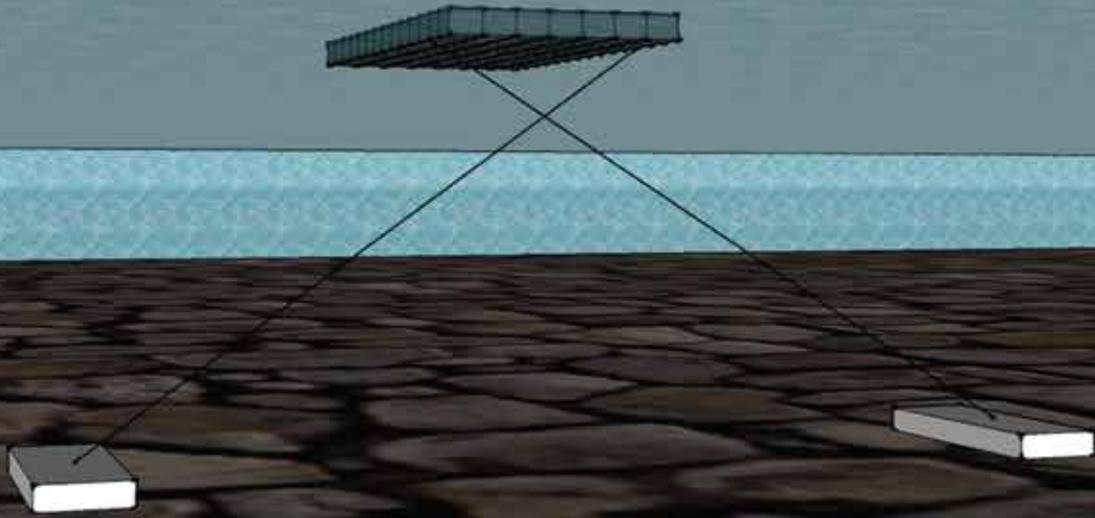


ANCHORING METHODS
FOR

CANDOCK



MADE IN CANADA
DISTRIBUTED WORLDWIDE

www.candock.com

ANCHORING

In the next few pages, you will find many important key points regarding the anchoring methods we recommend for our products. We divided those methods in 3 separate groups.

1-PILINGS 2-ANCHORING ARMS 3-DEAD WEIGHTS



We also provide you information on the basic principles that should be applied when planning the anchorage of bigger projects such as marinas and other commercial or industrial applications.

Take note that these methods have been tested in specific conditions and are applicable to our products only. Other techniques may be perfectly appropriate but we suggest you have your designs approved by a CANDOCK team member to ensure quality and durability of our products.

1 PILING



2 ANCHORING ARMS



3 DEAD WEIGHTS



PILING



The pilings are mainly used in shallow water conditions. Needing soft or muddy sea bottoms, pilings are mainly used on shore lines where the soil is soft and tractable. If the environment is filled with rocks or other solid debris, other methods should be prioritised to anchor your CANDOCK dock. An important aspect of the piling method consists in keeping the piles perfectly vertical. Using a level or other precision tools is mandatory for every pile. If the sea bottom is made of clay, be careful not to penetrate the soil too deep as a suction effect will make the removal of those pilings practically impossible. Another important notion, never use pilings in agitated water (maximum waves **0.3 meter**).

Maximum dept of water: **2 meters**.
Penetration: depending on water dept and the soil, **half meter to 2 meters**.

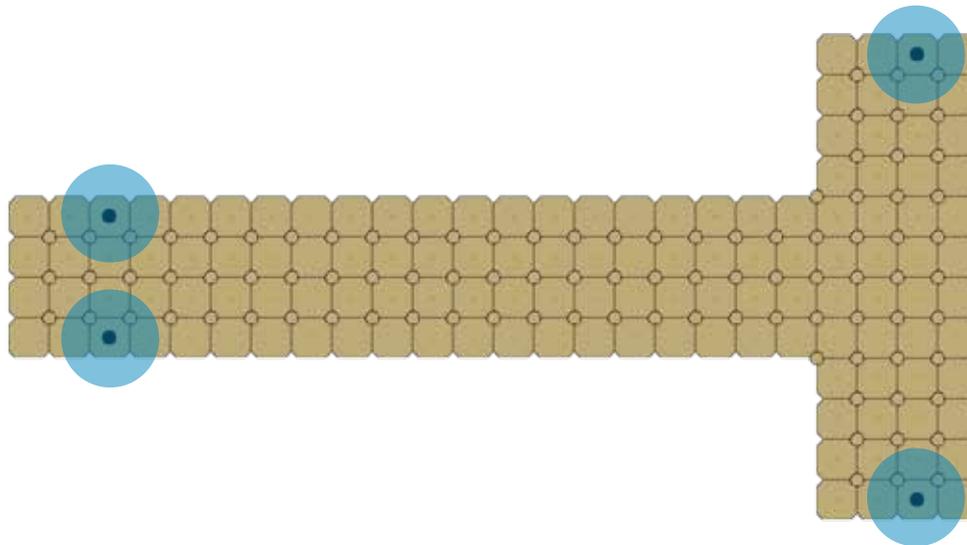
Make sure to use the proper material. Staineless steel is mandatory for "salt water" and galvanized steel for "fresh water" environement

