



9/16" Wire Rope Breaking Strength over Rotating Sheaves

Results for various sheave diameters and groove dimensions



Wire Testing

Periodically the Wire Pool focuses on a specific issue that requires advanced testing capability:

- RVOOC Safety Committee receives waiver requests to use of 9/16” diameter wire rope with sheaves grooved for .681” power optic cable.
- Without the waiver the provisions of Appendix A only allow for 9/16” wire rope use with a factor of safety ≥ 2.5
- To address the safety concern, the Wire Pool sought the services of Tension Member Technology to conduct BSORS (Breaking Strength Over Rotation Sheave) tests.
 - BSORS Tests with 9/16” wire rope on sheaves grooved for .681” diameter cable



Wire Testing (continued)

9/16" Wire Rope Straight Pull → 33,930 lbs.

Sheave Dia.	Groove Dia. (wire size)	9/16" BSORS Result
22.3"	.58" (9/16")	26,015 lbs.
28"	.6" (9/16")	28,370 lbs.
28"	.72" (.681")	27,170 lbs.

9/16" Wire Rope Straight Pull → 33,570 lbs.

Sheave Dia.	Groove Dia. (wire size)	9/16" BSORS Result
48"	.71" (.681")	33,150 lbs.

Questions?