

Aluminum floating docks

# Tri Ocean System

Designed for  
large vessels  
and mega yachts









**With their ultra-lightweight design, our custom-made aluminum floating docks are a durable, high-performance and environmentally friendly solution for marinas.**

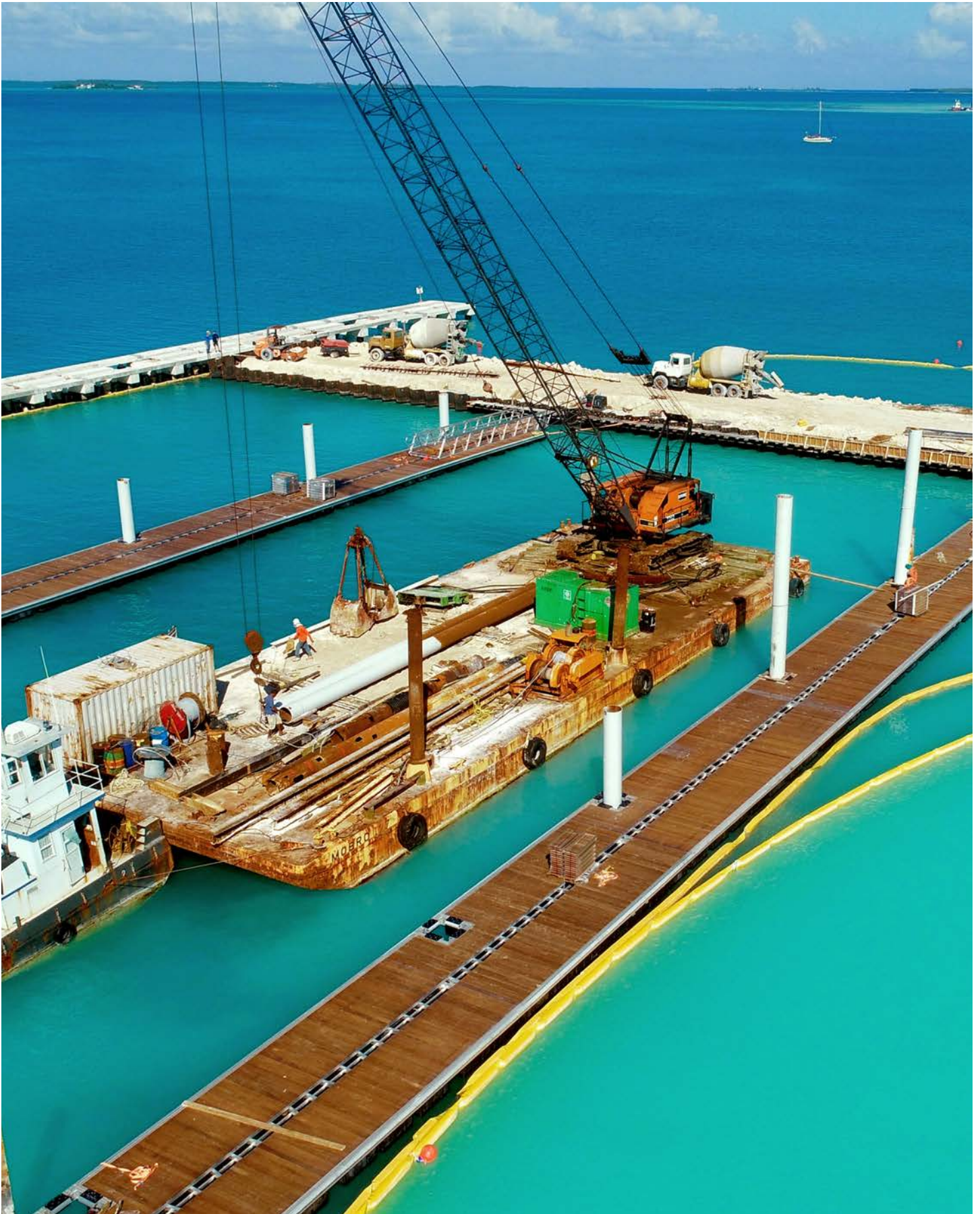
Virtually maintenance-free, our marine grade extruded aluminum alloy floating docks are robust and can easily withstand harsh weather and the constant flow of pedestrians and golf carts.

The modular design of the dock systems offers flexibility to accommodate various types of boats.

Aesthetically pleasing and customizable thanks to a variety of options, our designs blend in perfectly with their surroundings and beautify the environment while serving their function.







# At Your Service

**We handle the construction of your structure from start to finish. Our qualified team of experts is ready and equipped to provide you with a wide range of services.**

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## **Analysis and evaluation**

- Evaluation of vessel berthing loads and wind loads
- Stress evaluation of aluminum structures
- Evaluation of mooring line force
- Evaluation of pile capacity
- Wave load and wave attenuators analysis
- Site data analysis
- Stability and buoyancy calculations according to industry standards

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## **Design and engineering**

- Design, engineering and sizing of floating docks
- Marina layout design and plans
- Design and engineering of service bridges and maritime gangways
- Design of cleats and mooring bollards
- Welding procedure specifications
- Our team of experienced marine designers and draftsmen uses 2D and 3D software that can be adapted to the client's needs

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## **Management and manufacturing**

- A team dedicated to your project will work with you for your entire project or at specific stages, depending on your needs.
- Manufacturing is carried out in our production plant.

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## **Installation**

Installations are performed either by a local marine contractor supervised by MAADI Group or by one of our certified installers.

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## **Inspection and qualification**

Inspections are performed by one of our professional engineers to certify the compliance and safety of structures.

