


FIBRE ROPE

9



Beaver's complete range of fibre ropes comprises general purpose through to UV treated high tenacity specialised ropes to ensure the best for your application.



Contents

FIBRE ROPE

BEAVER FIBRE ROPE PRODUCT INFORMATION	4
DYNEEMA AS BOG STROP	9
BEAVER SILVER ROPE	10
BEAVER POLYPROPYLENE ROPE	12
BEAVER SISAL ROPE	14
BEAVER SUPERDAN ROPE	15
PRODUCT REFERENCE GUIDE	16

BEAVER FIBRE ROPE PRODUCT INFORMATION

SYNTHETIC (MAN MADE) FIBRE ROPE

For any given diameter, ropes made from synthetic materials are generally far stronger and much cheaper than those made from natural fibers. Because of low water absorption the breaking strain of synthetic rope remains constant even when wet; when it breaks however, it does so without warning. Synthetic rope is resistant to rot, has a longer life, and can be colored for ease of recognition.

Rope ends can be heat sealed to prevent unlaying of the strands. The relatively low melting point of most man-made fibers means that it is important to avoid friction or synthetic ropes binding against each other - knots can actually fuse together when put under load.



NYLON

Features:

- Nylon is the generic description for synthetic polymers
- High breaking strength
- Light weight per unit of strength
- Excellent elasticity and tensile recovery
- Superior absorption of impact and shock loads
- Excellent flexibility and abrasion resistance, which is ideal for pulley systems or winches
- High resistance to creep under sustained loads
- Is not damaged by oil or most chemicals
- Does not become progressively softer with a rise in temperature
- Excellent resistance to rotting
- Good sunlight and weather resistance
- High melting point
- Absorb moisture and lose approximately 10% of their strength when wet
- Nylon is unsuitable for lifting as the slings would stretch and cause the loads to bounce
- Are sensitive to phenols, strong acids, concentrated formic acid, sunlight
- Has resistance to acetones, organic solvent, mineral and organic acids

Mechanical Properties:

- Specific gravity: 1.14 g/cm³ (Doesn't float on water)
- Melting point: 215-260°C
- Resistance to short term Heat: 130°C
- Tensile Strength of Nylon: 100 kg/mm²
- Elongation at break points: 18-24%
- Ultra Violet (UV) resistance: Good
- Resistance to Alkalis: Good at low concentration
- Resistance to Acids: Predominantly good

POLYESTER

Features:

- Polyester is very close to Nylon in strength when a steady force is applied
- Unlike nylon, polyester stretches very little and therefore cannot absorb shock loads
- It is as equally resistant as nylon to moisture and chemicals
- Is superior in resistance to abrasion and sunlight and is the best rope material for outdoor
- Easy to dye - particular lines can be colour coded for ease of recognition
- Soft feel for handling but a little heavier than Nylon
- Typically only lose 10% of its breaking strength after 2 years of outdoor use
- Does not soften progressively with a rise in temperature
- The fibre is somewhat tougher than nylon
- Almost doesn't lose strength when wet
- Has a very high resistance to the degrading effects of sunlight and weather
- It is not susceptible to attack by rot and mildew
- Unlike nylon, polyester is resistant to acids and attack by alkalis
- Is sensitive to hot caustic soda, concentrated ammonia, concentrated sulphuric acid
- Has resistance to organic mineral and nitric acids, oxidizing agents, diluted alkali

Mechanical Properties:

- Specific gravity: 1.38 g/cm³ (Doesn't float on water)
- Melting point: 225-240°C
- Resistance to short term Heat: 170°C
- Tensile Strength of Polyester: 115 kg/mm²
- Elongation at break points: 10-17%
- Ultra Violet (UV) resistance: Excellent
- Resistance to Alkalis: Good at room temperature
- Resistance to Acids: Predominantly good



BEAVER FIBRE ROPE PRODUCT INFORMATION

POLYPROPYLENE

Features:

- › Light weight with ability of floating on water
- › It almost doesn't lose strength even when wet and will not rot due to water
- › Immune to attack by rot and mildew
- › Highly resistant to attack by acids and alkalis
- › Often sleeved with a braided material for softer handling
- › Affected by sunlight deterioration, more so than any other synthetic
- › Not as strong as nylon or polyester, but 2-3 times stronger than manila
- › Softens progressively with a rise in temperature
- › Begins to weaken and melt at 150°C
- › Excellent dielectric ability and does not conduct an electric current and acts as an insulator
- › Lacks stretch memory. When stretched, it will not return to its normal size
- › Sensitive to bleaching agents (sodium hypochlorite), cleaning agents (trichloroethylene)
- › Resistance to most alkalis and acids, solvent and oxidizing agents

Mechanical Properties:

- › Specific gravity: 0.91 g/cm³ (Float on water)
- › Melting point: 150-175°C
- › Resistance to short term Heat: 80°C
- › Tensile Strength of polypropylene: Approx 60 kg/mm²
- › Elongation at break points: 13-17 %
- › Ultra Violet (UV) resistance: Fair
- › Resistance to Alkalis: Excellent
- › Resistance to Acids: Excellent



POLYETHYLENE

Features:

- Low in strength compared with other synthetic fibre rope
- Identical with polypropylene in appearance but somewhat more slippery
- Softens progressively with a rise in temperature
- Resistant to strong and weak acids and alkalis (excepting nitric acid)
- Resistant to alcohol and bleaching solutions
- Floats on water and its tensile strength remains the same dry or wet
- Not damaged by ultraviolet effects, doesn't need to be dyed
- Most commonly found in small diameters. e.g. as a water-ski towline
- It is slightly heavier than polypropylene rope
- Has a lower breaking strength when compared to a high tenacity Polypropylene rope such as Superdan
- Is sensitive to Xylene at 93°C deteriorates on very long exposure to sunlight or heat, hot nitric or sulphuric acids
- Has resistance to most acids, alkalis, grease oil, organic solvent and water

Mechanical Properties:

- Specific gravity: 0.93 g/cm³ (Float on water)
- Melting point: 135°C
- Resistance to short term Heat: 70°C
- Tensile Strength of Polyethylene: Approx 40 kg/mm²
- Elongation at break points: 20-24%
- Ultra Violet (UV) resistance: Fair
- Resistance to Alkalis: Excellent
- Resistance to Acids: Excellent (excepting nitric acid)



BEAVER FIBRE ROPE PRODUCT INFORMATION

DYNEEMA, HMPE (High Modulus Polyethylene)

Features:

- High Modulus Polyethylene (HMPE) is a special form of the conventional polyethylene and is much stronger and stiffer than conventional polyethylene. It is known by the trade names Spectra and Dyneema
- This material is characterised by extremely high breaking strengths with minimal stretching
- DYNEEMA, often used in yachting ropes will stretch even less than Polyester
- Are composed of exceedingly long molecules with a molecular weight in the 2 to 6 million range
- The fibres are tough (excellent abrasion resistance) and slippery (very low coefficient of friction), but kinking or compression damages them relatively easily
- Operating temperatures should not exceed the boiling point for water
- HMPE fibres are very resistant to water, moisture, most chemicals, and UV radiation (retaining 60% of its breaking strain after five years)
- Ropes are typically 40% stronger than Aramid fibres of the same weight
- Are sensitive to strong oxidising agents, chlorosulfuric and nitric acids at high temperatures. Slightly affected by sodium hydroxide
- Has resistance to most acids and alkalis, cold alcohols, ethers, esters, ketones and bleaches

Mechanical Properties:

- Specific gravity: 0.97 g/cm³ (Float on water)
- Melting point: 140-150°C
- Resistance to short term Heat: 70°C
- Tensile Strength of Dyneema: 265 kg/mm²
- Elongation at break points: 3.8%
- Ultra Violet (UV) resistance: Excellent
- Resistance to Alkalis: Excellent
- Resistance to Acids: Excellent



DYNEEMA AS BOG STROP

Features:

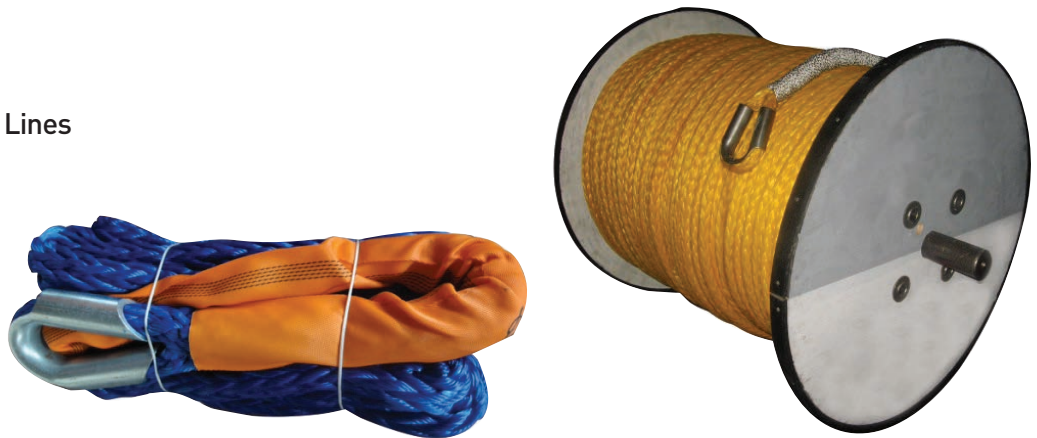
- Ability to be manufactured as a bog strop with a higher breaking load for heavy duty jobs, whilst still being light in weight
- Better bending/extension fatigue than conventional polyester/nylon rope
- Low elongation at break
- Excellent chemical resistance
- Better creep property than other material

UV Resistance:

- The strength drop after years of outdoor exposure is minimal
- Dyneema fibre performs better than other high modulus fibres for UV resistance

General Applications:

- Marine
- High Performance Yacht Lines
- Winch
- Towing



Code	Description	Length (m)	Breaking Strength (tonne)	Total Weight
TSD96X15	36mm x 15m c/w spliced tube thimble one end	15	103	11.8
TSD96X5	36mm x 5m c/w spliced tube thimble one end	5	103	4
TSD142X10	44mm x 10m c/w tube thimble one end - free end heat shrunk	10	149	13.2
TRS362X8	362T (MBS) x 8M bog strop with soft eye both ends	8	362	31.2

Other sizes and configurations are available on request.



BEAVER SILVER ROPE



Beaver Silver Rope is made from synthetic polyethylene fibres with a three strand construction. It has medium strength and durability, and a medium to soft lay for easy handling. Fibrillated film produces hairs that protrude from the rope providing excellent knotting and anti-abrasion properties. It is resistant to oil, petrol, acid, rot, mildew, sunlight and weathering; making this rope suitable for external use. Silver Rope floats and can be stored wet. It is suitable for tying down loads on trucks, trailers and for farm use.

➤ Made to Australian Standard AS4142.2

Beaver Silver Staple Rope Polyethylene To AS 4142.2

(3 Strand) Tie-down Rope for Transport (Full Coils Only) Natural White Colour Z Twist, UV Treated, Medium Lay

Code	Size mm	Min breaking force kN	Coil Length mtr
347004DA	4	1.8	250
347006	6	3.69	250
347008	8	6.1	250
347010	10	9.26	250
347012	12	12.4	250
347014	14	14.1	250
347016	16	20.8	250
347018	18	25.4	250
347020	20	31	250
347022	22	36.8	250
347024	24	43.1	250
347028	28	58.3	220
347032	32	76.2	220
347036	36	96.3	125
347040	40	119	125

Easily identifiable 3 strand silver (polyethylene) lashing rope by the unique black and yellow external tracers identifying the genuine **Beaver Truckers'** rope.



