Tips and Tricks for PMI "finger grips" on EM cable

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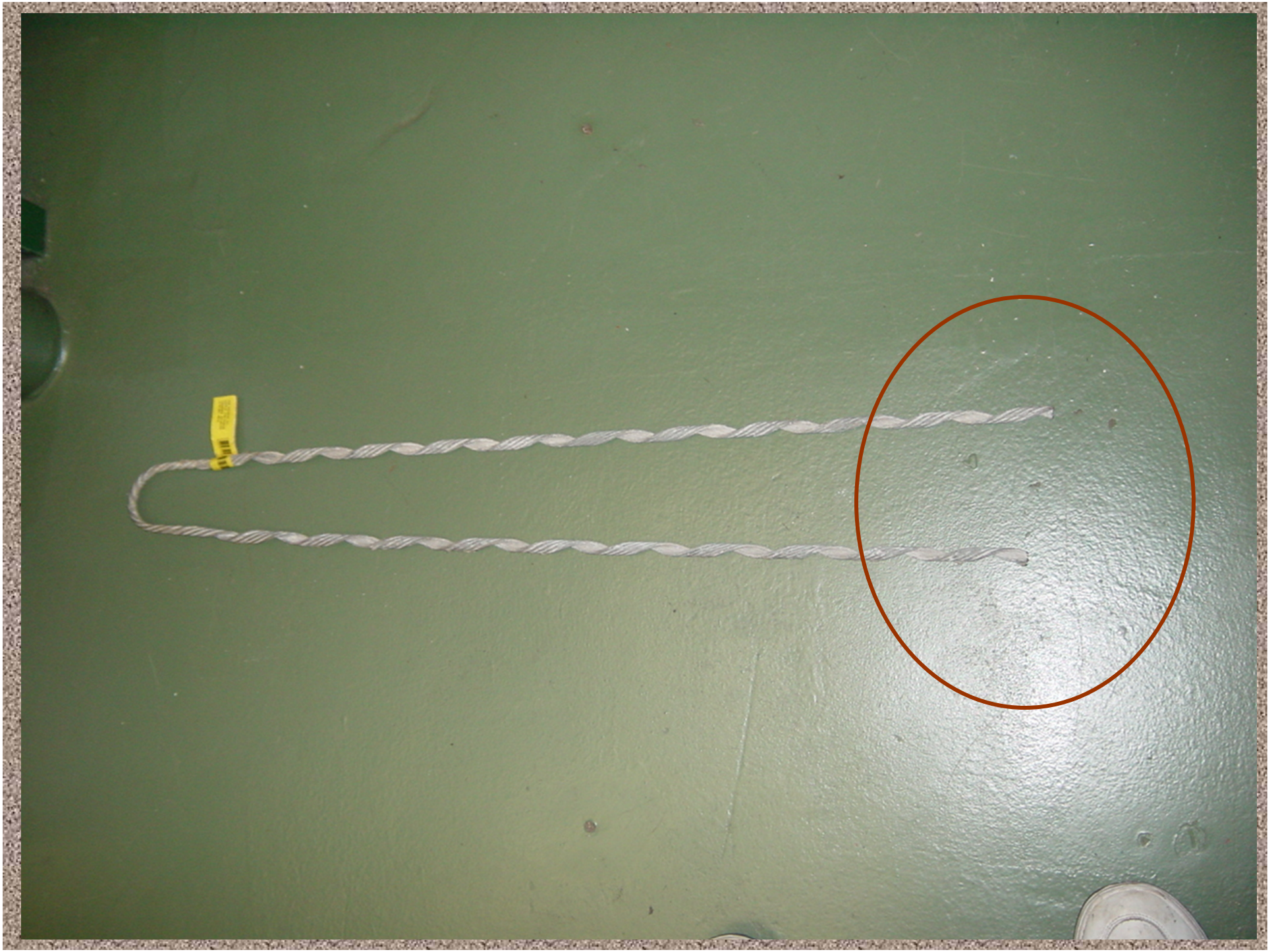
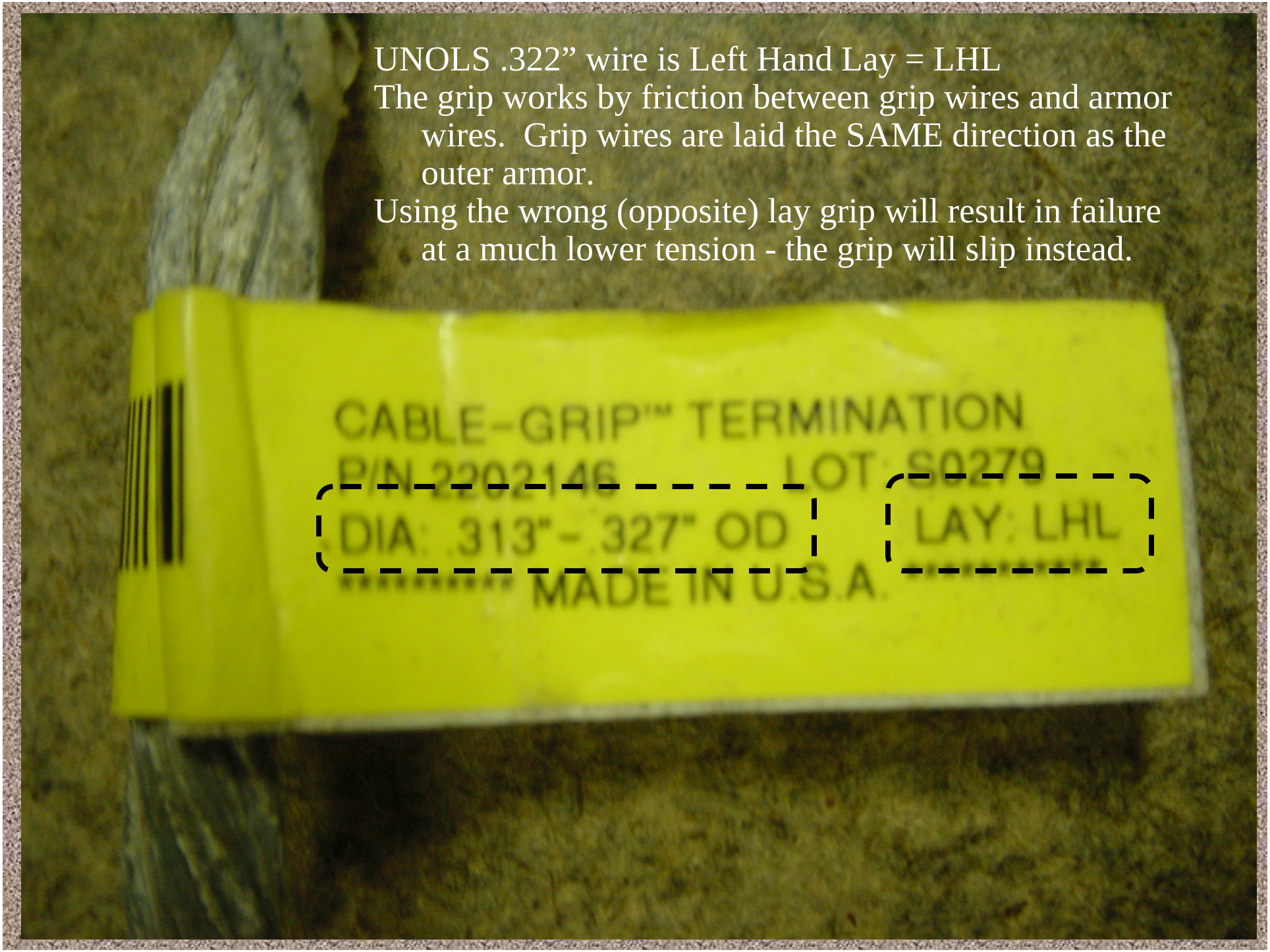


