USHA MARTIN

HIGH-PERFORMANCE CABLEWAYS ROPE

OUR WORLD

Usha Martin is one of the world's largest manufacturers of wire ropes. Our journey of more than six decades has been focused on manufacturing excellence, product innovation, technology improvements and customer satisfaction, which has resulted in establishing Usha Martin ropes as one of the most preferred and trusted brands in the world.

Our hauling / carrying hauling ropes are known for high order of safety, low maintenance, longer service life, excellent quality, and high strength. The company has adopted advanced technologies to ensure that hauling / carrying hauling ropes, and track ropes used for passenger and material transportation deliver superior performance to meet specific requirements in critical working environments. Our technical experts offer suitable solutions and value-added services to meet your needs for cableway installations.

Usha Martin wire ropes undergo rigorous testing procedures to ensure superior quality to fulfil the requirement of demanding operating conditions. No matter how critical your application is, Usha Martin's expertise is always there to offer one-stop wire rope solution for all your aerial transportation needs. Our Global customers, renowned for their critical applications, extensively use our high-performance ropes worldwide.

Our desire to excel is exhibited through our group dynamics by having manufacturing facilities in India, Thailand, Dubai & the United Kingdom, distribution centres spread across continents, a Global Development Centre in Italy and service centres in India, the Netherlands, Scotland, Singapore, Dubai, and Saudi Arabia. Our service focused model has elevated Usha Martin from being a wire rope supplier to a one-stop solution provider in collaboration with our customers.

