



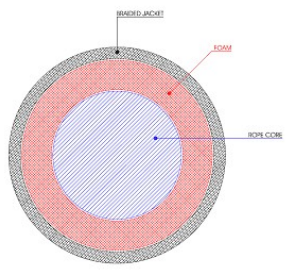
# INTEGRAL FLOTATION BUOYANCY SYSTEM

It has been reported by operators using mooring hawsers with conventional lace-on floats, that during the lifetime of the hawser the floats tend to suffer damage and can be ripped away from the rope. This can be costly to the operator having to secure replacement floats and organise maintenance crews to replace damaged / missing floats. Our Integral Flotation Buoyancy System overcomes these issues, and in addition offers many other operational benefits.

Mooring hawsers incorporating our Integral Flotation Buoyancy System are wrapped in closed cell buoyancy foam, ensuring sufficient reserve buoyancy is calculated into the construction to support the hawser in sea-water.



This is covered with an over braided jacket. Additionally this can be polyurethane elastomer coated to enhance abrasion characteristics of the assembly yet further.



Cross-Sectional Diagram of  
Integral Flotation Buoyancy System

## Benefits of Integral Flotation

- Integral Flotation system does not need to be replaced / maintained during the hawser lifetime, eliminating the need for spare floats and expensive maintenance crews.
- The construction of the Integral Flotation system enhances the abrasion resistance of the hawser to external mechanical damage, ie. Floating hose flanges.
- At CALM buoys where the hawsers maybe left floating the water between offtakes, the Integral Flotation system reduces the amount the rope will flex with the wave action. This reduces internal yarn-on-yarn abrasion damage and can help to increase retirement programmes.
- Ropes left floating the water between offtakes are subject to 'water wash' through the rope, which over time will remove the unique marine finishes applied to modern day synthetic fibres to reduce abrasion / fatigue damage internally. The Integral Flotation system with polyurethane elastomer coating restricts water wash.



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