

**ROPES FOR  
MINING APPLICATIONS**



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# NEXT GENERATION STEEL WIRE ROPES FOR MINING APPLICATIONS

With decades of experience in manufacturing special ropes, Brunton Shaw has undertaken a major expansion program to develop the next generation of steel ropes for mining applications under a new brand name.



These ropes are designed and manufactured to the very strict technical specifications demanded by our customers for today's challenging conditions.

Our highly competent and customer focused team works in close co-operation with customers to bring highly innovative solutions to the most challenging problems faced in deep shaft and other mining applications.

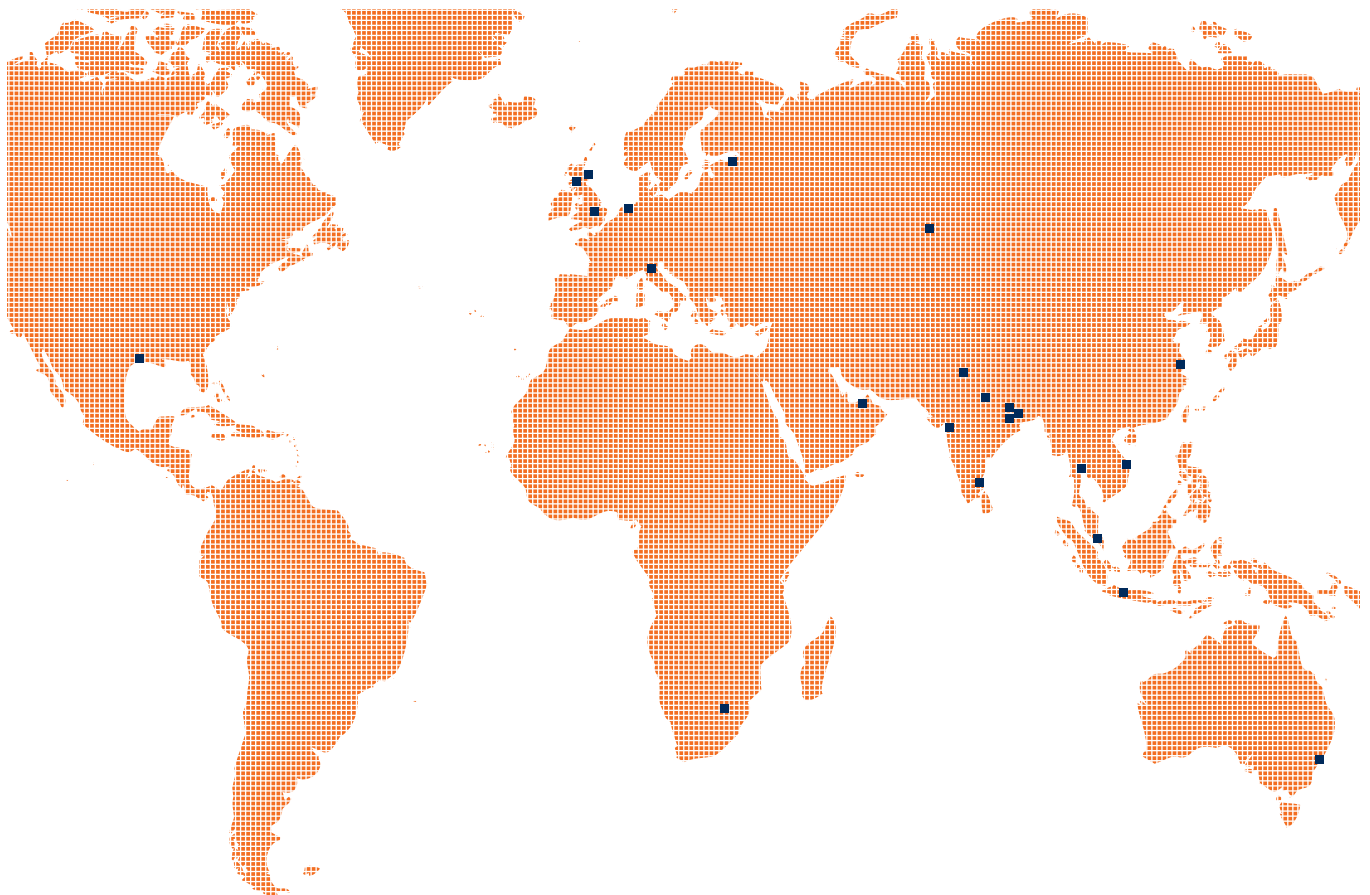
As part of the world renowned Usha Martin Group, Brunton Shaw benefits from the continuous investment in new technology, state of the art manufacturing plant and new product development that is required to meet the exacting demands of the mining industry as it tackles more hostile shaft environments.





Usha Martin is one of the largest manufacturers of high quality wire ropes in the world. For more than 50 years, the group has been dedicated to excellence and has implemented stringent process controls at each step of the manufacturing process.

The Usha Martin Group, with its own coal and iron ore mines, 150 MW power plant and over 1 million tons of speciality steel manufacturing capacity, is a truly vertically integrated business. It has a global base of steel wire rope manufacturing facilities located in India, the UK, Thailand and Dubai with service centres spread over all of the key markets in Europe, Asia, Americas and Africa.



In this world without boundaries, Usha Martin is truly committed to preserve this legacy of quality all over the world and continues to harness its global presence to deliver the best possible solutions for its customers.

# WIRE ROPE APPLICATION SELECTOR

## Key

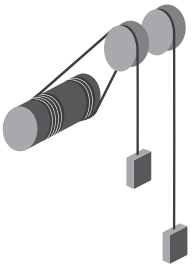
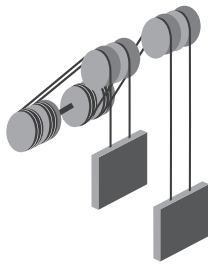
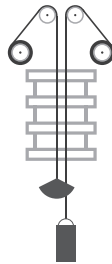

-  Recommended
-  Allowed
-  Non recommended

	Tower mounted friction hoist			Ground mounted friction hoist		
	Hoist	Balance	Guide	Hoist	Balance	Guide
MINEMAX 6FC/6KFC	✓	✗	✗	✓	✗	✗
MINEMAX 6/6K	✓	✗	✗	✓	✗	✗
MINEMAX 8K	✓	✗	✗	✓	✗	✗
MINEMAX 8KMC	✓	✗	✗	✓	✗	✗
MINEMAX 24	✓	✗	✗	✓	✗	✗
MINEMAX 35	✓	!	✗	✓	!	✗
MINEMAX 35 SINKING	✗	✗	✗	✗	✗	✗
MINEMAX 34	✗	✓	✗	✗	✓	✗
MINEMAX HLC	✗	✗	✓	✗	✗	✓

## Rope Properties

	Fill factor (f)	Wire factor ( $d_w$ )	MBF factor (k)	Spin factor (s)	Mass factor ( $k_m$ )	Typical lay type	Modulus (E)*[kN/mm <sup>2</sup> ]	Reference lay factor ( $K_L$ )
MINEMAX 6FC	0.51	0.058	0.65	0.850	0.0038	Lang	90	6.5
MINEMAX 6KFC	0.55	0.061	0.73	0.850	0.0041	Lang	95	6.5
MINEMAX 6	0.58	0.057	0.83	0.850	0.0042	Lang	105	6.5
MINEMAX 6K	0.62	0.061	0.85	0.850	0.0045	Lang	120	6.5
MINEMAX 8K	0.64	0.057 – 0.069	0.88	0.850	0.0047	Lang	120	6.5
MINEMAX 8KMC	0.55	0.057 – 0.069	0.77	0.870	0.0041	Lang	115	6.5
MINEMAX 24A	0.56	0.064	0.74	0.850	0.0041	Lang	105	6.0
MINEMAX 24B	0.59	0.067	0.76	0.850	0.0043	Lang	110	6.5
MINEMAX 24C	0.65	0.070	0.85	0.850	0.0047	Lang	115	6.5
MINEMAX 35A	0.57	0.053	0.74	0.850	0.0042	Lang	110	6.0
MINEMAX 35B	0.62	0.054	0.79	0.850	0.0043	Lang	115	6.5
MINEMAX 35C	0.65	0.058	0.87	0.850	0.0047	Lang	120	6.5
MINEMAX 35 SINKING	0.74	0.060	0.96	0.850	0.0051	Lang	127	7.0
MINEMAX 34	0.53	0.036	0.62	0.750	0.0040	Reg	100	6.0