# Highest Standards

**We work closely with our manufacturing partners to ensure that product quality standards are fully and consistently maintained throughout the design, production and installation process.**

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## Design and materials

- 100% recyclable aluminum structural components and energy-efficient recycling, resulting in a low carbon footprint.
- Resistant to corrosion from salt water, chemicals and pollution. A permanent film of natural oxide makes the metal less impacted or corroded by the environment.
- Suited to extreme cold, aluminum does not crack at low temperatures.
- Marine grade extruded aluminum alloy construction using 6061-T6, 6005A-T6 and 5083-H321

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## Maintenance

Virtually maintenance-free and highly cost-effective, compared with steel when total cost of ownership (TCO) is considered.

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## Vandalism

Very easy to remove graffiti by brushing or sanding bare aluminum, compared to steel that has protective coating.



**Watch our video  
to learn more**

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## Codes and standards

At MAADI Group, all of our design specifications meet local, regional and national building codes and professional standards as required. All of our technical designs and calculations for our aluminum structures bear the seal of one of our engineers.

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### Canada

- CSA S157-17 Strength Design in Aluminum
- CSA W59.2-18 Welded Aluminum Construction
- CSA W47.2-11 (R2020) Certification of Companies for Fusion Welding of Aluminum

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### U.S.

- AASHTO Specifications for Design of Pedestrian Bridges
- AA ADM (2020) Aluminum Design Manual
- AWS D1.2/D1.2M (2014) Structural Welding Code – Aluminum of the American Welding Society
- Aluminum Standards and Data (AS&D)
- Americans with Disabilities Act (ADA)
- Environmental Engineering for Small Boat Basins, U.S. Army Corps of Engineers
- Planning and Design Guidelines for Small Craft Harbors
- Marinas 2020 of the Coasts, Oceans, Ports, and Rivers Institute (COPRI) of the American Society of Civil Engineers (ASCE)
- Marinas and Small Craft Harbors
- Layout and Design Guidelines for Marina Berthing Facilities of the California Division of Boating and Waterways (DBW)

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### International

- SAA AS 3962:2020 Standards Australia International – Guidelines for Design of Marinas
- BS 6349-8:2017 British Standards Institution – Maritime Structures
- BS EN 1999-1-1:2007 + A2:2013 Eurocode 9: Design of aluminium structures - General structural rules

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## Certification

MAADI Group is certified in Division 1 for Fusion Welding of Aluminum per CSA Standard W47.2 of the Canadian Standards Association.

All our welders, welding operators and tack welders are governed by the Canadian Welding Bureau (CWB).

We carry general contractor licences from the Régie du bâtiment du Québec (RBQ).



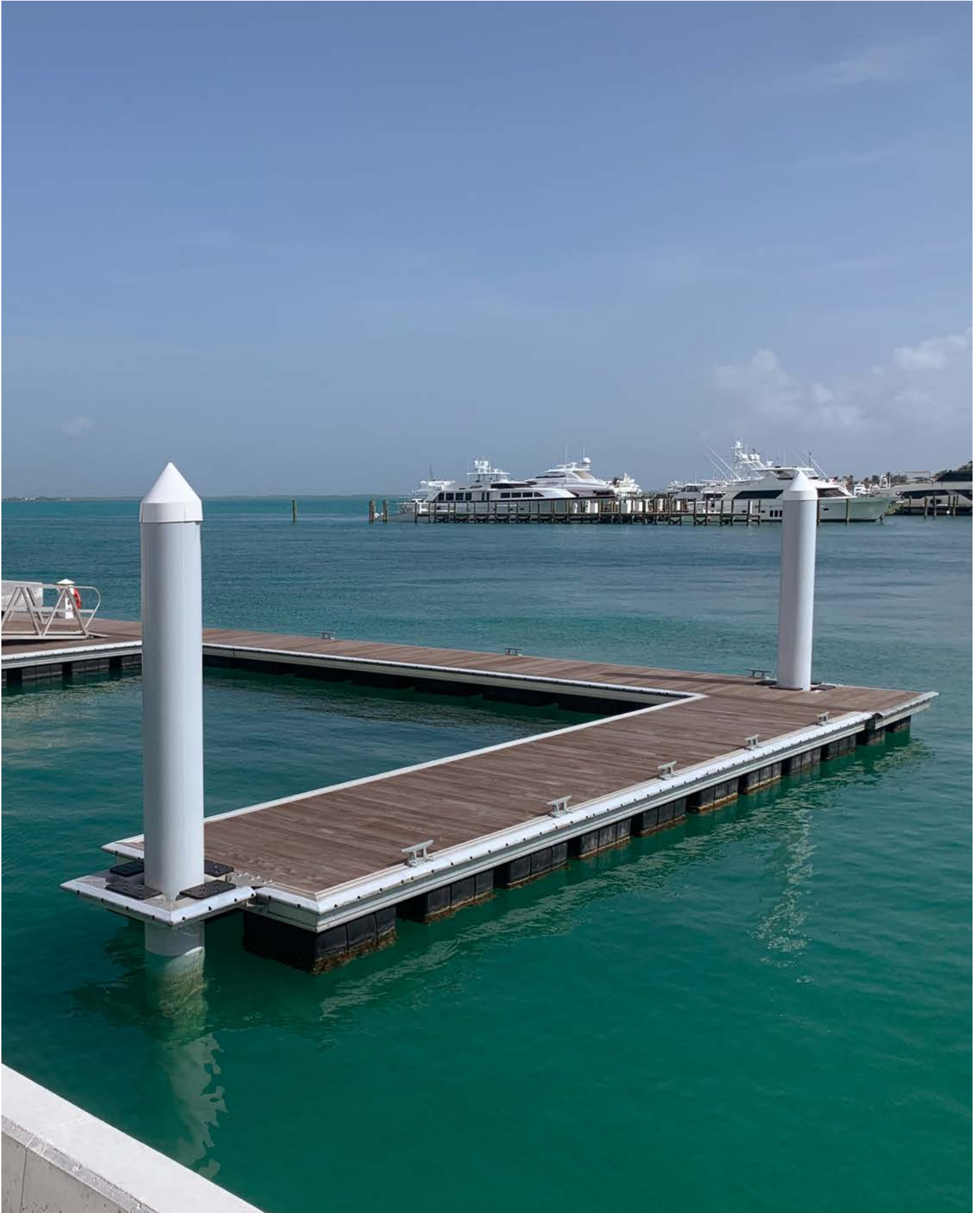
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## Warranty

