



WE KNOW THE
ROPES

2024 EDITION

TEHO
INTERNATIONAL





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ABOUT US

WE KNOW THE ROPES

TEHO Ropes was incorporated in 1986 in Singapore and is now well-established as a major provider of a full range of mooring, rigging, lifting and safety systems, servicing customers in the Maritime and Oil & Gas Industry.

During the last decade we have further grown internationally and we have extended our operations to the key maritime centres around the globe.

TEHO Ropes now signifies a global group that include:

- TEHO Ropes Singapore
- TEHO Ropes USA
- TEHO Ropes Europe
- TEHO Ropes Korea

Together, we supply wire and synthetic rope, related products and services to customers at the world's most important ports: Singapore, Shanghai, Busan, Houston, Panama, Rotterdam, Algeciras, Dubai and Las Palmas.

The TEHO Group has gained a leading position in the world by offering a complete range of quality mooring equipment from stock enforced with class certification, short delivery times and unequalled customer service.

Our technical expertise, robust inventory, high service level, value pricing and global network, combine to make us an ideal "one-stop" shop for international maritime companies seeking reliable partners for their supply chain.

TEHO Ropes has a proven track record in reducing purchasing expenditure, achieve operational excellence and sharing technical assistance gained by experience on board of vessels.

Material Characteristics & Fibre Rope Types

The characteristics of each fibre rope are governed primarily by the material properties, which may be enhanced or moderated during the production process.

However, rope selection is ultimately a balancing act between the characteristics of the material, the rope construction, vessel properties, operating conditions, environmental and safety concerns and of course cost.

Our MAGNARO® range of fibre ropes is the result of product optimization in view of production efficiency, price competitiveness and market requirements.

All MAGNARO® fibre ropes are produced in accordance with the OCIMF Mooring Equipment Guidelines 4th Edition (MEG4) and can be certified by third party class societies such as LRS, DNV•GL, ABS and NK.



Fibre Rope Types Overview

Category	Brand	Material	Specific Gravity	Melting Point (°C)	Abrasion Resistance	UV Resistance	MBL -- Dry / Wet
HMPE	MAGNARO®- HMPE	High Modulus PolyEthylene (HMPE)	0.97	147	Excellent	Excellent	Same
	MAGNARO®- HMPE Plus		0.97 - 1.09	147/260	Excellent	Excellent	Same
Aramid	MAGNARO®- TWARON® Plus	Aramid	1.40 - 1.44	500	Excellent	Excellent	Same
Composite	MAGNARO®- Flex	High Tenacity Polyolefin & High Tenacity Polyester	1.10	165/260	Excellent	Excellent	Same
	MAGNARO®- RRR		0.99	165/260	Very Good	Very Good	Same
	MAGNARO®- Float		0.99	165/260	Very Good	Very Good	Same
	MAGNARO®- Tibrid		0.99	165/260	Good	Good	Same
	MAGNARO®- Winchline		0.93	147/165	Excellent	Excellent	Same
Mixed Polyolefin	MAGNARO®- HTPP	Mixed Polyolefin (PP/PE)	0.92	165	Good	Good	Same
	MAGNARO®- Danline		0.92	165	Good	Good	Same
Nylon	MAGNARO®- Nylon	Nylon	1.14	215	Excellent	Very Good	Wet - 15%
	MAGNARO®- 6	Nylon Monofilament & Nylon Multifilament	1.14	215	Excellent	Excellent	Wet - 10%

FIBRE ROPE SPECIFICATIONS



MAGNARO® - HMPE

PRODUCT PROPERTIES

Material	HMPE
Construction	12-strand
Jacketed	No
Rotating	No
Color of Rope	Yellow
Specific Gravity	0.97 Floating
Melting Point	147°C
Abrasion Resistance	Excellent
U.V. Resistance	Excellent
Chemical Resistance	Excellent
Dry & Wet Conditions	Identical wet & dry strengths

FEATURES & BENEFITS

Our custom made high tenacity polyester Magnaro® Sleeve is pre-installed on both ends of the ropes, protecting the entire length of the eye against abrasion.

- Fibres are produced by gel-spinning ultra-high molecular weight polyethylene (UHMWPE)
- Very low coefficient of friction
- Higher strength comparable to conventional steel wire rope
- Weight up to 7 times lower than wire rope
- Easier handling
- Increased safety (low snap back)

APPLICATIONS ELONGATION

MOORING

- Main Line

TOWING

- Main Line
- Pennant

Magnaro® - HMPE	
Break Force	Elongation
10%	1.0%
30%	2.2%
50%	3.2%
100%	5.0%

Dia.	Circ.	Weight	MBL (Unspliced)		MBL/LDBF*(Spliced)	
			Ton	kN	Ton	kN
mm	inch	kg/100m				
16	2	16.0	27.5	270	24.8	243
18	2 1/4	20.8	35.0	343	31.5	309
20	2 1/2	25.5	41.5	407	37.4	366
22	2 3/4	30.5	50.0	491	45.0	442
24	3	35.8	58.0	569	52.2	512
26	3 1/4	41.0	66.0	647	59.4	583
28	3 1/2	46.5	74.0	726	66.6	653
30	3 3/4	52.0	81.5	800	73.4	720
32	4	57.0	88.5	868	79.7	781
34	4 1/4	64.4	100	980	89.9	882
36	4 1/2	68.0	104	1,020	93.6	918
38	4 3/4	75.8	116	1,136	104	1,022
40	5	87.0	127	1,246	114	1,121
42	5 1/4	95.9	140	1,373	126	1,236
44	5 1/2	104	152	1,491	137	1,342
46	5 3/4	114	166	1,628	149	1,465
48	6	121	179	1,756	161	1,580
50	6 1/4	131	194	1,905	175	1,714
52	6 1/2	142	206	2,021	185	1,819
54	6 3/4	153	222	2,179	200	1,961
56	7	163	236	2,315	212	2,084
58	7 1/4	175	248	2,428	223	2,185
60	7 1/2	175	252	2,472	227	2,225
64	8	200	282	2,766	254	2,490
68	8 1/2	226	316	3,100	284	2,790
72	9	254	348	3,414	313	3,073
76	9 1/2	283	387	3,796	348	3,417
80	10	313	422	4,140	380	3,726

*LDBF as per OCIMF MEG4 recommendations (spliced dry condition)

FIBRE ROPE SPECIFICATIONS



MAGNARO® - HMPE Plus

PRODUCT PROPERTIES

Material	HMPE
Construction	12-strand
Jacketed	Yes
Rotating	No
Color of Rope	White
Specific Gravity	0.97 – 1.09
Melting Point	147°C / 260°C
Abrasion Resistance	Excellent
U.V. Resistance	Excellent
Chemical Resistance	Excellent
Dry & Wet Conditions	Identical wet & dry strengths

FEATURES & BENEFITS

- Fibres are produced by gel-spinning ultra-high molecular weight polyethylene (UHMWPE)
- Higher strength compared to conventional steel wire rope
- Weight up to 7 times lower than wire rope
- Easier handling
- Increased safety (low snap back)
- Cover gives extra protection against abrasion, increasing the service life of the rope

APPLICATIONS ELONGATION

MOORING

- Main Line

TOWING

- Main Line
- Pennant

Magnaro® - HMPE Plus	
Break Force	Elongation
10%	0.8%
30%	1.8%
50%	2.6%
100%	4.5%

