

ARBORIST Prusik Cord

by Ade Scott

Probably the most misspelled word in climbing history the prusik is a hitch used for ascending, arresting and positioning. It's often referred to as a 'knot' but is a hitch because it only functions when it is loaded. With no weight applied it can be easily slid up or down a rope with holding power determined by the number of 'wraps' as well as the strength and relative diameters of the cord and main rope. It's highly likely that this type of grabbing hitch has been in use for centuries but since there is no firm evidence, its modern introduction is credited to mountaineer Karl Prusik in 1931. Although it was introduced as an ascending knot on climbing rope it has been used in arborism (has that term taken off yet?) from the get-go. In rescue it is most often used as a fall arrest hitch and for progress capture in pulley systems so tends to require at least three

wraps rather than the traditional two wraps. Arborists too seem to have settled on three wraps as the norm but personal preference and applied or potential loadings will have a bearing on how many wraps you decide to use along with some trial and error to ensure that it actually works for your particular application. For many, the term 'Prusik' is just generic because the hitch actually being used could be any number of variants:

- **Klemheist**
- **Schwabisch**
- **Valdotrain Tresse**
- **Blakes Hitch**
- **Distal Hitch**
- **Michoacan**
- **Machard Tresse**
- **Tautline Hitch**
- **Bachman**

Your climbing hitch is now more likely to have a sewn or knotted eye at each end than be a traditional circular loop. When buying your own lengths

you either splice your eyes/loop or join the ends with a double or triple fisherman's. A number of cords are ONLY available as manufactured lengths rather than off the roll. Pre-made lengths can be anywhere between 13cm/5" to over a metre/3ft for foot loops. The average for an eye to eye length is around 75cm/30". There isn't actually a specific standard for arborist prusik cord even though it is considered to be PPE and should be CE marked in Europe so the closest appropriate standards are either for accessory cord (EN564 which has to be less than 10mm or it's classed as a rope), slings (EN566) or maybe even EN354 which is fall arrest lanyards that don't incorporate an energy absorbing element so are more accurately restraint/work positioning which could describe prusiks. If they meet any of these as a cord or sewn/spliced item they are marked with a CE in our tables. Some manufacturers including Liros and Donaghy's would prefer you opt for sewn items that meet EN566 (slings). The Beal Regate 10mm is a little unusual because it doesn't meet the CE requirement for cord as it's 10mm or a rope as it's 10mm but less than 20kN. Instead it has a CE for PPE meeting a 'manufacturers'

standard' specifically relating to prusiks as used by arborists and tested as such, which seems to make sense.

'Prusik cord' may infer its use as a prusik ascending hitch but not only are there plenty of other friction hitches in common use there are a host of other applications including pulley systems, control lines and rigging. The traditional prusik hitch is created by wrapping a loop of cord through itself after passing (or wrapping) it around a standing rope. It is made using cord or small diameter rope that has been formed into an endless loop/sling or an eye-to-eye or double-ended sling. Some, including Jeff Jepson also refer to these as 'double eye split-tails'. I'm reliably informed that the term 'split tail' should be avoided altogether in mixed company these days but one thing we can all agree on is that it is generally preferable for prusik cord to be smaller in diameter than the rope onto which it is operating. However, in the arborist world, double eye or eye-to-eye slings are often used on like-sized ropes. In the old days it used to be like-sized laid rope on laid rope instead of the present day kernmantle or braided ropes and some still swear by this. When considering diameters remember that for

Edelrid's 10mm Tibor III double eye prusik

Courant's sewn Phoenix double or eye-to-eye prusik



climbing, arborists will only ever be using their personal prusik with a single bodyweight whereas in rigging, emergency use and rescue use the prusik may be loaded far beyond a single bodyweight. Consequently, optimum load-holding is essential and this usually requires more wraps and optimum combinations of cord to main rope in terms of diameter and materials. These factors will vary from rope to rope and even with rope colours as dyes and coatings affect the load-holding ability of different combinations. Test your own combination of rope type and diameters before using in anger.

MATERIALS & CORD PROPERTIES

The cord used to create a prusik has evolved over the years into a specialist item and it's no longer acceptable to grab any old scrap from your chainsaw's discarded pull-cord to create a prusik loop. Tales of mountaineers and escaping pilots improvising with their boot laces will spur you on to continue what you were about to try because your cord is loads thicker than a bootlace but take it from me, some bone-fide prusik cord with 'prusik cord' written on the label will be much, much safer and easier to use. And don't think that all climber's accessory cord will do. They are often indistinguishable from dedicated prusik cord but with nylon sheath and core their capacity to withstand the heat build up and wear associated with protracted rope-on rope contact will quickly show in your rope and in your wallet. There is no question that the strongest prusik cord is that which contains the specialist fibres and their derivatives - Aramid/Kevlar/Technora, Spectra/Dyneema and Vectran etc. Not only do they improve wear and heat resistance they also withstand chemical and acid contamination far, far better than standard polyester and in particular, nylon. Heat resistance for Technora (800F)

and Vectran (620F) is much greater than Nylon (420F) and Polyester (480F) but it is a lot more expensive. Some cords in this list are over £6./\$10 a metre while the cheapest (non-heat resistant) cord is around 99p/\$1.50 /m.

