



ILA-USMX JOINT SAFETY COMMITTEE

OSH ALERT 2021-08 [12 August 2021]

U.S. Coast Guard Alert in re Wire Rope Terminations (Swaged Fittings)

Last month, the United States Coast Guard (USCG) issued a Marine Safety Alert which has as its subject wire rope terminations. We attach a link to that Alert below and urge our management and labor constituents to examine all wire rope loose and standing gear in their inventory that fits into the universe addressed by this Alert.

https://www.dco.uscg.mil/Portals/9/DCO%20Documents/5p/CG-5PC/INV/Alerts/USCGSA_0421.pdf?ver=cmKJSn6AJFjJrZdfriQLw%3D%3D

In sum, USCG has identified wire rope terminations (end of rope fittings) that have presented abnormalities that would likely affect the performance and safety of the wire rope itself. In many cases, the safe working load (SWL) originally designated by the rope's manufacturer could be significantly decreased owing to these deficiencies.

We urge gear men, lifting appliance mechanics, etc., to carefully examine all such wire rope terminations, consistent with the advice set out within the USCG Alert.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security
MARINE SAFETY ALERT
Inspections and Compliance Directorate

July 8, 2021
Washington, DC

Safety Alert 04-21

**VERIFY YOUR WIRE ROPE TERMINATIONS:
INCORRECT TERMINATIONS CAN LEAD TO CATASTROPHIC FAILURE**

This Safety Alert addresses the importance of verifying the condition and manufacturing of wire rope terminations used in various systems that utilize wire rope in a load-handling capacity (e.g., lifesaving appliances, cranes, lifting slings). The Coast Guard is currently investigating a casualty involving a failed wire rope termination that resulted in extensive damage to equipment.

The Coast Guard observed that improperly applied swaged fittings could result in unintentional damage to the wire rope, resulting in failure of the termination. Improper swaging procedure includes failures within a quality management system in which materials are improperly selected and do not match the specifications of the original equipment manufacturer.

A separate observation was that different types of fittings/end terminations might decrease the safe working load (SWL) of the wire rope. With this in mind, the type of fitting could affect the safety factor that is required by regulation or recommended by industry standard/practice for the application (e.g., 6:1 for lifesaving appliances launched with wire rope falls). As an example, a swaged sleeve in a common turnback eye results in a 90% or better efficiency of the termination (i.e., 10% or less reduction in the SWL of the wire rope) when properly installed in accordance with manufacturer's recommendations.

The Coast Guard **strongly recommends** that owners, manufacturers, operators and service providers utilizing wire rope in systems on any vessel or OCS facility:

- Visually examine wire rope terminations for abnormalities that may indicate improper installation (Figure 1 shows a crimp with a uniform appearance, Figure 2 shows out-of-roundness, and Figure 3 shows ridges created by over-crimping);
- Compare fitting dimensions against the manufacturer's specifications/tolerances for the completed fitting (i.e., does the length and diameter fall within fitting manufacturer specifications); and




Got a question about this particular subject? Write to the JSC at: blueoceana@optonline.net

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