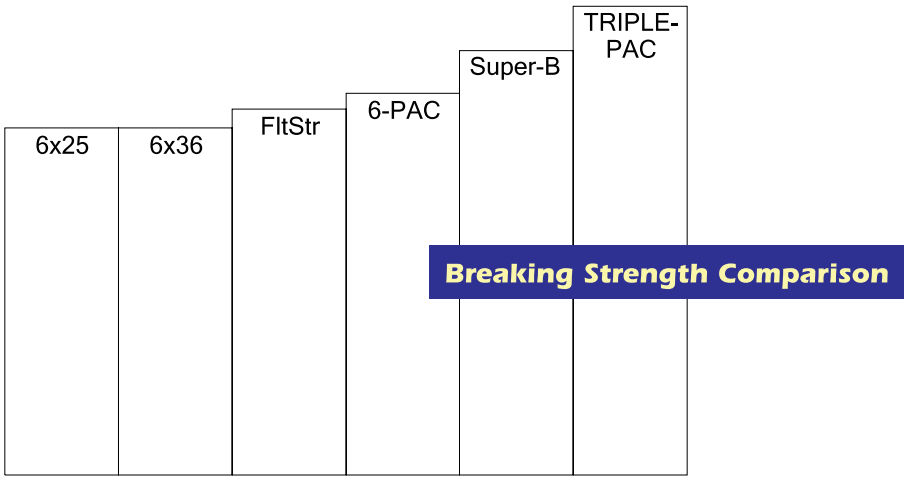
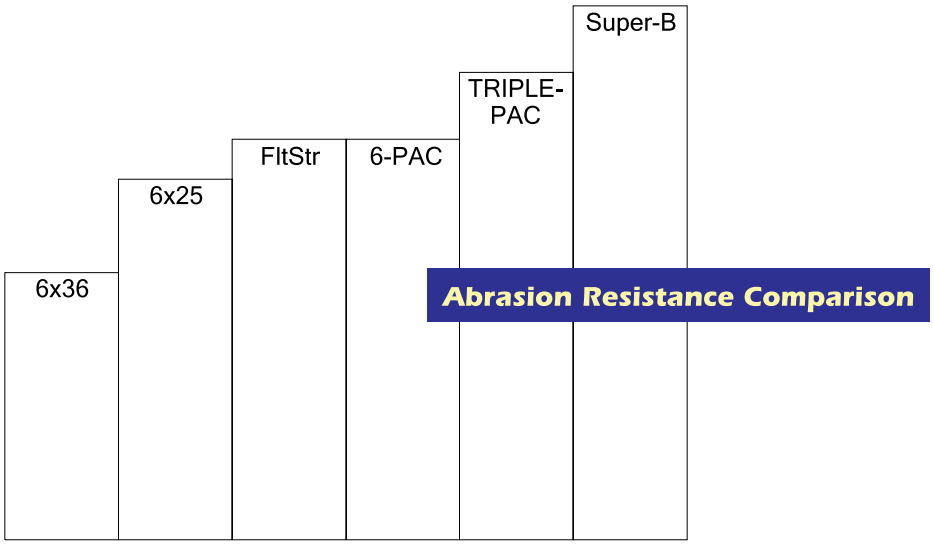
Specialized Wire Rope

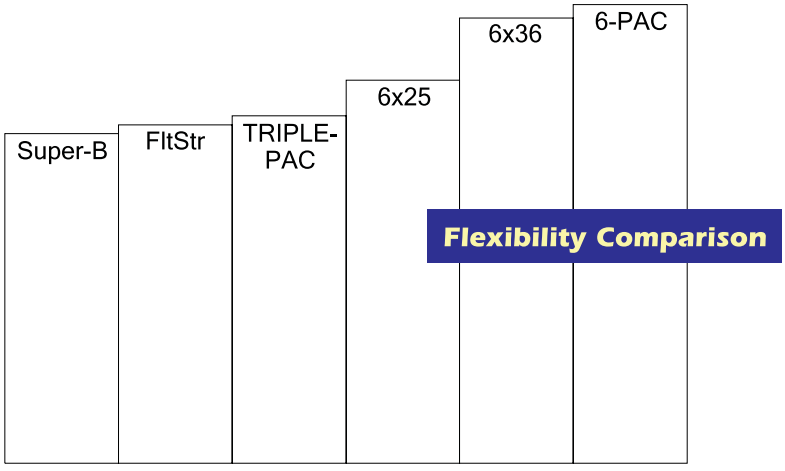
The charts shown to the right are meant to serve as a quick reference guide in selecting a specialized wire rope.