Dia.	Circ.	Weight	MBL (Unspliced)		MBL/LDBF*(Spliced)	
			Ton	kN	Ton	kN
22	2 3/4	27.7	38.9	381	35.0	343
24	3	33.0	46.2	454	41.6	409
26	3 1/4	40.1	54.2	533	48.8	479
28	3 1/2	50.0	63.0	618	56.7	556
30	3 3/4	57.3	68.3	670	61.5	603
32	4	64.0	74.0	726	66.6	653
34	4 1/4	72.2	83.4	819	75.1	737
36	4 1/2	78.9	93.0	912	83.7	821
38	4 3/4	87.9	104	1,016	93.2	915
40	5	94.8	114	1,122	103	1,010
42	5 1/4	105	126	1,237	113	1,114
44	5 1/2	111	136	1,329	122	1,196
46	5 3/4	121	148	1,453	133	1,308
48	6	137	166	1,623	149	1,461
50	6 1/4	149	181	1,773	163	1,596
52	6 1/2	160	196	1,918	176	1,726
54	6 3/4	173	213	2,087	191	1,878
56	7	183	230	2,255	207	2,030
58	7 1/4	196	247	2,419	222	2,178
60	7 1/2	205	263	2,582	237	2,324
62	7 3/4	219	281	2,757	253	2,482
64	8	236	308	3,018	277	2,716
66	8 1/4	251	327	3,210	294	2,889
68	8 1/2	266	347	3,407	313	3,067
70	8 3/4	282	368	3,611	331	3,250
72	9	295	380	3,726	342	3,354
74	9 1/4	312	398	3,902	358	3,512
76	9 1/2	329	420	4,116	378	3,704
78	9 3/4	346	442	4,335	398	3,902
80	10	359	458	4,489	412	4,040

*LDBF as per OCIMF MEG4 recommendations (spliced dry condition)

**Weights are with polyester cover, weights with other covers are available upon request.

FIBRE ROPE SPECIFICATIONS



MAGNARO® - Twaron® Plus

PRODUCT PROPERTIES

Material	Aramid
Construction	12-strand
Jacketed	Yes
Rotating	No
Color of Rope	White
Specific Gravity	1.44
Melting Point	500°C
(*Decomposition temperature)	
Abrasion Resistance	Excellent
U.V. Resistance	Excellent
Chemical Resistance	Excellent
Dry & Wet Conditions	Identical wet & dry strengths

Dia.	Circ.	Weight	MBL (Unspliced)		MBL/LDBF*(Spliced)	
			mm	inch	kg/100m	Ton
34	4 1/4	96.2	71.0	696	64.0	628
36	4 1/2	106	80.0	785	72.0	706
38	4 3/4	117	91.0	892	82.0	804
40	5	128	98.0	961	88.0	863
42	5 1/4	139	109	1069	98.0	961
44	5 1/2	157	128	1255	115	1128
46	5 3/4	169	139	1363	125	1226
48	6	183	152	1491	137	1344
50	6 1/4	202	167	1638	150	1471
52	6 1/2	218	181	1775	163	1598
54	6 3/4	235	197	1932	177	1736
56	7	252	213	2089	192	1883
58	7 1/4	270	229	2246	206	2020
60	7 1/2	288	246	2412	221	2167
62	7 3/4	308	265	2599	239	2344
64	8	329	284	2785	256	2511

FEATURES & BENEFITS

- Twaron® is Teijin Aramid's flagship high-performance yarn
- High strength: excellent strength-to-weight ratio
- High dimensional stability with very low creep
- Long term rope durability because of Aramid's unique chemical and mechanical properties
- Increased safety (no lash back)
- Cover gives extra protection against abrasion, increasing the rope's service life
- Fully recyclable

*LDBF as per OCIMF MEG4 recommendations (spliced dry condition)

**Weights are with polyester cover, weights with other covers are available upon request.

APPLICATIONS ELONGATION

- MOORING
- Main Line

Magnaro® - Twaron® PLUS	
Break Force	Elongation
10%	0.9%
30%	2.1%
50%	3.0%
100%	4.8%

FIBRE ROPE SPECIFICATIONS



MAGNARO® - Flex

PRODUCT PROPERTIES

Material	High Tenacity Polyolefin & High Tenacity Polyester
Construction	8- or 12-strand
Jacketed	No
Rotating	No
Color of Rope	White with 1 red marker
Specific Gravity	1.10 Semi-Floating
Melting Point	165°C / 260°C
Abrasion Resistance	Excellent
U.V. Resistance	Excellent
Chemical Resistance	Excellent
Dry & Wet Conditions	Identical wet & dry strengths

FEATURES & BENEFITS

Our custom made high tenacity polyester Magnaro® Sleeve is pre-installed on both ends of the ropes, protecting the entire length of the eye against abrasion.

- Mixed or composite rope of Polyolefin and Polyester
- Special marine finish is applied for better wear resistance in the marine environment
- One of the best and most durable ropes for mooring and towing purposes
- Preferred rope for many ship owners and managers because of its strength for size and fatigue/abrasion properties

APPLICATIONS

MOORING

- Main Line
- Tail

TOWING

- Main Line
- Pennant

ELONGATION

Magnaro® - FLEX	
Break Force	Elongation
10%	4.9%
30%	7.9%
50%	11.2%
100%	14.3%

Dia.	Circ.	Weight	MBL (Unspliced)		MBL/LDBF*(Spliced)	
			kg/100m	Ton	kN	Ton
36	4 1/2	83.4	34.5	338	31.0	304
38	4 3/4	92.9	38.3	376	34.5	339
40	5	103	42.5	416	38.2	375
42	5 1/4	114	46.8	459	42.1	412
44	5 1/2	122	51.6	506	46.4	455
46	5 3/4	133	56.4	553	50.7	497
48	6	143	60.0	589	54.0	530
50	6 1/4	155	65.0	638	58.5	573
52	6 1/2	166	70.6	692	63.5	624
54	6 3/4	179	76.1	747	68.5	671
56	7	189	81.0	795	72.9	716
58	7 1/4	203	86.9	852	78.2	766
60	7 1/2	221	93.3	915	83.9	824
62	7 3/4	236	99.6	977	89.6	878
64	8	245	104	1,020	93.6	918
66	8 1/4	261	111	1,085	99.5	975
68	8 1/2	283	119	1,167	107	1,050
70	8 3/4	298	125	1,226	113	1,103
72	9	311	130	1,275	117	1,148
76	9 1/2	357	150	1,472	135	1,325
80	10	393	165	1,619	149	1,457
84	10 1/2	465	177	1,736	159	1,563
88	11	498	191	1,874	172	1,687
92	11 1/2	544	209	2,047	188	1,841
96	12	590	225	2,207	203	1,985
100	12 1/2	640	245	2,400	220	2,160
104	13	692	265	2,596	238	2,336
108	13 1/2	747	286	2,800	257	2,520
112	14	803	307	3,012	276	2,710

*LDBF as per OCIMF MEG4 recommendations (spliced dry condition)

FIBRE ROPE SPECIFICATIONS



MAGNARO® - RRR Reduced Recoil Rope



PRODUCT PROPERTIES

Material	High Tenacity Polyolefin & High Tenacity Polyester
Construction	12-strand
Jacketed	No
Rotating	No
Color of Rope	White with 3 red markers
Specific Gravity	0.99 Floating
Melting Point	165°C / 260°C
Abrasion Resistance	Very Good
U.V. Resistance	Very Good
Chemical Resistance	Very Good
Dry & Wet Conditions	Identical wet & dry strengths

FEATURES & BENEFITS

Our custom made high tenacity polyester Magnaro® Sleeve is pre-installed on both ends of the ropes, protecting the entire length of the eye against abrasion.

- Mixed or composite rope of Polyolefin and Polyester
- Special marine finish is applied for better wear resistance in the marine environment
- Magnaro® -RRR (Reduced Recoil Rope) is designed to have a reduced tendency to completely break suddenly and to recoil catastrophically. The RRR usually breaks in a cascading manner, providing sufficient warning time in the event of failure and thereby reducing the risk of injuries.

