



# Update from the National Science Foundation Wire Pool

Rick Trask

NSF Wire Pool Manager



# Presentation Topics

- Wire Pool Overview
- Wire Pool Database User's Guide
- Lubrication Study
- Use of an additional point of reference for noting tension member events



# Wire Pool Overview

- One Wire Pool
- Inventory of commonly used tension members
- Process requests for new tension members
- Testing service
- Database of vessel tension members



# Wire Pool Database User's Guide



# Wire Pool Database User's Guide

What it includes:

- Detailed explanations and instructions (e.g., requesting a break test or editing the safe workload information)
- Abbreviated instructions for each section.

Where to find it:

- Login page (left side)
- Multiple ship list page (left side)
- UNOLS Wire Pool Ship Report page (upper right)

# UNOLS Wire Database - TEST

Contact information: [unolswirepool@whoi.edu](mailto:unolswirepool@whoi.edu)  
Wire Pool Manager: Rick Trask 508-289-2395  
Database Administrator: Andrea Harvey 508-289-3530

## UNOLS Wire Database - TEST

[Login](#)

[User Guide](#)

### UNOLS Wire Database Login

First name:  Last name:

Password:

Login

# UNOLS Wire Database - TEST

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Wire Pool Manager: Rick Trask 508-289-2395  
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## UNOLS Wire Database - TEST

AIWPS - Rick Trask

[Ship Reports](#)

[Contact list](#)

[User Guide](#)

[Logout](#)

## UNOLS wire database for American Institute of Wire Pool Studies

Shipping address: 266 Woods Hole Road  
Mail Stop 19  
Woods Hole, MA 02543  
Phone: 508-555-5557  
Fax: Not available

### [R/V Tension Member](#)

[Report a reel on R/V Tension Member](#)

Wire	NSF ID
0.322 EM	<a href="#">NSF-04-C125-A-B</a>
0.322 EM	<a href="#">OTH-154</a>
0.681 FibronPowerOptic	<a href="#">OTH-121-A</a>
0.681 FibronPowerOptic	<a href="#">OTH-121-B</a>
9/16 3x19	<a href="#">OTH-103-A</a>

### [R/V Wire Rope](#)

[Report a reel on R/V Wire Rope](#)

Wire	NSF ID
0.322 EM	<a href="#">NSF-04-C125-A-A</a>
0.322 EMA305678	<a href="#">NSF-21-C999</a>
9/16 3x19	<a href="#">OTH-103-B</a>

UNOLS WIRE POOL SHIP REPORT

R/V Tension Member

Logged in: Rick Trask



Contact information: [unolswirepool@whoi.edu](mailto:unolswirepool@whoi.edu)  
 Wire Pool Manager: Rick Trask 508-289-2395  
 Database Administrator: Andrea Harvey 508-289-3530

Institution: American Institute of Wire Pool Studies Vessel name: R/V Tension Member Shipping address: 266 Woods Hole Road Mail Stop 19 Woods Hole MA 02543 Office phone: 508-555-5557 Fax:  <p style="text-align: center;"><a href="#">Update information</a></p>	Primary contact: Rick Trask Title: Director of Research Address: 266 Woods Hole Road Woods Hole MA 02543 Office phone: 508-555-5556 Cell phone: 508-555-5555 Email: <a href="mailto:rtrask@whoi.edu">rtrask@whoi.edu</a> Fax:  <p style="text-align: center;">  <a href="#">Edit contact list</a>  </p>	Secondary contact: Andrea Harvey Title: Associate Director of Research Address: 266 Woods Hole Road Mail Stop Nineteen Woods Hole MA 02543 Office phone: Cell phone: Email: <a href="mailto:aharvey@whoi.edu">aharvey@whoi.edu</a> Fax:  <hr/> <p style="text-align: right;">Other authorized users: Barbara Callahan <a href="#">[Edit]</a>                  Read-only users: None</p>
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Per UNOLS Wire Pool Policy, transfer of UNOLS wire to another vessel or institution requires prior approval

