

SDI Fairwrap Cable Fairing

Features

- ✓ Can be easily installed on-site or onboard
- ✓ Durable UV protected material
- ✓ Available for cable sizes from 1/4 to 3" diameter
- ✓ Will not wash up or off cable in high currents
- ✓ Does not need to rotate
- ✓ No zippers, hook and loop, or swivels
- ✓ Available in different colors
- ✓ Installation available

SDI Fairwrap cable fairing is a structure attached to a towed cable intended to minimize cable fatigue, reduce normal drag as well as eliminate cable vibration caused by vortex shedding (cable strumming). Fairwrap is installed by wrapping successive layers of fairing material around the cable and overlapping previous layers to self-lock the fairing to the cable. Fairwrap is further secured with rubber binders to lock it in position on the cable. It can be easily installed or replaced on-site or onboard. The rubber binder material is self-vulcanizing and as such is subject to degradation in UV light. A UV vinyl tape covering is added to the rubber binder for applications where the cable may spend time on a reel. The result is a uniform distribution of fairing fingers around the cable. Fairwrap is not required to rotate to align itself to the current, nor can it be washed up the cable by the current or stripped off in high currents as with zip on or hook and loop attached fairings. Fairwrap cable fairing can be customized for any towed cable range from 1/4" to 3" in diameter.



Customized diameter



Different color choices



Easy Installation



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Why cable fairing is important for towed cables?

Cables are subject to strumming when the water current flows past the cable. Typically this is evident as a rapid sideways motion of the cable in the 2 Hz to 20 Hz frequency range. This strumming causes cable fatigue and increased drag in both towed cables and fixed cables that are subject to current flow. The cable strumming is caused when the perpendicular component of water flow increases to the point that the flow separates as it goes around the cable. The resulting vortex that sheds has a rotation that causes a reduction in pressure on one side of the cable. This causes the cable to move in that direction and results in the next vortex that sheds to rotate in the opposite direction. The resulting alternate shedding of vortices causes a rapid side-to-side oscillation in the cable.

This oscillation causes fatigue in the cable which results in premature failure and increases the effective projected area of the cable resulting in significantly increased drag. For towed systems, this reduces the operating depth or the maximum towing speed of the towed body and increases the cable length requirement. For moored systems, the operating life of the cable can be significantly reduced and the drag and resultant depression with current flow is increased. In extreme cases, this strumming induced increased drag can cause a surface buoy to submerge.

Towing tests of SDI's FAIRWRAP cable fairing shows drag reductions at all towing speeds subject to strumming. Strumming is a function of tow speed, cable diameter, and cable tension and in all test cases, the cable strumming was effectively eliminated. Cable accelerations were reduced 98% to 99.5% over an unfaired cable tested under the same conditions. The total drag is reduced approximately 0 to 10% over a non-strumming cable and up to 40% over a strumming cable.

