

12-Strand
HMWPE Fiber

High molecular weight polyethylene (HMWPE) fibers and the processing of them into rope constructions has gone through various evolutions of development during the recent past. Our plying and braiding tension control procedures now allow us to offer an HMWPE braid that maximizes strand wear life and product strength while minimizing stretch. Due to slight but constant process and product improvements we have chosen to rename an already proven product to better reflect the company that produces it and its physical capabilities. **Spectron 12™ has now been renamed AmSteel®** to represent the American Group and the strength of steel the product yields.

AmSteel® is a twelve-strand braided rope of tension-set Parallay™ construction of HMWPE fiber with our proprietary Samthane™ urethane coating. It is a non-rotational rope that yields extremely high strength and low stretch equivalent to wire rope with seven times less weight. Combined with its flex-fatigue and service life durability, AmSteel® outlasts wire rope and has none of the handling and safety issues associated with wire rope.

Fiber Content: HMWPE Fiber
Specific Gravity:98 (Floats)

Elastic Elongation
at Percentage of Break Strength:

10%	20%	30%
0.58	0.87	0.96

Water Absorption Fiber:
..... None

CHARACTERISTICS

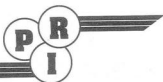
- Extremely high strength & low stretch
- Lightweight and flexible
- Superior wear life
- Accommodates 8: 1 D/d sheave ratio
- Excellent dielectric properties

APPLICATIONS

- Mooring Lines
- Face and Wing Wires
- Tug Assist Lines
- Winch Lines
- Pulling Lines
- Specialty Rigging Lines
- Wire Rope Replacement

AMSTEEL

SIZE				WEIGHT		AVERAGE STRENGTH		MINIMUM STRENGTH	
Dia. Inch	Dia. mm	Circ. Inch	Circ. mm	Lbs per 100 Ft.	Kg per 100 M	Lbs	Kg	Lbs	Kg
7/64"	2.5	5/16"	7.5	0.33	0.49	1,200	544	1,080	490
1/8"	3	3/8"	9	0.53	0.79	1,800	816	1,600	726
3/16"	5	9/16"	15	1.04	1.55	3,800	1,724	3,400	1,542
1/4"	6	3/4"	18	1.60	2.38	6,600	2,994	5,900	2,676
5/16"	8	1"	24	2.65	3.94	9,800	4,445	8,800	3,992
3/8"	9	1-1/8"	27	3.71	5.52	14,100	6,396	12,700	5,761
7/16"	11	1-1/4"	33	4.23	6.30	16,500	7,484	14,800	6,713
1/2"	12	1-1/2"	36	6.35	9.45	25,000	11,340	22,500	10,206
9/16"	14	1-3/4"	42	7.90	11.76	30,800	13,971	27,700	12,565
5/8"	16	2"	48	10.61	15.79	40,700	18,462	36,600	16,602
3/4"	18	2-1/4"	54	13.31	19.81	48,000	21,773	43,200	19,596
13/16"	20	2-1/2"	60	15.84	23.57	56,500	25,628	50,800	23,043
7/8"	22	2-3/4"	66	19.61	29.18	67,800	30,754	61,000	27,670
1"	24	3"	72	23.43	34.87	80,000	36,288	72,000	32,659
1-1/16"	26	3-1/4"	78	27.53	40.97	90,000	40,824	81,000	36,742
1-1/8"	28	3-1/2"	84	31.86	47.41	102,000	46,267	91,800	41,640
1-1/4"	30	3-3/4"	90	36.23	53.92	114,000	51,710	102,600	46,539
1-5/16"	32	4"	96	41.71	62.07	127,000	57,607	114,300	51,846
1-1/2"	36	4-1/2"	108	51.70	76.94	157,000	71,215	141,300	64,094
1-5/8"	40	5"	120	65.72	97.80	186,000	84,370	167,400	75,933
1-3/4"	44	5-1/2"	132	78.35	116.60	220,000	99,792	198,000	89,813
2"	48	6"	144	91.40	136.02	250,000	113,400	225,000	102,060
2-1/8"	52	6-1/2"	156	109.00	162.21	300,000	136,080	270,000	122,472
2-1/4"	56	7"	168	122.00	181.56	353,000	160,121	317,700	144,109
2-1/2"	60	7-1/2"	180	148.00	220.25	400,000	181,440	360,000	163,296
2-5/8"	64	8"	192	167.00	248.53	450,000	204,120	405,000	183,708
2-3/4"	68	8-1/2"	204	187.00	278.29	500,000	226,800	450,000	204,120
3"	72	9"	216	206.00	306.57	565,000	256,284	508,500	230,656
3-1/4"	80	10"	240	261.00	388.42	685,000	310,716	616,500	279,654
3-5/8"	88	11"	264	324.00	482.18	850,000	385,560	765,000	347,004
4"	96	12"	288	394.00	586.35	1,000,000	453,600	900,000	408,240
4-1/4"	104	13"	312	455.00	677.13	1,150,000	521,640	1,035,000	469,476
4-5/8"	112	14"	336	516.00	767.91	1,300,000	589,680	1,170,000	530,712



