

# TECH-35™



QUALITY TYPE APPROVAL

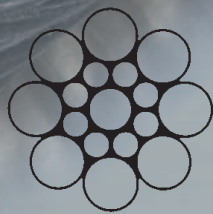


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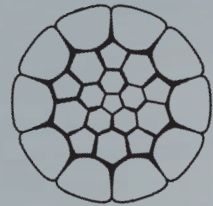
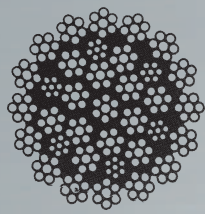


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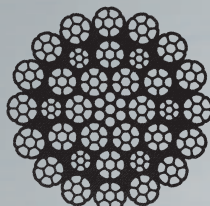




**STANDARD**



**COMPACTED**



## COMPACTED STRAND

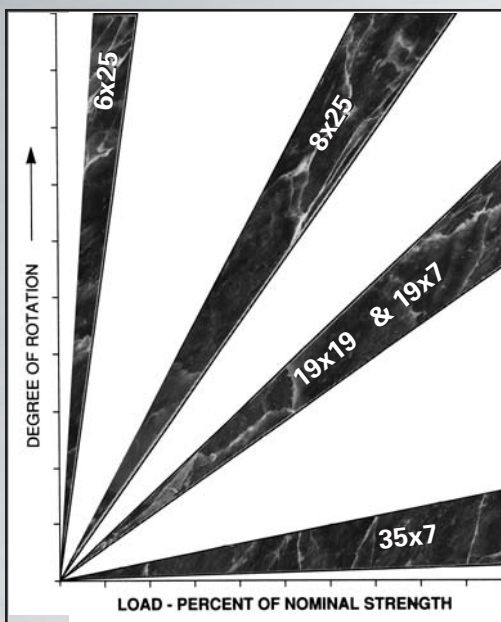
In order to produce a compacted strand, a conventional strand made out of round wires is drawn through a compacting tool. During this procedure, the wires are partially deformed, the strand diameter is reduced and the surface is made smooth. The contact conditions between the individual wires and the strand-to-strand contacts improve.

Ropes made out of compacted strands have a higher breaking load, a greater flexibility and better rope-to-sheave contact conditions than comparable ropes made out of conventional strands. Because of the greater exterior surface area created as well as the reduced valleys between wires,

SIZE MM	Min. Breaking Strength TONS			
	IN	Compact		
		Tech-35 2160 Grade	19x19 NR EIPS	19x7 NR EIPS
12.7	1/2	18	14.6	10.8
14.3	9/16	22.7	18.4	13.6
16	5/8	28.2	22.7	16.8
19	3/4	40	32.3	24
22	7/8	54.8	43.8	32.5
25.4	1	71.7	57.5	42.2
26	1 1/32	74	N/A	N/A
28.6	1 1/8	83.6	71.5	53.1
32	1 1/4	110.2	87.9	65.1
35	1 3/8	131.8	96.6	78.4

## SUPERIOR BREAKING STRENGTH

Compact 35 x 7 such as Tech-35 are the strongest of all rotation resistant ropes. It is important to note that the breaking strengths from this chart are with both ends terminated. Although it is commonly done, it is recommended by all wire rope manufactures that 19x7 and 19x19 constructions are not to be used with swivels. What occurs in a swivel application with these particular constructions, is that as you increase load, the core will tighten and thereby loosen the outer strands. This causes a drastic reduction of breaking strength and cork screwing. The loosening of the outer strands increases the diameter of the wire rope not allowing it to turn properly on the sheave, many times causing stacking on the drum and eventually destroying the rope.



## BEST ROTATION RESISTANCE

The recommendation on swivels is also confirmed by the Wire Rope Technical Board as taken out of the Third Edition and reads as follows:

"The use of an open swivel (allowed to rotate freely) continuously during operation of the rope is a practice that must be carefully considered. Open swivels are not recommended for use with 8x19, 19x7, and 19x19 rope classifications. For other multi-strand constructions, consult the rope manufacturer for recommendations regarding the use of swivels".

**Note:** Tech-35 not only can be used with a swivel, but it is recommended. Tech-35 provides the greatest resistance to rotation of all the rotation resistant ropes available as shown in the chart located to the left.