12-year limited warranty on aluminum against material failure, defects and corrosion.





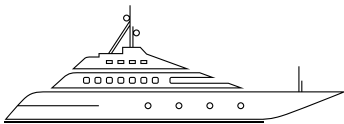




# Our System

Our modular floating dock system is easily adaptable and configurable to recreational marinas and watercraft.

## Characteristics

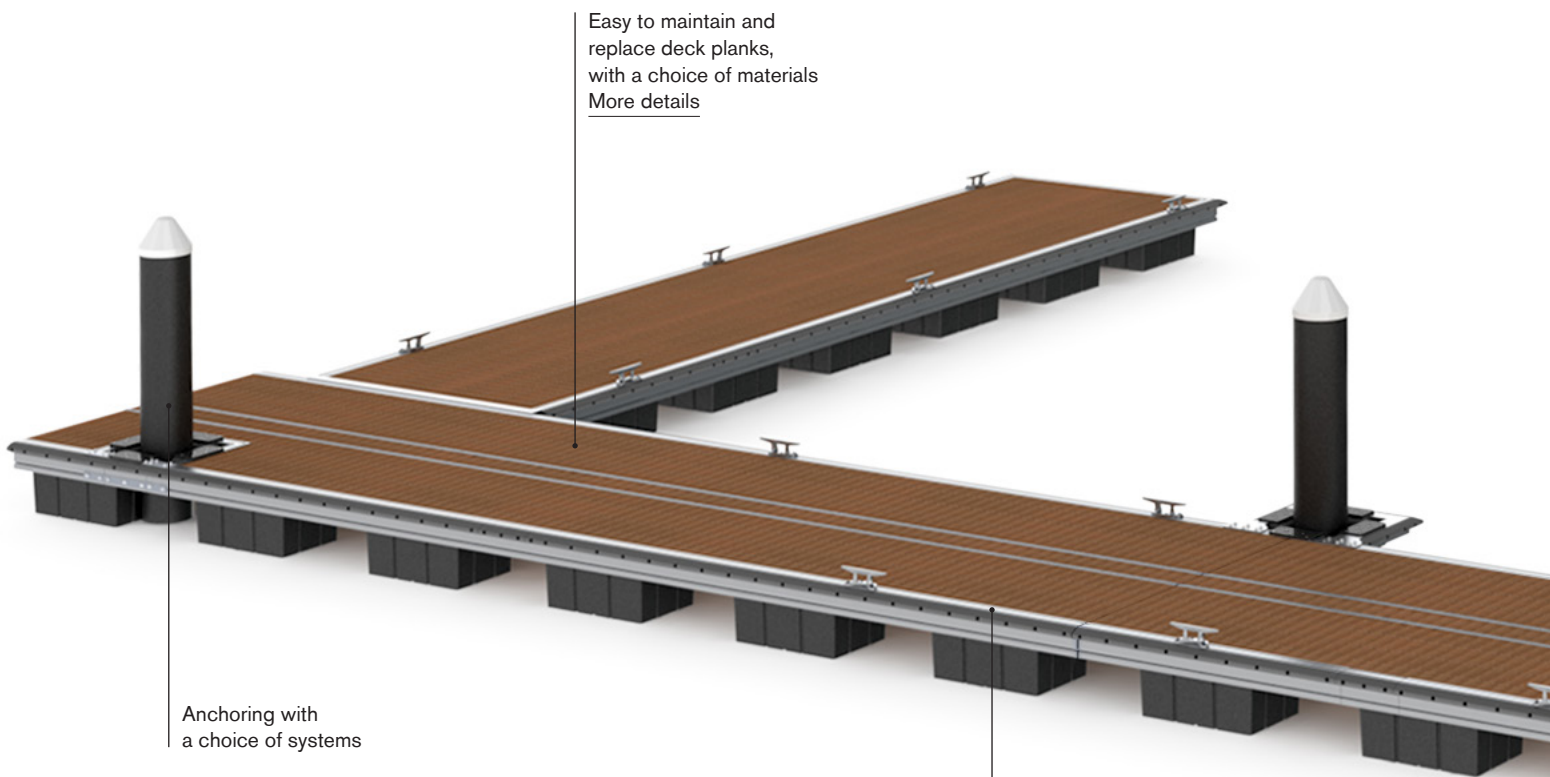


Large vessels and mega yachts

Boat dimensions	From 60' to 200' (From 18.3 to 61 m)
Dock width	From 4' to 16' (From 1.2 m to 4.9 m)
Dock length	Up to 42' (12.8 m)
Standard freeboard	From 16" to 36" (From 406 to 914 mm)
Reserve buoyancy	From 35 to 80 psf (From 1.68 to 3.83 kPa)
Vertical load-bearing capacity	Up to 200 psf (9.6 kPa)
Horizontal load-bearing capacity	1,337 psf – 1,250 lb/ft (64 kN/m <sup>2</sup> – 1,860 kg/m)
Impact resistance	240-ton boat, 1.6 fps (0.5 m/s) at 10° angle absorbed over 3' (900 mm) of dock length
Stability	Maximum tilt angle: 10° with live load on one side of dock
Weather conditions	Category 2 hurricane with winds of 110 mph (175 km/h)
Cleats	12" – up to 3,200 lb (305 mm – up to 14 kN)  20" – up to 11,400 lb (508 mm – up to 51 kN)
Bollards	Double bitt: 15" – up to 14,400 lb (381 mm – up to 64 kN)
Optional utility trough covers	Lateral: 12" (305 mm) Central: 16" (406 mm)
Multifunction track system	Double rail