TOOLS

Recommended

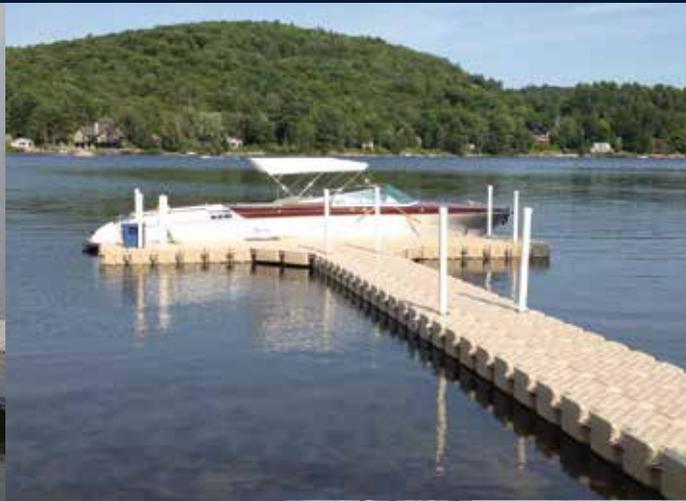
- *1-Piling Driver (RL29)
- *2-Piling Bull (RL30)
- *3-Pile Remover (RL31)

DISPOSITION



TIPS & RULES

- Maximum 9 meters between each pile.
- Always surround "POST-CUBE" with regular cubes on a minimum of 3 faces.
- Always use PVC pipe sleeve for pile covering to prevent premature wear of the "POST CUBE".
- Use PVC cap to give a more "finished" look to your pilings. (Insert foam or cloth piece between pile and PVC cap to prevent breakage when installed in turbulent conditions.)



ANCHORING ARMS



The anchoring arms are very useful in different situations. Making it possible to solidly anchor a dock to shore line foundations or rocks, these arms have practically no limitations. CANDOCK offers a wide range of these arms depending on the size of the project and the conditions it is operating in. From 1 meter long to 10 meter long, for tidal variations up to 5 meters, these anchoring systems are a great way to securely attach your dock to concrete structures, rocks or any other man made linear structures. Swivelling head, or fixed head, aluminium or stainless steel body, everything is possible.

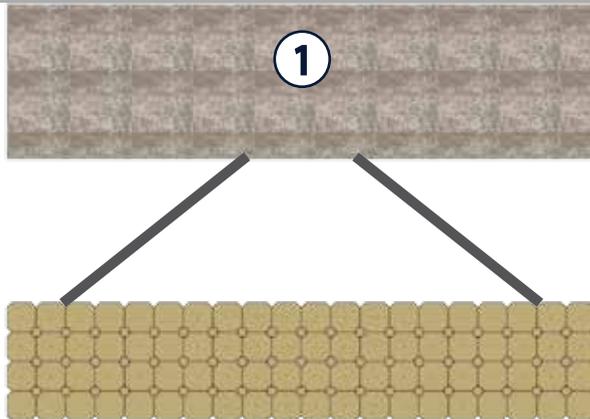
TOOLS

- 1-Hammer drill
- 2-Wedge anchor
- 3-Ratchet kit.

