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Lanyard Data Sheet

D12 78

Manufactured using Dyneema's SK78 fibre, D12 78 sets the standard for high performance lightweight ropes and cores. The workhorse of any racing yacht, uncovered D12 can be used for strops, lashing, and purchase systems, backstays and some halyards. With a cover, D12 is ideal for sheets halyards, runners, control lines etc.

APPLICATIONS	Sailing, Halyards, Strops, Tacklines, Lashings, Purchase Systems
MATERIAL	Manufactured from Dyneema SK78 HMPE (High-Modulus Polyethylene) Very light weight - 6x lighter than steel wire for a given strength High strength - 60% stronger than steel wire for a given diameter Low Stretch - see graph below Good resistance to chemicals and UV Zero water shrinkage Low creep HMPE fibre
CONSTRUCTION	
TWISTED FIBRE CONSTRUCTION:	Improved abrasion resistance
12 STRAND BRAIDED CONSTRUCTION:	Optimised pitch to yarn twist - improves strength & longevity Firmer rounder rope, aids handling Easy to splice Flexible product and easily handled Torque balanced
HEAT SET AND PRE-STRETCHED:	Improves strength / diameter ratio Reduces initial elongation
COATING OPTIONS	
MARLOW ARMOURCOAT (STANDARD FINISH):	Specially formulated polyurethane coating Improves abrasion resistance and durability Increases friction, aids handling & splicing Provides colour coding
MARLOW GRIPCOAT:	Synthetic Polymer Anionic Coating Prevents ingress of dirt and abrasive particles Provides "self healing" properties Increases coefficient of friction Significantly improves core/cover adhesion
MARLOW COOLCOAT:	Enhances bending performance Reduces yarn on yarn abrasion and heat generation by a factor of 2 Applied at rope manufacture stage
PROPERTIES	
RELATIVE DENSITY:	0.97 (floats)
CHEMICAL RESISTANCE:	Excellent resistance to most chemicals (additional information available on request)
UV RESISTANCE:	Very good
MELTING POINT:	140°C
CRITICAL TEMPERATURE:	80°C (exposure to temperatures over this will result in permanent strength loss)

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TERMINATIONS

SPLICED EYE TERMINATION:

12 strand splice
An allowance of 60x rope diameter should be made for the overall length of the splice.
To optimise the efficiency of a soft eye splice (without a thimble), the angle formed at the neck of the splice should be 30° or less, meaning that when flat, the length of the eye must be 2.7x the diameter of the object over which the splice will be used.
In a sling configuration, attention must be paid to the distance between the two splices. For optimum strength realisation, Marlow recommend the minimum distance between splices of 35x rope diameter
A splice will normally increase the diameter of the rope between 1.5x and 1.75x

GROMMET OR ENDLESS LOOP:

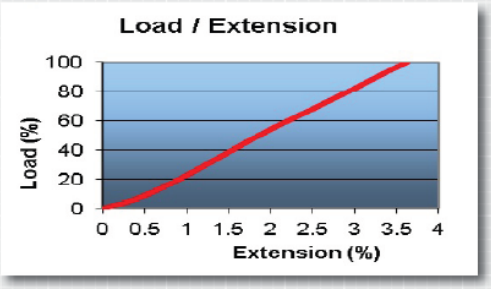
When calculating the strength of a grommet, a factor of 1.65 should be applied to the break load of the rope
It is important to recognise the D/d ratio of the fittings when specifying a grommet or endless loop. Marlow recommends a D/d ratio of 5x rope diameter for optimum strength realisation
The minimum circumference should be a factor of the splice length and optimum distance between splices and calculated as:
C = 2(d x 60) + (d x 35). Divide C by 2 for the finished length

ELONGATION

Permanent elongation on first loading: Up to 5%

Typical working elongation (for a bedded in rope):

@ 10% of break load: 0.51%
@ 20% of break load: 0.89%
To break: 3.60%



PERFORMANCE

DIAMETER	CIRCUMFERENCE	MASS		AVERAGE STRENGTH			MIN STRENGTH		
mm	Inch	g/m	lb/100 ft	kg	lb	kN	kg	lb	kN
3	1/8	5.3	0.36	995	2189	9.8	896	1970	8.8