

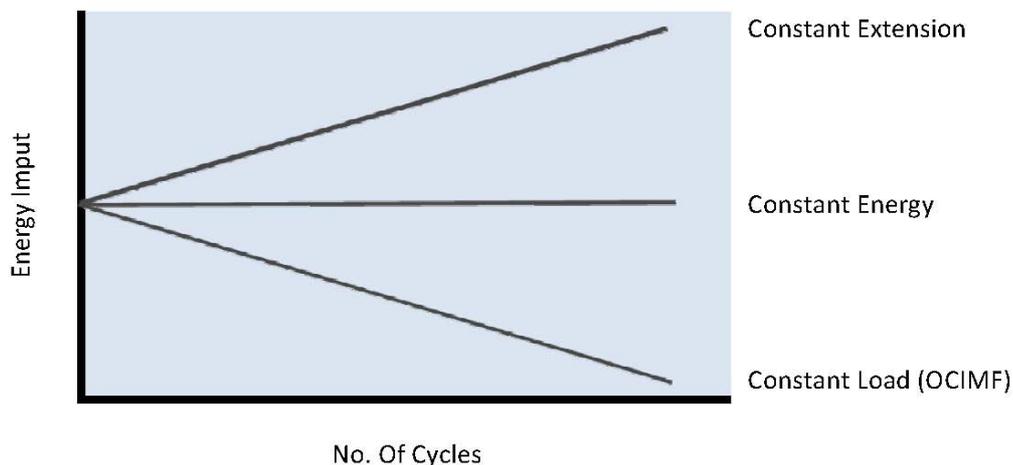


SINGLE LEG vs GROMMET TYPE

Hawser assemblies for SPM applications may be either single leg with a splice at each end of the rope or a twin leg grommet assembly with a splice in the middle of each leg. When a grommet assembly is specified, it is essential to have two splices adjacent to one another in each leg. This is because the splice section is stiffer than the unspliced rope and will have a lower extension than the unspliced section. Thus under high loads, the unspliced leg would extend more leading to stress on seizings, floats and the thimbles wanting to rotate, if there was a splice in only one leg.

Benefits of Twin Leg Assemblies

- Rope diameter is smaller, leading to smaller thimbles at each end, reducing cost and weight.
- Some claim that grommets are safer, in that there will be a less catastrophic parting should one leg break, as the seizings will tend to hold the rope legs together.



Effect of 3 different "TCLL" Test Regimes

Benefits of Single Leg Assemblies

- Effect of water wash, abrasion etc. is reduced as there is a much greater volume permanently enclosed compared to exposed to the sea. This problem can be further reduced by 100% PU coating the rope.
- At the high compression load transfer point of the thimble or eye (commonly known as the "10 to 2" position), the load is shared over two legs, so each leg of the eye only sees 50% of the load experienced in the main rope. This reduces both compression and extension damage.
- Some claim that because of the above, single leg assemblies have a better fatigue life performance.
- Easier to use tubular floats and install integral flotation systems.
- In the case of FPSO/FSO vessels (tandem offtake assemblies), easier to recover back on board if required between offtake operations.



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