



MS 0107-09 | 11-11-19

INSTALLATION INSTRUCTIONS

MOORED & TOWED FAIRINGS

 **WARNING:**

Cancer and Reproductive Harm | www.P65Warnings.ca.gov

ZT | zippertubing®

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Moored & Towed Cable Fairings User Guide

ABOUT ZIPPERTUBING®

Zippertubing® creates the most versatile protection ever devised for wire, cable, tubing, and other materials. We offer wrap-around, repairable, re-enterable, flexible jacketing and shielding systems that feature multiple, unique closures allowing fast, easy use on new or existing installations. Our standard, special and custom engineered solutions provide bundling, thermal management and EMI hardening, as well as flame, chemical and abrasion resistance. The wide selection of materials and constructions makes Zippertubing® your choice for practical and effective solutions for almost any type of industry where protection is needed. The Zippertubing® Company is where teamwork and hard work are combined to produce engineered, quality work for today's solutions and tomorrow's products.

With four generations of customer experience and product expertise, Zippertubing® continues to produce engineered solutions around the Globe. Incorporated in 1957, The Zippertubing® Company has been an innovative force in every conceivable kind of application. Many of these applications have been the basis for continuous improvements and additions to our product line. New jacketing and shielding materials have been added to meet the ever changing specifications and requirements in today's marketplace. Configurations are available to fit round, flat, square, and many other shapes. Various types of shielding are offered to protect against EMI, ESD, lightning, EMP, TEMPEST and other hazards. Our knowledge and years of experience within this broad market and our selection of quality products, has established Zippertubing as the solution for all wire harness applications.



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INTRODUCTION

Because normal water movement and turbulence creates noise and vibrations which can distort or destroy signals from instruments, similar to interference caused by EMI/RFI, Zippertubing® has developed its Marine Fairing product line to greatly reduce these problems. Zippertubing® fairings can improve hydrodynamic flow characteristics and materially reduce vibration and “strumming” because each independent, flexible fin is free to assume the most favorable flow orientation.

INSTALLATION

Whenever possible, install these fairings on the tow cables and prep the cable reeling drum while the vessel is at the dock. Installation can be done at sea on the deck of the vessel if enough room exists and sea conditions allow, but installations while at sea will be more time consuming and awkward.

STEP

01

Track Closure

Please refer to our Z-Track User Guide located on www.zippertubing.com for the complete track closure procedure.

STEP

02

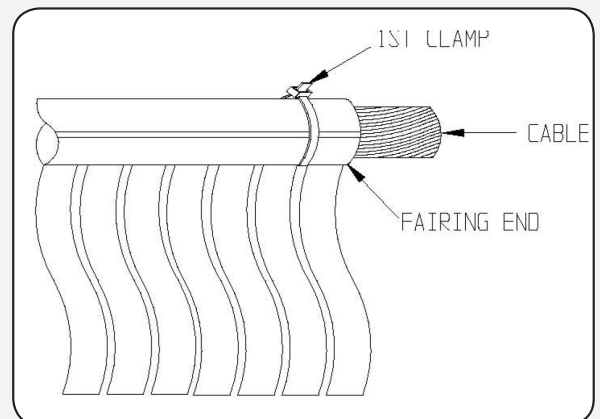
Fairing Installation

Begin by zipping the fairing material around cable as described in the appropriate track closure installation document. Close the first 3 feet of fairing and then install a plastic cable tie-wrap or metal band clamp at the fairing's end between the first and second fin.

Note: Do not be alarmed if the fairing seems to be too baggy on the cable (not skin tight). This is the desired condition. The excess space will fill with water and help create a teardrop fairing shape as the cable is pulled through the water.

Drain Holes (Optional)

Some users have found it desirable to punch a 1/8-1/4" diameter hole every few feet in the fairing jacket material to reduce the time it takes for water to fill and drain from the space between the cable and jacket during the deployment and extraction cycle. If extraction speeds are fast and too much water remains trapped within the jacket as it winds up on the take-up drum, the pressure of the overlaying cable winds could burst the jacket closure seam on the layers below. A hand operated leather punch with varying size hole punches works well to apply the holes. Adding holes is **mandatory** if fairing overlap sections have been sealed with an adhesive tape instead of a cable clamp.



