SAFER MARITIME WORKPLACES

Snapback Protection Systems

The first validated solution against mooring line failure transforms maritime safety and prevents injury during a Snapback event.



Understanding snapback events

Mooring line failure, also known as mooring snapback, is a leading cause of injuries to marine workers. One in seven reported incidents results in fatality, and one in five in serious harm. When a mooring line ruptures, the parted line can reach speeds of 1200 km/h. Snapback events are caused by various factors rather than a single event. This makes them difficult to prevent. The likelihood of future mooring incidents may also be adversely affected by severe weather events and increased vessel sizes.

Protecting effectively against such incidents can be difficult. It often requires extended downtime for berth maintenance and restricted access during mooring operations.



A typical mooring configuration carries dangers of mooring line snapback. More details in the video: geobrugg.com/snapbackdanger



Develop, test and validate new safety solutions



Develop and test new safety solutions

Initially, Geobrugg and Holmes Solutions, specialists in testing and validation, were approached by BHP Mitsubishi Alliance at one of the main Australian industrial terminals: Hay Point. BHP contracted us to develop, test and validate a Snapback Protection Structure.



Dynamic impact testing

Together we developed a full-scale test that accurately replicated snapback events in a controlled, repeatable way - a world first. The data gave real insight into snapback behaviour and helped develop safer snapback protection fences. More details in the case study video: geobrugg.com/snapbackcasestudy



"From the commencement of the project, our goal has been to make our local work areas a safer place to operate... We made findings during testing that surprised and shocked us; it is hoped that our learnings from testing will make the industry safer and more proactive to the risks from snapback lines."

BHP Mitsubishi Alliance



Transforming maritime safety

Using a science-based and data-driven approach, we were able to design, test and validate a snapback barrier, protecting workers and enabling operations to continue safely and efficiently. The benefits are:

Mooring efficiency



into the behaviour of ruptured lines.

Flexible and modular Snapback Protection Systems

Permanent Protection Systems are installs for larger footprints and single-use terminals to protect mooring staff, crew, passengers and visitors as they access the area without disrupting operations.

Workzone Protection Systems allow temporary maintenance work to be undertaken within large or small areas with varying geometry and difficult access, enabling operations to continue with minimum downtime.

Mobile Protection Systems are flexible installs for smaller footprints and multi-use terminals.

Rigid Protection Systems can be retrofitted to existing structures such as a hook or dolphin cages or for ship loader cabin protection, where the envelope for deflection is limited.

Vessel Protection Systems developed specifically for on-vessel operations to protect crew from vessel side Snapback risk.

These solutions can be customised to fit your requirements. As well as improving safety at maritime ports, they can be used in other industries where the failure of high-tension lines is a concern.

The full-scate testing undertaken in cooperation with Holmes Solutions is a first-of-its-kind and has given a unique insight into the behaviour of ruptured lines. Full-scale, real-world testing is essential when designing for high-risk industries where safety is crucial. From adventure rides to roadside barriers and rockfall protection, the detailed data gained from this type of testing is key to the success of life-safety products.

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