The increased strengths of the specialized ropes are derived from greater metallic areas. Whether the greater metallic areas are caused by shaped strands (flattened strand), die drawn strands (6-PAC) or swaging (Super-B and TRIPLE-PAC), these manufacturing processes create denser rope cross sections, thus increasing the ropes' breaking strengths. Also contributing to the increase in strength for the die drawn strand ropes is the flat, smooth finish to the strands which eliminates inter-strand nicking and enables the load placed upon the wire rope to increase without causing internal damage.

Abrasion resistance and flexibility are determined by two factors—outer wire size and method of compaction. Generally, the larger the outer wire size, the greater the abrasion resistance. For example, a 6x25 wire rope is manufactured with an outer wire size greater than that of a 6x36. Therefore, the 6x25 wire rope is more resistant to abrasion. Abrasion resistance is also determined by compaction. The greater the compaction, the greater the abrasion resistance, as in the case of Super-B and TRIPLE-PAC. Conversely, wire ropes manufactured with small wire sizes offer greater flexibility than those with large outer wires. Again using 6x25 and 6x36 as an example, the 6x36 with smaller outside wires is clearly more flexible. Further, compaction may either enhance or hinder flexibility. Die drawn strands (6-PAC) enhance flexibility due to the strands' flat surface areas reducing internal resistance, enabling the strands to better move in conjunction with each other. Swaging, on the other hand, hinders flexibility, as evidenced by Super-B and TRIPLE-PAC.







6-Pac Wire Rope

6-PAC

6-PAC is recommended for use where the rope is subjected to heavy use or where conditions are extremely abusive, such as offshore pedestal, crawler and lattice boom equipped truck crane boom hoist applications. 6-PAC is also recommended for winch lines, overhead cranes, multipart hoist lines where rotation-resistant ropes are not required, and other applications where flexibility, high strength and resistance to crushing are important, and a cost-effective 6-strand rope is desired.

6-PAC provides:

Fatigue Resistance. Improved fatigue properties are derived from the combination of 6-PAC's flexible constructions and the compacted strands. The compacted strand surface minimizes the interstrand and interlayer nicking that take place in standard 6-strand ropes.

Abrasion Resistance. 6-PAC's compacted strand design provides improved abrasion resistance as compared to standard 6-strand ropes because of the increased wire and strand surfaces contacting sheaves and drums.

Flexibility. 6-PAC's design provides increased flexibility, making it easy to install, and 6-PAC also offers better spooling at high line speeds.

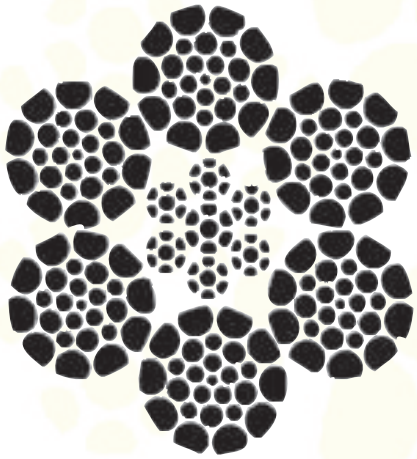
Resistance To Multilayer Drum Crushing. 6-PAC dramatically increases the amount of wire contact with the drums and sheaves, reducing the wire rope, sheave and drum wear normally associated with standard wire rope . Damage at the crossover points is also reduced.