STEP

03

Fairing Clamps

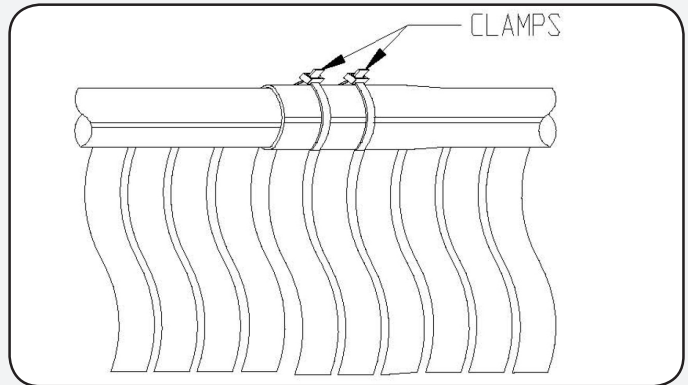
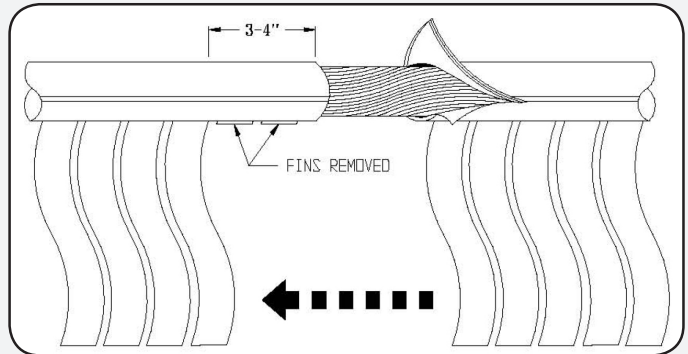
Continue closing the fairing. At approximately 25 feet of cable length (and every 25 feet thereafter) install another plastic cable tie-wrap or metal band clamp. These clamps will keep the fairing from sliding down the cable as it moves through the water.

STEP

04

Fairing Splices

At some point along your cable you may find that it is necessary to splice two pieces of fairing material together. To do this, stop closing the first fairing segment at least 1 foot ahead of the splice area. Use a pair of scissors to cut off the first several fairing fins from the new segment that you intend to add. Install the first few feet of this new fairing segment around the cable. Slide the new segment up and under the area where the first segment will end. Finish zipping the first segment closed over the second. Be sure that you have a lap splice area that is at least 3 to 4 inches long. Install two plastic tie-wraps or metal band clamps between the last two fins of the first fairing segment and trap the second segment underneath the end of the first.



STEP

05

Track Sealing (Optional)

If your sea conditions are severe or your tow speed exceeds five knots, you may find it advantageous to solvent weld the track halves together. The interlocked track halves can be permanently welded together by the ZTQ Sealer Procedure located on page 6. Zippertubing® no longer recommends this procedure for general wire shop harness fabrication where ventilation may be marginal. However, it is an acceptable procedure when the solvent is used outdoors.

SEALING ZIPPERTUBING® EXTRUDED TRACKS

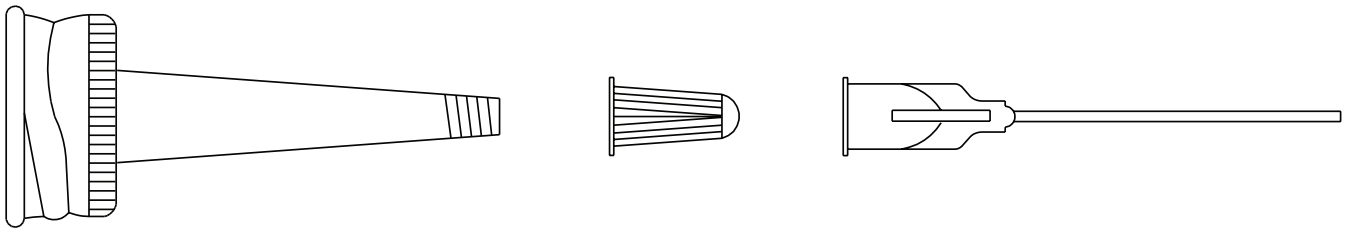
Material:

There are two solvent materials that can be used to chemically weld (seal) Zippertubing® tracks together. Both of these materials are available from commercial chemical supply houses by their chemical names. Always follow the material supplier's handling, safety precautions and shelf life recommendations.

