



# Marlow®

## THE DEFINITIVE ROPE GUIDE



# Contents

Company Profile	3
Marlow Sectors	3
Grand Prix Series	4
Grand Prix Projects	5
Core Technical Reference	6
Grand Prix Cores	9
Grand Prix Cover Technology	10
Grand Prix Covers	11
Accessories & Customisations	12
Super Yacht Series	14
Projects & Technology	15
Running Rigging	17
Mooring	19
Oceanus	19
Cruiser & Racer Series	20
Running Rigging Definitions	21
Cruiser Racer Products	23
Excel Dinghy Series	26
Sponsored Sailors / Teams	27
Running Rigging Definitions	28
Excel Dinghy Products	29
Extreme Sports	34
Mooring	36
Accessories	40
Splicing Tools	41
Webbing & Cords	42
Racking	43
Mast Climbing	44
Line Selection Guide	45
Useful Information	46
Care And Storage	47





# COMPANY PROFILE

QUALITY, INNOVATION, TECHNICAL EXCELLENCE

In 1807 Thomas Burfield opened his rope factory in Hailsham, East Sussex and, over 200 years later, Marlow Ropes continue to manufacture ropes on the same site.

In the mid 1950's Burfield and Son's was incorporated into the expanding Hawkins and Tipson Rope Group, founded by George Hawkins and Alfred Tipson in 1881. At this time, the factory in Hailsham was one of the first in the world to be manufacturing synthetic fibre ropes. These ropes were specifically made for the yachting industry under the new "Marlow" brand.

These new nylon and polyester ropes were ideal for the demands of the re-emerging yachting industry, which was recovering after World War II. The success of the "Marlow" brand led to the founding of Marlow Ropes Ltd in 1961, as part of the Hawkins and Tipson Group, with the express purpose of manufacturing synthetic fibre ropes for the yachting market.

Very soon Marlow Ropes became internationally known as leaders in the field and over the course of the following decades, moved from strength to strength, further asserting its dominance in the yachting industry with innovation and marketing.

Today, over 200 years after Thomas Burfield first set up his rope factory, Marlow Ropes continue to manufacture innovative and quality British products. Our reputation for quality and technical innovation continues in the 21st Century and the company continues to forge a path of progress and growth in the markets in which we operate.

We are proud to fly the flag for British manufacturing. Our factory in the UK is still on the same site that ropes were first made in the town in 1807, and we remain a key local employer with some of our staff being 3rd or 4th generation ropemakers. However, we always have an eye to the future and over the past few years we have expanded our factory and grown our work force to meet increasing demand.

At Marlow we recognise that being a market leader in the global leisure marine industry is not just about great products that you can trust – customer service is key.

Delivering quality and innovation as well as producing products to the specifications our customers want and need, is the maxim by which everyone at Marlow Ropes carries out their working day.

Marlow have worked hard over the last couple of years to eliminate as much waste and single-use plastic from our rope ranges and continue to look at bio-based materials to help us achieve our sustainability goals we are proud to be making significant changes in the rope-making industry.

Everything is driven by our passion and commitment. With Marlow you get a global guarantee of quality, service, commitment and a brand you can trust.

## SECTORS

- LEISURE MARINE
- DEFENCE
- VEHICLE RECOVERY
- ARBORICULTURE
- ROPE ACCESS
- MARINE & OFFSHORE
- GENERAL INDUSTRIAL
- UTILITY
- WORKING AT HEIGHT
- RENEWABLE ENERGY

## IMAGE CREDITS

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*All trademarks are recognised: Vectran®, Technora®, Dyneema® is a registered Trademark of Royal DSM N.V.*



“ Marlow and Team Malizia worked together in preparing Seaexplorer for the Vendee globe in 2020 and we were very pleased with the products and the service. This is why we have worked together again in preparing the new Malizia - Seaexplorer for the challenges that lay ahead in races like the next Vendee Globe 2024 and the upcoming Ocean Race 2023. We are looking for, quality, durability and reliability and we know from experience that the Marlow products tick all of these boxes. ”

BORIS HERRMANN, SKIPPER FOR TEAM MALIZIA

Marlow's Grand Prix Series has revolutionised the way high-performance running rigging is specified and ordered. Imitated by many, but matched by none, the Grand Prix Series was developed and is continuously improved through our long experience with high-performance race teams and feedback from our global network of specialist Grand Prix Riggers.

The Grand Prix Series uses the highest performance materials such as Dyneema® SK99, Zylon®, Technora®, Kevlar® Teflon® and Zyex®. These materials offer attributes to covers and cores such as higher strength, improved abrasion resistance, better thermal properties, higher (or lower) friction and improved winch handling properties.

Finally, a wide variety of customisations including core inserts, tapered ropes and hoist markers are available along with rigging extras such as chafe cover and ArmourCoat.

The reason Marlow's Grand Prix Series ropes work so well and are so respected is that we listen to the feedback and needs of our Grand Prix Riggers and their customers – the race boat captains and crews. When combined with our attention to detail and passion for excellence, Marlow's Grand Prix Series ropes deliver reliable, race winning performance.

# GRAND PRIX SERIES

A man with a beard and long hair, wearing a black polo shirt, is looking upwards with a focused expression. He is on a boat deck, surrounded by various pieces of equipment, including a digital display showing '2:1 13.3' and '0:14 14.4'. The background shows the interior of the boat with white panels and a window.

# GRAND PRIX PROJECTS

SOME OF THE BOATS SUPPLIED WITH MARLOW GRAND PRIX SERIES THROUGH OUR GRAND PRIX RIGGING PARTNERS.



## MAXI

GALATEIA  
MAGIC CARPET 3  
RAMBLER 88  
DEEP BLUE  
SORCERESS  
NIKATA  
COMANCHE  
BLACK JACK  
LAW CONNECT  
WILD OATS XI  
WIND QUEST  
LYRA  
WINDFALL  
PYEWACKET



## MINI MAXI

VESPER  
BELLA MENTE  
NORTHSTAR OF LONDON  
JETHOU  
WILD JOE  
LUCKY

## IRC (YACHTS OF NOTE)

ICHI BAN  
CELESTIAL  
RAN  
OYSTER CATCHER XXXV  
BADPAK  
WHITE RHINO  
WARRIOR WON  
CALLISTO



## CAPE 31 (UK FLEET)

TOKOLOSHE  
SQUIRT  
JUBILEE  
SHOTGUN  
ARABELLA  
HARLEQUIN  
ANTIX  
FLYING JENNY  
JOLT  
FLURG  
FAST MOTION



## J CLASS

VELSHEDA  
TOPAZ  
SVEA  
LIONHEART  
HANUMAN

## TP52 SUPER SERIES

QUANTUM RACING  
PLATOON  
ALEGRE  
PROVEZZA  
INTERLODGE  
VAYU  
GLADIATOR

## IMOCA 60

SEA EXPLORER (FOILING)  
MALAMA (FOILING)  
MEDALLIA (FOILING)  
IMAGINE

## SAIL GP

F50 FLEET  
(OFFICIAL SUPPLIER)



## MOD 70

ARGO  
POWERPLAY



# CORE TECHNICAL REFERENCE

Marlow's Grand Prix Series offers a range of core options using Dyneema®, Vectran® and Zylon® (PBO). The performance advantages of each material vary, as explained below.

**DYNEEMA®** offers by far the best strength to weight ratio of any material used in rope manufacture and is the material of choice for high-performance cores. At Marlow we offer a range of Dyneema® cores to suit strength and handling preferences as well as budget.

**DYNEEMA®** is an Ultra High Molecular Weight Polyethylene (UHMWPE) and is available in a number of different grades. All grades of Dyneema® have excellent fatigue resistance (cyclic bending), UV resistance and abrasion resistance. However, due to its fairly low melting point, the heat resistance of Dyneema® is low.

- **SK78** SK78 is the standard Dyneema® material used. It has very high strength but significantly improved creep characteristics over its predecessor SK75.
- **SK99** is one of the newer Dyneema® materials. It offers exceptional strength (some 20% higher than SK78) and is unmatched in terms of strength to weight ratio.
- **DM20** has slightly lower tenacity than SK78, but has one major advantage in that it exhibits virtually zero creep, which can often have a negative affect on a rope's performance and strength, at high loads for an extended period.

**VECTRAN®** (LCP) has the best creep performance of any synthetic fibre and can offer improved resistance to heat compared to the UHMWPE family.

**ZYLON®** (PBO) offers unrivaled strength/diameter performance coupled with exceptional resistance to heat and ultra low elongation. PBO is very susceptible to UV degradation.

## STRENGTH

The graphs below illustrate the comparative strengths of different core materials, based upon a 9mm core used in a 12mm rope.

Fig. 1 shows the relative strengths of 9mm ropes made with different materials. However, whilst displaying break strengths comparable or better than Dyneema®, the additional weight of Vectran® and Zylon® (PBO) ropes (Fig.2) cannot compare to the strength to weight ratio of Dyneema® (Fig.3), illustrating why Dyneema® is preferred by the majority of racers.

## PRE-STRETCHING AND MARLOW MAX TECHNOLOGY

Every Marlow Dyneema® core is pre-stretched to reduce "bedding in" elongation, limit the amount of elastic elongation and improve rope strength. We have been pre-stretching Dyneema® cores for over 25 years and that experience means we know exactly how to improve the rope's performance without compromising flexibility or damaging the fibre.

Marlow's MAX Technology uses a precisely controlled process to take Dyneema® to the limits of heat and load during Pre-Stretching. Introduced to offer the ultimate in strength realisation from the fibre and to minimise elastic and "bedding-in" elongation, MAX ropes are stiffer than standard pre-stretched cores.

## A BLUE OCEAN® INITIATIVE



AS OF 2020, ALL OF OUR STANDARD SK78, SK99 AND DM20 PRODUCTS ARE MADE USING BIO-BASED DYNEEMA® FIBRE.

FIG. 1  
CORE STRENGTH COMPARISON  
9mm (CORE FOR 12mm ROPE CORE STRENGTHS)

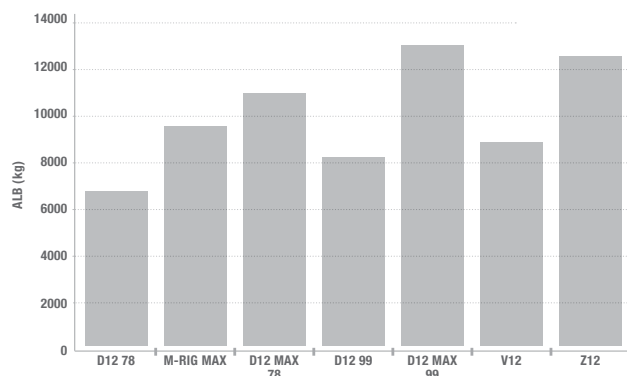


FIG. 2  
CORE WEIGHTS (mm)

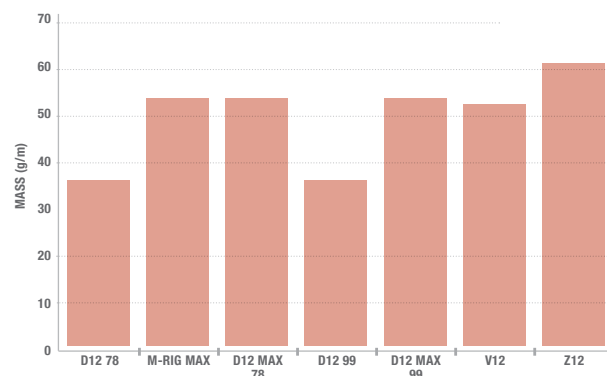


FIG. 3  
TENACITY (kg/G)



## MATERIAL ELONGATION COMPARISON GRAPHS

These graphs show the relative elongation of Dyneema® SK78 and SK99 to Vectran® and Zylon® (PBO).

When elongation is measured as a % of break load (fig. 4), it is shown that whilst Zylon® offers the lowest elongation followed by Dyneema® in D12 Max and then D12, there is no differential between SK78 and SK99. However, when elongation is measured at a given load (for example 4,000kg), which is more relevant to specifying rope for on board applications (fig.5), it can be seen that the advantages of SK99 over SK78 in terms of elongation are clear. This is because the rope is working at a lower percentage of its break load.

However, as Dyneema® exhibits creep, it is important to understand how this affects Dyneema's elongation characteristics.

The extension over time graph (Fig. 6) shows how Dyneema® ropes behave over a period of time.

- Initial loading will result in elastic extension. This is immediate upon loading and is immediately recoverable upon release of the load (elastic contraction)
- After the elastic extension of the initial loading, the rope will experience what is known as viscoelastic extension. This is further extension over time and is fairly limited. Unlike elastic stretch that is immediately recoverable, viscoelastic stretch will recover slowly over time once the load is released.
- Finally there is creep, which is permanent, non-recoverable and time dependent. Creep occurs at the yarn molecular level when the rope is under constant load.
- Once the load is released and elastic and viscoelastic extension recovered, the rope will ultimately have experienced an element of permanent extension. This is a factor of both creep and "bedding in" which is when individual fibre components in the rope and / or splice settle into their preferred position when under load.

Vectran® and Zylon® (PBO) exhibit virtually zero creep and Zylon also has lower elastic elongation than Dyneema®.

FIG. 4  
LOAD EXTENSION (%/%)

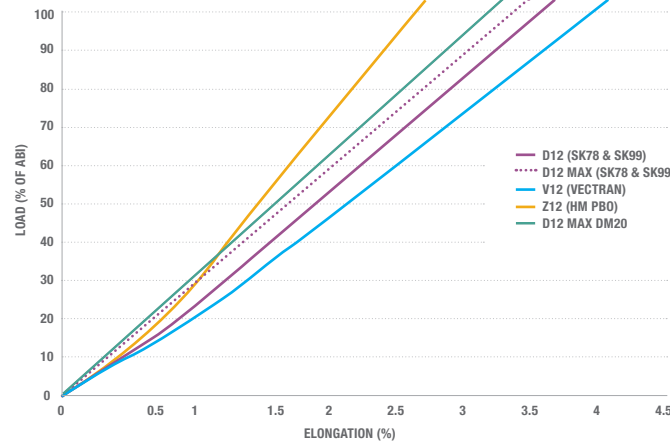


FIG. 5  
LOAD EXTENSION OF 9mm CORES (%/kg)