GLOBAL FOOTPRINT

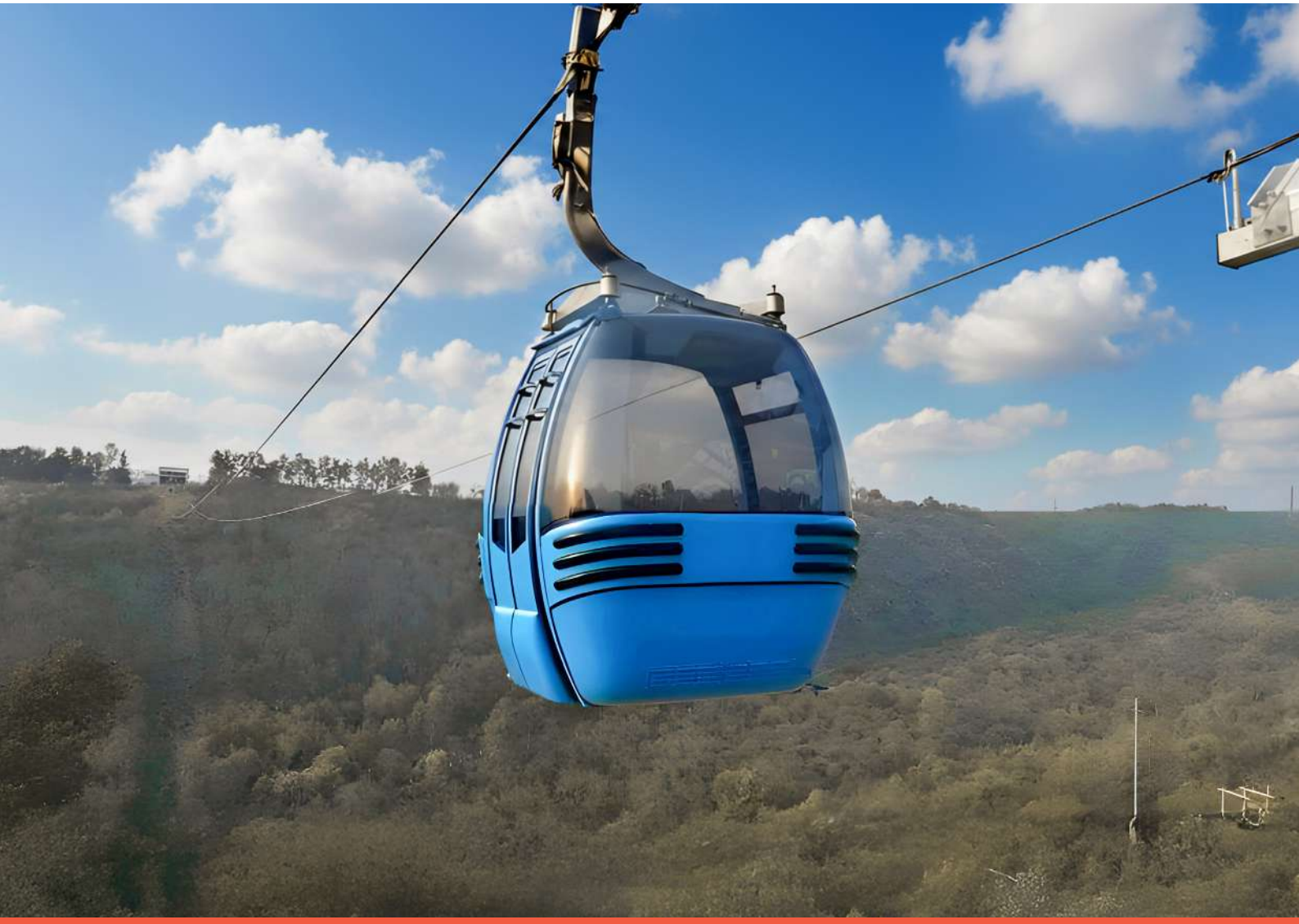
60+ YEARS OF LEADERSHIP

PRESENCE ACROSS **75+** COUNTRIES

06 MANUFACTURING FACILITIES

02 R&D CENTRES

250+ GROUP DISTRIBUTION CENTRES AND CHANNEL PARTNERS



OUR CAPABILITIES

ONE STOP SOLUTION

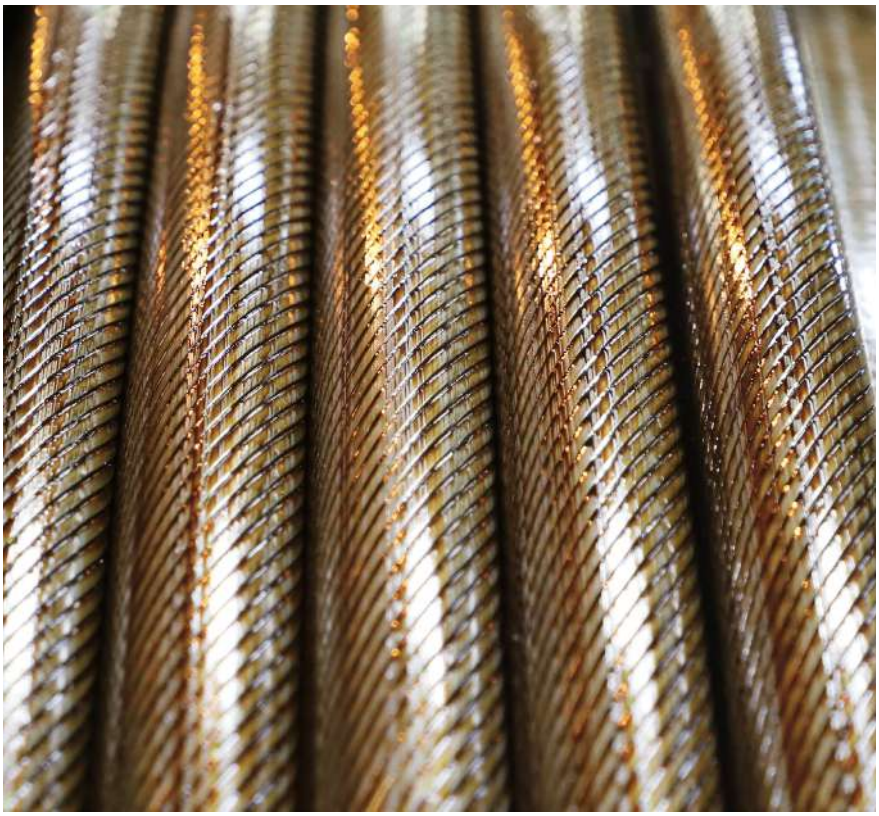
With more than six decades of enriched experience in wire rope manufacturing, Usha Martin has gradually emerged as the only one-stop solution provider company in India for wire rope installation. Our R&D team from Ranchi, India and Global Design Centre, Italy offers specially designed wire ropes for cableways, focusing on the best application performance criteria, and adapting our advanced technologies. We also offer the following services to our customers.

ROPE SELECTION GUIDANCE AT THE DESIGN STAGE

Usha Martin produces all the sizes and constructions of wire ropes which are used in ropeways and has manufacturing scope under IS 10891 & EN 12385. UML's expert team guides at the design stage for selecting the correct size and type of ropes, based on the installation requirements.

UML is the only manufacturer in India to produce Locked Coil ropes for use in track application of bicable / 3S system ropeways.

ROPE MANUFACTURING & SUPPLY



In passenger ropeways, utmost safety and comfort have to be provided to the commuters. Usha Martin follows global quality system standards to produce the right rope for the application.

At our Ranchi plant, long beds are installed to facilitate the pre-stretching process, which is done to prevent rope stretch, elongation, increased MOE etc.

Using ELASKON 20 BB in cable-ways ropes confirms its' protection from environmental influences in extreme temperature conditions ranging between -50° C to 50° C.

Usha Martin has developed a special Solid Core that enhances the rope geometry stability during the service time and ensures a reduction in the rope's permanent stretch.

High-quality steel passes through internal quality checks at each stage of manufacturing to comply with the requirements of national and international standards to produce high-performance products.

Usha Martin ropes for the passenger transportation application comply with the latest applicable EN standards (i.e. EN12385-8; EN12385-9, EN10264-3, EN12927, etc).

INSTALLATION SERVICE & SUPERVISION

Our expert teams offer the following services during ropeway installation:

- Supervision of rope installation.
- Long splicing of hauling / carrying hauling ropes conforming to the national and international applicable standards i.e., EN 12927, GB12352, etc.
- Socketing of track rope / counterweight rope complying with the standards.
- Undergoing socketing activities at our manufacturing unit as well as facilitating at our customer's site.