\*Nominal values at 20% MBF for trained ropes

Parallel drum hoist		Blair hoist		Shaft sinking	Haulage
					
Hoist	Guide	Hoist	Guide	Hoist	Haul
✓	✗	✓	✗	✗	✓
✓	✗	✓	✗	✗	✓
✓	✗	✓	✗	✗	✗
✓	✗	✓	✗	✗	✗
✓	✗	✓	✗	!	✗
✓	✗	✓	✗	!	✗
✗	✗	✗	✗	✓	✗
✗	✗	✗	✗	✗	✗
✗	✓	✗	✓	✗	✗

Torque factor (t)*	Rotation (R)* [deg/lay]
0.100	100
0.100	90
0.100	100
0.110	90
0.110	100
0.100	100
0.050	4
0.050	4
0.050	4
0.035	1
0.035	1
0.030	1
0.012	0.5
0.020	1

### Rope Calculator

$MBF [kN] = K \cdot d^2$  (d = nominal diameter [mm])

$Mass [kg/m] = k_m \cdot d^2$

$Metallic\ area\ (A) [mm^2] = 0.785 \cdot f \cdot d^2$

$Axial\ stiffness\ (EA) [MN] = E \cdot 0.785 \cdot f \cdot d^2 / 1000$

$Elastic\ elongation\ [\frac{\Delta L}{L}] = Load [kN] / (EA \cdot 1000)$

$Rope\ torque [Nm] = t \cdot d \cdot load [kN]$

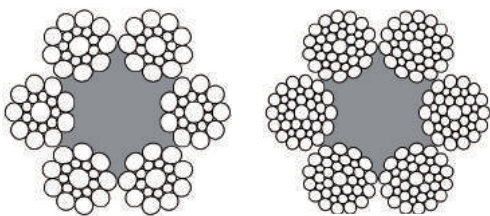
$Outer\ wire\ diameter [mm] = d_w \cdot d$

$Aggregate\ Breaking\ Force [kN] = MBF [kN] / s$

$Rope\ lay\ length [mm] = K_L \cdot d$

		Aggregate Breaking						Minimum Breaking			
		Mass		Force		Load		Force		Load	
Diameter				1770	1960	1770	1960	1770	1960	1770	1960
mm	in	kg/m	lb/ft	kN	kN	lbs	lbs	kN	kN	lbs	lbs
16		0.973	0.654	178	197	39900	44200	151	167	33900	37600
17		1.10	0.738	200	222	45100	49900	170	189	38300	42400
18		1.23	0.827	225	249	50500	56000	191	212	43000	47600
19	3/4	1.37	0.922	250	277	56300	62300	213	236	47900	53000
20		1.52	1.02	278	307	62400	69100	236	261	53000	58700
22		1.84	1.24	336	372	75500	83600	285	316	64200	71100
24	7/8	1.88	1.26	343	379	77000	85300	291	323	65500	72500
25		2.19	1.47	400	443	89800	99500	340	376	76400	84600
26		2.38	1.60	434	480	97500	108000	369	408	82900	91800
28	1	2.45	1.65	448	496	101000	111000	380	421	85500	94700
30	1 1/8	2.57	1.73	469	519	105000	117000	399	441	89600	99200
30	1 1/4	2.98	2.00	544	602	122000	135000	462	512	104000	115000
32		3.10	2.09	566	627	127000	141000	482	533	108000	120000
34		3.42	2.30	624	691	140000	155000	531	588	119000	132000
35	1 3/8	3.83	2.57	699	774	157000	174000	594	658	134000	148000
36		3.89	2.61	710	787	160000	177000	604	669	136000	150000
38	1 1/2	4.39	2.95	802	888	180000	200000	682	755	153000	170000
40		4.64	3.11	846	937	190000	211000	719	797	162000	179000
41	1 5/8	4.92	3.31	899	1000	202000	224000	764	846	172000	190000
42		5.49	3.69	1000	1110	225000	249000	852	943	191000	212000
44		6.08	4.09	1110	1230	250000	276000	944	1040	212000	235000
44	1 5/8	6.47	4.35	1180	1310	266000	294000	1000	1110	226000	250000
46		6.70	4.50	1220	1360	275000	305000	1040	1150	234000	259000
48	1 3/4	7.36	4.94	1340	1490	302000	334000	1140	1260	257000	284000
46	1 3/4	7.51	5.05	1370	1520	308000	341000	1170	1290	262000	290000
48	1 7/8	8.04	5.40	1470	1630	330000	365000	1250	1380	281000	311000
48	1 7/8	8.76	5.88	1600	1770	359000	398000	1360	1500	305000	338000
50		9.50	6.38	1730	1920	390000	432000	1470	1630	331000	367000
52	2	9.81	6.59	1790	1980	402000	446000	1520	1690	342000	379000
52		10.3	6.90	1880	2080	422000	467000	1590	1770	358000	397000
54	2 1/8	11.1	7.45	2020	2240	455000	504000	1720	1900	387000	428000
56		11.9	8.01	2180	2410	489000	542000	1850	2050	416000	460000
58	2 1/4	12.8	8.59	2330	2580	525000	581000	1980	2200	446000	494000
60	2 3/8	13.8	9.29	2520	2800	568000	628000	2150	2380	482000	534000
64	2 1/2	15.6	10.5	2840	3150	639000	707000	2420	2670	543000	601000
65		16.1	10.8	2930	3250	659000	730000	2490	2760	560000	620000

These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.