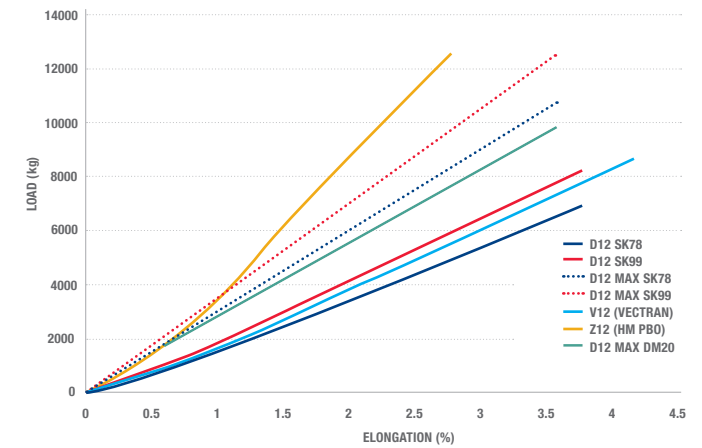
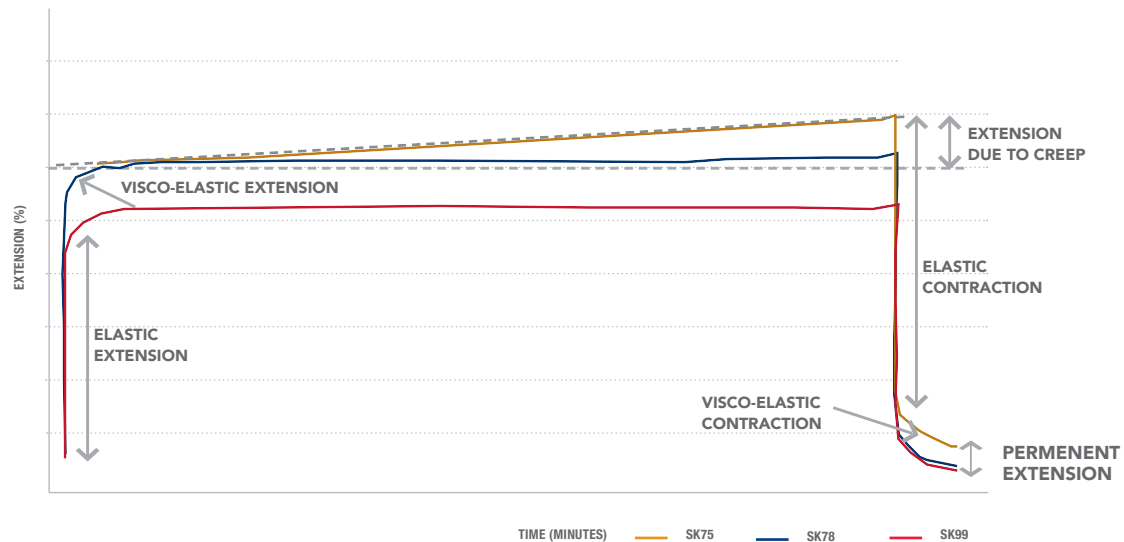


FIG. 6:  
EXTENSION OVER TIME GRAPH



“ Marlow has always been our first choice at 11th Hour Racing Team. Their willingness to work really closely with us as a team as we approach The Ocean Race 2022-23 and their vision makes them the ideal partner. Marlow has an eye for innovation and we are particularly pleased to have onboard our IMOCA the BLUE OCEAN® DOCKLINES which are made from 100% recycled plastic. These lines are a first in the industry and a great example of the possibilities around sustainable innovation being at the heart of industry operations. ”

CHARLIE ENRIGHT, SKIPPER, 11TH HOUR RACING TEAM

We supply 11th Hour Race Team with high-performing lines from our Marlow Grand Prix custom-made series and Blue Ocean(r) dock line range. The quality and durability of these products ensures they last as long as possible; and by providing lengths to the exact specification of the team and boat's needs we can minimise product wastage.

11TH HOUR RACING  
TEAM

**Marlow**

OFFICIAL SUPPLIER





# CORES

(Grand Prix Cores specified uncovered or covered with an MGP Cover detailed on page 11)

## D12 MAX



Dyneema®

Construction: 12 strand

Material: Dyneema® Available in SK99 and SK78

Extras: Marlow's Super Pre-Stretch process, ArmourCoat

Features: Ultimate high strength, light weight, low elongation ropes

DIAMETER (mm)	2.5	3	4	5	6	7	8	9	10	11	12	13	15	17
SK99 BREAK LOAD (kg)	1200	1790	2950	3810	5440	8940	11200	12500	14600	17500	20900	24500	30700	38100
SK78 BREAK LOAD (kg)	1010	1510	2480	3200	4570	7510	9390	10800	12600	15100	18000	21100	26400	32900
WEIGHT kg/100m	0.45	0.68	1.11	1.56	2.23	3.56	4.45	5.40	6.30	7.55	9.00	10.7	13.4	18.4

For high-load, diameter or safety critical applications; D12 Max is the only choice, either covered or uncovered. Stiffer than standard D12, D12 Max is taken to the limit of its physical properties during the manufacture process resulting in a rope unrivalled in strength and low elongation. Max 99 offers approximately 20% higher break load over Max 78.

## D12



Construction: 12 strand

Material: Dyneema® Available in SK99 and SK78

Extras: Pre-Stretched, ArmourCoat

Features: Light weight, low stretch & high strength. D12 78 & 99 demonstrate lower creep than other types of UHMwPE fibres.

DIAMETER (mm)	2.5	3	3.5	4	5	6	6.5	7	8	9	10	11	12	13	15	16	18	20
SK99 BREAK LOAD (kg)	677	1180	1710	2450	2800	4150	5280	6380	7530	8260	11000	13800	15200	18400	21400	24500	29200	38900
SK78 BREAK LOAD (kg)	569	995	1430	2060	2360	3490	4440	5360	6330	6940	9270	11600	12800	15900	18400	21100	25200	33500
WEIGHT kg/100m	0.37	0.53	0.74	0.98	1.28	1.77	2.20	2.80	3.30	3.76	4.83	5.82	6.50	8.00	9.80	11.8	14.3	18.0

The workhorse of any racing yacht, uncovered D12 can be used for strops, lashing, purchase systems, backstays and some halyards. With a cover, D12 is ideal for sheets halyards, runners, control lines etc. D12 99 offers approximately 20% higher break load over D12 78.

## M-RIG MAX



Dyneema®

Construction: 12 strand

Material: Dyneema® DM20

Extras: Marlow's Super Pre-Stretch process, ArmourCoat

Features: Ultimate Low Creep, light weight rope.

DIAMETER (mm)	2.5	3	4	5	6	7	8	9	10	11	12	13	15	17
BREAK LOAD (kg)	902	1350	2220	2870	4110	6740	8430	9690	11300	13600	16200	19000	23700	29500
WEIGHT kg/100m	0.45	0.68	1.11	1.56	2.23	3.56	4.45	5.40	6.30	7.55	9.00	10.7	13.4	18.4

M-Rig Max's top benefit is minimal creep ideal for standing rigging and steering lines. Add an MGP cover or light weight chafe cover for high wear applications such as life lines. See page 31 for more details on M-Rig Max.

## V12



Vectran®

Construction: 12 strand

Material: Vectran®

Extras: ArmourCoat

Features: High strength, very low stretch and zero creep

DIAMETER (mm)	2.5	3	4	5	6	7	9	10	11	13	15	16	18
BREAK LOAD (kg)	627	993	1680	2410	3350	5750	8680	11000	12000	14700	18400	22700	25100
WEIGHT kg/100m	0.45	0.67	1.34	1.79	2.24	3.36	5.38	6.72	8.96	10.8	14.1	17.0	18.8

Where zero creep is essential and UV exposure can be managed in non weight critical applications and can be used for halyards, steering systems and strops.

# COVER TECHNOLOGY

The interaction between rope core, cover and deck hardware all contribute to the way a rope performs. The Grand Prix series blends technical materials to impart application specific properties to the cover.

By blending different materials in varying ratios, we are able to optimise each material's properties to produce the perfect rope performance.

The data on page 13 details our standard blend covers and their relative performance in terms of abrasion resistance, load holding capability and winch easing.

Grand Prix Series covers can be specifically and uniquely customised to particular requirements using different material blend ratios and blends of 3 or even 4 materials.

## COVER CONSTRUCTIONS

All Marlow Grand Prix series ropes are fully customisable to achieve the desired performance characteristics. This includes customising the cover construction as appropriate.

24 plait – thicker cover, offers excellent grip, good durability and flexibility. Easy to splice with all core configurations and is the standard cover construction for most running rigging applications.

32 plait – thinner cover, smooth running through blocks and sheaves. Often used when a larger core is needed for strength without increasing diameter, but is more technical and time consuming to splice than 24 plait.

48 plait – very thin cover, very smooth and easily expandable. Normally made with Dyneema® offering outstanding resistance to abrasion so used for chafe gear and covers for loops and lashings. Also used for standing rigging overbraids.

FIBRE	STRENGTH		MODULUS		ELONGATION	SPECIFIC GRAVITY	MELTING POINT °C	CRITICAL TEMPERATURE °C	CREEP PERFORMANCE	CHEMICAL RESISTANCE	UV RESISTANCE
	G/DEN	GPA	G/DEN	GPA							
DYNEEMA® SK99 (UHMWPE)	48	4.1	1800	132	3.6	0.975	144-152	80	GOOD	EXCELLENT	VERY GOOD
DYNEEMA® SK90 (UHMWPE)	44.7	3.8	1625	140	3.5	0.975	144-152	80	GOOD	EXCELLENT	VERY GOOD
DYNEEMA® SK78 (UHMWPE)	40	3.4	1267	110	3.5	0.975	144-152	80	GOOD	EXCELLENT	VERY GOOD
DYNEEMA® DM20 (UHMWPE)	35	3	1042	90	3.6	0.975	144-152	80	VERY GOOD	EXCELLENT	VERY GOOD
ZYLON® TYPE HM (PBO)	42	5.8	1948	270	2.5	1.56	650	N/A	VERY GOOD	FAIR	POOR
ZYLON® TYPE AS (PBO)	42	5.8	1302	180	3.5	1.54	650	N/A	VERY GOOD	FAIR	POOR
ZYEX® (PEEK)	6.5	-	-	-	30	1.3	334	250	N/A	VERY GOOD	VERY GOOD
TEFLON® (PTFE)	2	0.36	13	-	8.5	2.1	310	288	N/A	EXCELLENT	EXCELLENT
TECHNORA® (PARA-ARAMID)	27	3.4	590	73	4.5	1.39	500	N/A	VERY GOOD	FAIR	FAIR
TWARON® (PARA-ARAMID PPTA)	23	2.9	600	78	3.55	1.44	450	N/A	VERY GOOD	FAIR	FAIR
VECTRAN® (LCP)	25.9	3.2	600	75	3.8	1.41	350	N/A	EXCELLENT	GOOD	GOOD
POLYESTER	9.5	1.13	125	15	12.5	1.38	260	N/A	GOOD	AFFECTED BY ALKALIS	VERY GOOD
POLYAMIDE (NYLON 6)	8.7	0.96	80	8	24	1.14	220	N/A	GOOD	AFFECTED BY ALKALIS	GOOD

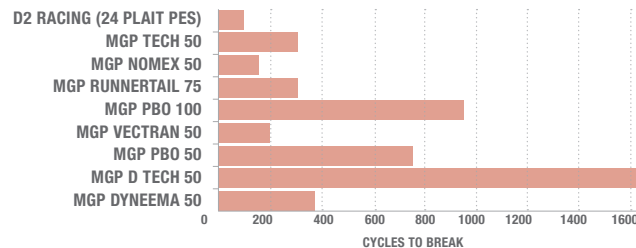
## STANDARD MARLOW CORE TO COVER RATIOS

CORE COVER MATRIX

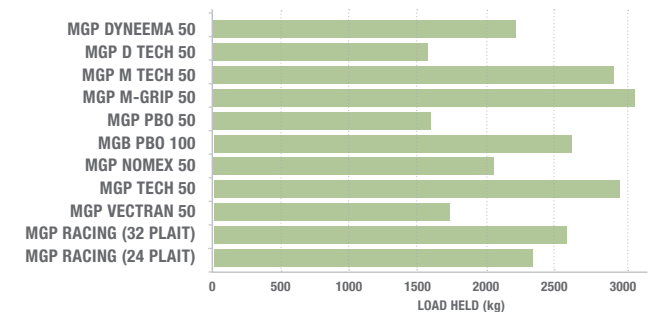
COVERED ROPE DIAMETER (mm)	6	7	8	9	10	11	12	14	16
CORE DIAMETER (mm)	4	5	6	6.5	7	8	9	10	12
COVERED ROPE DIAMETER (mm)	18	20	22	24	26	28	30		
CORE DIAMETER (mm)	13	15	16	18	19	20	22		

## ABRASION RESISTANCE

TEST PERFORMED AROUND 2" HEAVILY GNARLED BAR



## LOAD HELD IN CLUTCH/JAMMER



# COVERS

Additional blends available on request

## MGP RACING 100



24 Plait, 100% Polyester cover offers good all-round performance. Cost effective option for general purpose lines subjected to relatively low heat and abrasion.



ALSO AVAILABLE IN BLUE OCEAN® YARN



## MGP TECH 50



24 Plait Technora® & Polyester blend is the workhorse of Grand Prix racing. Great heat & abrasion resistance & a perfect balance between grip & easing on winches. Perfect for Jib & Spin sheets as well as Halyards while racing round the cans, where fewer turns on the winch are needed for transition efficiency.



Technora

## MGP P TECH 50



24 Plait PBO & Technora blend offers excellent heat resistance in high load, high temperature applications such as gennaker sheets, runners & high load mainsheets. Better grip than 100% PBO, but the blend offers the winch easing properties of PBO.



Technora ZYLON

## MGP PBO 100



24 Plait, 100% PBO has outstanding heat & abrasion resistance properties for high load, high temperature applications. Use for runners and high load sheets where winch easing is of particular importance.



ZYLON

## MGP VECTRAN® 50



24 Plait Vectran® Polyester blend is favoured by single handed sailors. Easier to ease than MGP Tech 50 and will slip sooner when overloaded. Good for general use, sheets etc.

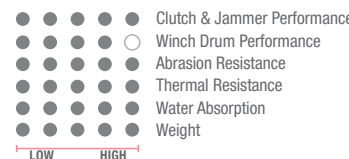


Vectran

## MGP M-GRIP 50



24 Plait PBO & Zyex® blend. Independent tests prove that M-Grip out performs any other rope in clutch holding & winch grip performance. Added to this outstanding thermal & abrasion resistance properties, this truly is the ultimate MGP cover.



ZYLON

## MGP PBO 50



24 Plait PBO & Polyester blend offers higher heat & abrasion resistance than MGP Tech 50, but at the expense of grip. More turns required on the winch, but will ease smoothly.

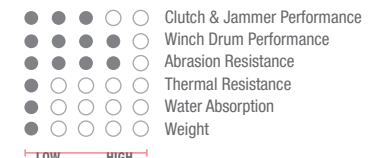


ZYLON

## MGP DYNEEMA® 50



24 Plait Dyneema® & Polyester blend. MGP Dyneema® 50 is lighter and has less water uptake than other cover combinations making it ideal for lightweight sheets, light halyards for locks and halyard tails.



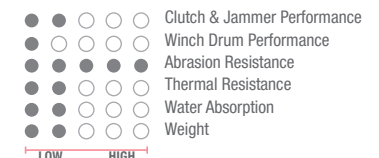
Dyneema

NOW AVAILABLE IN BLACK DYNEEMA®

## MGP D TECH 50



24 Plait or 32 Plait Dyneema® and Technora® blend is also the standard cover for our Superyacht Series Oceanus. Dyneema® offers outstanding abrasion resistance whilst Technora® offsets the poor heat tolerance and low friction of the Dyneema®. Great for captive winches, pinch rollers, small pin diameters and applications with extreme abrasion.



Technora Dyneema

ALSO AVAILABLE IN BLACK DYNEEMA®



# OTHER ROPES & ACCESSORIES

## MGP FURLER 50

Vectran



**DIAMETERS:** 7mm-12mm  
**COVER:** 16 or 24 Plait | Vectran / Polyester Snake skin  
**CORE MATERIAL:** Polypropylene or Dyneema® D12  
**COLOURS:** Natural / Any  
**APPLICATION:** Continuous furling systems

Snake skin pattern allows easy end-to-end splicing with no diameter increase. Vectran or Technora cover ensures heat and abrasion resistance. Has a sacrificial Polypropylene core as standard, but can be upgraded to a D12 core for higher load furling systems.



## LIFELINE REFLECTIVE

Dyneema®



**DIAMETERS:** 4mm, 6mm & 7mm  
**COVER:** 16 or 24 plait Dyneema® or Technora®  
**CORE MATERIAL:** D12 Max | Dyneema® SK78 / SK99 | M Rig  
**COLOURS:** Black and white  
**APPLICATION:** Lifelines

High strength, very low elongation and creep, manufactured to exact diameter specification for use as abrasion resistant, lightweight fibre lifelines including a reflective marker which is easily visible with a head torch.