AFTER-SALES SERVICE

Periodic visits by a dedicated team for detailed visual inspection of installed ropes and to suggest proper rope maintenance methods after the commencement of the ropeway operation.

NDT SERVICE

During the rope service, timely inspections are mandatory to ensure rope safety and conformity. Usha Martin provides specialized onsite inspections through its dedicated team, offering partnerships with users for required inspections. We also conduct Magnetic Rope Testing (MRT) for ropes up to 60 mm.

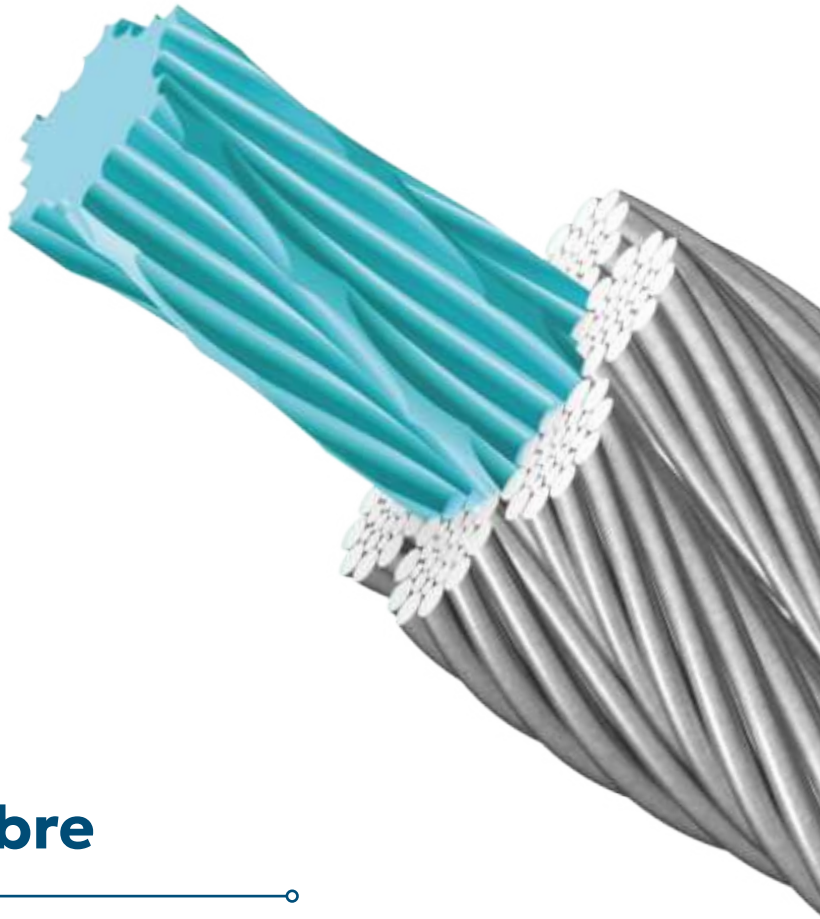
GUIDE TO APPLICATION & ROPE SELECTION

PASSENGER CABLEWAY

PRODUCTS	SIZE RANGE (mm)		PASSENGER ROPEWAYS / URBAN TRANSPORTATION			FUNICULAR ROPEWAYS	ZIPLINE
	MIN	MAX	HAULING	CARRYING HAULING	TRACK	HAULING	
6x7 Fibre Core	8	32	√	√		√	√
6xk7 Fibre Core	10	34	√	√		√	√
6x19 Fibre Core	10	50	√	√		√	√
6xk19 Fibre Core	10	50	√	√		√	√
6x36 Fibre Core	12	64	√	√		√	√
6xk36 Fibre Core	12	64	√	√		√	√
6 Strand Steel Core	12	60				√	√
Locked Coil Ropes	25	90			√	√	√

MATERIAL HANDLING CABLEWAY

PRODUCTS	SIZE RANGE (mm)		INDUSTRIAL/ MATERIAL HANDLING ROPEWAY		CABLE BELTS
	MIN	MAX	HAULING	TRACK	
6x7 Fibre Core	8	32	√		√
6xk7 Fibre Core	10	34	√		√
6x19 Fibre Core	10	50	√		√
6xk19 Fibre Core	10	50	√		√
6x36 Fibre Core	12	64	√		√
6xk36 Fibre Core	12	64	√		√
6 Strand Steel Core	12	60	√		
6x8FS Fibre Core	25	35	√		
6x25FS/6x28FS Fibre Core	24	44	√		
Locked Coil Ropes	25	90		√	