Back when you only saw Kevlar on sailing yachts we were often warned to avoid them because they were weak when knotted ie.. their strength reduced considerably when bent around a tight radius. Nothing new there - all rope is significantly weaker when wrapped around a tight radius and we have always known that the knot is a particular weak-point. But there was talk of the fibres not being very resilient when it came to a regular bending cycle. Quite surprising when you consider how much stronger these fibres are in tensile than a regular nylon and polyester. Nevertheless, testing 15 years ago indicated that strength reduction in a knot using Aramid, Spectra and Vectran fibres was indeed greater than in equivalent nylon and we were all a bit wary. Luckily, things have progressed significantly and with all manufacturers now using cunning mixes of specialist fibres and testing to ensure that they are fit for purpose we're all a lot happier and more trusting. In fact, the bigger problem might now be that the specialist fibre cords are actually tougher than your main rope and it is therefore your main rope rather than your prusik that is more likely to fail in the event of a high load 'dynamic event'.

BRAKING

We have differentiated use into CLIMBING, BRAKING and HEAT RESISTANCE. All of the cords listed can be used for climbing/ascending in the usual way and of course the myriad of nylon climber accessory cords not listed here may also work adequately. However, as already mentioned, protracted professional use demands a more hardwearing construction and



HUSKY BULL ROPE



FORESTRY PRO BULL ROPE





Sterling's sewn
Ring-bound on 9mm RIT cord



Teufelberger's 10mm Epicord

Be wary of holding onto your prusik cord too long - it takes more abuse than any other part of your safety equipment and you may be lucky to still have even 50% of its original *tensile* strength when you finally retire it!

this is particularly the case with braking operations. Traditional braking actions that may have fallen to prusiks are now invariably handled by specialist hardware like Porta Wraps or descenders so the kind of dynamic load arrest that still sees prusiks being used in Rescue for secondary belaying actions are not widely used by arborists. But they are used and nothing stresses your cords and ropes like trying to slow or stop a moving heavy weight by gripping a rope with another rope. There is significant heat build up whenever rope rubs across rope such as occurs in regular prusiking/ascending and this will ALWAYS cause melting and degradation of surface rope fibres to some degree. For rock climbers or mountaineers using prusiks relatively infrequently and/or over short distances this heat build up and wear is not too much of a concern but for arborists spending all day sliding a prusik hitch up and down a rope, wear can be significant. This is part of the reason that in the pre-technical ropes era most prusiks were composed of the same 12mm (1/2") 3-strand or multiplait as the main rope. In contrast, tougher, modern prusiks are ideally around 60% the diameter of the rope they are braking on eg. 6mm cord on 9-10mm rope, 7mm cord on 10-

10.5mm rope, 8mm cord on 11mm rope and 9mm cord on 12mm or 1/2" rope.

NB: the EN standard for accessory cord only records whole figures - some cord may be 0.5mm larger than stated

Braking also refers to progress capture in pulley systems. However, the loading in a pulley system is significantly less than in prusiks used on a rope connected directly to a load or a falling load in the case of belaying. Depending on where the prusik is located in a pulley system, most of the load is taken in the first two or three lengths of rope between the pulleys so that by the time the prusik kicks in to hold the load (while you reset your pulley system for another tug), the load is three, four or five times less. So this element of 'Braking' rarely, if ever loads the prusik more than regular climbing activities.

TABLE GLOSSARY

• **Cost** is given per metre or US\$ per foot in brackets. It is also shown in green as a sewn/spliced item with the size listed in the 'NOTES'. Costs are usually the full retail price so you can often expect to pay less. We focus on US\$, UK£ and €Euro but currencies vary as not all ropes are available in all countries. To

tie your own prusik loop you'll need double the ultimate length plus about 60cm/2ft for knots.

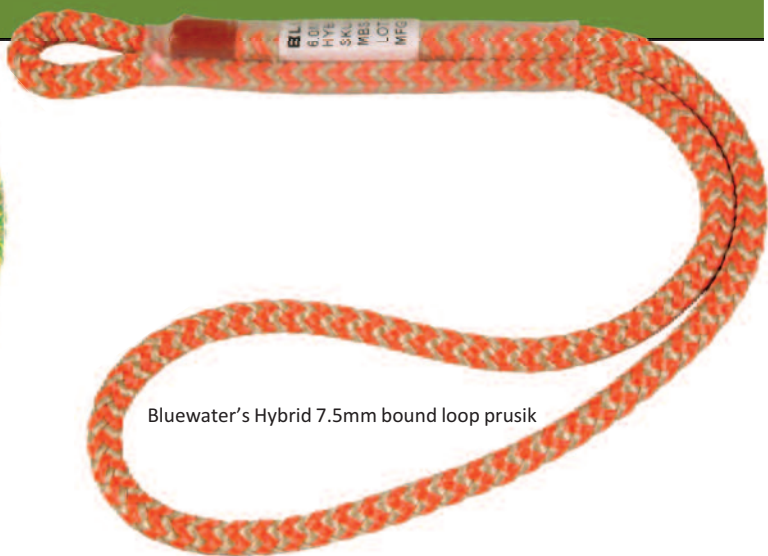
• **'SEWN'** indicates that the cord is available in lengths either sewn or spliced by the manufacturer or key suppliers. If there's a Green square it is ONLY available as a sewn/spliced item, not as an off-the-reel length. Not all sewn/spliced items are listed. • **Cords/ropes that can be hand-spliced** are shown as ■ In actual fact, most ropes can be hand-spliced if you have the patience and skill but prusik lengths are often so short that a sewn eye can require less cord. Buy pre-made items if you want to

guarantee strength and/or meet a European standard.