Note: Mention of Brands or Companies does not imply endorsement by RVTEC, UNOLS or Oregon State University, provided for information purposes only

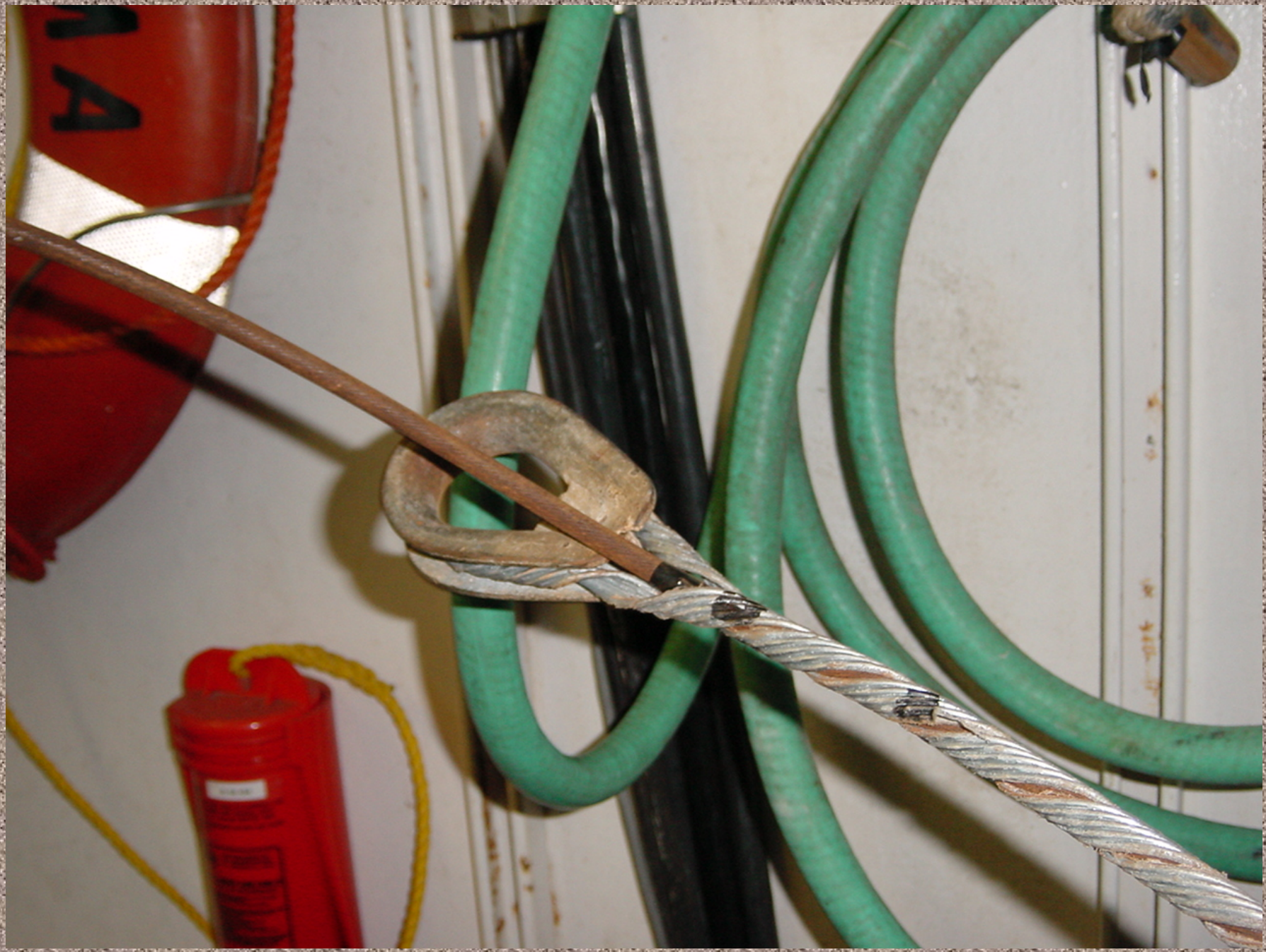


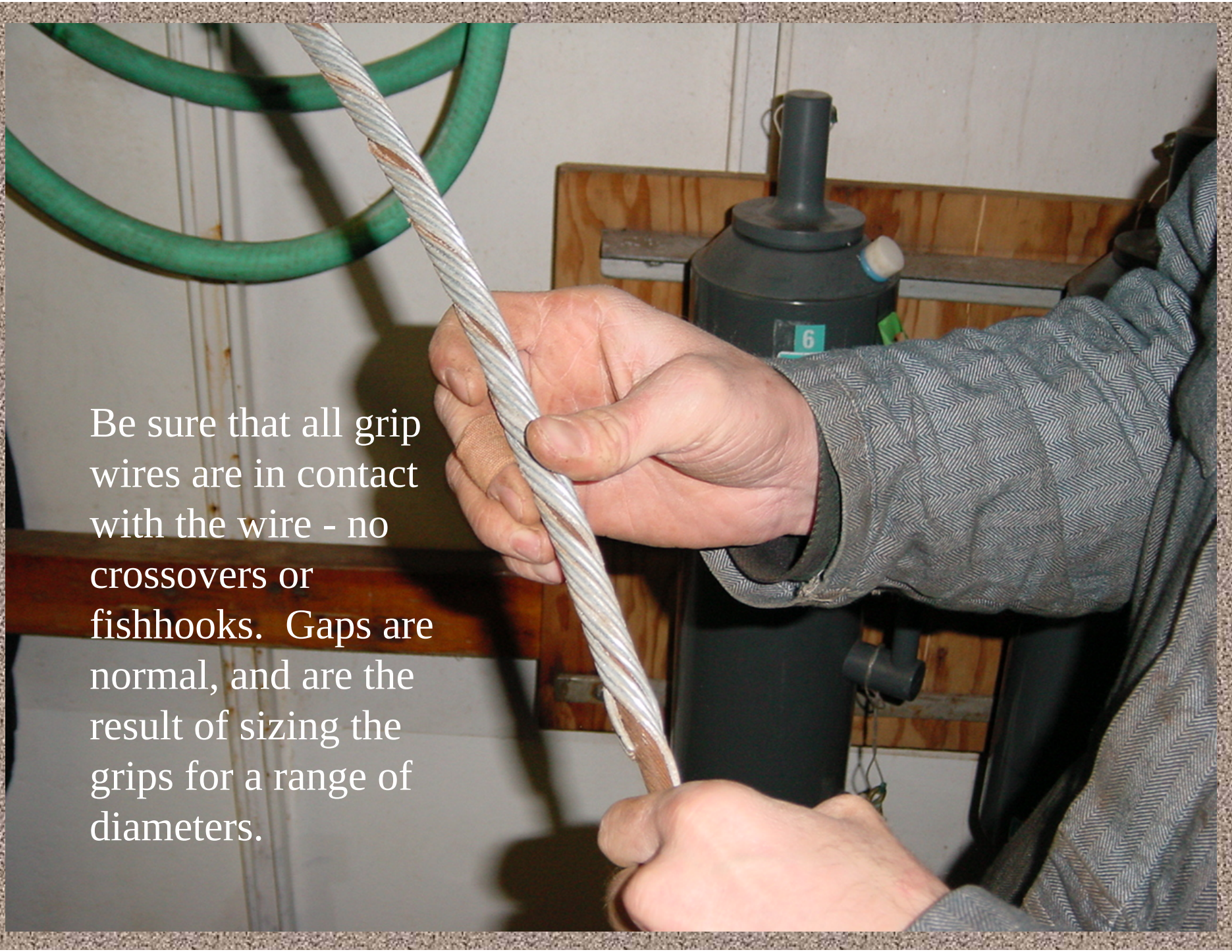
UNOLS .322” wire is Left Hand Lay = LHL

The grip works by friction between grip wires and armor wires. Grip wires are laid the SAME direction as the outer armor.

Using the wrong (opposite) lay grip will result in failure at a much lower tension - the grip will slip instead.

Thimble prevents deformation of the grip eye - extends the life of the termination




Be sure that all grip wires are in contact with the wire - no crossovers or fishhooks. Gaps are normal, and are the result of sizing the grips for a range of diameters.

At this point, the grip termination (with or without thimble) has about 90% of the strength of the cable.

The primary failure mode in this state is ‘unzipping’ from the eye end. We have observed that under high tension, the wire will flip out of the grip turn-by-turn, starting at the eye.