High Performance Fibre

Compacted & Non Compacted

Lay Type

Langs

Lay Direction

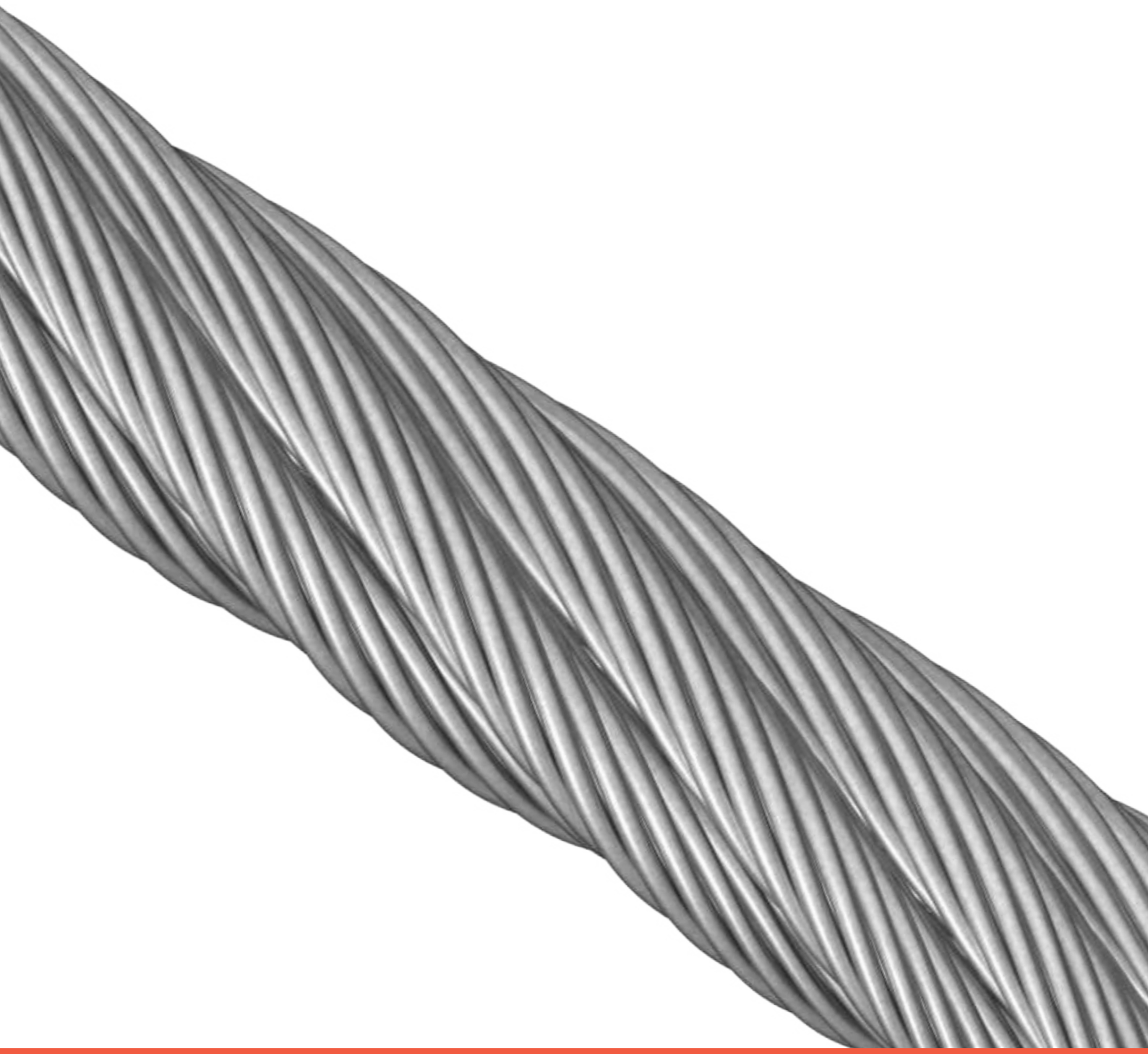
RH

Finish

Bright

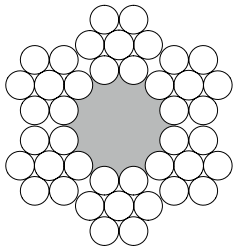
HIGH PERFORMANCE

HAULING / CARRYING HAULING ROPES



6X7 FIBRE CORE

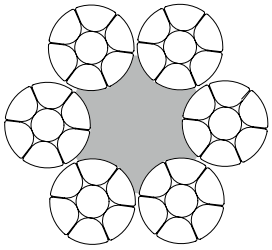
NOMINAL ROPE DIAMETER	APPROX. MASS		MINIMUM BREAKING STRENGTH		
			1570 GRADE	1770 GRADE	1960 GRADE
mm	Kg/m	lb/ft	kN	kN	kN
8	0.230	0.155	36.1	40.1	44.3
10	0.350	0.235	56.4	62.6	69.2
12	0.510	0.343	81.2	90.1	99.6
13	0.600	0.403	95.3	106	117
14	0.690	0.464	110	123	136
16	0.910	0.611	144	160	177
18	1.15	0.773	183	203	224
19	1.28	0.860	203	226	250
20	1.41	0.947	225	250	277
22	1.71	1.15	273	303	335
24	2.04	1.37	325	361	398
25	2.21	1.49	352	391	432
26	2.39	1.61	381	423	467
28	2.77	1.86	442	491	542
29	2.97	2.00	474	526	582
30	3.18	2.14	507	563	622
32	3.62	2.43	577	641	708



NOTE:
Rope sizes & breaking force not shown in the standard table may be available on request & prior confirmation.

