



# LINE SELECTION GUIDE

2019



## CHOOSING THE BEST LINE FOR THE JOB



### So many different ropes — need a little help choosing?

Samson offers a large variety of ropes specifically designed for use as running rigging. Each is engineered to perform superbly under a particular set of circumstances. The choice may seem intimidating. Armed with a little knowledge and an accurate assessment of your sailing needs, the choice becomes clear.

#### Accurately assess your working load

Formulas for sheet loads are available in the back of this brochure, but consider the following:

Halyard loads are best determined by your rigger. For sheets, halyards, or control lines, anticipated loads are considered working loads. The standard working load for any Samson rope is 20% of the rated break strength.

For example, the total load for an end-of-boom mainsheet going through a four-purchase sheave system may be calculated at 900 lbs. Factoring in a 20% working load, the rope's break strength needs to be five times the working load, or 4,500 lbs. for this application.

#### Synthetic fibers: What are the differences?

Nylon was the first synthetic fiber widely used in ropes. Reasonably strong (much stronger than the natural fibers it replaced), nylon is still used in dock and anchor lines where its excellent elasticity allows it to absorb shock loads.

The introduction of polyester fiber allowed rope manufacturers to build ropes that were as strong as nylon, but with much less stretch and wet-strength loss. Because it has excellent grip, it works well on winches. Polyester ropes, particularly polyester double braids, became the standard against which all ropes were measured. Polyester is still regarded as an excellent fiber for many marine applications and is widely used for covers on high-performance, or high-modulus double braids.

#### High-modulus fibers: Which one, for what, and why?

There are several modern high-modulus fibers, each with a unique set of characteristics. The challenge of the rope designer is to match these characteristics with the unique performance requirements of the application for which they are designing.

Dyneema® is a high modulus polyethylene (HMPE) fiber with a particularly well balanced set of characteristics that allow it to be used in a variety of applications. Extremely lightweight (1/7th that of steel) with ultra-high strength (at least as strong as steel wire at the same size), very low stretch, and excellent abrasion, cut, and UV resistance, it is well-suited for use in halyards, control lines, and sheets.

Other high-modulus fibers include Technora® an aramid fiber that blends very high strength, low stretch, and abrasion resistance with extreme heat resistance; Vectran® a liquid crystal polymer (LCP) fiber; and Zylon® or PBO fiber, which offers the highest strength of all the high-modulus fibers; however, it must be protected from UV light. Technora®, Vectran®, and Zylon® are all exceptionally low-creep fibers.

In some cases, Samson blends fibers to take advantage of the relative properties of each of the components. See our product descriptions for more information.

#### Class I and Class II ropes: What are they?

Samson ropes are classified into two main categories based on fiber type. Ropes manufactured using the traditional fibers of nylon, polyester, and olefin are categorized as Class I. Those ropes made in whole or in part with any of the high-modulus fibers such as Dyneema®, Technora®, or Vectran® are categorized as Class II.

#### Double braids and single braids: What's the difference?

Samson invented the double braid in the late 1950s, when nylon was still the king of synthetic fibers. This construction incorporates a braided core within a braided cover, each carrying an equal percentage of the total load. This type of construction is common to lines that use the more traditional synthetic fibers like polyester, olefin, and nylon. In addition to carrying up to one-half of the load, the cover serves to protect the core from abrasion or ultraviolet degradation, to provide grip on winches or in clutches and stoppers, and to provide protection from friction-generated heat.

For applications that require higher strength and lighter weight than traditional Class I fibers provide, you will look to a core-dependant double braid. In this construction, the core is made from Class II fibers and serves as the strength member while the cover is typically made of Class I fibers.

Single braids are ropes designed without a separate core. Samson manufactures a wide variety of single braids. For sailing applications, the most common single braid is a 12-strand line. Where necessary or desired, covers can be added to single braids to protect them from exposure to heat, abrasion, or cutting while in use.

Alternately, a sailor may opt to strip the cover from a double braid in order to save additional weight aloft for halyard applications. The cover remains intact in areas on the rope where the rope is cleated or winched.

#### Splicing techniques: Why is knowing the class of my line important?

Splicing techniques are different between Class I and Class II ropes and reflect the differences in strengths and grip between the two groups. It is absolutely critical to use the correct splice for the class of rope being used. The product specifications include rope construction, class and recommended splicing technique.

## » LINE SELECTION GUIDE

### Racing or cruising, Samson makes a line for every application

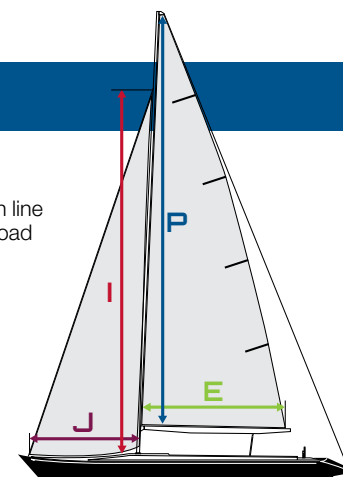
Sheets, halyards, and control lines all require different characteristics in strength and stretch. In these charts, you'll find a Samson line engineered for your size boat, the type of sailing you do, and its function in your rig. For sheets, use your sail plan and the sheet load formula provided to determine the appropriate size/strength for your boat and the wind conditions you expect to encounter.

To calculate typical loads on sheets for genoas, jibs, end of boom mainsheets, spinnaker guys and sheets, the following formula can be used (not applicable to multi-hull vessels):

$$(\text{windspeed})^2 \times .004 \times (\text{sail area in square feet}) = \text{sheet load at clew in pounds}$$

To calculate sail area based on your sail plan, use the following formulas:

$$100\% \text{ fore triangle} = 1/2J \times I \quad \text{mainsail} = 1/2E \times P$$



- I** Hoist of genoa, deck to sheaves
- P** Hoist of mainsail, top of boom to sheaves
- E** Foot of main from back of mast to end of boom
- J** Stem fitting to front of mast

### BREAK STRENGTH vs. ELASTIC STIFFNESS

When selecting a sailing line, the most commonly cited specification—break strength—is often NOT the most critical. For nearly all applications on a recreational sailboat, the strength of modern lines far exceeds both the load that it will experience and the strength of the hardware connected to it. Other characteristics, such as size, hand, weight, coefficient of friction, and flexibility are more important criteria for selection. Of these—elastic stiffness, or stretchiness of the line—is most critical.

