** Easily move your gangway up and down the dock to access multiple barges.

If you're searching for a ship tower, you may benefit from one with telescoping units, which provide extra versatility. Not only should your safety solutions be modifiable, but they also should be customized to your needs.

Ensure Equipment Is Slip And Fall Resistant

Falling at a marine facility is dangerous. While ship gangways are useful in preventing falls, ensure the gangways you choose include the following features:

- Slip-resistant walk surface with angled cleats or treads
- Handrails that provide sturdy support
- Midrails that prevent workers from falling under the handrail



If using a gangway isn't an option at certain areas of your site, use a marine ladder with heavy-duty swivel safety shoes and sizeable rubber treads that provide stability on a variety of surfaces. Your ladder will be much less likely to slip, lessening the risk that a worker might fall from a height.

Only Use Equipment Made Of Reliable Materials

Barge gangways, ship towers and marine ladders should always be made from high-quality materials. **Aluminum is a strong, light metal** that weighs about one-third as much as steel. When used in safety equipment, aluminum reduces deadweight while increasing load capacity. Ladders in particular are much easier to maneuver when they're made of aluminum.

Aluminum also increases the life span of your equipment due to its corrosion-resistant nature. It naturally generates a protective oxide coating. Your safety equipment provider may also use protective treatments such as anodizing, painting or lacquering to extend the equipment's life even further.

Because of aluminum's longevity, you don't have to replace equipment as often, which increases your savings significantly.

Invest In Equipment That's Environmentally Friendly

Not only should you take steps to avoid spilling your product into the ocean, you must prevent your safety equipment from leaking oil. Spilling oil or other foreign materials into ocean water is dangerous to the environment. **The EPA enforces the Clean Water Act** and ensures that you clean up a spill by:

- Negotiating with you to clean up the spill yourself, or
- Ordering you to clean up, or
- Having you pay for a third party to clean up

Some customers insist that their marine gangways use electrical power to avoid oil leaks from hydraulics. However, if you partner with a safety equipment provider that builds reliable solutions, your equipment is unlikely to leak. You may also choose to have a leak containment system installed with your equipment as an extra precaution.

A marine shipping site is an inherently unsafe place to work. That's why you need to take the extra initiative for your workers and build a safer work environment. Start by asking questions about how safe your facility truly is and researching your options.

As you work toward making your marine site safer, incorporate safety solutions that offer complete protection. Analyze your risks and prioritize mitigating existing dangers first. Improving safety is an ongoing process that starts with making the right equipment decisions for your site.



Contact Weigh Tech today
or call us at 281.474.5277 to learn
how you can protect workers at your
marine site.

About Sam Carbis Solutions Group, LLC and Weighing Technologies, Inc.

Carbis Solutions has been designing and delivering fall prevention and safety equipment across the globe for nearly 85 years. With more experience, more knowledge and more resources than any other competitor, Carbis works with you to help improve safety for your employees, facility and company, so your business keeps moving forward.

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