[Request wire](#)

[Report a reel](#)

Wires Assigned to this Vessel							Event
Wire size and type	Manu. Reel No.	Wire Pool Reel No.	Date distributed to this institution	Current length (m)	Last lubrication (see Policy)	Wire Status	
0.322 EM	A301592	<a href="#">OTH-154</a>	Dec 2020	10,000	none reported	In storage ashore for future use by this institution	Select <input type="button" value="v"/>
0.322 EM	Q4512-C2	<a href="#">NSF-04-C125-A-B</a>	Nov 2020	229	Dec-11-2020	In storage ashore for future use by this institution	Select <input type="button" value="v"/>
0.681 FibronPowerOptic	ABC123	<a href="#">OTH-121-A</a>	Dec 2020	3,000	Dec-14-2020	In storage ashore for future use by this institution	Select <input type="button" value="v"/>
0.681 FibronPowerOptic	ABC123	<a href="#">OTH-121-B</a>	Dec 2020	2,000	Dec-9-2020	Disposal requested	Select <input type="button" value="v"/>
9/16 3x19		<a href="#">OTH-103-A</a>	Oct 2020	5,000	Dec-11-2020	Disposal requested	Select <input type="button" value="v"/>

Vessel Name: R/V Tension Member

Safe Working Load Information

The wires listed below are those reported above as "In Use or Onboard Vessel", which are required to be in compliance with Appendix A: Rope/Cable Safe Working Load Standards in [UNOLS Research Vessel Safety Standards](#).

1	2	3	4	5	6	7	8	9	10	11	12	13	14
System Description	Wire Pool Reel No.	Rope/Cable	NBL (lbs)	TBL (lbs)	Test Date	ABL (lbs)	Minimum Sheave DIA (in)	Grooving Code	D/d	Tension Logging Freq.	FS	SWL (lbs)	Comments
No reels currently in use													





# Lubrication Study Update



# Lubrication Study

**Purpose:** To evaluate the benefits of lubricating .322 EM cable more frequently while at sea during haul-in

## **Approach:**

- Qty (6) 10m samples of .322 EM cable are submerged off the WHOI dock daily (M-F) for several hours.
- After submersion, each sample is coiled and hung outside in the weather. No fresh water rinse.
- One group (Samples 1, 2, and 3) is lubricated monthly and the other group (Samples 4, 5, and 6) are lubricated annually. Lubricant/corrosion inhibitor is applied by CoreLube system using Grignard OLL-D2.
- Monthly lubrication of the one group (Samples 1, 2, and 3) is done as the samples come out of the water (no rinsing, no drying).
- Every six months a test article is taken from each group for a break test and close inspection under a microscope.
- We are currently 21 months into the 60-month project.

Special Thanks to Barbara Callahan who has overseen the implementation of the Lubrication Study

# Lubrication Study

**Sample Test Location**



**Mobile Lubricator Cart**



# Lubrication Study

## Results to Date

All Samples From NSF-19-C187



NSF Wire Pool

Sample 1 receives monthly lubrication

Sample 4 receives annual lubrication

Date	Sample 1 e-kink [Metallic Cross Sectional Area Failure]	Sample 4 e-kink	Sample 1 Break Test [lbs.]	Sample 4 Break Test
New August 2019	0 %	0%	13,000	13,000
July 2020	0%	0%	12,275	12,400
January 2021	0%	0%	13,220	12,700
June 2021	0%	11%	11,520	10,980