Elastic stiffness is the resistance of a line to stretch under load. This is determined by the size, material, and construction of the line; and this is what sailors care about, because it impacts the way the rope handles. Before we can define the elastic stiffness of a rope, we must define one more thing: strain. Strain is the percentage change in length of an object when under the load. The higher the elastic stiffness, the less a line will elongate under load. In other words, the higher the elastic stiffness, the lower the strain.

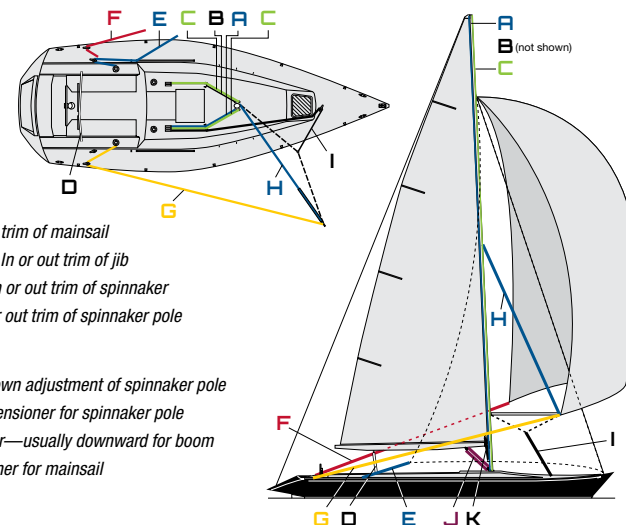
What does this mean, and how do we select the optimum stiffness of a line? Lines that control sail camber, such as halyards, outhauls, cunninghams, or jib sheets, benefit most from high stiffness. If, when beating to windward in a fresh breeze with your sail in the ideal trim, you are hit by a puff, the pressure on the sail would increase and thus the load on all the lines controlling that sail shape would increase—causing them to elongate. This elongation increases the depth of the sail camber, increasing both lift and drag on a sail.

There are cases where choosing a line with some stretch (lower elastic stiffness) is beneficial. A boom vang that is able to stretch when a puff hits allows the mainsail to twist and dump power from the head of the sail, thus preventing the boat from being overpowered. Similarly, using a lower stiffness line for a boom preventer is advisable, since it lowers the shock load on hardware and deck fittings.

Samson running and rigging lines allow sailors to select the appropriate lines for the desired elastic stiffness, based on your use and equipment.

### HALYARDS

- A Main Halyard**  
Usage: Hoist or lower mainsail
- B Jib/Genoa Halyard**  
Usage: Hoist or lower jib/genoa
- C Spinnaker Halyard**  
Usage: Hoist or lower spinnaker



### SHEETS

- D Mainsheets** Usage: In or out trim of mainsail
- E Jib/Genoa Sheets** Usage: In or out trim of jib
- F Spinnaker Sheet** Usage: In or out trim of spinnaker
- G Spinnaker Guy** Usage: In or out trim of spinnaker pole

### CONTROL LINES

- H Topping Lift** Usage: Up or down adjustment of spinnaker pole
- I Fore Guy** Usage: Downward tensioner for spinnaker pole
- J Boom Vang** Usage: Tensioner—usually downward for boom
- K Cunningham** Usage: Tensioner for mainsail

### ELASTIC STIFFNESS Approximate average in kN (kilonewtons)

|               | DIAMETER        | 2.5 mm<br>7/64" | 3 mm<br>1/8" | 5 mm<br>3/16" | 6 mm<br>1/4" | 8 mm<br>5/16" | 9 mm<br>3/8" | 10 mm<br>13/32" | 11 mm<br>7/16" | 12 mm<br>1/2" | 14 mm<br>9/16" |
|---------------|-----------------|-----------------|--------------|---------------|--------------|---------------|--------------|-----------------|----------------|---------------|----------------|
| SINGLE BRAIDS | AmSteel® Blue   | 327             | 493          | 981           | 1,470        | 2,460         | 3,440        | 4,250           | 5,910          | 7,550         |                |
|               | AmSteel®        |                 |              |               | 1,150        | 1,920         | 2,690        | 3,330           | 4,620          | 5,860         |                |
|               | Lightning Rope™ | 240             | 311          | 719           | 1,080        | 1,920         | 2,640        | 3,000           | 4,440          | 5,550         |                |
|               | Tech-12™        |                 | 293          | 586           | 879          | 1,470         | 1,980        |                 |                |               |                |
|               | Validator-12™   | 181             | 241          | 482           | 843          | 1,390         | 1,810        | 2,350           | 3,370          | 4,220         |                |
|               | Control-DPX™    |                 |              |               | 537          | 719           | 1,190        | 1,440           | 1,890          |               |                |
| DOUBLE BRAIDS | GPX™            |                 |              |               | 1,010        | 1,590         |              | 2,460           | 3,320          | 4,770         |                |
|               | WarpSpeed II™   |                 |              |               | 548          | 1,220         | 1,700        | 2,430           | 2,190          | 4,370         |                |
|               | MLX3™           |                 |              |               | 571          | 962           |              | 1,530           | 1,900          | 2,530         |                |
|               | Ultra-Lite™     |                 |              | 151           | 301          | 546           | 702          |                 |                |               |                |
|               | XLS3™           |                 |              |               | 114          | 188           |              | 278             | 388            | 529           |                |
|               | Trophy Braid™   |                 |              | 42.6          | 75.9         | 114           | 151          | 228             | 294            |               |                |