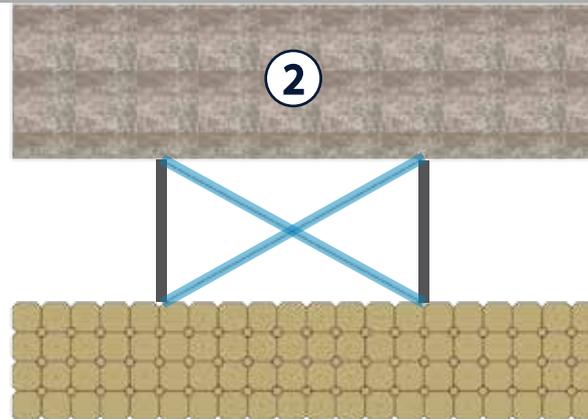
-Use steel cables or chains positionned in a "X" configuration to prevent un-wanted lateral movements.

-Make sure you install the arms at low tide and verify that it will accept variations. Make sure the installation moves freely in all conditions

DISPOSITION



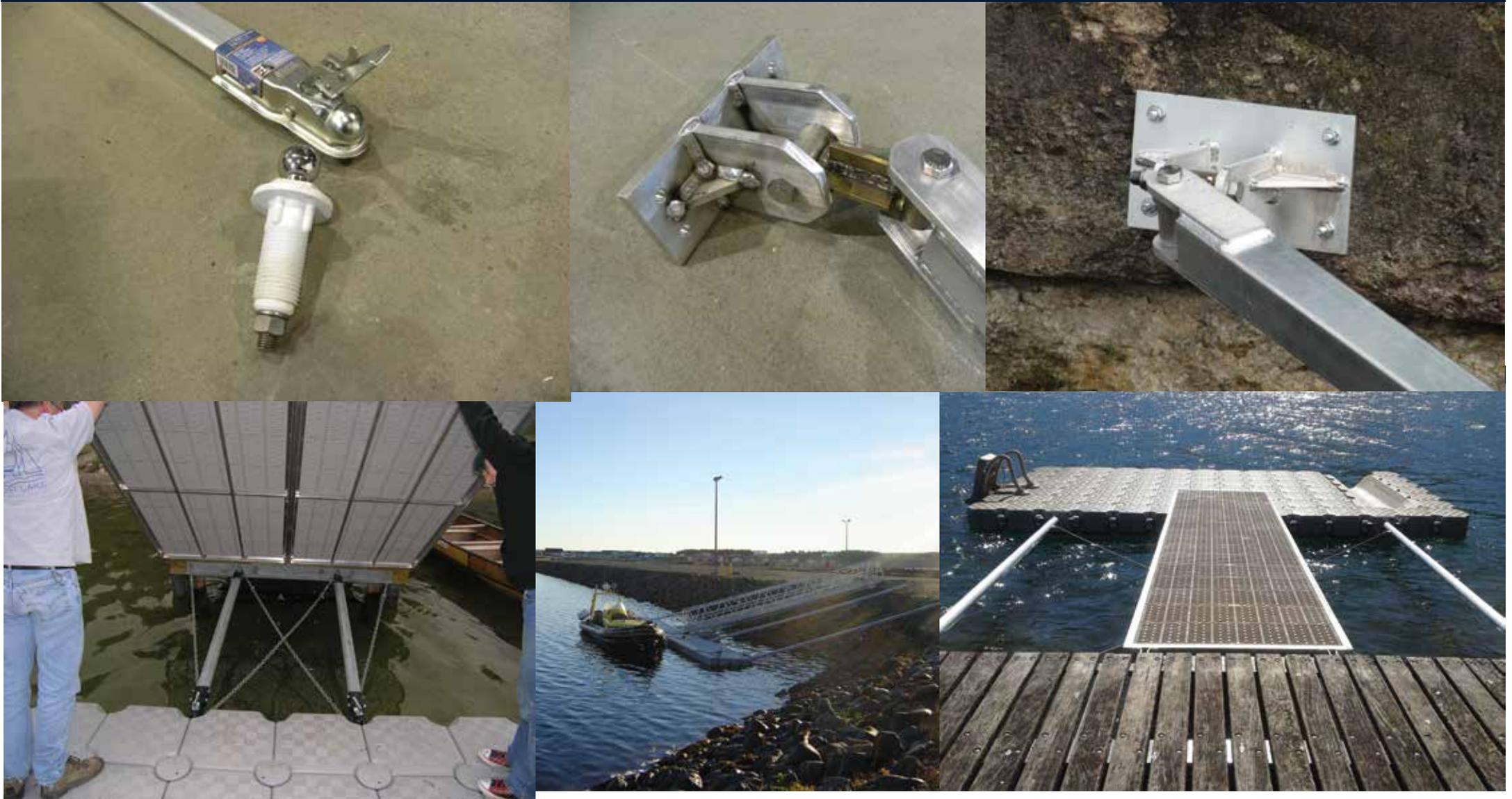
-Arms are installed with a certain angle to prevent lateral movement. * Little tidal variation is allowed with this configuration.