• **Diameter:** rope diameter conversions from inches to millimetres are a minefield with every company quoting something different because they are generally rounding down or rounding up. There are of course, precise conversion figures for each size (mm x 0.03937 = inches) but some of them don't really roll off the tongue as you can see from the table below so if you notice a difference in our tables it might be where the manufacturer has converted differently and since we don't know whether they are working

TRUE DIAMETER CONVERSIONS

mm	Precise inches	Closest Specific Fraction	Generic Fraction
5	0.1969"	13/64	3/16
6	0.2362"	15/64"	just under 1/4"
6.5	0.25"	1/4"	1/4"
7	0.2756"	9/32"	just over 1/4"
7.5	0.2952"	19/64"	even more than 1/4"
8	0.315"	5/16"	5/16"
9	0.3543"	23/64"	just under 3/8"
9.5	0.375"	3/8"	3/8"
10	0.3937"	25/64"	just over 3/8"
11	0.4331"	7/16"	7/16"
12	0.4724"	15/32	just under 1/2"
12.7	0.4999"	1/2"	1/2"
13	0.5118"	33/64"	just over 1/2"



Bluewater's Hybrid 7.5mm bound loop prusik

from inches or millimetres it's best to quote what they quote even though it means we may have both 9 and 10mm for instance quoted as being 3/8" - so long as you know that it isn't our poor mathematics. In reality 3/8" is closest to 9.5mm so it could quite reasonably be used for both 9 and 10mm ropes. Where only metric OR imperial is quoted you can check our handy conversion table.

- A white or outline box ☐ in the 'USAGE' columns indicates that the cord is not ideally suited to that role but it's OK.

- For type of construction we show **KM** for Kernmantle, **DB** for Double Braid and **HB** for Hollow Braid. It used to be the case that Hollowbraid ropes were the weakest and least heat-resistant of cords but with the advent of Aramid and Dyneema fibres there are now a number of hollowbraids that are as tough as wire rope! We have generally only shown cords that are actively marketed as arborist cord but there are a number of specialist cords used by firefighters and rescuers that cross the divide if you've got the spondooleys. You can already see from this list how many have incorporated fibres that were once the sole domain of fire-retardant ropes and these are not only heat-resistant they are extremely abrasion-resistant. However, they are virtually always a mixture of fibres because by themselves, some materials don't exhibit all of the

necessary properties - for instance Kevlar has traditionally performed poorly in a knot and along with Dyneema couldn't be dyed so colours were introduced using an additional nylon or polyester thread.

- **X-Strand** refers to the number of strands used in the sheath or throughout if it's a hollowbraid.

- As with all rope, some manufacturers only quote **Average Breaking Load** or **ABL** shown in green. We use the **Minimum Breaking Load** or **MBL** (or **MBS** where S = Strength) shown in black. These figures should more accurately be kN and lbf as units of force but the kg and lb equivalent is more recognisable. Figures are for tensile strength NOT doubled/basket. **NB: We have NOT included cords below 10kN/1000kg/2200 lb in strength.**

- **SWL** or safe working load is almost always 10%(1:10 ratio) of the breaking load so it's a largely irrelevant figure that you could have worked out yourselves but occasionally a manufacturer will provide their own SWL figure shown in brown which may use a different, usually lower, safety ratio.

- **ELONGATION** for such short lengths of cord are not the consideration they may be on full length climbing and rigging ropes and are rarely quoted by manufacturers. Unless otherwise listed in black the figure is % stretch at 10% of the cord's breaking strength and shown in green.

BEAL

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GINKGO 12mm

ARBORIST'S ROPE

A light, supple and easily handled rope. BEAL GINKGO rope incorporates a glueless procedure for bonding the sheath onto the core; preventing slippage but still allowing splices to be made.



+

GINKGO performance:

- 12mm diameter - ideal for traditional climbing techniques or using mechanical devices
- Weight - 92g per metre
- Only 4% elongation when climbing
- Available with factory sewn terminations



BEAL

beal-pro.com

Beal products are distributed in the UK and Ireland by Lyon Equipment Limited
www.lyon.co.uk

Images NOT to scale	MODEL	COMPANY	ORIGIN	COST /metre (/Foot) [sewn]	Sewn (Only)	Hand-Splice	Φ mm inches	Materials sheath core	Standards	KM	DB
	Friction 8	ALL GEAR		(\$1.99)	■	NO	8 5/16"	Technora /Polyester Vectran			
	TVP	ALL GEAR		(\$1.49)	■	■	8 5/16"	Technora/Vectran/ Polyester			
	TVP	ALL GEAR		(\$1.99)	■	■	9.5 3/8"	Technora/Vectran/ Polyester			
	Prusik	ALL GEAR		(\$1.20)		NO	8 5/16"	Polyester Kevlar		■	
	XS9.1	ARBPRO		£4.30 (\$2.39) [£25.95]	■	NO	9.1 3/8"	Polyester/Kevlar Polyester	CE		■
	THAC10	ARBORTEC/ TREEHOG		£2.25 [£16.50]	■	NO	10	Polyester/Aramid Polyester	CE		■
	Regate	BEAL		£1.78 €2.55	*	■	10	Polyester Polyester	CE		■
	Volcano	BEAL		€3.80 [£20.75] [£39.95]	■	NO	10	Polyester/Aramid Nylon	CE	■	
	Hybrid	BLUEWATER		(\$0.95)		NO	7.5 11/32"	Technora/Polyester Nylon	NFPA	■	
	VT	BLUEWATER		[£25.00]	■	NO	8 5/16"	Technora Nylon		■	
	Dynamic Prusik	BLUEWATER		£1.73 (\$0.55)	■	NO	7 9/32"	Nylon Nylon	CE UIAA	■	
	Dynamic Prusik	BLUEWATER		(\$0.59)	■	NO	8 5/16"	Nylon Nylon	CE UIAA	■	
	Titan	BLUEWATER		(\$1.34)		NO	5.5	Nylon Dyneema	CE UIAA	■	
	Prusik	CMC RESCUE		(\$0.78) [£17.99]	■	NO	8	Nylon Nylon		■	
	Load-Release Hitch Cord	CMC RESCUE		(\$0.93)		NO	9	Nylon Nylon		■	
	Phoenix	COURANT		[€22.50]	■	NO	8 5/16"	Aramid/Polyester Nylon	CE	■	

