

Marine Dock Systems

Aluminium Framed & Hardwood Decked Pontoon System

The following information is provided to enable the appraisal of Marine Dock Systems (MDS) aluminium framed and hardwood decked pontoon system

The key elements of the Marine Dock Systems alloy frame and hardwood decked pontoon system are as follows:

Flotation Modules

- Flotation modules are one piece, rotationally moulded, U.V. Stabilized, high stress-crack and impact resistant polyethylene. They provide long life, low maintenance flotation which is not attacked by osmosis nor other chemicals found in the marine environment.

Marine Dock Systems has pontoons and marinas in use now for over 25 years, with the flotation modules requiring No Maintenance.

The advantage of rotationally moulded polyethylene is as follows:

- a) The flotation modules are one (1) piece. A Marine Dock Systems (MDS) rotationally moulded float is seamless and does not rely on glue or plastic welding for sealing the skin against the ingress of water or structural integrity.
- b) The minimum wall thickness of the MDS polyethylene float is 10mm. The moulding process also allows the build up of the wall thickness in the corners of the module. This maximises the structural integrity, impact, and abrasion resistance where it is required most.

Marine Dock Systems is confident that the impact resistance of its rotationally moulded polyethylene floats is far greater than many other pontoon systems on the market.

A sledge hammer demonstration can be preformed at the MDS factory if required.

- c) In the event of a module being damaged, it can easily be replaced by unbolting and fitting a new module.
- d) Flotation modules are stocked by Marine Dock Systems and are available off the shelf.

Decking

Decking is Australian Kiln Dried F27 hardwood, dressed and preservative treated, for long life, structural and aesthetically pleasing finish.

All deck boards are dressed and finished with a pencil round edge to ensure no splinters.

Decking is evenly gapped to ensure water is drained quickly from the deck.

The decking is fixed with stainless steel bugle head screws that are recess below the decking surface.

(Alternative decking such as aluminium plate, expanded mesh, composite plastic planking etc. also are possible.)

Framing and fasteners

- Structural framework is fully welded, marine grade aluminium, which provides high corrosion resistance and structural performance.
- Flotation modules are bolted to the frame via welded brackets.
- Individual pontoon sections are joined together with Marine Dock Systems “Comtor” flexible pontoon couplings. These couplings allow for large waves to pass through the facility without over stressing the pontoon framing. Marine Dock Systems has used these flexible couplings for over twenty years with no reported failures.
- Hardwood walers are bolted to the aluminium frame with stainless steel fasteners. The hardwood decking is then fixed to the walers.
- All fasteners used by MDS are corrosion resistant stainless steel. All fasteners are isolated with nylon separators if in contact with dissimilar metals.

Stainless steel exceeds the life of galvanised steel fasteners in the marine environment. Galvanised steel will rust and seize making future maintenance more costly..

- All through bolts are fastened with ‘Nyloc nuts’ to prevent loosening.
- Pontoon berthing faces are fitted with UV stabilised PVC fender to provide protection to berthing vessels.
- Heavy-duty cast aluminium mooring cleats are provided for berthing vessels.

Flotation and stability calculations are always performed to ensure the pontoon is in accordance with Australian Standard AS3962.