Engi-Mat's Marvite Materials Earn R&D 100 Award

LEXINGTON, Kentucky, October 29, 2019 – The R&D 100 Awards Committee and *R&D World* magazine have notified Engi-Mat Co. that the company's Marvite Materials have been selected as a 2019 R&D 100 Award winner. Each year, the prestigious award recognizes companies that have produced one of the 100 most technologically significant products of the past year. Winning the R&D 100 Award bears a mark of excellence known throughout industry, government, and academia as proof of the most innovative ideas of the times. For the full list of 2019 awardees, visit www.rdworldonline.com/2019-rd-100-award-winners-unveiled/.

With funding from the Department of Energy's Office of Vehicle Technologies, as well as a matching grant from the Commonwealth of Kentucky, Engi-Mat developed two materials with enhanced thermal conductivity for use in motors and related products. These two materials – coated wire and motor resin, collectively known as Marvite Materials – provide advanced heat dissipation capabilities, enabling performance benefits that include improved power density, longer operating life, and reductions in size, weight and cost. Additionally, Marvite coated wire offers a dramatically elevated thermal index relative to commercially available products. By delivering significantly higher engine performance and longer lifetime, Marvite Materials can support the adoption of a number of environmentally friendly solutions, including electric vehicles and battery-driven power systems.

The improved thermal conductivity of the two Marvite Materials provides an enhanced thermal flow path and enables dramatic improvements in the overall thermal performance of a motor. Using Marvite Materials, the Power Electronics and Electric Machinery (PEEM) group at the National Transportation Research Center of Oak Ridge National Laboratory (ORNL) built and tested prototype motors, adapted from the Toyota Prius, to quantitatively demonstrate the improvement in thermal management. Dynamometer tests of the motors were conducted by ORNL. The Marvite Materials consistently delivered a reduced operating temperature across all load cases tested. Additional modeling was performed by the National Renewable Energy Laboratory (NREL). The reduced operating temperatures demonstrated by the Marvite Materials enable extended lifetimes, improved efficiency, and reduced operating costs for these motors in real-world applications.

About Engi-Mat

Engi-Mat *is a privately-owned developer and manufacturer of nano* ***engineered materials****, with over 25 years of technical innovation in nanotechnology and materials science. Engi-Mat is ISO9001:2015 certified for the design and production of nanopowders. For more information, visit engi-mat.com.*