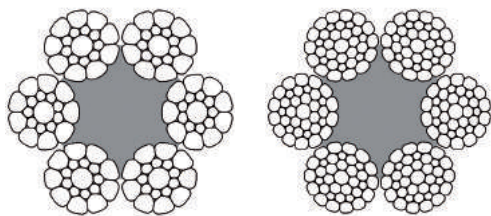


- High flexibility
- Good handling properties



				Aggregate Breaking				Minimum Breaking			
Diameter		Mass		Force		Load		Force		Load	
mm	in	kg/m	lb/ft	1770 kN	1960 kN	1770 lbs	1960 lbs	1770 kN	1960 kN	1770 lbs	1960 lbs
16		1.05	0.705	199	220	44600	49400	169	187	37900	42000
17		1.18	0.796	224	248	50400	55800	191	211	42800	47400
18		1.33	0.893	251	278	56500	62600	214	237	48000	53200
19	3/4	1.48	0.995	280	310	62900	69700	238	264	53500	59200
20		1.64	1.10	310	344	69700	77200	264	292	59300	65600
22		1.98	1.33	375	416	84400	93400	319	353	71700	79400
	7/8	2.03	1.36	383	424	86100	95400	326	361	73200	81100
24		2.36	1.59	447	495	100000	111000	380	420	85400	94500
25		2.56	1.72	485	537	109000	121000	412	456	92600	103000
	1	2.65	1.78	500	554	112000	125000	425	471	95600	106000
26		2.77	1.86	524	581	118000	131000	446	493	100000	111000
28		3.21	2.16	608	673	137000	151000	517	572	116000	129000
	1 1/8	3.35	2.25	633	701	142000	158000	538	596	121000	134000
		3.69	2.48	698	773	157000	174000	593	657	133000	148000
	1 1/4	4.13	2.78	782	866	176000	195000	665	736	149000	165000
32		4.20	2.82	794	879	179000	198000	675	748	152000	168000
34		4.74	3.19	897	990	202000	223000	762	844	171000	190000
35	1 3/8	5.00	3.36	946	1050	213000	236000	804	890	181000	200000
		5.31	3.57	1010	1110	226000	250000	854	946	192000	213000
38	1 1/2	5.92	3.98	1120	1240	252000	279000	952	1050	214000	237000
40		6.56	4.41	1240	1370	279000	309000	1050	1170	237000	263000
	1 5/8	6.98	4.69	1320	1460	297000	329000	1120	1240	252000	280000
42		7.23	4.86	1370	1510	308000	341000	1160	1290	261000	289000
44		7.94	5.33	1500	1660	338000	374000	1280	1410	287000	318000
	1 3/4	8.10	5.44	1530	1700	344000	381000	1300	1440	293000	324000
46		8.68	5.83	1640	1820	369000	409000	1390	1540	314000	347000
48	1 7/8	9.45	6.35	1790	1980	402000	445000	1520	1680	341000	378000
		10.3	6.89	1940	2150	436000	483000	1650	1830	371000	410000
50	2	10.6	7.11	2000	2220	450000	498000	1700	1880	382000	424000
52		11.1	7.45	2100	2320	471000	522000	1780	1970	401000	444000
	2 1/8	12.0	8.03	2260	2500	508000	563000	1920	2130	432000	479000
56		12.9	8.64	2430	2690	547000	605000	2070	2290	465000	515000
58	2 1/4	13.8	9.27	2610	2890	587000	649000	2220	2460	499000	552000
	2 3/8	14.9	10.0	2820	3130	634000	703000	2400	2660	539000	597000
64	2 1/2	16.8	11.3	3180	3520	714000	791000	2700	2990	607000	672000
65		17.3	11.6	3280	3630	737000	816000	2790	3080	626000	693000

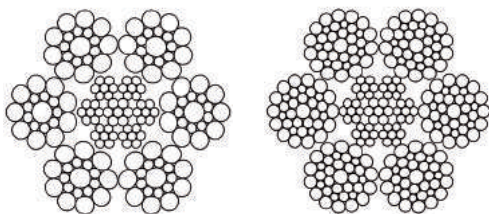
These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.



- Good resistance to wear
- Good resistance to corrosion

		Aggregate Breaking						Minimum Breaking			
		Mass		Force		Load		Force		Load	
Diameter				1770	1960	1770	1960	1770	1960	1770	1960
mm	in	kg/m	lb/ft	kN	kN	lbs	lbs	kN	kN	lbs	lbs
16		1.07	0.72	226	250	50700	56200	192	212	43100	47800
17		1.21	0.81	255	282	57300	63400	217	240	48700	53900
18		1.36	0.91	286	316	64200	71100	243	269	54600	60500
19	3/4	1.51	1.02	318	353	71600	79200	271	300	60800	67400
20		1.68	1.13	353	391	79300	87800	300	332	67400	74600
22		2.03	1.36	427	473	95900	106000	363	402	81600	90300
	7/8	2.07	1.39	436	482	98000	108000	370	410	83200	92200
24		2.41	1.62	508	562	114000	126000	432	478	97100	107000
25		2.62	1.76	551	610	124000	137000	468	519	105000	117000
	1	2.70	1.82	569	630	128000	142000	484	535	109000	120000
26		2.83	1.90	596	660	134000	148000	507	561	114000	126000
28		3.28	2.21	691	766	155000	172000	588	651	132000	146000
	1 1/8	3.42	2.30	720	797	162000	179000	612	678	138000	152000
		3.77	2.53	794	879	178000	198000	675	747	152000	168000
30	1 1/4	4.22	2.84	889	980	200000	221000	756	837	170000	188000
32		4.29	2.88	903	1000	203000	225000	768	850	173000	191000
34		4.84	3.25	1020	1130	229000	254000	866	959	195000	216000
35	1 3/8	5.11	3.43	1080	1190	242000	268000	914	1010	206000	228000
36		5.43	3.65	1140	1270	257000	284000	971	1080	218000	242000
38	1 1/2	6.05	4.07	1270	1410	286000	317000	1080	1200	243000	269000
40		6.70	4.51	1410	1560	317000	351000	1200	1330	270000	299000
41	1 5/8	7.14	4.80	1500	1660	338000	374000	1280	1410	287000	318000
42		7.39	4.97	1560	1720	350000	387000	1320	1460	297000	329000
44		8.11	5.45	1710	1890	384000	425000	1450	1610	326000	361000
	1 3/4	8.28	5.56	1740	1930	392000	434000	1480	1640	333000	369000
46		8.87	5.96	1870	2070	419000	465000	1590	1760	357000	395000
48	1 7/8	9.65	6.49	2030	2250	457000	506000	1730	1910	388000	430000
50		10.5	7.04	2200	2440	496000	549000	1870	2080	421000	466000
	2	10.8	7.27	2280	2520	512000	567000	1930	2140	435000	482000
52		11.3	7.61	2380	2640	536000	594000	2030	2240	456000	505000
54	2 1/8	12.2	8.21	2570	2850	578000	640000	2190	2420	491000	544000
56		13.1	8.83	2770	3060	622000	688000	2350	2600	528000	585000
58	2 1/4	14.1	9.47	2970	3280	667000	738000	2520	2790	567000	628000
60	2 3/8	15.2	10.2	3210	3550	721000	799000	2730	3020	613000	679000
64	2 1/2	17.2	11.5	3610	4000	812000	899000	3070	3400	690000	764000
65		17.7	11.9	3730	4130	838000	927000	3170	3510	712000	788000

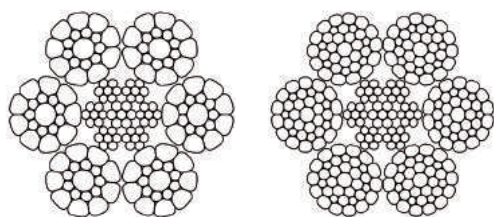
These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.