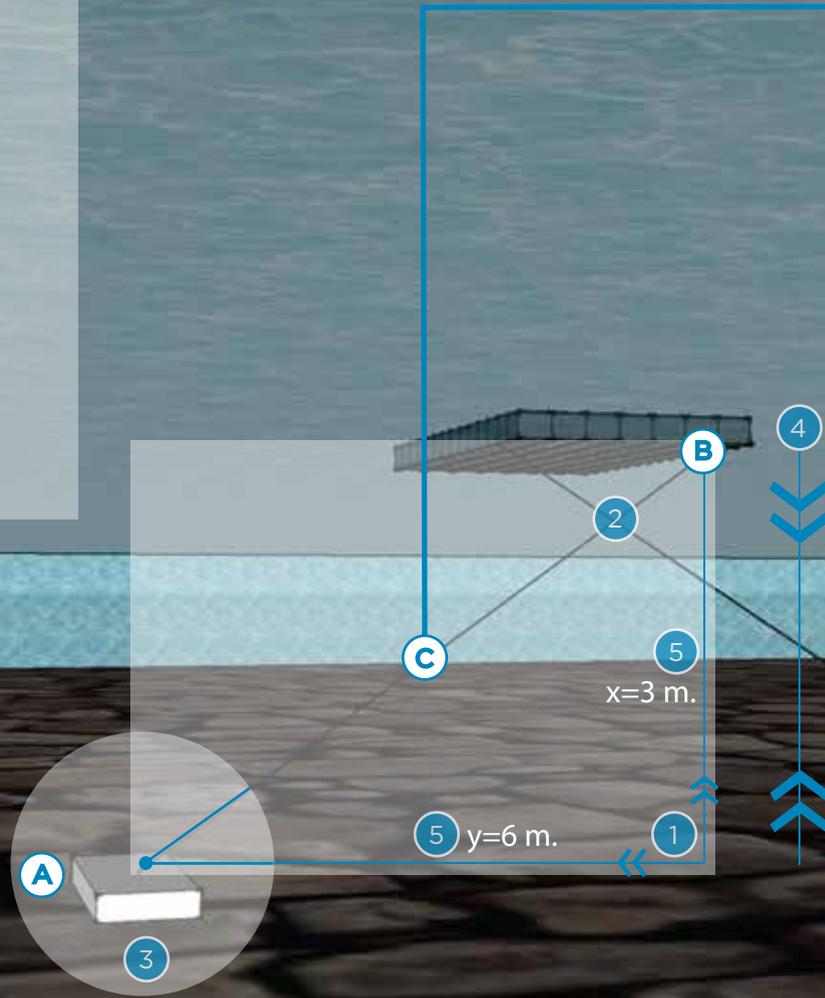
-Arms are installed perpendicular to foundation with steel cable in a "X" position then allowing tidal variations.

TIPS & RULES

- Install arms perpendicular to foundation if important tidal variations.
- Ideally attach the "trailer hitch" end of the arms against 2 cube ears instead of only one.
- For up-close installation (close to dock or other linear structure) use the "WALL ANCHORAGE" system. (***) This method does not allow any water level variation(***)



DEAD WEIGHTS



Important rules:

Prior to every installation, make sure to analyse these few key points to ensure a proper installation:

- Nature of Seabed
- Tidal variations
- Water currents
- Rules and regulations applied in your region.
- Weather conditions.
- Loads applied to the dock

1-Opposite anchor lines should always cross each other under the floating dock.

2-Leave sufficient spacing between crossing lines to prevent friction and premature wear.

3-Use proper anchors depending on the nature of the seabed and loads applied to the dock.

4-When using "TIDE MANAGEMENT SYSTEMS" (TMS), make sure to complete the procedure at low tide for an optimum efficiency. Also note that TMS must be pretensioned at low tide.

5-Respect the 2 for 1 rule to maximise the stability of your anchoring. (* IMPORTANT: complete the procedure at low tide for an optimum efficiency) ($x=3m$ so y must be 6 m. or more.)

