
samson
THE STRONGEST NAME IN ROPE
ARBORIST

SAMSON ARBORIST LINES

CLIMBING LINES:

RIGGING LINES:

ACCESSORIES & ROPE TOOLS:

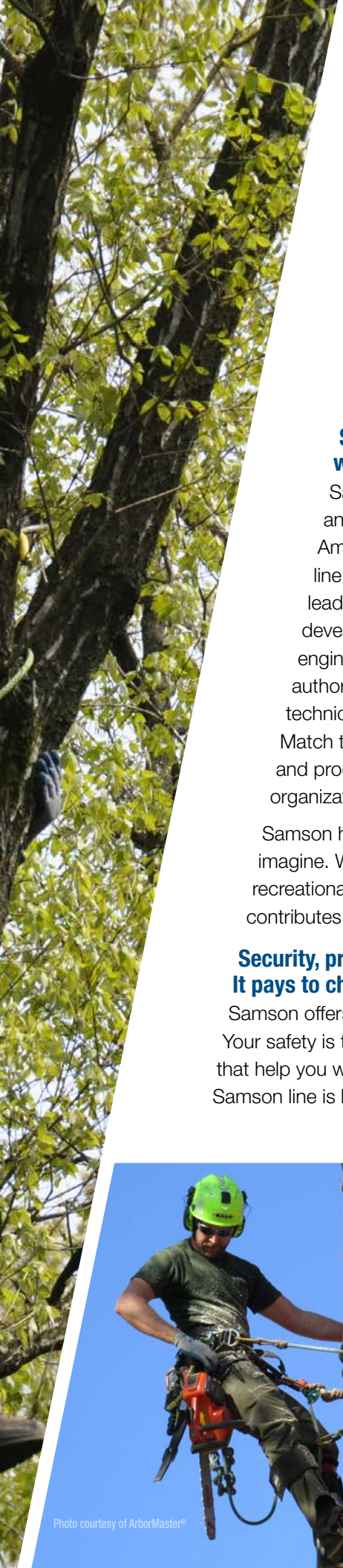
CHIPPER WINCH LINES:

PRUSIKS & TAILS:

TECHNICAL RESOURCES:

Cover photo courtesy of Husqvarna® and ArborMaster®

Photo courtesy of ArborMaster® and Arbor Japan



Samson ropes for the professional arborist—designed to excel in one of the most challenging environments for rope.

Abrasion, dynamic loading, working through hardware—these are the paces the professional arborist puts his ropes through every day. For climbers, they are a lifeline; for rigging, they do the grunt work and keep the workplace safe and productive. Samson ropes for the professional arborist are built to excel in these challenging situations.

Samson's climbing and rigging lines are the result of a legacy of innovation we can trace back over 130 years.

Samson meets the needs of the professional arborist with the latest innovations and technologies in fiber, coating, construction, and manufacturing techniques. Among many industry firsts, Samson developed the first synthetic braided climbing line specifically designed for arborists back in the 1970s, and our commitment to leading the industry with technical expertise continues today. Our research and development organization is staffed with experts in chemical, mechanical, and textile engineering, as well as materials and polymer sciences. These professionals are the authority in the latest technology in fiber, coating, construction, and manufacturing technique. They are the most knowledgeable fabrication technicians in the industry. Match this talent with state-of-the-art test labs, equipment, and unparalleled quality and process controls, and the result is the most advanced research and development organization in the cordage industry.

Samson has experience providing custom solutions for industries as diverse as you can imagine. We have a proven history of success working with commercial marine, offshore, recreational marine, utility operations, mining, and heavy lifting and lowering. Each solution contributes to a knowledge base we bring to bear on the ropes you count on every day.

Security, productivity, and reliability—there's a lot riding on your ropes. It pays to choose them wisely.

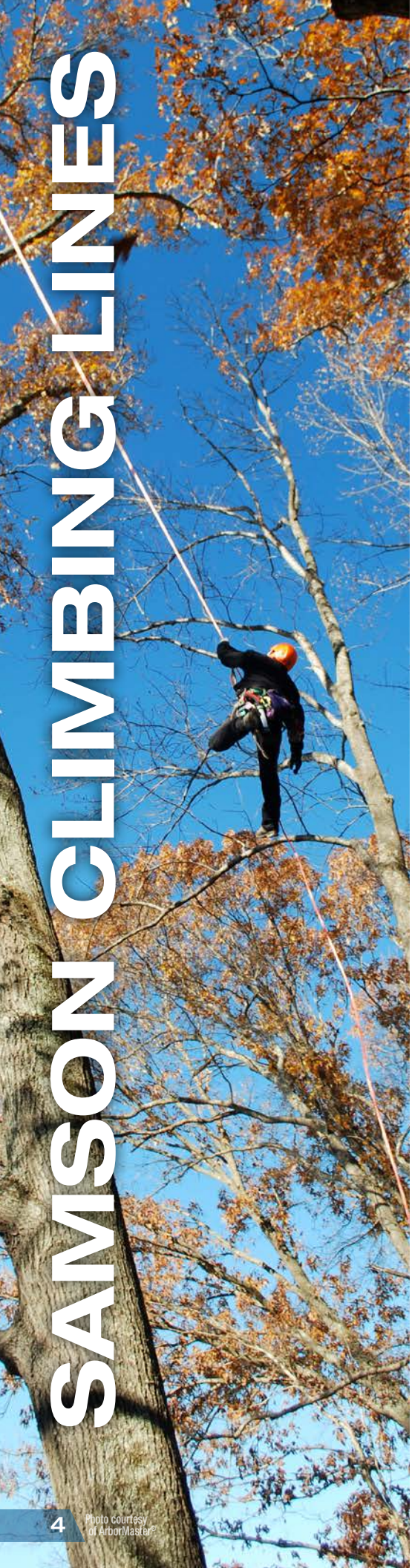
Samson offers a number of choices when selecting climbing, rigging, and accessory lines. Your safety is the primary goal of each Samson arborist line, followed closely by providing lines that help you work faster and more efficiently every time you climb a tree. You can trust that every Samson line is held to performance and quality standards that will exceed your expectations.

Photo courtesy of ArborMaster®

samson®

THE STRONGEST NAME IN ROPE

SAMSON CLIMBING LINES



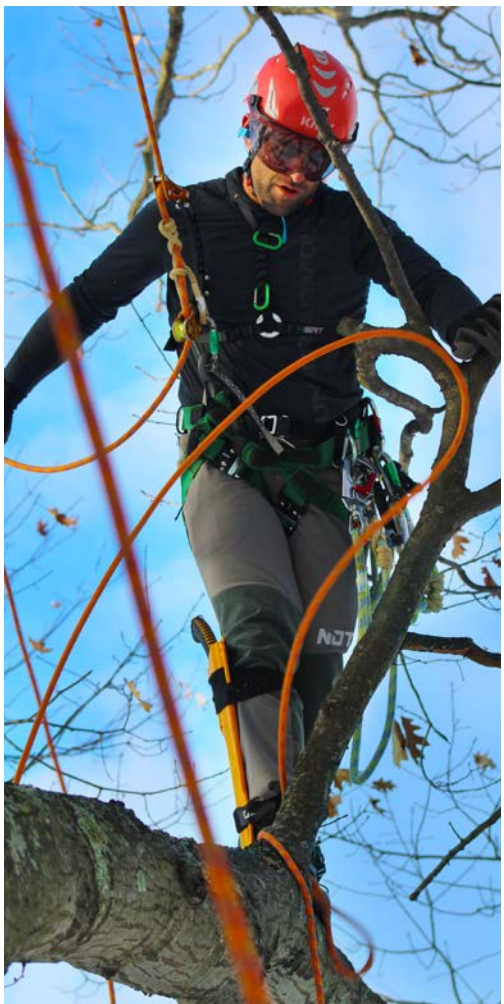


Photo courtesy of ArboriculturE Canada

Photo courtesy of ArborMaster

NO WORRIES. THAT'S OUR PROMISE.

Safe, reliable, hard-working Samson climbing lines for the professional arborist.

Halfway up the climbing line into the canopy, you shouldn't have to worry about the quality of your rope. Regardless of the technique you use—secured footlock, single rope or traditional, Samson makes climbing lines that excel. Samson has 50 years of research and development invested into making the best climbing lines in the marketplace, working closely with arborist industry organizations, universities, and working professionals.

Today, Samson is proud to offer some of the strongest and most durable ropes around, such as Velocity, one of the lightest 11 mm climbing lines in the industry, and the 12.7 mm Vortex, making technical climbing easier and safer because of their 'broken-in' feel right out of the bag. Voyager continues the tradition, providing excellent footlocking and east of use with existing hardware. *ArborMaster*® developed through a partnership with ArborMaster® Training, is known for its firmness and flexibility, and our newest innovation in static climbing lines, *Mercury* single rope system (SRS) rope, with an unparalleled hand and improved strength over previous static lines. *True-Blue* and *True-White* continue to be staples in every arborist's arsenal of tools.

Regardless of your preferences—polyester-nylon blends or polyester lines; 24-strand, 16-strand, 12-strand or even 3-strand (for the real traditionalist)—there's a Samson climbing line to suit your style and ease your worries.

"BAG TO BRANCH" FEATURE

Samson climbing lines are flaked into the polybag packaging, rather than coiled, allowing you to transfer directly into your gear bags for immediate use. No need to uncoil the rope to avoid inducing twist, they're ready to go right out of the bag.

CLIMBING LINE COMPARATIVE DATA

Size, strength, working load, and weight vary with all Samson climbing lines. Use the charts below to compare Samson's high-performance climbing lines. Elongation data and put-ups are available on the product information pages.

		Weight	Average Strength		Working Load*	
	DIAMETER	Per 100'	UNSPLICED	SPLICED	UNSPLICED	SPLICED
Vortex™	1/2"	7.6 lb	10,200 lb	8,800 lb	1,000 lb	880 lb
Voyager™	15/32"	6.5 lb	9,400 lb	8,000 lb	940 lb	800 lb
Velocity™	7/16"	5.6 lb	7,400 lb	6,000 lb	740 lb	600 lb
Mercury™	7/16"	6.0 lb	8,600 lb	N/A	860 lb	N/A

		Weight	Average Strength		Working Load*	
	DIAMETER	Per 100 m	UNSPLICED	SPLICED	UNSPLICED	SPLICED
Vortex™	12.7 mm	11.3 kg	4,600 kg	4,000 kg	460 kg	400 kg
Voyager™	11.8 mm	9.7 kg	4,300 kg	3,600 kg	430 kg	360 kg
Velocity™	11 mm	8.3 kg	3,400 kg	2,700 kg	340 kg	270 kg
Mercury™	11 mm	8.9 kg	3,900 kg	N/A	390 kg	N/A

**Working loads shown here are calculated based on a safety factor of 10 and are for reference only. These working loads apply to all climbing lines throughout the catalog. The end user is responsible for choosing the correct working load for their application.*

