

Overview Common questions when making the switch from wire rope or traditional fiber ropes to Samson high-performance synthetic fiber mooring lines.

QUESTION: What are AmSteel®-Blue mooring lines and what are the benefits of using them?

ANSWER: *AmSteel®Blue* mooring lines are produced with a high modulus polyethylene (HMPE) fiber material. The use of this fiber allows us to create a torque-free, 12-strand braided rope which, size-for-size, has comparable strength to wire rope but only 1/7th the weight. *AmSteel®Blue* lines are flexible, easy to handle, and they float.

The unique blue color is there for more than just appearance—it is created by a proprietary Samthane coating that enhances rope wear life and snag resistance.

AmSteel®Blue doesn't require lubrication because it doesn't rust or "fishhook." Its flexibility and extreme light weight will allow for an easier, faster and safer mooring sequence.

QUESTION: When converting from wire rope mooring lines to AmSteel®-Blue mooring lines, what implementation procedures are required?

ANSWER: Chock and fairlead maintenance should be instituted to eliminate rough wearing surfaces, metal burrs, and sharp cutting edges that could have been created by the use of wire ropes. In the majority of cases, the conversion can be done as routine maintenance with localized grinding and surface preparation.

QUESTION: How will AmSteel®-Blue synthetic line wear compared to wire line?

ANSWER: The HMPE fiber used in *AmSteel®Blue* is also utilized for bulletproof vests, military helmets and cut-resistant gloves. It is a tough material. It should be noted, though, that all synthetic fiber can be cut, therefore care should be taken to protect the mooring line from sharp and rough surfaces that it could be worked against or over.

As the rope is used, it will develop surface wear on the outer fibers. This individual fiber abrasion will give the line a fuzzy appearance. Due to the normal external wear from use, the line will also gradually begin to lose its original royal blue color.

QUESTION: Can AmSteel®-Blue mooring lines be repaired aboard ship?

ANSWER: Yes! The 12-strand construction of *AmSteel®Blue* is one of the easiest ropes to splice or re-splice. *AmSteel®Blue* can be spliced with new eyes by following the instructions available on our website or Splicing Manual.



Samson develops proprietary coatings to enhance rope wear life and performance.



All rope contact surfaces need to be smooth and free of rust, corrosion, metal burrs, and sharp cutting edges.



Samson HMPE ropes are designed to be size-for-size wire rope replacement, same diameter with equal or greater strength for easy conversion.



Samson rope handling and splice training.

QUESTION: How should the AmSteel®-Blue mooring lines be installed on deck winches?

ANSWER: The correct installation of this mooring line on deck winches is important to the long-term service life and performance of the rope.

1. After the removal of the old wire rope lines, and before installation of the new AmSteel®-Blue ropes, please inspect the winch drum and flanges for rust, corrosion or scoring damage created by the wire rope. These areas should be cleaned up so as not to cut and abrade the new ropes being put on. See our technical bulletin on retrofitting for detailed information.
2. On the storage half of the split drum winch, the first two or three layers of AmSteel®-Blue should be reeled on under some tension to create a solid, smooth base layer. After these layers, the rope on the storage side can be laid on in layers with some crossovers. These crossovers should prevent the AmSteel®-Blue from diving in-between the layers and getting stuck during deployment.
3. On the working half of the split drum winch, it is recommended that only one layer of rope, (8 wraps) be used—enough rope to grip the drum.



Winch drums and flanges should be free of rust, corrosion and scoring damage from wire rope before HMPE mooring lines are installed.



Line installed on storage side of winch drum. Crossovers prevent AmSteel®-Blue from diving between layers and getting stuck during deployment.



Line installed incorrectly on working side of winch drum! On working side of winch, only wrap a single layer of line (8 wraps). Working part of line should come off end of wraps, not from the middle as shown.



Line installed correctly on working side of winch drum. Single layer of wraps on working side of drum. Working part of line comes off one side of wraps as shown.

QUESTION: Is that all there is to it?

ANSWER: No, not yet. Follow the path of the AmSteel®-Blue mooring line from the winch drum to the chock. Make sure it is not rubbing against other metal surfaces. If it is going around a roller chock, make sure the roller chock rolls. And finally, at the chock, make sure the inside surface of the chock is not rusted, pitted or scored from wire ropes. Pitted, scored or gouged surfaces act like knives against any synthetic rope.



The crew performing an inspection with a slack line. Inspect the full path of the mooring lines from winch drum to chock. All contact surfaces should be free of rust, pits, or scores.



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