NOTES: **ORIGIN** = Company selling the product, not necessarily the country of manufacture **COST**: Approx SRP/RRP mostly inc loc

HB	x-STRAND	Climbing	Braking	Heat Resist	MBL/ ABL	quoted SWL or 10:1	Wt g/metre lbs/100ft	Colours	Elongation @10%	NOTES	WWW.
		■	■	■	1864 kg 4100 lb	186 kg 410 lb	89g 6 lb	ORANGE/TAN		Presewn= 26" & 32" dble eye	allgearinc.com
■	16	■	■	■	2818 kg 6200 lb	281 kg 620 lb	89g 6 lb	YELLOW		'Husky' coated available as 26" & 32" spliced double eye	allgearinc.com
■	12	■	■	■	4545 kg 10000 lb	454 kg 1000 lb	116g 7.8 lb	YELLOW		'Husky' coated available as 26" & 32" spliced double eye	allgearinc.com
	32	■	■	■	2454 kg 5400 lb	245 kg 540 lb	42g 2.8 lbs	YELLOW/blue			allgearinc.com
	20	■	■	■	2300 kg 5060 lb	230 kg 506 lb	65g 4.4 lb	NAVY BLUE/NATURAL	11.5% @ 50% MBS	Poly & Kevlar in same strand Presewn= 26", 28", 30" 32" dbl eye. Cost=30"	arbpro.it
	24	■	■	□	1700 kg 3740 lb	170 kg 374 lb	70g 4.7 lb	ORANGE/YLW		Presewn= 50cm, 60cm, 70cm loop & ringbound loop + 10 sizes of double eye from 65cm to 120cm	arbortecforestwear.co m treehogs.com
		■	■		1700 kg 3740 lb	170 kg 374 lb	75g 5 lb	YLW/BLK/white		*Available as individually certificated tied loops	beal-pro.com
		■	■	■	2200 kg 4840 lb	220 lb 484 lb	70g 4.7 lb	RED/white		Sheath fused to the core Presewn=70 & 90cm Cost=70cm Also available in 12mm	beal-pro.com
		■	■	■	1830 kg 4125 lb	183 kg 412 lb	40g 2.7 lb	ORANGE/NATURAL	@300 lbf= 6.2% @600 lbf= 9.9% @1000 lbf= 11.9%		bluewaterropes.com
		■	■	■	1950 kg 4400 lbf	195 kg	-	NATURAL, BLACK		31" sewn double eyes	bluewaterropes.com
		■	■		1040kg 2360 lbf	104 kg 236 lb	35g 2.3 lb	RED/yellow YELLOW/red	@300 lbf=17.9% @600 lbf=29.0% @1000 lbf=38.8%		bluewaterropes.com
		■	■		1110 kg 2500 lb	111 kg 250 lb	39g 2.62 lb	YELLOW/blue BLUE/yellow	@300 lbf= 19.8% @600 lbf= 29.3%		bluewaterropes.com
		■	□		1370 kg 3100 lb	137 kg 310 lb	18.4g 1.23 lb	BLACK RED/blk/white PURPLE/ylw/green ORANGE/green MELON/blk/red	@300 lbf=2.6% @600 lbf=3.0% @1000 lbf=3.6%		bluewaterropes.com
		■	□		1200 kg 2875 lb	120 kg 287 lb	46g 3 lb	GREEN RED		Presewn= 45 & 63cm bound loops Cost=45cm Also available as 6 & 7 mm	cmcrescue.com
		■	■		1600 kg 3597 lb	160 kg 359 lb	56g 3.75 lb	ORANGE		Also available as 6 & 7 mm	cmcrescue.com
		■	■	■	2400 kg 5280 lb	240 kg 528 lb	-	GREEN/BLACK/white RED/WHITE BLUE/BLACK		Presewn= 70, 90 & 110cm double eye Cost=90cm	mycourant.com

cal tax in US, exc VAT in UK. **USES:** manufacturer defined suitable rope usage □: Denotes secondary usage, not ideal but works OK

INGENUITY



Ed Carpenter, ISA Certified Arborist; Head Instructor, North American Training Solutions.

Made in U.S.A.



with U.S. and Globally
Sourced Material.

**GET YOUR HANDS DIRTY,
SOLVE THE PROBLEM AND GET THE
JOB DONE. THAT'S HOW YOU DO IT.
THAT'S HOW STERLING DOES IT.**

① Tendril™ Climbing Line



- MBS lbs (kN): 5,912 (26.3)
- Weight: 89 g/M
- Elongation: 50kg-100kg: 3.30%
- ANSI Z1331.1: Yes

**② Ultimate Positioning
Lanyard™**



- Tri Tech Lanyard in 12" length
- 8 mm RIT Thimble Prusik
- 8 mm RIT Eye and Eye
- ISC Micro Pulley
- Osprey™ AL Carabiner
- 8 mm RIT Bound Loop Prusik
- 2 x Falcon™ Autolock with Talon

**③ RIT Multisling
Prusik™**



- MBS lbs (kN): 5,418 (24.1)
- 10 mm SafetyPro™ lanyard with RIT 500 bound loop Prusik
- Cast aluminum ring
- Available in 54" and 58" lengths