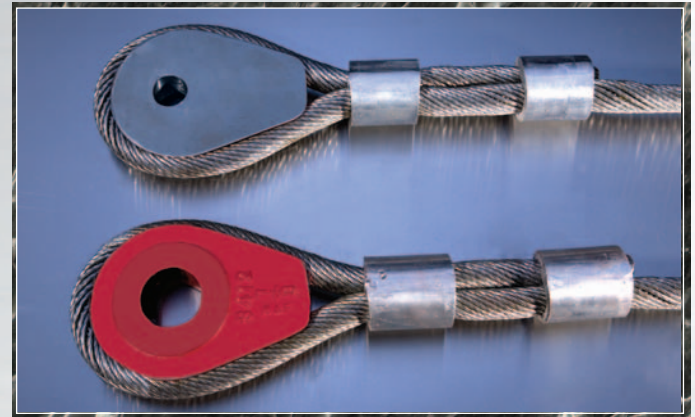
## PRESS

1000 ton National Press with both metric and domestic size dies for an exact after swage dimension. This assures that what is swaged stays swaged.



## SLEEVES

Tech-35 construction has more metallic density than most standard constructions. Standard Stainless and carbon sleeves can actually over-swage Tech-35 reducing its efficiency. Special European style aluminum sleeves are used for maximum efficiency. Note: Longer single piece aluminum styles are available for low head room applications.



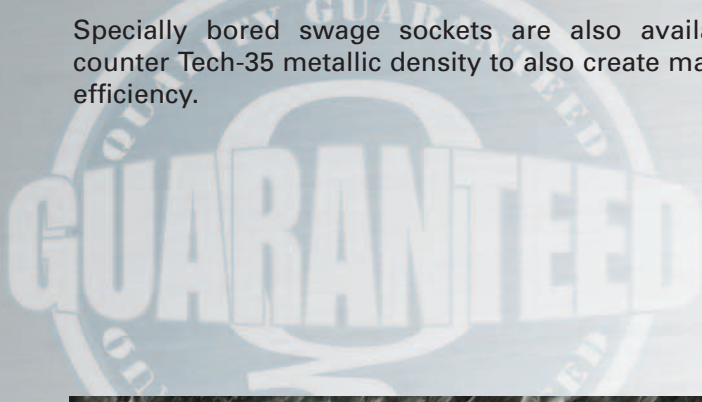
## SOCKETS

Specially bored swage sockets are also available to counter Tech-35 metallic density to also create maximum efficiency.



## SWIVELS

Custom grip and pin size are available to assure exact fit of your angular contact roller bearing swivel. Note: Spelter swivels are also available upon request.



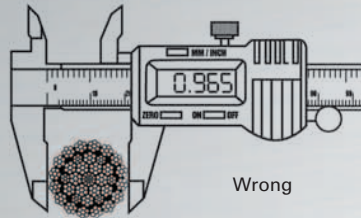
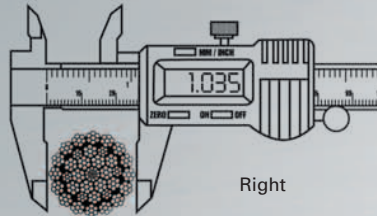
## MEASURING WIRE ROPE

Design specification for wire rope are such that the diameter is slightly larger than the nominal size as shown in the catalogue. The allowable tolerances are:

≤ 1/8"	-0 / +8%
> 1/8" ≤ 3/16"	-0 / +7%
> 3/16" ≤ 5/16"	-0 / +6%
> 5/16"	-0 / +5%

**Tech-35** wire rope is produced with an allowable oversize tolerance of 4% only.

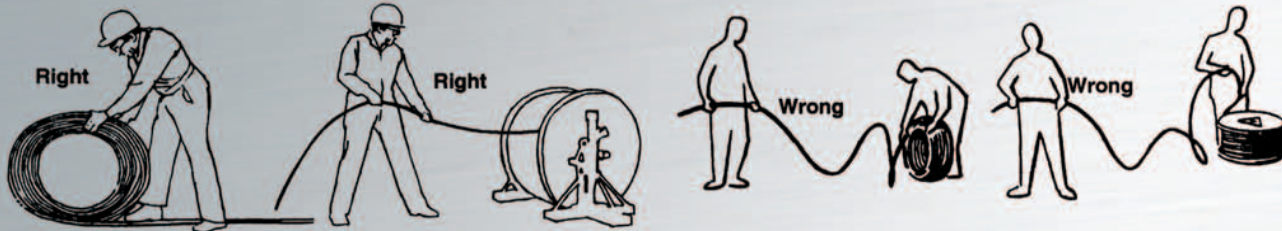
When put into service the wire rope diameter slightly decreases when first loaded. A further reduction in wire rope diameter indicates wear, abrasion, or core deterioration.