These products are:

1. Tetrahydrofuran (THF) – 1 to 3 minute cure time
2. Cyclohexanone - 4 to 6 hour cure time

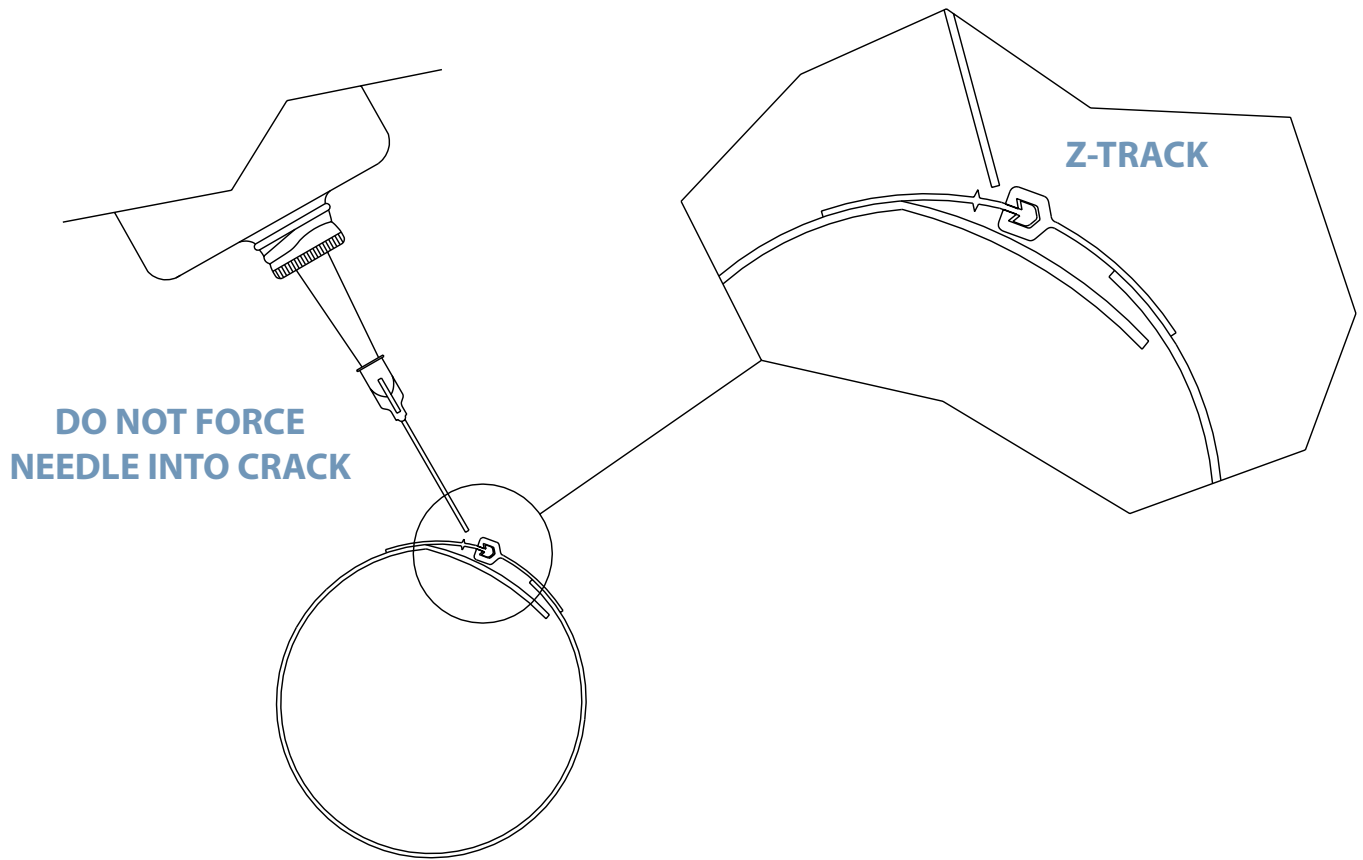
The solvent material must be transferred into small (6 oz. typical) metal containers prior to attempting to seal the Zippertubing® jackets. The small containers should have a screw-on metal cap and a screw-on applicator tip. The applicator tip shall accept a screw-on, hollow needle tip (#18 gage) to restrict the flow of the solvent. The applicator tip should have a screw-on cap capable of replacing the needle and resealing the container when not in use.



Sealing Procedure

1. Close the Zippertubing® jacket using any ZT® tooling required.
2. Install the applicator tip and needle on dispensing container.
3. Lift one end of the installed Zippertubing® assembly about 10-15 degrees.
4. Rotate the jacket so the track inter-lock joint faces up and the separation crack is slightly off the 12 o'clock position. This will allow gravity to cause the solvent to flow down into the joint. ([see on the following page](#))
5. Position the applicator needle near the crack at the elevated end. Do not push the needle into the crack.
6. Begin application of the solvent by tipping the container up and allowing the solvent to flow out of the needle (do not squeeze the container). Move the needle down the track providing a smooth, even flow.
7. Continue the process over the entire assembly length.
8. Allow finished assemblies to cure for the minimum time period specified for the specific solvent type used. Do not bend or flex the assembly until the sealed joint is fully cured.

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