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Wire Ropes and Sustainability. An Overview by the Rope Pope!

Wire ropes are complicated machines that combine very high breaking strengths with great flexibility and good fatigue life. Wire ropes are extremely reliable because they can still carry loads up to their breaking strength and operate safely even when every one of the strands has broken.

Since their invention in Clausthal, Germany in 1834 wire ropes have been used in numerous applications ranging from small transmission ropes and medium sized crane hoist ropes to very large diameter anchor ropes for offshore platforms.

A lot of research has been done in the last 180 years to improve the geometry and performance of the ropes, but very little attention has been paid to their impact on the environment. For example, on average about 2.5 percent of the weight of a wire rope is lubricant that will get lost over time and eventually needs re-application. Furthermore, smaller sheaves and drums in reeving systems lead to cheaper cranes at the expense of much lower rope lives and therefore a greater impact on the environment.

The presentation will discuss new materials, bio-degradable lubricants and environmental-friendly machine design aspects of wire ropes.

Speaker



Dipl.-Ing.
Roland
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