STERLING™

sterlingrope.com

Images NOT to scale	MODEL	COMPANY	ORIGIN	COST /metre (/Foot) [sewn]	Sewn (Only)	Hand-Splice	Φ mm inches "	Materials sheath core	Standards	KM	DB
	Phoenix	COURANT		[€24.50]		NO	10	Aramid/Polyester Nylon	CE		
	Phoenix	COURANT		[€26.50]		NO	12	Aramid/Polyester Nylon	CE		
	Aramstar	COUSIN-TRETEC		€4.11			8	Polyester Technora			
	Aramadillo	COUSIN-TRETEC		€5.42			8	Polyester/Technora Polyester/Dyneema	CE		
	Aramadillo	COUSIN-TRETEC		€7.02			10	Polyester/Technora Polyester/Dyneema	CE		
	ArmorPrus	DONAGHYS		NZ\$11.90 (\$2.70) [€26.00]			8 5/16"	Technora/Polyester Spectra/Kevlar			
	ArmorPrus	DONAGHYS		NZ\$12.90 (\$3.15) [€24.95]			10	Technora/Polyester Spectra/Kevlar			
	ArmorPrus Poly	DONAGHYS		NZ\$10.50 (\$2.20) [€24.95]			8 5/16"	Technora/Polyester Polyester			
	Standard Prusik	DONAGHYS		NZ\$5.80			8 5/16"	HT Nylon HT Nylon			
	SpectraSpeed	DONAGHYS		NZ\$6.90			8 5/16"	HT Polyester Spectra	AS/NZ		
	SpectraSpeed	DONAGHYS		NZ\$8.50			10	HT Polyester Spectra	AS		
	Powerloc Expert	EDELRID		£2.00 (\$1.20) €1.51		NO	8	Nylon Nylon	CE, UIAA		
	Tibor II & III	EDELRID		[£17.55]		NO	10	Aramid Nylon	CE		
	Inco	GLEISTEIN		[£21.70] [€25.00]			8	Technora/polyester	CE		
	Gemini X	GLEISTEIN		£1.38 €2.50			10	Polyester Polyester			
	Timber	LANEX		[€10.65]		NO	8	Technora/Polyester Polyester	CE		

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HB	x-STRAND	Climbing	Braking	Heat Resist	MBL/ ABL	quoted SWL or 10:1	Wt g/metre lbs/100ft	Colours	Elongation @10%	NOTES	WWW.
		■	■	■	2800 kg 6160 lb	280 kg 616 lb	-	GREEN/BLACK/grey RED/WHITE BLUE/BLACK		Presewn= 70, 90 & 110cm double eye Cost=90cm	mycourant.com
		■	■	■	3400kg 7480 lb	340 kg 748 lb	-	RED/WHITE BLUE/BLACK PURPLE/yellow		70, 90 & 110cm lengths Cost=90cm	mycourant.com
	24	■	■	□	3000 kg 6600 lb	300 kg 660 lb	43g 2.9 lb	RED/yellow SILVER/yellow GREEN/yellow BLUE/yellow	<0.5%	Presewn =Dbl eye Also available as 6 & 10mm Introduced from yacht racing	cousin-trestec.com
	24	■	■	■	3300 kg 7260 lb	330 kg 726 lb	42g 2.8 lb	RED/YELLOW BLUE/YELLOW BLACK/YELLOW	<1%	NB: Aramadillo not Armadillo Presewn =Dbl eye Introduced from yacht racing	cousin-trestec.com
	24	■	■	■	4500 kg 9900 lb	450 kg 990 lb	59g 3.9 lb	RED/YELLOW BLUE/YELLOW BLACK/YELLOW	<1%	NB: Aramadillo not Armadillo Presewn =Dbl eye Introduced from yacht racing	cousin-trestec.com
		■	■	■	2800 kg 6100 lb	280 kg 610 lb	69g 4.6 lb	LIME/BLACK BLUE/BLACK		Cost=30" dbl eye	donaghys.com
		■	■	■	4300 kg 9400 lb	430kg 940 lb	78g 5.25 lb	BLUE/BLACK BLUE/BLACK		PreSewn= 28",30",32" 35" dbl eye. Cost=30"	donaghys.com
		■	■	□	2400 kg 5300 lb	240 kg 530 lb	69g 4.6 lb	BLACK/ORANGE		PreSewn= 28",30",32" 35" dbl eye. Cost= 30"	donaghys.com
		■	□	■	2000 kg 4400 lb	200 kg 440 lb	60g 4 lb	BLACK/blue/red/yl w			donaghys.com
	12	■	□	■	3000 kg 6600 lb	300 kg 660 lb	51g 3.4 lb	BLACK, BLUE/black RED/black YELLOW/black GREEN/Black		Also <i>Superspeed</i> Not marketed to arborists - has Polyethylene core	donaghys.com
	12	■	□	■	4500 kg 9900 lb	530 kg 990 lb	75g 5 lb	BLUE/black RED/black GREEN/Black		Also <i>Superspeed</i> Not mar- keted to arborists - has Polyethylene core	donaghys.com
	16	■	□	■	1640 kg 3608 lb	164 kg 361 lb	41g 2.75 lb	BLACK CHEYENNE/blue ORANGE/YLW	1.5-2%	also available as 6 & 7mm	edelrid.de
	16	■	□	□	2200 kg 4840 kg	220 kg 484 lb	-	BLUE/beige		TII Sewn loop=60, 70 & 150cm TIII dbl eye=80, 90, 100 & 140cm lengths Cost=80cm TIII	edelrid.de
■	24	■	■	■	2200 kg 4840 kg	220 kg 484 lb	-	NATURAL with: RED, BLUE, BLACK, YELLOW, WHITE, GREY		Presewn= 30,40,50,60cm spliced loop 55,65,70,80,90,100,140cm dbl eye. Cost=80cm	gleistein.com
	12	■	□	■	2600 kg 5720 lb	260 kg 572 lb	75g 5 lb	WHITE/red WHITE/blue WHITE/black WHITE/yellow WHITE/green	2%	Introduced from yacht racing	gleistein.com
		■	■	■	2000 kg* 4400 lb	200 kg* 440 lb	54.3g 3.65 lb	RED/BLACK		Presewn=80,100 & 120cm Cost=100cm dbl eye *Tensile. For presewn=22kN	lanex.cz

cal tax in US, exc VAT in UK. **USES:** manufacturer defined suitable rope usage □:Denotes secondary usage, not ideal but works OK