Sample 1  
Lubricated Monthly



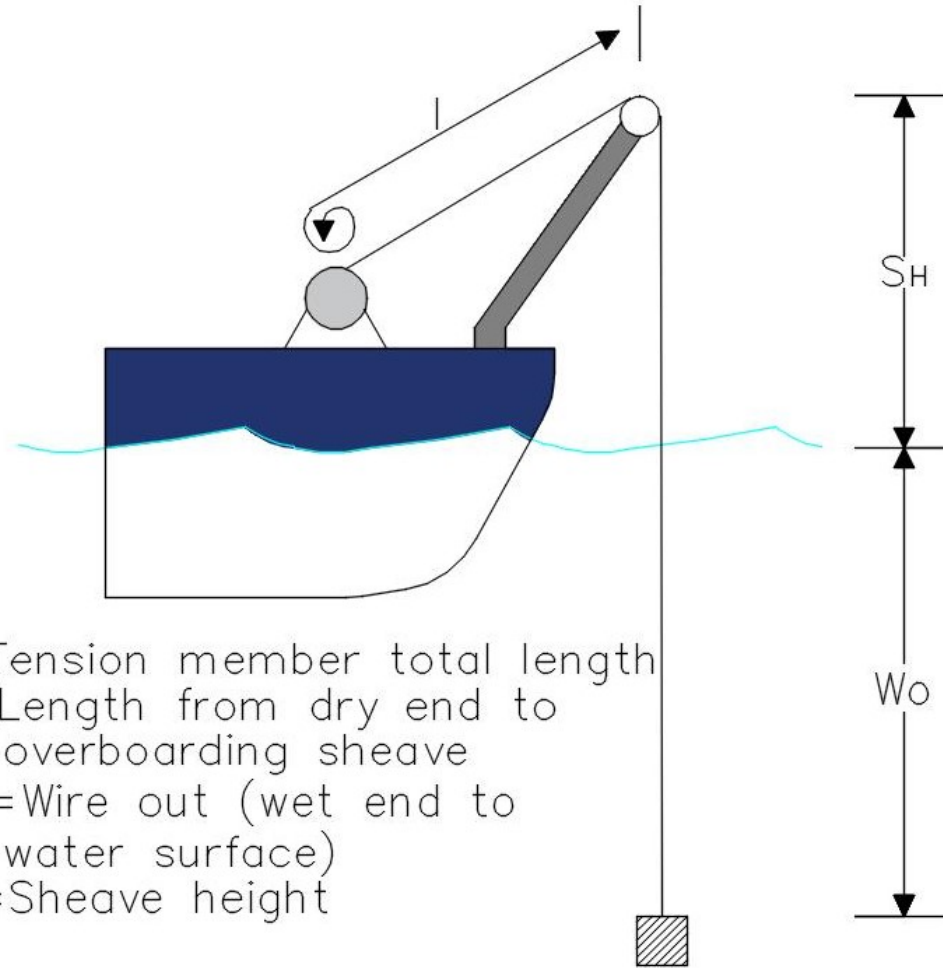
Sample 4  
Lubricated Annually



# An Additional Point of Reference for Noting Tension Member Events



# Conventions for noting tension member events



$L$  = Tension member total length  
 $l$  = Length from dry end to overboarding sheave  
 $W_o$  = Wire out (wet end to water surface)  
 $S_H$  = Sheave height



# A Simple Example:

	Event Location	
	Distance from Wet End	Distance from Dry End
Total Length	"L"	"l"
	(m)	(m)
<b>Tension Event Occurs</b>	10,000	8,800
<b>Subsequent cut back of 100m to re-terminate</b>	9,900	8,800
<b>Additional cut back of 200m</b>	9,700	8,800

The event location relative to the wet end changes with every cut back but when using the dry end as the reference the location does not change. (Except when end for ending which does not happen very often)





## **Benefits of referencing event location relative to the dry end:**

- Less bookkeeping to track where tension member events occurred
- When the total length of the tension member becomes less than the recorded distance to an event from the dry end, the affected area is no longer a concern.
- Location of all events is important when evaluating the impact they have on the tension member, particularly on synthetic ropes since we want to be certain where they occurred so the impacted area can be cut out and tested.
- Requesting users to add this reference to their wire logs

End of the Wire Pool Presentation  
Are there any Questions?