# Main docks

Custom lengths and widths available

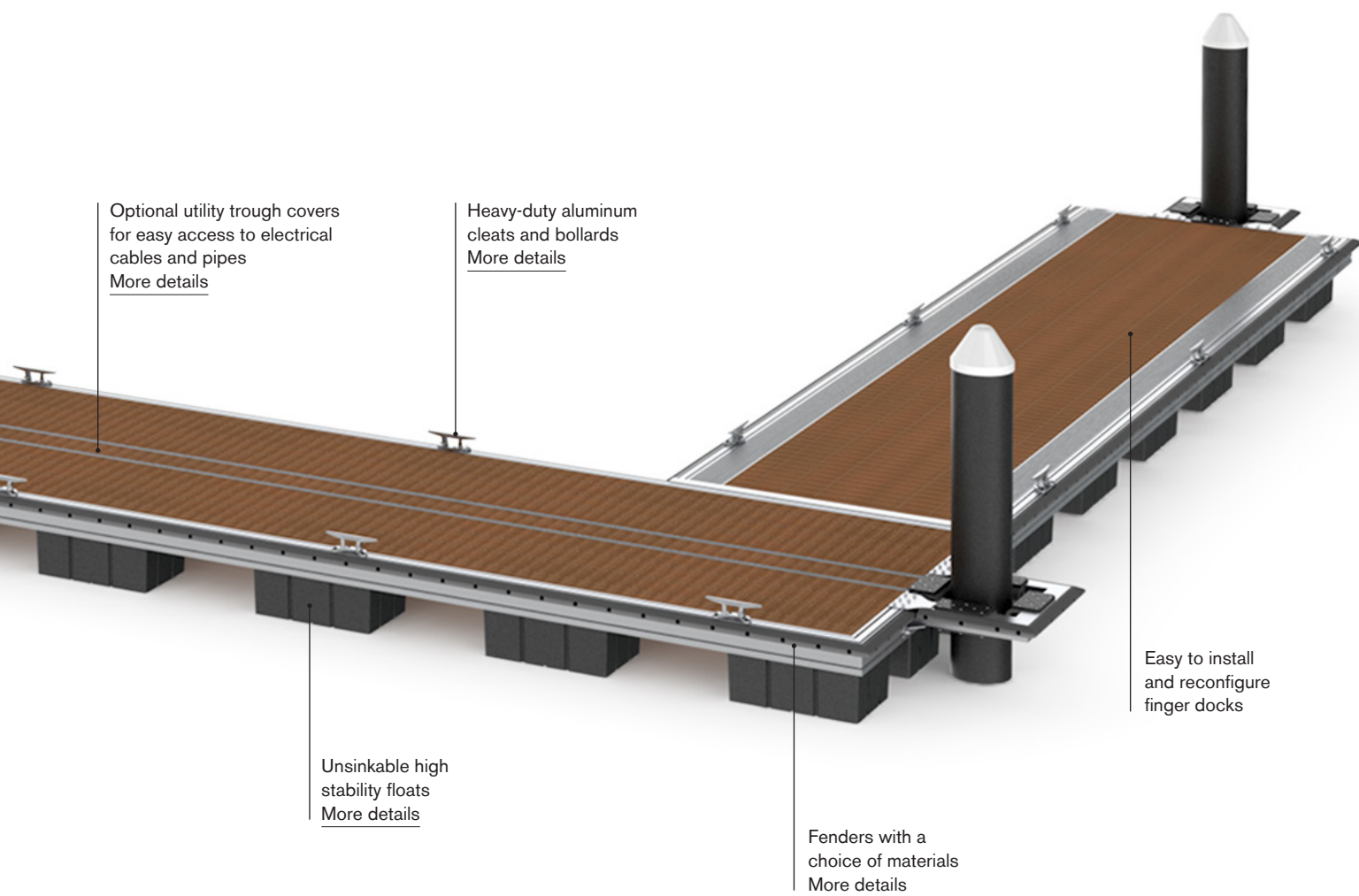


Easy to maintain and replace deck planks, with a choice of materials  
[More details](#)