Images NOT to scale	MODEL	COMPANY	ORIGIN	COST /metre (/Foot) [sewn]	Sewn (Only)	Hand-Splice	Φ mm inches "	Materials sheath core	Standards	KM	DR
	Timber	LANEX		[€12.21]	■	NO	10	Technora/Polyester Polyester	CE	■	
	Prusik 01592	LIROS		£2.95 [€12.95]	■	NO	8 5/16"	Aramid/Polyester Polyester		■	
	Prusik 01590	LIROS		[€13.00]	■	NO	9	Aramid/Polyester Polyester		■	
	Prusik 01593	LIROS		[€13.05]	■	NO	10	Aramid/Polyester Polyester		■	
	Prusik XTR (aka Dynamid) 01594	LIROS		£3.95 [€14.95]	■	NO	9	Polyester/Aramid Dyneema/Aramid		■	
	Herkules (Hercules)	LIROS		£2.95		■	10	Polyester Polyester			■
	Viper	MARLOW		£1.82 [€14.80]	■	NO	8 5/16"	Vectran Polyester	CE	■	
	Boa	MARLOW		£1.45 (\$0.87) [€9.50]	■	■	9 3/8"	Polyester Polyester	CE		■
	Technora Prusik	PELICAN ROPE				NO	6 1/4"	Technora Nylon		■	
	Technora Prusik	PELICAN ROPE		(\$1.19) [€29.95]	■	NO	8.7 11/32	Technora Nylon		■	
	Composite Prusik	PELICAN ROPE			■	NO	6 1/4"	Polyester Nylon			■
	Composite Prusik	PELICAN ROPE		(\$0.49)	■	NO	8 5/16"	Polyester Nylon			■
	Rescue cord	PETZL		(\$0.80)		NO	8 5/16"	Polyester Nylon	NFPA	■	
	Prusik cord	PMI		\$1.58 (\$0.50) [€10.50]	■	NO	7 9/32"	Nylon Nylon	UIAA	■	
	Prusik cord	PMI		\$1.98 (\$0.63) [€10.75]	■	NO	8 5/16"	Nylon Nylon	UIAA	■	
	Bail Out	SAMSON		£4.95 (\$1.94) NZ\$15.50		NO	8 5/16"	Technora Technora			■

NOTES: **ORIGIN** = Company selling the product, not necessarily the country of manufacture **COST**: Approx SRP/RRP mostly inc loc

HB	x-STRAND	Climbing	Braking	Heat Resist	MBL/ABL	quoted SWL or 10:1	Wt g/metre lbs/100ft	Colours	Elongation @10%	NOTES	WWW.
		■	■	■	2500 kg* 5500 lb	250kg* 550 lb	73g 4.9 lb	YELLOW/BLACK		Presewn=80,100 & 120cm Cost=100cm dbl eye *Tensile. For presewn=22kN	lanex.cz
	20	■	■	□	2450 kg* 5390lb	245 kg* 539 lb	55g 3.7 lb	SILVER/yellow	4%	Presewn dbl eye: 60, 70, 80, 90, 100, 110, 120cm Cost=90cm dbl eye *MBS for stitched items	liros.com
	20	■	■	□	2920 kg* 6424 lb	292 kg* 642 lb	62g 4.2 lb	GREEN/yellow	4%	Presewn dbl eye: 60, 70, 80, 90, 100, 110, 120cm Cost=90cm dbl eye *MBS for stitched items	liros.com
	20	■	■	□	2272 kg* 4998 lb	227 kg* 499 lb	67g 4.5 lb	RED/yellow	4%	Presewn dbl eye: 60, 70, 80, 90, 100, 110, 120cm Cost=90cm dbl eye *MBS for stitched items	liros.com
	24	■	■	■	2344 kg* 5156 lb	234 kg* 515 lb	52g 3.5 lb	BLACK/LIME	1%	Presewn dbl eye: 60, 70, 80, 90, 100, 110, 120cm Cost=90cm dbl eye *MBS for stitched items	liros.com
■		■	□		2500 kg 5500 lb	250 kg 550 lb		GREEN, BLACK, NAVY, RED & BLUE with yellow SILVER, HEMP	<5%	'Budget' rope/cord Also available as 8mm	liros.com
			■	■	1280 kg 2816 lb	128 kg 281 lb	44.8g 3 lb	BLUE/NATURAL		Presewn=50,60 & 70cm sewn loop & double eye Cost= 70cm sewn loop Std 8mm all-Poly available	marlowropes.com
	16	■	□		1620 kg* 3564 lb	162 kg 356 lb	65.1g 4.3 lb	BLACK/LIME		Presewn=50,60 & 70cm Cost= 70cm sewn loop *Tensile for presewn=22kN	marlowropes.com
		■	■	■	1272 kg 2800 lb	127 kg 280 lb	32.7g 2.2 lb	NATURAL			pelicanrope.com
		■	■	■	2727 kg 6000 lb	272 kg 600 lb	46g 3.1 lb	NATURAL		Presewn 28,30,34" dbl eye Cost=32" dbl eye	pelicanrope.com
■	18	■	□		1272 kg 2800 lb	127 kg 280 lb	28g 1.9 lb	BLUE/white BLACK/white YELLOW/white WHITE RED/white			pelicanrope.com
■	18	■	□		2100 kg 4200 lb	210 kg 420 lb	40g 2.7 lb	BLUE/white BLACK/white YELLOW/white WHITE RED/white			pelicanrope.com
	32	■	□		1800 kg 4047 lb	180 kg 404 lb	49g 3.3 lb	BLACK, ORANGE/ylw/black GREEN/ylw/black RED/ylw/black		Not available in the EU	petzl.com
		■	□		1070 kg 2405 lb	134 kg 240 kg	29g 1.95 lb	YELLOW/red BLUE/red		Presewn 26",32" & 5'8" sewn. Cost= 19" sewn loop	pmirope.com
		■	□		1340 kg 3012 lb	134 kg 301 lb	39g 2.62 lb	RED/yellow GREEN/blue		Presewn 16",22" & 26" sewn. Cost= 20" sewn loop	pmirope.com
■		■	■	■	1900 kg 4200 lb	190 kg 420 lb	45g 3 lb	NATURAL	1%		samsonrope.com