- High flexibility
- Good breaking force

		Aggregate Breaking						Minimum Breaking			
		Mass		Force		Load		Force		Load	
Diameter				1770	1960	1770	1960	1770	1960	1770	1960
mm	in	kg/m	lb/ft	kN	kN	lbs	lbs	kN	kN	lbs	lbs
16		1.16	0.779	231	256	52000	57600	197	218	44200	48900
17		1.31	0.880	261	289	58700	65000	222	246	49900	55200
18		1.47	0.99	293	324	65800	72800	249	275	55900	61900
19	3/4	1.64	1.10	326	361	73300	81200	277	307	62300	69000
20		1.81	1.22	361	400	81200	89900	307	340	69000	76400
22		2.19	1.47	437	484	98000	109000	372	411	83500	92500
24	7/8	2.24	1.50	446	494	100000	111000	379	420	85200	94400
25		2.61	1.75	520	576	117000	129000	442	490	99400	110000
26		2.83	1.90	564	625	127000	141000	480	531	108000	119000
28	1	2.92	1.96	583	645	131000	145000	495	548	111000	123000
30	1 1/8	3.06	2.06	610	676	137000	152000	519	575	117000	129000
30	1 1/4	3.55	2.39	708	784	159000	176000	602	666	135000	150000
32		3.70	2.49	737	817	166000	184000	627	694	141000	156000
34		4.08	2.74	813	900	183000	202000	691	765	155000	172000
35	1 3/8	4.57	3.07	910	1010	205000	227000	774	857	174000	193000
36		4.64	3.12	925	1020	208000	230000	786	870	177000	196000
38	1 1/2	5.24	3.52	1040	1160	235000	260000	887	983	199000	221000
40		5.53	3.71	1100	1220	248000	274000	936	1040	210000	233000
41	1 5/8	5.87	3.95	1170	1300	263000	291000	995	1100	224000	248000
42		6.54	4.40	1300	1440	293000	325000	1110	1230	249000	276000
44		7.25	4.87	1440	1600	325000	360000	1230	1360	276000	306000
44	1 5/8	7.72	5.19	1540	1700	346000	383000	1310	1450	294000	326000
46	1 3/4	7.99	5.37	1590	1760	358000	397000	1350	1500	304000	337000
48	1 7/8	8.77	5.89	1750	1940	393000	435000	1490	1650	334000	370000
48	1 3/4	8.95	6.01	1780	1980	401000	444000	1520	1680	341000	378000
50		9.59	6.44	1910	2120	430000	476000	1620	1800	365000	404000
52	2	10.4	7.01	2080	2300	468000	518000	1770	1960	398000	440000
54	2 1/8	11.3	7.61	2260	2500	508000	562000	1920	2130	431000	478000
56		11.7	7.86	2330	2580	524000	580000	1980	2190	445000	493000
58	2 1/4	12.2	8.23	2440	2700	549000	608000	2080	2300	467000	517000
58	2 1/4	13.2	8.88	2630	2920	592000	656000	2240	2480	503000	557000
60	2 3/8	14.2	9.55	2830	3140	637000	705000	2410	2670	541000	599000
64	2 1/2	15.2	10.2	3040	3360	683000	756000	2580	2860	581000	643000
64	2 1/2	16.5	11.1	3290	3640	739000	818000	2790	3090	628000	695000
65	2 1/2	18.6	12.5	3700	4100	832000	921000	3140	3480	707000	783000
65	2 1/2	19.1	12.9	3820	4230	858000	950000	3240	3590	729000	807000

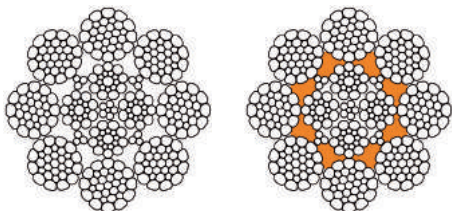
These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.



- Good resistance to wear
- Good resistance to corrosion

				Aggregate Breaking				Minimum Breaking			
Diameter		Mass		Force		Load		Force		Load	
mm	in	kg/m	lb/ft	1770 kN	1960 kN	1770 lbs	1960 lbs	1770 kN	1960 kN	1770 lbs	1960 lbs
19	3/4	1.69	1.14	338	374	75900	84000	287	318	64500	71400
20		1.88	1.26	374	414	84100	93100	318	352	71500	79100
22		2.27	1.53	453	501	102000	113000	385	426	86500	95800
24	7/8	2.32	1.56	462	511	104000	115000	393	435	88200	97700
25		2.70	1.82	539	596	121000	134000	458	507	103000	114000
28		2.93	1.97	584	647	131000	145000	497	550	112000	124000
26	1	3.03	2.03	603	668	136000	150000	513	568	115000	128000
28		3.17	2.13	632	700	142000	157000	537	595	121000	134000
30		3.68	2.47	733	812	165000	182000	623	690	140000	155000
30	1 1/8	3.83	2.57	763	845	172000	190000	649	719	146000	162000
		4.22	2.84	841	932	189000	209000	715	792	161000	178000
	1 1/4	4.73	3.18	942	1040	212000	235000	801	887	180000	199000
32		4.80	3.23	957	1060	215000	238000	814	901	183000	203000
34		5.42	3.64	1080	1200	243000	269000	919	1020	207000	229000
35	1 3/8	5.72	3.84	1140	1260	256000	284000	969	1070	218000	241000
36		6.08	4.08	1210	1340	272000	302000	1030	1140	232000	256000
38	1 1/2	6.77	4.55	1350	1490	304000	336000	1150	1270	258000	286000
40		7.50	5.04	1500	1660	336000	372000	1270	1410	286000	317000
41	1 5/8	7.99	5.37	1590	1760	358000	397000	1350	1500	304000	337000
42		8.27	5.56	1650	1830	371000	411000	1400	1550	315000	349000
44		9.08	6.10	1810	2000	407000	451000	1540	1700	346000	383000
46	1 3/4	9.27	6.23	1850	2050	415000	460000	1570	1740	353000	391000
48		9.92	6.67	1980	2190	445000	492000	1680	1860	378000	419000
48	1 7/8	10.8	7.26	2150	2390	484000	536000	1830	2030	412000	456000
50		11.7	7.88	2340	2590	525000	582000	1990	2200	447000	495000
52	2	12.1	8.13	2410	2670	542000	601000	2050	2270	461000	511000
		12.7	8.52	2530	2800	568000	629000	2150	2380	483000	535000
54	2 1/8	13.7	9.19	2730	3020	613000	679000	2320	2570	521000	577000
56		14.7	9.88	2930	3250	659000	730000	2490	2760	560000	620000
58	2 1/4	15.8	10.6	3150	3480	707000	783000	2670	2960	601000	666000
60	2 3/8	17.1	11.5	3400	3770	765000	847000	2890	3200	650000	720000
64	2 1/2	19.2	12.9	3830	4240	861000	953000	3260	3600	732000	810000
65		19.8	13.3	3950	4370	888000	983000	3360	3720	755000	836000
67	2 5/8	21.1	14.1	4200	4650	944000	1040000	3570	3950	802000	888000
70	2 3/4	23.0	15.4	4580	5070	1030000	1140000	3890	4310	875000	969000

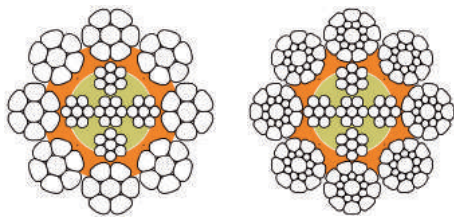
These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.



- High breaking force
- High resistance to wear
- High resistance to corrosion

				Aggregate Breaking				Minimum Breaking			
				Force		Load		Force		Load	
Diameter		Mass		1770	1960	1770	1960	1770	1960	1770	1960
mm	in	kg/m	lb/ft	kN	kN	lbs	lbs	kN	kN	lbs	lbs
28	1 1/8	3.21	2.16	627	694	141000	156000	545	604	123000	136000
		3.35	2.25	653	723	147000	162000	568	629	128000	141000
30		3.69	2.48	719	797	162000	179000	626	693	141000	156000
	1 1/4	4.13	2.78	806	892	181000	201000	701	776	158000	174000
32		4.20	2.82	818	906	184000	204000	712	788	160000	177000
34		4.74	3.19	920	1020	208000	230000	804	890	181000	200000
	1 3/8	5.00	3.36	970	1080	219000	243000	848	939	191000	211000
35		5.31	3.57	1040	1150	233000	258000	901	998	203000	224000
36		5.92	3.98	1150	1280	259000	287000	1000	1110	226000	250000
	1 1/2	6.56	4.41	1280	1420	287000	318000	1110	1230	250000	277000
40		6.98	4.69	1360	1510	306000	339000	1180	1310	266000	295000
41		7.23	4.86	1410	1560	317000	351000	1230	1360	276000	305000
	1 5/8	7.94	5.33	1550	1710	348000	385000	1350	1490	303000	335000
44		8.10	5.44	1580	1750	355000	393000	1370	1520	309000	342000
46		8.68	5.83	1690	1870	380000	421000	1470	1630	331000	366000
	1 7/8	9.45	6.35	1840	2040	414000	458000	1600	1770	360000	399000
48		10.3	6.89	2000	2210	449000	497000	1740	1930	391000	433000
50		10.6	7.11	2060	2280	464000	513000	1790	1990	403000	447000
	2	11.1	7.45	2160	2390	486000	538000	1880	2080	423000	468000
52		12.0	8.03	2330	2580	524000	580000	2030	2250	456000	505000
54		12.9	8.64	2510	2780	563000	624000	2180	2410	490000	543000
	2 1/8	13.8	9.27	2690	2980	604000	669000	2340	2590	526000	582000
56		14.9	10.0	2910	3220	654000	724000	2530	2800	569000	630000
58		16.8	11.3	3270	3630	736000	815000	2850	3150	640000	709000
60	17.3	11.6	3380	3740	759000	841000	2940	3250	660000	731000	

These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.