APPLICATIONS

MOORING

- Main Line
- Tail

Dia.	Circ.	Weight	MBL (Unspliced)		MBL/LDBF*(Spliced)	
			mm	inch	kg/100m	Ton
28	3 1/2	47.8	16.8	165	15.1	149
30	3 3/4	54.5	19.4	190	17.4	171
32	4	61.6	22.0	216	19.8	194
34	4 1/4	69.9	24.8	243	22.3	218
36	4 1/2	75.9	28.0	275	25.2	247
38	4 3/4	84.1	31.2	305	28.0	274
40	5	89.1	36.7	360	33.0	324
42	5 1/4	97.6	40.5	397	36.4	356
44	5 1/2	105	44.0	431	39.6	388
46	5 3/4	114	48.1	471	43.2	423
48	6	124	50.5	495	45.4	446
50	6 1/4	135	54.9	538	49.3	483
52	6 1/2	143	58.8	576	52.9	518
54	6 3/4	153	63.4	622	57.0	558
56	7	165	67.7	663	60.9	598
58	7 1/4	176	72.7	712	65.3	640
60	7 1/2	186	77.5	760	69.7	684
62	7 3/4	204	82.8	812	74.4	729
64	8	216	87.0	853	78.3	768
66	8 1/4	229	92.6	907	83.2	815
68	8 1/2	241	98.1	961	88.2	865
70	8 3/4	255	104	1,020	93.5	916
72	9	268	109	1,068	98.1	961
76	9 1/2	297	122	1,192	109	1,071
80	10	326	132	1,294	119	1,165
84	10 1/2	362	146	1,428	131	1,283
88	11	393	157	1,539	141	1,385
92	11 1/2	427	172	1,684	154	1,514
96	12	464	191	1,872	172	1,685

ELONGATION

Magnaro® - RRR	
Break Force	Elongation
10%	3.0%
30%	6.8%
50%	9.7%
100%	15.1%

*LDBF as per OCIMF MEG4 recommendations (spliced dry condition)

FIBRE ROPE SPECIFICATIONS



MAGNARO® - Float

PRODUCT PROPERTIES

Material	High Tenacity Polyolefin & High Tenacity Polyester
Construction	8- or 12-strand
Jacketed	No
Rotating	No
Color of Rope	White with 2 red markers
Specific Gravity	0.99 Floating
Melting Point	165°C / 260°C
Abrasion Resistance	Very Good
U.V. Resistance	Very Good
Chemical Resistance	Very Good
Dry & Wet Conditions	Identical wet & dry strengths

FEATURES & BENEFITS

Our custom made high tenacity polyester Magnaro® Sleeve is pre-installed on both ends of the ropes, protecting the entire length of the eye against abrasion.

- Mixed or composite rope of Polyolefin and Polyester
- Special marine finish is applied for better wear resistance in the marine environment
- Ideal mooring rope for all types of ships because of its buoyancy, excellent handling properties, high strength and very good abrasion resistance

Dia.	Circ.	Weight	MBL (Unspliced)		MBL/LDBF*(Spliced)	
			Ton	kN	Ton	kN
28	3 1/2	44.7	16.8	165	15.1	149
30	3 3/4	51.4	19.4	190	17.4	171
32	4	58.5	22.0	216	19.8	194
34	4 1/4	66.0	24.8	243	22.3	218
36	4 1/2	72.0	28.0	275	25.2	247
38	4 3/4	80.2	31.2	305	28.0	274
40	5	83.6	36.7	360	33.0	324
42	5 1/4	92.1	40.5	397	36.4	356
44	5 1/2	99.1	44.0	431	39.6	388
46	5 3/4	108	48.1	471	43.2	423
48	6	118	50.5	495	45.4	446
50	6 1/4	128	54.9	538	49.3	483
52	6 1/2	136	58.8	576	52.9	518
54	6 3/4	147	63.4	622	57.0	558
56	7	158	67.7	663	60.9	598
58	7 1/4	169	72.7	712	65.3	640
60	7 1/2	179	77.5	760	69.7	684
62	7 3/4	191	82.8	812	74.4	729
64	8	203	87.0	853	78.3	768
66	8 1/4	216	92.6	907	83.2	815
68	8 1/2	228	98.1	961	88.2	865
70	8 3/4	242	104	1,020	93.5	916
72	9	255	109	1,068	98.1	961
76	9 1/2	284	122	1,192	109	1,071
80	10	313	132	1,294	119	1,165
84	10 1/2	345	146	1,428	131	1,283
88	11	376	157	1,539	141	1,385
92	11 1/2	411	172	1,684	154	1,514
96	12	447	191	1,872	172	1,685

*LDBF as per OCIMF MEG4 recommendations (spliced dry condition)

APPLICATIONS ELONGATION

MOORING

- Main Line
- Tail

Magnaro® - FLOAT	
Break Force	Elongation
10%	4.3%
30%	8.6%
50%	11.7%
100%	16.1%

FIBRE ROPE SPECIFICATIONS



MAGNARO® - Tibrid

PRODUCT PROPERTIES

Material	High Tenacity Polyolefin & High Tenacity Polyester
Construction	8-strand
Jacketed	No
Rotating	No
Color of Rope	White with 1 blue & 1 orange marker
Specific Gravity	0.99 Floating
Melting Point	165°C / 260°C
Abrasion Resistance	Good
U.V. Resistance	Good
Chemical Resistance	Very Good
Dry & Wet Conditions	Identical wet & dry strengths

FEATURES & BENEFITS

- Mixed or composite rope of Polyolefin and Polyester
- Offers good abrasion resistance and high strength at a very economical price

APPLICATIONS ELONGATION

MOORING

- Main Line
- Tail

Magnaro® - TIBRID	
Break Force	Elongation
10%	3.1%
30%	5.1%
50%	7.8%
100%	18.0%

Dia. mm	Circ. inch	Weight kg/100m	MBL (Unspliced)		MBL/LDBF*(Spliced)	
			Ton	kN	Ton	kN
40	5	79.1	31.1	305	28.0	275
42	5 1/4	89.5	34.5	338	31.0	304
44	5 1/2	98.2	38.0	373	34.2	335
46	5 3/4	108	40.8	400	36.7	360
48	6	115	43.6	427	39.2	384
50	6 1/4	124	47.0	461	42.3	415
52	6 1/2	131	50.6	496	45.5	446
54	6 3/4	145	55.2	541	49.7	487
56	7	156	60.0	588	54.0	529
58	7 1/4	168	63.0	618	54.0	529
60	7 1/2	176	66.0	647	59.4	582
62	7 3/4	192	70.4	690	63.4	622
64	8	201	75.0	735	67.5	662
66	8 1/4	217	79.9	783	71.9	705
68	8 1/2	229	85.0	833	76.5	750
70	8 3/4	240	88.5	868	79.7	781
72	9	250	92.0	902	82.8	812
76	9 1/2	288	105	1029	94.5	926
80	10	313	116	1137	104	1,024
84	10 1/2	352	127	1245	114	1,122
88	11	386	144	1412	130	1,271
92	11 1/2	423	157	1539	141	1,385
96	12	458	169	1657	152	1,491
100	12 1/2	497	183	1794	165	1,615
104	13	537	198	1941	178	1,747

*LDBF as per OCIMF MEG4 recommendations (spliced dry condition)

FIBRE ROPE SPECIFICATIONS



MAGNARO® - HTPP



PRODUCT PROPERTIES

Material	Mixed Polyolefin (PP / PE)
Construction	8- or 12-strand
Jacketed	No
Rotating	No
Color of Rope	White with 2 brown markers
Specific Gravity	0.92 Floating
Melting Point	165°C
Abrasion Resistance	Good
U.V. Resistance	Good
Chemical Resistance	Very Good
Dry & Wet Conditions	Identical wet & dry strengths

FEATURES & BENEFITS

Our custom made high tenacity polyester Magnaro® Sleeve is pre-installed on both ends of the ropes, protecting the entire length of the eye against abrasion.

