Nanofiber Thermal Insulation

The U.S. Army Natick Research, Development, and Engineering Center patented novel insulation materials with thermal efficiency approaching that of aerogel insulation, which is the most efficient thermal insulator currently available for clothing applications. This is the first time that fibrous materials have been fabricated by electrospinning techniques for thermal insulation application. The new thermal insulation battings incorporating nanofibers would decrease the weight and bulk of current thermal protective clothing, and increase mobility for soldiers in the battlefield. The patent describes the materials and construction of multilayer thermal insulation incorporating nanofibers and mixtures of nanofibers and larger fibers:

References/Publications


Contributing Agency: DoD / RDECOM