### BREAKING STRENGTHS Approximate average in pounds

|               | DIAMETER        | 2.5 mm<br>7/64" | 3 mm<br>1/8" | 5 mm<br>3/16" | 6 mm<br>1/4" | 8 mm<br>5/16" | 9 mm<br>3/8" | 10 mm<br>13/32" | 11 mm<br>7/16" | 12 mm<br>1/2" | 14 mm<br>9/16" |
|---------------|-----------------|-----------------|--------------|---------------|--------------|---------------|--------------|-----------------|----------------|---------------|----------------|
| SINGLE BRAIDS | AmSteel® Blue   | 1,600           | 2,500        | 5,400         | 8,600        | 13,700        | 19,600       | 23,900          | 34,000         | 40,500        |                |
|               | AmSteel®        |                 |              |               | 7,400        | 10,500        | 15,500       | 18,000          | 27,500         | 34,000        |                |
|               | Lightning Rope™ | 1,400           | 2,100        | 5,400         | 7,900        | 13,500        | 18,500       | 20,600          | 32,000         | 41,600        |                |
|               | Tech-12™        |                 | 2,800        | 5,600         | 8,200        | 13,000        | 18,000       |                 |                |               |                |
|               | Validator-12™   | 2,000           | 2,700        | 5,500         | 9,400        | 14,000        | 19,500       | 23,500          | 35,000         | 43,000        |                |
|               | Control-DPX™    |                 |              |               | 3,700        | 5,600         | 9,300        | 11,000          | 14,000         |               |                |
| DOUBLE BRAIDS | GPX™            |                 |              |               | 5,900        | 9,400         |              | 13,900          | 19,300         | 27,700        |                |
|               | WarpSpeed II™   |                 |              |               | 5,100        | 6,200         | 9,800        |                 | 14,000         | 21,000        | 26,500         |
|               | MLX3™           |                 |              |               | 3,400        | 5,600         |              | 7,700           |                | 10,900        | 15,000         |
|               | Ultra-Lite™     |                 |              | 1,200         | 2,200        | 2,900         | 4,400        |                 |                |               |                |
|               | XLS3™           |                 |              |               | 2,400        | 4,000         |              | 5,800           |                | 8,100         | 11,000         |
|               | Trophy Braid™   |                 |              | 800           | 1,400        | 2,000         | 3,000        |                 | 4,000          | 6,000         |                |



| JIB/GENOA SHEETS |                                       |                                    |   |
|------------------|---------------------------------------|------------------------------------|---|
| SIZE             | CRUISER                               | CRUISER/RACER                      | HIGH-TECH RACER                               |
| 15'              | 6mm Control-DPX,Trophy                | 6mm Control-DPX, XLS3              | 6mm Control-DPX, GPX, WarpSpeed II            |
| 20'              | 6mm Control-DPX,Trophy                | 6mm Control-DPX, XLS3              | 6mm Control-DPX, GPX, WarpSpeed II            |
| 25'              | 8mm Control-DPX,Trophy, XLS3          | 8mm Control-DPX, MLX3, XLS3        | 6mm GPX, WarpSpeed II 8mm Control-DPX         |
| 30'              | 9mm Control-DPX,Trophy<br>10mm XLS3   | 9mm Control-DPX<br>10mm MLX3, XLS3 | 6mm GPX, WarpSpeed II 9mm Control-DPX         |
| 35'              | 10mm XLS3<br>11mm Control-DPX, Trophy | 11mm Control-DPX, MLX3, XLS3       | 8mm GPX, WarpSpeed II<br>11mm Control-DPX     |
| 40'              | 12mm Control-DPX, Trophy, XLS3        | 12mm Control-DPX, MLX3, XLS3       | 9mm WarpSpeed II 10mm GPX<br>12mm Control-DPX |
| 45'              | 12mm Control-DPX, XLS3                | 12mm Control-DPX, MLX3,            | 9mm WarpSpeed II 10mm GPX<br>12mm Control-DPX |
| 50'              | 12mm Control-DPX, XLS3                | 12mm Control-DPX, MLX3             | 9mm WarpSpeed II 10mm GPX<br>12mm Control-DPX |

| CONTROL LINES <i>For Topping Lifts, Fore Guys, Boom Vangs &amp; Cunninghams</i> |                                       |   |   |
|---|---------------------------------------|---|---|
| SIZE  | CRUISER                               | CRUISER/RACER                                     | HIGH-TECH RACER   |
| 15'   | 6mm XLS3                              | 5mm AmSteel®<br>6mm XLS3                          | 5mm AmSteel®Blue, Lightning Rope, Tech-12<br>6mm GPX, WarpSpeed II                        |
| 20'   | 6mm Control-DPX, Trophy, XLS3         | 6mm AmSteel®Control-DPX, MLX3, XLS3               | 5mm AmSteel®Blue, Lightning Rope, Tech-12<br>6mm Control-DPX, GPX, WarpSpeed II           |
| 25'   | 6mm Control-DPX, Trophy, XLS3         | 6mm AmSteel®Control-DPX, MLX3, XLS3               | 5mm AmSteel®Blue, Lightning Rope, Tech-12,<br>6mm Control-DPX, GPX, WarpSpeed II          |
| 30'   | 8mm Control-DPX, Trophy, XLS3         | 8mm AmSteel®Control-DPX, MLX3, XLS3               | 6mm AmSteel®Blue, GPX, WarpSpeed II<br>8mm Control-DPX                                    |
| 35'   | 8mm Control-DPX, Trophy, XLS3         | 8mm AmSteel®Control-DPX, MLX3, XLS3               | 5mm AmSteel®Blue, Lightning Rope, Tech-12<br>6mm GPX, WarpSpeed II 8mm Control-DPX        |
| 40'   | 9mm Control-DPX, Trophy 10mm XLS3     | 9mm AmSteel®Control-DPX, 10mm MLX3, XLS3          | 6mm AmSteel®Blue, Lightning Rope, Tech-12<br>8mm GPX, WarpSpeed II 9mm Control-DPX        |
| 45'   | 10mm XLS3<br>11mm Control-DPX, Trophy | 9mm AmSteel® 10mm MLX3, XLS3<br>11mm Control-DPX  | 6mm AmSteel®Blue, Lightning Rope, Tech-12<br>8mm GPX, WarpSpeed II 11mm Control-DPX       |
| 50'   | 12mm Control-DPX, Trophy, XLS3        | 10mm MLX3, XLS3<br>11mm AmSteel®,12mm Control-DPX | 8mm AmSteel®Blue, Lightning Rope, Tech-12<br>9mm WarpSpeed II, 10mm GPX, 12mm Control-DPX |