Anchoring with a choice of systems

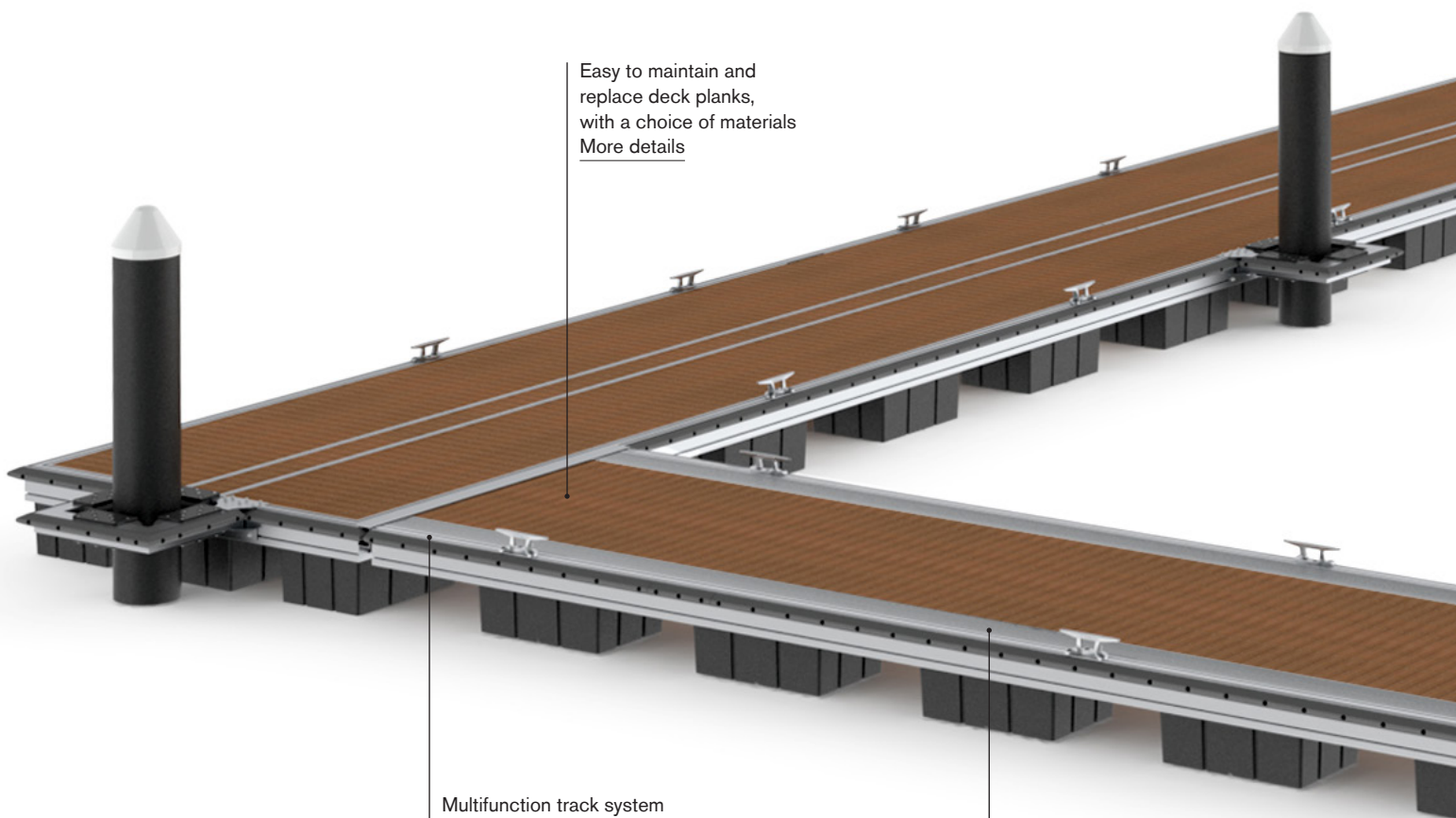
Multifunction track system for easy installation and reconfiguration of cleats, bollards, accessories and finger docks  
[More details](#)





# Finger docks

Custom lengths and widths available

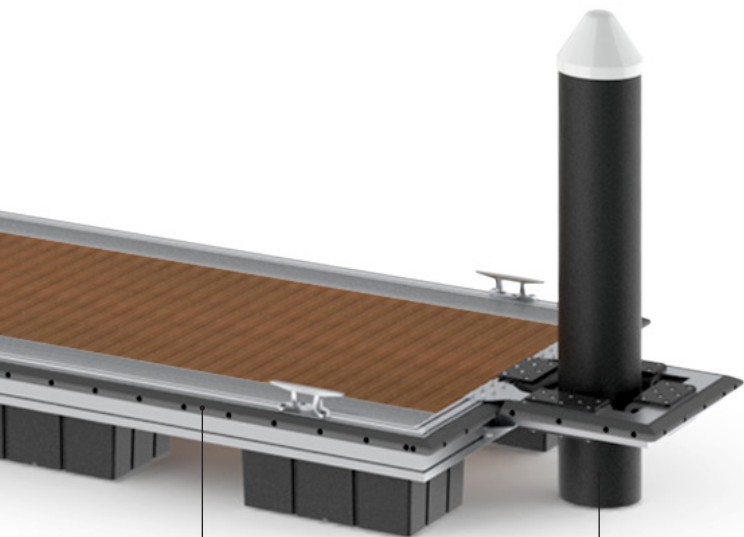
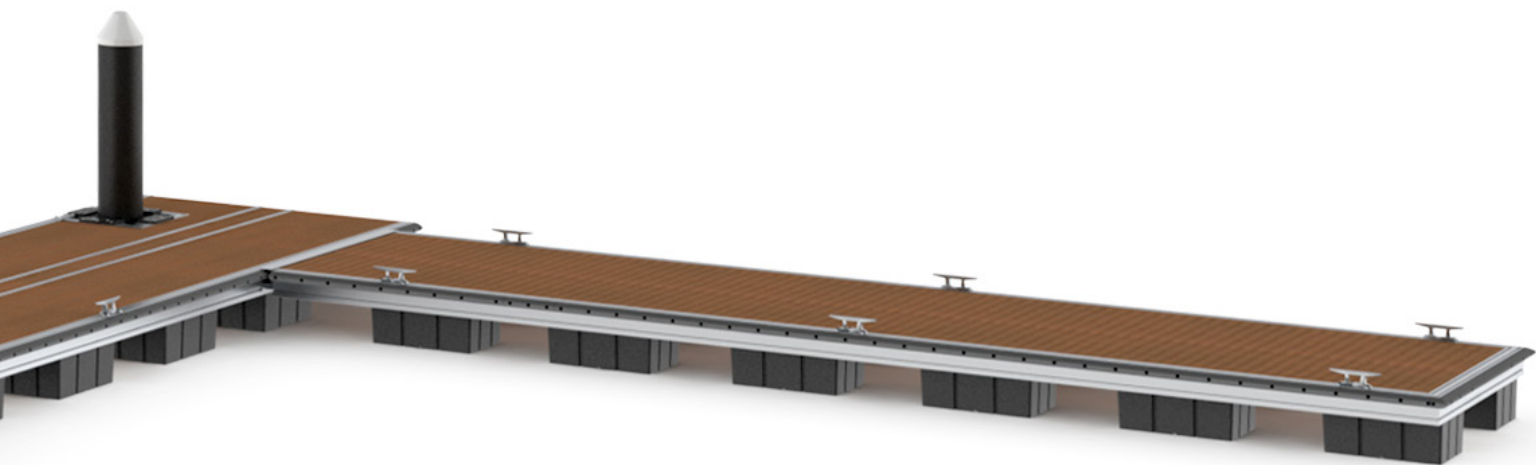


