



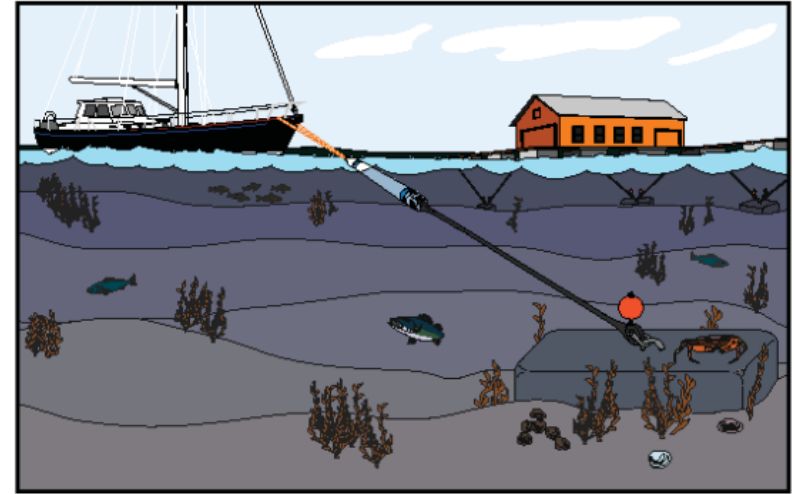
Hazelett Marine The Next Elastic Mooring Solution





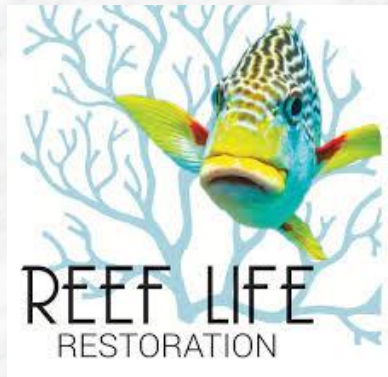
Hazelett Marine has been providing elastic mooring solutions for over 30 years

- ❑ Invented to reduce point loads on single point moorings
- ❑ Assisted movement towards conservation moorings
- ❑ Successfully implemented different applications like floating docks, floating solar and wave attenuators.
- ❑ Provided product and design expertise for thousands of installations worldwide.





Our business model focuses on designing and building solutions for our partner's clients



Helix Mooring Systems, Inc.

Anchoring The World
Confidential



The commonality between our clients is that they need help with Mooring Designs and Solutions



BURLINGTON
PARKS
RECREATION
WATERFRONT
VERMONT





The applicability of our products span a spectrum of markets

Swing Moorings (Single Point Moorings)

- Best solution in market
- Increase mooring field density



Docks (Pontons)

- Reduced point loads
- Increases dock life



Floating Solar (Flottant Solaire)

- Engineering Service
- More stable line loads

Navigation Buoys (Aides à la navigation)

- Smaller watch circle
- Lower peak loads



Wave Attenuator (Atténuateur de vagues)

