LIFESAVING SYSTEMS CORPORATION

LSC Test Report Number: F-730-190-MS
Revision: A

Cable and Sleeve Strength Test

Used on #190-MS and #402-7-MS



PROPRIETARY & CONFINDENTIAL

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PURPOSE:

The purpose of this report is to show the load strength of a 316 stainless steel 3/16th inch 7x19 cable when secured using a 3/16 zinc plated copper compression (swage) sleeve. Successful completion shall confirm the cable and sleeve arrangement demonstrates the suitability and safety for use on LSC hoisting slings.

ACRONYMS AND ABBREVIATIONS:

LSC – Lifesaving Systems Corp.
N/A – Not Applicable
P/N – Part Number
S/N – Serial Number
Lbf – Pound-Force

TEST FACILITY:

Testing and inspection were performed at Lifesaving Systems Corporation's (LSC) manufacturing facility located in Apollo Beach, Florida by LSC personnel.

SUMMARY OF TESTS PERFORMED & RESULTS:

Section	Test Description	Results
2.4	Load Test	The stainless-steel cable and crimp sleeves did not break or slip at the minimum target load of 2,500lbf. The cable broke at an ultimate load of 3,710lbf.

SECTION 1- TEST CONDITIONS & EQUIPMENT:

1.1 ENVIRONMENTAL CONDITIONS

Load test shall be performed at a temperature of 75 ± 5°F, and a relative humidity of 50 ±15%. The temperature and humidity shall be recorded at time of test.

1.2 TOLERANCES

The load cell tolerances shall be maintained within all applicable specified tolerances.

- 2000lbf ± 2lbf
- 4000lbf ± 3lbf
- 6000lbf ± 4lbf

1.3 INSTRUMENTS AND EQUIPMENT

LSC Tool No.	Test Equipment	Description	Cal. Date	Cal. Due
88	Cell, Load	Force Measurement: 10,000lb	7/03/2020	7/03/2021

1.4 CALIBRATION

The instruments and equipment are calibrated according to manufacturer's specifications and calibration is traceable to the National Institute of Standards and Technology (NIST). Calibration records are maintained on file at Lifesaving Systems Corp. Photograph of the load cell calibration sticker can be found in Section 2.5 of this report.

SECTION 2- LOAD TEST:

2.1 SCOPE

The load test is performed to determine the strength the aircraft cable and hold strength of the crimped sleeves. One sleeve will be crimped four times and the other will be crimped three times for comparison.

2.2 APPRATUS AND COMPONENTS

- Hydraulic pull tester
- Load Cell
- 316 S.S. 7x19 Cable (3/16" Dia)
- 3/16" Copper/Zinc Sleeve (x 2)

2.3 PROCEDURE

Step 1. Cut the aircraft cable approximately 12" in length.

Step 2. Slide one sleeve onto the cable and loop cable through sleeve. Crimp four times evenly across sleeve. Make sure entire cable is held inside sleeve after crimping.

Step 3. Slide another sleeve on the other end of the cable and loop cable through sleeve. Crimp three times evenly across sleeve. Make sure entire cable is held inside sleeve after crimping.

Step 4. Mount assembly into the pull tester in a vertical orientation. Connect one end of the cable to the top clamp in the hydraulic pull tester. Connect the other end to the bottom clamp in the hydraulic pull tester.

Step 5. Increase the load to a minimum of 2,500lbs of force. Record any material failure or slippage of cable.

Step 6. Increase the force to ultimate failure and record results.

2.4 ANALYSIS OF RESULTS

Table 1. (Bottom Rung)

Target Load (lbf)	Load Cell Reading (lbf	Comment
2,500	2,776	No failure occurred. Cable is secured in both crimp sleeves and no slippage was detected.
Ultimate	3,710	Cable broke. Both sleeves held cable with no slippage detected.

2.5 PHOTOGRAPHS



Cable with sleeves. Four crimps on top sleeve and three crimps on bottom sleeve for comparison.



Setup in Hydraulic Pull-Tester



No Failure. No Slippage at 2,776lbf





Cable Failed at 3,710lbf



Load Cell Calibration Sticker