6Xk7 FIBRE CORE

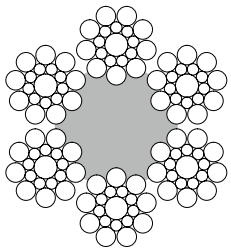
NOMINAL ROPE DIAMETER	APPROX. MASS		MINIMUM BREAKING STRENGTH		
			1570 GRADE	1770 GRADE	1960 GRADE
mm	Kg/m	lb/ft	kN	kN	kN
10	0.400	0.269	64.7	71.9	79.4
12	0.580	0.390	93.2	104	114
13	0.780	0.524	127	141	156
14	1.02	0.685	166	184	203
16	1.30	0.874	210	233	257
18	1.44	0.968	234	259	287
19	1.60	1.08	259	287	318
20	1.94	1.30	313	348	384
22	2.30	1.55	373	414	457
24	2.50	1.68	404	449	496
25	2.70	1.81	437	486	537
26	3.14	2.11	507	563	622
28	3.36	2.26	544	604	668
29	3.60	2.42	582	647	715
30	3.84	2.58	622	691	763
32	4.10	2.76	663	736	813
34	4.62	3.10	748	831	918



NOTE:
Rope sizes & breaking force not shown in the standard table may be available on request & prior confirmation.

6X19S FIBRE CORE

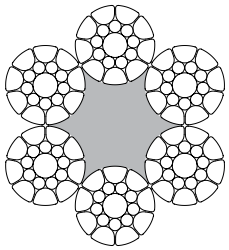
NOMINAL ROPE DIAMETER	APPROX. MASS		MINIMUM BREAKING STRENGTH		
			1570 GRADE	1770 GRADE	1960 GRADE
mm	Kg/m	lb/ft	kN	kN	kN
10	0.380	0.255	59	65.5	72.4
12	0.540	0.363	85	94.3	104
14	0.740	0.497	116	128	142
16	0.960	0.645	151	168	185
18	1.22	0.820	191	212	235
20	1.50	1.01	236	262	290
22	1.82	1.22	285	317	350
24	2.16	1.45	340	377	417
25	2.34	1.57	369	409	452
26	2.54	1.71	399	443	489
28	2.94	1.98	462	514	567
29	3.15	2.12	496	551	609
30	3.38	2.27	531	590	651
31	3.60	2.42	567	629	695
32	3.84	2.58	604	671	741
34	4.34	2.92	682	757	836
35	4.59	3.08	723	802	886
36	4.86	3.27	764	849	938
38	5.42	3.64	852	946	1045
40	6.00	4.03	944	1048	1158
42	6.62	4.45	1065	1183	1307
44	7.26	4.88	1142	1268	1402
46	7.94	5.34	1248	1386	1532
48	8.64	5.81	1359	1509	1668
50	9.38	6.30	1475	1638	1810



NOTE:
Rope sizes & breaking force not shown in the standard table may be available on request & prior confirmation.

6Xk19S FIBRE CORE

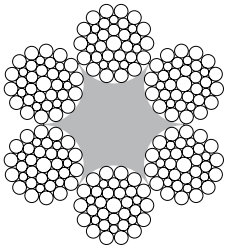
NOMINAL ROPE DIAMETER	APPROX. MASS		MINIMUM BREAKING STRENGTH		
			1570 GRADE	1770 GRADE	1960 GRADE
mm	Kg/m	lb/ft	kN	kN	kN
10	0.420	0.282	66	75.2	81
12	0.600	0.403	95	108	117
14	0.810	0.544	129	147	159
16	1.06	0.712	169	193	207
18	1.34	0.900	214	244	262
20	1.66	1.12	264	301	324
22	2.01	1.35	320	364	392
24	2.39	1.61	380	433	467
25	2.59	1.74	413	470	506
26	2.81	1.89	446	509	548
28	3.25	2.18	518	590	635
29	3.49	2.35	555	633	681
30	3.74	2.51	594	677	729
32	4.25	2.86	676	770	829
33	4.52	3.04	719	819	882
34	4.80	3.23	763	870	936
35	5.08	3.41	809	922	992
36	5.38	3.62	856	975	1050
38	5.99	4.03	953	1086	1170
40	6.64	4.46	1056	1204	1296
42	7.32	4.92	1193	1359	1463
44	8.03	5.40	1278	1456	1568
46	8.78	5.90	1397	1591	1714
48	9.56	6.42	1521	1733	1866
50	10.4	6.98	1650	1880	2025



NOTE:
Rope sizes & breaking force not shown in the standard table may be available on request & prior confirmation.