- Increased energy absorption
- Flexible design





Our customers purchase from us all things
needed to moor their project



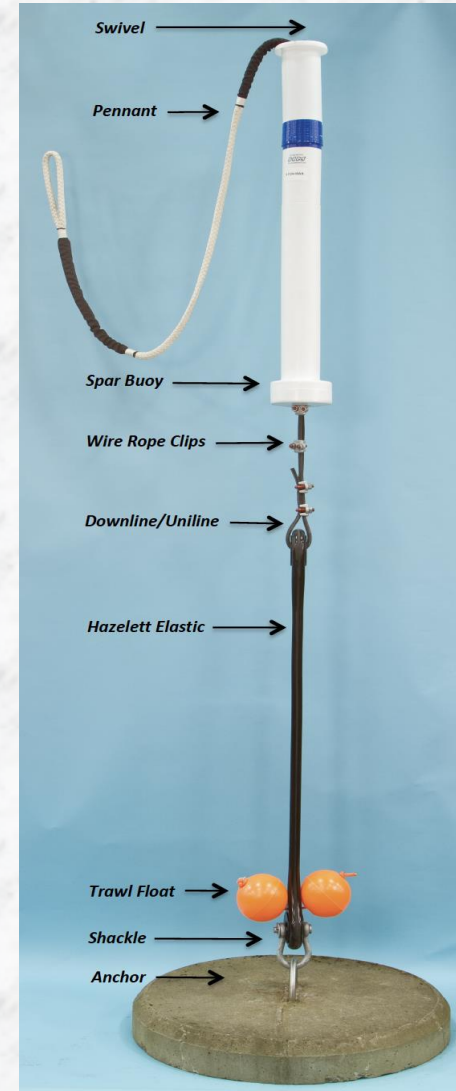
Elastic Rodes



Anchors

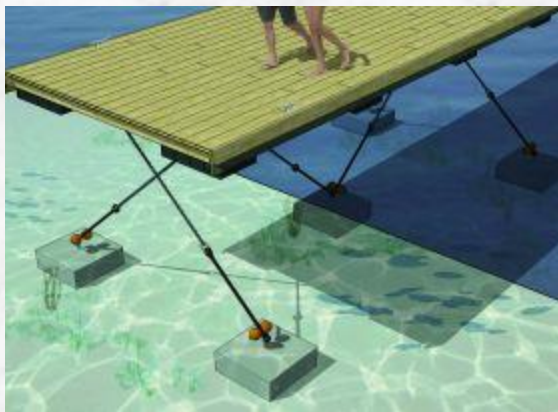


Buoys

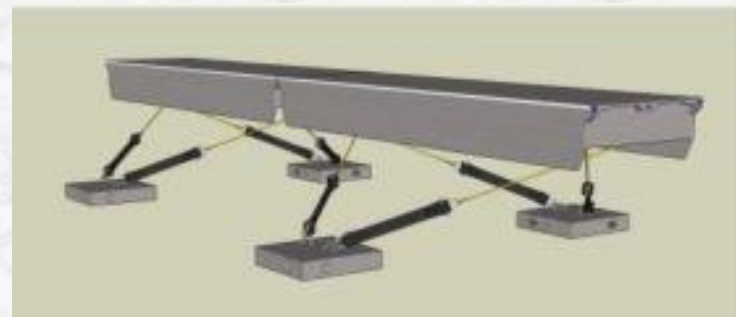




Through our team and our partners, Hazelett supports numerous mooring related services



Mooring Design



Mooring Engineering



Mooring Installation



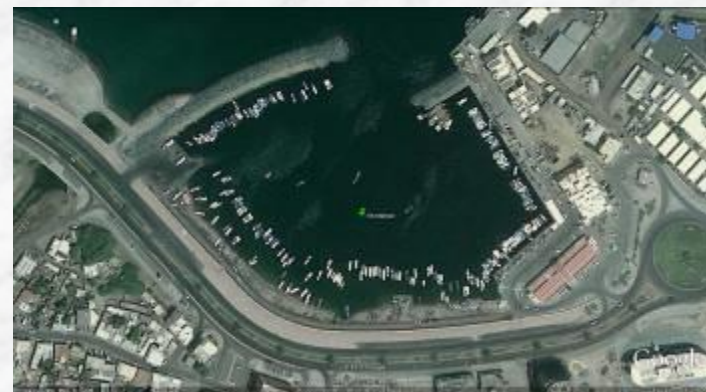
Mooring Inspection



In Asia, our team helped transform a port into a dock

Project Summary:

Location: UAE
Dock Builder: Majestic Marine
Berths: 152
Usage: Commercial Fishing Vessels
Installation Date: 2015

