

# Carbon Nanotube Metal Matrix Composites for Metal Additive Manufacturing

## Contact Information

**SHEPRA, Inc.**

252 W. Marion St. Suite 1223  
Punta Gorda, FL 33950-4442

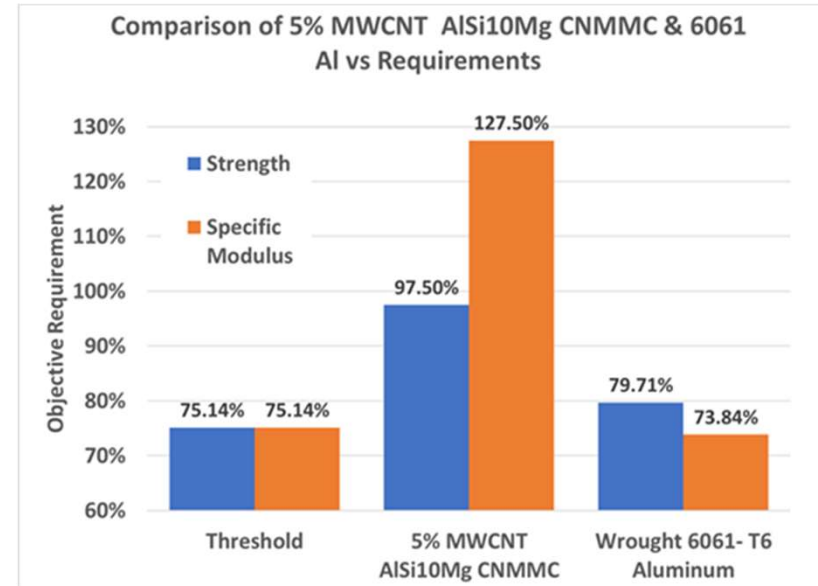
[shepra.com/additive-manufacturing/](http://shepra.com/additive-manufacturing/)

POC: Fred Herman  
Manager- Additive Manufacturing  
[Fred.Herman@SHEPRA.com](mailto:Fred.Herman@SHEPRA.com)  
817- 233- 1942

## Description

- Problem: Current materials used in metal Additive Manufacturing lack wrought property performance
- Solution: Use of Nanomaterials (Carbon Nanotubes) to improve the Mechanical and Physical Properties of metal Additively Manufactured components
- Pervasive technology in that it applies to any metal alloys system that can be used in metal Additive Manufacturing

## Benefits



- Improve Stiffness and Strength through “long fiber” load transfer in a matrix
- Reduce / eliminate thermal tear in non-eutectic alloys by forming nucleation sites
- Improve laser power absorption by acting as surface coating to shift wavelength response
- Increase Thermal & Electrical conductivity of the matrix

Airspace Management

Command & Control

Comms

Power & Energy Storage

Propulsion

Sensors & Awareness

Other