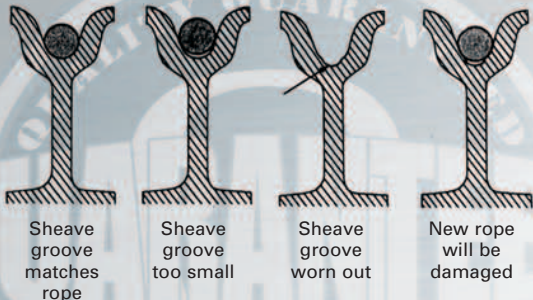
## Allowable Rope Oversize Tolerance

5% Diameter Tolerance			
Nominal Diameter Inch	Maximum Diameter Inch	Nominal Diameter mm	Maximum Diameter mm
3/8	.395	10	10.5
7/16	.46	11	11.5
1/2	.525	12	12.6
9/16	.590	14	14.7
5/8	.65	15	15.7
3/4	.79	16	16.8
7/8	.92	18	18.9
1	1.05	20	21
1-1/8	1.18	22	23.1
1-1/4	1.31	24	25.2
1-3/8	1.44	26	27.3
1-1/2	1.58	28	29.4
1-5/8	1.71	30	31.5
1-3/4	1.84	32	33.6
1-7/8	1.97	34	35.7
2	2.10	36	37.8

## HANDLING OF WIRE ROPE



## INSPECTION OF SHEAVES

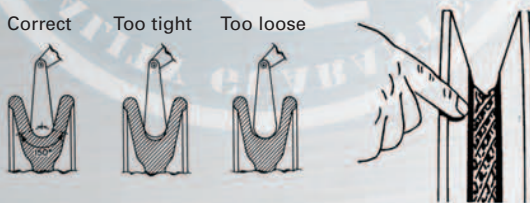


## INSPECTION OF SHEAVES AND DRUMS

Under normal conditions, machines receive periodic inspections, and their overall condition is recorded. Such inspections usually include the drum, sheaves, and any other parts that may come into contact with the wire rope and subject it to wear. As an additional precaution, rope related working parts, particularly in the areas described below, should be reinspected prior to the installation of a new wire rope.

The very first item to be checked when examining sheaves and drums, is the condition of the grooves. To check the size, contour and amount of wear, a groove gage is used. The gage should contact the groove for about 150° of arc.

## MEASURING OF SHEAVES

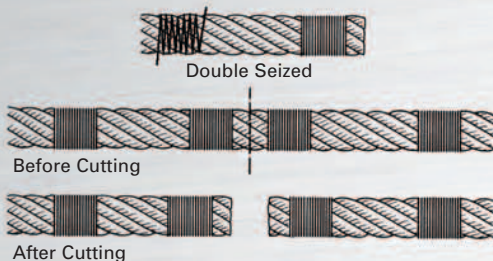


Check for worn and corrugated sheaves

Two types of groove gages are in general use and it is important to note which of these is being used. The two differ by their respective percentage over nominal rope diameter.

For new or remachined grooves, the groove gage is nominal plus the full oversize percentage. The gage carried by most wire rope representatives today is used for worn grooves and is made nominal plus the oversize percentage.

## SEIZING OF WIRE



**CAUTION: Tech-35 is not ordinary steel wire rope. The fused and seizing preparations on the ends of the wire rope **SHOULD NOT BE REMOVED**. If you have to cut the rope, similar seizings must be added before cutting, the rope should be fused, welded at the ends with a cutting torch. Otherwise balance of the rope will be disturbed and trouble will result. Replacements of these seizings before cutting is the responsibility of the user. For more information on this critical end termination please contact your local distributor.**

## DISTRIBUTED BY:



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