

INDUSTRIAL ROPE

POLYOLEFIN, 3-STRAND

Cortland International's industrial ropes are engineered to deliver reliable performance across demanding operational environments. Manufactured using advanced synthetic polyolefin fibers, these ropes offer an optimal balance of strength, durability, and ease of handling, making them well-suited for applications where consistency and safety are critical. Designed to perform under varying loads and environmental conditions, our rope solutions support efficient operations while maintaining long-term reliability.

Features & Benefits

- UV resistant
- Lightweight
- High breaking strength
- Long lasting
- Resistant to rotting, mildew and marine organisms
- Unaffected by acids and alkalis
- Controlled elongation

Applications

- Ropes for submersible pumps
- Transportation ropes
- Lifting and material handling ropes
- Power transmission ropes

Nominal Diameter		Size (circ.)	Approximate Weight		Min. Tensile Spliced		Minimum Tensile Unspliced	
inch	mm	inch	lbs/100ft	kgs/100m	lbs.	MT (tonnes)	lbs.	MT (tonnes)
3/19	4	1/2	0	1	567	0.26	630	0.29
14/79	4.5	5/9	1	1	720	0.33	798	0.36
3/16	5	4/7	1	1	861	0.39	956	0.43
1/4	6	3/4	1	2	1214	0.55	1349	0.61
5/16	8	1	2	3	2024	0.92	2248	1.02
3/8	9	1 1/8	2	4	2541	1.15	2811	1.27
37/94	10	1 1/4	3	5	3035	1.38	3373	1.53
1/2	12	1 1/2	4	7	4295	1.95	4767	2.16
9/16	14	1 3/4	6	9	5666	2.57	6296	2.86
5/8	16	2	8	12	7600	3.45	8432	3.82
3/4	18	2-1/4	10	15	9106	4.13	10118	4.59
13/16	20	2-1/2	12	18	11332	5.14	12591	5.71
7/8	22	2-3/4	15	22	13558	6.15	15065	6.83
1	24	3	17	26	16189	7.34	17988	8.16
1-1/16	26	3-1/4	21	31	18212	8.26	20236	9.18
1-1/8	28	3-1/2	24	35	21450	9.73	23833	10.81
1-1/4	30	3-3/4	27	41	23833	10.81	26532	12.03
1-5/16	32	4	31	46	26756	12.13	29679	13.46
1-1/2	36	4-1/2	39	59	34401	15.60	38223	17.33
1-5/8	40	5	49	72	40472	18.35	44969	20.39
1-3/4	44	5-1/2	59	88	50590	22.94	56211	25.49
2	48	6	70	104	56661	25.70	62956	28.55
2-1/8	52	6-1/2	82	122	67903	30.79	75323	34.16
2-1/4	56	7	95	142	75997	34.47	84316	38.24

Tensile strengths are determined in accordance with Cordage Institute 1500.2. Test Methods for Fiber Rope. Minimum Tensile Strength (MTS) published assumes spliced eye terminations at each end of the rope. Weights actually calculated at linear density under stated preload (200d²) plus 4%. Diameter and circumference size published is nominal and reflects rope size after loading (10 cycles) to 50% of MTS.

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Rope Specifications

Minimum Tensile Strength Minimum tensile strengths shown are for new (unused) rope and will decrease after use. All tests are performed in accordance with Cordage Institute Standard CI 1500-02. The rope strength will be reduced after use due to heat, abrasion, ultraviolet or chemical exposure. The tensile strengths may be further reduced by up to 50% as a result of knots or kinks. Minimum tensile strengths are defined as two standard deviations (typical about 10%) below the average.

Maximum Working Loads Maximum working loads are determined by dividing the tensile strength by the safety factor. The safety factor is a function of the physical properties of the rope, the age and history of the rope, the type of service it will be subjected to and the risks involved if failure occurs. For a rope manufacturer to give blanket working load recommendations would be like a car manufacturer giving the "safe driving speed" of their cars. Obviously the conditions of use far outweigh the design characteristics of the rope. Typically safety factors vary from 3:1 (for new rope used in applications with uniform loading and where failure would cause little or no risk to equipment or personnel) to 20:1 (for conditions involving moderate shock loading, possibility of snags or kinks or where failure could cause severe risk to equipment or personnel).

Rope Weights Rope weights shown are average and may vary plus or minus 5%.

Working Elongation Working elongation is shown from a preload tension of 200 times the diameter squared per the Cordage Institute Standard.

Special Requirements

Factory Splicing Various types are available for all of our ropes. Splices can be provided with various types of chafe protection or coatings.

Custom Lengths Special constructions are available on request.

Rope Terminations Cortland International can provide custom terminations such as thimbles, links, rings and custom hardware. Terminations are available in plastic, bronze, stainless steel and galvanized steel. Please call, or email your requirements to contact@cortlandinternational.com for a quotation.

Special Coatings Coatings such as polyurethane, polyethylene and vinylesters may be applied to any of the synthetic ropes to improve snag resistance, sunlight resistance or for color coding. Cortland can provide ropes with a variety of finishes to meet your needs.

Commercial and Military Specifications Certificates of compliance are supplied at no charge if requested when placing the order. Certified test reports can be provided at an additional charge when requested at the time of the order.