

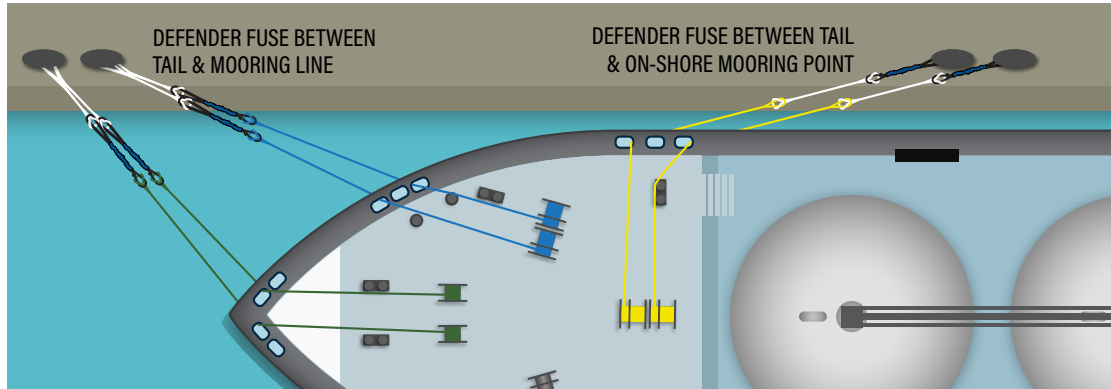
# Defender Fuse™

## SNAP-BACK SOLUTIONS



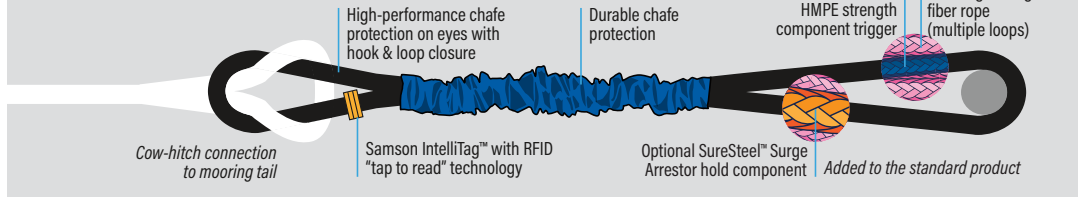
Recoil in any mooring situation is dangerous and potentially life-threatening. While common systems are designed to minimize risk, some situations arise outside standard protocols that may require additional safety measures. That's why Samson developed *Defender Fuse* with optional *Surge Arrestor*.

The *Defender Fuse* family of products are designed to complement standard mooring systems and easily positioned between the mainline and tail or between the tail and on-shore connection. *Defender Fuse* consists of two types of rope, and once triggered, the load is transferred from the HMPE strength component to loops of a specially designed high-elongating material or "catch." Developed to mitigate recoil situations before they occur, the catch material will continue to elongate until it reaches its final length, up to 150% more than its original, before complete rupture. In this way, the elongating material acts as an early warning system allowing the crew to take immediate action and reduce load.



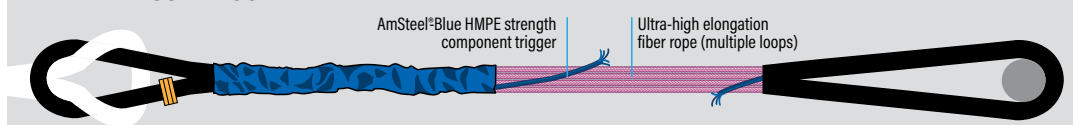
*Defender Fuse can be positioned between the mooring line and tail or between the tail and on-shore mooring point.*

### DEFENDER FUSE TECHNOLOGY

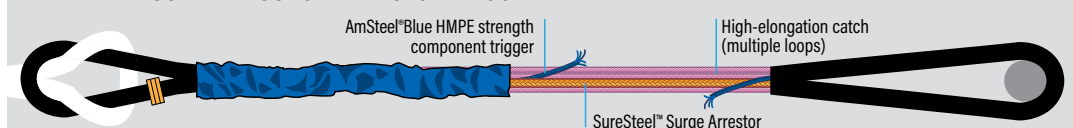


*Once the Defender Fuse is triggered, the internal rope structure is exposed as a visual advance warning of the overload. The ultra-high elongation rope will continue to elongate, up to 150% more than it's original length, before complete rupture. When the Surge Arrestor option is included it will engage before full initial elongation and establish an additional >= 75% MBLsd connection.*

### DEFENDER FUSE TRIGGERED



### DEFENDER FUSE WITH SURGE ARRESTOR TRIGGERED



# Defender Fuse™ Products

Product Code: 805  
With Surge Arrestor: 808

## TECHNICAL SPECIFICATIONS†

FIBER: HMPE-Polyester / Nylon  
COLOR: Blue/Black  
CONSTRUCTION: Multi-loop Sling  
TYPE APPROVAL: ABS

Samson's *Defender Fuse* products can accommodate common 11-meter and 22-meter tail configurations with mooring deployment lengths up to 100 meters, but custom fuses can be designed to your specific arrangement if required.

Both products, *Defender Fuse* and *Defender Fuse with Surge Arrestor*™, are available in two configurations, standard and high recoil control (HRC).

