NSF Wire Pool

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NSF

UNOLS
UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

WOODS HOLE
OCEANOGRAPHIC
INSTITUTION

Maintain An Inventory of Wire Rope, Cable, and Synthetic

One Wire Pool, two storage facilities

- East Coast - Woods Hole Oceanographic Institution (WHOI)
- West Coast - Scripps Institution of Oceanography (SIO)

Inventory of commonly used tension members

- Wire Ropes: ¼”, ½”, 9/16”
- Cables: .322 EM, .680” Coax, .681” power optic

Other tension members

- Synthetics: 9/16” Plamsma HiCo

Requesting New Wire

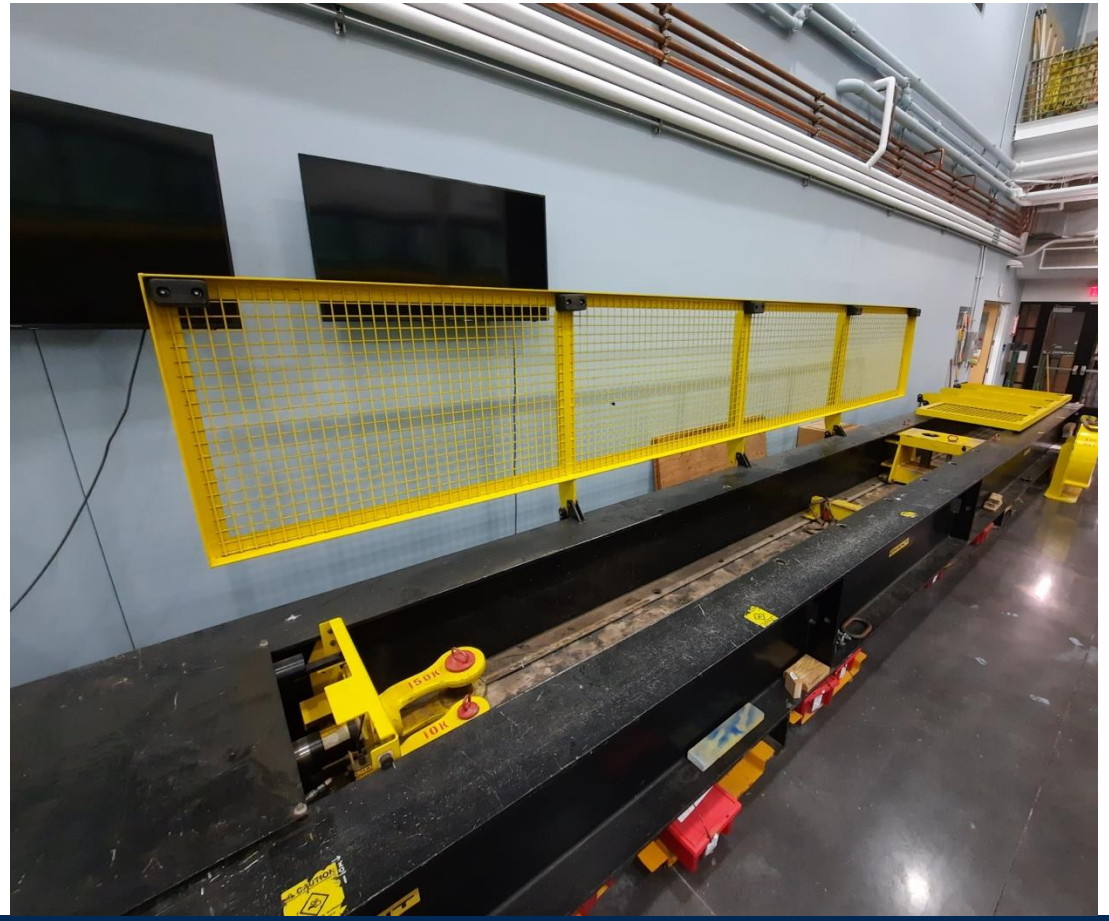
- Wire Pool fields all requests for new and used tension members
- Determine availability of requested item (inventory)
- Wire Pool prepares package for NSF consideration
- If approved, arrange for shipping to nearest domestic port

Long Lead Times

.681: 8 Month lead time
3x19: 4 Month lead time

Database and Break Testing

- Marine Superintendents have access to tension members assigned to vessel
  - Update wire status
  - Manage SWL information
  - Report Events
    - Lubrication, cutbacks, splits, document upload
  - Submit break test request
    - Testing mandated by Appendix A of RVSS and funded by NSF (no cost to vessel)



Spooler

- Hawboldt spooler capable of spooling 10,000 m reels of .681”
  - Allows the wire pool to inspect and lubricate factory reels
  - Cut from factory reels to distribute saving on shipping cost
  - End-for-end wire

.322 and Lebus Shells

- Not all .322” cables fit all Lebus shells
- Groove size for .322” cable should be 0.5%-3% of cable diameter
- Manufacturer recommends sending sample to build properly matched Lebus shells
- Compatibility with the existing Lebus shell on the vessel is not guaranteed

Clamps On .322

- Tested 3 samples
  - 11,300 lbs.
  - 10,540 lbs.
  - 10,950 lbs.
- All broke relative to the clamp
- Historically tested samples fail at termination

Overall, the clamps did not reduce the breaking strength of the cable. However, it changed the strain concentration closer to the clamp and away from the termination.

Questions?