A Anchor Types:

- 1-Concrete blocks
- 2-Chemical anchors



- 3-Helicoidal hook
- 4-Earth Anchors

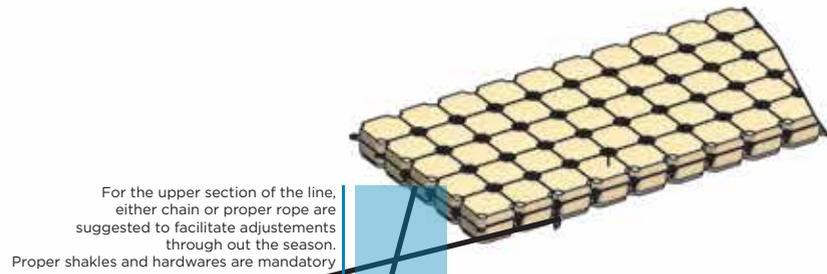


B Ways to attach the line to the dock:

- 1-Chain adjuster
- 2-Heavy duty exterior anchoring
- 3-Anchoring plate for chain
- 4-Anchor pin



C Proper line combinations and layouts



TMS



Install "TIDE MANAGEMENT SYSTEM" (TMS) on the middle section of the line if water level is fluctuating or if location is exposed to regular waves and rough waters. Make sure to use proper shakles depending on the requirements.

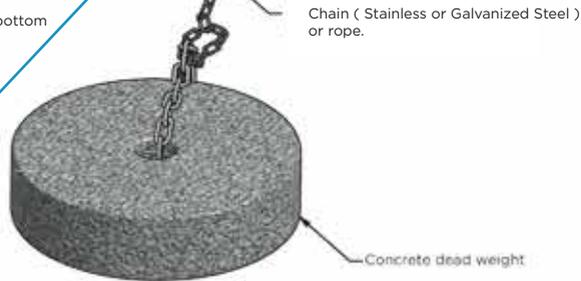
Always use chain for the first section of the line to prevent premature wear against debris laying on sea bottom

SPLICE



If rope is used between lower section and upper section (TMS), make sure to link both sections to the rope with proper splicing methods including stainless steel sleeve in loop to prevent premature wear to the rope.

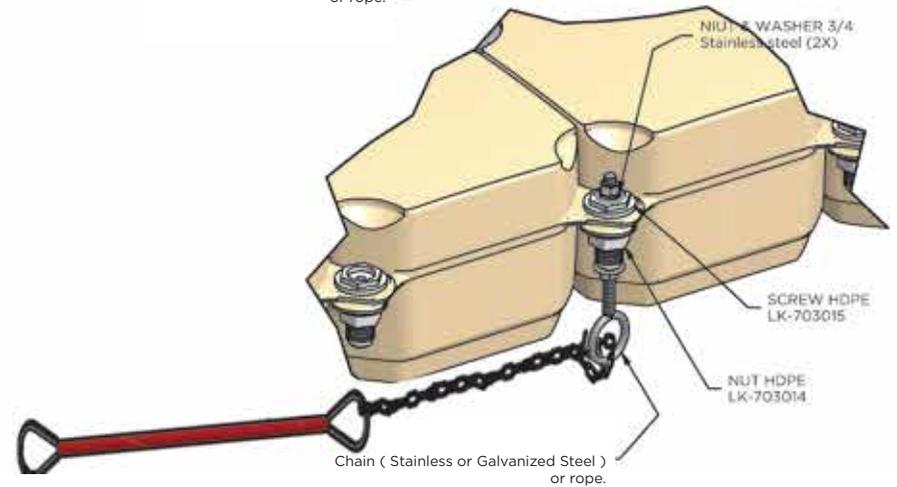
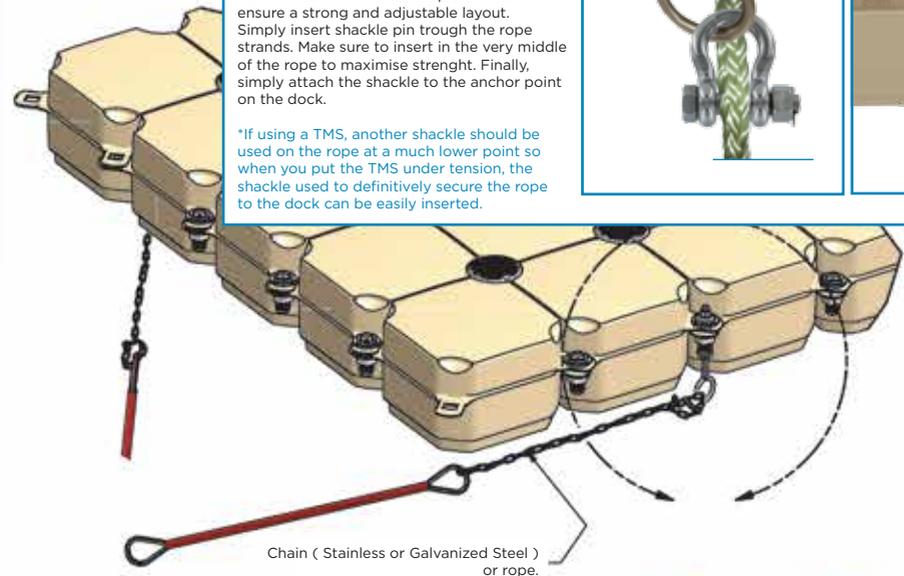
SHACKLE



