

CVN Wire Rope Preservation Kit (P/N: 06056LP02)

Bill of Materials

Part #	Description	Quantity
06050LP02	DPS- 602 Wrap sheet 7-in x 36-in x 2mm	44
06051LP02	DPS-602 Wrap sheet 7-in x 6-in x 2mm	22
06052LP02	DPS- 602 Wrap trapezoidal sheet 18-in x 5-in x 8-in x 2mm	22
96001301	E-1270EPL; 5 gallon container	2
96001700	Cleaner; case of six 16-oz spray bottles	2
06053LP02	Hose Clamp, 316 L stainless steel; 1.5-in	20
06054LP02	Black UV Resistant Stretch Film; 2-in x 650-ft spool	15

LHD Wire Rope Preservation Kit (P/N: 06055LP02)

Bill of Materials

Part #	Description	Quantity
06050LP02	DPS-602 Wrap sheet 7-in x 36-in x 2mm	44
06051LP02	DPS-602 Wrap sheet 7-in x 6-in x 2mm	16
06052LP02	DPS-602 Wrap trapezoidal sheet 18-in x 5-in x 8-in x 2mm	16
96001301	E1270EPL; 5 gallon container	2
96001700	Cleaner; case of six 16-oz spray bottles	2
06053LP02	Hose Clamp, 316 L stainless steel; 1.5-in	16
06054LP02	Black UV Resistant Stretch Film; 2-in x 650-ft spool	15

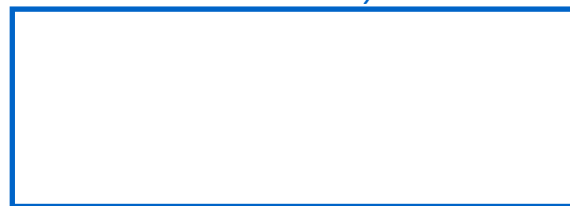
Deck Edge Door Preservation Kit (P/N: 06066LP02)

Bill of Materials

Part #	Description	Quantity
06062LP02	DPS-602 Wrap sheet 4-in x 36-in x 2mm	10
06063LP02	DPS-602 Wrap sheet 4-in x 6-in x 2mm	5
06064LP02	DPS-602 Wrap trapezoidal sheet 12-in x 4-in x 4-in x 2mm	5
06068LP02	E-1270EPL; 1-gallon container	1
06069LP02	Cleaner; 16-oz spray bottle	1
06067LP02	Hose Clamp, 316 L stainless steel; 7/8-in	4
06054LP02	Black UV Resistant Stretch Film; 2-in x 650-ft spool	1

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This information is based on our best knowledge, but we cannot guarantee the results to be obtained.

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WIRE ROPE PRESERVATION SYSTEM