- PP/PE melt mix
- Improved, high-strength alternative for Polypropylene
- Higher breaking load with a lower weight and better abrasion resistance compared to regular Polypropylene
- Floating - does not absorb water

APPLICATIONS ELONGATION

MOORING
• Main Line

Magnaro® - HTPP	
Break Force	Elongation
10%	2.9%
30%	7.3%
50%	11.1%
100%	13.8%

Dia. mm	Circ. inch	Weight kg/100m	MBL (Unspliced)		MBL/LDBF*(Spliced)	
			Ton	kN	Ton	kN
32	4	42.8	18.4	180	16.6	162
34	4 1/4	48.3	20.8	204	18.7	183
36	4 1/2	54.1	23.5	230	21.2	207
38	4 3/4	60.3	26.2	257	23.6	231
40	5	66.8	28.5	280	25.7	252
42	5 1/4	73.7	31.4	308	28.3	277
44	5 1/2	80.5	34.0	334	30.6	301
46	5 3/4	87.9	37.2	364	33.4	328
48	6	96.4	40.0	392	36.0	353
50	6 1/4	104.6	43.4	426	39.1	383
52	6 1/2	110.9	45.5	446	41.0	401
54	6 3/4	119.6	49.1	481	44.2	433
56	7	126.8	52.0	510	46.8	459
58	7 1/4	136.0	55.8	547	50.2	492
60	7 1/2	146.4	60.0	589	54.0	530
62	7 3/4	156.3	64.1	628	57.7	565
64	8	165.9	68.0	667	61.2	600
66	8 1/4	176.4	72.3	709	65.1	638
68	8 1/2	185.0	76.0	746	68.4	671
70	8 3/4	196.0	80.5	790	72.5	711
72	9	207.3	85.0	834	76.5	751
74	9 1/4	218.9	89.8	881	80.8	792
76	9 1/2	230.9	95.0	932	85.5	839
78	9 3/4	243.3	100	981	90.1	883
80	10	256.4	105	1,030	94.5	927
82	10 1/4	269.3	110	1,082	99.3	974
84	10 1/2	282.6	116	1,135	104	1,022
86	10 3/4	296.3	121	1,190	109	1,071
88	11	312.3	128	1,256	115	1,130
90	11 1/4	326.6	134	1,313	120	1,182
92	11 1/2	341.3	140	1,372	126	1,235
94	11 3/4	356.3	146	1,432	131	1,289
96	12	365.5	150	1,472	135	1,325
104	13	426.4	175	1,716	158	1,545
112	14	495.0	203	1,990	183	1,791
120	15	568.2	233	2,285	210	2,056

*LDBF as per OCIMF MEG4 recommendations (spliced dry condition)



MAGNARO® - Danline

PRODUCT PROPERTIES

Material	Mixed Polyolefin (PP/PE)
Construction	8-strand
Jacketed	No
Rotating	No
Color of Rope	Orange with 2 blue markers
Specific Gravity	0.92
Melting Point	165°C
Abrasion Resistance	Good
U.V. Resistance	Good
Chemical Resistance	Very Good
Dry & Wet Conditions	Identical wet & dry strengths

Dia.	Circ.	Weight	MBL (Unspliced)		MBL/LDBF*(Spliced)	
			Ton	kN	Ton	kN
40	5	71.8	28.6	281	25.7	253
45	5 5/8	95.5	33.0	324	29.7	292
50	6 1/4	113	40.0	392	36.0	353
55	6 7/8	142	47.0	461	42.3	415
60	7 1/2	170	60.5	594	54.5	535
65	8 1/8	196	75.4	740	67.9	666
70	8 3/4	223	76.0	746	68.4	671
75	9 3/8	256	86.0	844	77.4	760
80	10	290	105	1,030	94.5	927
85	10 5/8	331	110	1,079	99.0	971
90	11 1/4	369	124	1,216	112	1,094

FEATURES & BENEFITS

- PP/PE melt mix
- Improved, high-strength alternative for Polypropylene
- Higher breaking load with a lower weight and better abrasion resistance compared to regular Polypropylene
- Floating - does not absorb water

APPLICATIONS

- MOORING
- Main Line

*LDBF as per OCIMF MEG4 recommendations (spliced dry condition)

ELONGATION

Magnaro® - DANLINE	
Break Force	Elongation
10%	2.9%
30%	7.3%
50%	11.1%
100%	13.8%

FIBRE ROPE SPECIFICATIONS



MAGNARO® - Nylon

PRODUCT PROPERTIES

Material	Nylon
Construction	8-strand
Jacketed	No
Rotating	No
Color of Rope	White
Specific Gravity	1.14 Non-Floating
Melting Point	215°C
Abrasion Resistance	Excellent
U.V. Resistance	Very good
Chemical Resistance	Excellent
Dry & Wet Conditions	Strength decreases 15% when wet

FEATURES & BENEFITS

Our custom made high tenacity polyester Magnaro® Sleeve is pre-installed on both ends of the ropes, protecting the entire length of the eye against abrasion.

- Nylon is the world's first true synthetic textile fibre
- Produced according to the latest EN and ISO standards
- Combines high strength and excellent abrasion resistance
- Its high elasticity makes the rope very suitable as a mooring tail

APPLICATIONS

MOORING

- Main Line
- Tail

ELONGATION

Magnaro® - NYLON	
Break Force	Elongation
10%	6.6%
30%	15.2%
50%	19.5%
100%	30.3%

Dia.	Circ.	Weight	MBL (Unspliced)		MBL/LDBF*(Spliced)	
			Ton	kN	Ton	kN
40	5	95.5	42.0	412	32.1	315
42	5 1/4	106	46.1	452	35.3	346
44	5 1/2	117	50.3	494	38.5	378
46	5 3/4	128	55.0	539	42.1	413
48	6	139	58.1	570	44.5	436
50	6 1/4	151	63.1	619	48.3	473
52	6 1/2	164	67.8	665	51.9	508
54	6 3/4	177	73.1	717	55.9	548
56	7	190	76.8	753	58.7	576
58	7 1/4	204	82.3	808	63.0	618
60	7 1/2	219	86.3	847	66.0	648
62	7 3/4	234	92.1	903	70.5	691
64	8	249	99.0	971	75.7	743
66	8 1/4	264	105	1,031	80.4	789
68	8 1/2	281	112	1,094	85.3	837
70	8 3/4	298	118	1,158	90.4	886
72	9	316	122	1,200	93.6	918
76	9 1/2	351	136	1,336	104	1,022
80	10	389	150	1,471	115	1,125
84	10 1/2	428	165	1,621	126	1,240
88	11	469	178	1,742	136	1,332
92	11 1/2	512	194	1,903	148	1,455
96	12	552	208	2,036	159	1,557
100	12 1/2	599	225	2,209	172	1,690
104	13	649	246	2,413	188	1,845
108	13 1/2	700	260	2,547	199	1,948
112	14	753	270	2,648	207	2,026
116	14 1/2	807	289	2,839	221	2,172
120	15	864	310	3,038	237	2,324

*LDBF as per OCIMF MEG4 recommendations (spliced wet condition)

FIBRE ROPE SPECIFICATIONS



MAGNARO® - 6

PRODUCT PROPERTIES

Material	Nylon Monofilament & Nylon Multifilament
Construction	6-strand
Jacketed	No
Rotating	Yes
Color of Rope	White
Specific Gravity	1.14
Melting Point	215°C
Abrasion Resistance	Excellent
U.V. Resistance	Excellent
Chemical Resistance	Excellent
Dry & Wet Conditions	Strength decreases 10% when wet

FEATURES & BENEFITS

- 6-strand cross-laid nylon rope whereby mono- and multifilaments are combined in the strands
- Monofilaments give the rope excellent abrasion resistance and dimensional stability
- Excellent behaviour on the winch drum
- Robust construction maintains its shape under extreme tension
- Rope is easier to handle than wire and easy to splice

APPLICATIONS

- MOORING
- Main Line

Dia.	Circ.	Weight	MBL (Unspliced)		MBL/LDBF*(Spliced)	
			Ton	kN	Ton	kN
40	5	105	37.0	363	33.3	327
44	5 1/2	125	46.0	451	41.4	406
48	6	148	53.0	520	47.7	468
52	6 1/2	164	60.0	589	54.0	530
56	7	200	69.5	682	62.6	614
60	7 1/2	216	76.0	746	68.4	671
64	8	245	87.0	854	78.3	769
68	8 1/2	280	99.0	972	89.1	875
70	8 3/4	310	108	1,060	97.2	954
72	9	328	114	1,122	103	1,010
78	9 3/4	364	126	1,237	113	1,113
84	10 1/2	425	147	1,443	132	1,299
90	11 1/4	505	173	1,698	156	1,528
96	12	585	200	1,963	180	1,767