ROPE

When using rope as line upper section material, make sure to use proper rope and attach it as shown on these pictures to ensure a strong and adjustable layout. Simply insert shackle pin through the rope strands. Make sure to insert in the very middle of the rope to maximise strength. Finally, simply attach the shackle to the anchor point on the dock.

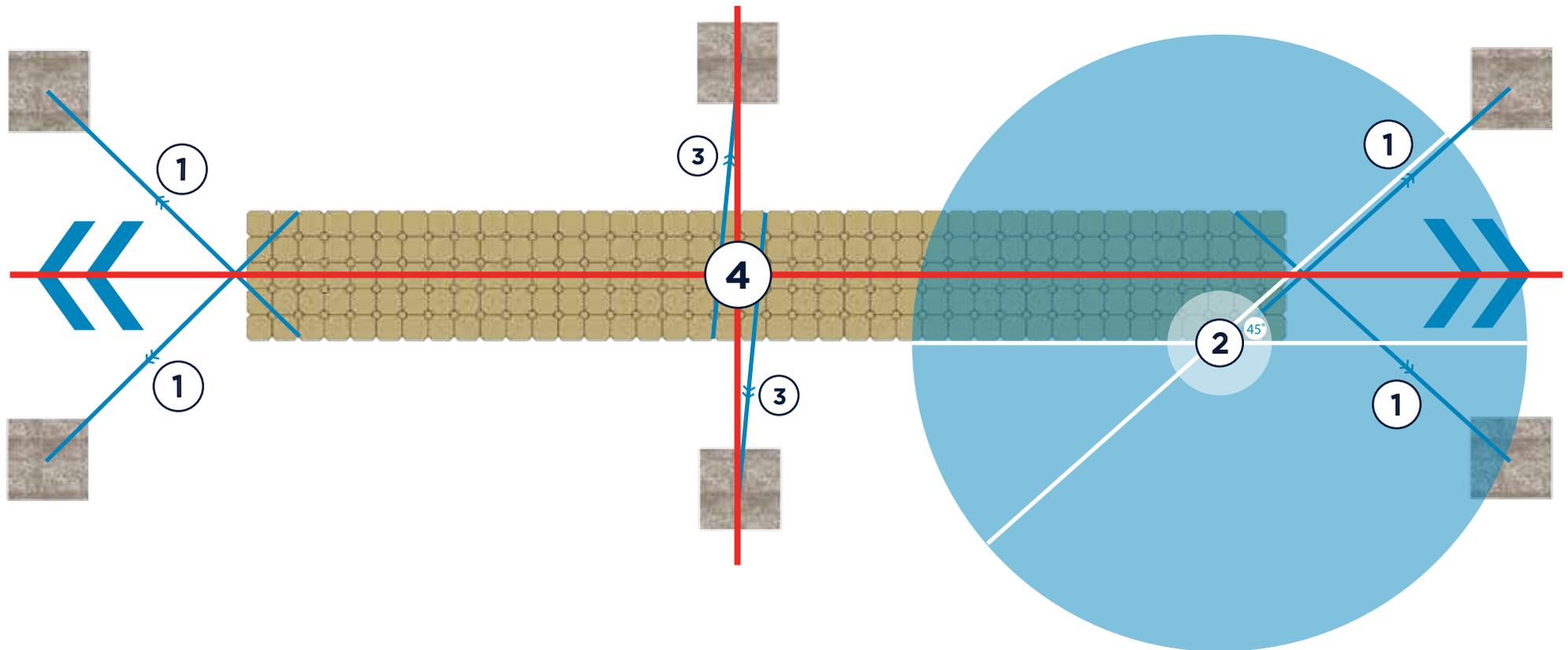
*If using a TMS, another shackle should be used on the rope at a much lower point so when you put the TMS under tension, the shackle used to definitively secure the rope to the dock can be easily inserted.