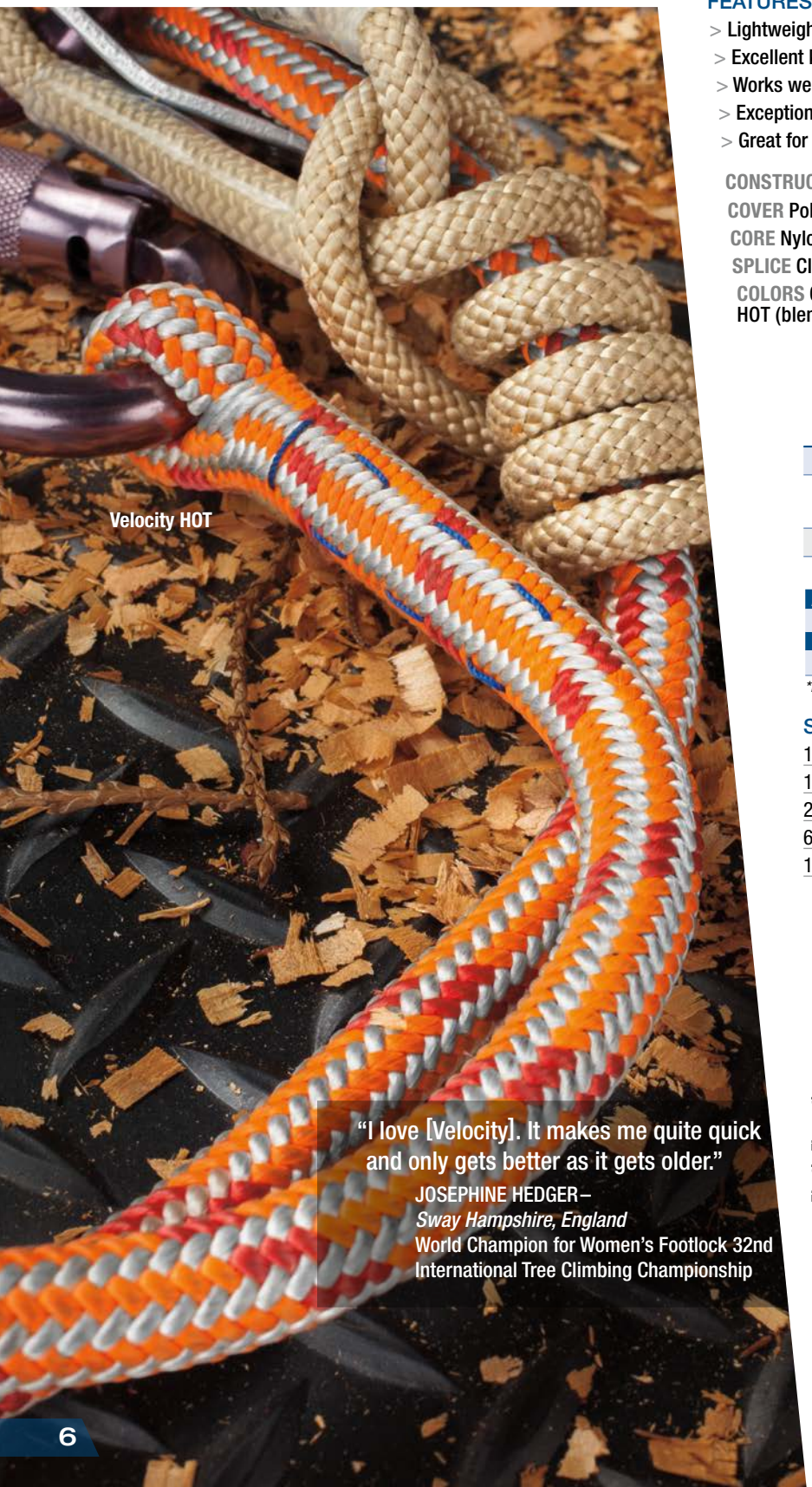
Velocity™

PRODUCT CODE: 349
PRODUCT CODE: 351 (CE) Unspliced only

V SERIES Premium Climbing Lines

Class I DOUBLE BRAID CONSTRUCTION

Velocity COOL



Velocity HOT

"I love [Velocity]. It makes me quite quick and only gets better as it gets older."

JOSEPHINE HEDGER–
Sway Hampshire, England
World Champion for Women's Footlock 32nd International Tree Climbing Championship

Velocity is the climbing line of champions! One of the lightest climbing lines in the 7/16" (11 mm) size, *Velocity* has excellent knot-holding ability, works well with hardware, and is great for footlocking.

FEATURES & BENEFITS

- Lightweight
- Excellent knot-holding capability
- Works well with hardware
- Exceptional access line
- Great for footlocking

CONSTRUCTION Double Braid
COVER Polyester
CORE Nylon
SPLICE Class I Double Braid
COLORS COOL (blend of blue, green, and white); HOT (blend of orange, red, and white)

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH UNSPLICED	AVERAGE STRENGTH SPLICED	WORKING LOAD UNSPLICED	WORKING LOAD SPLICED
7/16"	5.6 lb	7,400 lb	6,000 lb	740 lb	600 lb

DIAMETER MM	WEIGHT PER 100 m KILOGRAMS	AVERAGE STRENGTH UNSPLICED	AVERAGE STRENGTH SPLICED	WORKING LOAD UNSPLICED	WORKING LOAD SPLICED
11 mm	8.3 kg	3,400 kg	2,700 kg	340 kg	270 kg

AT PERCENT OF BREAK STRENGTH		
10%	**20%**	**30%**
ELASTIC ELONGATION*		
3.00%	5.00%	6.00%

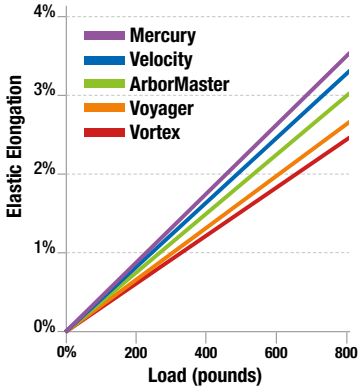
**EE calculated with spliced rope strength.*

CE *CE approval applies to unspliced rope only*

STANDARD LENGTHS / WEIGHTS

120' Polybag	SPLICED/UNSPLICED	6.7 lb
150' Polybag	SPLICED/UNSPLICED	8.4 lb
200' Polybag	SPLICED/UNSPLICED	11.2 lb
600' Reel	UNSPLICED	33.6 lb
1,200' Reel	UNSPLICED	67.2 lb

Premium Climbing Line Elastic Elongation Comparison



Samson Premium Climbing Lines have similar elongation per percentage of the lines' respective break strengths. When comparing, consideration should be given to the strength of each. At the same load, higher strength ropes such as *Vortex* and *Voyager* will have 25–30% lower elongation than lower strength ropes such as *Mercury*, *ArborMaster*® and *Velocity*.

Samson premium climbing lines comply with ANSI Z133-2012 (section 8.1.7) stating "…maximum working elongation shall not exceed 7 percent at a load of 540 pounds (2.402kN)…"

Class I DOUBLE BRAID CONSTRUCTION

V-SERIES Premium Climbing Lines

PRODUCT CODE: 498 Voyager™

Voyager is the latest addition to Samson's V-Series of premium 24-strand cover double braid climbing lines. Progressive arborists require a rope that fits well with today's hardware and one that is fully compatible with single-rope technique climbing. *Voyager* meets this requirement, rounding out the V-Series product offering at 15/32" (11.8 mm) diameter. This light and flexible rope has superior knot-holding ability, works easily with hardware, and is excellent for footlocking. *Voyager's* high-visibility cool color blend of blue, neon green, and white allows for easy identification in the trees, and comes with the quality and performance you've come to trust from Samson.

Voyager COOL

FEATURES & BENEFITS

- > Lightweight
- > Works well with hardware
- > Flexible
- > Excellent for footlocking
- > Great knot-holding capability

CONSTRUCTION Double Braid
COVER Polyester
CORE Nylon
SPLICE Class I Double Braid
COLOR COOL (blend of blue, neon green, and white)

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH UNSPLICED	AVERAGE STRENGTH SPLICED	WORKING LOAD UNSPLICED	WORKING LOAD SPLICED
15/32"	6.5 lb	9,400 lb	8,000 lb	940 lb	800 lb

DIAMETER MM	WEIGHT PER 100 m KILOGRAMS	AVERAGE STRENGTH UNSPLICED	AVERAGE STRENGTH SPLICED	WORKING LOAD UNSPLICED	WORKING LOAD SPLICED
11.8 mm	9.7 kg	4,300 kg	3,600 kg	430 kg	360 kg

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
3.00%	5.00%	6.00%

**EE calculated with spliced rope strength.*

STANDARD LENGTHS / WEIGHTS

120' Polybag	SPLICED/UNSPLICED	8.0 lb
150' Polybag	SPLICED/UNSPLICED	10.1 lb
200' Polybag	SPLICED/UNSPLICED	13.4 lb
600' Reel	UNSPLICED	40.2 lb
1,200' Reel	UNSPLICED	80.4 lb

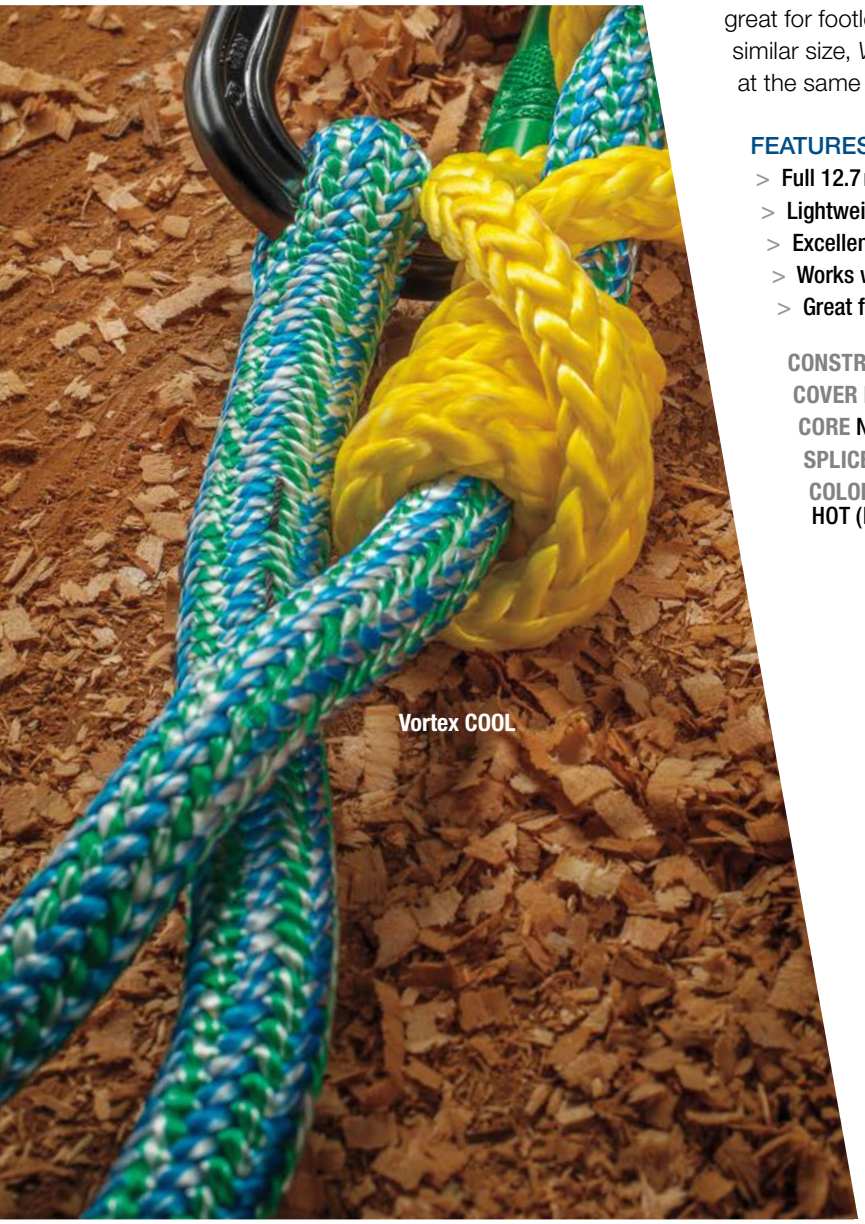
Vortex™

PRODUCT CODE: 352

V SERIES Premium Climbing Lines

Class I DOUBLE BRAID CONSTRUCTION

Vortex HOT



Vortex COOL

Vortex climbing line is your safe and secure stronghold at the center of activity when you are ascending a tree. This 24-strand cover line is a true 1/2" (12.7 mm), and is the lightest premium climbing line of its size available. Like its counterpart *Velocity*, but a little larger for easy handling, *Vortex* has excellent knot-holding ability, works well with hardware, and is great for footlocking. Compared to ropes of similar size, *Vortex* has 25–30% lower elongation when used at the same load.

