



HAWSER FLOTATION

SPM Hawsers typically manufactured from nylon (SG 1.14) will not float naturally in seawater. A hawser which sinks will foul the catenary moorings of a CALM buoy or other subsea equipment. We have a range of flotation methods.

- Lace-on hawser floats
- Integral hawser flotation
- Tubular floats

Please ask us for detailed data sheets on the below flotation types.



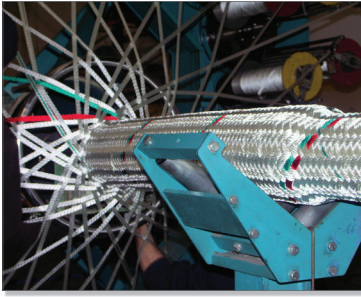
Lace-on hawser float

The integrity of the mooring hawser depends on the floats sustaining hawser buoyancy. All our floats feature a double outer layer manufactured from high abrasion resistant ballistic nylon cloth. All seams are double stitched from heavy denier yarn using a locking stitch, so yarn breakages cannot lead to an unzipping effect. The floats utilise high quality 48 kg/m³ 100% closed cell polyethylene foam, and high quality eyelets exceeding Shell pull test standards. Additionally these floats can be polyurethane elastomer coated on the outside.

No. Of Pockets	Single Hawser mm	Grommet Hawser mm	Nett Buoyancy kg	Approx. Dry Wt kg	Width Dimension mm
3	80 - 96		6.0	0.8	385
4	104 - 128		8.0	1.0	480
5	136 - 152	80 - 96	10.0	1.3	575
6	160 - 184	104 - 112	12.0	1.4	670
7	192	120 - 128	14.0	1.7	765
8		136 - 144	16.0	1.9	860
9		152 - 168	18.0	2.1	965
10		176 - 184	20.0	2.3	1080
11		192	22.0	2.5	1145

NOTE: Width dimension is taken when the float is laid out flat and foams are installed. Measured under a pre-load of 2.5kg.

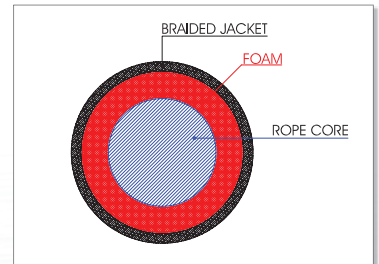
All floats are approximately 1065mm in length.



Integral Flotation

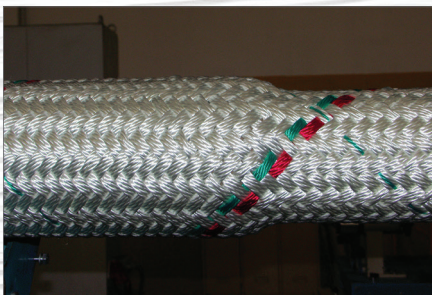
It has been reported by operators using mooring hawsers with conventional lace-on floats, that during the lifetime of the hawser the floats tend to suffer damage and can be ripped away from the rope. This can be costly to the operator having to secure replacement floats and organise maintenance crews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

Mooring hawsers incorporating our Integral Flotation system are wrapped in closed cell buoyancy foam, ensuring sufficient reserve buoyancy is calculated into the construction to support the hawser in seawater. This is covered with an over braided jacket. Additionally this can be polyurethane elastomer coated to enhance abrasion characteristics of the assembly.



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 in 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 in 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.



Tubular float

In cases where long service life with minimal maintenance is required, we recommend the use of our Tubular Floats. These are available in varying lengths and diameter to suit. Tubular floats are stiffer than the fibre rope, so flexing may occur at the exit points from the floats. The longer the float length, the greater the flexural concentration. Therefore we do recommend a larger quantity of short length floats, as opposed to a smaller quantity of longer length floats.