*MBL is in accordance with ISO 2307

ELONGATION

Magnaro® - 6	
Break Force	Elongation
10%	6.4%
30%	14.9%
50%	19.1%
100%	28.4%

FIBRE ROPE SPECIFICATIONS



MAGNARO® - Winchline

PRODUCT PROPERTIES

Material	Mixed Polyolefin (PP/PE)
Construction	12-strand
Jacketed	Yes
Rotating	No
Color of Rope	White with 1 yellow marker
Specific Gravity	0.93
Melting Point	147°C / 165°C
Abrasion Resistance	Excellent
U.V. Resistance	Excellent
Chemical Resistance	Excellent
Dry & Wet Conditions	Identical wet & dry strengths

Dia. mm	Circ. inch	Weight kg/100m	MBL (Unspliced)		MBL/LDBF*(Spliced)	
			Ton	kN	Ton	kN
42	5 1/4	98	34.5	340	31.1	306
46	5 3/4	115	43.3	425	39.0	383
48	6	125	48.0	471	43.2	424
52	6 1/2	133	56.0	549	50.4	494
54	6 3/4	150	61.0	598	54.9	538
56	7	160	65.0	638	58.5	574
60	7 1/2	184	75.0	736	67.5	662
64	8	203	86.0	844	77.4	760
68	8 1/2	221	95.0	932	85.5	839
72	9	245	106	1,040	95.4	936
76	9 1/2	275	115	1,128	104	1,015
80	10	330	130	1,275	117	1,148
84	10 1/2	376	144	1,413	130	1,272

FEATURES & BENEFITS

- Floating line especially designed for use on (single drum) self-tensioning mooring winches
- Non-load bearing cover is made of HMPE yarns giving the rope a very high abrasion resistance
- Minimized risk of snap back

APPLICATIONS

MOORING

- Main Line

TOWING

- Main Line

*LDBF as per OCIMF MEG4 recommendations (spliced dry condition)

ELONGATION

Magnaro® - WINCHLINE	
Break Force	Elongation
10%	3.2%
30%	8.1%
50%	12.7%
100%	15.0%

Mooring Tails and Connections

Tails or pennants will provide additional elasticity to wire and synthetic high modulus mooring lines and reduce the dynamic loads induced in the mooring line by allowing the ship to respond more freely to various combinations of wind, waves and current, as well as to ships passing nearby.

Tails will also distribute the loads more evenly among the various mooring lines.

Conditions at some terminals are more challenging than others and for these circumstances, we have developed the MAGNARO®-Flex tails with a higher polyester content. We are also offering the mooring tails in various sizes and configurations.

Single Leg Tail



- 11m Mooring Tails:
Adequate for sheltered quayside moorings, where little or no wave induced vessel motions occur
- 22m Mooring Tails:
Can be used at exposed quayside moorings, where significant vessel motions occur

Grommet Type Tail



Grommet type tails, also known as endless or ringtails, are used in special applications requiring high strengths. The eyes are formed by lashings (seizing the two rope bodies together to form an eye). The strength of a Grommet mooring tail is 1.7 times the strength of a single leg (of the same material, construction, and size) and its length depends on the customer's requirements.

According to MEG4, the Tail Design Break Force (TDBF) should be 125%-130% of the ship design MBL.

Tails are generally connected to mooring lines either through the use of mechanical connecting devices (i.e. mooring links and mooring shackles with steel wire ropes) or directly with the use of a cow hitch (with synthetic high modulus mooring lines).

At TEHO, we recommend using single leg tails over grommets for better performance and safety. While new ringtails may meet breaking strength requirements in lab tests, used ringtails often have low residual strength and tend to fail at the eyes.

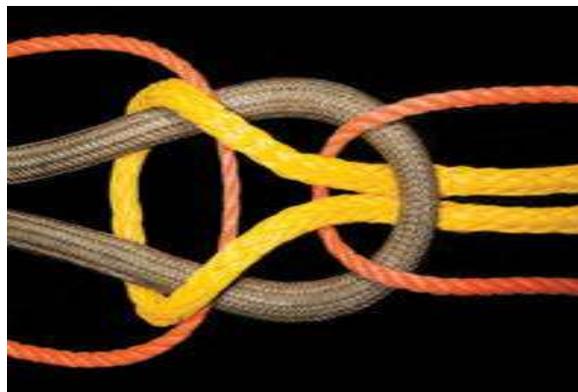
This occurs because ringtails are smaller in diameter compared to single leg tails, resulting in higher rate of operational incidents, especially at the point of contact with the mooring shackle.

Cow Hitch

Tails can be attached directly to HMSF mooring lines using a cow hitch, whereby a pigtail (usually a small diameter conventional fibre rope) is recommended to help separate the tail and mooring line for replacement or inspection.

Using a cow hitch with a single leg tail does not significantly affect the strength efficiency of the mooring line assembly, while a grommet will result in a higher strength reduction and therefore, we do not recommend to use a cow hitch with a grommet tail.

Oversizing of tails to account for the potential loss of strength is not recommended due to the consequent effects on termination integrity and tail stiffness.



Mooring Link and Mooring Shackle

In the mooring system, a connection is needed to join the wire mooring line to the synthetic tail. The connection should be appropriate for the size and working load of the mooring wire.

TEHO Ropes offers class certified Magellan® and EuroRope mooring links and shackles.



Mooring Link

The mooring link is made from galvanised steel. The wire mooring line is looped to the body and the synthetic mooring tail is attached to the bolt.



Mooring Shackle

The stainless steel mooring shackle has a sleek design that allows it to pass through the fairlead. The wire mooring line goes on the roller and the synthetic tail is joined at the body.

Brands	Model	MBL (T)	Model	MBL (T)
Magellan®	Mooring Link (Galvanised)		Mooring Shackle (Stainless Steel)	
	G - 90	90	S - 90	90
	G - 120	120	S - 120	120
	G - 180	180	S - 170	170
EuroRope	Tonsberg Mooring Link* (Galvanised)		Mandal Fairlead Shackle (Stainless Steel)	
	90T	90	90M	90
	120T	120	120M	120
	180T	180	-	-
	250T	250	-	-
	300T	300	-	-

*Tonsberg Mooring Link is also available with roller upon request

Wire Ropes

Renowned for having one of the most comprehensive and robust inventory of wire rope, TEHO Ropes stocks steel wire ropes from some of the best manufacturers in the industry. We are stringent that our wire ropes are true to their technical specifications, principally those of BS 302, BS EN12385, ISO 2408:2017, JIS G3525 and API-9A.

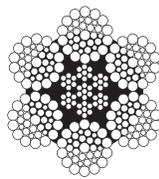
Our ropes are inspected by top class societies such as ABS, DNV.GL, NK and Lloyd's and distinguished by the WREXCO® trademark.

Mooring Wires

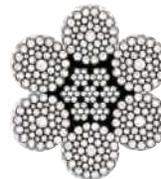
Selecting the most suitable wire rope for mooring is essential for optimum performance and safety. It is crucial for very large and ultra large vessels whose numbers are increasing.

OCIMF strongly recommends the use of 6 × 36 class drawn galvanised wire rope with Independent Wire Rope Core (IWRC) as mooring lines. TEHO's range of 6 × 36 class wire ropes strictly follows the EN10264-2 standard for galvanisation, as well as the other OCIMF guidelines.

Recommended Mooring Wire Rope Constructions



6 × WS(36) + IWRC

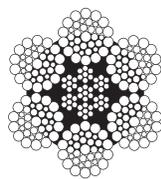


6 × WS(41) + IWRC

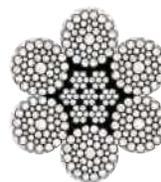
Towing Wires

Wire rope plays an important role in deep-sea towing. As operating conditions and vessel size can vary widely, it is critical to select a suitable wire rope to warrant a safe and efficient passage.