FEATURES & BENEFITS

- Full 12.7 mm for easy handling
- Lightweight and flexible
- Excellent knot-holding capability
- Works well with hardware
- Great for footlocking

CONSTRUCTION Double Braid
COVER Polyester
CORE Nylon
SPLICE Class I Double Braid
COLORS COOL (blend of blue, green, and white); HOT (blend of orange, red, and white)

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH UNSPLICED	AVERAGE STRENGTH SPLICED	WORKING LOAD UNSPLICED	WORKING LOAD SPLICED
1/2"	7.6 lb	10,200 lb	8,800 lb	1,000 lb	880 lb

DIAMETER MM	WEIGHT PER 100 m KILOGRAMS	AVERAGE STRENGTH UNSPLICED	AVERAGE STRENGTH SPLICED	WORKING LOAD UNSPLICED	WORKING LOAD SPLICED
12.7 mm	11.3 kg	4,600 kg	4,000 kg	460 kg	400 kg

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
3.00%	5.00%	6.00%

**EE calculated with spliced rope strength.*

Compared to ropes of similar size, Vortex has 25–30% lower elongation when used at the same load. See graph on page 6.

STANDARD LENGTHS / WEIGHTS

120' Polybag	SPLICED/UNSPLICED	9.1 lb
150' Polybag	SPLICED/UNSPLICED	11.4 lb
200' Polybag	SPLICED/UNSPLICED	15.2 lb
600' Reel	UNSPLICED	45.6 lb
1,200' Reel	UNSPLICED	91.2 lb

Vortex splice

Class I 16 STRAND CONSTRUCTION

PRODUCT CODE: 348
PRODUCT CODE: 347 (CE) Unspliced only

ArborMaster®

This durable 16-strand line is the result of collaboration between Samson engineers and professionals at ArborMaster® Training, Inc. *ArborMaster®* offers the maximum firmness for all climbing techniques. Its 1/2" diameter provides an easy grip, and it has low stretch and excellent knot-holding capability. *ArborMaster®* is spliceable at both ends without milking.

ArborMaster RED/BLACK/WHITE

ArborMaster BLUE STREAK

FEATURES & BENEFITS

- > Firm
- > High visibility
- > Low stretch
- > Sized for easy grip
- > Excellent knot-holding capability
- > Flexible
- > Spliceable at both ends

CONSTRUCTION 16-Strand
COVER Polyester
CORE Nylon
SPLICE Class I 16-Strand
COLORS Red/Black/White, Blue Streak (blue and white), and Hawkeye (bright green and grey)

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH UNSPLICED	AVERAGE STRENGTH SPLICED	WORKING LOAD UNSPLICED	WORKING LOAD SPLICED
1/2"	7.7 lb	8,100 lb	6,500 lb	810 lb	650 lb

DIAMETER MM	WEIGHT PER 100 m KILOGRAMS	AVERAGE STRENGTH UNSPLICED	AVERAGE STRENGTH SPLICED	WORKING LOAD UNSPLICED	WORKING LOAD SPLICED
12 mm	11.5 kg	3,700 kg	2,900 kg	370 kg	290 kg

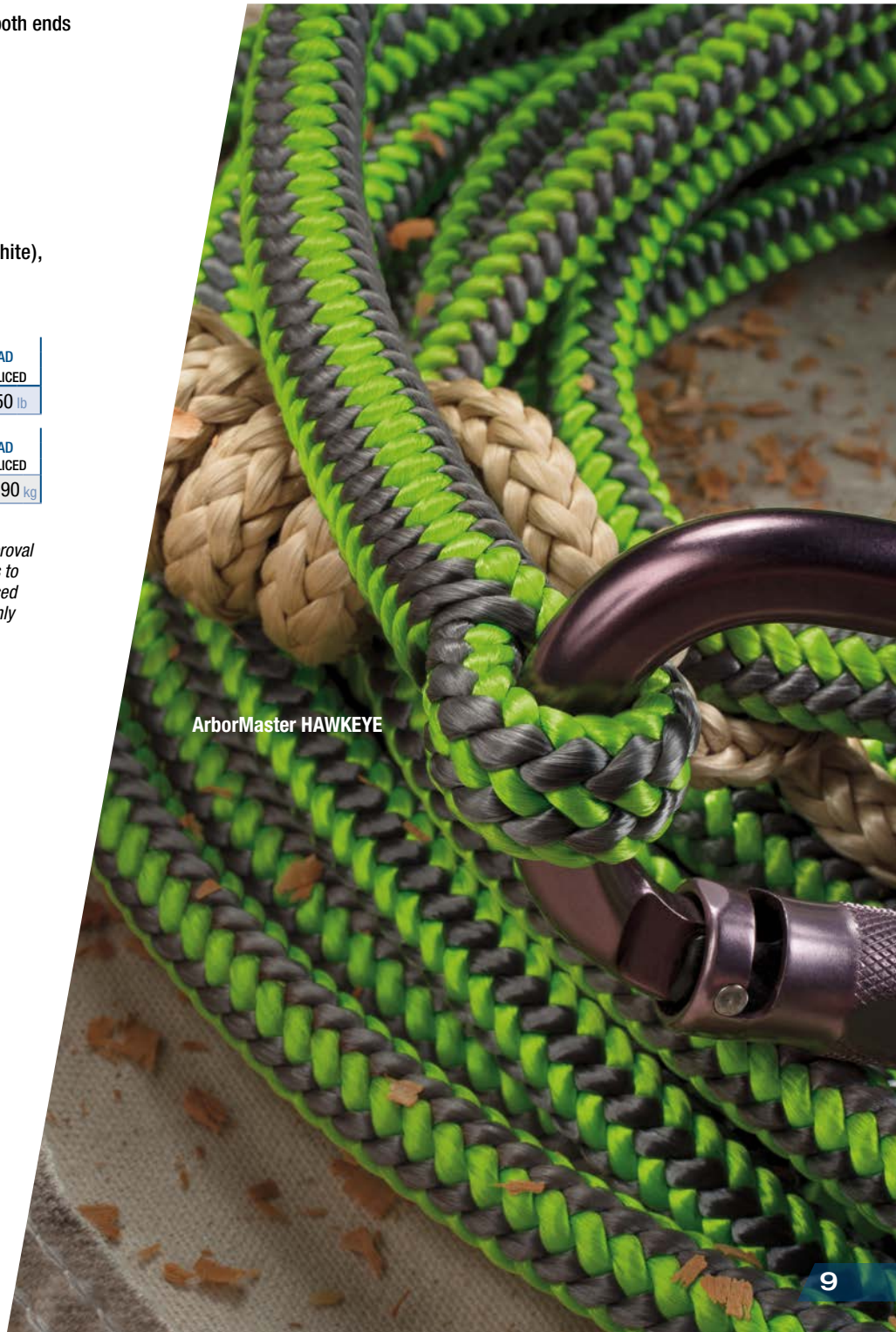
AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
3.00%	5.00%	6.00%

**EE calculated with spliced rope strength.*

CE *CE approval applies to unspliced rope only*

STANDARD LENGTHS / WEIGHTS

120' Polybag	SPLICED/UNSPLICED	9.2 lb
150' Polybag	SPLICED/UNSPLICED	11.6 lb
200' Polybag	SPLICED/UNSPLICED	15.4 lb
600' Reel	UNSPLICED	46.2 lb
1,200' Reel	UNSPLICED	92.4 lb



ArborMaster HAWKEYE

Mercury™

PRODUCT CODE: 485

Class I KERN MANTLE CONSTRUCTION

ARBORIST KERMANTLE STATIC CLIMBING LINE. Stationary rope system climbing, rappelling, rescue, access, and specialty rigging operations make high demands on a rope. Samson answers with Mercury kernmantle climbing line. Mercury is designed to equal or exceed the 2001 NFPA standards, and provides firm body with good shock mitigation. It is a balanced non-rotational rope with a high tenacity solution dyed braided polyester cover over a heat-stabilized nylon core. Designed specifically to work with arborists' hardware, Mercury meets the needs of today's advanced climbers.

FEATURES & BENEFITS

- Abrasion resistant
- Excellent shock mitigation
- High-tenacity nylon core
- Retains shape with use

CONSTRUCTION Kernmantle
COVER Polyester
CORE Nylon
SPLICE Class I Non-spliceable
COLOR Variegated Orange

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH UNSPLICED	WORKING LOAD UNSPLICED
7/16"	6.0 lb	8,600 lb	860 lb

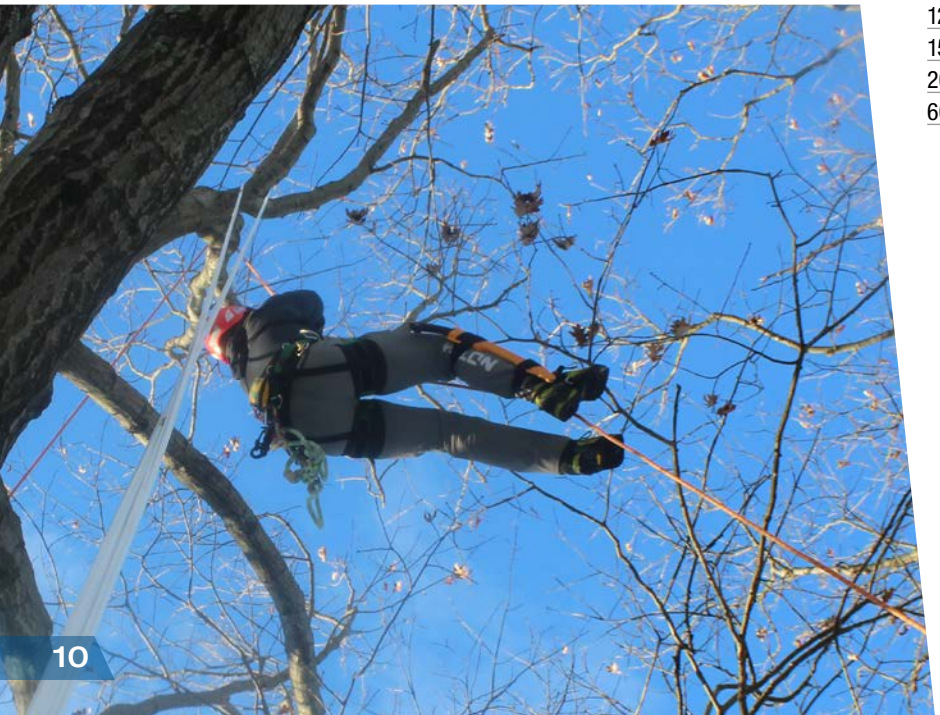
DIAMETER MM	WEIGHT PER 100 m KILOGRAMS	AVERAGE STRENGTH UNSPLICED	WORKING LOAD UNSPLICED
11 mm	8.9 kg	3,900 kg	390 kg

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
3.70%	6.60%	8.00%

**EE calculated with spliced rope strength.*

STANDARD LENGTHS / WEIGHTS

120' Polybag	SPLICED/UNSPLICED	7.1 lb
150' Polybag	SPLICED/UNSPLICED	8.9 lb
200' Polybag	SPLICED/UNSPLICED	11.8 lb
600' Reel	UNSPLICED	35.4 lb



Class I 12 STRAND CONSTRUCTION

TRUE-BLUE: 342
TRUE-WHITE: 344

True-Blue™ & True-White™

This 12-strand, premium all-polyester climbing line has low stretch and high strength. It stays firm, round, and flexible with use and requires no milking. *True-Blue* and *True-White* are excellent for light-duty rigging applications.