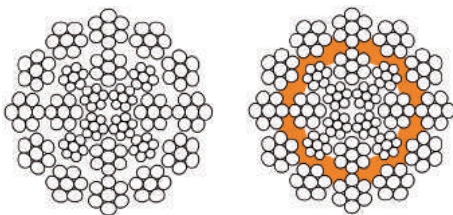


- Special hybrid core
- High resistance to wear
- High radial stiffness



				Aggregate Breaking				Minimum Breaking			
Diameter		Mass		Force		Load		Force		Load	
mm	in	kg/m	lb/ft	1770 kN	1960 kN	1770 lbs	1960 lbs	1770 kN	1960 kN	1770 lbs	1960 lbs
19	3/4	1.49	1.00	282	312	63400	70200	240	265	53900	59600
20		1.65	1.11	312	346	70200	77800	266	294	59700	66100
22		2.00	1.34	378	419	85000	94000	321	356	72200	80000
	7/8	2.04	1.37	386	427	86700	96000	328	363	73700	81600
24		2.38	1.60	450	498	101000	112000	382	423	85900	95200
25		2.58	1.73	488	540	110000	121000	415	459	93300	103000
	1	2.66	1.79	504	558	113000	125000	428	474	96300	107000
26		2.79	1.88	528	585	119000	131000	449	497	101000	112000
28		3.24	2.18	612	678	138000	152000	520	576	117000	130000
	1 1/8	3.37	2.27	638	706	143000	159000	542	600	122000	135000
		3.72	2.50	703	778	158000	175000	597	662	134000	149000
	1 1/4	4.16	2.80	787	872	177000	196000	669	741	150000	167000
32		4.23	2.84	800	885	180000	199000	680	753	153000	169000
34		4.77	3.21	903	1000	203000	225000	767	850	172000	191000
35	1 3/8	5.04	3.39	950	1050	214000	237000	810	897	182000	202000
36		5.35	3.60	1010	1120	228000	252000	860	953	193000	214000
38	1 1/2	5.96	4.01	1130	1250	253000	281000	958	1060	215000	239000
40		6.61	4.44	1250	1380	281000	311000	1060	1180	239000	264000
41	1 5/8	7.04	4.73	1330	1470	299000	331000	1130	1250	254000	281000
42		7.29	4.90	1380	1530	310000	343000	1170	1300	263000	291000
44		8.00	5.37	1510	1670	340000	376000	1290	1420	289000	320000
	1 3/4	8.16	5.48	1540	1710	347000	384000	1310	1450	295000	326000
46		8.74	5.87	1650	1830	371000	411000	1400	1560	316000	350000
48	1 7/8	9.52	6.39	1800	1990	404000	448000	1530	1690	344000	381000
50		10.3	6.94	1950	2160	439000	486000	1660	1840	373000	413000
	2	10.7	7.16	2020	2230	453000	502000	1710	1900	385000	426000

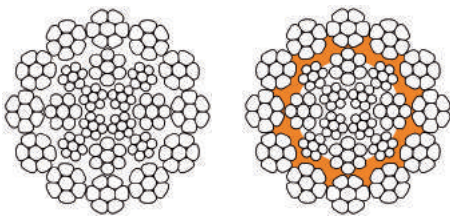
These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.



- Good rotational stability
- High flexibility
- Good handling properties

				Aggregate Breaking				Minimum Breaking			
Diameter		Mass		Force		Load		Force		Load	
mm	in	kg/m	lb/ft	1770 kN	1960 kN	1770 lbs	1960 lbs	1770 kN	1960 kN	1770 lbs	1960 lbs
19	3/4	1.54	1.04	290	321	65100	72100	246	273	55300	61300
20		1.71	1.15	321	355	72100	79900	273	302	61300	67900
22		2.07	1.39	388	430	87300	97000	330	365	74200	82200
	7/8	2.11	1.42	396	439	89100	99000	337	373	75700	83800
24		2.46	1.65	462	512	104000	115000	393	435	88300	97800
25		2.67	1.79	501	555	113000	125000	426	472	95800	106000
	1	2.75	1.85	518	573	116000	129000	440	487	98900	110000
26		2.89	1.94	542	600	122000	135000	461	510	104000	115000
28		3.35	2.25	629	696	141000	157000	535	592	120000	133000
	1 1/8	3.49	2.34	655	725	147000	163000	557	616	125000	139000
		3.84	2.58	722	799	162000	180000	614	680	138000	153000
	1 1/4	4.30	2.89	809	895	182000	201000	687	761	155000	171000
32		4.37	2.94	821	910	185000	204000	698	773	157000	174000
34		4.94	3.32	927	1030	208000	231000	788	873	177000	196000
35	1 3/8	5.21	3.50	980	1080	220000	244000	832	921	187000	207000
36		5.53	3.72	1040	1150	234000	259000	884	978	199000	220000
38	1 1/2	6.17	4.14	1160	1280	260000	288000	985	1090	221000	245000
40		6.83	4.59	1280	1420	289000	319000	1090	1210	245000	272000
41	1 5/8	7.27	4.89	1370	1510	307000	340000	1160	1290	261000	289000
42		7.53	5.06	1410	1570	318000	352000	1200	1330	270000	299000
44		8.27	5.56	1550	1720	349000	387000	1320	1460	297000	329000
	1 3/4	8.44	5.67	1580	1750	356000	395000	1350	1490	303000	335000
46		9.04	6.07	1700	1880	382000	423000	1440	1600	324000	359000
48	1 7/8	9.84	6.61	1850	2050	415000	460000	1570	1740	353000	391000
		10.7	7.17	2010	2220	451000	499000	1700	1890	383000	424000
50	2	11.0	7.40	2070	2290	465000	515000	1760	1950	396000	438000

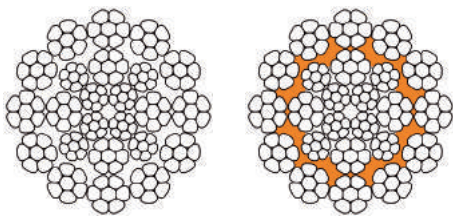
*These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.*



- Good rotational stability
- Smooth contact surface
- Good resistance to corrosion

