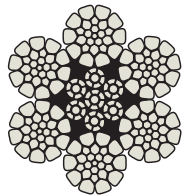


NORTHERN STRANDS

Premium value ropes.

Flex-X®6

Most applications for wire rope are extremely demanding. Wire rope must resist crushing, bending fatigue and abrasion. For example, clamshell closing lines must resist bending fatigue and boom hoists are subject to pressures that cause crushing. Overhead hoists test the stability and strength of a wire rope. All drum-related applications demand a rope that will spool and operate smoothly and dependably.

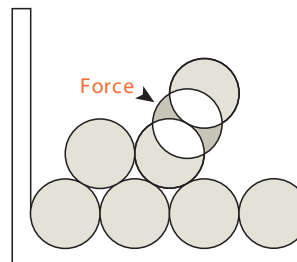


Flex-X 6

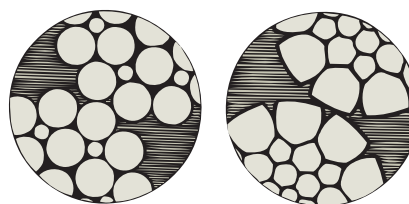
Flex-X 6 users receive superior performance and increased service life in many applications compared to the ropes they had previously employed. When compared to conventional 6 strand ropes, Flex-X 6 ropes provide greater surface area and more steel per given diameter, which increases rope stability and strength, too. This results in longer service life and less sheave and drum wear.

Flex-X vs. standard 6 x 26 WS

Drum scrubbing between the lead line and the previous wrap is reduced. The smooth contact creates less interference, less metal loss and wire deformation. (right)



The increased surface area of Flex-X can be seen in the comparison of the contact points of a standard 6 x 26 WS (below left) and Flex-X (below right).



Minimum breaking force and weights for Flex-X 6 and Flex-X 9.

Diameter (in.)	Flex-X®6		Flex-X®9	
	Approx. wt./ft. (lbs.)	Minimum breaking force (tons of 2,000 lbs.)	Approx. wt./ft. (lbs.)	Minimum breaking force (tons of 2,000 lbs.)
3/8	0.32	8.8		
7/16	0.41	11.9		
1/2	0.55	15.3		
9/16	0.70	19.3		
5/8	0.86	22.7	0.95	26.2
3/4	1.25	32.4	1.35	37.4
7/8	1.67	43.8	1.85	50.6
<hr/>				
1	2.18	56.9	2.40	65.7
1 1/8	2.71	71.5	3.05	82.7
1 1/4	3.43	87.9		
1 3/8	4.25	106		
1 1/2	5.01	125		

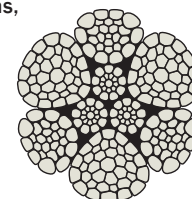
Flex-X®9

Designed to satisfy drum crushing challenges, Flex-X 9 features compacted strands and swaging for extra drum crushing resistance and increased stability. Its high-density strands deliver extra strength, surprising bendability and a stubborn resistance to abrasion.

Flex-X 9 is manufactured with a dual compaction process to produce a compact

cross-section with minimum voids and greater surface area on outer wires that contact drums, sheaves and the rope, itself, during operation. The high-density, compacted strands minimize nicking at strand-to-strand contact points.

And Flex-X 9 makes inspection easier for you. While swaged ropes may develop internal broken wires before they do externally, Flex-X 9's design minimizes internal stresses, making external wire breaks more likely to develop first.



Flex-X 9