FEATURES & BENEFITS

- > Low stretch
- > High strength
- > Firm
- > Stays round with use
- > Maintains flexibility
- > Durable

CONSTRUCTION 12-Strand
FIBER Polyester
SPLICE Non-spliceable
COLORS Blue or White

True-Blue

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH UNSPLICED	WORKING LOAD* UNSPLICED
1/2"	6.8 lb	7,300 lb	730 lb

DIAMETER MM	WEIGHT PER 100 m KILOGRAMS	AVERAGE STRENGTH UNSPLICED	WORKING LOAD* UNSPLICED
12 mm	13.1 kg	3,300 kg	330 kg

**When used as a climbing line.*

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION		
2.60%	3.00%	4.00%

True-White

STANDARD LENGTHS / WEIGHTS

120' Polybag	UNSPLICED	10.6 lb
150' Polybag	UNSPLICED	13.2 lb
600' Reel	UNSPLICED	52.8 lb
2,400' Reel	UNSPLICED	211.2 lb

Class I 12 STRAND CONSTRUCTION

PRODUCT CODE: 346

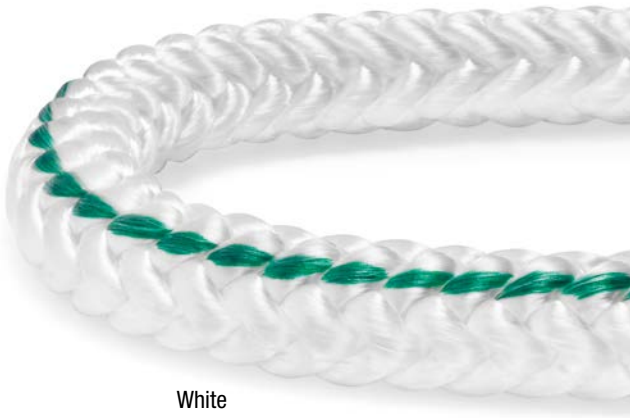
Arbor-Plex™

The first synthetic rope designed specifically for the arborist industry, *Arbor-Plex* is a lightweight, high strength 12-strand climbing line that continues to be one of the most widely used rigging lines in the arborist industry.
It resists snags and has excellent knot-holding ability. *Arbor-Plex* works well when wet and is very durable.

FEATURES & BENEFITS

- > Durable
- > Snag resistant
- > Works well in wet conditions
- > Economical
- > Has a no-twist stripe

CONSTRUCTION 12-Strand
FIBER Polypropylene-Polyester Blend
SPLICE Non-spliceable
COLOR White with green longitudinal hanging line



White

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH UNSPLICED	WORKING LOAD* UNSPLICED
1/2"	6.8 lb	6,000 lb	600 lb

DIAMETER MM	WEIGHT PER 100 m KILOGRAMS	AVERAGE STRENGTH UNSPLICED	WORKING LOAD* UNSPLICED
12 mm	10.1 kg	2,700 kg	270 kg

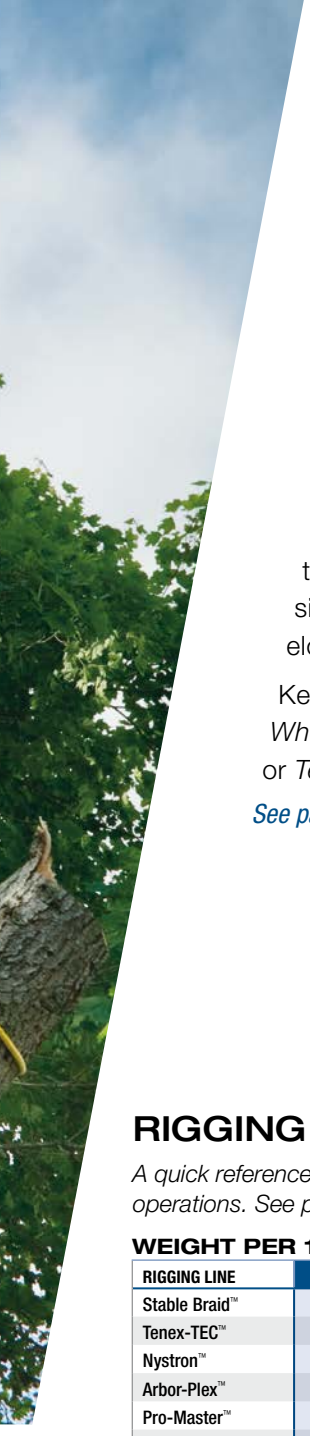
**When used as a climbing line.*

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION		
3.00%	3.30%	4.20%

STANDARD LENGTHS / WEIGHTS

120' Polybag	UNSPLICED	8.2 lb
150' Polybag	UNSPLICED	10.2 lb
600' Reel	UNSPLICED	40.8 lb
2,400' Reel	UNSPLICED	163.2 lb

SAMSON RIGGING LINES



YOUR PRIORITIES ARE SAMSON'S PRIORITIES.

Rigging puts higher demand on your rope than anything else on your job site.

Rigging is perhaps the most advanced and demanding aspect of tree work. The tools and techniques to safely lower tree sections or limbs when free-falling vary with the worksite and situation. Samson makes rigging ropes optimized for strength and control—ropes with controlled elongation to ease the strain of shock loading.

Keep your rope tool bag a little lighter by replacing fixed-size slings with Samson's fully adjustable *Whoopie Slings*. Round out your rope tools with Samson's *TreeRig Slings* in either *Stable Braid* or *Tenex-TEC* and don't forget *Zing-It!,* the professional arborist's choice for best throw line.

See pages 26 and 27 for additional technical rigging information.

RIGGING LINE COMPARATIVE DATA

A quick reference on working loads, strengths, and weights of popular sizes of Samson's ropes typically used for rigging operations. See product pages for elongation data and put-ups available.

WEIGHT PER 100 ft/100 m

RIGGING LINE	3/8"	1/2"	9/16"	5/8"	3/4	7/8"	1"	9 mm	12 mm	14 mm	16 mm	18 mm	22 mm	24 mm
Stable Braid™	— lb	8.2 lb	11.0 lb	14.0 lb	18.0 lb	27.1 lb	— lb	— kg	12.2 kg	16.4 kg	20.8 kg	26.8 kg	40.3 kg	— kg
Tenex-TEC™	4.3 lb	9.2 lb	— lb	14.8 lb	17.7 lb	26.7 lb	34.7 lb	6.4 kg	13.7 kg	— kg	22.0 kg	26.3 kg	39.7 kg	51.6 kg
Nystron™	— lb	7.7 lb	10.0 lb	12.6 lb	17.3 lb	19.0 lb	— lb	— kg	11.5 kg	14.9 kg	18.7 kg	25.7 kg	28.3 kg	— kg
Arbor-Plex™	— lb	6.8 lb	— lb	12.0 lb	16.2 lb	— lb	— lb	— kg	10.1 kg	— kg	17.9 kg	24.1 kg	— kg	— kg
Pro-Master™	3.7 lb	6.5 lb	— lb	9.6 lb	13.9 lb	18.0 lb	22.0 lb	5.5 kg	9.7 kg	— kg	14.3 kg	20.7 kg	26.8 kg	32.7 kg
Tree-Master™	— lb	8.0 lb	— lb	13.0 lb	18.5 lb	— lb	— lb	— kg	11.9 kg	— kg	19.3 kg	27.5 kg	— kg	— kg

AVERAGE STRENGTH

RIGGING LINE	3/8"	1/2"	9/16"	5/8"	3/4	7/8"	1"	9 mm	12 mm	14 mm	16 mm	18 mm	22 mm	24 mm
Stable Braid™	— lb	10,400 lb	13,300 lb	16,300 lb	20,400 lb	29,900 lb	— lb	— kg	4,700 kg	6,000 kg	7,400 kg	9,300 kg	13,600 kg	— kg
Tenex-TEC™	6,100 lb	13,100 lb	— lb	18,800 lb	24,800 lb	34,200 lb	44,500 lb	2,800 kg	5,900 kg	— kg	8,500 kg	11,200 kg	15,500 kg	20,200 kg
Nystron™	— lb	10,500 lb	13,200 lb	16,300 lb	23,000 lb	27,000 lb	— lb	— kg	4,800 kg	6,000 kg	7,400 kg	10,400 kg	12,200 kg	— kg
Arbor-Plex™	— lb	6,000 lb	— lb	9,000 lb	12,000 lb	— lb	— lb	— kg	2,700 kg	— kg	4,100 kg	5,400 kg	— kg	— kg
Pro-Master™	3,200 lb	5,700 lb	— lb	7,700 lb	10,000 lb	14,500 lb	17,500 lb	1,500 kg	2,600 kg	— kg	3,500 kg	4,500 kg	6,600 kg	7,900 kg
Tree-Master™	— lb	7,000 lb	— lb	11,300 lb	15,200 lb	— lb	— lb	— kg	3,200 kg	— kg	5,100 kg	6,900 kg	— kg	— kg

WORKING LOAD*

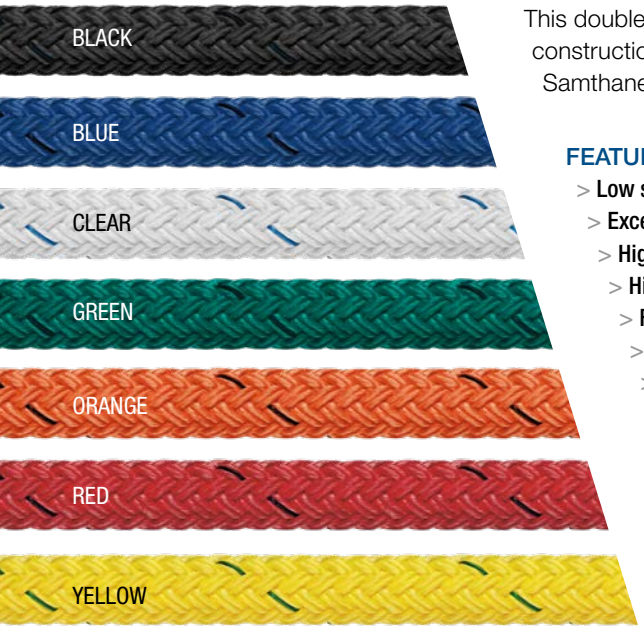
RIGGING LINE	3/8"	1/2"	9/16"	5/8"	3/4	7/8"	1"	9 mm	12 mm	14 mm	16 mm	18 mm	22 mm	24 mm
Stable Braid™	— lb	2,100 lb	2,700 lb	3,300 lb	4,100 lb	6,000 lb	— lb	— kg	940 kg	1,200 kg	1,500 kg	1,900 kg	2,700 kg	— kg
Tenex-TEC™	1,200 lb	2,600 lb	— lb	3,800 lb	5,000 lb	6,800 lb	8,900 lb	560 kg	1,200 kg	— kg	1,700 kg	2,200 kg	3,100 kg	4,000 kg
Nystron™	— lb	2,100 lb	2,600 lb	3,300 lb	4,600 lb	5,400 lb	— lb	— kg	960 kg	1,200 kg	1,500 kg	2,100 kg	2,400 kg	— kg
Arbor-Plex™	— lb	1,200 lb	— lb	1,800 lb	2,400 lb	— lb	— lb	— kg	540 kg	— kg	820 kg	1,100 kg	— kg	— kg
Pro-Master™	640 lb	1,100 lb	— lb	1,500 lb	2,000 lb	2,900 lb	3,500 lb	300 kg	520 kg	— kg	700 kg	900 kg	1,300 kg	1,600 kg
Tree-Master™	— lb	1,400 lb	— lb	2,300 lb	3,000 lb	— lb	— lb	— kg	640 kg	— kg	1,000 kg	1,400 kg	— kg	— kg

**Working loads shown here are calculated based on a safety factor of 5 and are for reference only. These working loads apply to all rigging lines throughout the catalog. The end user is responsible for choosing the correct working load for their application.*

Stable Braid™

PRODUCT CODE: 806

Class I DB DOUBLE BRAID CONSTRUCTION



This double braid is a low stretch, high strength-to-weight ratio, and torque-free construction. It is durable with excellent snag, abrasion, and UV resistance. Samthane coating enhances these characteristics and improves visibility.

