

Case Study

Research and Development in Electrically & Thermally Enhanced Copper Wires

CUSTOMER: U.S. Department of Defense (DoD)
CONTRACT #: W56HZV-08-C-0096
PROJECT NAME: SBIR Project, "Nanostructured Cu Wires with Enhanced Mechanical Strength and Electric/Thermal Conductivity"
PROJECT DURATION: 2008

OVERVIEW

The US Department of Defense solicited a SBIR/STTR request for proposal (RFP) for the design and development of high strength and high conductivity copper wires. Aegis Technology has developed a novel process for the fabrication of high strength and high conductivity copper wires using a combination of cryogenic milling, degassing, hot isostatic pressing, extrusion, and wire drawing. Aegis Technology was awarded and successfully completed the project in 2008.

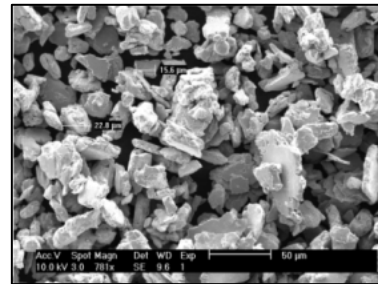
DELIVERABLES

Aegis Technology designed and delivered consolidated copper samples. In the process, Aegis Technology conducted and/or developed:

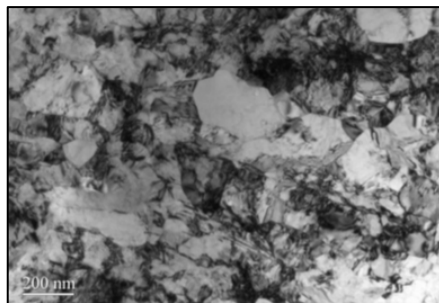
- Processing
- Scanning Electron Microscopy (SEM) Analysis
- Transmission Electron Microscopy (TEM) Analysis
- Diffraction Pattern Analysis
- Testing and Characterization



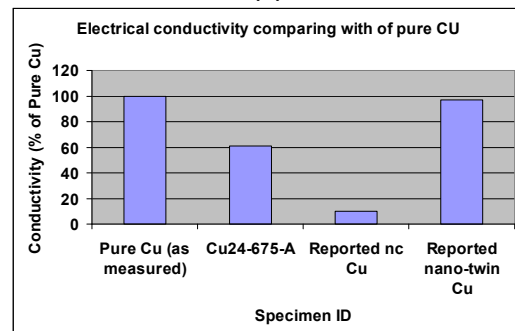
(a)



(b)



(c)



(d)

(a) Consolidated copper samples, (b) SEM image of cryo-milled copper,
 (c) TEM image of cryo-milled copper, (d) Analysis of electrical conductivity of various copper samples

CONTACT

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