| SPINNAKER SHEETS |                                       |  |  |
|------------------|---------------------------------------|--|--|
| SIZE             | CRUISER                               | CRUISER/RACER                                | HIGH-TECH RACER  |
| 15'              | 6mm Control-DPX, Trophy, XLS3         | 6mm Control-DPX, MLX3, Ultra-Lite            | 6mm Control-DPX, Ultra-Lite, GPX, WarpSpeed II           |
| 20'              | 6mm Control-DPX, Trophy, XLS3         | 6mm Control-DPX, MLX3, Ultra-Lite            | 6mm Control-DPX, Ultra-Lite, GPX, WarpSpeed II           |
| 25'              | 8mm Control-DPX, Trophy, XLS3         | 8mm Control-DPX, MLX3, Ultra-Lite            | 6mm GPX, WarpSpeed II 8mm Control-DPX, Ultra-Lite        |
| 30'              | 9mm Control-DPX, Trophy 10mm XLS3     | 9mm Control-DPX, Ultra-Lite 10mm MLX3        | 8mm GPX, WarpSpeed II 9mm Control-DPX, Ultra-Lite        |
| 35'              | 10mm XLS3<br>11mm Control-DPX, Trophy | 9mm Ultra-Lite 10mm MLX3<br>11mm Control-DPX | 8mm GPX, WarpSpeed II 9mm Ultra-Lite<br>11mm Control-DPX |
| 40'              | 11mm Control-DPX 12mm Trophy, XLS3    | 11mm Control-DPX 12mm MLX3, XLS3             | 9mm WarpSpeed II 10mm GPX, MLX3<br>11mm Control-DPX      |
| 45'              | 12mm Control-DPX, XLS3                | 12mm Control-DPX MLX3, XLS3                  | 9mm WarpSpeed II 10mm GPX, MLX3<br>12mm Control-DPX      |
| 50'              | 12mm Control-DPX                      | 12mm Control-DPX, MLX3, XLS3                 | 10mm GPX 11mm WarpSpeed II<br>12mm Control-DPX, MLX3     |

| HALYARDS <i>For Main, Jib/Genoa, &amp; Spinnaker Halyards</i> |           |                                     |   |
|---|-----------|-------------------------------------|---|
| SIZE  | CRUISER   | CRUISER/RACER                       | HIGH-TECH RACER   |
| 15'   | 6mm XLS3  | 6mm XLS3                            | 3mm Tech-12, 6mm MLX3, WarpSpeed II   |
| 20'   | 6mm XLS3  | 6mm MLX3, XLS3, WarpSpeed II        | 5mm AmSteel®Blue, Tech-12, Lightning Rope, Validator-12<br>6mm WarpSpeed II, GPX, AmSteel®          |
| 25'   | 8mm XLS3  | 6mm WarpSpeed II<br>8mm MLX3, XLS3  | 5mm AmSteel®Blue, Tech-12, Lightning Rope, Validator-12<br>6mm WarpSpeed II, GPX, AmSteel®          |
| 30'   | 10mm XLS3 | 8mm WarpSpeed II<br>10mm MLX3, XLS3 | 6mm AmSteel®Blue, Tech-12, Lighting Rope, Validator-12<br>8mm WarpSpeed II, GPX, AmSteel®           |
| 35'   | 10mm XLS3 | 9mm WarpSpeed II<br>10mm MLX3, XLS3 | 6mm AmSteel®Blue, Tech-12, Lightning Rope, Validator-12<br>8mm GPX, WarpSpeed II                    |
| 40'   | 12mm XLS3 | 9mm WarpSpeed II<br>12mm MLX3, XLS3 | 6mm AmSteel®Blue, Tech-12, Lightning Rope, Validator-12<br>8mm AmSteel®, WarpSpeed II, GPX          |
| 45'   | 12mm XLS3 | 11mm WarpSpeed II<br>12mm MLX3      | 6mm AmSteel®Blue, Tech-12, Lightning Rope, Validator-12<br>8mm GPX, AmSteel® 9mm WarpSpeed II       |
| 50'   | 10mm MLX3 | 11mm WarpSpeed II<br>12mm MLX3      | 8mm AmSteel®Blue, Tech-12, Lightning Rope, Validator-12<br>9mm AmSteel®, 10mm GPX 11mm WarpSpeed II |

*NOTE: The high-tech racer may wish to break down the halyards more specifically and in the same diameters as follows:  
Main: Validator-12; GPX Spinnaker: WarpSpeed II*

| MAINSHEETS <i>End of Boom Sheeting</i> |  |   |  |
|--|--|---|--|
| SIZE                                   | CRUISER                                | CRUISER/RACER                           | HIGH-TECH RACER                                |
| 15'                                    | 6mm Control-DPX, Trophy, XLS3          | 6mm Control-DPX, MLX3, XLS3, Ultra-Lite | 6mm Control-DPX, GPX, WarpSpeed II             |
| 20'                                    | 8mm Control-DPX, Trophy, XLS3          | 8mm Control-DPX, MLX3, XLS3, Ultra-Lite | 6mm GPX, WarpSpeed II<br>8mm Control-DPX       |
| 25'                                    | 8mm Control-DPX, Trophy, XLS3          | 8mm Control-DPX, MLX3, XLS3, Ultra-Lite | 6mm GPX, WarpSpeed II<br>8mm Control-DPX       |
| 30'                                    | 8mm Control-DPX 9mm Trophy 10mm XLS3   | 8mm Control-DPX 10mm MLX3, XLS3         | 8mm Control-DPX, GPX, WarpSpeed II             |
| 35'                                    | 8mm Control-DPX 10 mm XLS3 11mm Trophy | 8mm Control-DPX 10mm MLX3, XLS3         | 8mm Control-DPX 9mm WarpSpeed II 10mm GPX      |
| 40'                                    | 11mm Control-DPX 12mm Trophy, XLS3     | 11mm Control-DPX 12mm MLX3, XLS3        | 8mm Control-DPX 9mm WarpSpeed II 10mm GPX      |
| 45'                                    | 11mm Control-DPX 12mm Trophy, XLS3     | 11mm Control-DPX 12mm MLX3              | 10mm GPX<br>11mm Control-DPX, WarpSpeed II     |
| 50'                                    | 12mm Control-DPX 16mm Trophy           | 12mm Control-DPX, MLX3                  | 10mm GPX 11mm WarpSpeed II<br>12mm Control-DPX |