cal tax in US, exc VAT in UK. **USES:** manufacturer defined suitable rope usage □:Denotes secondary usage, not ideal but works OK

	MODEL	COMPANY	ORIGIN	COST /metre (/Foot) [sewn]	Sewn (Only)	Hand-Splice	Φ	Materials sheath core	Standards	KM	DR
	UltraTech	SAMSON		NZ\$10.50 (\$1.35)		■	8 5/16"	Polyester Technora			
	UltraTech	SAMSON		(\$1.69)		■	9 3/8"	Polyester Technora			■
	Prusik cord	SAMSON		£1.95 NZ\$4.50 (\$0.75)		■	9 3/8"	Polyester Polyester			■
	Ice Tail	SAMSON		£3.50 NZ\$9.00 (\$1.19)		■	8 5/16"	Technora/polyester			
	Tenex	SAMSON		£2.35 (\$0.45) [\$25.00]		■	9 3/8"	Polyester			
	Cord	STERLING		\$1.59 (\$0.50) [\$11.65]	■	NO	7	Nylon Nylon			■
	Prusik Cord	STERLING		\$2.05 (\$0.65) [\$12.00]	■	NO	8 5/16"	Nylon Nylon	CE		■
	RIT 500	STERLING		(\$1.50) [\$21.85]	■	NO	8 5/16"	Aramid Polyester			■
	RIT/Response	STERLING		\$5.45 (\$1.73) [\$26.75]	■	NO	9 3/8"	Aramid Polyester			■
	Hollow Block	STERLING		[\$14.05]	■	■	6.8	Twaron (Aramid)			
	HRC Therma-Shield	TEUFELBERGER (NEW ENGLAND)		£6.65 (\$1.80) [\$24.95]	■	■	8 5/16"	Nomex/Technora Vectran			■
	Epi Cord	TEUFELBERGER		[\$24.95]	■	■	8 5/16"	Polyester/Technora Technora/Dyneema			■
	Epi Cord	TEUFELBERGER		[\$26.95]	■	■	9.3 11/32"	Polyester/Technora Technora/Dyneema			■
	Epi Cord	TEUFELBERGER		(\$3.09)	■	■	10 3/8"	Polyester/Technora Technora/Dyneema			■
	Ocean Vectran	TEUFELBERGER		(\$1.29) NZ\$10.90	■	NO	6 1/4"	Polyester/Aramid Vectran	CE		■
	Ocean Polyester	TEUFELBERGER		£4.20 (\$1.45) NZ\$9.90 [\$23.95]	■	■	8 5/16"	Polyester/Aramid Polyester/Aramid	CE		■