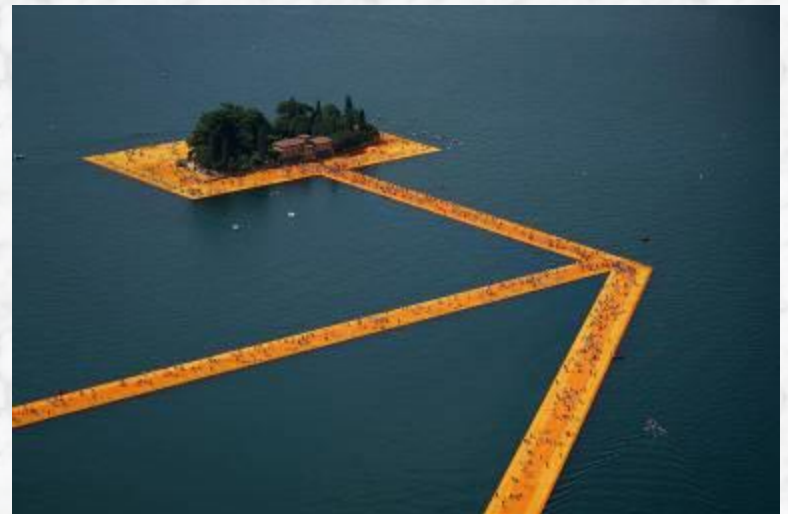




In Italy, our team helped transform a lake into an art project

Project Summary:

Location: Italy
Dock Builder: Christo/ BulDock
Usage: Walkable Art Installation
Installation Date: 2016

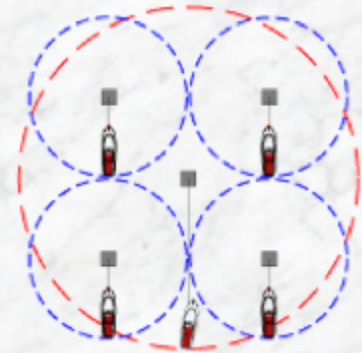




In the United States we helped marinas increase the amount of moorings they could offer

Project Summary:

Location: Vermont, USA
Single point moorings
Moorings: 137
Usage: Commercial leasing
Installation Date: 2015





The Hazelett Elastic Mooring was invented in the late 1970s to reduce peak loads on Swing Moorings (single point moorings)

- ❑ Reduces peak forces by 30-80%
- ❑ Allows 1-1 scope to increase mooring field density
- ❑ Enables pointed bow to wind position
- ❑ Greatly reduces mooring maintenance costs





Hazelett Marine offers custom solutions for a variety of environmental conditions

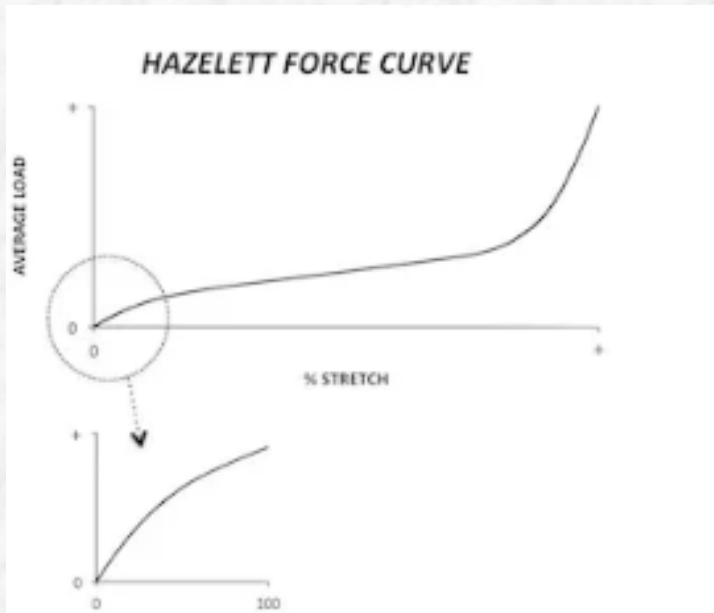
- ❑ Every project is unique
- ❑ A modular system that can be customized to meet unique needs
- ❑ Hazelett Marine sizing accounts for BOTH weight and length of vessel + environmental conditions
- ❑ Allows pointed bow to wind position
- ❑ Greatly reduces mooring maintenance costs





Hazelett Marine offers custom solutions for a variety of environmental conditions

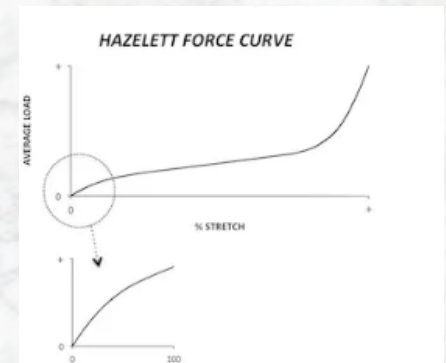
- ❑ Rapid change in wind direction create peak load conditions
- ❑ Weight is accounted for in sizing because of momentum created during dynamic events
- ❑ The Hazelett Elastic is designed to absorb energy from dynamic events like wind gusts, wave etc and create a smooth transition
- ❑ A quad elastic system at a working load of 1,300kg at 100% stretch will absorb 19,000nm of energy!