		Aggregate Breaking						Minimum Breaking			
		Mass		Force		Load		Force		Load	
Diameter				1770	1960	1770	1960	1770	1960	1770	1960
mm	in	kg/m	lb/ft	kN	kN	lbs	lbs	kN	kN	lbs	lbs
19	3/4	1.70	1.14	324	359	72900	80700	275	305	61900	68600
20		1.88	1.27	359	398	80700	89400	305	338	68600	76000
22		2.28	1.53	435	481	98000	108000	369	409	83000	91900
	7/8	2.33	1.56	443	491	100000	110000	377	417	84700	93800
24		2.71	1.82	517	573	116000	129000	440	487	98800	109000
25		2.94	1.98	561	621	126000	140000	477	528	107000	119000
	1	3.04	2.04	579	641	130000	144000	492	545	111000	123000
26		3.18	2.14	607	672	136000	151000	516	571	116000	128000
28		3.69	2.48	704	779	158000	175000	598	662	134000	149000
	1 1/8	3.85	2.58	733	812	165000	182000	623	690	140000	155000
		4.24	2.85	808	895	182000	201000	687	761	154000	171000
	1 1/4	4.75	3.19	905	1000	203000	225000	769	852	173000	191000
32		4.82	3.24	919	1020	207000	229000	781	865	176000	195000
34		5.44	3.66	1040	1150	233000	258000	882	977	198000	220000
35	1 3/8	5.75	3.86	1100	1210	246000	273000	931	1030	209000	232000
36		6.10	4.10	1160	1290	262000	290000	989	1100	222000	246000
38	1 1/2	6.80	4.57	1300	1440	291000	323000	1100	1220	248000	274000
40		7.54	5.06	1440	1590	323000	358000	1220	1350	274000	304000
41	1 5/8	8.02	5.39	1530	1690	344000	381000	1300	1440	292000	324000
42		8.31	5.58	1580	1750	356000	394000	1350	1490	303000	335000
44		9.12	6.13	1740	1920	391000	433000	1480	1640	332000	368000
	1 3/4	9.31	6.25	1770	1960	399000	442000	1510	1670	339000	375000
46		9.97	6.70	1900	2100	427000	473000	1610	1790	363000	402000
48	1 7/8	10.9	7.29	2070	2290	465000	515000	1760	1950	395000	438000
		11.8	7.91	2240	2490	505000	559000	1910	2110	429000	475000
50	2	12.2	8.17	2320	2570	521000	577000	1970	2180	443000	490000

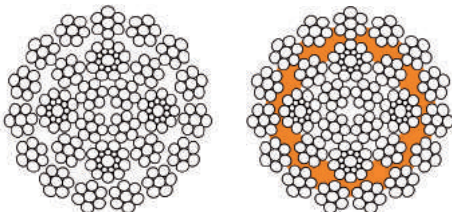
These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.



- Good rotational stability
- Good radial stiffness
- Good resistance to corrosion

				Aggregate Breaking				Minimum Breaking			
Diameter		Mass		Force		Load		Force		Load	
mm	in	kg/m	lb/ft	1770 kN	1960 kN	1770 lbs	1960 lbs	1770 kN	1960 kN	1770 lbs	1960 lbs
19	3/4	1.52	1.02	284	314	63800	70700	241	267	54200	60100
20		1.69	1.13	314	348	70700	78300	267	296	60100	66500
22		2.04	1.37	381	421	85500	95000	323	358	72700	80500
24	7/8	2.08	1.40	388	430	87300	97000	330	366	74200	82200
25		2.43	1.63	453	501	102000	113000	385	426	86500	95800
		2.64	1.77	491	544	110000	122000	418	463	93900	104000
26	1	2.72	1.83	507	562	114000	126000	431	477	96900	107000
28		2.85	1.92	531	589	119000	132000	452	500	102000	112000
		3.31	2.22	616	683	139000	153000	524	580	118000	130000
30	1 1/8	3.45	2.32	642	711	144000	160000	546	604	123000	136000
		3.80	2.55	708	784	159000	176000	601	666	135000	150000
	1 1/4	4.25	2.86	793	878	178000	197000	674	746	151000	168000
32		4.32	2.90	805	891	181000	200000	684	758	154000	170000
34		4.88	3.28	909	1010	204000	226000	773	855	174000	192000
35	1 3/8	5.15	3.46	960	1060	216000	239000	815	903	183000	203000
36		5.47	3.68	1020	1130	229000	254000	866	959	195000	216000
38	1 1/2	6.09	4.09	1140	1260	255000	283000	965	1070	217000	240000
40		6.75	4.54	1260	1390	283000	313000	1070	1180	240000	266000
41	1 5/8	7.19	4.83	1340	1480	301000	333000	1140	1260	256000	283000
42		7.44	5.00	1390	1540	312000	345000	1180	1310	265000	293000
44		8.17	5.49	1520	1690	342000	379000	1290	1430	291000	322000
46	1 3/4	8.34	5.60	1550	1720	349000	387000	1320	1460	297000	329000
48	1 7/8	8.93	6.00	1660	1840	374000	414000	1410	1570	318000	352000
		9.72	6.53	1810	2010	407000	451000	1540	1700	346000	383000
50		10.6	7.09	1970	2180	442000	489000	1670	1850	376000	416000
	2	10.9	7.32	2030	2250	456000	505000	1720	1910	388000	429000
52		11.4	7.67	2130	2350	478000	529000	1810	2000	406000	450000
54	2 1/8	12.3	8.27	2290	2540	515000	571000	1950	2160	438000	485000
56		13.2	8.89	2470	2730	554000	614000	2100	2320	471000	522000
58	2 1/4	14.2	9.54	2640	2930	595000	658000	2250	2490	505000	560000
60	2 3/8	15.4	10.3	2860	3170	643000	712000	2430	2690	547000	605000
64	2 1/2	17.3	11.6	3220	3570	724000	802000	2740	3030	615000	681000
65		17.8	12.0	3320	3680	747000	827000	2820	3130	635000	703000
67	2 5/8	18.9	12.7	3530	3910	793000	879000	3000	3320	674000	747000
70	2 3/4	20.7	13.9	3850	4270	866000	959000	3270	3630	736000	815000

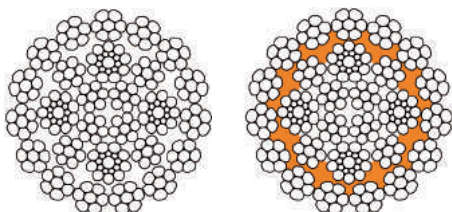
These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.



- Excellent rotational stability
- High flexibility
- Good handling properties

				Aggregate Breaking				Minimum Breaking			
Diameter		Mass		Force		Load		Force		Load	
mm	in	kg/m	lb/ft	1770 kN	1960 kN	1770 lbs	1960 lbs	1770 kN	1960 kN	1770 lbs	1960 lbs
19	3/4	1.53	1.03	301	333	67700	75000	256	283	57500	63700
20		1.70	1.14	334	369	75000	83000	284	314	63700	70600
22		2.06	1.38	404	447	90700	100000	343	380	77100	85400
24	7/8	2.10	1.41	412	456	93000	103000	350	388	78700	87200
25		2.45	1.65	480	532	108000	120000	408	452	91800	102000
26		2.66	1.79	521	577	117000	130000	443	491	99600	110000
28	1	2.74	1.84	538	596	121000	134000	457	506	103000	114000
30		2.87	1.93	564	624	127000	140000	479	531	108000	119000
30	1 1/8	3.33	2.24	654	724	147000	163000	556	615	125000	138000
30	1 1/4	3.47	2.33	681	754	153000	170000	579	641	130000	144000
30		3.83	2.57	751	831	169000	187000	638	707	143000	159000
30		4.28	2.88	841	931	189000	209000	715	791	161000	178000
32		4.35	2.92	854	946	192000	213000	726	804	163000	181000
34		4.91	3.30	964	1070	217000	240000	819	907	184000	204000
35	1 3/8	5.18	3.48	1020	1130	229000	253000	865	958	194000	215000
36		5.51	3.70	1080	1200	243000	269000	919	1020	207000	229000
38	1 1/2	6.14	4.12	1200	1330	271000	300000	1020	1130	230000	255000
40		6.80	4.57	1330	1480	300000	332000	1130	1260	255000	282000
41	1 5/8	7.24	4.87	1420	1570	319000	354000	1210	1340	272000	301000
42		7.50	5.04	1470	1630	331000	366000	1250	1380	281000	311000
44		8.23	5.53	1610	1790	363000	402000	1370	1520	309000	342000
46	1 3/4	8.40	5.64	1650	1820	370000	410000	1400	1550	315000	349000
46		8.99	6.04	1760	1950	397000	439000	1500	1660	337000	373000
48	1 7/8	9.79	6.58	1920	2130	432000	478000	1630	1810	367000	407000
50		10.6	7.14	2090	2310	469000	519000	1770	1960	398000	441000
50	2	11.0	7.37	2150	2380	484000	536000	1830	2030	411000	455000
52		11.5	7.72	2260	2500	507000	561000	1920	2120	431000	477000
54	2 1/8	12.4	8.33	2430	2690	547000	605000	2070	2290	465000	515000
56		13.3	8.96	2620	2900	588000	651000	2220	2460	500000	553000
58	2 1/4	14.3	9.61	2810	3110	631000	698000	2380	2640	536000	594000
60	2 3/8	15.5	10.4	3040	3360	682000	756000	2580	2860	580000	642000
64	2 1/2	17.4	11.7	3420	3780	768000	850000	2900	3220	653000	723000
65		18.0	12.1	3520	3900	792000	877000	3000	3320	673000	746000
67	2 5/8	19.1	12.8	3740	4150	842000	932000	3180	3520	715000	792000
70	2 3/4	20.8	14.0	4090	4530	919000	1020000	3470	3850	781000	865000