FEATURES & BENEFITS

- > Low stretch
- > Excellent abrasion resistance
- > High strength-to-weight ratio
- > High abrasion resistance
- > Flexible
- > UV resistant
- > Torque free
- > Easy to handle
- > Spliceable

CONSTRUCTION Double Braid

COVER Polyester

CORE Polyester

SPLICE Class I Double Braid

COLORS Coated black, blue, clear, green, orange, red, or yellow — all with a blue ID

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH SPLICED	WORKING LOAD SPLICED
1/2"	8.2 lb	10,400 lb	2,100 lb
9/16"	11.0 lb	13,300 lb	2,700 lb
5/8"	14.0 lb	16,300 lb	3,300 lb
3/4"	18.0 lb	20,400 lb	4,100 lb
7/8"	27.1 lb	29,900 lb	6,000 lb

DIAMETER MM	WEIGHT PER 100m KILOGRAMS	AVERAGE STRENGTH SPLICED	WORKING LOAD SPLICED
12 mm	12.2 kg	4,700 kg	940 kg
14 mm	16.4 kg	6,000 kg	1,200 kg
16 mm	20.8 kg	7,400 kg	1,500 kg
18 mm	26.8 kg	9,300 kg	1,900 kg
22 mm	40.3 kg	13,600 kg	2,700 kg

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
1.10%	1.70%	2.70%

**EE calculated with spliced rope strength.*

STANDARD LENGTHS / WEIGHTS

150' POLYBAG

1/2" Diameter	UNSPLICED	12.3 lb
9/16" Diameter	UNSPLICED	16.5 lb
5/8" Diameter	UNSPLICED	21.0 lb
3/4" Diameter	UNSPLICED	37.0 lb
7/8" Diameter	UNSPLICED	40.7 lb

600' REELS ALSO AVAILABLE

Stable Braid Orange

PRODUCT CODE: 825
(SLING CONSTRUCTION; 2 ENDS/CARRIER)

Tenex-TEC™

Tenex-TEC is a high-strength, low-stretch rope designed with two ends per carrier. This construction allows more rope surface conformance to objects being lifted than standard single-braid constructions. It is Samthane coated to enhance wear life.

FEATURES & BENEFITS

- Snag resistant
- Abrasion resistant
- High strength
- Good grip
- Easy to inspect
- Easy to splice

CONSTRUCTION 12-Strand

FIBER Polyester

SPLICE Class I 12-Strand

COLORS Coated black, blue, clear, green, orange, red, or yellow

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH SPLICED	WORKING LOAD SPLICED
3/8"	4.3 lb	6,100 lb	1,200 lb
1/2"	9.2 lb	13,100 lb	2,600 lb
5/8"	14.8 lb	18,800 lb	3,800 lb
3/4"	17.7 lb	24,800 lb	5,000 lb
7/8"	26.7 lb	34,200 lb	6,800 lb
1"	34.7 lb	44,500 lb	8,900 lb

DIAMETER MM	WEIGHT PER 100m KILOGRAMS	AVERAGE STRENGTH SPLICED	WORKING LOAD SPLICED
9 mm	6.4 kg	2,800 kg	560 kg
12 mm	13.7 kg	5,900 kg	1,200 kg
16 mm	22.0 kg	8,500 kg	1,700 kg
18 mm	26.3 kg	11,200 kg	2,200 kg
22 mm	39.7 kg	15,500 kg	3,100 kg
24 mm	51.6 kg	20,200 kg	4,000 kg

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
1.40%	2.30%	3.00%

**EE calculated with spliced rope strength.*

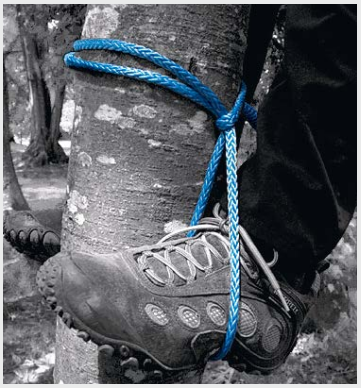
STANDARD LENGTH 600' REEL UNSPLICED

Rope Tools

While these fabricated tools are not offered by Samson, professional arborists have found both Tenex-TEC and Tenex to be the perfect products for producing these rope tools.

EYE-AND-EYE TAIL

SPIDER LEG BALANCER



ENDLESS LOOP SLING

LOOPIE

Nystron™

PRODUCT CODE: 891

Class I DOUBLE BRAID CONSTRUCTION

Orange

Blue

Green

Yellow

FEATURES & BENEFITS

- > Stronger than an all-polyester rope
- > Excellent shock-load mitigation
- > Excellent abrasion resistance
- > Spliceable

CONSTRUCTION Double Braid

COVER Polyester

CORE Nylon

SPLICE Class I Double Braid

COLORS Coated blue, green, orange, or yellow—all with blue ID

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
2.40%	4.50%	5.90%

*EE calculated with spliced rope strength.

Please see page 27 for technical information on energy absorption for arborist rigging applications.

This double-braid provides the advantages of high strength retention and excellent abrasion resistance with superior energy absorption and shock mitigation for controlled and safe lowering of loads. It is fully spliceable.

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH SPLICED	WORKING LOAD SPLICED
1/2"	7.7 lb	10,500 lb	2,100 lb
9/16"	10.0 lb	13,200 lb	2,600 lb
5/8"	12.6 lb	16,300 lb	3,300 lb
3/4"	17.3 lb	23,000 lb	4,600 lb
7/8"	19.0 lb	27,000 lb	5,400 lb

DIAMETER MM	WEIGHT PER 100m KILOGRAMS	AVERAGE STRENGTH SPLICED	WORKING LOAD SPLICED
12 mm	11.5 kg	4,800 kg	960 kg
14 mm	14.9 kg	6,000 kg	1,200 kg
16 mm	18.7 kg	7,400 kg	1,500 kg
18 mm	25.7 kg	10,400 kg	2,100 kg
22 mm	28.3 kg	12,200 kg	2,400 kg

STANDARD LENGTH

600' REEL UNSPLICED

Arbor-Plex™

PRODUCT CODE: 346

Class I 12 STRAND CONSTRUCTION

White

FEATURES & BENEFITS

- > Durable
- > Snag resistant
- > Works well in wet conditions
- > Economical
- > Has a no-twist stripe

CONSTRUCTION 12-Strand

FIBER Polypropylene-Polyester Blend

SPLICE Non-spliceable

COLOR White with green longitudinal hanging line

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION		
3.00%	3.30%	4.20%

Please see page 27 for technical information on energy absorption for arborist rigging applications.

The first synthetic rope designed specifically for the arborist industry, *Arbor-Plex* is a lightweight, high strength 12-strand climbing line, and the most widely used rigging line in the arborist industry. It resists snags and has excellent knot-holding ability. *Arbor-Plex* works well when wet and is very durable.

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH UNSPLICED	WORKING LOAD* UNSPLICED
1/2"	6.8 lb	6,000 lb	1,200 lb
5/8"	12.0 lb	9,000 lb	1,800 lb
3/4"	16.2 lb	12,000 lb	2,400 lb

DIAMETER MM	WEIGHT PER 100m KILOGRAMS	AVERAGE STRENGTH UNSPLICED	WORKING LOAD* UNSPLICED
12 mm	10.1 kg	2,700 kg	540 kg
16 mm	17.9 kg	4,100 kg	820 kg
18 mm	24.1 kg	5,400 kg	1,100 kg

*When used as a rigging line.

STANDARD LENGTHS / WEIGHTS

120' POLYBAG

1/2" Diameter UNSPLICED 8.2 lb

150' POLYBAG

1/2" Diameter UNSPLICED 10.2 lb

5/8" Diameter UNSPLICED 18.0 lb

3/4" Diameter UNSPLICED 24.3 lb

600' REELS UNSPLICED

Class I 3 STRAND CONSTRUCTION

PRODUCT CODE: 168

Pro-Master™

Pro-Master is a tough, durable, 3-strand rigging rope. It remains firm, round, and flexible with use. It has a soft hand with excellent lock-grip and knot-holding capabilities.

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH SPLICED	WORKING LOAD SPLICED
3/8"	3.7 lb	3,200 lb	640 lb
1/2"	6.5 lb	5,700 lb	1,100 lb
5/8"	9.6 lb	7,700 lb	1,500 lb
3/4"	13.9 lb	10,000 lb	2,000 lb
7/8"	18.0 lb	14,500 lb	2,900 lb
1"	22.0 lb	17,500 lb	3,500 lb

DIAMETER MM	WEIGHT PER 100m KILOGRAMS	AVERAGE STRENGTH SPLICED	WORKING LOAD SPLICED
9 mm	5.5 kg	1,500 kg	300 kg
12 mm	9.7 kg	2,600 kg	520 kg
16 mm	14.3 kg	3,500 kg	700 kg
18 mm	20.7 kg	4,500 kg	900 kg
22 mm	26.8 kg	6,600 kg	1,300 kg
24 mm	32.7 kg	7,900 kg	1,600 kg

FEATURES & BENEFITS

- > Excellent abrasion resistance
- > High strength-to-weight ratio
- > Flexible
- > UV resistant
- > Easy to handle
- > Easy to splice

CONSTRUCTION 3-Strand

FIBER Ultra Blue Polyolefin-Polyester Blend

SPLICE Class I 3-Strand

COLOR White with green ID

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
2.00%	3.20%	3.90%

**EE calculated with spliced rope strength.*

White

STANDARD LENGTHS / WEIGHTS

150' POLYBAG

1/2" Diameter	UNSPLICED	9.8 lb
5/8" Diameter	UNSPLICED	14.4 lb
3/4" Diameter	UNSPLICED	20.9 lb
7/8" Diameter	UNSPLICED	27.0 lb

600' REELS UNSPLICED

Class I 3 STRAND CONSTRUCTION

PRODUCT CODE: 166

Tree-Master™

Tree-Master is a premium 3-strand climbing and rigging line coated with Pro-Gard to extend life and provide smooth operation when working with Prusik knots. It is made using a 4-stage rope construction that stays firm under load and has excellent abrasion resistance to maximize wear life.

