

Assumptions and Proteus Simulation Results

- Expected Strain on the Cable
 - 4.4 kN (989 lbf) From the Proteus mooring software
- Breaking Strength of the Winchester cable(estimate)
 - 64 kN (14,400 lbf)
- Operating Strength of the cable(estimate)
 - 16 kN (3600 lbf).
- Heave load is based on the wet weight of the DAS instrument package weight at 150 kg (~300 lbs) in a sea-state of 3 meters at 9 seconds

Note:

Using the estimated cable tension of 4.4 kN under a 3-meter, 9-second sea state, the armored fiber optic cable must achieve an operating strength (fiber breaking strength) of 16 kN (a 3.6:1 safety factor for the fibers). To meet this requirement, I determined that the cable needed a minimum ultimate breaking strength of 50 kN. I used this 50 kN value as the benchmark for the design of the two spelter socket assemblies.