## LIFELINE

Dyneema®



**DIAMETERS:** 4mm, 6mm & 7mm  
**COVER:** 16 or 24 plait Dyneema® or Technora®  
**CORE:** D12 Max | Dyneema® SK78 / SK99 | M Rig  
**COLOURS:** Black and white  
**APPLICATION:** Lifelines

High strength, very low elongation and creep, manufactured to exact diameter specification for use as abrasion resistant, lightweight fibre lifelines.

ALSO AVAILABLE IN **BLACK DYNEEMA®**

## CHAFE SLEEVE (DYNEEMA®)

Dyneema®



**DIAMETERS:** 8mm-24mm  
**COVER:** 32 plait | 48 plait | Dyneema®  
**COLOURS:** White or PU coated Black  
**APPLICATION:** High wear rope sections, halyard tips.

48 Plait construction allows this cover to open up easily, making it a perfect additional rope cover, tip or loop cover. Excellent for areas of high abrasion where very low friction is not an issue.

ALSO AVAILABLE IN **BLACK DYNEEMA®**

## CHAFE SLEEVE PRO

Dyneema®



**DIAMETERS:** 8mm - 24mm  
**COVER:** 32 Plait | 48 plait | Dyneema®  
**COATING:** None  
**COLOURS:** Black and white  
**APPLICATION:** Thinner Dyneema® therefore ideal for lock stops.

Slightly thinner, slightly lighter and has a wider range of diameters. Ideal for lock stops. Excellent for areas of high abrasion where very low friction is not an issue.

ALSO AVAILABLE IN **BLACK DYNEEMA®**

## BLENDED CHAFE SLEEVE

Technora

Dyneema®



**DIAMETERS:** 8mm - 24mm  
**COVER:** 32 plait | 48 plait | Dyneema®/ Technora® blend  
**COATING:** None  
**COLOURS:** Dyneema® - black | white, Technora® - black | natural  
**APPLICATION:** Halyard tips, high friction areas.

The blended chafe sleeve is an alternative to the standard sleeves but offers higher abrasion resistance.

## CHAFE SLEEVE (TECHNORA®)

Technora



**DIAMETERS:** 8mm-24mm  
**COVER:** 32 plait | 48 plait | Technora®  
**COLOURS:** Black  
**APPLICATION:** High temperature or friction areas

48 Plait construction allows this cover to open up easily, making it a perfect additional rope cover. Excellent heat resistance and high coefficient of friction make this a good protective cover for heat prone areas or as an aid to technical splices.

## LASHLINE

Dyneema®



**DIAMETERS:** 2.5mm-10mm  
**COVER:** 16 plait | Dyneema® SK99  
**COATING:** SiliconeCoat  
**COLOURS:** White  
**APPLICATION:** Lashings and stops

DIAMETER (mm)	2.5	3	3.5	4	5	6
BREAK LOAD (kg)	798	1770	2060	2390	2710	4450
WEIGHT (kg/100m)	0.31	0.62	0.77	0.93	1.09	1.71

DIAMETER (mm)	7	8	10	12	14	16
BREAK LOAD (kg)	5990	7490	11900	13420	15640	23200
WEIGHT (kg/100m)	2.43	2.94	4.65	6.71	7.82	11.6

Designed specifically for lashings and custom made loops. Lashline offers exceptional efficiency thanks to its low twist construction and silicon coating. The coating allows each leg of the lashing or loop to slide and bed in, perfectly distributing the load to maximise breaking efficiency.

## HS WHIPPING TWINE



**DIAMETERS:** 0.9mm & 1.1mm  
**CONSTRUCTION:** 1.1mm 16 strand and 0.9mm 12 strand  
**COLOURS:** White, black, red, blue, green, yellow  
**APPLICATION:** Various  
**LENGTHS:** 0.9mm - 50m spools & 1.1mm - 25m spools



# COATINGS

One of the biggest advancements of rope technology in recent years has been the diversity of coatings available and the applications of these new coatings. Coating offers properties that traditional fibre material cannot offer, or often, coating replicates the attributes of certain fibres but with less mass. Therefore, coatings are the ideal solution for saving weight and reducing rope size on-board.

## ARMOURCOAT

ArmourCoat is a pre-mixed polyurethane emulsion rope coating which increases abrasion resistance.

## SILICONECOAT

A silicone coating that lubricates the rope and reduces friction to improve internal abrasion resistance, and yarn-on-yarn abrasion.

## DRICOAT

A hydrophobic coating that repels water to reduce the water uptake of the rope.

## GRIPCOAT

A tacky self-healing coating that improves core-cover adhesion and reduces particle ingress into the rope.

## ENDURACOAT

A higher performing and premium polyurethane emulsion that significantly increases abrasion resistance.



# CUSTOMISATIONS

The identification of ropes is fundamental on board racing yachts especially aboard shorthanded boats. Grand Prix Series covers are custom made and can be specified with custom colours and fleck patterns to distinguish ropes for different on-board applications, helping to improve crew efficiency.

## COLOUR CUSTOMISATION

Polyester yarn standard colours available:



Technical fibres:



## HOIST MARKERS



Countdown hoist markers are added to the cover during braiding and assist grinders in timing sail hoist perfectly. Hoist markers will use the same material blends as the rest of the rope to maintain cover stability.

## GLOW IN THE DARK MARKERS



Glow in the dark or retro-reflective markers can be used along the full length of the rope to improve rope identification and visibility at night.

## DIAMETER INCREASE



Core inserts are precisely positioned before cover braiding and increase rope diameter at a specific point on the rope. Inserts not only increase rope diameter, but also help maintain rope shape for improved clutch and jammer performance.

## CUSTOM TAPERS



Cores can be tapered before the cover is over braided. The cover construction is then subtly altered during braiding to form an invisible rope taper. Core tapering decreases rope weight and improves flexibility on light tails.

## VARIABLE COVER BRAIDS

Different properties such as greater firmness, more flexibility or improved splicability can be imparted along the length of a single rope, using Marlow's variable cover braid technology.

“When managing the technical challenges, quality requirements and tight deadlines of the world’s largest superyachts, we need a partner who we can work with to meet the customers’ exacting demands and high expectations. Marlow with their Superyacht Series are able to deliver on all levels.”

ED DANBY, DIRECTOR MARINE RESULTS

Marlow’s Superyacht Series draws upon our experience and success gained from the international race boat market.

The Superyacht Series is a range of running rigging and mooring lines designed and custom made to the exacting specifications of Superyachts and Megayachts. Manufactured without compromise, the Superyacht Series offers customised quality, performance, aesthetics and innovation unrivalled in the industry.

# SUPERYACHT SERIES



# SUPERYACHT PROJECTS & TECHNOLOGY

## TECHNOLOGY

**SUPER HIGH STRENGTH:** Our range of Dyneema® SK99 ropes provide higher break loads for a given diameter, meeting the increasing demands on running rigging for higher loads and increased safety factors.

**BESPOKE COLOUR WAYS:** With 20 different colours and countless combinations of blends, flecks and patterns, Marlow running rigging can be customised to exact cosmetic specifications to match the aesthetics of the yacht.

**CUSTOM MATERIAL BLENDS:** Improved durability, enhanced handling and abrasion characteristics can be achieved with different blends of exotic materials developed from the racing success of the Grand Prix Series.

**CAPTIVE WINCHES:** Dyneema® SK78 XBO: XBO improves resistance to flex fatigue by a factor of 5 over standard SK78. On captive winches where ropes experience multiple cycles over the same section, XBO treatment can significantly extend rope life.

**CUSTOM TAPERS:** Custom tapered cores manufactured to exacting length specifications, combined with machine-tapered covers offer significant weight savings and improved flexibility on light tails.

**MACHINE FINISHED SPLICES:** For the perfect finish, we work with our Grand Prix Rigging and Superyacht rigging partners to supply machine finished splices that improve the splice aesthetics and help to reduce the splice diameter.

## PROJECTS

Full and partial running rigging and mooring ropes through our Superyacht partners

<b>ADELA</b> 55M DYKSTRA	<b>FIDELIS</b> 56M PERINI NAVI	<b>MY TACANUYA</b> 56M SWIFTSHIPS	<b>SILENCIO</b> 50M PERINI NAVI
<b>ADIX</b> 65M	<b>G2</b> 39M VITTARS	<b>NIKATA</b> 115' BALTIC	<b>SKADE</b> 46M HOLLAND YACHTBOUW
<b>ANNATTA</b> 66M DUBOIS	<b>HYPERION</b> 47M ROYAL HUISMAN	<b>PERSEUS 3</b> 60M PERINI NAVI	<b>SOJANA</b> 34M GREEN MARINE
<b>ANNAZINE</b> 110' DYKSTRA	<b>JANICE OF WYOMING</b> 39M ALLOY	<b>PRANA</b> 52M DUBOIS	<b>THALIA</b> 48M VITTARS
<b>AQUARIUS</b> 47M PERINI NAVI	<b>KENORA</b> 32M LUCA BRENTA	<b>REBECCA</b> 42M GERMAN FRERS	<b>VALQUEST</b> 40M DUBOIS
<b>AQUIJO</b> 85M OCEANCO & VITTERS	<b>KNICKERBOCKER</b> 35M PALMA JOHNSON	<b>RED DRAGON</b> 52M ALLOY YACHTS	<b>VIJONARA</b> 38.8M HOEK
<b>ATHOS</b> 62M HOEK	<b>KOKOMO</b> 58M ALLOY	<b>SALPERTON</b> 45M DUBOIS	<b>ZENJI</b> 56M PERINI NAVI
<b>BLACK PEARL</b> 106M OCEANCO	<b>LADY B</b> 45M DUBOIS	<b>SALUTE</b> 56M PERINI NAVI	<b>WISP</b> 47M ROYAL HUISMAN
<b>CHRISTOPHER</b> 46M PENDENNIS	<b>M5</b> 75M VOSPER THORNEYCROFT	<b>SEAHAWK</b> 59M PERINI NAVI	
<b>CLEAR EYES</b> 43M PAX NAVI	<b>MALTESE FALCON</b> 88M PERINI NAVI	<b>SEAHAWKE</b> 60M PERINI NAVI	
<b>ELFJE</b> 52M ROYAL HUISMAN	<b>MY LE CAPRICE III</b> PERSHING 90	<b>SEALYON</b> 42M VIAREGGIO	
<b>FARFALLA</b> 32M SOUTHERN WIND	<b>MY LOLA</b> 36M PEER GYNT	<b>SEVEN</b> 60M PARINI NAVI	







# RUNNING RIGGING

## D12 AND D12+



**CONSTRUCTION:** D12 12 Strand pre-stretched Dyneema® / D12+ 12 Strand (non Pre stretched) Dyneema®  
**MATERIAL:** Dyneema® SK78 or SK99, both with Marlow ArmourCoat. Dyneema® SK99 offers approximately 20% strength improvement over standard SK78 whilst maintaining similar creep properties.  
**COLOURS:** Black or White  
**APPLICATIONS:** Uncovered lines including halyards on hydraulic rams, lashings, strops, cascades and wire replacement.

### D12 PLUS

DIAMETER (mm)	11	12	13	15	16	18	20	22	24	28	32	36	40	44	48
BREAK LOAD 99 (T)	13.8	15.2	18.4	21.4	24.5	29.2	38.9	57.4	63.0	83.0	109	126	155	180	207
BREAK LOAD 78 (T)	11.6	12.8	15.9	18.4	21.1	25.2	33.5	48.3	53.0	69.7	92.0	106	130	151	174
WEIGHT (kg/100m)	5.82	6.50	8.00	9.80	11.8	14.3	18.0	28.9	31.8	43.4	57.8	69.4	86.8	104	122

## SUPERYACHT D2



These are a representation of some of the customised ropes that we can provide for superyachts, solid colours and other variations which are available.

**CONSTRUCTION:** 12 Strand pre-stretched Dyneema®  
**Core Material:** Dyneema® SK78 or SK99, both with Marlow ArmourCoat. Dyneema® SK99 offers approximately 20% strength improvement over standard SK78 whilst maintaining similar creep properties.  
**COVER CONSTRUCTION:** 24 or 32 Plait Polyester cover available in custom colours to order  
**APPLICATIONS:** Excellent all round rope for most on-board applications. Superyacht D2 is strong and flexible making it ideal for halyards, sheets, guys, control lines, reefing lines.  
**EXTRAS:** Customised length and colours for a bespoke finish. Available with machine finished splices for additional security and aesthetics.

DIAMETER (mm)	12	14	16	18	20	22	24	28	30	32
BREAK LOAD 99 (T)	8.26	11.0	15.2	18.4	21.4	24.5	29.2	38.9	46.2	48.8
BREAK LOAD 78 (T)	6.94	9.27	12.8	15.9	18.4	21.1	25.2	33.5	38.8	41.0
WEIGHT (kg/100m)	9.29	11.7	16.6	18.5	23.7	29.8	38.3	47.8	54.9	63.1

## SUPERYACHT D2 GRAND PRIX



**CORE CONSTRUCTION:** 12 Strand pre-stretched Dyneema®  
**CORE MATERIAL:** Dyneema® SK78 or SK99, both with Marlow ArmourCoat. Dyneema® SK99 offers approximately 20% strength improvement over standard SK78 whilst maintaining similar creep properties.  
**COVER CONSTRUCTION:** 24 or 32 Plait Technora® / Polyester blend, cover available in custom colours to order  
**APPLICATIONS:** Excellent all round rope for most on-board applications. Superyacht D2 Grand Prix offers additional abrasion and heat resistance over stand polyester covers. As with S/Y D2, the rope is strong and flexible making it ideal for most applications.  
**EXTRAS:** Customised length and colours for a bespoke finish. Available with machine finished splices for additional security and aesthetics.

DIAMETER (mm)	12	14	16	18	20	22	24	28	30	32
BREAK LOAD 99 (T)	8.26	11.0	15.2	18.4	21.4	24.5	29.2	38.9	46.2	48.8
BREAK LOAD 78 (T)	6.94	9.27	12.8	15.9	18.4	21.1	25.2	33.5	38.8	41.0
WEIGHT (kg/100m)	9.29	11.7	16.6	18.5	23.7	29.8	38.3	47.8	54.9	63.1

## D12 MAX



**CONSTRUCTION:** 12 Strand super pre-stretched Dyneema®  
**MATERIAL:** Dyneema® SK78 or SK99, both with Marlow ArmourCoat. Dyneema® SK99 offers approximately 20% strength improvement over standard SK78 whilst maintaining similar creep properties.  
**COLOURS:** Black or White  
**APPLICATIONS:** Extreme high load, where lines are diameter critical or require higher safety factors. Uncovered lines including halyards on hydraulic rams, lashings, strops, cascades and wire replacement.

DIAMETER (mm)	9	10	11	12	13	15	17
D12 MAX 99 BREAK LOAD (T)	12.5	14.6	17.5	20.9	24.5	30.7	38.1
D12 MAX 78 BREAK LOAD (T)	10.8	12.6	15.1	18.0	21.1	26.4	32.9
WEIGHT (kg/100m)	5.40	6.30	7.55	9.00	10.7	13.4	18.4



- HIGH STRENGTH
- LOW STRETCH
- LOW WATER ABSORPTION
- LIGHT WEIGHT
- HIGH ABRASION RESISTANCE
- HIGH FLEX/SOFT HANDLING



# OCEANUS

## OCEANUS



**DIAMETER:** 14mm-70mm

**32 PLAIT DYNEEMA®/TECHNORA® COVER | DYNEEMA® CORE**

**APPLICATION:** CAPTIVE WINCH

Oceanus has been re-designed from the core up with a swap from 24 plait to 32 plait construction which allows for a thinner cover and therefore a larger core to be used. This provides greater strength and improved factors of safety in applications where size is constrained. The core design has also been re-engineered to improve splicing and provides greater resistance to bending and compression fatigue.