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH SPLICED	WORKING LOAD SPLICED
1/2"	8.0 lb	7,000 lb	1,400 lb
5/8"	13.0 lb	11,300 lb	2,300 lb
3/4"	18.5 lb	15,200 lb	3,000 lb

DIAMETER MM	WEIGHT PER 100m KILOGRAMS	AVERAGE STRENGTH SPLICED	WORKING LOAD SPLICED
12 mm	11.9 kg	3,200 kg	640 kg
16 mm	19.3 kg	5,100 kg	1,000 kg
18 mm	27.5 kg	6,900 kg	1,400 kg

FEATURES & BENEFITS

- > Durable
- > Excellent abrasion resistance
- > Remains firm under load
- > Economical

CONSTRUCTION 3-Strand

FIBER Polyester

SPLICE Product specific

COLOR White with green fleck

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
2.90%	5.60%	8.20%

**EE calculated with spliced rope strength.*

White

STANDARD LENGTHS / WEIGHTS

120' POLYBAG

1/2" Diameter	UNSPLICED	9.6 lb

150' POLYBAG

1/2" Diameter	UNSPLICED	12.0 lb
5/8" Diameter	UNSPLICED	19.5 lb
3/4" Diameter	UNSPLICED	27.8 lb

600' REELS UNSPLICED

Whoopie Sling™

PRODUCT CODE: 689

Adjustable lifting slings allow snug lifting control and minimize the number of fixed length slings required.

Adjustable, load-rated two-eye lifting slings. The sling has a permanent eye splice at one end, and an adjustable eye at the other end that allows it to adapt to loads of various sizes. The adjustment allows snug lifting control and minimizes the number of fixed-length slings required. Each sling is permanently tagged with its capacity, polybagged and shipped in a carton.

FEATURES & BENEFITS

- A permanent eye splice at one end and an adjustable eye at the other
- Adapts to varying loads
- Snug lifting control
- Minimizes the number of fixed-length slings required
- Three sizes to choose from
- Permanently tagged with capacity

Size Diameter INCHES	Color	Unit Weight POUNDS	Adjustment Length FEET	Permanent Eye Size INCHES	RATED CAPACITIES* Single Leg POUNDS	Choker POUNDS	Basket POUNDS
1/2 in	**Blue**	1.2 lb	2.5–4 ft	**5** in	2,200 lb	1,760 lb	4,400 lb
5/8 in	**Red**	1.7 lb	3–5 ft	**6** in	3,200 lb	2,560 lb	6,400 lb
3/4 in	**Orange**	2.8 lb	3.5–6 ft	**7** in	4,200 lb	3,380 lb	8,400 lb

Size Diameter MILLIMETERS	Color	Unit Weight KILOGRAMS	Adjustment Length METERS	Permanent Eye Size MILLIMETERS	RATED CAPACITIES* Single Leg KILOGRAMS	Choker KILOGRAMS	Basket KILOGRAMS
12 mm	**Blue**	0.5 kg	0.8–1.2 m	**125** mm	1,000 kg	800 kg	2,000 kg
16 mm	**Red**	0.8 kg	0.9–1.5 m	**150** mm	1,500 kg	1,200 kg	2,900 kg
18 mm	**Orange**	1.3 kg	1.1–1.8 m	**180** mm	1,900 kg	1,500 kg	3,800 kg

**Rated capacities are for slings in vertical lift use and spliced in accordance with Samson factory procedure.*

1/2" (12 mm) diameter
2.5–4 ft. length, 5" permanent eye

5/8" (16 mm) diameter
3–5 ft. length, 6" permanent eye

3/4" (18 mm) diameter
3.5–6 ft. length, 7" permanent eye

TABLE 1. SLING ANGLE AND LOAD ANGLE FACTOR.

Sling Angle *(measured from vertical)*	0°	15°	30°	45°	60°	75°
Load Angle Factor	1.00	.966	.866	.707	.500	.259

For angles other than vertical, multiply the rated capacity by the "Load Angle Factor" in the table shown to obtain the reduced rating based on the calculated sling lift angle.

TreeRig Sling™

PRODUCT CODE: 825 (Tenex-TEC™)
PRODUCT CODE: 806 (Stable Braid™)

Also known as "dead eye" slings, Samson's *TreeRig Sling* is fabricated from Samthane-coated *Stable Braid* and *Tenex-TEC*. *TreeRig Slings* come prespliced and are designed to work effectively with Samson climbing lines.

Tenex-TEC TreeRig 8" EYE-SPLICE

PRODUCT CODE: 825

Size DIAMETER	COLOR	Length FEET
1/2"	**Blue**	10'
5/8"	**Red**	6', 8', 10', 12', 16'
3/4"	**Orange**	12', 15'
7/8"	**Green**	20'
1"	**Yellow**	16'

Stable Braid TreeRig 6" EYE-SPLICE

PRODUCT CODE: 806

Size DIAMETER	COLOR	Length FEET
9/16"	**Yellow**	8', 10', 14', 20'
5/8"	**Red**	6', 8', 10', 14', 20'
3/4"	**Orange**	10', 14', 20'
7/8"	**Green**	10', 14', 20'

PRODUCT CODE: 872

Chipper Winch Lines

AmSteel®Blue is a torque-free 12-strand single braid that yields the maximum in strength-to-weight ratio and, size for size, is the same strength as steel—yet it floats. *AmSteel-Blue* has extremely low stretch and superior flex fatigue and wear resistance. Made with Dyneema® fiber, *AmSteel-Blue* is Samthane coated, which enhances the fiber's already high-abrasion and cut-resistant characteristics.

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH SPLICED
5/16"	2.7 lb	13,700 lb
3/8"	3.6 lb	19,600 lb

DIAMETER MM	WEIGHT PER 100m KILOGRAMS	AVERAGE STRENGTH SPLICED
8 mm	4.0 kg	6,200 kg
9 mm	5.4 kg	8,900 kg

STANDARD LENGTH

600' REEL (Unspliced)

FEATURES & BENEFITS

- > Lightweight
- > High strength
- > Abrasion resistant
- > Low stretch
- > Torque free
- > Superior wear
- > Superior flex fatigue
- > Easy to splice

CONSTRUCTION 12-Strand
FIBER HMPE
SPLICE Class II 12-Strand
COLOR Blue

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
0.46%	0.70%	0.96%

**EE calculated with spliced rope strength.*

AmSteel®Blue

PRODUCT CODE: 811

Zing-It!™

Zing-It! offers extremely high strength while Samthane urethane coating provides excellent abrasion resistance and an easy gliding surface. The exceptionally low stretch allows for control, and *Zing-It!* is conveniently packaged to achieve higher throws with lighter weight.

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH UNSPLICED
1/16"	0.12 lb	500 lb
3/32"	0.16 lb	650 lb

DIAMETER INCHES	WEIGHT PER 100 m POUNDS	AVERAGE STRENGTH UNSPLICED
1.75 mm	0.18 kg	230 kg
2.20 mm	0.24 kg	290 kg

STANDARD LENGTHS

1.75mm/2.2mm 180' tube
2.2mm 1,000' tube

FEATURES & BENEFITS

- > Low friction, slides well
- > High strength
- > Low stretch
- > Abrasion resistant

CONSTRUCTION 8-Strand
COVER HMPE
SPLICE Non-spliceable
COLOR Yellow

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION		
0.40%	0.81%	1.20%

Prusik Cord™

PRODUCT CODE: 340

Class I DOUBLE BRAID CONSTRUCTION

Blue and White

FEATURES & BENEFITS

- > Flexible
- > Retains its shape with use
- > Durable
- > Good grip
- > Economical
- > Soft hand

CONSTRUCTION Double Braid
COVER Polyester
CORE Polyester
SPLICE Class I Double Braid
COLOR Blend of blue and white

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
1.10%	2.20%	3.50%

**EE calculated with spliced rope strength.*

Prusik Cord was designed to complement our existing line of climbing products. It is a high quality polyester cord that is soft and flexible with great gripping ability.

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH SPLICED
3/8"	4.1 lb	5,000 lb

DIAMETER MM	WEIGHT PER 100 ft KILOGRAMS	AVERAGE STRENGTH SPLICED
9 mm	6.1 kg	2,300 kg

STANDARD LENGTHS / WEIGHTS

300' Reel	UNSPLICED	12.3 lb

Bail Out™ & Bail Out-XL™

Class II DOUBLE BRAID CONSTRUCTION

PRODUCT CODE: 486

FEATURES & BENEFITS

- > Incredibly tough
- > Firm hand
- > Will not melt
- > Will not flatten out
- > Excellent knot-holding capability

CONSTRUCTION Double Braid
COVER Aramid
CORE Aramid
SPLICE Non-spliceable
COLOR Beige (Bail Out) or beige with blue tracers (Bail Out-XL)

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
1.00%	1.20%	1.60%

**EE calculated with spliced rope strength.*

Bail Out is a double braid prusik cord that has a firm feel. It offers the ultimate in heat resistance. It will not melt or flatten out. It is incredibly durable and long lasting.

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH UNSPLICED
5/16"	3.0 lb	4,200 lb
3/8"	4.2 lb	5,300 lb

DIAMETER MM	WEIGHT PER 100 ft KILOGRAMS	AVERAGE STRENGTH UNSPLICED
8 mm	4.5 kg	1,900 kg
9 mm	6.2 kg	2,400 kg

STANDARD LENGTH

300' Reel	UNSPLICED

BAIL OUT Beige

BAIL OUT-XL Beige with Blue Tracers

Class II 12 STRAND CONSTRUCTION

PRODUCT CODE: 889

Ice Tail™

Ice Tail is a single braid tail with a soft feel. It's easy to splice and will not melt or be seared by heat. *Ice Tail* is great for heat resistant eye-and-eye tails.

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH SPLICED
5/16"	3.1 lb	8,500 lb

DIAMETER MM	WEIGHT PER 100 ft KILOGRAMS	AVERAGE STRENGTH SPLICED
8 mm	4.6 kg	3,900 kg

STANDARD LENGTHS / WEIGHTS

300' Reel	UNSPLICED	9.3 lb

FEATURES & BENEFITS

- Excellent heat resistance
- Soft hand
- Durable
- Easy to splice

CONSTRUCTION 12-Strand

FIBER Aramid-Polyester blend

SPLICE Class II 12-Strand

COLORS Coated black, blue, or clear

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
1.08%	1.61%	1.64%

**EE calculated with spliced rope strength.*

Clear

Blue

Black

Class II 12 STRAND CONSTRUCTION

PRODUCT CODE: 826

Tenex™

Great for rope tools, *Tenex* is a 12-strand single braid that offers high strength with low stretch and Samthane coating provides abrasion resistance, enhances wear life, resists snagging, and increases ease of splicing.

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH SPLICED
3/8"	3.9 lb	5,800 lb
7/16"	6.3 lb	9,000 lb
1/2"	8.0 lb	11,800 lb
5/8"	12.0 lb	17,100 lb
3/4"	17.2 lb	22,400 lb
7/8"	25.8 lb	32,600 lb

DIAMETER MM	WEIGHT PER 100m KILOGRAMS	AVERAGE STRENGTH SPLICED
9 mm	5.8 kg	2,600 kg
11 mm	9.4 kg	4,100 kg
12 mm	11.9 kg	5,400 kg
16 mm	17.9 kg	7,800 kg
18 mm	25.6 kg	10,200 kg
22 mm	38.4 kg	14,800 kg

STANDARD LENGTH

600' REEL	UNSPLICED

FEATURES & BENEFITS

- Snag resistant
- Abrasion resistant
- High strength-to-weight ratio
- Easy to splice
- Samthane coated

CONSTRUCTION 12-Strand

FIBER Polyester

SPLICE Class I 12-Strand

COLORS Black, blue, clear, green, orange, red, or yellow

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
1.40%	2.30%	3.00%

**EE calculated with spliced rope strength.*

Yellow

Red

Orange

Green

Clear

Blue

Black

Tech-12™

PRODUCT CODE: 890

Class II 12 STRAND CONSTRUCTION

Black

Blue

Green

Red

FEATURES & BENEFITS

- > High strength
- > Heat resistant
- > Easy to splice
- > Flexible

CONSTRUCTION 12-Strand

FIBER Aramid

SPLICE Class II 12-Strand

COLORS Black, blue, green, or red

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
0.63%	0.96%	1.20%

**EE calculated with spliced rope strength.*

This Samthane-coated 12-strand is made with 100% Technora® fiber and offers excellent heat resistance in addition to high resistance to flex fatigue.