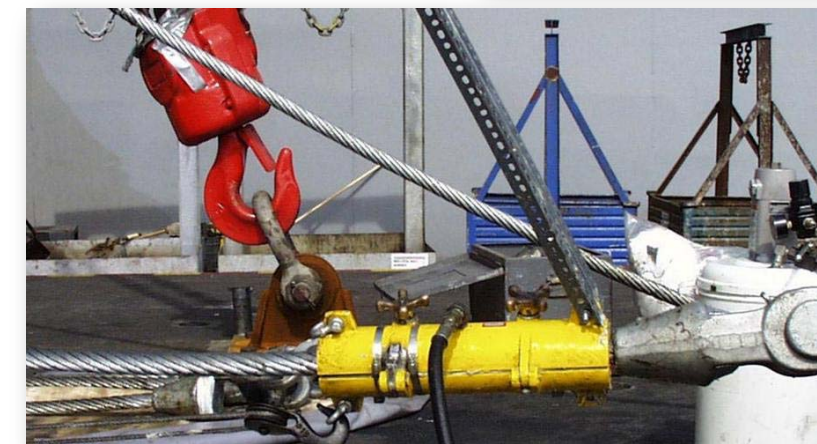
THE SOLUTION FOR WIRE ROPE CORROSION



Typical Corrosion on Deck Edge Elevator Cables



Protected Deck Edge Elevator System



DeNOVUS

OUT OF THE NEW™

WIRE ROPE PRESERVATION SYSTEM

THE SOLUTION FOR WIRE ROPE CORROSION

PROBLEM

Current deck edge elevator wire ropes become corroded at the hitch point sockets due to the severe marine exposure and have experienced premature failure. These corrosion failures have typically required extensive maintenance procedures to replace the wire ropes. U.S. Navy and environmental regulations required changes in the lubricants used for wire ropes. The challenge was to develop and test products that were nontoxic, environmentally safer and which would reduce deterioration due to corrosion.

TESTING

The Deck Edge Elevator Preservation system was tested for 100 days in a cyclic wave spray corrosion environment. The test environment consisted of a flood spray at a nominal velocity of 9 knots. Spray frequency was 4 times per hour. Spray duration 5 seconds. Spray solution 5% NaCl in distilled water. Test chamber temperature 99°F. Preliminary specialized cyclic tests were developed and executed on scaled down samples to evaluate a broad range of alternatives prior to performing tests on the full-sized wire rope samples that were representative of deck edge elevator construction. The scaled test protocol was designed to combine stress and environmental factors to accelerate corrosion. Certified laboratories conducted toxicity and biodegradability studies.

DISCUSSION

The control experienced a 15% loss in strength as a result of the 100-day cyclic wave spray exposure. The Deck Edge Elevator system with **E-1270EPL** experienced only a 0.8% loss in strength as a result of the 100-day cyclic wave spray exposure. Toxicity tests demonstrated that **E-1270EPL** is not toxic at concentrations up to 100 ppm. Biodegradability testing revealed that **E-1270EPL** is between 15% and 57% biodegradable.