**CORE CONSTRUCTION:** 12 Strand long lay Dyneema® SK78.

**ALSO AVAILABLE IN:** SK99: Up to 20% stronger than SK78 for high load applications. Marlow GripCoat for core/cover adhesion. SK78 cores available with "XBO fibre treatment" for improved flex fatigue resistance.

**COVER CONSTRUCTION:** 32 plait Dyneema® and Technora® Blend for excellent abrasion and heat resistance. Custom made to length with factory spliced and over-braided terminations to eliminate the possibility of splice induced cover slack. Lines made to exact specifications for diameter critical applications.

**APPLICATIONS:** Specifically designed for captive winch applications to overcome typical problems, including; diameter critical winch drums, cover slack build up, high abrasion and friction induced heat damage.

**SPECIALIST COATING:** Cores are coated with Marlow GripCoat to enhance cover adhesion, thereby eliminating cover slip which can be induced by captive winches, causing damage to rope and winch.

### 32 PLAIT

DIAMETER (mm)	22	24	26	28	30	32	34	
BREAK LOAD (T) SK78	35.0	40.2	50.0	59.7	66.8	73.8	80.7	
BREAK LOAD (T) SK99	41.7	47.9	59.5	71.0	79.5	87.8	96.1	
WEIGHT (kg/100m)	30.5	34.9	48.5	57.2	61.3	68.7	72.7	
DIAMETER (mm)	36	38	40	42	44	46	48	50
BREAK LOAD (T) SK78	94.9	102	108	115	128	142	156	169
BREAK LOAD (T) SK99	113	121	129	137	153	169	186	202
WEIGHT (kg/100m)	85.8	94.8	103.8	111.2	122.6	135.7	148.7	163.5

## OCEANUS CASE STUDY

Superyacht rigging specialists Marine Results asked Marlow to work with them to overcome technical challenges they were facing with the ropes on the 66m Dubois, Anatta (ex Aquido / Ahimsa).

Counteracting forces and frequent cyclic bending from the captive winches created cover slip in the existing ropes. The excess and baggy cover resulted in damage to the ropes as well as hampering the smooth running of the winches.

In addition, very high loads combined with a 3:1 factor of safety caused issues with rope diameter limitations from winches and deck gear. This was especially along the tail of the splices which were required to exit through a specific and unchangeable diameter hole in the mast.

Our Technical Sales and Engineering teams worked closely with the team at Marine Results to specify and manufacture a rope that solved these issues within the timescales.

It was decided to use Oceanus, with its specially coated core to aid core / cover interaction and reduce coverslip. The specially designed SK99 core helped achieve the necessary break loads and the Dyneema® and Technora® blended cover gave the right compromise of grip and abrasion resistance to ensure smooth and efficient running on and off the winches. These design and manufacturing processes produced a rope within the diameter tolerances of the winches.

Finally Marine Results' own splicers worked with our rope technicians to produce machine finished splices that improved splice strength and aesthetics whilst helping to minimise diameter increase at the neck and along the tail.

The results of this teamwork were custom made ropes that met the tough application demands and the high expectations of the customer.



# MOORING

## MARINA GRANDE DOCKLINE



**DIAMETER:** 24mm-64mm

**24 PLAIT COVER | POLYESTER | OPTI TWIST DOUBLEBRAIDED CONSTRUCTION**

**APPLICATION:** MOORING

DIAMETER (mm)	24	28	32	36	40	44	48	52	56	60	64
BREAK LOAD (T)	10.9	15.5	20.7	26.5	32.7	37.7	46.0	52.6	63.7	70.3	83.0
WEIGHT (kg/100m)	39.1	55.8	73.9	95.1	118	135	165	189	229	252	298

Shock absorbing polyester opti-twist core with a tough polyester cover. Manufactured from Opti-twist polyester to give excellent extension and shock absorbing properties.

## SPLICED LEATHERED EYES, COLOUR CODED WHIPS

**APPLICATION:** MOORING

Marlow's Superyacht Docklines can be custom ordered to length with factory spliced and leathered eyes and colour coded whips for easy identification.



HIGH STRENGTH	LOW STRETCH
LOW WATER ABSORPTION	LIGHT WEIGHT
HIGH ABRASION RESISTANCE	HIGH FLEX/SOFT HANDLING

“ Reliability and performance are vital when racing across oceans, and Marlow D2 Racing 78 has consistently provided both on Clipper Race yachts throughout numerous circumnavigations. The service and support behind the product are also vital to the Clipper Fleet, and here again, Marlow Ropes have a proven track record of delivering with performance matching that of the product. ”

MARK LIGHT, HEAD OF MAINTENANCE,  
THE CLIPPER ROUND THE WORLD YACHT RACE

It goes without saying that when circumnavigating the globe in a race against 11 other yachts, the ropes on-board experience the best and worst conditions that the Southern Ocean, Atlantic and Pacific have to offer.

However, the ropes supplied on all 12 Tony Castro design Clipper 70's aren't super expensive, custom made ropes using exotic fibres and cutting edge manufacturing techniques. They are ropes that you will find in any chandlery around the world that stocks Marlow... and when they've completed 11 months of punishment, they're ready to do another 40,000 miles.

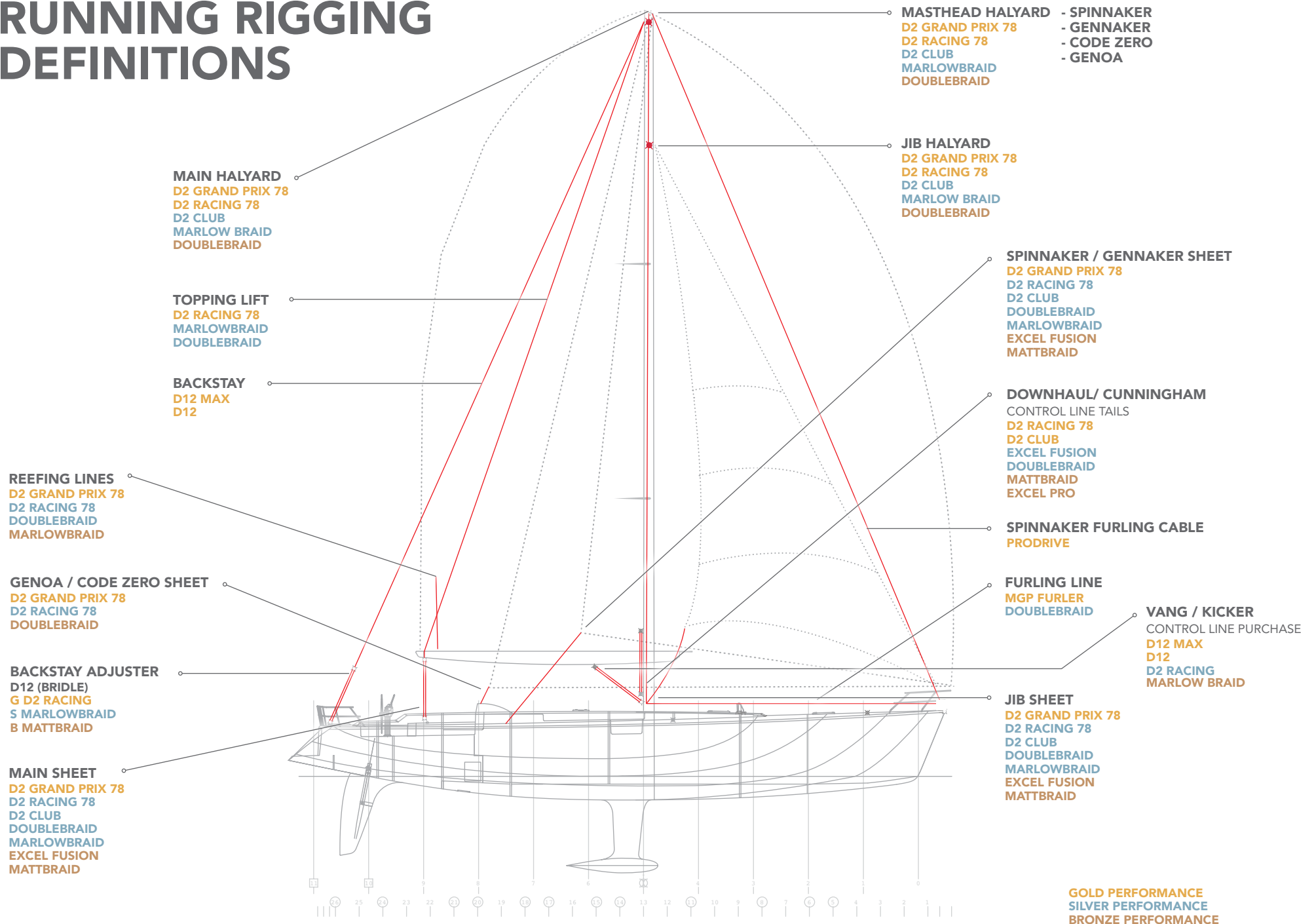
For the team at Clipper Ventures, hard racing is the name of the game, but so too is safety and durability – that is why they have chosen Marlow for their past 9 round the world races and for the 2017 -18 edition too.

Marlow's ropes have been tried and tested time and again in the toughest conditions imaginable, time and again they deliver.... performance, safety, durability.

If the ropes in this catalogue (available to any consumer on 6 continents around the world) are good enough to be chosen by the world's longest round the world yacht race year after year – what products would you recommend?

# CRUISER & RACER SERIES

# RUNNING RIGGING DEFINITIONS





## D2 GRAND PRIX 78



DIAMETER: 8mm-12mm

12 STRAND DYNEEMA® SK78 COLOUR MATCHED CORE | 24 PLAIT POLYESTER/TECHNORA® BLENDED COVER

APPLICATION: **HALYARDS** **SHEETS**

DIAMETER (mm)	8	10	12
BREAK LOAD (kg)	3490	5360	6940
WEIGHT (kg/100m)	3.90	5.92	9.29

The ultimate racing halyard available with D12 78 or D12 99 core for additional strength. Lightweight, low stretch, minimal creep with grippy, abrasion resistant cover for excellent jammer performance. Also perfect as a high-performance sheet. Lightweight and taper-able with blended cover that grips well on winch drums and lasts during the toughest races thanks to its high melting point.

## D12



DIAMETER: 7mm-15mm

12 STRAND DYNEEMA® SK78 - ALSO AVAILABLE DYNEEMA® SK99 FOR HIGHER STRENGTH

APPLICATION: **CONTROL LINE PURCHASE**

### SK78:

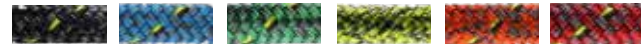
DIAMETER (mm)	2.5	3	4	5	6	7
BREAK LOAD (kg)	569	995	2060	2360	3490	5360
WEIGHT (kg/100m)	0.37	0.53	0.98	1.28	1.77	2.80

### SK99:

DIAMETER (mm)	2.5	3	4	5	6	7
BREAK LOAD (kg)	677	1180	2450	2800	4150	6380
WEIGHT (kg/100m)	0.37	0.53	0.98	1.28	1.77	2.80

Lightweight and high strength, single braid Dyneema® with tough ArmourCoat finish. Excellent for lashings and metal shackle replacement. Best option for wire replacement on a number of applications including cascade purchase systems. Diameters can be reduced for all control line applications from those used for polyester ropes thanks to its high break loads.

## D2 RACING 78



DIAMETER: 8mm-18mm

12 STRAND DYNEEMA® SK78 COLOUR MATCHED CORE | 24 PLAIT POLYESTER COVER

APPLICATION: **HALYARDS** **SHEETS** **CONTROL LINE PURCHASE**

DIAMETER (mm)	8	10	11	12	14	16	18
BREAK LOAD (kg)	3490	5360	6330	6940	9270	12800	15900
WEIGHT (kg/100m)	3.90	5.92	6.90	9.29	11.7	16.6	18.5

Light weight, low stretch and high strength using a colour coded D12 78 core. Use a size smaller than with a polyester halyard thanks to high break loads. Easily tapered, hard wearing cover grips well in clutches. Also use as a lightweight, high strength sheet that can be tapered to reduce weight on clew. The brightly coloured polyester cover is easily identifiable and runs smoothly, gripping well on winches and cleats. A perfect solution for high strength, light-weight all-round control line applications.

## BLUE OCEAN® DOUBLEBRAID



DIAMETER: 6mm-14mm

12 STRAND BLUE OCEAN® YARN CORE | BLUE OCEAN® YARN 24 PLAIT COVER\*

APPLICATION: **HALYARDS** **SHEETS** **CONTROL LINE PURCHASE**

DIAMETER (mm)	6	8	10	11	12	14
BREAK LOAD (kg)	1390	2560	3690	4370	4760	6050
WEIGHT (kg/100m)	2.84	4.80	7.47	8.87	11.1	15.6

Blue Ocean® Doublebraid is the next innovation in our Blue Ocean® product range. This rope offers the same great performance qualities of our original Marlow Doublebraid, but is now made from 100% Blue Ocean® yarn - manufactured from 100% recycled plastic bottles.

\* 6mm comes with same core, but with Blue Ocean® yarn 16 plait cover

## D2 CLUB



DIAMETER: 8mm-14mm

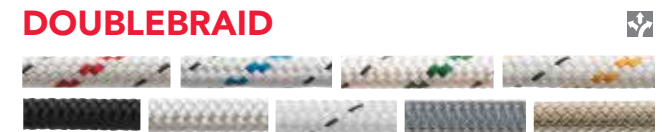
12 STRAND DYNEEMA® SK75 AND POLYPROPYLENE CORE 16 PLAIT POLYESTER COVER

APPLICATION: **HALYARDS** **SHEETS** **CONTROL LINE TAILS**

DIAMETER (mm)	8	10	11	12	14
BREAK LOAD (kg)	2260	3820	4240	4790	6370
WEIGHT (kg/100m)	4.00	6.43	7.53	8.64	11.2

D2 Club has been developed to provide an upgrade to polyester sheets and halyards offering the benefit of reduced weight and reduced elongation thanks to the light weight Dyneema® SK75 blended core. Due to the ropes equivalent strength and diameter to typical Polyester braids, it can be simply substituted without the complexity and expense of having to modify or change deck equipment like clutches and winches.

## DOUBLEBRAID



DIAMETER: 6mm-18mm

12 STRAND POLYESTER CORE | BRAIDED POLYESTER 24 PLAIT COVER

APPLICATION: **HALYARDS** **SHEETS** **CONTROL LINE PURCHASE**

DIAMETER (mm)	6	8	10	11	12	14	16	18
BREAK LOAD (kg)	1390	2560	3690	4370	4760	6050	7230	7910
WEIGHT (kg/100m)	2.84	4.80	7.47	8.87	11.1	15.6	19.3	23.2

Our heat set Doublebraid offers industry leading strength and stretch performance for a polyester braid-on-braid. Flexibility and soft feel ensures easy handling around the boat, making this rope ideal for sheets. Easy splicing removes the need for bulky knots at the clew of the sail, which also reduce a ropes strength. Also good for halyards thanks to the heat setting process helping to reduce stretch. Use for most on board applications.