Easy to maintain and replace deck planks, with a choice of materials  
[More details](#)

Multifunction track system for easy installation and reconfiguration of cleats, bollards and accessories  
[More details](#)

Optional utility trough covers for easy access to electrical cables and pipes  
[More details](#)





Fenders and corner  
fenders with a choice  
of materials  
[More details](#)

Anchoring with  
a choice of systems

# Multifunction Track System



## Specifications

### Design

- Heavy-duty built-in single rail
- Enables fast and easy attachment of dockside accessories such as cleats, bollards and safety ladders, as well as finger docks and pile guides
- Permits continuous reconfiguration depending on needs

### Material

- Marine grade 6061-T6, 6005A-T6, 5083-H321 aluminum alloy extrusions

# Universal Connectors



## Specifications

### Design

- Quickly connect the main dock modules as well as the finger docks
- Noise-free, strong and flexible
- Wave movements absorbed through connectors, delivering stable dock performance in rough water conditions

### Material

- Elastomer or UV-stabilized ethylene propylene diene monomer (EPDM) reinforced with high resistance aluminum rings

### Tensile strength

- 19.4 kips (86.48 kN)
- Distortion: 1.1" (27.8 mm)

### Compressive strength

- 19.7 kips (87.55 kN)
- Distortion: 0.75" (19 mm)

### Shear strength

- 19.8 kips (87.95 kN)
- Distortion: 3.1" (79.8 mm)



# Floats

We offer unsinkable rotomolded polyethylene floats with great stability, withstanding shocks and harsh conditions.

## Specifications

### Design

- Resistant to salt water, hydrocarbons, chemicals and pollution
- Resistant to carbon black cracking, low temperature impacts and punctures
- Pressure-release valve to maintain float integrity when temperature varies
- Spin weld plug available for completely submerged floats
- Fastened to the side extrusion with stainless steel hardware
- Complies with all U.S. Army Corps of Engineers and EPA requirements

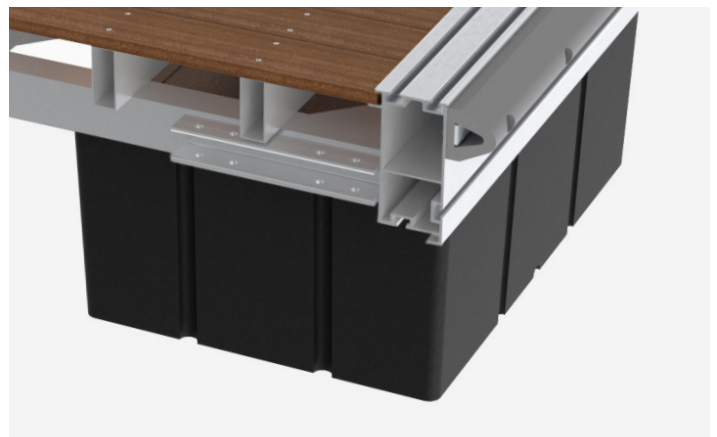
### Materials

- Seamless UV-stabilized polyethylene shell – nominal thickness of 0.15" (3.81 mm)
- Filled with EPS foam – minimum density of 1 lb/ft<sup>3</sup> (16 kg/m<sup>3</sup>) and meets requirements of the Hunt absorption test