6X36 FIBRE CORE

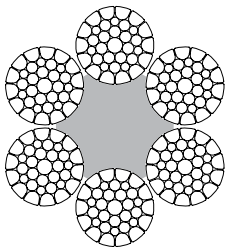
NOMINAL ROPE DIAMETER	APPROX. MASS		MINIMUM BREAKING STRENGTH		
			1570 GRADE	1770 GRADE	1960 GRADE
mm	Kg/m	lb/ft	kN	kN	kN
12	0.550	0.370	87.7	97.3	108
14	0.740	0.497	119	132	146
16	0.970	0.652	156	173	191
18	1.23	0.827	197	219	242
20	1.52	1.02	244	270	299
22	1.84	1.24	295	327	362
24	2.19	1.47	351	389	430
26	2.57	1.73	412	457	505
28	2.98	2.00	477	530	586
30	3.42	2.30	548	609	672
32	3.89	2.61	624	692	765
33	4.14	2.78	663	736	813
34	4.39	2.95	704	782	864
35	4.66	3.13	746	828	915
36	4.92	3.31	789	876	968
38	5.49	3.69	879	976	1079
40	6.08	4.09	974	1082	1195
42	6.70	4.50	1074	1193	1318
44	7.36	4.95	1179	1309	1446
45	7.70	5.17	1233	1369	1513
46	8.04	5.40	1288	1431	1581
48	8.76	5.89	1403	1558	1721
50	9.50	6.38	1522	1690	1867
51	9.88	6.64	1584	1759	1943
52	10.3	6.91	1646	1828	2020
54	11.1	7.45	1776	1972	2178
56	11.9	8.01	1910	2120	2343
58	12.8	8.59	2048	2275	2513
60	13.7	9.19	2192	2434	2689
62	14.6	9.82	2341	2599	2871
63	15.1	10.1	2417	2684	2965
64	15.6	10.5	2494	2770	3060



NOTE:
Rope sizes & breaking force not shown in the standard table may be available on request & prior confirmation.

6Xk36 FIBRE CORE

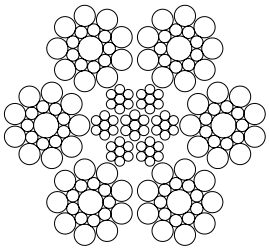
NOMINAL ROPE DIAMETER	APPROX. MASS		MINIMUM BREAKING STRENGTH		
			1570 GRADE	1770 GRADE	1960 GRADE
mm	Kg/m	lb/ft	kN	kN	kN
12	0.570	0.383	89.4	99.4	110
14	0.770	0.517	122	135	149
16	1.01	0.679	159	177	195
18	1.28	0.860	201	224	247
20	1.58	1.06	248	276	305
22	1.91	1.28	301	334	369
24	2.28	1.53	358	397	439
26	2.67	1.79	420	466	515
28	3.10	2.08	487	541	597
30	3.56	2.39	559	621	686
32	4.04	2.71	636	706	780
33	4.30	2.89	676	751	830
34	4.57	3.07	718	797	881
35	4.84	3.25	761	845	933
36	5.12	3.44	805	894	988
38	5.70	3.83	897	996	1100
40	6.32	4.25	994	1104	1219
42	6.97	4.68	1096	1217	1344
44	7.65	5.14	1203	1335	1475
45	8.00	5.38	1258	1397	1543
46	8.36	5.62	1314	1460	1612
48	9.10	6.11	1431	1589	1756
50	9.88	6.64	1553	1724	1905
51	10.3	6.90	1616	1794	1982
52	10.7	7.18	1680	1865	2060
54	11.5	7.74	1811	2011	2222
56	12.4	8.33	1948	2163	2390
58	13.3	8.93	2090	2320	2563
60	14.2	9.56	2236	2483	2743
62	15.2	10.2	2388	2651	2929
63	15.7	10.5	2465	2738	3024
64	16.2	10.9	2544	2825	3121



NOTE:
Rope sizes & breaking force not shown in the standard table may be available on request & prior confirmation.

6 STRAND STEEL CORE

NOMINAL ROPE DIAMETER	APPROX. MASS		MINIMUM BREAKING STRENGTH
mm	Kg/m	lb/ft	kN
12	0.576	0.387	101
13	0.680	0.457	118
14	0.790	0.531	137
16	1.03	0.692	179
18	1.30	0.874	227
19	1.45	0.974	252
20	1.60	1.08	280
22	1.94	1.30	338
24	2.31	1.55	402
25	2.50	1.68	437
26	2.71	1.82	472
28	3.14	2.11	548
30	3.60	2.42	628
32	4.10	2.76	715
34	4.63	3.11	807
36	5.19	3.49	905
38	5.78	3.88	1010
40	6.40	4.30	1120
42	7.06	4.74	1230
44	7.75	5.21	1350
46	8.47	5.69	1480
48	9.22	6.20	1610
50	10.0	6.72	1740
51	10.4	7.00	1810
52	10.8	7.27	1890
54	11.7	7.84	2030
56	12.6	8.43	2190
58	13.5	9.04	2350
60	14.4	9.68	2510



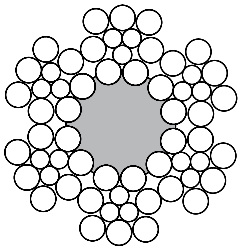
NOTE:
Rope sizes & breaking force not shown in the standard table may be available on request & prior confirmation.