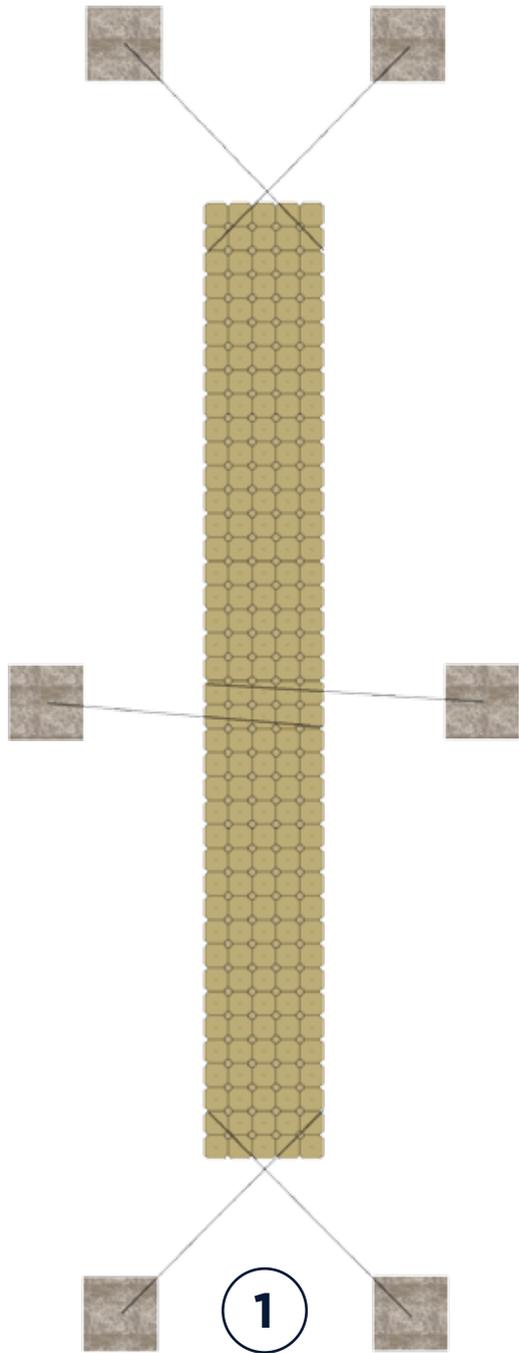
Configuration tips:

- 1-Always apply tension equally between lines and/or rigid anchorings (piling and anchoring arms) to ensure a stable and durable installation.
- 2-When using lines with dead weights, make sure to abide to the 45 degree angle rule.

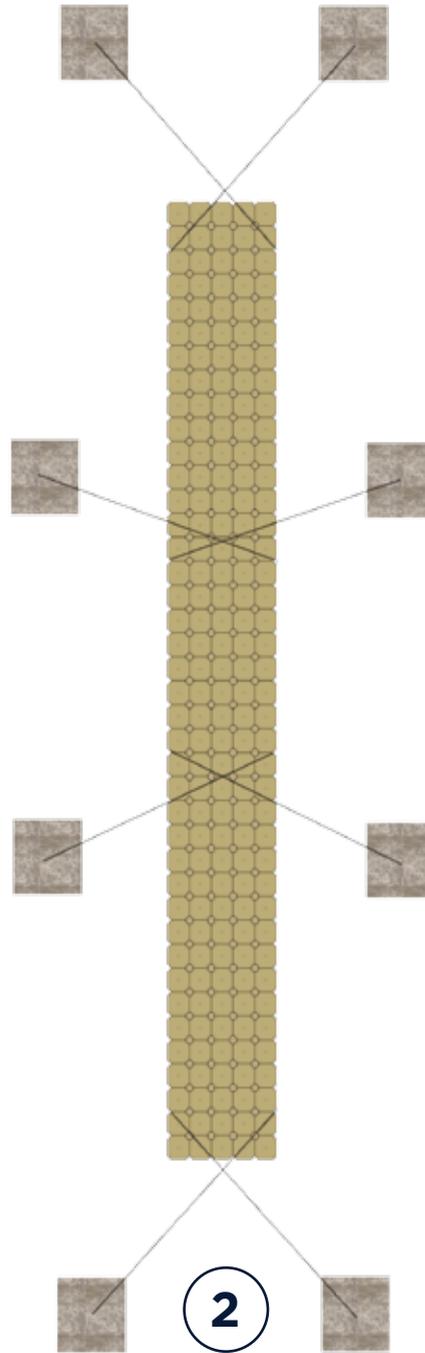
- 3-Middle lines should always pull on the dock neutrally.
- 4-Always keep parity between opposing lines and achors.