The Hazelett System is the premier elastic eco-mooring for boats on the market

- ❑ The Hazelett force curve is unique compared to rope or other solutions because as it stretches it becomes more efficient at absorbing energy.
- ❑ Working loads of 70-100% stretch for swing moorings compared to rope at rope at 20%



ROPE

PROS	CONS
Can be inexpensive	2-4 year replacement cycle
Easier to maintain than chain	Susceptible to marine growth
Some elasticity	Doesn't accommodate dynamic events like wind direction change and rogue waves

HAZELETT

PROS	CONS
30 year design life, 10 year recommended replacement cycle	Greater initial investment
Resistant to marine growth	Should still be inspected
Accommodates dynamic loading	Requires some initial design support
Works with most anchor systems	Should not designed to make contact with boats or seabed
Smooth progressive force curve	

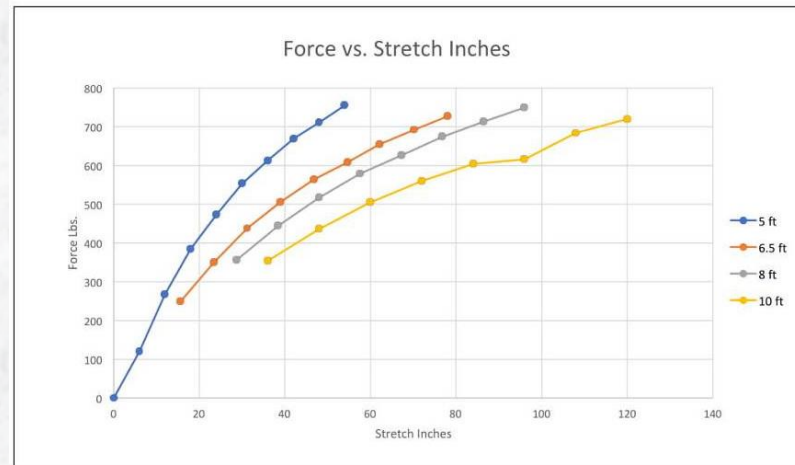
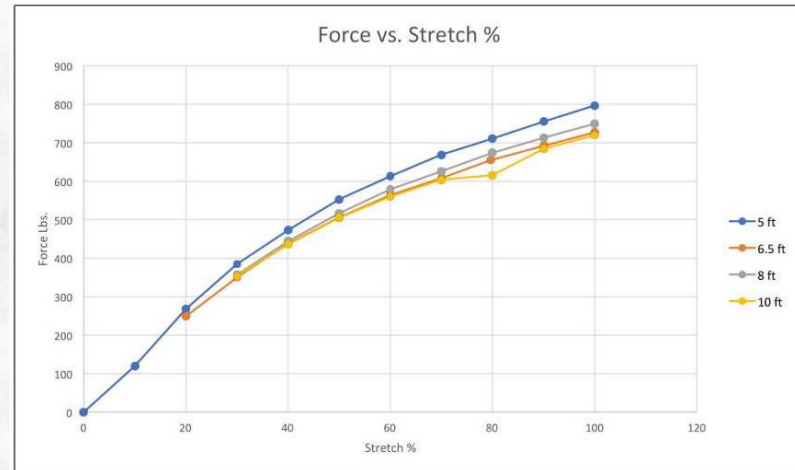


The Hazelett Marine offers custom solutions for a variety of environmental conditions

□ In order to properly size a Hazelett System we consider the following parameters:

- Length and Weight of vessel
- Depth
- Tidal Variation
- Max Wind speed
- Max Wave height
- Current
- Fetch

And design an appropriate system for your projects unique conditions





We're extremely proud of our role in the conservation mooring market

- ❑ Largest North American manufacturer of conservation moorings
- ❑ Partnered with U.S Coast Guard, Marine Fisheries and other agencies on conservation mooring studies





Thank you for your time!

Homer Hill

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