Recommended Towing Wire Rope Constructions



6 × WS(36) + IWRC



6 × WS(41) + IWRC

Crane Wires

Most cranes come with a recommended range of wire ropes to be used on the different functional components. Proper application of the wire rope to each crane function is necessary to extract best performance, and to prevent accidents and avoid damage to the equipment.

Recommended Crane Wire Rope Constructions

Rotation Resistant (Hoisting)

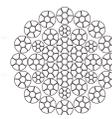
High Performance



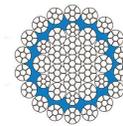
Hylift K4



Hyfil K16T

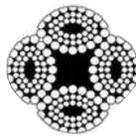


35 x K7(WA)

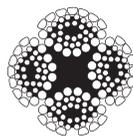


Hyfil K18

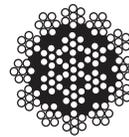
Conventional



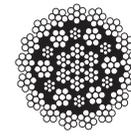
U4 x SES(48) + FC



U4 x SES(39) + FC



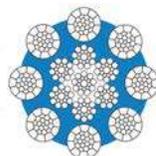
19 x 7



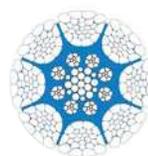
35W x 7

Rotating (Luffing)

High Performance

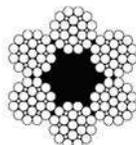


Hyfil K8

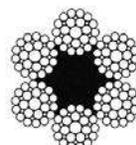


Hyfil K8T

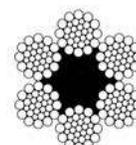
Conventional



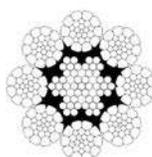
6 x FI(25) + FC



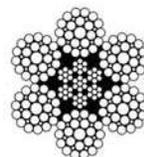
6 x FI(29) + FC



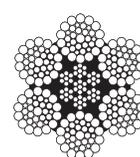
6 x WS(36) + FC



6 x FI(25) + IWRC



6 x FI(29) + IWRC



6 x WS(36) + IWRC

WIRE ROPE SPECIFICATIONS

Hylift K4



Nominal Rope Diameter	Approx. Unit Weight	MBL (1960N/mm ²)
mm	kg/m	kN
8	0.27	55.9
9	0.34	70.8
10	0.42	87.4
11	0.51	106
12	0.61	126
13	0.71	148
14	0.83	171
15	0.95	197
16	1.08	224
17	1.22	253
18	1.37	283
20	1.69	350
21	1.86	386
22	2.04	423
23	2.23	463
24	2.43	504
25	2.63	546
26	2.85	591
27	3.07	637
28	3.30	685
29	3.54	735
30	3.79	787
31	4.05	840
32	4.31	895
33	4.59	952
34	4.87	1,011
35	5.16	1,071
36	5.46	1,133

Hyfil K8



Nominal Rope Diameter	Approx. Unit Weight	MBL (1960N/mm ²)
mm	kg/m	kN
12	0.65	130
13	0.76	152
14	0.88	177
15	1.01	203
16	1.15	231
17	1.30	261
18	1.46	292
19	1.62	325
20	1.80	361
21	1.98	398
22	2.18	436
23	2.38	477
24	2.59	519
25	2.81	563
26	3.04	609
27	3.28	657
28	3.53	707
29	3.78	758
30	4.05	811
31	4.32	866
32	4.61	923
33	4.90	982
34	5.20	1,042
35	5.51	1,104
36	5.83	1,168
38	6.50	1,301
40	7.20	1,442
42	7.94	1,590
44	8.71	1,745
45	9.11	1,825
46	9.52	1,907
48	10.36	2,077
50	11.25	2,253
52	12.16	2,437
54	13.12	2,628

WIRE ROPE SPECIFICATIONS

35 x K7 (WA)

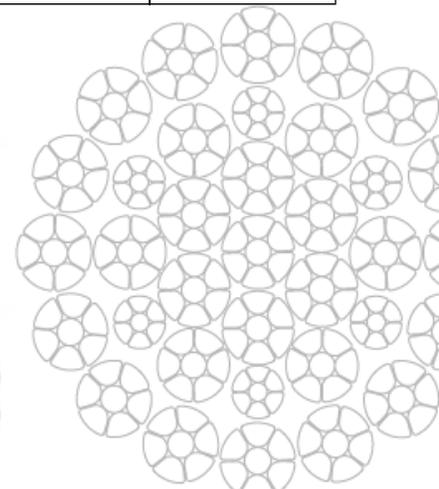
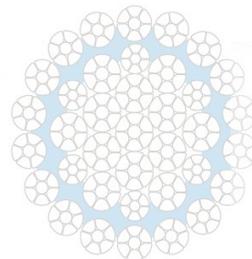
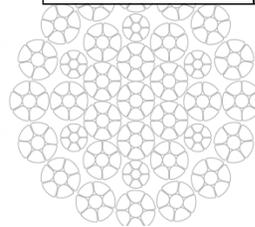
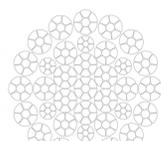
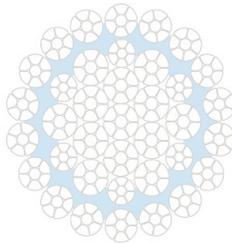
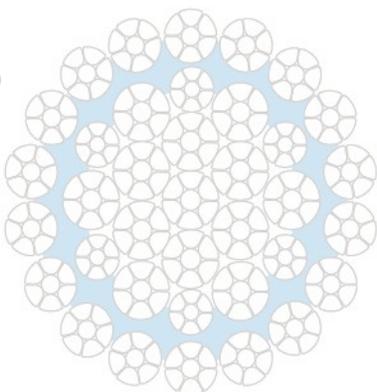
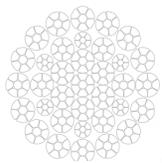


Nominal Rope Diameter	Approx. Unit Weight	MBL (2160 N/mm ²)
mm	kg/m	kN
10	0.5	98.2
12	0.7	141
13	0.9	166
14	1.0	192.5
15	1.2	221
16	1.3	251
18	1.7	317
20	2.0	392
22	2.5	475
24	2.9	565
25	3.2	613
26	3.5	662
28	4.0	769

Hyfil K18

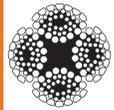


Nominal Rope Diameter	Approx. Unit Weight	MBL (1960 N/mm ²)
mm	kg/m	kN
16	1.41	242
18	1.76	306
19	1.78	341
20	2.15	378
22	2.40	457
24	3.05	544
25	3.14	590
26	3.55	638
27	3.82	688
28	3.99	740
29	4.39	794
30	4.68	850
31	4.93	907
32	5.31	967
33	5.63	1,028
34	5.94	1,091
35	6.32	1,156
36	7.04	1,223
38	7.07	1,363
40	8.31	1,510
42	9.01	1,665
44	9.65	1,827



WIRE ROPE SPECIFICATIONS

U4 X SES(39)+FC

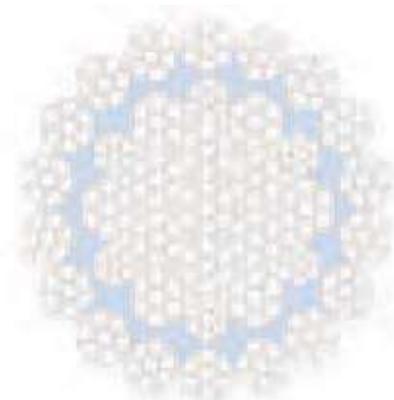
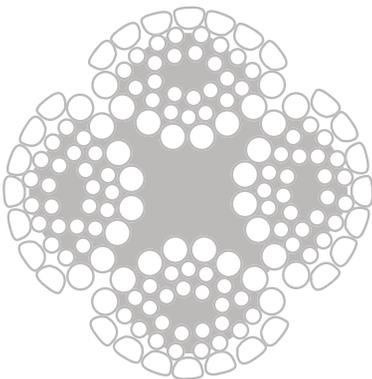