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH SPLICED
5/16"	3.2 lb	13,000 lb
3/8"	4.3 lb	18,000 lb

DIAMETER MM	WEIGHT PER 100 ft KILOGRAMS	AVERAGE STRENGTH SPLICED
8 mm	4.8 kg	5,900 kg
9 mm	6.4 kg	8,200 kg

STANDARD LENGTH

600' Reel — UNSPLICED

Ultra-Tech™

PRODUCT CODE: 443

Class II DB DOUBLE BRAID CONSTRUCTION

Blue Tracers

Black Tracers

Green Tracers

Red Tracers

FEATURES & BENEFITS

- > High strength
- > Heat resistant
- > Low stretch

CONSTRUCTION Double Braid

COVER Polyester

CORE Aramid

SPLICE Class II Double Braid

COLORS Burgundy with black, blue, green, or red tracers

AT PERCENT OF BREAK STRENGTH		
10%	20%	30%
ELASTIC ELONGATION*		
0.63%	0.97%	1.24%

**EE calculated with spliced rope strength.*

Well-suited for climbing and rigging applications, this core-dependent double braid is a firm, flexible rope with a cover made of polyester and a core made with Technora®. Known for its high strength and low stretch, the Technora® core is heat resistant and will not fail if the cover is burned.

DIAMETER INCHES	WEIGHT PER 100 ft POUNDS	AVERAGE STRENGTH SPLICED
5/16"	4.0 lb	7,800 lb
3/8"	4.6 lb	10,000 lb

DIAMETER MM	WEIGHT PER 100 ft KILOGRAMS	AVERAGE STRENGTH SPLICED
8 mm	6.0 kg	3,500 kg
9 mm	6.8 kg	4,500 kg

STANDARD LENGTH

500' Reel — UNSPLICED

Moving Rope Tree Climbing Systems

In today's ever-evolving world of tree climbing, there are essentially two types of systems in use. There are Moving Rope Tree Climbing Systems and Stationary Rope Tree Climbing Systems. Both involve the use of one climbing line, however in a Moving Rope System, the climber is working on two parts of rope (doubled), whereas in a Stationary Rope System the climber is generally only working on a single part of rope.

Limbwalking using the split-tail climbing system.

Moving Rope Tree Climbing Systems

There are fundamentally two types of Moving Rope or Doubled Rope Technique (DdRT) Tree Climbing Systems used today. The Traditional One Rope Tree Climbing System and the Modern Split-Tail or Split-Bridge Tree Climbing System. These are known as Moving Rope Systems because, as the climber ascends and descends on the rope, both parts of the climbing line are moving.

TRADITIONAL ONE ROPE TREE CLIMBING SYSTEM

The one-rope, or traditional, tree climbing system utilizes one climbing line that is attached to the saddle, typically with a bowline leaving a long tail. The tail is then attached to the other part of the climbing line with a climbing hitch, originally a tautline hitch. The Blakes Hitch was popularized in the early 1990s and it has become the climbing hitch of choice for this application.

MODERN SPLIT-TAIL TREE CLIMBING SYSTEM

Advances in technology have led to the growing popularity of the Split Tail or Split Bridge system. The end of the climbing line is passed over a tree crotch or through a false crotch in the tree canopy and attached to a connecting link with a splice or a secure termination knot. A short piece of rope (Split Tail) is attached to a connecting link in a similar way and then secured to the other part of the climbing line with a climbing hitch. Mechanical climbing hitches may also be used.

Benefits of the Modern Split-Tail Tree Climbing System

- Ability to replace tail without reducing length of climbing line
- Two attachment points on saddle for added comfort and work positioning
- Easier to change tie-in point
- Allows you to use climbing line as a second lanyard
- Helps make climbing line more versatile
- Contrasting colors for easy identification of lines
- Many climbing hitch options

Stationary Rope Climbing Systems

Photo courtesy of ArborMaster®

The climber is ascending a single stationary line with a michoacan hitch tied with Tech-12 and a rope wrench with the aid of foot and knee ascenders.

Stationary Rope Tree Climbing Systems

Also known as Single Rope Systems (SRS), Stationary Rope Systems have been gaining popularity in recent years. Unlike the Moving Rope Systems where the climber is working on two parts of the same climbing line, in a Stationary System, the climber is generally working on a single leg of climbing line. The climbing line is passed over a tree crotch or multiple crotches in the tree canopy. The line is anchored in the tree canopy or down at the base of the tree, and as such, the rope doesn't move up or down, instead the climbing hitch/device moves over the rope. Special care needs to be taken when the line is passed over crotches in the canopy and anchored at the base of the tree since the load forces on the crotches in the tree are greatly increased, often doubled. It is very important for the climber to assess the potential forces prior to climbing to ensure that the tree can handle the load. This system may be used for ascent only into the tree canopy or for work positioning. When used for work positioning, the climber may use a short piece of rope to tie a climbing hitch or secure an approved mechanical device onto the climbing line. When using hitch cord to tie a climbing hitch, additional friction needs to be created with the aid of a device such as a rope wrench, to allow for controlled descending. This system can be much more efficient for long ascents into the tree. Because the rope is not moving, the climbing hitch/device is moving over the rope, reducing the friction of the climbing line against the tree.

***CLIMB SAFELY:** Become thoroughly familiar and seek proper training prior to using new or unfamiliar climbing methods and equipment (techniques & technologies).*

Hitches & Termination Knots

The advent of the Modern Split-Tail system introduced the use of one- and two-eye climbing tails. Shown below are various popular hitches that are used for one- and two-eye tails.

ONE-EYE HITCHES

Traditional Climbing


Tautline Hitch


Blake's Hitch


Prusik Hitch

TWO-EYE HITCHES

High-Performance Climbing

Two-eye tails, or eye-and-eye tails, can be made from Tech-12, single-end Tenex, Ice Tail, Bail Out, or Prusik Cord.


Michoacan Hitch


Knut Hitch


Distel Hitch


Schwabisch Hitch


Valdótain Hitch

This system offers the climber the benefits of having both ends attached to the saddle, in addition to a balanced hitch that cannot roll out.

TERMINATIONS

Here are three popular termination knots that can be an effective replacement for a splice.

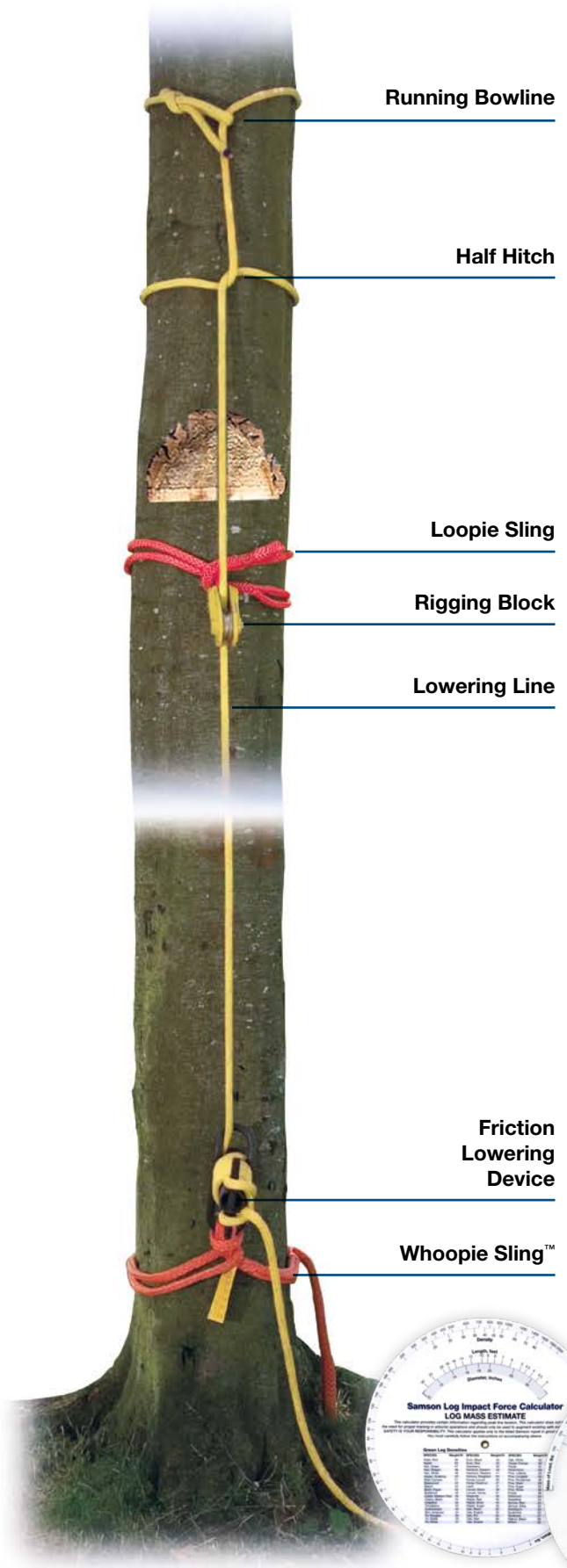
KNOTS:


Anchor


Buntline


Triple Fisherman

Technical Aspects of Rigging



Rigging for tree removal is more complicated than climbing. It demands experience and an understanding of the effects various knots and hitches have on the rope. It is widely known that knots can significantly reduce rope strength and corresponds to a reduction in the workload limit recommended by a manufacturer. The rigging techniques and knots presented here are meant to give a general overview of the basic principles of rigging. Prior to beginning any tree work, it is important to thoroughly examine the tree for structural imperfection, faults or weaknesses that could compromise safety. This text is not a substitute for proper training.

One of the most potentially dangerous aspects of rigging is "chunking out" large trunk sections of wood that are rigged vertically upon themselves.

Safety, as always, is the primary concern. It is important when rigging to minimize shockloading and manage friction efficiently. This is easiest to achieve when using arborist-grade rigging blocks in conjunction with appropriate friction; lowering devices, both of which have been tested and rated.

Excessive shock loading must always be considered when rigging. The rigging system should be constructed to withstand the maximum shock-load potential. Generally, maximum shock loads are experienced in a rigging system when the rigged piece is "snubbed off" and not gradually decelerated.

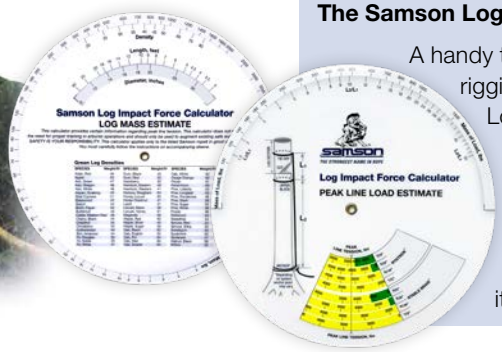
Avoid "snubbing off" whenever possible. Testing and research show that the block and sling can experience more than double the shock-load force in this situation.

RUNNING BOWLINE WITH HALF HITCH

These knots are used in conjunction with one another to attach rigging lines to tree sections that are being rigged for removal. The running bowline is easily untied. It securely chokes the piece when steady pressure is applied. The half hitch increases safety and provides stability and holding power.

