

Hundreds of thousands of sea and river going ships and barges are tied alongside a dock or jetty waiting to load or unload their cargoes and safe personnel transfer is paramount to each one

Safe marine access

The same hazards exist when considering safe access to road and rail tankers, as with personnel transfer on marine vessels. These include:

- A bridge has to be created between a permanent structure and one that is temporarily visiting the facility
- The bridge needs to span a void that could well result in death for someone unfortunate to fall into it
- The height and distance of the vessel, like road tankers, can vary.

However, the main difference is that during its time at the dock or jetty the marine vessel may transform from being a low level deck near the water line to something approaching what looks like an apartment block facing the jetty.

The marine access gangway has to accommodate this variation, cope with it and always offer the same levels of safe, assured access, to the operators.

Depending on where it will be sited, the marine access system may also have to withstand extreme marine environments. These considerations all have to be factored into the design.

It is important to understand the likely range of vessels that will visit the jetty and design a facility



Slip resistant curved tread walk surface

that meets and exceeds expectations for current and future needs and regulations.

Marine tread

The basic and common components may seem obvious, but in many cases are missing because most equipment around the world is home-made and is either

inadequate or unsafe. Given the extreme angles that may be present for the gangway to span, the best form of walkway is the specially fabricated and curved tread systems. These allow a non-slip walking surface through a large working angle. The usual method is to have solid checker plate decking with angles welded at intervals

across it. This presents a trip and slip hazard. The marine tread allows operators to use the walkway as a staircase, even when it is horizontal.

The point at which the marine access system contacts the ship is vital and it is important to have as much information about this in advance of designing the solution. Ship handrails



Typical LNG ship deck

and available deck space all serve to complicate the arrangement.

The type and complexity of the marine access system

electrically. A further option is to use a crane, required if the unit telescopes.

If the gangway is a fixed length it can be powered

by air cylinders and controlled from the jetty by a joystick controller.

The telescoping section can also be pneumatically controlled with a further option of allowing the whole marine

land side level can also be vertically adjusted to provide a smaller working angle for the gangway. The operators then have a choice of where they can access the gangway to the ship. It is also possible



Tower gauging system



Crane operated marine gangway telescoping

will vary according to a wide number of factors including:

- Type of ship
- Range of height and reach
- Tidal range
- Drift
- Frequency of use
- Available budget.

Marine access gangways can be simple bridges, moved into place manually by one operator. Simple, fixed length structures with hand and knee rail protection afforded by ropes and with a hook to secure the gangway onto the ship deck.

A variation on this is that it can be raised and lowered by a winch and cable, either manually or

access system to rotate and park parallel to the ship, thus avoiding potential clashes while the ship is manoeuvring.

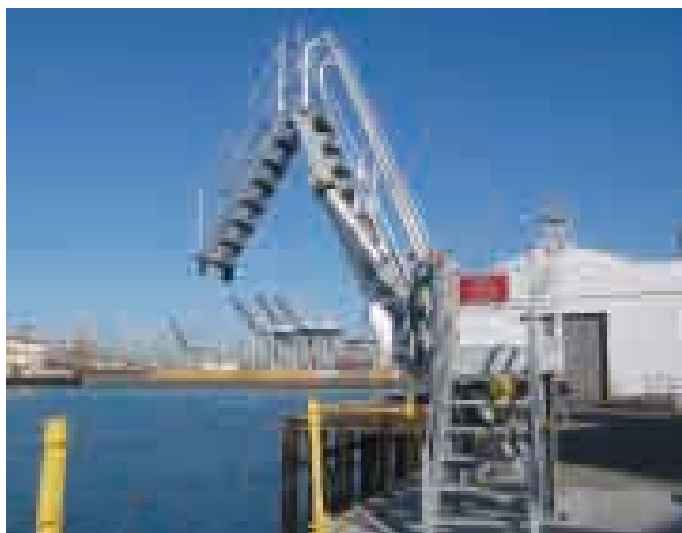
When it comes to marine super-tankers, the structure changes significantly. The gangway is likely to be fitted to a tower structure so that operators can climb an internal staircase to reach the optimal bridging level. The

to install fire-fighting systems on the top of the tower, CCTV, crows nest, meteorological equipment and cranes.

Other design options exist including elevator gangway systems that allow the access bridge to travel up and down the tower face to the optimal access point. This is common where there is minimal space to locate the tower structure and there is a large range of deck heights to access.

Each system is fully assembled at the factory and cycle tested for customer approval before being broken down and shipped to site anywhere in the world.

As more attention to safety at marine installations is taking place around the world it is paramount to select the right partner to assess, design and manufacture the right solution. ●



Powered marine gangway

For more information:

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