Strands: 6
Wires per strand: 19 to 36
Core: IWRC
Standard grade(s): Royal Purple
Lay: Right Regular
Finish: Bright

Rope Diameter		Standard Construc-tions	Approx. Weight (lb./ft.)	Nominal Strength (tons)*
inches	mm.			Royal Purple
3/8	9.5	6x19 Seale	0.285	8.3
7/16	11.0	6x19 Seale	0.388	11.2
1/2	13.0	6x26	0.503	14.6
9/16	14.5	6x26	0.642	18.5
5/8	16.0	6x26	0.795	22.7
3/4	19.0	6x31	1.143	32.4
7/8	22.0	6x31	1.547	43.8
1	26.0	6x31	2.075	56.9
1-1/8	29.0	6x31	2.575	71.5
1-1/4	32.0	6x31	3.169	87.9
1-3/8	35.0	6x36	3.758	106.0
1-1/2	38.0	6x36	4.564	125.0
1-5/8	41.3	6x36	5.356	146.0
1-3/4	45.5	6x36	6.212	169.0

*Acceptance strength is not less than 2-1/2% below the nominal strengths listed. Tons of 2,000 lbs.

For **Bethpac**, or 6-PAC over 1-3/4" diameter, please refer to WWW's Bethlehem Mining Products catalog, or contact our customer service department.



6-PAC RV

6-PAC RV is recommended in severe boom hoist applications where heavy duty cycles occur, the rope is subjected to premature abrasion and crushing, and increased strength and/or service life over flattened strand and standard 6x26 alternate lay ropes is desired.

6-PAC RV provides the same **fatigue resistance** as 6-PAC. Other features of 6-PAC RV include:

Superior Performance. In multiple field trials, 6-PAC RV provided a service life 100% higher than the previous flattened strand and 6x26 alternate lay wire ropes.

Abrasion Resistance. 6-PAC RV's compacted strand design provides improved abrasion resistance as compared with standard 6x26 alternate lay ropes because of the increased wire and strand surfaces contacting sheaves and drums.

Superior Flexibility. 6-PAC RV is **27% more flexible than flattened strand,** making it easier to install and handle in the field. 6-PAC RV also offers better spooling at high line speeds and longer rope service life.

Increased Strength. 6-PAC RV offers a nominal breaking strength 3% higher than flattened strand.

Resistance To Multilayer Drum Crushing. 6-PAC RV offers increased resistance to the crushing effects of multilayer drum winding than conventional 6x26 alternate lay ropes.

Strands: 6
Wires per strand: 19 to 36
Core: IWRC
Standard grade(s): Royal Purple
Lay: Right Reverse
Finish: Bright

Triple Pac Wire Rope

TRIPLE-PAC

TRIPLE-PAC was developed for the most demanding hoist applications. TRIPLE-PAC offers the extra high strength and crushing resistance needed for applications such as boom hoist ropes, boom pendants and multipart load lines.

TRIPLE-PAC provides **superior abrasion and fatigue resistance** as compared with most compacted ropes due to WW's unique design of compacting the IWRC, individual strands and the rope itself. Other benefits include:

High Strength. TRIPLE-PAC is designed to provide a nominal strength of **35% above EIP**. WW achieves this strength through selected grades of steel and TRIPLE-PAC's unique design and manufacturing processes.

Superior Resistance to Multilayer Drum Crushing. TRIPLE-PAC provides superior resistance to crushing through its design. Its triple compaction provides a denser cross section, enabling the rope to withstand the rigors of multilayer spooling. Damage at the cross over points is also significantly reduced. In addition, TRIPLE-PAC's design increases the amount of wire contact with sheaves and drums, reducing wire rope, drum and sheave wear.

Rope Diameter		Standard Construc-tions	Approx. Weight (lb./ft.)	Nominal Strength (tons)*
inches	mm.			Royal Purple Plus
7/16	11.0	6x26	0.412	13.8
1/2	13.0	6x26	0.543	18.0
9/16	14.5	6x26	0.680	22.7
5/8	16.0	6x26	0.840	27.8
3/4	19.0	6x31or 36	1.297	39.7
7/8	22.0	6x31or 36	1.646	53.7
1	26.0	6x31or 36	2.147	69.8
1-1/8	29.0	6x31or 36	2.722	87.8
1-1/4	32.0	6x31or 36	3.297	107.9
1-3/8	35.0	6x31or 36	3.997	129.6
1-1/2	38.0	6x31or 36	4.839	153.9

*Acceptance strength is not less than 2-1/2% below the nominal strengths listed. Tons of 2,000 lbs.

Strands: 6
Wires per strand: 26/31 or 36
Core: IWRC
Standard grade(s): Royal Purple Plus
Lay: Right Regular
Finish: Bright