CONCLUSION

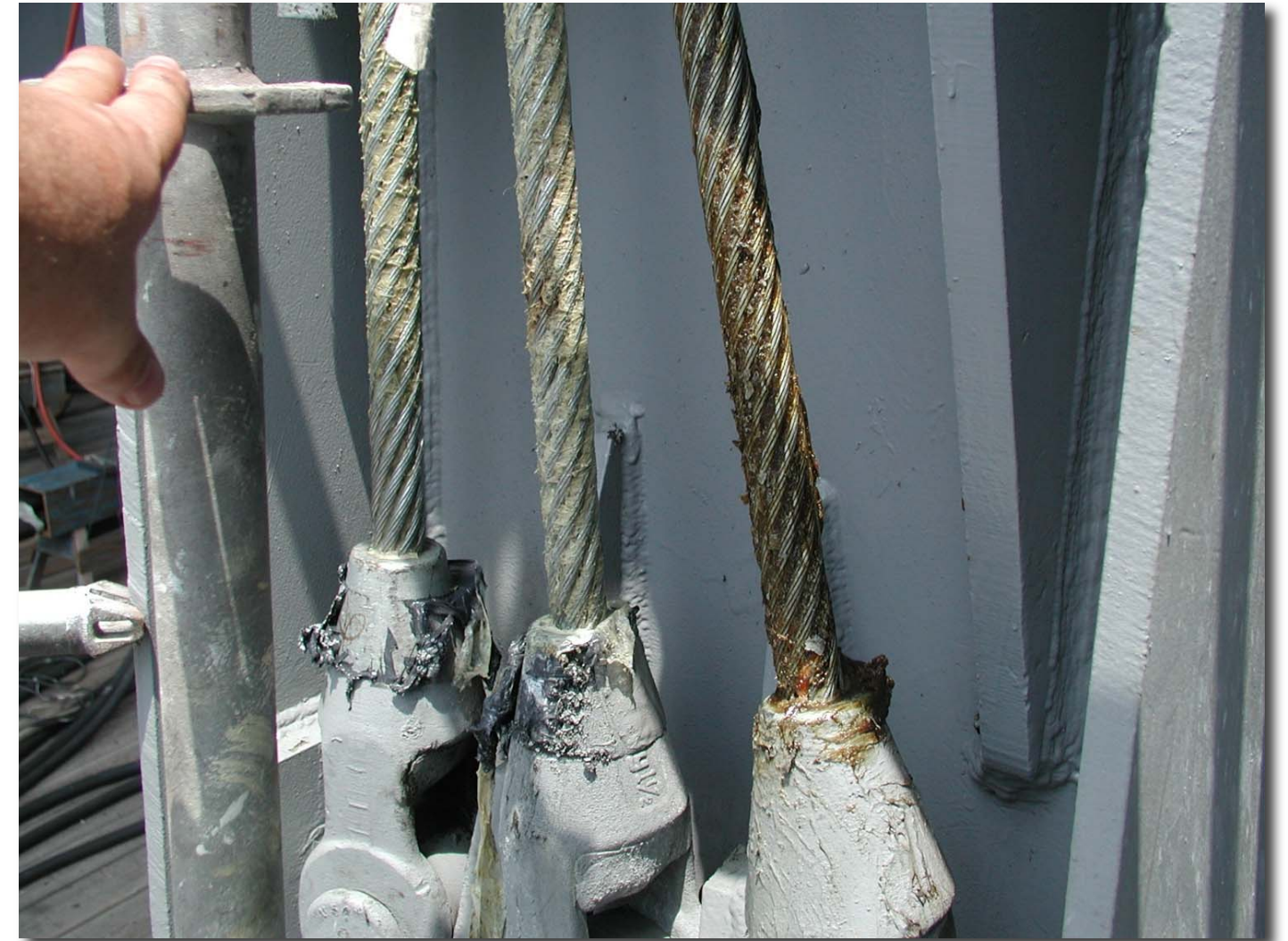
Based upon these laboratory results and an 18-month prototype installation on CVN-71, the Navy now specifies the system on CVN and LHD deck edge elevator wire rope hitch points. The Deck Edge Elevator Preservation Kit includes **E-1270EPL** (wire rope lubricant) and **DPS 602** (protective wrap). This system has dramatically improved the service life of the deck edge elevator cables resulting in significant material cost savings, has reduced maintenance costs, and has improved the reliability of the deck edge elevator.



Conventional Wire Rope



Protected Wire Rope



USS THEODORE ROOSEVELT (CVN 71) NO. 2 DECK EDGE ELEVATOR AFTER 28 MONTHS OPERATION - TWO LEFT ROPES ARE PROTECTED - RIGHT ONE WITH CONVENTIONAL TREATMENT

DPS-602 is a premium grade, black, non-drying, non-hardening, non-conductive, permanently tacky, complex polyisobutylene/isoprene elastomer-based sealing compound. It is designed to seal metal, glass, masonry, plastic and wood where air, dust, and water damage protection is important. **DPS-602** has excellent physical and aging characteristics. It has very good adhesion to most industrial surfaces at temperatures from -60°F to 220°F. It retains its elastic properties at high and low temperatures. It does not dry out, crack, shrink, or lose adhesion on aging.

E-1270EPL is a non-toxic, environmentally preferred synthetic oil lubricant, which offers outstanding protection for bright wire rope and strand. **E-1270EPL** has excellent lubrication properties; high dropping point, excellent corrosion resistance and outstanding water wash out resistance. **E-1270EPL** has mineralization technology inside. The specially compounded ingredients in **E-1270EPL** replace the corrosion process with a mineral formation that forms a mineral barrier approximately 50 angstroms deep onto the surface of the metal. The non-drying, pliable feature of the unique formulation repels water and provides healing to any subsequent breach of the mineral barrier. Conforms to Mil-G-18458B for wire rope lubricant.