OUR BLUE OCEAN® YARN IS GRS CERTIFIED AND MANUFACTURED FROM 100% RECYCLED PLASTIC



HIGH STRENGTH	LOW STRETCH
LOW WATER ABSORPTION	LIGHT WEIGHT
HIGH ABRASION RESISTANCE	HIGH FLEX/SOFT HANDLING

# M-RIG MAX



**CONSTRUCTION:** 12 strand

**MATERIAL:** Dyneema® DM20

**EXTRAS:** Marlow's Super Pre-Stretch process, ArmourCoat

**FEATURES:** Ultimate low creep, light weight rope.

DIAMETER (mm)	2.5	3	4	5	6	7	8	9	10	11	12	13	15	17
<b>BREAK LOAD (kg)</b>	902	1350	2220	2870	4110	6740	8430	9690	11300	13600	16200	19000	23700	29500
<b>WEIGHT (kg/100m)</b>	0.45	0.68	1.11	1.56	2.23	3.56	4.45	5.40	6.30	7.55	9.00	10.7	13.4	18.4

M Rig Max's top benefit is minimal creep ideal for standing rigging and steering lines. Add an MGP cover or light weight chafe cover for high wear applications such as lifelines.

## M-RIG MAX – SYNTHETIC FIBRE STANDING RIGGING FOR THE CRUISER / RACER

M-Rig Max uses Dyneema's DM20 Max Technology yarn. DM20 exhibits zero creep meaning that it lends itself for use as super lightweight standing rigging. Every kilogram saved aloft equates to a 5-7kg saving at the keel, as well as reduced pitching in a head sea.

Marlow's M-Rig Max brings creep free fibre standing rigging within reach of everyday yachtsmen. Traditionally, fibre standing rigging has been incredibly expensive thanks to the use of Zylon® (PBO) in a custom-made cable configuration. M-Rig Max uses DM20 and Marlow's Max Pre-Stretching technology to produce a rope that is available to any rigger on a reel.

1. Measure the rig
2. Cut M-Rig Max to length
3. Use simple locking D12 Splice with lashing thimbles
4. Secure and tension using Marlow Lashline (page 14)

The lower modulus of Dyneema® DM20 means that even with Marlow's Max Pre-Stretching, to match the stretch exhibited by wire (as measured by mm/mm/1000kg) a larger diameter will be required.

The table also demonstrates that not only is M-Rig Max lighter, it is also 5x stronger than wire for a given stretch factor. Significant strength advantage means that if the initial elastic elongation experienced by Dyneema can be managed (see page 8), a smaller diameter of M-Rig Max can be specified.

The choice of M-Rig Max diameter is a balance between ultimate strength and manageable elongation.

## M-RIG MAX CASE STUDY

Yacht: J-Boats J97 – 30' Cruiser Racer Standard rigging.

SECTION	MATERIAL	mm/ mm/100kg	MBL (kg)	MASS g/m	LENGTH (m)	QTY
FORESTAY	-10 Rod	0.00200	4,670	249	12.99	1
	7mm Compact Strand	0.00190	4,910	260	12.56	2
LOWERS	7mm Compact Strand	0.00190	4,910	260	4.82	2
	6mm Compact Strand	0.00259	3,550	194	9.03	2
BACKSTAY	5mm 1x19 Stainless	0.00463	2,000	122	11.00	1
BACKSTAY V	5mm 1x19 Stainless	0.00463	2,000	122	3.72	2
TIE ROD	5mm 1x19 Stainless	0.00463	2,000	122	0.53	1

Total standing rigging weight: 18.09 kg (excluding terminations)

Discussions with the rigger suggest than approximately 50% additional elongation within the rig is acceptable and manageable. Windage is not an issue, therefore M-Rig Max is specified as follows:

SECTION	MATERIAL	mm/ mm/100kg	MBL (kg)	MASS g/m	LENGTH (m)	QTY
FORESTAY	11mm M-Rig Max	0.00313	12,618	75.5	12.99	1
TOP SHROUDS	11mm M-Rig Max	0.00313	12,618	75.5	12.56	2
LOWERS	11mm M-Rig Max	0.00313	12,618	75.5	4.82	2
INTERMEDIATE	10mm M-Rig Max	0.00376	10,518	63	9.03	2
BACKSTAY	7mm M-Rig Max	0.00630	6,272	35.6	11.00	1
BACKSTAY V	7mm M-Rig Max	0.00630	6,272	35.6	3.72	2
TIE ROD	7mm M-Rig Max	0.00630	6,272	35.6	0.53	1

Total standing rigging weight: 5.47 kg (excluding terminations)

Our case study shows that by using M-Rig Max the total standing rigging is 70% lighter, saving 12.62 kg aloft, but is nearly 3 times as strong as the equivalent wire/rod rig.

If the rigger is able to manage the initial elastic elongation when installing M-Rig Max and the mast can manage the increased deflection during gusts, smaller diameters can be specified, further reducing both weight and windage. In our example above, a further 1.8 kg can be reduced from the rig by specifying M-Rig Max 2mm smaller.

A saving of 14.41 kg in the rig is equivalent to shaving 100kg off the bulb – and the rigging is stronger than with wire.





## PRODRIVE 2.0

### TORSIONAL FURLING CABLE



PARA-ARAMID CORE | PARA-ARAMID TORSION JACKET | DYNEEMA® COVER

DIAMETER (mm)	7	9	11	13	15
BREAK LOAD (kg)	2190	3440	5070	6870	7450
WEIGHT (kg)	4.47	6.67	9.84	13.6	18.1

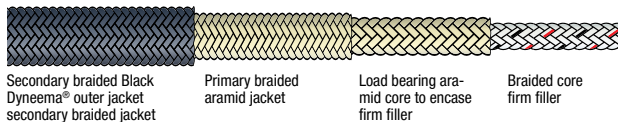
#### PRODRIVE OFFERS

- FAST FURLING
- EASIER FURLING
- EVEN FURLING
- TOP DOWN FURLING
- FASTER SAIL CHANGES
- ECONOMIC OPTION FOR MULTIPLE HEAD SAILS
- INTEGRATES EFFORTLESSLY WITH ANY FURLING UNIT
- UV & ABRASION RESISTANT.

Following the success of Marlow's original torsional cable, the **PRODRIVE 2.0** has been through an engineered evolution which sees a number of improvements to the core and cover resulting in a better performing rope product with improved rigidity and stiffness without increasing the cost.

Upgrades to the core include the high modulus aramid from the centre of the rope being replaced with a braided core firm filler which gives the centre of the rope more rigidity and durability. A benefit of the braided core is that this no longer 'knuckles' when bent and is then covered with a secondary load bearing aramid core.

The **PRODRIVE 2.0** has two additional braided jackets; the first continues to be made from aramid fibre to carry torsional load, and now the second braided jacket has been upgraded from polyester to black Dyneema® – a new addition to the DSM Dyneema® product range which wasn't available at the time of engineering PRODRIVE 1.0.



## MGP FURLER 50



POLYPROPYLENE CORE – 16 PLAIT VECTRAN® / POLYESTER SNAKE SKIN COVER.

DIAMETER: 6mm-12mm

Snake skin pattern allows easy end-to-end splicing with no diameter increase. Vectran® or Technora® cover ensures heat and abrasion resistance. Has a sacrificial Polypropylene core as standard, but can be upgraded to a D12 core for higher load furling systems.

## MARLOWBRAID



DIAMETER: 6mm-20mm

3 STRAND POLYESTER CORE | 16 PLAIT POLYESTER COVER

APPLICATION: HALYARDS SHEETS CONTROL LINE PURCHASE

DIAMETER (mm)	6	8	10	12	14	16	18	20
BREAK LOAD (kg)	986	1580	2850	4450	5460	7420	10200	11300
WEIGHT (kg/100m)	2.68	4.45	7.30	10.0	14.5	19.0	23.5	28.5

Our famous polyester line offers class leading low stretch for a polyester rope thanks to its laid 3-strand core construction, making Marlowbraid an ideal halyard rope. The tough 16-plait cover is hard wearing and grips well in clutches also offering great abrasion resistance on winches when used as a sheet. The low stretch core and tough cover makes Marlowbraid ideal for all control line applications such as cascades and vang.

## MATTBRAID



DIAMETER: 8mm-12mm

12 STRAND POLYESTER CORE | 24 PLAIT POLYESTER COVER

APPLICATION: SHEETS CONTROL LINE TAILS

DIAMETER (mm)	8	10	12
BREAK LOAD (kg)	1120	1980	2810
WEIGHT (kg/100m)	5.00	7.00	9.90

Soft, flexible and easy on the hands, Mattbraid uses the same braid-on-braid construction as Doublebraid, but with the addition of a soft, spun polyester cover. Great feel and grip in the hands, especially when wet, Mattbraid is the ideal sheet for cruising applications where comfort is key.

## PS12



DIAMETER: 3mm-6mm

12 STRAND PRE-STRETCHED POLYESTER

APPLICATION: ACCESSORIES

DIAMETER (mm)	3	4	5	6
BREAK LOAD (kg)	408	678	1060	1330
WEIGHT (kg/100m)	0.73	1.19	1.91	2.47

12 strand polyester can easily be spliced for halyard tails and lazy jacks.

HIGH STRENGTH	LOW STRETCH
LOW WATER ABSORPTION	LIGHT WEIGHT
HIGH ABRASION RESISTANCE	HIGH FLEX/SOFT HANDLING



“When you take on a race like the Vendée globe you need to know that your boat and your equipment will be able to perform for three months in the most difficult conditions. Working with Marlow I know they pay as much attention to their rope development and the reliability of their products as I do to my boat and my body. In Marlow we found a partner who pays attention to the small details, providing ropes that are strong, light and will endure three months of non-stop hard work and I can trust these with my life and my races.”

PIP HARE SEPTEMBER 2022

“ The British Sailing Team and Marlow Ropes have always worked closely together on rope technology development and supply, and to ensuring that we have the best quality product on board our race boats. The innovation and reliability without compromise that they offer the team help our athletes stay at the top of our sport ”

MARK ROBINSON: PERFORMANCE DIRECTOR,  
BRITISH SAILING TEAM.

Marlow were the first manufacturer to produce a coordinated and complementary range of ropes specifically designed for dinghies and sports boats.

Far from being the little brother to yacht racers, at Marlow we understand that not only does dinghy sailing offer up some of the most exciting and closest racing, it is also the proving grounds for the next generation of grand prix racing superstars.

There can be no better endorsement than being the official rope supplier to the multi-gold medal winning British Sailing Team, and the rope of choice of countless other international and national class champions.

The Excel range is constantly updated with new products, improved specifications and the latest colours. Imitated by many, matched by none, the Excel Dinghy Series, developed in conjunction with the world's best sailors will help ensure success at every level of dinghy sailing.

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**Excel** (ik'sel), *verb* – to surpass all others, to be superior (to others) or outstandingly good

# EXCEL DINGHY SERIES



# EXCEL SPONSORED TEAMS



Official Supplier

## BRITISH SAILING TEAM - OFFICIAL SUPPLIER

Marlow Ropes is the official supplier and exclusive team ropes partner to the British Sailing Team GBR, thanks to our industry-renowned reputation for producing innovative, race-winning products.

Marlow have been a supporter of the team for a number of years, supporting individual sailors directly as well as working with the team as a whole. Marlow and the British Sailing Team work closely together on rope technology development to ensure the best performing products on-board the boats.

The team's successes in recent Olympic Games are well documented and Great Britain head the all time gold medal table in sailing events by quite some margin. We are extremely proud to have been associated with such a successful team for so long and in some small way to have helped with those successes.

The Marlow Ropes Award was introduced in 2002 with the aim of rewarding Britain's most promising young sailors for their determination, focus and talent. The Marlow award entitles the winner to free Marlow rope for a year, which winners say is invaluable as they launch themselves into the new Olympic cycle.

### OLYMPIC MEDALS 2020:

FINN	GILES SCOTT	<b>GOLD</b>
470	CEILIDH MCINTYRE / HANNAH MILLS	<b>GOLD</b>
49ER	STUART BITHELL/DYLAN FLETCHER-SCOTT	<b>GOLD</b>
NACRA17	ANNA BURNET / JOHN GIMSON	<b>SILVER</b>
RS:X	EMMA WILSON	<b>BRONZE</b>

### OLYMPIC MEDALS 2016:

FINN	GILES SCOTT	<b>GOLD</b>
470	HANNAH MILLS / SASKIA CLARK	<b>GOLD</b>
RS:X	NICK DEMPSEY	<b>SILVER</b>
2.4MR MD	HELENA LUCAS	<b>BRONZE</b>
SKUD18 TP	NIKI BIRRELL / ALEXANDRA RICKHAM	<b>BRONZE</b>

### OLYMPIC MEDALS 2012:

FINN	BEN AINSLIE	<b>GOLD</b>
2.4MR MD	HELENA LUCAS	<b>GOLD</b>
STAR	IAIN PERCY / ANDREW SIMPSON	<b>SILVER</b>
470	HANNAH MILLS / SASKIA CLARK	<b>SILVER</b>
470	STUART BITHELL / LUKE PATIENCE	<b>SILVER</b>
RS:X	NICK DEMPSEY	<b>SILVER</b>
SKUD18 TP	NIKI BIRRELL / ALEXANDRA RICKHAM	<b>BRONZE</b>



## INTER-COLLEGIATE SAILING ASSOCIATION

Marlow Ropes has enjoyed a partnership with ICSA for almost a decade. The ICSA is the governing authority for sailing competition at colleges and universities throughout the United States and in some parts of Canada. There are seven Conferences that schedule and administer regattas within their established geographic regions and Marlow is committed to sponsoring key championships and competitions within the inter-collegiate regatta schedule.

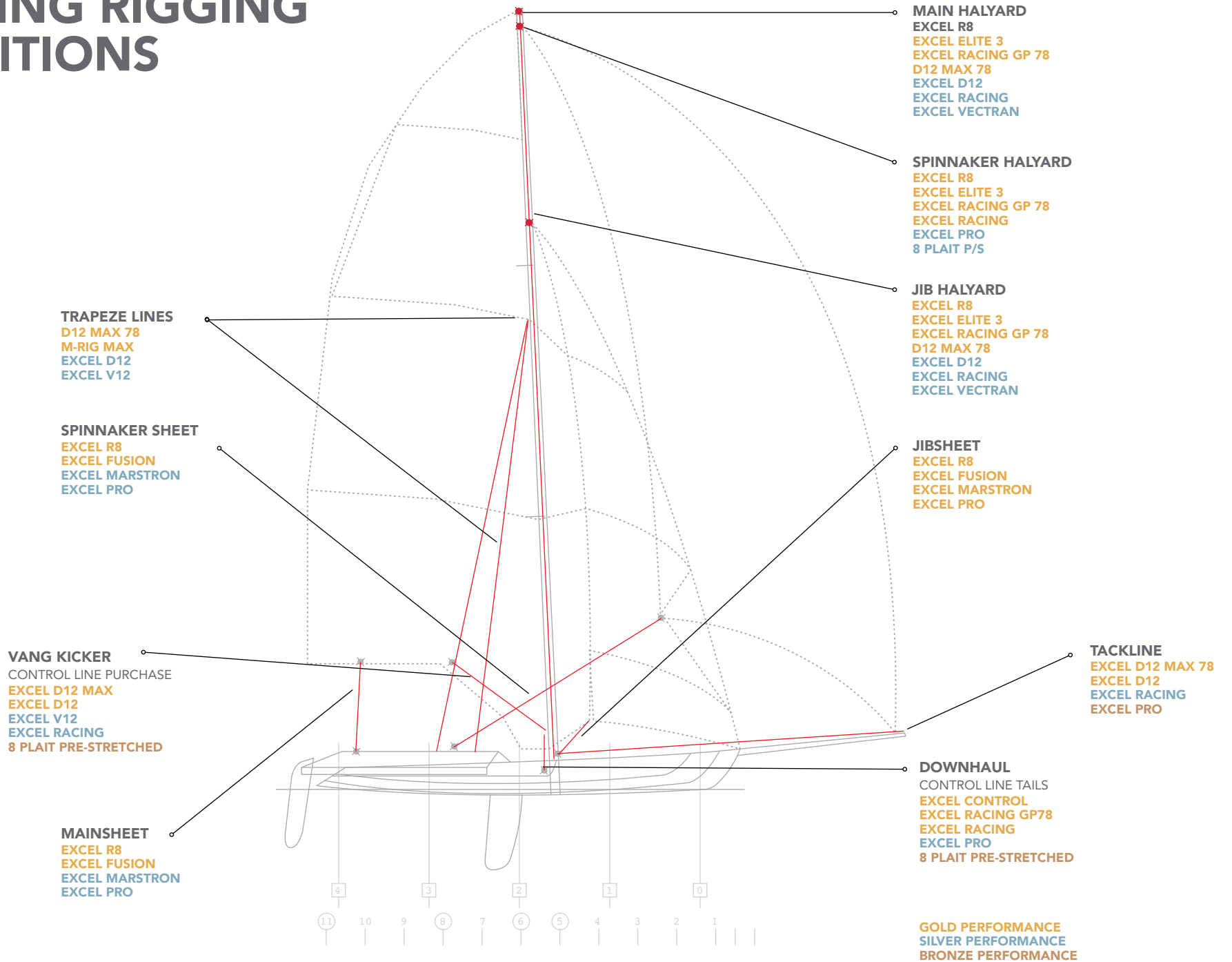


## RYA BRITISH KEELBOAT SAILING ACADEMY

*"The RYA's British Keelboat Sailing programme and British Keelboat Academy are lucky to have the support of Marlow Ropes; in addition to being the headline sponsor of the annual Marlow Ropes Women's Match Racing Championships, Marlow's excellent rigging is used on our fleet of six matched Elliott 6m keelboats."*