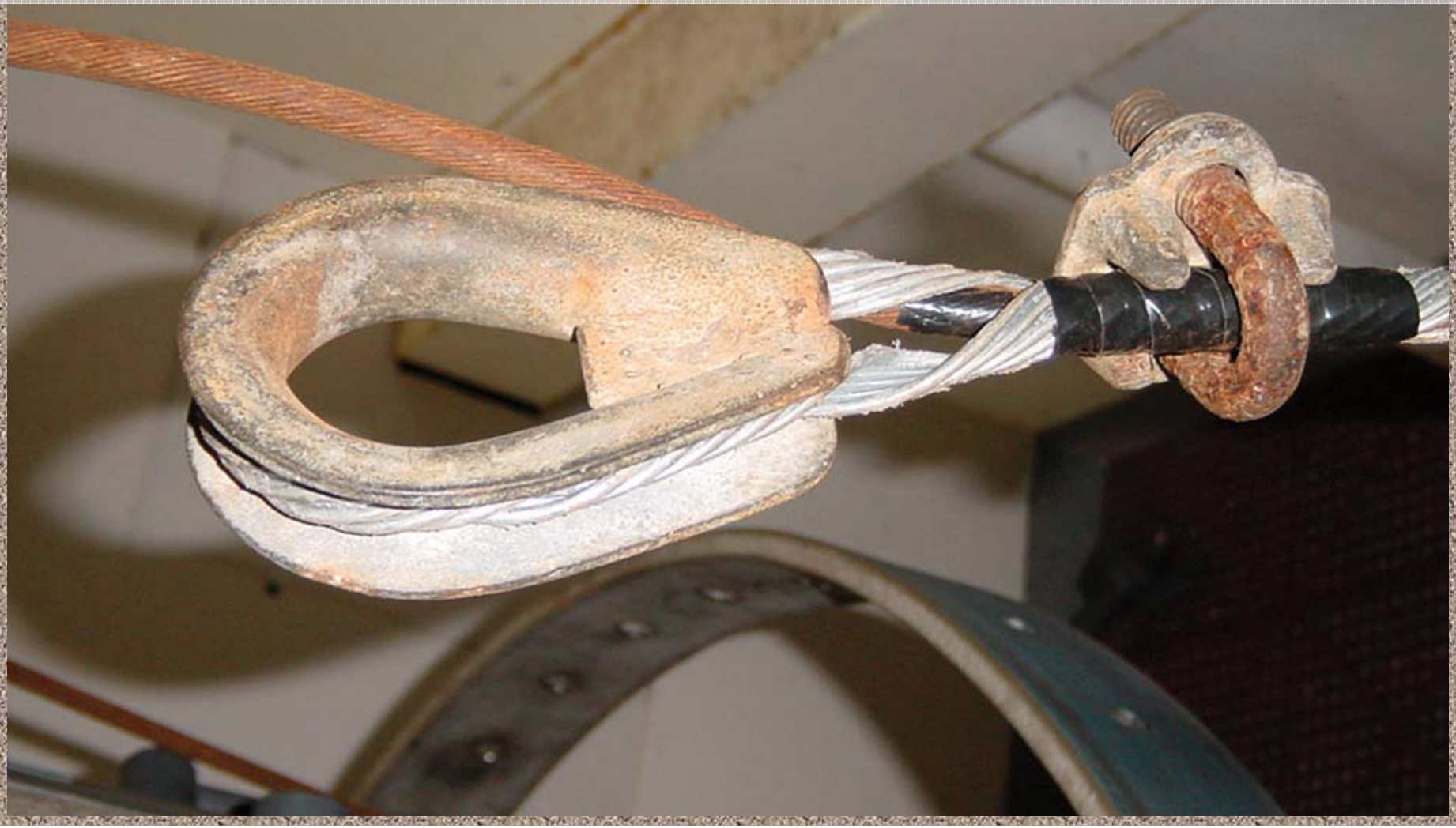
To increase termination strength, a 1/2” Crosby cable clamp can be used to secure the eye end of the grip. To prepare for this, wrap several layers of electrical tape at the base of the eye. This provides a base for the cable clamp to grab.

The Crosby clamp is placed over the tape, and tightened enough to stay in place, and prevent unzipping.

It can be pretty tight, since the cable core is well protected by the armor and the grip wires.

The tape keeps the clamp in place. If tape is not used, the clamp has a tendency to slip - metal on metal contact.