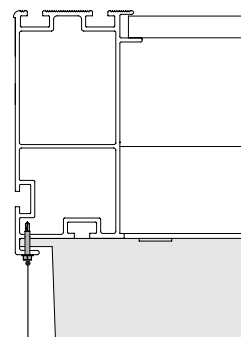
### Warranty

- 10-year limited warranty

### Float with flange

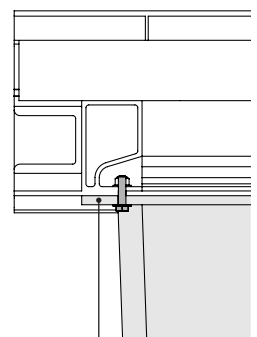


External assembly

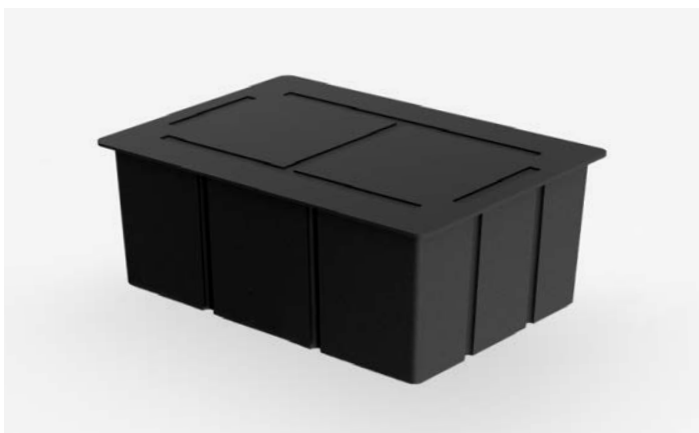


Fastened with  
stainless steel  
hardware

Mid assembly



Heavy-duty float-flange  
attachment at side extrusion



# Customization











# Decking Materials

Choose decking material based on how your dock will be used. MAADI Group engineers can recommend the best decking for your needs in terms of application, safety, and maintenance. Here are our most popular and durable options.



## Ipe hardwood

### Specifications

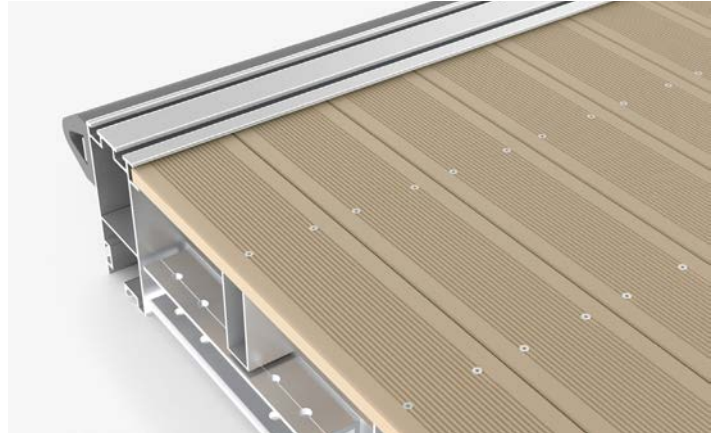
- Naturally very resistant to decay, rot and insect attack
- Minimum 40-year lifespan depending on use
- Low maintenance, no treating or sealing required for durability (treating may be required to keep the original color)
- Straight grain with fine to medium texture
- Economical over life of the structure
- Average density of 69 lb/ft<sup>3</sup> (1,100 kg/m<sup>3</sup>)
- Fastened with stainless steel screws

### Dimensions

- S4S outside corner
- Width varies between 5" and 7 3/8" (127 mm and 188 mm)
- Thickness varies between 1" and 1 1/2" (25 mm et 40 mm) depending on loads and applications

### Option

- Other hardwood options such as ribbed cumaru are available upon request



## Composite

### Specifications

- Designed to resist rot, warping and fading
- Minimum 25-year lifespan depending on use
- Anti-slip ribbed surface
- Low maintenance, no treating or sealing required for durability
- Economical over life of the structure
- Density of 75 lb/ft<sup>3</sup> (1,195 kg/m<sup>3</sup>)
- Fastened with stainless steel screws

### Materials

- A blend of wood flour and high-density polyethylene

### Dimensions

- S4S outside corner
- 7/8" x 5 1/2" (22 mm x 140 mm)

### Color

- Sand

# Utility Troughs

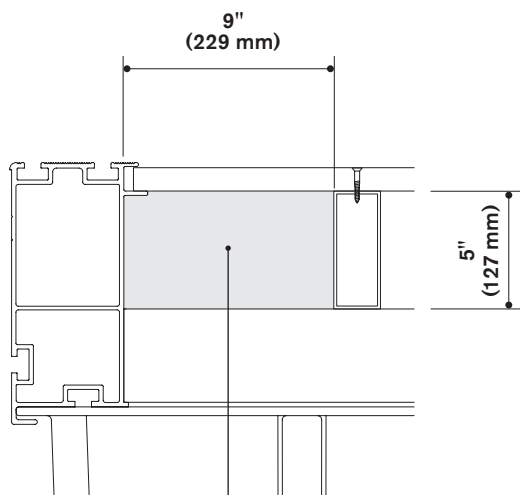
With its flush design, the trough covers conceal and protect electrical cables, plumbing and fire extinguishing pipes, offering easy access for maintenance and reconfiguration.

## Tri Ocean system

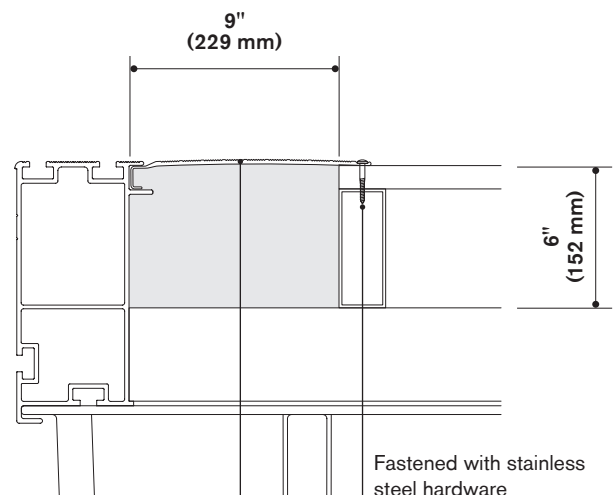
Without cover



With lateral cover – 9" (229 mm)