12-Strand
UHMWPE Fiber

Synthetic fiber and rope design and processing technology have continuously made major strides in development to create synthetic rope products that constantly surpass previously established plateaus of performance. The development of ultra high molecular weight polyethylene (UHMWPE) fiber and our tension-set processing procedure has created an added plus to the continuing replacement of wire rope and its associated disadvantages. Based on our processing improvements and the final rope's performance characteristics **we are re-naming Spectron 12 Plus™ to AmSteel®-Blue** which is more reflective of The American Group and the rope's performance.

AmSteel®-Blue is the latest development of UHMWPE fiber in a twelve-strand braided rope utilizing tension-set Parallay™ design with our proprietary blue Samthane™ urethane coating. This twelve-strand braided rope yields the maximum in strength to weight ratio and is stronger than wire rope constructions – yet it floats. The other major advantage AmSteel®-Blue offers is it also has the best flex-fatigue and wear resistance compared to products made of HMWPE or post-drawn HMWPE fibers. The product's light weight, flexibility, and fast, easy splicing make it truly a unique product.

CHARACTERISTICS

- Maximum strength to weight ratio
- Lowest stretch twelve-strand
- Highest wear and flex-fatigue life
- Non-rotational
- Floats
- Fast and easy to splice
- 40% to 45% stronger than AmSteel®

APPLICATIONS

- Mooring Lines
- Tug Assist Lines
- Face and Wing Wires
- Seismic Tow Lines
- Winch Lines
- Pulling Lines
- Specialty Rigging Lines
- Wire Rope Replacement

AMSTEEL - BLUE

SIZE				WEIGHT		AVERAGE STRENGTH		MINIMUM STRENGTH	
Dia. Inch	Dia. mm	Circ. Inch	Circ. mm	Lbs per 100 Ft.	Kg per 100 M	Lbs	Kg	Lbs	Kg
1/4"	6	3/4"	18	1.60	2.38	9,200	4,173	8,280	3,756
5/16"	8	1"	24	2.65	3.94	13,700	6,214	12,330	5,593
3/8"	9	1-1/8"	27	3.71	5.52	20,445	9,274	18,401	8,347
7/16"	11	1-1/4"	33	4.23	6.30	23,925	10,852	21,533	9,767
1/2"	12	1-1/2"	36	6.35	9.45	36,250	16,443	32,625	14,799
9/16"	14	1-3/4"	42	7.90	11.76	44,660	20,258	40,194	18,232
5/8"	16	2"	48	10.61	15.79	59,015	26,769	53,114	24,093
3/4"	18	2-1/4"	54	13.31	19.81	69,600	31,571	62,640	28,414
13/16"	20	2-1/2"	60	15.84	23.57	81,925	37,161	73,733	33,445
7/8"	22	2-3/4"	66	19.61	29.18	98,310	44,593	88,479	40,134
1"	24	3"	72	23.43	34.87	116,000	52,618	104,400	47,356
1-1/16"	26	3-1/4"	78	27.53	40.97	131,200	59,558	118,170	53,602
1-1/8"	28	3-1/2"	84	31.86	47.41	147,900	67,087	133,110	60,379
1-1/4"	30	3-3/4"	90	36.23	53.92	165,300	74,980	148,770	67,482
1-5/16"	32	4"	96	41.71	62.07	184,150	83,530	165,735	75,177
1-1/2"	36	4-1/2"	108	51.70	76.94	227,650	103,262	204,885	92,936
1-5/8"	40	5"	120	65.72	97.80	283,185	128,453	254,867	115,608
1-3/4"	44	5-1/2"	132	78.35	116.60	334,950	151,933	301,455	136,740
2"	48	6"	144	91.40	136.02	380,625	172,652	342,562	155,387
2-1/8"	52	6-1/2"	156	109.00	162.21	456,750	207,182	411,075	186,464
2-1/4"	56	7"	168	122.00	181.56	537,445	243,784	483,698	219,406
2-1/2"	60	7-1/2"	180	148.00	220.25	588,000	266,717	529,200	240,045
2-5/8"	64	8"	192	167.00	248.53	661,500	300,056	595,350	270,051
2-3/4"	68	8-1/2"	204	187.00	278.29	735,000	333,396	661,500	300,056
3"	72	9"	216	206.00	306.57	830,550	376,737	747,495	339,064
3-1/4"	80	10"	240	261.00	388.42	1,006,950	456,753	906,255	411,077

Fiber Content : UHMWPE Fiber
Specific Gravity:..... .98 (Floats)

Elastic Elongation
at Percentage of Break Strength:

10%	20%	30%
0.44	0.62	0.79

Water Absorption Fiber:
..... None