Beaver Silver Staple Rope Polyethylene To AS 4142.2

(3 Strand - Full Flanged Reels Only) (coloured white)

Code	Size mm	Min breaking force kN	Coil Length mtr
347006A	6	3.69	125
347008A	8	6.1	125
347010A	10	9.26	125
347012A	12	12.4	125
347014A	14	14.1	125
347016A	16	20.8	125
347018A	18	25.4	125
347020A	20	31	125



Beaver “Truckers” - Truckers Silver Lashing Rope To AS 4142.2

(3 Strand Polyethelene - Ultra-violet treated) Full Cartons Only

Z Twist, Medium Lay - White Coil with Black & Yellow External Tracer

Code	Size mm	Min breaking force kN	Coil Length	Hanks Per Carton
347010HC	10	9.26	10m	10
347010HD	10	9.26	12m	10
347012HD	12	12.4	12m	10





BEAVER POLYPROPYLENE FILM ROPE



Beaver Polypropylene Film Rope is made from synthetic polypropylene and has a three strand twisted construction. It has high strength properties and is very durable and easy to handle. It is resistant to oil, petrol, acid, rot, mildew, sunlight and weathering; as a result this rope is suitable for exterior use. It is suitable for tying down loads on cars, trailers, trucks and for farm use. It can be used as an anchor rope, dinghy mooring line, interior and exterior clothesline as well as for general purpose applications.

► Made to Australian Standard AS4142.2

Polypropylene Film Rope To AS 4142.2

(3 Strand - Z Twist, UV Treated, Medium Lay, Colour Yellow c/w 2 black external tracers) Full Coils Only

Code	Size mm	Min breaking force kN	Coil Length mtr
347204	4	2.1	300
347206	6	4.48	250
347208	8	10.4	250
347210	10	15.3	250
347212	12	21.7	250
347214	14	29.9	250
347216	16	37	250
347218	18	47.2	250
347220	20	56.9	250
347222	22	68.2	250
347224	24	79.7	250
347228	28	105	220
347232	32	132	220



Polypropylene Film Rope To AS 4142.2

*(3 Strand - Z Twist, UV Treated, Medium Lay, Colour Yellow c/w 2 black external tracers)
Full Coils Only*

Code	Size mm	Min breaking force kN	Coil Length mtr
347206A	6	4.48	125
347208A	8	10.4	125
347210A	10	15.3	125
347212A	12	21.7	125
347214A	14	29.9	125





BEAVER SISAL ROPE



Beaver Sisal Rope is made from natural staple fibres with a three strand twisted construction. It has exposed fiber ends that provide an ability to hold knots.

It is biodegradable, however has a natural resistance to sunlight and weather allowing a reasonably long life in external applications. It is ideal for tying down loads on trailers, trucks and for farm use, as well as for camping.

➤ Made to Australian Standard AS4142.2

Beaver Sisal Rope To AS 4142.2

(3 Strand - Full Coils Only) Natural Colour

Code	Size mm	Min breaking force kN	Coil Length mtr
347606	6	2.55	250
347608	8	4.73	250
347610	10	6.22	250
347612	12	9.36	250
347616	16	17.7	250
347620	20	27.9	250
347624	24	39.9	250
347628	28	52.2	250



Beaver Sisal Rope To AS 4142.2

(3 Strand - Full Flanged Reels Only) Natural Colour

Code	Size mm	Min breaking force kN	Coil Length mtr
347606A	6	2.55	125
347608A	8	4.73	125
347610A	10	6.22	125
347612B	12	9.36	80

PRODUCT REFERENCE GUIDE

Part Number	Page Number
347004DA	11
347006	11
347006A	12
347008	11
347008A	12
347010	11
347010A	12
347010HC	12
347010HD	12
347012	11
347012A	12
347012HD	12
347014	11
347014A	12
347016	11
347016A	12
347018	11
347018A	12
347020	11
347020A	12
347022	11
347024	11
347028	11
347032	11
347036	11
347040	11
347204	13
347206	13
347206A	14
347208	13
347208A	14
347210	13
347210A	14
347212	13
347212A	14
347214	13

Part Number	Page Number
347214A	14
347216	13
347218	13
347220	13
347222	13
347224	13
347228	13
347232	13
347606	14
347606A	14
347608	14
347608A	14
347610	14
347610A	14
347612	14
347612B	14
347616	14
347620	14
347624	14
347628	14
TSD96X5	9
TSD96X15	9
TSD142X10	9
TRS362X8	9