Space to conceal  
electrical cables  
and pipes



Easy to remove trough cover  
made of aluminum alloy extrusions

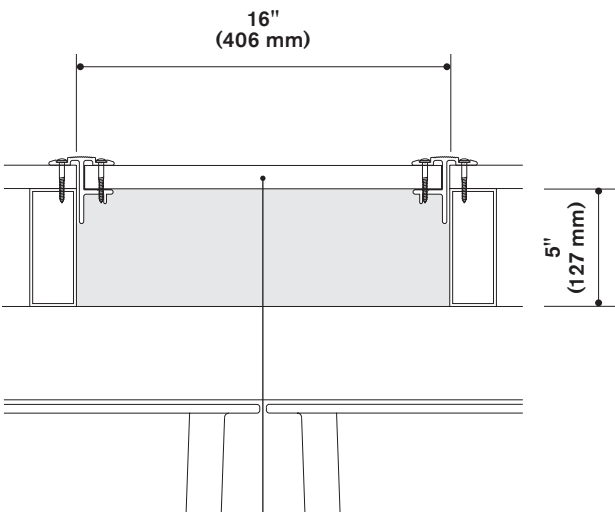
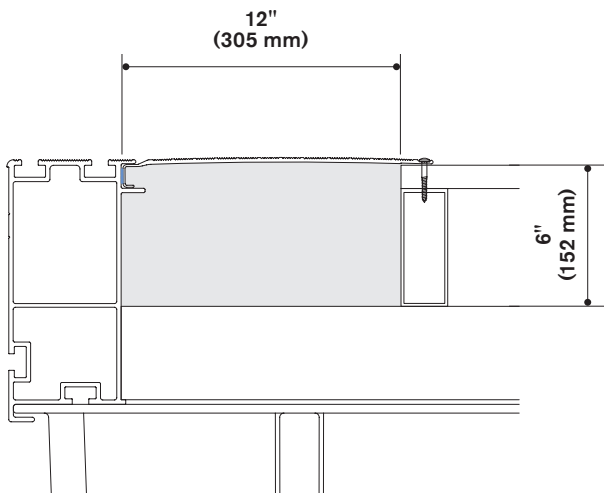


Tri Ocean system

With lateral cover – 12" (305 mm)



With central cover – 16" (406 mm)



Easy to remove trough cover  
made of ipe hardwood  
or composite

# Fenders

Our all-purpose non-marking fenders offer maximum boat hull protection. All fenders are attached to the dock with stainless steel hardware.



## Ipe hardwood

### Specifications

- Naturally very resistant to decay, rot and insect attack
- Minimum 40-year lifespan depending on use
- Low maintenance, no treating or sealing required for durability (treating may be required to keep the original color)
- Economical over life of the structure
- Average density of 69 lb/ft<sup>3</sup> (1,100 kg/m<sup>3</sup>)

### Material

- Ipe

### Dimensions

- 5" x 1" (135 mm x 25 mm)

### Options

- Other hardwood options such as cumaru are available upon request
- Composite fenders are also available upon request

## EPDM rubber

### Specifications

- Usually used for larger vessels

### Material

- UV-stabilized ethylene-propylene-diene-monomer (EPDM)

### Color

- Grey

### Dimensions

Available in two sizes:

- DD4: 4" x 4" (102 mm x 102 mm)
- DD6: 6" x 6" (152 mm x 152 mm)



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## PVC

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### Specifications

- Can be combined with corner fenders for optimal protection

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### Material

- UV-stabilized polyvinyl chloride (PVC)

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### Color

- Grey

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### Dimensions

- 4" x 2" (102 mm x 55 mm)

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## HDPE corners

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### Specifications

- Added corner dock protection
- Can be used with PVC fenders

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### Material

- UV-stabilized high density polyethylene (HDPE)

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### Color

- Grey

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### Dimensions

- 10 1/2" x 10 1/2" x 5 5/8" (269 mm x 269 mm x 144 mm)



# Moorings

MAADI Group's aluminum cleats and bollards combine form, function and strength. Resistant to corrosion from salt water, our moorings are easy to reconfigure on a multifunction track system.

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## Cleats – 12" (305 mm)



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### Capacity

- Up to 3,200 lb (14 kN)

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### Material

- Aluminum alloy A356

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### Fastener

- Three stainless steel T-bolts

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### Dimensions

- Length: 12" (305 mm)  
- Width: 2 1/2" (64 mm)  
- Height: 4 1/2" (114 mm)

Cleats – 20" (508 mm)



Capacity

- Up to 11,400 lb (51 kN)

Material

- Aluminum alloy A356

Fastener

- Four stainless steel T-bolts

Dimensions

- Length: 20" (508 mm)
- Width: 5 3/4" (146 mm)
- Height: 6" (152 mm)

Double bitt bollards – 15" (381 mm)



Capacity

- Up to 14,400 lb (64 kN)

Material

- Aluminum alloy A356

Fastener

- Six stainless steel T-bolts

Dimensions

- Length: 15" (381 mm)
- Width: 6" (152 mm)
- Height: 6" (152 mm)





# Accessories

MAADI Group pays particular attention to the aesthetics and safety aspect of its structures. All our accessories comply with the strictest American and Canadian standards and codes.



## Comfort and aesthetics

### Guardrails with a choice of styles

- Midrails
- Personalize your guardrails with your own design

### Other options

- Custom benches
- Parasols, canopies and awnings
- LED lighting system

## Safety and services

### Options

We offer a full range of high-quality accessories for all your needs:

- Ladders
- Fire hydrants
- Security accessories
- Power pedestals
- Wastewater pump-out system
- Fuel pumps



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## MAADI Group

3040 Rte Marie-Victorin  
Varenes, Quebec  
Canada J3X 1P7

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450.449.0007

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866.668.2587

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[maadigroup.com](http://maadigroup.com)

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[info@maadigroup.com](mailto:info@maadigroup.com)

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