Nominal Rope Diameter	Approx. Unit Weight	MBL (1960N/mm ²)
mm	kg/m	kN
10	0.41	69.2
11.2	0.51	87.0
12	0.59	100.0
12.5	0.63	109
14	0.80	136
16	1.04	178
18	1.34	226
19	1.49	251
20	1.63	278
22.4	2.05	348
24	2.35	399
25	2.55	433
26	2.76	468
28	3.25	543
30	3.73	624
31.5	4.11	688
32	4.24	709
33.5	4.65	808
35.5	5.22	898
37.5	5.82	974
40	6.63	1,079
42.5	7.48	1,226
45	8.38	1,373

6 X WS(36)+IWRC



Nominal Rope Diameter	Approx. Unit Weight	MBL (1960N/mm ²)
mm	kg/m	kN
8	0.26	44.7
9	0.33	56.5
10	0.40	69.8
11	0.48	84.4
12	0.58	100
13	0.68	118
14	0.79	137
16	1.01	179
18	1.28	226
19	1.48	252
20	1.63	279
22	1.96	338
24	2.33	402
26	2.73	472
28	3.19	547
30	3.55	628
32	4.07	715
34	4.59	807
36	5.14	904
38	5.72	1,010
40	6.39	1,120
42	7.04	1,230
44	7.80	1,350
46	8.52	1,480
48	9.26	1,610
52	10.70	1,890
54	11.60	2,030
56	12.40	2,190
58	12.30	2,350
60	14.30	2,510
62	15.60	2,680
64	16.20	2,860



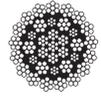
WIRE ROPE SPECIFICATIONS

19 X 7

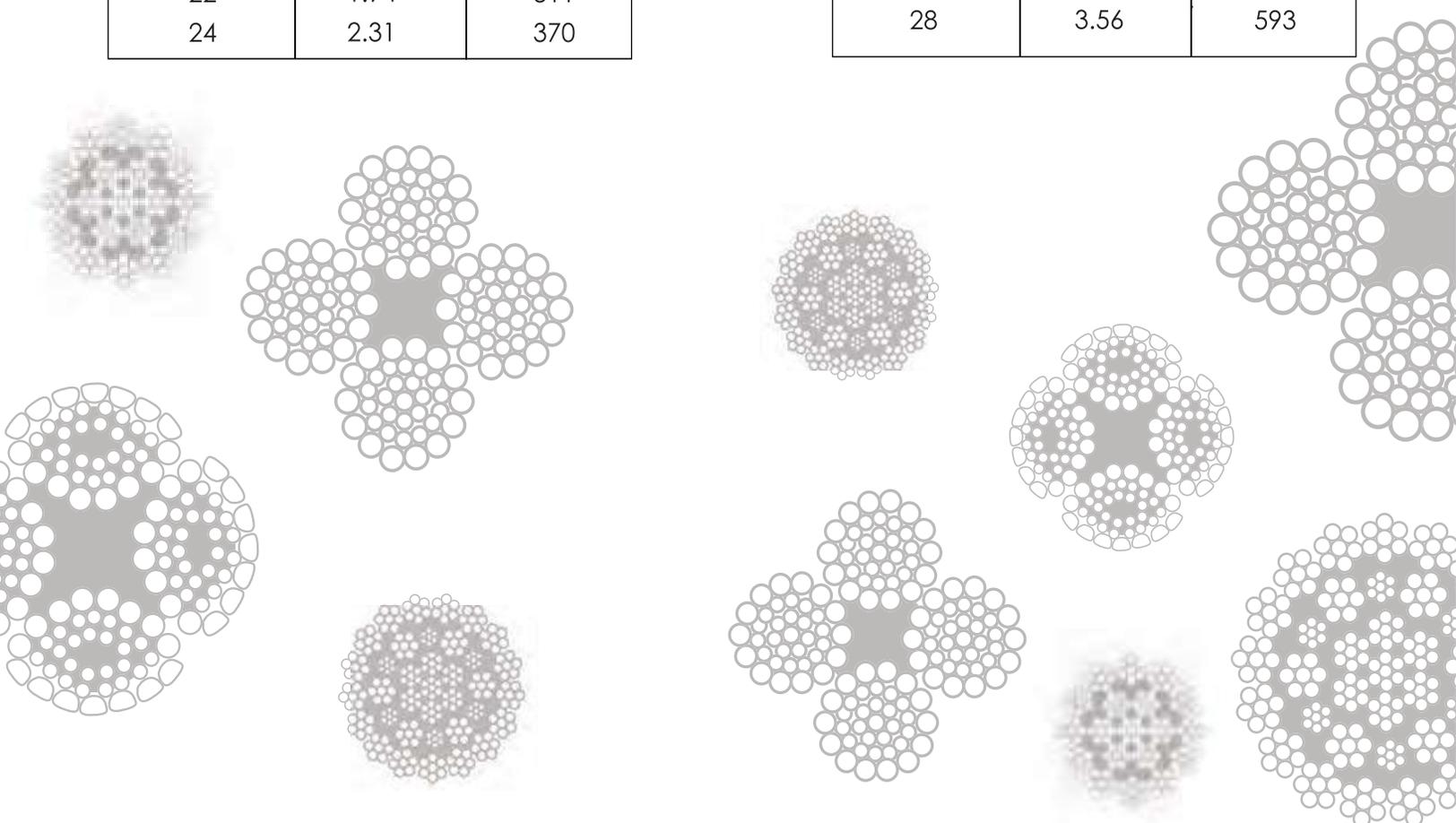


Nominal Rope Diameter	Approx. Unit Weight	MBL (1960 N/mm ²)
mm	kg/m	kN
4	0.06	10.3
6	0.14	23.1
7	0.20	31.5
8	0.26	41.1
9	0.33	52.1
10	0.40	64.3
11	0.49	77.8
12	0.58	92.6
13	0.68	109
14	0.79	126
16	1.03	165
18	1.30	208
20	1.60	257
22	1.94	311
24	2.31	370

35W x 7



Nominal Rope Diameter	Approx. Unit Weight	MBL (2160 N/mm ²)
mm	kg/m	kN
8	0.30	48.4
9	0.37	61.2
10	0.46	75.6
11	0.54	91.5
12	0.65	109
13	0.77	128
14	0.89	148
15	1.02	170
16	1.16	194
18	1.47	245
20	1.82	302
22	2.20	366
24	2.62	435
26	3.07	511
28	3.56	593



WIRE ROPE END TERMINATIONS AND SLINGS

Our technical team is available to consult on the rigging requirements, and to help design and fabricate cost-effective solutions for each situation. TEHO Ropes performs the splicing on swagers manufactured by Talurit, the Swedish pioneer and the world's leading manufacturer of mechanical splicing system.

We use Talurit press dies and ferrules for complete compatibility. The ferrules are totally traceable and validated to EN13411-3 standards. This consistency in process and parts ensures that our products achieve the designed wire strength efficiencies and enjoy full coverage under Talurit's Product Liability Insurance.

We possess swaging machines that can press up to 2000 metric tonnes or the equivalent of wire rope with a nominal diameter up to 90mm.

Thimbles

Sometimes thimbles are used for reinforcement at the eye and offer better resistance against abrasion and crushing at the eye. Our standard steel thimbles are manufactured according to BS 464, FF-T-276b Type III (G414) or JIS B2802 (Type A) specifications. Our solid thimbles are built to JIS B2802, JIS F3403 or DIN 3091 standard.



Sockets

With towing wires, usually open and closed spelter sockets and Anchor Pendant sockets (Pee-Wee sockets) are used.

For crane wire ropes, many different types of sockets are used: open and closed spelter sockets, open and closed swage sockets, wedge sockets and Nemag rope pear sockets.

A wedge socket termination reduces the wire rope efficiency to 80%, but the wedge socket remains a popular choice because it is easy to install and can be attached after the wire rope is reeved.

The Nemag® rope pear socket, when paired with the Nemag® quick release link, forms an unbreakable connection between two ropes. Together, they enable quick and straightforward coupling and uncoupling of grabs on cranes.

Made from high grade austenitic manganese steel, these Nemag® fittings generally outlast the wire rope.



