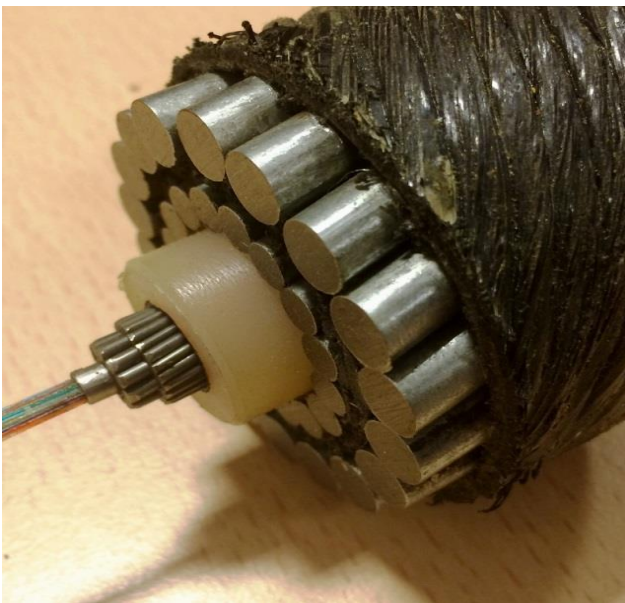
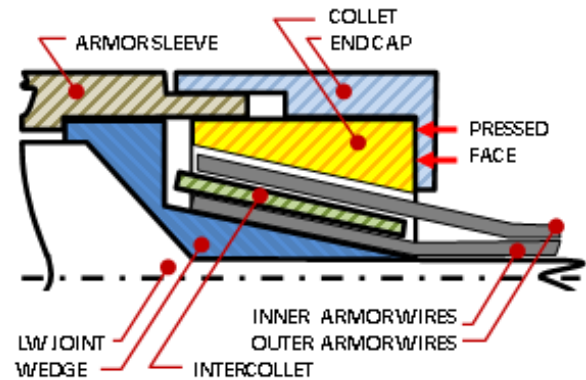


Technical Insight: UJ/UC & UQJ Armor Clamp

In shallow waters the 'lightweight' (LW) cable core is protected against the subsea topography, anchor and fishing damage by helically wound 'armor' layer(s) of galvanized steel wire. These are overwound by polypropylene 'serving' layers coated in bitumen to further protect against corrosion. The armored cable will be single (SA) or double (DA) armor depending on the protection requirement. SA cable is normally deployed down to 2000 meters water depth and DA down to 600 meters.



The overall cable diameters will range from 20mm for a single armor light cable (SAL) and to 65+mm for double armor heavy (DAH) cables. In extreme cases a 'rock' armor (RA) cable, comparable in diameter and weight to DA cable, is deployed but the outer layer has a very short helix length (lay length) which does not contribute tensile strength so the inner SA provides the tensile strength. This RA cable typically has a shallower deployment depth than DA.



The Universal Joint (UJ) and Universal Quick Joint (UQJ) utilize a 'taper lock' termination method that ensures a cable breaking load greater than 90% of the stated parent cable breaking load. For armor cables the breaking load can range from 60kN for SA to 800kN for DA.



In SA cable the single layer of armor wires is pressed between a tapered 'wedge' and collet. For DA an inter-collet is used between the inner and outer armor wires, with each layer pressed in turn during the jointing process using hydraulic presses operated by trained and qualified personnel. The pressed armor clamp is retained by an end cap fitted to the armor sleeve. This armor sleeve transfers the armor wires' tensile loads of deployment and recovery and protects the core joint on the seabed.