These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.

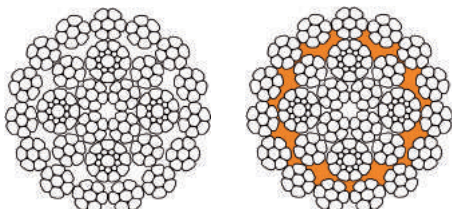


- Excellent rotational stability
- Smooth contact surface
- Good resistance to corrosion



				Aggregate Breaking				Minimum Breaking			
Diameter		Mass		Force		Load		Force		Load	
				1770	1960	1770	1960	1770	1960	1770	1960
mm	in	kg/m	lb/ft	kN	kN	lbs	lbs	kN	kN	lbs	lbs
19	3/4	1.70	1.15	334	369	75000	83100	284	314	63800	70600
20		1.89	1.27	370	409	83100	92000	314	348	70600	78200
22		2.28	1.54	447	495	101000	111000	380	421	85500	94700
	7/8	2.33	1.57	457	506	103000	114000	388	430	87200	96600
24		2.72	1.83	532	590	120000	133000	453	501	102000	113000
25		2.95	1.98	578	640	130000	144000	491	544	110000	122000
	1	3.05	2.05	596	660	134000	148000	507	561	114000	126000
26		3.19	2.14	625	692	140000	156000	531	588	119000	132000
28		3.70	2.49	725	802	163000	180000	616	682	138000	153000
	1 1/8	3.85	2.59	755	836	170000	188000	642	710	144000	160000
		4.25	2.85	832	921	187000	207000	707	783	159000	176000
30	1 1/4	4.76	3.20	932	1030	209000	232000	792	877	178000	197000
		4.83	3.25	946	1050	213000	236000	805	891	181000	200000
32		5.46	3.67	1070	1180	240000	266000	908	1010	204000	226000
34		5.76	3.87	1130	1250	253000	281000	958	1060	215000	239000
35	1 3/8	6.12	4.11	1200	1330	269000	298000	1020	1130	229000	253000
36		6.82	4.58	1330	1480	300000	332000	1130	1260	255000	282000
38	1 1/2	7.55	5.07	1480	1640	332000	368000	1260	1390	283000	313000
40		8.04	5.40	1570	1740	354000	392000	1340	1480	301000	333000
41	1 5/8	8.33	5.60	1630	1810	367000	406000	1390	1530	312000	345000
42		9.14	6.14	1790	1980	402000	445000	1520	1680	342000	379000
44		9.33	6.27	1830	2020	411000	455000	1550	1720	349000	386000
46	1 3/4	9.99	6.71	1960	2170	440000	487000	1660	1840	374000	414000
48	1 7/8	10.9	7.31	2130	2360	479000	530000	1810	2000	407000	451000
		11.8	7.93	2310	2560	519000	575000	1960	2180	442000	489000
50	2	12.2	8.19	2390	2640	536000	594000	2030	2250	456000	505000
52		12.8	8.58	2500	2770	562000	622000	2120	2350	478000	529000
		13.8	9.25	2700	2980	606000	671000	2290	2540	515000	570000
54	2 1/8	14.8	9.95	2900	3210	652000	722000	2460	2730	554000	613000
56		15.9	10.7	3110	3440	699000	774000	2640	2930	594000	658000
58	2 1/4	17.2	11.5	3360	3720	756000	837000	2860	3170	643000	712000
60	2 3/8	19.3	13.0	3790	4190	851000	942000	3220	3560	723000	801000
64	2 1/2	19.9	13.4	3910	4320	878000	972000	3320	3680	746000	826000
65		21.2	14.2	4150	4590	933000	1030000	3530	3910	793000	878000
67	2 5/8	23.1	15.5	4530	5020	1020000	1130000	3850	4260	865000	958000
70	2 3/4										

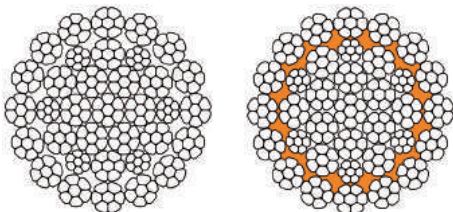
These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.



- Excellent rotational stability
- High resistance to fatigue
- High resistance to corrosion

				Aggregate Breaking				Minimum Breaking			
Diameter		Mass		Force		Load		Force		Load	
mm	in	kg/m	lb/ft	1770 kN	1960 kN	1770 lbs	1960 lbs	1770 kN	1960 kN	1770 lbs	1960 lbs
19	3/4	1.84	1.23	370	408	83200	91700	314	347	70700	77900
20		2.04	1.37	410	452	92200	102000	348	384	78300	86300
22		2.46	1.66	496	547	112000	123000	422	465	94800	104000
24	7/8	2.51	1.69	506	558	114000	125000	430	474	96700	107000
25		2.93	1.97	590	651	133000	146000	502	553	113000	124000
28		3.18	2.14	641	706	144000	159000	544	600	122000	135000
26	1	3.28	2.21	661	729	149000	164000	562	619	126000	139000
28		3.44	2.31	693	763	156000	172000	589	649	132000	146000
30		3.99	2.68	803	885	181000	199000	683	753	154000	169000
30	1 1/8	4.16	2.79	837	922	188000	207000	711	784	160000	176000
		4.58	3.08	922	1020	207000	229000	784	864	176000	194000
	1 1/4	5.13	3.45	1030	1140	232000	256000	878	968	197000	218000
32		5.21	3.50	1050	1160	236000	260000	892	983	201000	221000
34		5.88	3.95	1180	1310	266000	294000	1007	1110	226000	249000
35	1 3/8	6.21	4.17	1250	1380	281000	310000	1060	1170	239000	263000
36		6.60	4.43	1330	1460	299000	329000	1130	1240	254000	280000
38	1 1/2	7.35	4.94	1480	1630	333000	367000	1260	1390	283000	312000
40		8.14	5.47	1640	1810	369000	406000	1390	1540	313000	345000
41	1 5/8	8.67	5.83	1750	1920	393000	433000	1480	1640	334000	368000
42		8.98	6.03	1810	1990	406000	448000	1540	1690	345000	381000
44		9.85	6.62	1980	2190	446000	492000	1690	1860	379000	418000
46	1 3/4	10.1	6.76	2020	2230	455000	502000	1720	1900	387000	426000
48		10.8	7.24	2170	2390	488000	537000	1840	2030	414000	457000
48	1 7/8	11.7	7.88	2360	2600	531000	585000	2010	2210	451000	497000
50		12.7	8.55	2560	2820	576000	635000	2180	2400	490000	540000
52	2	13.1	8.83	2640	2910	595000	655000	2250	2480	505000	557000
52		13.8	9.25	2770	3050	623000	687000	2360	2600	530000	584000
54	2 1/8	14.8	9.97	2990	3290	672000	740000	2540	2800	571000	629000
56		16.0	10.7	3210	3540	723000	796000	2730	3010	614000	677000
58	2 1/4	17.1	11.5	3450	3800	775000	854000	2930	3230	659000	726000
60	2 3/8	18.5	12.4	3730	4110	838000	924000	3170	3490	713000	785000
64	2 1/2	20.8	14.0	4200	4630	944000	1040000	3570	3930	802000	884000
65		21.5	14.5	4330	4770	973000	1070000	3680	4060	827000	912000
67	2 5/8	22.8	15.4	4600	5070	1030000	1140000	3910	4310	879000	969000
70	2 3/4	24.9	16.8	5020	5530	1130000	1240000	4270	4700	960000	1060000

