

The first synthetic line designed specifically for mobile cranes: A lightweight, safe, and reliable alternative to steel-wire rope.



Samson has leveraged fiber, coating, and rope construction technology from multiple industries it serves to create *K-100*. Designed specifically for use on mobile cranes, *K-100* hoist rope features high strength-to-weight ratio, bend fatigue durability, and robust spooling capabilities.

The combination of high-performance synthetic fibers provides strength similar to wire rope with over 80% in weight reduction. The high strength of these high-performance fibers allows the rope to meet the maximum line pull requirements with a 5:1 safety factor. A proprietary coating has been added to *K-100* to improve rope performance in cyclic bend over sheave applications inherent on mobile cranes.

The physical structure of *K-100* also contributes to its performance characteristics. The rope construction provides a firm cross section that enables effective multi-layer spooling, prevents load spin, birdcaging, and limits permanent damage due to improper spooling.

The result is a crane hoist line that is easy and safe to handle/reeve, more durable for spooling, and can reduce weight in the overall system.



Dyneema® is a registered trademark of Royal DSM N.V. Dyneema is DSM's high-performance polyethylene product.

Nominal Diameter		Approximate Weight		ISO 2307 Strength*	
MILLIMETER	INCHES	KG/METER	POUNDS/FOOT	METRIC TONS	POUNDS
15 mm	19/32"	0.17 kg	0.11 lb	17.7 mt	39,000 lb
16 mm	5/8"	0.18 kg	0.12 lb	21.4 mt	47,200 lb
17 mm	11/16"	0.22 kg	0.15 lb	25.6 mt	56,400 lb
18 mm	3/4"	0.24 kg	0.16 lb	28.9 mt	63,700 lb
20 mm	13/16"	0.27 kg	0.18 lb	32.6 mt	71,900 lb
22 mm	7/8"	0.32 kg	0.22 lb	38.1 mt	84,000 lb
25 mm	1"	0.42 kg	0.29 lb	49.3 mt	109,000 lb
28 mm	1-1/8"	0.54 kg	0.36 lb	60.2 mt	133,000 lb
30 mm	1-1/4"	0.64 kg	0.43 lb	69.9 mt	154,000 lb

*Unspliced strength Max permissible line pull is calculated with a 5:1 safety factor.

FEATURES & BENEFITS

- 80% lighter than wire
- Easy handling/reeving and installation
- Reduces number of change outs due to mitigation of kinking, birdcaging, or damage from diving
- Torque-neutral construction mitigates load spin and cabling
- Corrosion resistant — no rusting, no lubing
- Reduces risk of hand injury from broken wires
- Reduced wear on drums, sheaves
- Standardizes main and auxiliary hoist to one rope
- Same load pull and load chart but with 5:1 safety factor

SPECIFICATIONS

FIBER (CORE/COVER) Polyester (Control Core) / High-modulus Blend

SPECIFIC GRAVITY 1.05

COLOR Orange with a black longitudinal line

ELASTIC ELONGATION % (At % of break strength)

10%..... 0.9%

20% 1.3%

30% 1.8%

SPLICE/CLASS Product Specific Class II

The product name *K-100* was chosen to honor Karim Ziyad. He was the pioneering Manitowoc engineer that collaborated with Samson to develop the use of synthetic hoist ropes. Karim passed away in a bicycling accident in 2013. His keen intellect and honest friendship will be fondly remembered and greatly missed.



samson
THE STRONGEST NAME IN ROPE