| SPINNAKER GUYS |                            |                                     |  |
|----------------|----------------------------|-------------------------------------|--|
| SIZE           | CRUISER                    | CRUISER/RACER                       | HIGH-TECH RACER                                |
| 15'            | N/A                        | 6mm Control-DPX, XLS3               | 6mm Control-DPX, GPX, WarpSpeed II             |
| 20'            | N/A                        | 6mm Control-DPX, XLS3               | 6mm Control-DPX, GPX, WarpSpeed II             |
| 25'            | N/A                        | 8mm Control-DPX, MLX3, XLS3         | 8mm Control-DPX, 6mm GPX, WarpSpeed II         |
| 30'            | 8mm Control-DPX, 9mm XLS3  | 9mm Control-DPX 10mm MLX3           | 8mm GPX, WarpSpeed II 9mm Control-DPX          |
| 35'            | 10mm XLS3 11mm Control-DPX | 10mm MLX3 11mm Control-DPX          | 8mm GPX, WarpSpeed II 11mm Control-DPX         |
| 40'            | 11mm Control-DPX 12mm XLS3 | 11mm Control-DPX 12mm MLX3          | 9mm WarpSpeed II 10mm GPX<br>11mm Control-DPX  |
| 45'            | 12mm Control-DPX           | 11mm WarpSpeed II 12mm Control-DPX  | 10mm GPX 11mm WarpSpeed II<br>12mm Control-DPX |
| 50'            | 12mm Control-DPX           | 11mm WarpSpeed II, 12mm Control-DPX | 11mm GPX, WarpSpeed II<br>12mm Control-DPX     |

## AmSteel®-Blue Product Code: 872

This 12-strand single braid is made from 100% Dyneema® which provides the maximum strength-to-weight ratio. It is lightweight, floats, and has high abrasion and cut resistance. Cover where winch or rope clutches are used.



### FEATURES:

- > Size-for-size, the same strength as wire rope
- > Extremely low stretch
- > Lightweight
- > Floats
- > Superior wear and flex fatigue
- > Torque-free construction
- > Easily spliced
- > UV stabilized

**CONSTRUCTION:**  
12-strand single braid

**FIBER:** HMPE

### COLORS:

Blue, some sizes also available by special order in black, gray, green, orange, red, or yellow

**SPLICE/CLASS:**  
12-Strand Class II

## AmSteel® Product Code: 870

An economical alternative to AmSteel®Blue, AmSteel® is a non-rotational rope that yields high strength and low stretch. It is flexible, easily spliced, and resists flex-fatigue and abrasion.



### FEATURES:

- > High strength
- > Extremely low stretch
- > Floats
- > Easy to splice
- > Extremely lightweight
- > Wire rope replacement

**CONSTRUCTION:**  
12-strand single braid

**FIBER:**  
HMPE

### COLORS:

Gray, red, blue, green, orange, and yellow

**SPLICE/CLASS:**  
12-Strand Class II

## Lightning Rope™ Product Code: 379

This 12-strand construction blends Vectran® and Dyneema® fibers into a reliable, lightweight line with very low stretch and resistance to creep elongation.



### FEATURES:

- > High strength-to-weight ratio
- > Extremely low stretch

**CONSTRUCTION:**  
12-strand single braid

**FIBER:**  
LCP-HMPE blend

**COLORS:**  
Black, blue, green, or red

**SPLICE/CLASS:**  
12-Strand Class II

## NEW! GPX™ Product Code: 437

Samson's highest-performing line, GPX's core is a custom blend of Dyneema® SK99 and DM20, providing the highest possible elastic stiffness and zero creep. The specially-blended cover provides superior grip, excellent durability, and heat resistance.



SUNSET

### FEATURES:

- > Highest strength and stiffness
- > Zero creep and lowest stretch
- > Lightweight
- > Blended, strippable cover for improved traction

**CONSTRUCTION:**  
Core-dependent double braid

**FIBER (Core/Cover):**  
HMPE / Aramid-Polyester blend

### COLORS:

Carbon with midnight, ocean, daybreak or dawn tracers and matching cores

**SPLICE/CLASS:**  
Double Braid Class II

## WarpSpeed II™ Product Code: 440

The strength member in this double braid is 100% Dyneema® with a flexible 24-strand polyester cover. Strip the cover to save weight.



### FEATURES:

- > High strength
- > Extremely low stretch
- > Lightweight
- > Excellent abrasion resistance

**CONSTRUCTION:**  
Core-dependent double braid

**FIBER (Core/Cover):**  
HMPE / Polyester

### COLORS:

Variegated beige with black, blue, green, or red and matching cores

**SPLICE/CLASS:**  
Double Braid Class II

## NEW! MLX3™ Product Code: 436

MLX3 is a lightweight, core-dependent line with excellent strength and moderate stretch. The core is coated to match the cover, making the line strippable for greater weight savings.



MIDNIGHT

### FEATURES:

- > High strength
- > Lightweight
- > Moderate stretch
- > Coated core matches cover

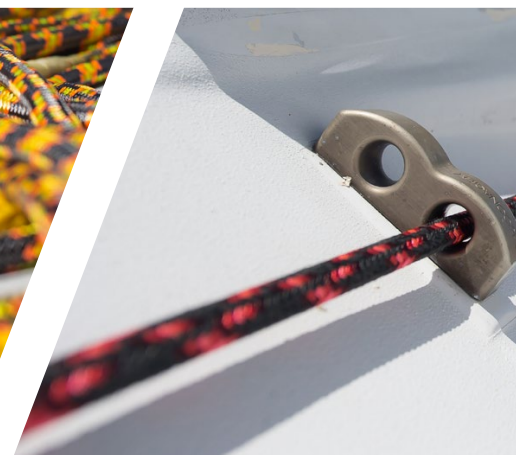
**CONSTRUCTION:**  
Core-dependent double braid

**FIBER (Core/Cover):**  
HMPE blend / Polyester

### COLORS:

Slate with midnight, ocean, daybreak or dawn tracers and matching cores

**SPLICE/CLASS:**  
Double Braid Class II





## Tech-12™

Product Code: 890

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

### FEATURES:

- > Easy to splice
- > Samthane coated
- > Works well around sheaves and winches
- > Excellent heat resistance
- > Non-rotational
- > Negligible creep
- > Wire rope replacement

**CONSTRUCTION:**  
12-strand single braid

**FIBER:** Aramid

**COLORS:**  
Black, blue, green, or red

**SPLICE/CLASS:**  
12-Strand Class II



## Validator-12™

Product Code: 446

Validator-12 is a 12-strand construction made of 100% Vectran®. This easy-to-splice, no-creep line is extremely strong and lightweight.