Richard Moxey, Keelboat Development Manager, Royal Yachting Association

# RUNNING RIGGING DEFINITIONS



# EXCEL DINGHY SERIES

## EXCEL ELITE 3



**DIAMETER:** 4mm-5mm  
**12 STRAND SK99 BLACK CORE**  
**16 & 24 PLAIT TECHNORA®/ DYNEEMA® BLENDED COVER**  
**APPLICATION:** **HALYARDS** **SPINAKER HALYARDS**

DIAMETER (mm)	4	5
BREAK LOAD (kg)	1180	1710
WEIGHT (kg/100m)	0.99	1.47

Why use Excel Elite 3? Incremental gain. Every advantage, however small adds to your overall success. Dyneema® SK99 core gives exceptional strength and the Technora® and Dyneema® blended cover ensures outstanding performance. The Excel Elite 3 is easy to taper, reducing overall weight.

## EXCEL RACING



**DIAMETER:** 1.5mm-6mm\*  
**12 STRAND DYNEEMA® COLOUR-MATCHED CORE**  
**16 & 24 PLAIT POLYESTER COVER**  
**APPLICATION:**

**HALYARDS** **SPINAKER HALYARDS** **CONTROL LINE TAILS**

DIAMETER (mm)	1.5	2	3	4	5	6
BREAK LOAD (kg)	139	224	463	995	1430	2060
WEIGHT (kg/100m)	0.17	0.29	0.58	1.24	1.84	2.41

High strength, lightweight with 100% polyester cover and Dyneema® core for all round use on halyards, sheets and control lines. Easily tapered and holds well in cleats Excel Racing is a great all round rope ideal for stripped halyards and spin sheets due to its easily identifiable solid colour cover and colour matched ArmourCoat core. Great all round performance.

\* Mottled colours start from 3mm

## EXCEL FUSION

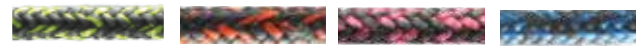


**DIAMETER:** 6mm-10mm  
**DYNEEMA® CORE**  
**BLENDED DYNEEMA® & POLYPROPYLENE COVER**  
**APPLICATION:** **SHEETS**

DIAMETER (mm)	6	7	8	10
BREAK LOAD (kg)	1090	1330	1410	2470
WEIGHT (kg/100m)	1.70	2.20	3.00	4.40

Super light sheet is soft, flexible and does not absorb water. The blended Dyneema® and Polypropylene cover provides great abrasion resistance through ratchets and cleats. The Dyneema® core means that you experience no stretch and fantastic control through Fusion sheets.

## EXCEL RACING GP78



**DIAMETER:** 4mm-6mm  
**12 STRAND DYNEEMA® CORE**  
**16 & 24 PLAIT TECHNORA® / POLYESTER BLENDED COVER**  
**APPLICATION:**

**HALYARDS** **SPINAKER HALYARDS** **CONTROL LINE TAILS**

DIAMETER (mm)	4	5	6
BREAK LOAD (kg)	995	1430	2060
WEIGHT (kg/100m)	1.12	1.95	2.72

The Dyneema® core is high strength with minimal creep and the Technora® blended cover gives the same fantastic abrasion and heat resistance properties as Excel Elite 3. Technora® blend cover adds grip for wet hands, and is easy to taper, showing colour matched ArmourCoat core. Ideal for halyards, sheets and high strength control lines.

## EXCEL R8



**12 STRAND SK78 CORE | 8 PLAIT TECHNORA®/ POLYESTER BLENDED COVER**  
**DIAMETER:** 4mm, 5mm, 7mm, 8mm

**APPLICATION:** **HALYARDS** **SPINAKER HALYARDS** **SHEETS**

This new rope within the Excel range compliments the existing fusion family of products, using a Dyneema® core but with an 8 plait cover blended from Technora® aramid and polyester. Available in 4mm and 5mm diameters where it excels as a halyard working on cleats, and 7mm and 8mm where it works as a high-performance sheet performing well in ratchet blocks.

DIAMETER (mm)	4	5	7	8
BREAK LOAD (kg)	893	1200	1620	2550
WEIGHT (kg/100m)	1.08	1.65	2.75	4.45



- HIGH STRENGTH
- LOW WATER ABSORPTION
- HIGH ABRASION RESISTANCE
- LOW STRETCH
- LIGHT WEIGHT
- HIGH FLEX/SOFT HANDLING





# EXCEL DINGHY SERIES

## EXCEL D12



**DIAMETER:** 2.5mm-7mm

**12 STRAND DYNEEMA® SK78 - ALSO AVAILABLE IN SK99 FOR HIGHER STRENGTH**

**APPLICATION:** **CONTROL LINE PURCHASE** **HALYARDS**

### SK78:

DIAMETER (mm)	2.5	3	4	5	6	7
BREAK LOAD (kg)	569	995	2060	2360	3490	5360
WEIGHT (kg/100m)	0.37	0.53	0.98	1.28	1.77	2.80

### SK99:

DIAMETER (mm)	2.5	3	4	5	6	7
BREAK LOAD (kg)	677	1180	2450	2800	4150	6380
WEIGHT (kg/100m)	0.37	0.53	0.98	1.28	1.77	2.80

High Strength lightweight option with no water uptake for halyards secured on a rack or hook. Ideal wire replacement offering low friction around blocks. Available in multiple colours for easy line identification and easily spliced thanks to 12 strand single braid construction. Great for adjustable trapeze lines, vangs and purchase systems.

## EXCEL D12 MAX 78



**DIAMETER:** 2.5mm-7mm

**12 STRAND DYNEEMA® SK78 - ALSO AVAILABLE IN SK99 FOR HIGHER STRENGTH**

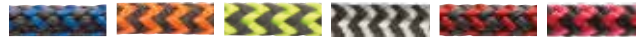
**APPLICATION:**

**HALYARDS** **CNTRL. LINE PURCH.** **STAND. RIGG & TRAP LINES**

DIAMETER (mm)	2.5	3	4	5	6	7
BREAK LOAD (kg)	1010	1510	2480	3200	4570	7510
WEIGHT (kg/100m)	0.45	0.68	1.11	1.56	2.23	3.56

Super light with no water uptake. The 'Max' process adds strength and removes stretch. Sk78 and SK99 have virtually no creep, so Excel D12 Max is a great light weight fibre option for standing rigging, removing weight from the rig. Almost zero creep and elongation at working loads with UV resistance.

## EXCEL CONTROL



**DIAMETER:** 4mm-5mm

**BRAIDED POLYPROPYLENE CORE | POLYESTER & TECHNORA® COVER**

**APPLICATION:** **CONTROL LINE TAILS**

DIAMETER (mm)	4	5
BREAK LOAD (kg)	478	765
WEIGHT (kg/100m)	1.02	1.59

The first dedicated line for continuous loop control lines. Special snake skin pattern means end-to-end, endless loop splicing with no diameter increase is much easier. Technora cover provides grip as well as heat and abrasion resistance. Distinctive colours aid easy identification. Use our wire splicing needle for best results (p47).

## EXCEL V12



**DIAMETER:** 2.5mm-6mm

**12 STRAND VECTRAN® | ARMOURCOAT**

**APPLICATION:**

**HALYARDS** **SPINAKER HALYARDS** **CONTROL LINE TAILS**

DIAMETER (mm)	2.5	3	4	5	6
BREAK LOAD (kg)	627	993	1680	2410	3350
WEIGHT (kg/100m)	0.45	0.67	1.34	1.79	2.24

Easily spliced with zero creep ideal for lines under high load for extended periods.

## EXCEL PRO



**DIAMETER:** 2mm-6mm

**TWISTED POLYESTER CORE | 16 PLAIT POLYESTER COVER**

**APPLICATION:**

**SPINAKER HALYARDS** **SHEETS** **CONTROL LINE TAILS**

DIAMETER (mm)	2	3	4	5	6
BREAK LOAD (kg)	110	202	377	702	986
WEIGHT (kg/100m)	0.27	0.60	1.07	2.15	2.68

Ideal for club racing and cruising. Low stretch, 100% polyester rope offers great performance at a lower cost. Brightly coloured cover for easy identification, which runs well through sheaves and blocks. Good range of colours for all control lines on-board.



	HIGH STRENGTH		LOW STRETCH
	LOW WATER ABSORPTION		LIGHT WEIGHT
	HIGH ABRASION RESISTANCE		HIGH FLEX/SOFT HANDLING





# EXCEL DINGHY SERIES

## EXCEL VECTRAN



**DIAMETER:** 1.5mm-4mm  
**VECTRAN® CORE | 16 PLAIT POLYESTER COVER**  
**APPLICATION:** HALYARDS

DIAMETER (mm)	1.5	2	3	4
BREAK LOAD (kg)	119	257	329	717
WEIGHT (kg/100m)	0.19	0.32	0.67	1.17

Vectran® cored version of Excel Racing offers zero creep. Great for high load applications where zero elongation is required.

## EXCEL MARSTRON+



**DIAMETER:** 6mm-8mm  
**16 PLAIT DYNEEMA® & POLYPROPYLENE COVER | POLYPROPYLENE CORE**  
**APPLICATION:** SHEETS CONTROL LINE TAILS

DIAMETER (mm)	6	7	8
BREAK LOAD (kg)	650	1030	1090
WEIGHT (kg/100m)	1.81	2.12	2.85

The lightest weight sheet has low water absorption and floats. A lightly blended element of Dyneema® in the cover improves abrasion resistance.

## SHOCKCORD



**DIAMETER:** 3mm-10mm  
**POLYESTER COVER | RUBBER CORES**

First quality, high elasticity, natural rubber provides a minimum 100% stretch with constant elongation characteristics. Polyester cover is tough and UV resistant offering good abrasion resistance and a great range of standard colours.

## EXCEL MARSTRON



**DIAMETER:** 6mm-8mm  
**16 PLAIT POLYPROPYLENE COVER | POLYPROPYLENE CORE**  
**APPLICATION:** SHEETS CONTROL LINE TAILS

DIAMETER (mm)	6	8
BREAK LOAD (kg)	610	941
WEIGHT (kg/100m)	2.30	3.10

This lightweight sheet has super low water absorption and floats – excellent cruising spinnaker sheet.

## PS12



**DIAMETER:** 3mm-6mm  
**12 STRAND PRE-STRETCHED POLYESTER**  
**APPLICATION:**

DIAMETER (mm)	3	4	5	6
BREAK LOAD (kg)	408	678	1060	1330
WEIGHT (kg/100m)	0.73	1.19	1.91	2.47

12 strand polyester can easily be spliced for halyard tails and lazy jacks.

## SHOCKCORD WITH DYNEEMA®



**DIAMETER:** 3mm-10mm  
**DYNEEMA® COVER | RUBBER CORES**

Offers all the benefits of the standard shockcord, however the Dyneema® cover offers greater durability with increased abrasion resistance and lower friction.

## 8 PLAIT PRE-STRETCHED



**DIAMETER:** 4mm-8mm  
**TWISTED POLYESTER CORE | 8 PLAIT POLYESTER COVER | PRE-STRETCHED**

**APPLICATION:** SPINAKER HALYARDS CNTRL. LINE PURCH. CNTRL. LINE TAILS

DIAMETER (mm)	4	5	6	8
BREAK LOAD (kg)	428	617	891	1410
WEIGHT (kg/100m)	1.30	2.10	2.90	5.50

Tried and tested option for cruising halyards and control lines. Knobbly 8 Plait construction provides good grip in the hands and in cleats and is great rope for control lines where grip and low stretch are needed. Great abrasion resistance makes this a firm favourite for many years.



HIGH STRENGTH	LOW STRETCH
LOW WATER ABSORPTION	LIGHT WEIGHT
HIGH ABRASION RESISTANCE	HIGH FLEX/SOFT HANDLING

Pioneers in extreme sports, Marlow's 8 Plait Pre-stretched has been a staple for windsurf down hauls and out hauls for years thanks to it's low stretch and tough abrasion resistant cover.

Marlow developed and introduced Formuline, the first 100% Dyneema® rope specifically designed for new high purchase down haul systems. Imitated by many, Formuline remains the original and best and, is now paired with Formula-X for ratchet down haul systems.

Our windsurf lines are complemented by kite lines for both race and freestyle riding as well as Excel D12 which is ideal for leaders, chicken loops and pigtails.

# EXTREME SPORTS SERIES



# EXTREME SPORTS

## KITELINE RACE



**DIAMETER:** 1.3mm & 1.5mm  
**12 STRAND DYNEEMA® SK99**  
**APPLICATION:** KITELINES

DIAMETER (mm)	1.3	1.5
BREAK LOAD (kg)	270	360
WEIGHT (kg/100m)	0.14	0.18

Kiteline Race offers great durability and strength even when lines are crossed.

## KITELINE FREESTYLE



**DIAMETER:** 1.8mm  
**12 STRAND DYNEEMA® SK78**  
**APPLICATION:** KITELINES

DIAMETER (mm)	1.8
BREAK LOAD (kg)	455
WEIGHT (kg/100m)	0.24

Larger diameter adds safety factor for extreme freestyle and wave riding. Improved durability when lines are crossed. Low stretch line removes any need for further adjustment with new lines.

## 8 PLAIT PRE-STRETCHED



**DIAMETER:** 4mm-8mm  
**TWISTED POLYESTER CORE | 8 PLAIT POLYESTER COVER | PRE-STRETCHED**  
**APPLICATION:** OUTHAULS | Down hauls | LEADERS

DIAMETER (mm)	4	5	6	8
BREAK LOAD (kg)	428	617	891	1410
WEIGHT (kg/100m)	1.30	2.10	2.90	5.50

Polyester option for windsurf down hauls and out hauls, grips well in cleats and provides good abrasion resistance.