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	HB	x-STRAND	Climbing	Braking	Heat Resist	MBL/ ABL	quoted SWL or 10:1	Wt g/metre lbs/100ft	Colours	Elongation @10%	NOTES	WWW.
			■	■	■	3000 kg 6600 lb	300 kg 660 kg	60g 4 lb	MAROON/green MAROON/red MAROON/black MAROON/blue	0.63%	available in diameters from 5-22mm or 3/16"to7/8"	samsonrope.com
			■	■	■	3900 kg 8500 lb	390 kg 850 lb	68g 4.6 lb	MAROON/green MAROON/red MAROON/black MAROON/blue	0.63%	available in diameters from 5-22mm or 3/16"to7/8"	samsonrope.com
			■	□		2300 kg 5000 lb	190 kg 430 lb	61g 4.1 lb	WHITE/BLUE	1.1%		samsonrope.com
		12	■	■	■	3900 kg 8500 lb	390 kg 850 lb	46g 3.1 lb	BLUE, BLACK, NATURAL	1.08%		samsonrope.com
		12	■			2400 kg 5200 lb	240 kg 520 lb	58g 3.9 lb	PINK, ORANGE, YLW, BLK, GREEN, BLUE, WHITE	1.4%	available in diameters from 5-60mm or 3/16"to2.5" Cost= 30" dbl eye	samsonrope.com
			■	□		1240 kg 2788 lb	124 kg 278 lb	-	BLACK, BLUE, ORNGE/YLW, WOOD CAMO, DESERT CAMO		available as 19" & 25" sewn. Cost= 25"sewn loop	sterlingrope.com
			■	□		1540 kg 3462 lb	154 kg 346 lb	-	ORNGE/blue, BLACK, PRPL/red,RED/ylw, TEAL/ylw, BLUE/ylw, GRN/ylw, BLK/ylw		Cost= short AZ sewn prusik loop	sterlingrope.com
			■	■	■	2410 kg 5418 lb	241 kg 541 lb	-	YLW/orange/black		Cost= 30" dbl eye also 28" & 32" dbl eye, also thimble, foot, multi- sling & ringbound prusiks	sterlingrope.com
			■	■	■	2410 kg 5418 lb	241 kg 541 lb	62.5g 4.2 lb	YLW/orange/black	3.9%	Cost= 30" dbl eye also 16" Bound loop or 36" double eye NB:MBS same as 8mmRIT500	sterlingrope.com
	■		■	■	■	1430 kg 3147 lb	143 kg 314 lb	26.7g 1.8 lbs	YELLOW	2.6% @ 300lbs	Cost= 19"/48cm loop Also available as 33cm,13.5"loop	sterlingrope.com
			■	■	■	2727 kg 6000 lb*	272 kg 600 lb*	47.6g 3.2 lb	WHITE/brown		PreSewn= 24",26",28"30"32" dbl eye. Cost=30" *Sewn items = MBS 4500lb	teufelberger.com
			■	■	■	2400 kg 5400 lb	240 kg 540 lb	52.1g 3.5 lb	ORANGE/TAN		PreSewn= 24",26",28"30"32" dbl eye. Cost=30"	teufelberger.com
			■	■	■	3425 kg 7700 lb	342 kg 770 lb	59.5g 4 lb	BLUE/TAN		PreSewn=26",28",30",32" double eye Cost=30" sewn loop	teufelberger.com
			■	■	■	4310 kg 9700 lbf	431 kg 970 lb	62.5g 4.2 lb	LIME/tan			teufelberger.com
		24	■	■	■	2200 kg 4840 lb	220 kg 484 kg	36g 2.4 lb	GREEN/YELLOW			teufelberger.com
		24	■	■	■	2200 kg 4840 lb	220 kg 484 kg	50g 3.4 lb	GREEN/YELLOW RED/YELLOW		Presewn=90cm, 28",30" 32" dbl eye, or 50cm & 60cm tied loop Cost=30" dbl eye	teufelberger.com

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MODEL	COMPANY	ORIGIN	COST /metre (/Foot) [sewn]	Sewn (Only)	Hand-Splice	Φ mm inches "	Materials sheath core	Standards	KM	DR
	Ocean Polyester	TEUFELBERGER	 £4.62 (\$1.87) NZ\$10.90 [£12.82]	■	■	10 3/8"	Polyester/Aramid Polyester/Aramid		■	
	Sirius	TEUFELBERGER	 £1.60	■	NO	8 5/16"	Polyester Polyester	CE	■	
	Sirius	TEUFELBERGER	 £2.30 NZ\$6.50 [£7.99]	■	NO	10 3/8"	Polyester Polyester		■	
	Bee Line	YALE	 £4.25 (\$2.00) [£27.00]	■	■	8 5/16"	Polyester/ Technora Vectran			■
	Bee Line	YALE	 £6.95 (\$2.10) NZ\$14.50	■	■	9 3/8"	Polyester/ Technora Polyester			■
	Bee Line Blue	YALE	 £7.30 (\$2.30) NZ\$14.90	■	■	9 3/8"	Technora/Polyester Vectran			■
	Silverstreak	YALE	 £1.77 [£18.00]	■	NO	10	Polyester Polyester	CE		■

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HB	x-STRAND	Climbing	Braking	Heat Resist	MBL/ ABL	quoted SWL or 10:1	Wt g/metre lbs/100ft	Colours	Elongation @10%	NOTES	WWW.
	24	■	■	■	3300 kg 7260 lb	330 kg 726 lb	72g 4.8 lb	GREEN/YELLOW RED/YELLOW		Presewn=90cm, 28", 30" 32" dbl eye, & 50cm, 60cm & 24" tied loop Cost= 90cm dbl eye	teufelberger.com
	32	■	□		1280 kg 2816 lb	128 kg 281 lb	50g 3.4 lb	BLACK/RED BLACK/GREEN		Presewn=50 & 60cm sewn loop Cost= 50cm sewn loop	teufelberger.com
	32	■	□		2340 kg 5148 lb	128 kg 514 lb	71g 4.8 lb	BLACK/RED BLACK/GREEN		Presewn=50 & 60cm sewn loop Cost= 50cm sewn loop	teufelberger.com
■		■	■	■	3628 kg 8000 lb	363 kg 800 lb	55g 3.7 lb	GOLD/black	<1%	Quoted ABL>std 9mm. Cost= 75cm dbl eye	yalecordagee.com
■		■	■	■	3409 kg 7500 lb	340 kg 750 lb	70g 4.7 lb	GOLD/BLACK/ylw	1.5%	sometimes listed as 10mm	yalecordagee.com
■		■	■	■	3630 kg 8000 lb	363 kg 800 lb	70g 4.7 lb	GOLD/blue	<1%	upgrade from standard 3/8" Bee line sometimes listed as 10mm	yalecordagee.com
■		■	□		2000 kg 4400 lb	200 kg 440 lb	75g 5 lb	SILVER/BLUE/YLW	1.5%	Presewn=75cm dbl eye, & 50cm & 60cm tied loop Cost= 75cm dbl eye Not available in the USA	yalecordagee.com

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DIAMETERS WHITE WITH 12mm BLUE FLECK, 14mm GREEN FLECK, 16mm RED FLECK.

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