### FEATURES:

- > High strength-to-weight ratio
- > Extremely low stretch
- > Negligible creep
- > Samthane coated
- > Non-rotational
- > Heat resistant
- > Excellent durability
- > Abrasion resistant
- > Wire rope replacement

**CONSTRUCTION:**  
12-strand single braid

**FIBER:** LCP

**COLORS:**  
Black, blue, green, or red

**SPLICE/CLASS:**  
12-Strand Class II



## Control-DPX™

Product Code: 888

Control-DPX™ combines Dyneema® fiber and Samson's patented DPX™ fiber technology into a strong, lightweight line that is winch- and cleat-friendly while being incredibly easy on the hands. It performs well where winches are required without an added cover, while retaining the great "feel" you want in a mainsheet or guy. Control-DPX™ is not recommended for use with self-tailing winches.

### FEATURES:

- > High strength
- > Low stretch
- > Solid grip on winch drums
- > Runs through blocks without kinking
- > Easy to handle
- > Lightweight
- > Easy to splice

**CONSTRUCTION:**  
12-strand single braid

**FIBER:**  
HMPE - Polyester blend

**COLORS:**  
White with black, blue, green, red, or white tracers

**SPLICE/CLASS:**  
12-Strand Class II



## Ultra-Lite™

Product Code: 441

Great for light-wind sheets. This lightweight, floating double braid has a 24-strand MFP cover and a blended core of MFP and Dyneema®.

### FEATURES:

- > Floats
- > High strength
- > Low stretch

**CONSTRUCTION:**  
Core-dependent double braid

**FIBER (Core/Cover):**  
HMPE blend / Polypropylene

**COLORS:**  
Black, blue, green, or red — all with yellow tracers

**SPLICE/CLASS:**  
Double Braid Class II



## NEW! XLS3™

Product Code: 435

XLS3 is an update to a classic line — now stronger and more responsive with an updated look. Cruising sailors looking for optimal performance will appreciate the low-stretch polyester construction, smooth rendering, and long life of XLS3.

### FEATURES:

- > Excellent abrasion resistance
- > Easy to splice
- > Great value using learnings from our elite-level rope

**CONSTRUCTION:**  
Double braid

**FIBER (Core/Cover):**  
Polyester / Polyester

**COLORS:**  
White with midnight, ocean, daybreak or dawn tracers and solid navy, khaki, and white

**SPLICE/CLASS:**  
Double Braid Class I



OCEAN

## Trophy Braid™

Product Code: 453

Trophy Braid line has a soft, fuzzy cover that is easy on the hands. This double braid construction has a spun polyester cover and a polyester core.

### FEATURES:

- > Easy to hold, wet or dry
- > Holds well in all types of cleats
- > Has a solid grip on winch drums

**CONSTRUCTION:**  
Double braid

**FIBER (Core/Cover):**  
Polyester / Spun Polyester

**COLORS:**  
Black, blue, green, red, or white — all with a green and red ID

**SPLICE/CLASS:**  
Double Braid Class I





## Dock & Anchor Lines

**Whether power or sail, the most frequently used lines aboard are the dock and anchor lines**

It's a fact of boating life that, for most of us, our boats spend more time moored than underway. Protect your investment and give yourself a little peace of mind by ensuring that you've got the best dock and anchor lines available.

### Is there really a difference?

Yes. All Samson lines are built with 100% premium nylon that provides excellent stretch and flexibility. Nylon's elastic elongation properties help smooth out the surge effects of wakes, waves, wind, or heavy seas, making nylon the perfect fiber for dock and anchor lines. All of Samson's colored dock lines are produced with solution-dyed nylon to prevent bleed or fade.

### Consistent quality from the company that moors more vessels than any other

Our recreational marine products are subjected to the same rigorous testing and quality control under which we produce mooring lines and hawsers for some of the world's largest vessels. You can be sure that Samson dock and anchor lines are the same diameter and length as those printed on the box. They are also professionally prespliced, with thimbles included on all anchor lines.

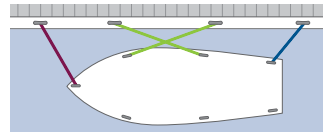
## » DOCK LINES

### Choices—because not all boats are the same

Samson offers two different constructions. Dock lines are available in either double braid (*Gold-N-Braid*, *Solid Color*, or *Super Strong*) or *Pro-Set*, a 4-stage 3-strand twisted construction.

Dock lines are available pre-packaged in a variety of diameters and lengths with an eye spliced on one end. Custom sizes and lengths to suit specific mooring requirements are available; consult your local Samson dealer.

### CUSTOM DOCK LINES



**Formulas for calculating custom dock lines:**

- Bow Lines =  $1\frac{1}{2} \times \text{Beam}$
- Spring Lines =  $\frac{3}{4} \times \text{Length Over All}$
- Stern Lines =  $1\frac{1}{2} \text{ to } 2 \times \text{Beam}$

## DOCK LINE SELECTION GUIDE

*Strengths are approximate averages of new rope.*

| Boat Size  | Gold-N-Braid™        | Solid Color™         | Super Strong™        | Pro-Set™             |
|------------|----------------------|----------------------|----------------------|----------------------|
| 15–25 ft   | 3/8 in.<br>4,500 lb  | 3/8 in.<br>4,500 lb  | 3/8 in.<br>4,900 lb  | 3/8 in.<br>3,600 lb  |
| 26–30 ft   | 3/8 in.<br>4,500 lb  | 3/8 in.<br>4,500 lb  | 3/8 in.<br>4,900 lb  | 1/2 in.<br>6,300 lb  |
| 31–35 ft   | 3/8 in.<br>4,500 lb  | 3/8 in.<br>4,500 lb  | 3/8 in.<br>4,900 lb  | 1/2 in.<br>6,300 lb  |
| 36–40 ft   | 1/2 in.<br>7,900 lb  | 1/2 in.<br>7,900 lb  | 1/2 in.<br>8,600 lb  | 5/8 in.<br>10,000 lb |
| 41–50 ft   | 1/2 in.<br>7,900 lb  | 1/2 in.<br>7,900 lb  | 1/2 in.<br>8,600 lb  | 5/8 in.<br>10,000 lb |
| 51–60 ft   | 5/8 in.<br>14,000 lb | 5/8 in.<br>14,000 lb | 5/8 in.<br>15,200 lb | 3/4 in.<br>13,500 lb |
| 61–75 ft   | 3/4 in.<br>19,400 lb | 3/4 in.<br>18,500 lb | 3/4 in.<br>18,800 lb | 7/8 in.<br>19,000 lb |
| 76–90 ft   | 3/4 in.<br>19,400 lb | 7/8 in.<br>27,000 lb | 7/8 in.<br>29,000 lb | 1 in.<br>25,000 lb   |
| 91–100 ft  |                      | 1 in.<br>33,900 lb   | 1 in.<br>36,000 lb   |                      |
| 101–120 ft |                      | 1 in.<br>33,900 lb   | 1 in.<br>36,000 lb   |                      |