## EXCEL D12



**DIAMETER:** 2.5mm-7mm  
**12 STRAND DYNEEMA® SK78 - ALSO AVAILABLE IN BIO-BASED SK99 FOR HIGHER STRENGTH**  
**APPLICATION:** PIG-TAILS | DE-POWER | LEADERS | BRIDLE

### SK78:

DIAMETER (mm)	2.5	3	3.5	4	5	6	7
BREAK LOAD (kg)	569	995	1430	2060	2360	3490	5360
WEIGHT (kg/100m)	0.37	0.53	0.74	0.98	1.28	1.77	2.80

### SK99:

DIAMETER (mm)	2.5	3	3.5	4	5	6	7
BREAK LOAD (kg)	677	1180	1710	2450	2800	4150	6380
WEIGHT (kg/100m)	0.37	0.53	0.74	0.98	1.28	1.77	2.80

Lightweight, high-strength Excel D12 can be used by windsurfers as auxiliary lines and lightweight harness lines and by kitesurfers for leader lines and depower lines.

## FORMULINE



**DIAMETER:** 3.8mm  
**12 STRAND TIGHTLY BRAIDED BIO-BASED DYNEEMA® SK78**  
**APPLICATION:** OUTHAULS | Down hauls | DE-POWER

DIAMETER (mm)	3.8
BREAK LOAD (kg)	619
WEIGHT (kg/100m)	0.89

The first and still the best line specifically designed for use on windsurf down hauls and out hauls. High strength and great durability, Formuline is the perfect diameter to fit most rigs and won't let you down.

HIGH STRENGTH	LOW STRETCH
LOW WATER ABSORPTION	LIGHT WEIGHT
HIGH ABRASION RESISTANCE	HIGH FLEX/SOFT HANDLING



“ I love working with Marlow and using the products, namely D12 99 and KiteLine Race 1.3mm as it gives me complete confidence in my set-up. ”

CONNOR BAINBRIDGE, MARLOW KITESURFER  
 AMBASSADOR

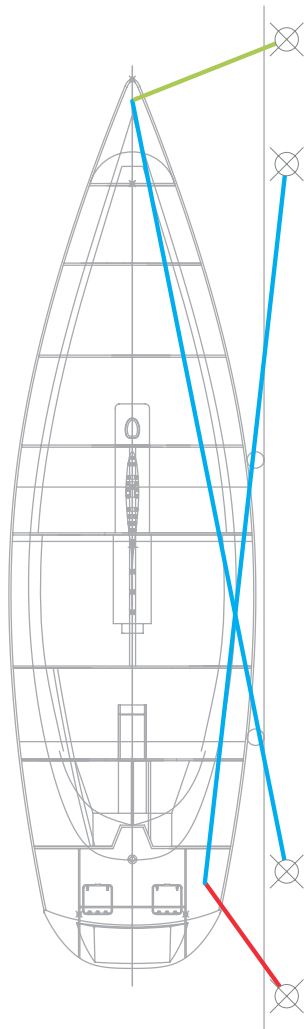
Whilst mooring lines are often overlooked, they are equally as important as sheets and halyards – what is the value of the yacht they are securing to the dock?

Marlow manufacture a range of mooring lines to suit every craft, from our Superyacht Mooring lines detailed on Page 21, to our braided docklines and traditional 3 strand ropes. All have their own particular characteristics, but all are designed not only to ensure the security of a moored vessel, but also to enhance the dockside appearance.

Marlow Docklines are also available pre-spliced in standard lengths.

# MOORING





## CUSTOM DOCKLINES

Fore and Aft Spring lines stop forwards and backwards movement of the boat on its mooring.

**SPRING LINES LENGTH**  
=  $\frac{3}{4}$  x OVER ALL BOAT LENGTH

Stern lines stop the stern of the boat moving out, away from the dock

**STERN LINE LENGTHS**  
=  $1\frac{1}{2}$  TO 2 x BEAM OF THE BOAT

Bow Lines stop the bow of the boat moving out, away from the dock

**BOW LINE LENGTHS**  
=  $1\frac{1}{2}$  x BEAM OF THE BOAT

Always inspect your lines regularly for signs of wear. Polyester has good shock absorbing characteristics but areas vulnerable to chafe should be protected with a piece of rubber hose or leather.

## ANCHOR LINES

Aim to use chain between the Anchor and the Line. This will help gain a good catenary angle and help dig it in, reducing the effect of pitching and tugging and protecting the line from the seabed and abrasion.

Remember when selecting the size of line for an anchor warp, nylon is ideal at absorbing shock loads but it will have some strength reduction when wet.

Have enough line on board to provide scope for at least 7 x the max depth of water expected. In heavy weather when the boat is pitching and tugging, 10 x the depth of water may be needed.

# THE AWARD-WINNING BLUE OCEAN DOCKLINE MADE FROM 100% RECYCLED WASTE PLASTIC

Made from rPET (GRS certified recycled polyester yarn) this eco-conscious dockline is available on 100m and 200m reels or pre-spliced in 10-16mm diameters in lengths from 6m to 12m.

The unique construction offers the same popular attributes available with Marlow's other mooring products including good abrasion resistance and shock absorption with soft and supple flexibility and zero strength loss or shrinkage.

Every day more than 16 million plastic bottles end up in landfill in the UK alone, and this latest innovation uses our engineering expertise to make an environmental difference across the marine industry.

Packaged in environmentally friendly FSC cardboard cartons.

For further information about Marlow's BLUE OCEAN initiatives visit [marlowropes.com/blue-ocean](http://marlowropes.com/blue-ocean)



## BLUE OCEAN DOCKLINE



12 STRAND RPET CORE | 24 PLAIT RPET COVER

DIAMETER: 10mm-16mm

COLOUR: BLACK or white with blue marker

APPLICATION: **MOORING**

DIAMETER (mm)	10	12	14	16
BREAK LOAD (kg)	2710	3610	4510	5860
WEIGHT (kg/100m)	7.46	9.94	12.4	16.2



## PRE-SPliced BLUE OCEAN DOCKLINE



DIAMETER: 12mm-16mm

MARLOW DOCKLINE WITH 50CM FACTORY SPliced EYE. WHIPPED OTHER END

APPLICATION: **MOORING**

DIAMETER (mm)	12	12	14	14	16	16
LENGTH (M)	6	9	9	12	9	12

Our factory-spliced Blue Ocean® Docklines have a 50cm spliced eye one end and the other whipped. Supplied in a recyclable cardboard box. Pre-spliced Docklines are available in a range of standard lengths and diameters.



HIGH STRENGTH



LIGHT WEIGHT



LOW STRETCH



HIGH ABRASION RESISTANCE



LOW WATER ABSORPTION



HIGH FLEX/SOFT HANDLING



## MARINA GRANDE DOCKLINE



**DIAMETER:** 18mm-20mm  
**12 STRAND POLYESTER CORE | 24 PLAIT OPTI-TWIST COVER**

**APPLICATION:** **MOORING**

DIAMETER (mm)	18	20
BREAK LOAD (kg)	8840	9920
WEIGHT (kg/100m)	23.0	26.9

**LARGER DIAMETERS FOR SUPERYACHT, AVAILABLE ON PAGE 21.**

The All New Marina Grande has been engineered using our Opti-Twist yarn process as found in our Superyacht Mooring Lines. Opti-Twist provides outstanding abrasion and shock absorbing properties whilst being comfortable to handle and remaining supple, even after long exposure to water and the elements. This 100% polyester mooring rope will not suffer from shrinkage, strength loss or UV degradation like nylon ropes.

## 3 STRAND NYLON



**DIAMETER:** 6mm-32mm

**3 STRAND NYLON**

**APPLICATION:** **MOORING**

DIAMETER (mm)	6	8	10	12	14	16	18	20	24	28	32
BREAK LOAD (kg)	860	1540	2400	3560	4850	5520	6900	8630	12400	16900	22100
WEIGHT (kg/100m)	2.30	4.00	6.20	8.90	12.2	15.8	20.0	24.5	35.5	48.5	63.0

Nylon will stretch by about 20% at 50% of its breakload, compared with 12% stretch for polyester at equivalent loads. This high elongation, makes 3-strand nylon a good choice for anchor warps, mooring warps and mooring risers. Care should be taken when choosing 3-strand nylon ropes though, as Nylon is susceptible to external environmental factors such as salt water and UV.

## 3 STRAND POLYESTER



**DIAMETER:** 4mm-32mm

**3 STRAND POLYESTER**

**APPLICATION:** **MOORING**

DIAMETER (mm)	4	6	8	10	12	14
BREAK LOAD (KG)	529	951	1470	2570	3170	3930
WEIGHT (KG/100M)	1.21	2.73	4.80	7.85	10.9	14.9

DIAMETER (mm)	16	18	20	24	28	32
BREAK LOAD (KG)	4770	6600	9230	11200	14600	18800
WEIGHT (KG/100M)	19.4	24.6	30.3	46.0	62.8	82.0

The classic mooring line, Marlow's 3 Strand is manufactured using the highest quality materials to produce a rope with perfect flexibility and firmness. Polyester wont degrade in UV and remains supple and strong even when wet.

## MULTIPLAIT NYLON



**DIAMETER:** 12mm-32mm

**8 STRAND NYLON**

**APPLICATION:** **MOORING**

DIAMETER (mm)	12	14	16	18	20	24	28	32
BREAK LOAD (KG)	3800	4670	6640	7270	9890	14400	18600	23900
WEIGHT (KG/100M)	9.40	12.9	16.6	21.0	26.0	37.3	49.0	64.0

The classic anchor line, Multiplait has fantastic shock absorbing characteristics when anchoring in rough seas and is easily spliced to chain thanks to its 8 strand construction and special markers. Its soft flexible, uninkable construction makes it perfect for easy stowage, whilst still maintaining excellent grip on the windlass.

## 3 STRAND NELSON



**DIAMETER:** 6mm-32mm

**3 STRAND POLYPROPYLENE**

**APPLICATION:** **MOORING**

DIAMETER (mm)	6	8	10	12	14	16	18	20	24	28	32
BREAK LOAD (kg)	648	1145	1685	2387	3294	4072	5195	6264	8770	11556	14537
WEIGHT (kg/100m)	1.70	3.00	4.50	6.50	9.00	11.5	14.8	18.0	26.0	35.5	46.0

A tough, no nonsense 3 strand rope manufactured using staple polypropylene fibres. High grip, abrasion resistance and lightweight, Nelson makes a great easily spliced general purpose rope.

## TFH CHAFEGUARD



**DIAMETER:** 19mm-70mm

**TUBULAR POLYESTER SLEEVE**

**APPLICATION:** **MOORING**

TUBE WIDTH	FOR ROPE DIAMETERS
25mm	8mm, 10mm, 12mm
32mm	14mm, 16mm, 18mm
42mm	24mm, 22mm, 20mm

Rubber lined with tough polyester cover, TFH Chafe Guard is tough, durable and ideal for spliced eye protection or adjustable protection on the rope itself to protect against abrasion from chocks, bits, bollards and cleats.

	HIGH STRENGTH		LOW STRETCH
	LOW WATER ABSORPTION		LIGHT WEIGHT
	HIGH ABRASION RESISTANCE		HIGH FLEX/SOFT HANDLING



“ Marlow knows a thing or two about ropes, and this will surely become the definitive guide for both amateur and professional sailors. ”

DAME ELLEN MACARTHUR, DBE

## MARLOW'S BEST SELLING GUIDE TO SPLICING

With over 200 years of technical knowledge and rope care expertise, our highly anticipated Guide to Splicing is an indispensable instruction manual for all sailors and boat owners.

Detailed illustrations and stage by stage instructions will guide even the most novice of sailors through a variety of recommended splices that will ensure their ropes are used to their full potential.



66 page A5 wirebound book with laminated covers and dividers

ISBN: 978-1-5272-2927-3

# ACCESSORIES





# SPLICING TOOLS

## SWEDISH FIDS



Traditional steel splicing fids with a wooden handle, swedish fids are used for Multiplait, 3 strand and Marlowbraid splicing (in conjunction with the riggers splicing needle).

## BRAID-ON-BRAID FID SET



The best option for splicing braid-on-braid, this fid set includes 4mm fid up to 12mm fid. Also used for D12 (12 strand) splices and can be used for 3 strand lines also.

## SPLICING KIT



Starter splicing kit includes small and large splicing needles, small swedish fid, whipping twine, Marlow tape and splicing instructions – perfect for the novice.

## RIGGERS SPLICING NEEDLES



Splicing needles used for Marlowbraid (quick splice), D2 (covered Dyneema® splice) and can be used on D12 (12 strand Dyneema® splice).

## EXCEL SPLICING NEEDLE



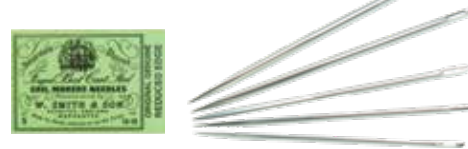
Multipurpose splicing needle for very small diameter dinghy ropes such as Excel Control, Excel Racing and Excel D12. Also great for tapering Fusion.

## KITELINE SPLICING NEEDLE



Marlow's KiteLine splicing needle has been designed for use with our Extreme Sports product range (specifically designed for the KiteLine!) and other small lines.

## SAILMAKERS NEEDLES



High quality, traditional sailmakers needles in a mixed pack offering different sizes and shapes.

## SAILMAKERS PALM



Tough leather palm with added protection over the ball of the thumb allowing stitching and whipping of even the toughest ropes.

## WHIPPING TWINE

No.2 No. 4 No. 8



SIZE	No. 2 (Thin)	No.4 (Med.)	No.4 (Med.)	No.4 (Med.)	No.4 (Med.)
COLOUR	white	white	red	blue	black
DIAMETER (mm)	0.5	0.8	0.8	0.8	0.8

SIZE	No.4 (Med.)	No.4 (Med.)	No.4 (Med.)	No.8 (Lge.)
COLOUR	green	gold	beige	white
DIAMETER (mm)	0.8	0.8	0.8	1.1

Marlow whipping twine is widely regarded as the best whipping twine on the market, the polyester whipping twine is available in 4 sizes and a variety of colours (No.4 only). The waxed finish makes for easier whipping and a better finish. Available in "display boxes" of 12 spools or on 1kg cops. Please note, box design may change.

## HS WHIPPING TWINE

Available in 2 diameters and 2 lengths.  
0.9mm - 50m spools  
1.1mm - 25m spools



## EXTRA POWER SPLICING SCISSORS



Tough Teflon® coated scissors especially chosen for their ability to cut Dyneema®. These scissors are used by our factory splicers.

## MARLOW TAPE



Marlow branded tape for splicing and finishing off ropes.

## MARLINE



Marlow's traditional tarred waterproof hemp twine comes in two sizes – large and small. Use for whipping wire splices, mooring posts, heavy duty static mooring lines etc.

# ACCESSORIES

## SHOCKCORD



**DIAMETER:** 3mm-10mm  
**POLYESTER COVER | RUBBER CORES**

Excellent quality, high elasticity and with natural rubber that provides a minimum 100% stretch with constant elongation characteristics. Polyester cover is tough and UV resistant offering good abrasion resistance and a great range of standard colours.

## SHOCKCORD WITH DYNEEMA®



**DIAMETER:** 4-6mm

All the benefits of the standard Shockcord, yet with greater durability, increased abrasion resistance & lower friction due to its Dyneema® cover.

## 8 PLAIT MARSTRON



**DIAMETER:** 6mm-10mm  
**8 PLAIT POLYPROPYLENE COVER | POLYPROPYLENE CORE | 100M & 200M REELS**

**APPLICATION:** **THROW LINES & PAINTERS**

DIAMETER (mm)	6	8	10
BREAK LOAD (KG)	499	645	1530
WEIGHT (KG/100M)	1.76	2.70	5.00

Lightweight, High Visibility floating line. Soft and easily handled, 8 Plait Marstron is ideal for rescue throw lines, tow ropes and painters.