A

FLATTENED STRAND

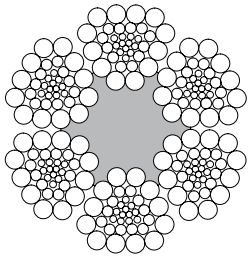
6X8FS FIBRE CORE

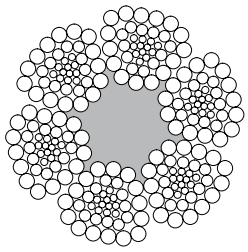
NOMINAL ROPE DIAMETER	APPROX. MASS		MINIMUM BREAKING STRENGTH		
			1420 GRADE	1570 GRADE	1770 GRADE
mm	Kg/m	lb/ft	kN	kN	kN
25	2.56	1.72	321	355	400
26	2.77	1.86	347	384	433
28	3.21	2.16	403	446	502
29	3.45	2.32	432	478	539
32	4.20	2.82	526	582	656
33	4.46	3.00	560	619	698
35	5.02	3.37	630	696	785



6X25FS / 6X28FS FIBRE CORE

NOMINAL ROPE DIAMETER	APPROX. MASS		MINIMUM BREAKING STRENGTH		
			1420 GRADE	1570 GRADE	1770 GRADE
mm	Kg/m	lb/ft	kN	kN	kN
24	2.36	1.59	287	317	358
25	2.56	1.72	312	344	388
26	2.77	1.86	337	373	420
28	3.21	2.16	391	432	487
29	3.45	2.32	419	463	522
32	4.20	2.82	510	564	636
33	4.46	3.00	543	600	677
35	5.02	3.37	611	675	761
36	5.31	3.57	646	714	805
37	5.61	3.77	682	754	851
38	5.92	3.98	720	796	897
40	6.56	4.41	797	882	994
44	7.94	5.34	965	1067	1203

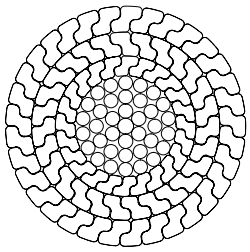




NOTE:
Rope sizes & breaking force not shown in the standard table may be available on request & prior confirmation.

LOCKED COIL ROPE

NOMINAL ROPE DIAMETER	APPROX. MASS		MINIMUM BREAKING STRENGTH		
			1370 GRADE	1470 GRADE	1570 GRADE
mm	Kg/m	lb/ft	kN	kN	kN
25	3.50	2.35	520	558	596
26	3.79	2.55	562	603	644
28	4.40	2.96	652	700	747
29	4.72	3.17	699	750	801
30	5.05	3.39	748	803	858
32	5.74	3.86	851	914	976
34	6.48	4.35	961	1030	1100
35	6.87	4.62	1020	1090	1170
36	7.27	4.89	1080	1160	1230
37	7.68	5.16	1140	1220	1300
38	8.10	5.44	1200	1290	1380
39	8.53	5.73	1260	1360	1450
40	8.97	6.03	1330	1430	1520
42	9.89	6.65	1470	1570	1680
43	10.4	6.99	1540	1650	1760
44	10.9	7.32	1610	1730	1840
45	11.4	7.66	1680	1810	1930
46	11.9	8.00	1760	1890	2020
48	12.9	8.67	1920	2060	2200
50	14.0	9.41	2080	2230	2380
52	15.2	10.2	2250	2410	2580
54	16.4	11.0	2420	2600	2780
55	17.0	11.4	2520	2700	2880
56	17.6	11.8	2610	2800	2990
58	18.9	12.7	2800	3000	3210
60	20.2	13.6	2990	3210	3430
61	21.9	14.7	3240	3480	3710
62	22.6	15.2	3350	3590	3840
64	24.1	16.2	3570	3830	4090
65	24.8	16.7	3680	3950	4220
66	25.6	17.2	3790	4070	4350
68	27.2	18.3	4030	4320	4620
69	28.0	18.8	4150	4450	4750
70	28.8	19.4	4270	4580	4890



LOCKED COIL ROPE

NOMINAL ROPE DIAMETER	APPROX. MASS		MINIMUM BREAKING STRENGTH		
			1370 GRADE	1470 GRADE	1570 GRADE
mm	Kg/m	lb/ft	kN	kN	kN
72	30.5	20.5	4520	4850	5180
74	32.2	21.6	4770	5120	5470
75	33.0	22.2	4900	5260	5620
76	33.9	22.8	5030	5400	5770
77	34.8	23.4	5160	5540	5920
78	35.7	24.0	5300	5690	6070
79	36.7	24.7	5440	5830	6230
80	37.6	25.3	5580	5980	6390
82	39.5	26.5	5860	6290	6710
84	41.5	27.9	6150	6600	7040
86	43.4	29.2	6440	6910	7380
88	45.5	30.6	6750	7240	7730
89	46.5	31.2	6900	7400	7910
90	47.6	32.0	7060	7570	8090

NOTE:
Rope sizes & breaking force not shown in the standard table may be available on request & prior confirmation.