## DOCK LINE LENGTHS

| Diameter INCHES | Gold-N-Braid™ FEET | Solid Color™ FEET       | Super Strong™ FEET      | Pro-Set™ FEET      |
|-----------------|--------------------|-------------------------|-------------------------|--------------------|
| 3/8 in.         | 15', 20', 25'      | 15', 20', 25'           | 15', 20', 25'           | 15', 20'           |
| 1/2 in.         | 15', 20', 25'      | 15', 20', 25', 30', 35' | 15', 20', 25', 30', 35' | 15', 20', 25', 30' |
| 5/8 in.         | 25', 30', 35'      | 20', 25', 30', 35'      |                         | 25', 30', 35', 40' |
| 3/4 in.         | 40', 50'           | 40', 50'                |                         |                    |

### DOUBLE BRAIDS



Gold-N-Braid™



Solid Color™ Navy



Solid Color™ Blue



Solid Color™ Black



Super Strong™



### 3-STRAND

Pro-Set™

## » ANCHOR LINES

### Choices—because not all boats are the same

Available in double braid (*Gold-N-Braid* or *Super Strong*), or 3-strand twisted constructions (*Pro-Set-3*), Samson anchor lines provide excellent strength, energy absorption, and long service life.

### DOUBLE BRAIDS



Gold-N-Braid™



Super Strong™

### 3-STRAND



Pro-Set-3™



*Samson anchor lines are shipped with a prespliced high-strength, reinforced captive thimble. Smaller diameters are shipped in convenient, reusable plastic tote boxes. Longer lengths on spools are available. Contact your local Samson dealer for more information.*

## ANCHOR LINE SELECTION GUIDE

*Strengths are approximate averages of new rope.*

| Boat Size  | Gold-N-Braid™        | Super Strong™        | Pro-Set™             |
|------------|----------------------|----------------------|----------------------|
| 15–25 ft   | 3/8 in.<br>4,500 lb  | 3/8 in.<br>4,900 lb  | 3/8 in.<br>3,600 lb  |
| 26–30 ft   | 3/8 in.<br>4,500 lb  | 3/8 in.<br>4,900 lb  | 1/2 in.<br>6,300 lb  |
| 31–35 ft   | 3/8 in.<br>4,500 lb  | 3/8 in.<br>4,900 lb  | 1/2 in.<br>6,300 lb  |
| 36–40 ft   | 1/2 in.<br>7,900 lb  | 1/2 in.<br>8,600 lb  | 5/8 in.<br>10,000 lb |
| 41–50 ft   | 1/2 in.<br>7,900 lb  | 1/2 in.<br>8,600 lb  | 5/8 in.<br>10,000 lb |
| 51–60 ft   | 5/8 in.<br>14,000 lb | 5/8 in.<br>15,200 lb | 3/4 in.<br>13,500 lb |
| 61–75 ft   | 3/4 in.<br>19,400 lb | 3/4 in.<br>18,800 lb | 7/8 in.<br>19,000 lb |
| 76–90 ft   |                      | 7/8 in.<br>29,000 lb | 1 in.<br>25,000 lb   |
| 91–100 ft  |                      | 1 in.<br>36,000 lb   |                      |
| 101–120 ft |                      | 1 in.<br>36,000 lb   |                      |

## ANCHOR LINE LENGTHS

| Diameter INCHES | Gold-N-Braid™ FEET | Super Strong™ FEET           | Pro-Set™ FEET          |
|-----------------|--------------------|------------------------------|------------------------|
| 3/8 in.         | 100', 150', 200'   | 100', 150', 200'             | 100', 150'             |
| 1/2 in.         | 100', 150', 200'   | 100', 150', 200', 250', 300' | 100', 150', 200', 300' |
| 5/8 in.         | 200', 250'         | 150', 200', 250', 300'       | 150', 200', 250'       |



## » SPLICING

### Samson Splice Training Kit

Comes complete with a fid, pusher, instructions for a double braid eye splice, and two lengths of double braided ropes.

Product Code: 999-0010



### Samson Splicing Kit

Comes with a pusher, and 5 aluminum tubular fids (size range 1/4" through 1/2" diameter).

Product Code: 999-0070



### Selma Fids™

Made from highly polished stainless steel, Selma Fids are patented worldwide. Available in sets only, the Selma

Fid may be used to splice hollow braided lines from 1/8" to 9/16", or double braid and 3-strand rope up to 1-1/8".

Product Code: 903



Visit [SamsonRope.com](http://SamsonRope.com) for detailed splice instructions, available in video and PDF formats



### Lash-It!™

Product Code: 811

Lash-It! has been called "the sailor's duct tape" because of its multiple uses on any sailboat. A single braid made from Dyneema® fiber with Samthane urethane coating, Lash-It! offers a high strength-to-weight ratio: it is stronger than steel, so light it floats, and does not absorb water. Lash-It! comes in 180' easily dispensed from a plastic tube.

**SPECIFICATIONS** Available in 180 ft. tubes and 600 ft. spools.

| Size<br>Diameter<br>INCHES | Size<br>Diameter<br>MILLIMETER | Strength<br>Average<br>POUNDS | Weight<br>Per 100 ft.<br>POUNDS |
|----------------------------|--------------------------------|-------------------------------|---------------------------------|
| 1/16 in.                   | 1.75 mm                        | 500 lb                        | 0.12 lb                         |
| 3/32 in.                   | 2.20 mm                        | 650 lb                        | 0.16 lb                         |



### MFP Floatline™

Product Code: 461

Double braid with a multifilament polypropylene cover and floating core. MFP Floatline is yellow with red ID.