- Standard — energy absorption capability to accommodate up to 11 meter non-nylon tails
- HRC — energy absorption capability to accommodate up to 22 meter tails, including nylon.

## FEATURES & BENEFITS

- > Energy absorption catch component with high-strength trigger
- > Can be added to new or existing mooring systems
- > 1-meter eye with tag one end and 2-meter eye other end

Samson has designed the *Defender Fuse* and *Defender Fuse with Surge Arrestor* to absorb energy contained within the stiff, high-performance mooring lines common in the industry and the elastic tails they are typically connected to. If exceedingly long tail lengths or traditional fiber mooring lines with greater elasticity are utilized, alternate energy storage levels must be considered. In these cases, contact your Samson representative to determine the best design for your unique needs.



## DEFENDER FUSE SELECTION GUIDE

## + SURGE ARRESTOR

Mooring System Requirements	Max. Vessel MBLsd* METRIC TONS	Trigger Deployment Load METRIC TONS	Unit Length METERS	Unit Weight KILOGRAMS	Minimum Hold Load** METRIC TONS	Unit Weight KILOGRAMS
Total Deployment: <b>100 meters</b>	31 mt	18.4 mt	4.0 m	23.6 kg	26.3 mt	25.6 kg
	40 mt	23.9 mt	4.5 m	25.0 kg	33.5 mt	27.8 kg
Maximum Tail Length: <b>11 meters</b>	49 mt	29.2 mt	4.5 m	25.5 kg	37.1 mt	28.6 kg
	62 mt	37.2 mt	4.5 m	26.0 kg	47.2 mt	30.1 kg
Nylon Tail Compatible: <b>No</b>	69 mt	41.2 mt	4.5 m	26.4 kg	51.7 mt	30.9 kg
	82 mt	49.4 mt	5.0 m	27.9 kg	61.7 mt	33.8 kg
	95 mt	56.7 mt	5.0 m	33.2 kg	73.0 mt	40.4 kg
	101 mt	60.8 mt	5.0 m	33.4 kg	76.2 mt	40.9 kg
	112 mt	67.1 mt	5.0 m	34.2 kg	83.9 mt	42.3 kg
	125 mt	74.8 mt	5.0 m	34.9 kg	96.2 mt	44.3 kg
	140 mt	84.0 mt	5.5 m	37.8 kg	108 mt	49.4 kg
	155 mt	93.0 mt	5.5 m	43.5 kg	116 mt	55.8 kg
	172 mt	103 mt	5.5 m	44.7 kg	132 mt	59.3 kg

## DEFENDER FUSE HIGH RECOIL CONTROL SELECTION GUIDE

## + SURGE ARRESTOR

Mooring System Requirements	Max. Vessel MBLsd* METRIC TONS	Trigger Deployment Load METRIC TONS	Unit Length METERS	Unit Weight KILOGRAMS	Minimum Hold Load** METRIC TONS	Unit Weight KILOGRAMS
Total Deployment: <b>100 meters</b>	31 mt	18.4 mt	4.5 m	24.7 kg	26.3 mt	26.9 kg
	40 mt	23.9 mt	4.5 m	25.0 kg	33.5 mt	27.8 kg
Maximum Tail Length: <b>22 meters</b>	49 mt	29.2 mt	4.5 m	29.7 kg	37.1 mt	32.8 kg
	62 mt	37.2 mt	5.0 m	31.8 kg	47.2 mt	36.2 kg
Nylon Tail Compatible: <b>Yes</b>	69 mt	41.2 mt	5.0 m	32.4 kg	51.7 mt	37.2 kg
	82 mt	49.4 mt	5.0 m	37.4 kg	61.7 mt	43.2 kg
	95 mt	56.7 mt	5.5 m	39.9 kg	73.0 mt	47.6 kg
	101 mt	60.8 mt	5.5 m	40.4 kg	76.2 mt	48.4 kg
	112 mt	67.1 mt	5.5 m	55.3 kg	83.9 mt	64.0 kg
	125 mt	74.8 mt	5.5 m	59.0 kg	96.2 mt	69.0 kg
	140 mt	84.0 mt	5.5 m	64.9 kg	108 mt	76.4 kg
	155 mt	93.0 mt	5.5 m	65.3 kg	116 mt	77.7 kg
	172 mt	103 mt	6.0 m	75.3 kg	132 mt	90.7 kg

\*Contact Samson for selection of MBLsd (ship design minimum break load) specific Defender Fuse size. Custom Fuses can be designed to your specific arrangements if required.

\*\*Minimum hold load data references the Surge Arrestor component in MBS (minimum break strength).

Defender Fuse™ and Defender Fuse with Surge Arrestor™ are trademarks of Samson Rope Technologies, Inc.

Made with MoorGuard™ Anti-Recoil technology, under license of related patents: US9056656B2, US8365646B2 and others. Designed, tested and manufactured by Samson.

© 2023/2024 Samson Rope Technologies, Inc. All rights reserved. 7/2024 #406

2090 Thornton Street, Ferndale, WA 98248 USA

Tel 01.360.384.4669 | Fax 01.360.384.0572

[www.SamsonRope.com](http://www.SamsonRope.com)



**samson**  
THE STRONGEST NAME IN ROPE