ADVANTAGES OF LOCKED COIL ROPE

- Vibration-free operation is ensured due to the smooth outer surface of the locked coil.
- Improved load-bearing due to surface contact with carriage pulleys.
- Better abrasion resistance due to the presence of shaped wires in the outer layer, resulting in better operational life.
- Dual tensile grade wires can be available on request of the installation demand, complying with the standard norms.
- Interlocked Z-shaped wires prevent wire opening from its position even after breakage.

CORPORATE OFFICE

USHA MARTIN LIMITED

2A, Shakespeare Sarani 'Mangal Kalash'
Kolkata-700 071
Phone: +91 33 71006300 / +91 33 71006492
Email: contact@ushamartin.co.in

INDIA OFFICES

NORTH REGIONAL OFFICE

USHA MARTIN LIMITED

825 & 826, 8th Floor,
World Trade Tower
Plot-1, Block- B, Sector-16, Noida, U.P. - 201301
Phone: +91 120 6286129
Email: marketing-north@ushamartin.co.in

SOUTH REGIONAL OFFICE

USHA MARTIN LIMITED

VKR Tower, No. 14, First Avenue, Ground Floor,
Ashok Nagar, Chennai - 600083
Phone: +91 44 47885020
Email: marketing-south@ushamartin.co.in

EAST REGIONAL OFFICE

USHA MARTIN LIMITED

2A, Shakespeare Sarani 'Mangal Kalash'
Kolkata - 700071
Phone: +91 33 71006492
Email: marketing-east@ushamartin.co.in

WEST REGIONAL OFFICE

USHA MARTIN LIMITED

Office No. 1001/1002, Chandak Chambers,
Near WEH Metro Station, Andheri Kurla Road,
Andheri (E), Mumbai - 400 069
Phone: +91 22 6239 0290
Email: marketing-west@ushamartin.co.in

INTERNATIONAL OFFICES

USHA MARTIN AMERICAS, INC

1301 Hays Street
Houston, TX 77009
Phone: +1 713 676 1800
Email: sales@ushamartinus.com

EMM CORP

Howe Moss Place,
Kirkhill Industrial Estate Dyce,
Aberdeen AB 21 OGS, Scotland, UK
Phone: +44 1224 77 5151
Email: info@emmcorp.com

BRUNTON SHAW UK

Sandy Lane, Worksop, S80 3ES, UK
Phone: + 44 1909 537 600
Email: info@brunton-shaw.co.uk

DE RUITER STAALKABEL B.V.

Kerkeplaat 10, 3313 LC Dordrecht
The Netherlands
Phone: +31 (0) 78 - 8200600
Email: info@drstk.nl

BRUNTON WIRE ROPES FZCO.

P.O. Box 17491, M00301
Jebel Ali Free Zone, Dubai U.A.E
Phone: + 971 50 4503717
Email: sm@bsme-uae.com

EMM CORP SAUDI ARABIA

Brunton Wire Ropes Industrial Company Limited
P3511 Al Ameer Sultan - Al Jawharah Dist.
Unit No. 15, Al Khobar 34434-9497,
Kingdom of Saudi Arabia
Phone: +966 138126266
Email: rahat@emm-saudi.com

USHA SIAM STEEL INDUSTRIES PUBLIC COMPANY LIMITED

66 Q House Asoke Building,
12th Floor, Unit 1207 Sukhumvit 21 road,
North Klongtoey, Wattana, Bangkok 10110
Phone: +662 261 7361- 4
E-mail: info@ushasiam.com

USHA MARTIN SINGAPORE PTE LIMITED

91 Tuas Bay Drive, Usha Martin Building,
Singapore - 637307
Phone: +65 6265 7756
Email: sales@umsingapore.com

USHA MARTIN AUSTRALIA PTY LTD

Sydney Office: Unit 2, 7 Tarlington Pl,
Smithfield NSW 2164
Phone: +61 411 095 983
Perth Office: 31 Colin Jamieson Drive,
Welshpool WA 6106 Phone: +61 419 939 567
Email: marketing-australia@ushamartin.co.in

USHA MARTIN VIETNAM CO. LTD

18A, D2 Street, Ward 25,
Binh Thanh District, Ho Chi Minh City,
S.R Vietnam
Phone: +84 28 3512 2209
Email: qui@umvietnam.com.vn

PT. USHA MARTIN INDONESIA

Konica Building 3A Floor Jl.
Gunung Sahari Raya 78 Jakarta 10610,
Indonesia
Phone: +62 21 42870794
Email: marketing-indonesia@ushamartin.co.in

USHA MARTIN ITALIA S.R.L

Via Antonio Segni 6
25062 Concesio (BS), Italy.
Phone: +39 030 7741330
Email: info@ushamartin.it