ADJUSTABLE SLINGS

Loopies or *Whoopie Slings* are an excellent alternative to the traditional timber hitch as they cannot come untied. The timber hitch can be used to attach a rigging block or a friction device to a tree to use as a hoisting mechanism. Tendency for the hitch to come untied can be minimized by tucking for at least five wraps, spreading out the tucks over as much of the circumference of the trunk as possible and ensuring that the hitch is loaded "against the bight" whenever possible.



The Samson Log Impact Force Calculator ("Rigging Wheel")

A handy tool for estimating peak loads on your Samson rigging lines, it combines information from a Green Log Weight chart with the ratings for Samson ropes, and the length of lines in the system to estimate peak force that will be applied in a negative-blocking situation. Easy to use, instructions are on the wheel sleeve. Made from durable, weather-resistant materials, it's a handy tool for rigging and training.

Energy Absorption

When rigging trees for limb or top removal, care must be taken to avoid failure of any part of the system, including the limbs and hardware that support you in the tree. Perhaps the most important tools are the ropes that provide your way in and out of the tree, keep you safe while in the tree, and assist with the work you do to the tree.

The strength of rope is based on the maximum load or force it can withstand without failure. However, when selecting rope for a given job you must take into consideration that the actual load placed on the rope can be more than the weight of the object being suspended.

For example, when a tree-rigging operation is set up for the purpose of limb removal and the rigging point is below the load, the portion of the tree being cut will fall a significant distance. The rope will reach its peak load and be shock loaded when it catches the limb and brings it to a stop. The type of rope, or fiber content of the rope involved, will determine whether the rope fails under the forces at work in this situation. A rope made of 100% polyester, such as *Stable Braid,* has lower elongation than a rope made with a blend of polyester and nylon, such as *Nystron.* A rope made of 100% nylon has extremely high elongation and is not recommended for this application.

To absorb the amount of energy it takes to stop a falling limb using a rope with higher elongation will result in lower peak forces than using a rope with lower elongation. Ropes with high elongation, such as *Nystron,* have a number of advantages when compared to a less elastic rope, such as *Stable Braid:*

> **Reduced peak loading**

> **Reduced risk of system failure due to:**
- ***Less stress on the rope***
- ***Less stress on rigging hardware***
- ***Less stress on the tree***
- ***More energy absorption by the rope***

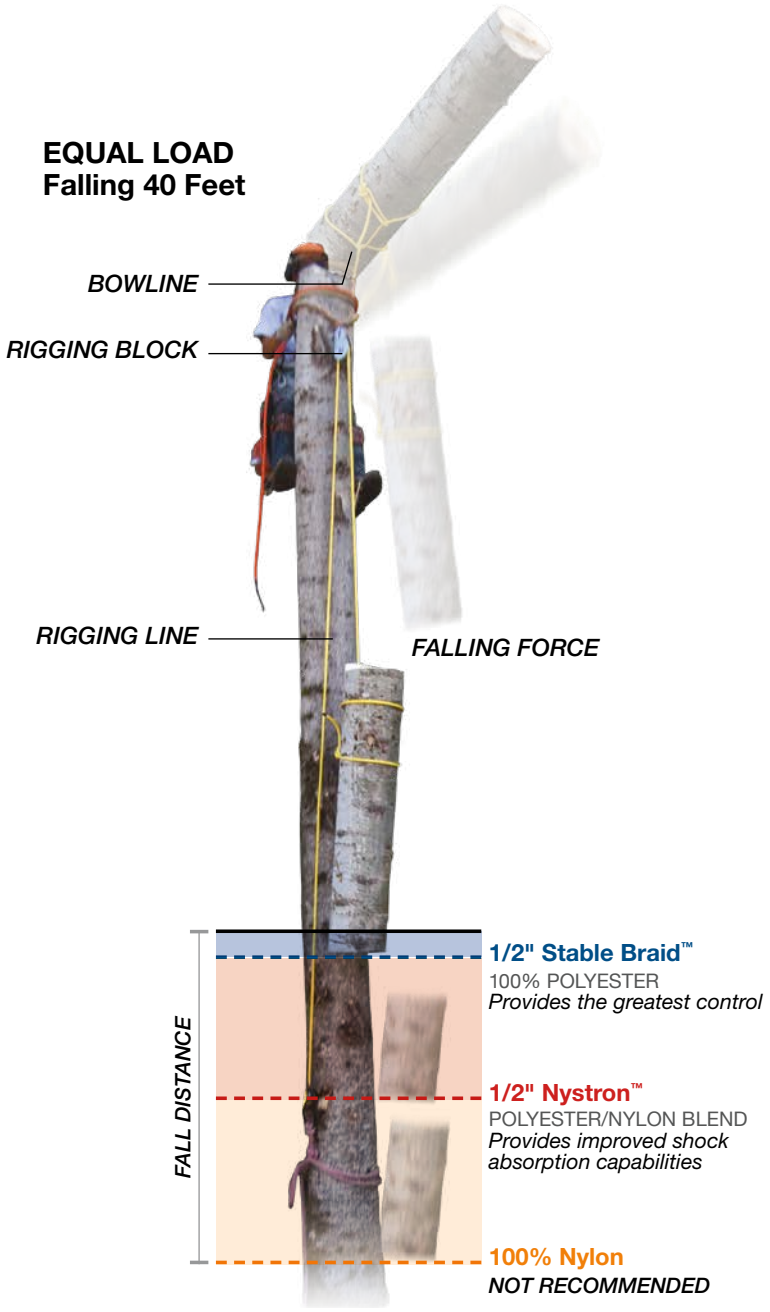
As a result of the reduced risk of failure in the rigging system, the margin of safety increases.

> **The disadvantages of using a rope with higher elongation include:**
Reduced control of the position of the object

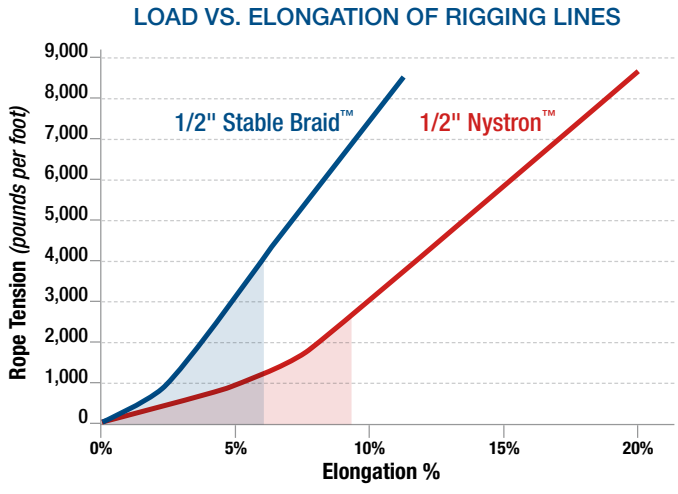
We recommend that the arborist use the right tool for the job:

> **For top roping and dropping loads in tight spaces:**
Stable Braid provides the greatest control for rigging of objects.

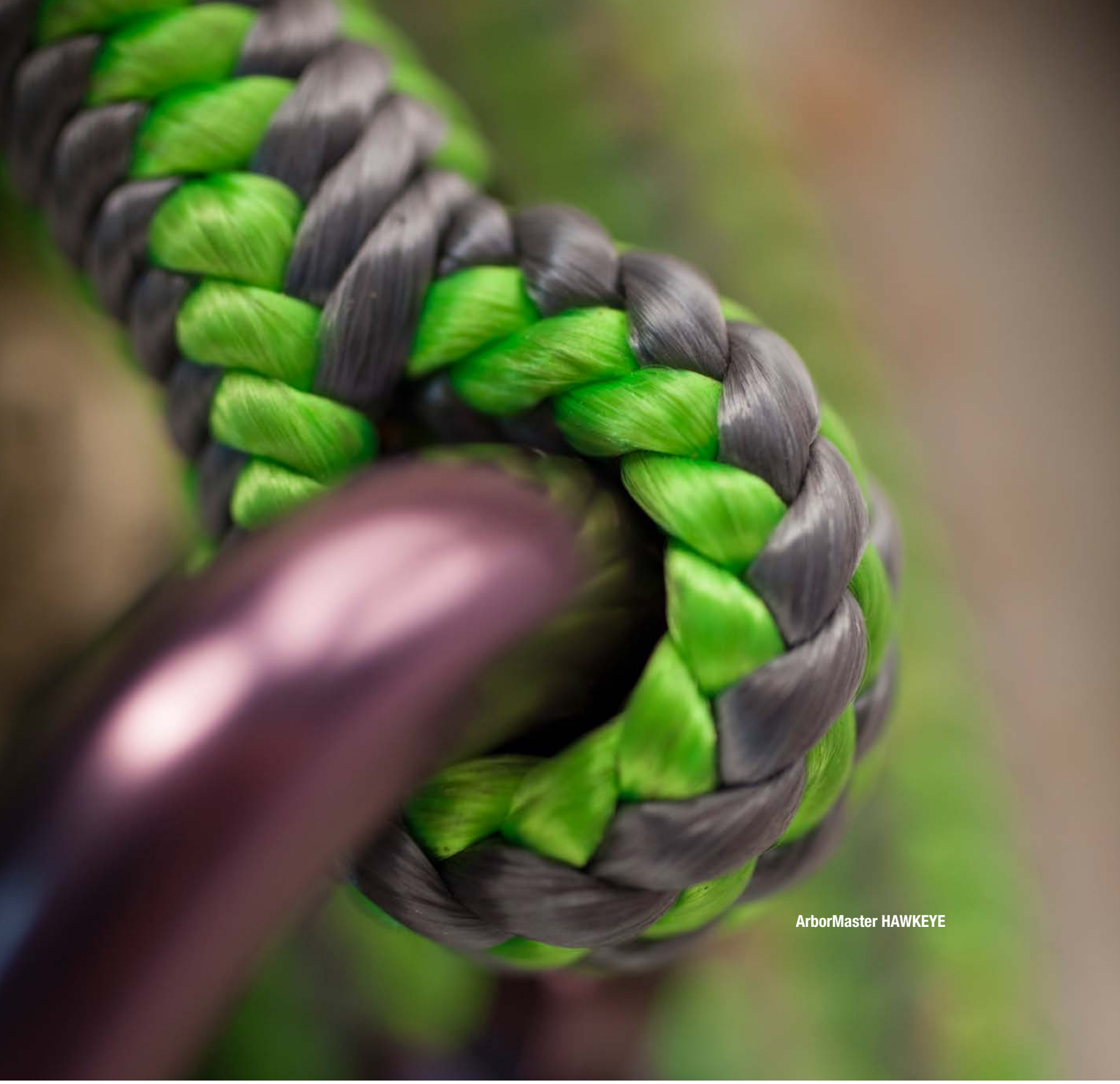
> **Rigging objects above the anchor point and dropping in open spaces:**
Nystron provides improved shock absorption capabilities and reduces the chance of failure with a dropped load.



Distances and measurements are for illustration purposes only.



The load vs. elongation curves of two ropes with similar breaking strengths. The shaded area beneath each of the curves represents the energy absorbed as the rope stretches. The two areas shown are equal representations of the same energy absorption, catching the same falling load. As shown, Nystron absorbs the energy while reaching the lowest load, but stretching the farthest.



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THE STRONGEST NAME IN ROPE

ACKNOWLEDGEMENTS:
Thanks to Ken Palmer, Rip Tompkins, and the ArborMaster® team, James Luce with Arboriculture Canada, Dave Stice with WesSpur, and Steven Conrad and Rich Keeton with Urban Forester Tree Service for their technical assistance.

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