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Decommission & Installation of Wind Energy Equipment with Synthetic Sling Solutions
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ABSTRACT
In today's energy market, the days of decommissioning older wind structures are reaching. Therefore the decommissioning of a structure is removed from the site or rebuilt to incorporate improvements in technology. Efficient lifting solutions are required. High-performance fibers such as High Modulus Polyester (HMPE) are utilized frequently for engineered or critical lifts across multiple industries because of the high strength, durability, and ease of rigging. High-quality synthetic fiber solutions are the norm for industry experts to integrate these benefits when installing subsea and topology structures.

OBJECTIVES
The purpose of the presentation is to compare and contrast available solutions for the rigging of engineered lifting lifts, including traditional single-leg, grommet, and new multiple-loop sling options.

METHODS
Most of our slings are made of 12-strand braided rope construction made of HMPE fiber (e.g. AmSteel-Blu). Samson uses HMPE for engineered lifting slings based on its durability, demonstrated through historical usage data.

RESULTS
D2
PRODUCT DESIGN COMPARISON

PRODUCT DESIGN COMPARISON

1. MATCHING HARDWARE AND EQUIPMENT
For matched rigging, potential dynamic scenarios, as well as integration of planners must understand the details of intended use during the operation.

2. SAFETY FACTORS
Whether equipment is removed from existing sites or rebuilt to weekly or to retire periodically. Samson has a visual inspection program in place to help make critical field inspections a simple matter of comparing conditions as to the visual inspection.

3. ABRASION
Engineered lifting slings are to be inspected required, especially when the load bearing member is exposed to contact.

4. RETIREMENT
A longer lead time could be commissioned again for future use.

APPLICATION CASE STUDIES

To conclude, there is no one-size-fits-all product designed for engineered lifts. Each specific lift calls for a sling designed for that operation, and each sling type has pros and cons depending on the job classification. Understanding the intent of the project is critical. The multiple-loop product is designed for this very fit-for-purpose functionality. The benefits outweigh the negatives on the more product to adapt to rigorous tasks in the ever-demanding engineered lifting industry. Using this product enables Samson to fabricate precisely engineered lifting slings with the following advantages:

- Smaller D/d ratio possible, because the system interacts with individual ropes, while working as a series
- Tighter length tolerances:
  - +/- 0.25%
  - Less localized pressure area due to wider contact surface
  - Faster loading due to its ability to be built from available stock of multiple rope diameters
- Potentially multi-use, could be repurposed

CONCLUSIONS

SUMMARY

Download the poster

REFERENCES
A. INDUSTRY STANDARD SLING DOCUMENTS
1. ASA.18.2
2. ConTecory Institute CI 2053
3. IWAM M 187

B. INDUSTRY GUIDANCE ON SAFETY FACTOR
1. DNV GL Standards [DNV-OS-H205]

C. SAMSON DOCUMENTS
1. Samson’s Grommet Brochure
2. Aladdin Sling Brochure
3. Technical Bulletin on Inspection and Maintenance
4. Technical Bulletin on The Effect of Twist on Braided Ropes