## 8 PLAIT STANDARD



**DIAMETER:** 1.5mm-4mm  
**8 PLAIT POLYESTER**

DIAMETER (mm)	1.5	2	3	4
BREAK LOAD (KG)	90	130	210	359
WEIGHT (KG/100M)	0.25	0.33	0.70	1.16

100% polyester line for flag halyards and bungees. Also used as leach lines, and whipping large diameter ropes as well as decorative lashings.

## GUARD RAIL NETTING

Knotted white nylon netting. Handy Tip – measure the distance the netting needs to run fore and aft and allow an additional 25%. This allows for take up in the length caused by the drop on standard stanchions (61cm / 24").



## WEBBING



TYPE	MATERIAL	WIDTH	REEL LENGTH	BREAK LOAD	COLOUR
TOE STRAP	Polyester	50mm	50m	1800kg	red / blue / black
BUOYANCY BAG	Polyester	38mm	100m	750kg	white
JACKSTAY	Polyester	25mm	50m	3000	blue

Selection of towstrap, buoyancy bag and jackstay webbing.

## BUOYANCY BAG WEBBING

38mm wide Polyester webbing available in white. Light weight and ideal for lighter webbing duties.

## TOE STRAP WEBBING

50mm wide polyester webbing available in 3 strong colours. Tough, strong and low stretch webbing for Toe Straps on dinghies and sports boats.

## JACK STAY

Tough 25mm wide polyester webbing offers a 3 tonne break load and is perfect for those heavy duty jobs.



## D12 SOFT SHACKLES

Factory spliced D12 Soft Shackles offer outstanding strength at a fraction of the weight of conventional steel shackles.

DIAMETER (mm)	4	5	6	7	9	11
MIN BREAK LOAD (KG)	1850	2120	3140	4390	6250	10700
WEIGHT (G)	5.49	8.96	14.9	27.4	47.4	89.6
LENGTH (M)	200	250	300	350	450	550

Important note: The lengths listed in the specification are for both the closed circumference and open length. Closed length is approximately half the open length assuming the bearing surfaces are not too big. All these figures are approximate as they are hand made by artisans.

HELP US WITH OUR SUSTAINABLE MISSION AND  
DISPOSE OF YOUR PACKAGING RESPONSIBLY



# POINT OF SALE

## CORDLESS HOT KNIFE

**VOLTAGE:** dc14.4v

**WEIGHT (INC BATTERY & BLADE):** 0.7kgs



Marlow's new cordless hot knife cuts and heat-seals ropes quickly and efficiently with the blade reaching a temperature of 400°C in seconds. Supplied in a handy carry case shown in the image below including 1 x KD-DC100R Handle, 1 x brush, 1 x battery pack 14.4V/2.0Ah

## HAND HELD HOT KNIFE

**AVAILABLE IN 240V AND 110V**



Marlow hot knife for cutting and heat-sealing ropes in one stroke. Use in conjunction with Marlow Tape for a perfect finish. Supplied in a handy carry case with a metal bristled cleaning brush.

## MINISPOOLS

Excel Pro is a low-stretch, 100% polyester rope that offers great performance at a lower cost.

Available on handy 30m (2mm) and 17m (3mm) spools. Display on euro slot cards or stack on the counter for impulse buy.



## MINI SPOOL DISPENSER RETAIL DISPLAY

Marlow's Mini Spool Dispenser is a great point of sale display for till spaces and table-tops, available **free of charge** when purchased with 15 Excel Pro 2mm & 3mm mini-spool reels (mixed colours).

Spools can be reordered as and when required.



## POINT OF SALE RACKING



Supplied to Marlow dealers directly or through distributors, the striking Marlow rope rack, sets our products apart from the crowd with its freestanding design

The racking includes label fascia which can be customised to the specific ropes displayed on the rack with labels downloadable from the individual products on our website.

# SUSTAINABLE PACKAGING

Marlow's Leisure Marine accessory range is now sustainably packaged with Polyair™. Marlow eliminated the need for most plastic packaging in 2019 and introduced this bio-based recyclable plastic packaging in 2020 in areas where plastic is still required to either preserve or protect the product.

Made from sugar cane waste, Polyair™ is carbon neutral and 100% recyclable. It is seen as proactively green as it is derived entirely from an organic product, capturing CO2 from the atmosphere whilst it is growing.

Polyair™ is LDPE 04 (low density polyethylene) and recycled in exactly the same way as normal LDPE.

## SUSTAINABLE HEADER CARDS TOO!

The header cards on our Leisure Marine accessory range are also 100% recyclable and made from uncoated recycled card. Look out for the Polyair™ stickers on our products and follow the recycling guidelines.



# SAFETY AT HEIGHT

Climbing the rig to check its integrity or to make repairs can be a dangerous job, so we are glad to be able to use our experience gained in the Professional Rope Access market to provide a comprehensive range of safety at height equipment for yacht riggers.

The equipment listed here includes everything necessary to undertake a safe ascent, effect a comfortable work positioning and return to the deck safely, whether the climber is assisted or working alone. This includes:

## STATIC LSK ROPE

**SPECIALIST SAFETY AT HEIGHT ROPE WITH HIGH ELONGATION, AVAILABLE IN VARIOUS COLOURS TO DIFFERENTIATE WORKING ROPE AND BACK-UP ROPE**



**CONSTRUCTION:** Twisted Polyamide (Nylon) core / 16 plait Polyamide (Nylon) cover

**COLOURS:** White with black or red flecks. 9mm (cross fleck), 10.5mm (double fleck), 11mm (triple fleck), 12mm (four fleck)

11mm & 12mm available in solid colours as well

**APPLICATIONS:** Abseiling, work positioning, industrial rope access

**BENEFITS:** AquaCoat water repellent coating on request. Flexibility & suppleness, abrasion resistance. Outstanding dynamic properties, visible year of manufacture marker

DIAMETER (mm)	10.5	11
ROPE CLASSIFICATION (TYPE)	A	A
MASS (G/M)	67.2	73.8
50-150KG ELONGATION (%)	2.0	2.4
FALL FACTOR 1 FALLS (FIG 8 LOOP)	10+	10+
PEAK FORCE FIG 8 LOOP (kN)	5.6	5.8
AV. STATIC STRENGTH FIG 8 LOOP (kN)	19.5	21.1
CE STANDARD	EN1891	EN1891

Specialist safety at height rope with high elongation, available in various colours to differentiate working rope and back-up rope.



# LINE SELECTION GUIDE

The guide below, details diameters per application for the average cruiser/racer based on polyester ropes such as Marlowbraid or Doublebraid.

From a performance perspective strength and stretch are most important and the higher strength to weight ratio of ropes with Dyneema means that at least one size smaller can be used e.g. An 8mm or 10mm D2 Racing can be used instead of 12mm Marlowbraid.

However, when choosing any line, it is important to achieve a balance between performance and the ability to handle the line effectively – if the rope is too thin, the crew may find it more difficult to hold on to and your existing deck gear may struggle to work with it.

	OVERALL YACHT LENGTH (M)							
	6-8M	9M	10M	11M	12M	14M	16M	18M
<b>SAIL AREA SQ.M (APPROX)</b>								
MAIN	8.5	13.5	16	18.5	23.5	37.5	50	67
GENOA/JIB	9	16.5	25	33.5	42	58.5	71	83.5
SPINNAKER	37.5	46	54.5	71	92	117	150.5	184
<b>SHEET SIZE DIAMETER (MM)</b>								
MAIN	8	10	10	10	12	12	14	16
GENOA/JIB	8	10	10	12	12	14	16	18
SPINNAKER	8	8	8	10	10	12	14	16
SPINNAKER/GUY	8	8	10	10	12	14	16	18
<b>HALYARD SIZE DIAMETER (MM)</b>								
MAIN	10	10	12	12	14	14	18	20
GENOA/JIB	10	10	12	12	14	14	18	20
SPINNAKER	8	8	10	10	12	12	14	16

**USE ONE SIZE DOWN FROM THE SIZES DETAILED** in this chart when specifying ropes with Dyneema® cores

	MOORING ROPES							
	6-8M	9M	10M	11M	12M	14M	16M	18M
DISPLACEMENT TONNES	2	4	5	6.5	8	11	12	20
POLYESTER LINE (MM)	8-10	12	12	14	14	16	18	24

	ANCHOR WARPS, PAINTER LINES							
	6-8M	9M	10M	11M	12M	14M	16M	18M
DISPLACEMENT TONNES	2	4	5	6.5	8	11	12	20
POLYESTER LINE (MM)	12	14	16	16	18	20	20	24

# RETAINED STRENGTH

## TERMINATIONS

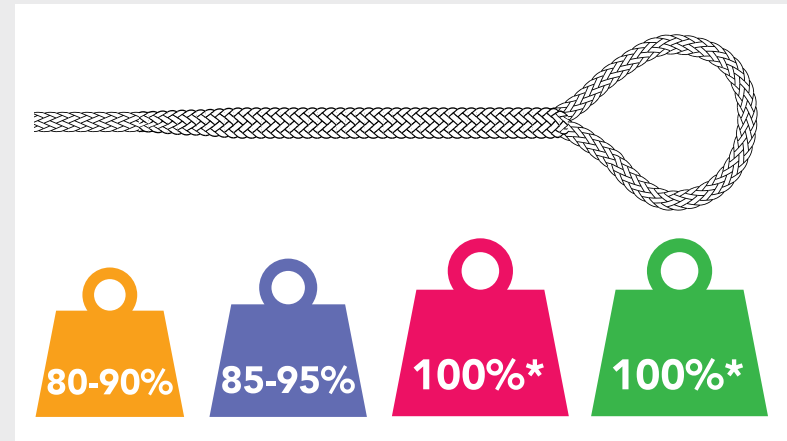
**SPLICES:** Most Marlow ropes can be spliced, this is normally the preferred method of termination. A good splice using the recommended method should not reduce the strength of a rope by more than 10%.

**KNOTS:** A knot will reduce the strength of the rope, sometimes very significantly. This loss is caused by the tight bends and compression found in any knot. The amount a rope will be weakened will depend on the knot, type of rope and the material from which it is made but can be up to 60%.

**EYE SIZES:** Wherever possible, the angle formed at the throat of a splice when it is loaded should be 30 degrees or less. This means that the length of the eye when flat must be at least 2.7 times the diameter of the object over which the eye is to be used and the distance from the bearing point to the throat when in use should be at least 2.4 times the diameter.

Some materials like Aramids and HMPEs will require a larger eye with an angle at the throat of 15 degrees or less.

## SPLICED ROPE



## KNOTTED ROPE

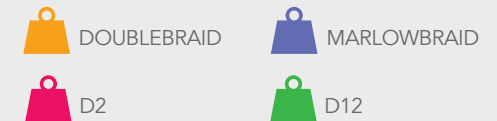
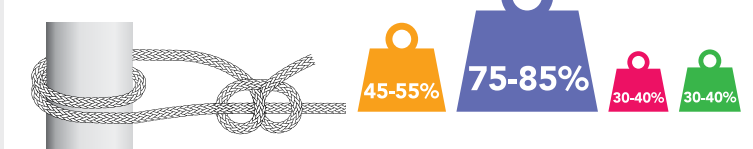
### FIGURE 8 LOOP



### BOWLINE



### ROUND TURN 2 HALF HITCHES





# ROPE CARE & STORAGE

Marlow products are an investment and should be looked after accordingly. They are designed and manufactured to an exceedingly high standard and Marlow know how each can be expected to perform and last under varying conditions. The guidelines listed will help you maintain your ropes in terms of their durability, performance, and reliability.

## GENERAL GOOD PRACTICE:

- Inspection all ropes regularly to establish their condition.
- Ensure the ropes suitability for its intended use.

## CHECK FOR:

- Chaffing or seriously worn surface areas
- Kinks/twists in the rope
- Movement in splices and joins
- Broken, cut or frayed strands
- Compacted or hardened areas
- Surface friction burns or melted sections
- Chemical exposure and degradation
- UV degradation

Should you be in any doubt about the true condition of the rope and its suitability for continued use, consult your nearest Marlow approved rigging specialist.

## IN ADDITION:

- The coiling and uncoiling of a rope is the first step to ensure that your rope is not damaged - never allow the rope to become kinked or twisted as this will impair its life and usability. Ideally rope should be stored in a 'Figure of 8' fashion to avoid inducing twist.
- Sharp bends put strain on rope as this reduces the number of rope fibres taking the load. The remaining fibres can be rendered ineffective through compression.
- Ropes wear excessively through chaffing and abrasion if they are worked in the same position for any length of time. Inspect the ropes load bearing areas or 'hot spots' and alter their position on a regular basis. Load bearing 'hot spots' include; Halyard Sheaves, Turning Blocks, Cleats, Fairleads, Genoa Cars, Ratchets, Stoppers and Swivels.

- The ideal rope diameter for each Sheave is available from your Marlow approved rigging specialist or can be found in the guide on page 42.
- Friction will cause strands to melt both externally and internally. But as the melting point of most rope fibres is between 150° - 260°C the risk of damage in normal cruiser / racer situations is slight. If a rope has been overloaded, open the strands to check for heat damage (fusion of strands).
- A correctly spliced rope has between 90 - 95% of the strength of the unspliced rope. Regular inspection of splices is important, if you are unsure about their condition consult your nearest Marlow approved rigging specialist. The break loads in this brochure are for spliced ropes.

## STORAGE AND SEASON END:

- Ropes should be stored under a suitable cover and not left to withstand the elements at the end of the season
- They should be clean and dry, out of direct sunlight and away from extreme temperatures.
- Never store ropes on concrete or dirty floors, as dirt and grit picked up by the ropes can work into the strands cutting the inside fibres, leading to damaged ropes and equipment.
- Keep away from all chemicals.
- Salt crystals are naturally abrasive and will affect the life and efficiency of ropes; a wise precaution would be to soak them in fresh warm water.
- Ropes can be washed in a washing machine on a gentle cycle with mild detergent.

If inspected regularly and maintained correctly there is no reason why Marlow ropes cannot last for many seasons of trouble free sailing.

## OTHER INFORMATION

### ROPE STRENGTHS AND WEIGHTS

Rope strengths are tested according to Marlow's QA25 and 26 quality procedures. Generally these procedures are in line with BS EN ISO 2307, however, a number of other internationally recognised test standards are used including EN 1891, EN 892 and EN 564.

Rope mass is determined by weighing a sample of rope whose length has been measured at a reference load. For most ropes this load is calculated as:

$$\text{Reference Load (kg)} = \frac{d^2}{8}$$

Where d is the rope nominal diameter (mm)

Most rope strengths in this catalogue are given in kilograms (kg). However, the correct measure of force or breaking strength is Kilonewtons (kN). Conversion factors from one to the other are:

$$\text{Kg to kN} \times 0.00981$$

$$\text{kN to kg} \times 101.972$$

$$\text{Kg to lb} \times 2.2$$

### SHEAVES, PULLEYS AND ROLLERS

When any rope is used around a sheave there will be a reduction in its strength and life. For most non-specialised applications a sheave diameter 8-10 times the rope diameter will suffice, however certain materials such as Aramids may require a sheave size of up to 20 times diameter.

The profile of the groove in a sheave should support the entire rope. Normally a semicircle of 10% greater diameter than that of the rope is appropriate. 'V' groove sheaves should be avoided since they compress the rope and have points of local friction reducing the life of the rope.

### WINCHES AND CAPSTANS

When a rope is wound onto a winch it is important that the wraps are neat and tightly wound. This can be achieved by winding the rope on whilst under tension. If the rope is wound on slack then it will be more prone to burying between the turns of the previous layer.

Length of rope that can be held on a winch drum or reel can be calculated as follows:

$$\text{Length (m)} = \frac{710000 \times T(F2-D2)}{d^2}$$

#### WHERE:

T= Traverse in metres

F= Flange diameter in metres

D= Drum diameter in metres

d= Rope diameter in millimetres





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