{You'll know there's too much tape when you can't get the U-bolt on.}

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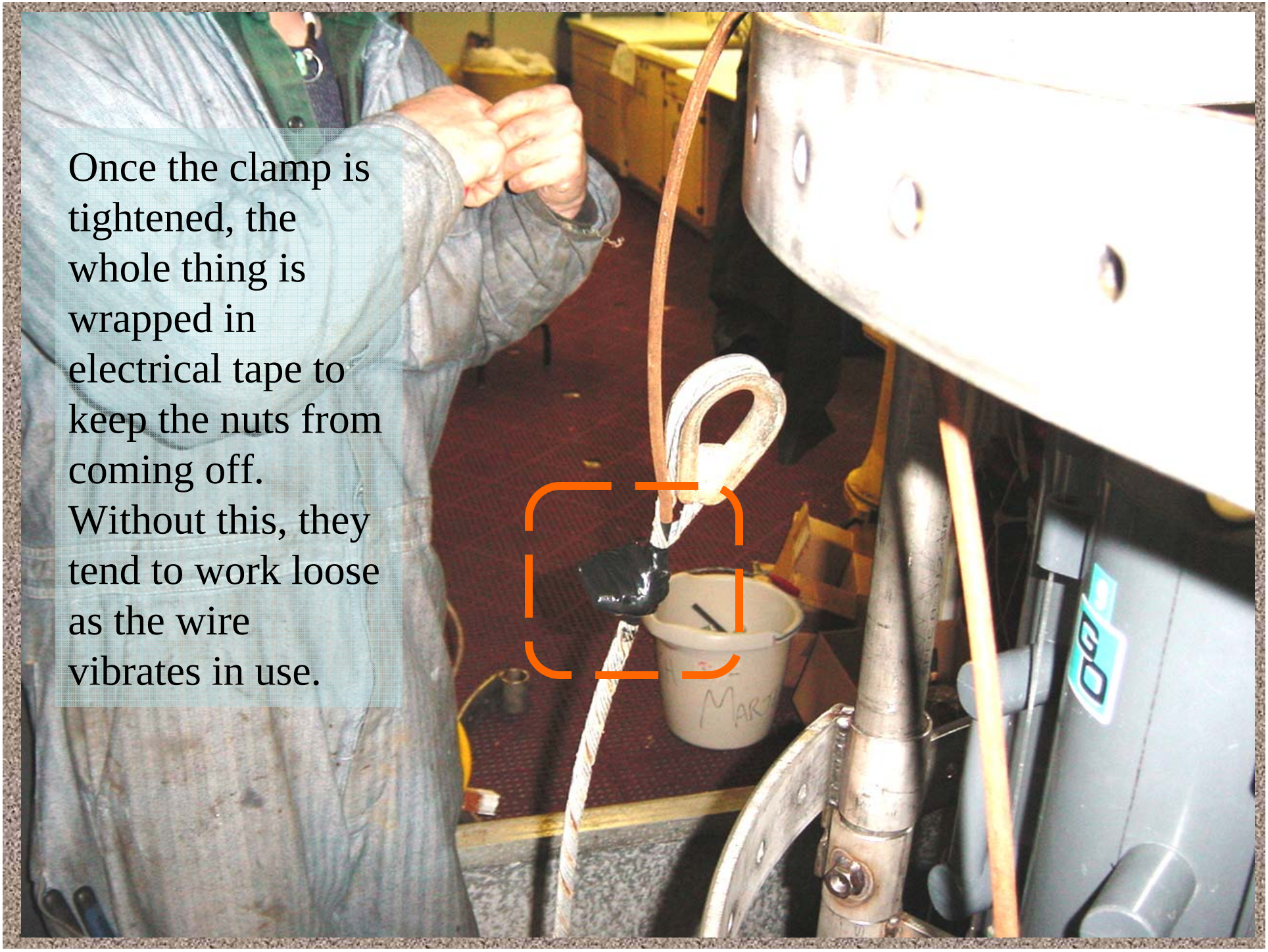
Once the clamp is tightened, the whole thing is wrapped in electrical tape to keep the nuts from coming off. Without this, they tend to work loose as the wire vibrates in use.

Finished termination attached to CTD

It’s a good idea to add some tape at the upper end of the grip to keep the wires from working loose, and to prevent hand injuries. Bright tape is a good two-block indicator for winch operators.