**SPECIFICATIONS** Available in 600 ft. spools

| Size<br>Diameter<br>INCHES | Size<br>Diameter<br>MILLIMETER | Strength<br>Average<br>POUNDS | Weight<br>Per 100 ft.<br>POUNDS |
|----------------------------|--------------------------------|-------------------------------|---------------------------------|
| 1/4 in.                    | 6 mm                           | 1,700 lb                      | 1.4 lb                          |
| 3/8 in.                    | 9 mm                           | 3,200 lb                      | 2.7 lb                          |
| 1/2 in.                    | 12 mm                          | 5,200 lb                      | 4.5 lb                          |
| 5/8 in.                    | 16 mm                          | 7,400 lb                      | 8.0 lb                          |



### Quik-Splice™

Product Code: 335

Quik-Splice is a fast-splicing single braid constructed with high-strength Ultra Blue copolymer olefin fiber. It floats and has high wet and dry abrasion resistance. The Ultra Blue fiber has excellent dielectric properties and provides superior resistance to sunlight degradation.

**SPECIFICATIONS** Available in 500 ft. spools

| Size<br>Diameter<br>INCHES | Size<br>Diameter<br>MILLIMETER | Strength<br>Average<br>POUNDS | Weight<br>Per 100 ft.<br>POUNDS |
|----------------------------|--------------------------------|-------------------------------|---------------------------------|
| 1/4 in.                    | 6 mm                           | 1,400 lb                      | 1.1 lb                          |
| 5/16 in.                   | 8 mm                           | 2,500 lb                      | 1.7 lb                          |
| 3/8 in.                    | 9 mm                           | 3,500 lb                      | 2.7 lb                          |
| 7/16 in.                   | 11 mm                          | 4,600 lb                      | 3.5 lb                          |
| 1/2 in.                    | 12 mm                          | 6,700 lb                      | 4.7 lb                          |
| 9/16 in.                   | 14 mm                          | 7,500 lb                      | 6.0 lb                          |
| 5/8 in.                    | 16 mm                          | 10,900 lb                     | 7.8 lb                          |



### Accessory Cord™

Product Code: 480

With a polyester cover and nylon core, Samson's Accessory Cord has excellent flexibility, knotting, and strength characteristics for a smooth running, torque-free cord.

**SPECIFICATIONS** Available in 500 ft. spools

| Size<br>Diameter<br>INCHES | Size<br>Diameter<br>MILLIMETER | Strength<br>Average<br>POUNDS | Weight<br>Per 100 ft.<br>POUNDS |
|----------------------------|--------------------------------|-------------------------------|---------------------------------|
| 5/64 in.                   | 2 mm                           | 230 lb                        | 0.20 lb                         |
| 1/8 in.                    | 3 mm                           | 600 lb                        | 0.50 lb                         |
| 5/32 in.                   | 4 mm                           | 1,000 lb                      | 0.80 lb                         |
| 3/16 in.                   | 5 mm                           | 1,200 lb                      | 1.4 lb                          |
| 1/4 in.                    | 6 mm                           | 2,200 lb                      | 1.8 lb                          |
| 9/32 in.                   | 7 mm                           | 2,800 lb                      | 2.3 lb                          |
| 5/16 in.                   | 8 mm                           | 3,500 lb                      | 3.0 lb                          |
| 3/8 in.                    | 9 mm                           | 4,300 lb                      | 3.8 lb                          |

## TECH TIP: STRIPPING COVERS



### Stripping covers from core-dependent double braids

Many high-performance sailors like to strip the covers from core-dependent double braids to save weight, but it is important to leave the cover intact wherever the line needs to be cleated, worked on a winch, or through a rope clutch or stopper. Complete instructions for stripping covers are available on our website at [SamsonRope.com](http://SamsonRope.com)

## TECH TIP: HALYARDS

### Upgrade Your Halyards

Have you ever had a difficult time furling your jib when the breeze picked up? Many times, this is due to an old halyard that is stretching. This causes your jib to sag at the luff, and keeps the furler from spinning freely.

Upgrade your halyards to any of Samson's low-stretch, lightweight, high-strength options, and watch your jib furl easier under all conditions.

Use a blended-core halyard on a jib furler so you do not stretch the sail beyond its design.





## WHY SAMSON?

### People and technology make the difference

Chances are you have seen Samson synthetic lines at work all around you. For more than 140 years, Samson has led the way in developing high-performance cordage products to meet the most demanding applications in the world. The running rigging you select for your boat carries the legacy of our experience in industries as diverse as commercial marine, safety and rescue, arborist, utilities, even the space program. So where's the advantage for you? When you buy Samson, you are getting a lot more than a rope. Our all-inclusive package of technology, products, manufacturing excellence, service, and experience provide our customers peace of mind.

So whether you're looking for new sheets to trim your composite genoa or replacing the halyards on a traditional schooner, look for Samson. It assures you of performance you can depend on, anytime, anyplace.

- > **TECHNOLOGY** Staffed with dedicated scientists and application engineers, Samson's R&D department is dedicated to problem solving, and leads the industry in the development of lighter, stronger, more durable ropes. Equally important to product innovation is our ability to stand confidently behind our products with accurate, reliable product specifications based on rigorous testing and measuring.
- > **PRODUCTS** Samson products are considered state of the art by sailors around the world. Samson has pioneered the use of new synthetic fibers, unique constructions, and coatings to improve the service life of ropes, reduce weight, reduce snagging, enhance abrasion resistance, and make splicing easier.
- > **MANUFACTURING** Samson's standards of manufacturing guarantee a quality product every time. Our manufacturing plants, in Lafayette, Louisiana and Ferndale, Washington are both ISO certified and utilize LEAN manufacturing principles.
- > **SERVICE** World-class service and support, whenever you need it, wherever you need it.
- > **EXPERIENCE** When you sail with Samson, your boat carries the legacy of our 140+ years' experience providing rope to diverse industries. Known for excellence and quality, we have the experience, integrity, and reliability you can get only from The Strongest Name in Rope.



### Samson App

For the iPhone and iPad this handy app features:

- > **Inspection and retirement criteria**
- > **Internal and external abrasion inspection information**
- > **Splice Instructions**

Download it at [SamsonRope.com](http://SamsonRope.com)



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Dyneema® is DSM's high-performance polyethylene product.

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