WIRE ROPE END TERMINATIONS AND SLINGS

Our Spelter sockets and Nemag® rope pear sockets are poured with Wirelock®, the original cold socketing resin and the first socketing system to meet the performance criteria of DNV for offshore wire mooring rope, currently the DNV-OS-E304 standards. Wirelock® produces a void free socket for 100% efficiency and safety, and is unparalleled in dependability and fatigue performance.

Our sockets are made of high quality cast steel supplied in hot dipped galvanised finish, and comply with EN10204 3.1/3.2, JIS F3432 or RR-S-550D, Type B standard and meet all guidelines and regulations issued by the official classification bodies.

We are the authorised distributor for Aqualine Sockets (Germany) and Nemag® (The Netherlands).



Welded Ends



Welded Eye Loop



Tapered End

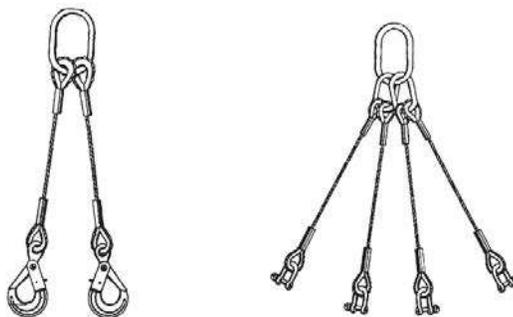
Slings

Endless Slings



Machine Swaged

Multi-legged Slings



WIRE ROPE LUBRICANTS



LUPROMAX® and BIOLUBRI® are lubricants specially formulated for wires subjected to high stress loads and harsh working conditions.

LUPROMAX® SMF-G

- Mineral oil based lubricant
- RoHS Compliant - meets European Union Restriction of Hazardous Substances Directive
- Fortified with Heat Activated Technology, HAT, for increased efficacy against friction
- Contains VAPRO, a vapour corrosion inhibitor for excellent rust protection
- Enhanced with micro-fine graphite for complete coverage
- Re-thickens instantly when the shearing action stops
- Environmentally friendly, non-toxic and nitrite free
- Black lubricant

LUPROMAX® WRC

- Mineral oil based lubricant
- RoHS Compliant - meets European Union Restriction of Hazardous Substances Directive
- Fortified with Heat Activated Technology, HAT, for increased efficacy against friction
- Disperses easily into the core of the wire rope
- Good adhesion to wire rope - wire stays lubricated through wet and high speed operations
- Non-solvent content - will not dry, harden or evaporate
- Environmentally friendly, non-toxic and nitrite free
- Clear lubricant - allows for easy inspection of the wire rope

BIOLUBRI® Greaskote 100

- VGP Compliance – a biodegradable and environmentally acceptable lubricant
- RoHS Compliant - meets European Union Restriction of Hazardous Substances Directive
- Bio-based
- Cures almost immediately and maintains a grease-like texture
- Does not leave oil sheen on water surface
- Fortified with rust inhibitors
- Excellent adhesion to wire rope - wire stays lubricated through wet and high speed operations
- Excellent water repellent properties
- Environmentally friendly, non-toxic and nitrite free
- Dark tan lubricant
- IMPA Code for BIOLUBRI® Greaskote 100
- 45 03 42 (20 litres)
- 45 03 43 (200 litres)
- Meets environmental requirements according to Swedish Standard SS 155470

Other special formulation wire rope lubricants are available. Please check with our sales staff.

ROPE PROTECTION

Ropes can be easily damaged if subjected to rough surfaces or sharp edges. We offer innovative anti-chafe solutions to prevent strength loss and to maximise the lifespan of your fibre and wire ropes.

Wire Rope Protection

Towing Sleeves and Towing Shoes

- Help to extend the lifespan of the mooring wires
- Avoid costly damage to vessel rails and winches
- Made from extremely durable V-Thane® polyurethane
- Designed to withstand the most arduous environment
- Gives maximum protection against abrasion and chafe

Towing Sleeves

- Consists of a two-piece construction
- Fitted by feeding the rope through the protector



Towing Shoes

- Made in two halves
- Clamped onto the rope with eight high tensile bolts
- Easy to fit to any style of rope



Fibre Rope Protection

MAGNARO® Sleeve

- Pre-installed on both ends of all MAGNARO® ropes and tails except Tibrid, HTPP and Danline
- Covers and protects the entire eye length
- Custom made
- Made from high tenacity polyester
- Abrasion resistant weaving
- No sewing seams, no weak points susceptible to tearing
- Much stiffer than canvas, less likely to bunch up and expose the eye
- Suitable for all fibre ropes



MAGNARO® Rope Protector

- Made from reinforced 100% high-tenacity polyester
- Comes in lengths of 3 metres
- Available in 3 sizes, accommodating different rope diameters:

ROPE SIZE	WIDTH
20-40mm	250mm
44-64mm	350mm
68-96mm	500mm

- Orange colour for higher visibility
- Easy installation using extra durable velcro lining
- Very cut resistant
- Protection against localized abrasion
- Will not split or crack when bunched or compressed
- Improves lifespan of the rope
- Suitable for all fibre ropes



MAGNARO® Cover Guard

- Available in high-tenacity polyester or in HMPE
- Permanently fixed over the whole length of the rope
- Movable protection on a part of the rope
- Sleeve is made as a hollow braid and can be adjusted to the diameter of the rope
- Able to accommodate different rope diameters
- Improves lifespan of the rope
- Protects the rope from abrasion yet still allows the rope to be inspected
- Suitable for all fibre ropes



MAGNARO® Chafe Guard

- Has to be installed before the rope is spliced
- HMPE yarns in a hollow 48 strand construction
- Special abrasion resistant coating
- High cut resistance
- Usable on rope body or eye
- Greatly improves lifespan of the rope
- Especially suitable for high performance fibre ropes
- Comes in 5 sizes:

ROPE SIZE
14-18mm
20-28mm
30-42mm
44-62mm
64-80mm



V-Thane® Pro-Wrap Protector

- Made from V-Thane® polyurethane
- Easily attached to any part of the fibre rope
- Gives maximum protection to ropes
- Stops abrasion, wear and chafing
- Impact resistant and shatterproof
- Flexible even at -60°C
- Expands to cover a wide range of diameters
- Joined for extended lengths



MAGNARO® Repair Kit

- Provides essential tools needed for the repair of a damaged jacket of a fibre rope
- It consists of DYU 600 (coating material), DYU 1000 (liquid hardener), braided rope, paint brush, wooden stick, scissors and tape



RELATED SERVICES

Tensile Testing

We can perform break testing of fibre ropes and we can conduct proof test, hold test and tensile test on a variety of load bearing equipment, including full length testing of wire rope.

Performed on our Class 1 test bench conforming to the BS EN ISO 7500-1 standards. Our testing equipment is annually calibrated by Det Norske Veritas (DNV.GL) and the test result gives 99% load cell accuracy. We provide certificates with graphical illustration of the load and elongation characteristics of the test sample for clearer analysis.

Rope Analysis & Optimisation

Premature retirement of ropes and unexpected rope failure can cause serious safety issues and unmitigated consequences of time and money. This can be reduced or avoided through regular inspection and maintenance by qualified personnel. Our technical team has proficient product knowledge and years of experience to carry out analytical inspection and offer recommendations specific to the rope condition.

A rope, when chosen in accordance with its application, and coupled with an appropriate rope maintenance and retirement plan, will attain its maximum lifespan and thus, result in a lower replacement cycle.

Wire and Synthetic Mooring Rope Inspections:

Our engineers are trained to perform inspections of mooring wires/synthetic ropes. Contact us to arrange for an on-board inspection of your mooring ropes as part of your company's LMP/MSMP per MEG4 and IMO circular 1620 guidelines.

Product Trainings

Customized classes and workshops on safe mooring, towing and rigging practices, new product technology and other related subjects are conducted to cater to customers' needs. Driven by our motto 'We Know the Ropes', our instructors are well trained by renowned institutes and we believe that it is equally important for users to be well-versed in product knowledge.



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