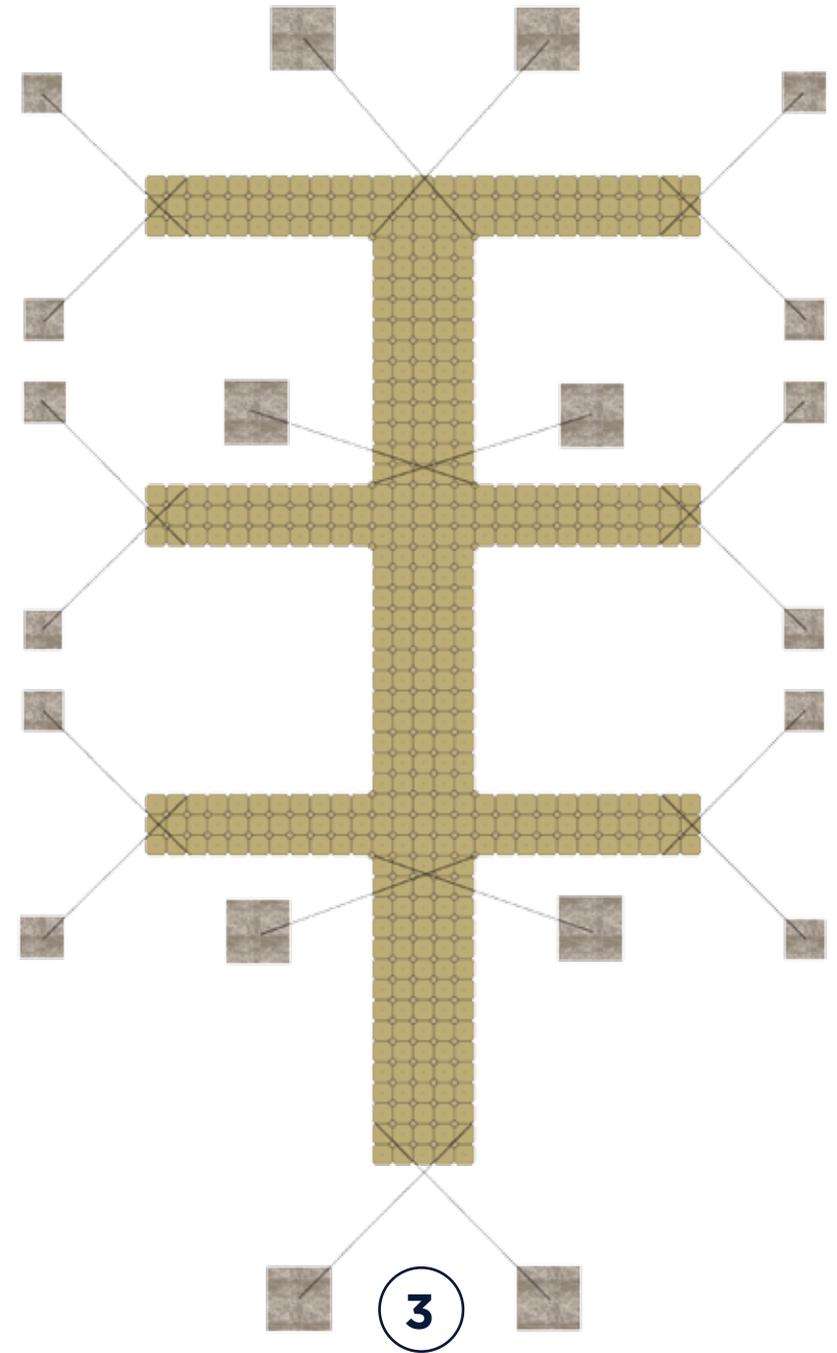
Configuration types:



EVEN NUMBERS



ODD NUMBERS



COMPLEX LAYOUT