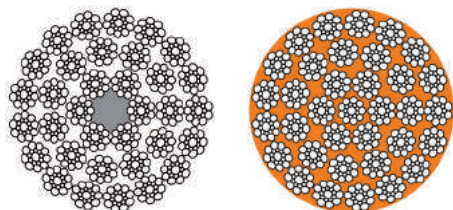
These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.



- Recommended for sinking, multiple layer winding
- Extremely high breaking force
- High radial stiffness
- Excellent rotational stability

		Aggregate Breaking						Minimum Breaking			
		Mass		Force		Load		Force		Load	
Diameter				1770	1960	1770	1960	1770	1960	1770	1960
mm	in	kg/m	lb/ft	kN	kN	lbs	lbs	kN	kN	lbs	lbs
16		1.03	0.693	189	213	42400	47800	141	159	31800	35900
17		1.16	0.783	213	240	47900	54000	160	180	35900	40500
18		1.31	0.877	239	269	53700	60500	179	202	40300	45400
19	3/4	1.45	0.978	266	300	59800	67400	199	225	44800	50600
20		1.61	1.08	295	332	66300	74700	221	249	49700	56000
22		1.95	1.31	357	402	80200	90400	267	302	60100	67800
24	7/8	1.99	1.34	364	410	81800	92200	273	308	61400	69200
25		2.32	1.56	424	478	95400	108000	318	359	71600	80700
26		2.52	1.69	461	519	104000	117000	345	389	77600	87500
28	1	2.60	1.75	475	536	107000	120000	357	402	80100	90400
30	1 1/8	2.72	1.83	498	562	112000	126000	374	421	84000	94700
30	1 1/4	3.16	2.12	578	651	130000	146000	433	488	97400	110000
32		3.29	2.21	602	678	135000	152000	451	509	101000	114000
34		3.63	2.44	663	748	149000	168000	497	561	112000	126000
35	1 3/8	4.06	2.73	743	837	167000	188000	557	628	125000	141000
36		4.13	2.77	754	851	170000	191000	566	638	127000	143000
38	1 1/2	4.66	3.13	852	960	191000	216000	639	720	144000	162000
40		4.92	3.30	899	1010	202000	228000	674	760	152000	171000
41	1 5/8	5.22	3.51	955	1080	215000	242000	716	807	161000	182000
42		5.82	3.91	1060	1200	239000	270000	798	900	179000	202000
44		6.45	4.33	1180	1330	265000	299000	884	1000	199000	224000
46	1 3/4	6.87	4.61	1260	1420	282000	318000	941	1060	212000	239000
48	1 7/8	7.11	4.78	1300	1470	292000	329000	975	1100	219000	247000
50		7.80	5.24	1430	1610	321000	362000	1070	1210	241000	271000
52	2	7.96	5.35	1460	1640	327000	369000	1090	1230	245000	277000
54		8.53	5.73	1560	1760	350000	395000	1170	1320	263000	296000
58	2 1/8	9.29	6.24	1700	1910	382000	430000	1270	1440	286000	323000
60		10.1	6.77	1840	2080	414000	467000	1380	1560	311000	350000
64	2 1/2	10.4	6.99	1900	2140	427000	482000	1430	1610	321000	361000
65		10.9	7.32	1990	2250	448000	505000	1490	1680	336000	379000
67	2 3/8	11.8	7.90	2150	2420	483000	545000	1610	1820	362000	408000
70	2 3/4	12.6	8.49	2310	2600	519000	586000	1730	1950	390000	439000
70		13.6	9.11	2480	2790	557000	628000	1860	2100	418000	471000
70		14.7	9.86	2680	3020	603000	680000	2010	2270	452000	510000
70		16.5	11.1	3020	3400	678000	765000	2260	2550	509000	574000
70		17.0	11.4	3110	3510	700000	789000	2330	2630	525000	592000
70		18.1	12.2	3310	3730	744000	838000	2480	2800	558000	629000
70		19.7	13.3	3610	4070	812000	915000	2710	3050	609000	686000

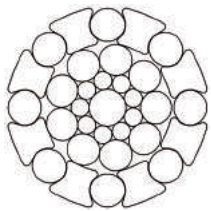
These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.



- Recommended for balance
- High flexibility
- Custom mass specification

Diameter		Mass		Aggregate Breaking				Minimum Breaking			
				Force		Load		Force		Load	
mm	in	kg/m	lb/ft	Standard	Special	Standard	Special	Standard	Special	Standard	Special
				kN	kN	lbs	lbs	kN	kN	lbs	lbs
29		4.63	3.11	509	574	114400	129000	433	488	97300	109700
30	1 <sup>9</sup> / <sub>16</sub>	4.95	3.33	545	614	122500	138100	463	522	104100	117400
32		5.63	3.78	620	699	139300	157100	527	594	118400	133500
	1 <sup>5</sup> / <sub>8</sub>	6.71	4.51	738	832	166000	187000	628	707	141100	159000
35		6.74	4.53	741	836	167000	188000	630	711	141700	160000
38	1 <sup>1</sup> / <sub>2</sub>	7.94	5.34	874	985	196000	222000	743	838	167000	188000
	1 <sup>5</sup> / <sub>8</sub>	9.37	6.30	1031	1162	232000	261000	876	988	197000	222000
	1 <sup>3</sup> / <sub>4</sub>	10.9	7.30	1196	1348	269000	303000	1016	1146	229000	258000
45		11.1	7.48	1226	1380	276000	311000	1042	1175	234000	264000
	1 <sup>7</sup> / <sub>8</sub>	12.7	8.52	1390	1570	313000	353000	1185	1336	266000	300000
50		13.8	9.24	1510	1710	340000	383000	1286	1450	289000	326000
	2	14.2	9.54	1560	1760	351000	396000	1330	1500	298000	336000
51		14.3	9.61	1570	1770	354000	399000	1340	1510	301000	339000
52		14.9	9.99	1640	1850	368000	415000	1390	1570	313000	353000
54	2 <sup>1</sup> / <sub>8</sub>	16.0	10.8	1760	1990	397000	447000	1500	1690	337000	380000

These figures are for guidance only. Other features, such as MBF, mass, dimensions, lay type and plastic fill can be designed on request.



- Recommended for guide
- High resistance to wear
- High resistance to corrosion



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