AEGIS TECHNOLOGY, INC.

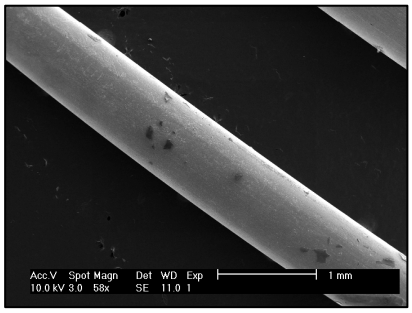
Case Study
Research and Development in Electrically Insulating Coatings

CUSTOMER: U.S. Department of Defense (DoD)
CONTRACT #: W911QX-08-C-0081
PROJECT NAME: SBIR Project, "High-temperature, Electrically-insulating Coating for Magnet Wires"
PROJECT DURATION: 2008-2009

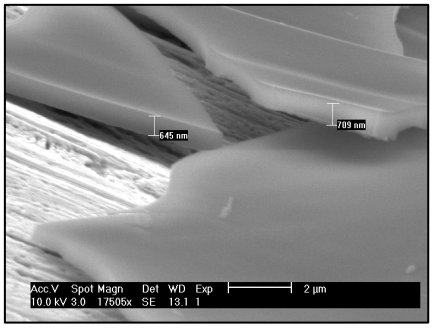
OVERVIEW
The US Department of Defense solicited a SBIR/STTR request for proposal (RFP) for new insulating coatings on copper magnet wires. These insulating coatings allow magnet wires to be used for power electronics that operate at high power densities, high temperatures, and under high frequencies. Aegis Technology has developed new polyceramic insulators which can be used on copper magnet wires. This insulator allows for robust electrical and thermal performance. Aegis Technology was awarded the project in 2008 and successfully completed the project in 2009.

DELIVERABLES
Aegis Technology designed and delivered several coated copper wires using polyceramic coatings. In the process, Aegis Technology conducted:

- Processing
- Scanning Electron Microscope (SEM) and Energy Dispersive X-Ray Spectroscopy (EDS) Analysis
- Testing
- Characterization



(a)



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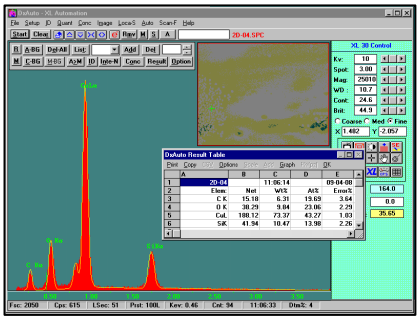

(c)

(d)

(a) Top-view SEM image of the ceramic coating for a copper wire,
(b) SEM image of thickness of ceramic coatings, (c) EDS Analysis, (d) Uncoated and coated copper wires

CONTACT
For more information, please contact:
Dr. Timothy Lin, Technical Director, Aegis Technology Inc.
(714) 554-5511
timlin@aegistech.net
www.aegistech.net