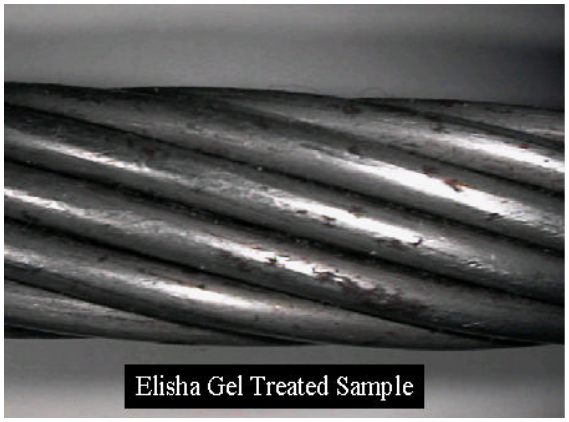
DeNOVUS

CASE STUDY: WIRE ROPE



PROBLEM

U.S. Navy and environmental regulations required changes in the lubricants used for wire ropes. The goal was to develop and test products that were nontoxic, environmentally safer and which would reduce corrosion damage. Wire rope is manufactured from 1070 steel wire cold drawn to 280,000 P.S.I. tensile.

TESTING

Specialized cyclic tests were developed to combine stress and environmental factors to accelerate corrosion. Toxicity and biodegradability studies where conducted by certified laboratories.

DISCUSSION

The corrosion test procedures proved to be very aggressive by generating a loss of up to 83% in strength of the wire ropes. DeNOVUS's E-1270EPL and systems maintained 93.4% to 99.2% of ultimate tensile strength in this testing. 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 the results of this testing the Navy is installing DeNOVUS products on aircraft carrier deck edge elevator applications as improvements. Previously this equipment has experienced high failure rates due to corrosion and has required extensive maintenance. Testing indicates that E-1270EPL will reduce maintenance and prolong the life of this equipment.

DeNOVUS L.L.C.
1 Hunthausen Drive, P.O. Box 280, Moberly, MO 65270
TELE: (660) 269-3700, (800) 457-1363, Fax (660) 269-3737

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