

ABSTRACT

A TOWED ACOUSTIC ARRAY

A tow cable comprises a high density, high damping core of a material such as lead (1), surrounded by a layer of helically wrapped or braided strength fibres of a material such as steel (2), or
5 alternatively, of aramid fibres. Over this is provided a layer of a resilient, deformable thermoplastic material such as polyurethane (3), to provide for movement of the subsequent data-bearer layer under strain, so that no strain is applied to the data-bearers themselves. Around this layer (3) is provided a layer of helically wrapped (or
10 braided) power and data bearers (4), comprising bearers including coaxial cables, twisted pairs, and fibre optic bearers. To ensure water-blocking, this layer may be enclosed in an extrusion of thermoplastic material (5), such as polyurethane. Around this is
15 wrapped or braided a layer of protective fibres (6), of material such as steel or aramid fibre, and over this, in a roughly trochoidal cross-section, is extruded an outer layer of thermoplastic material (7), such as polyurethane. The trochoidal cross section is twisted along the length of the cable. This twisting of the trochoidal section causes the ridges to effectively rotate as the cable moves through
20 water and therefore minimises vortex shedding and cable strumming.

Figure 1.