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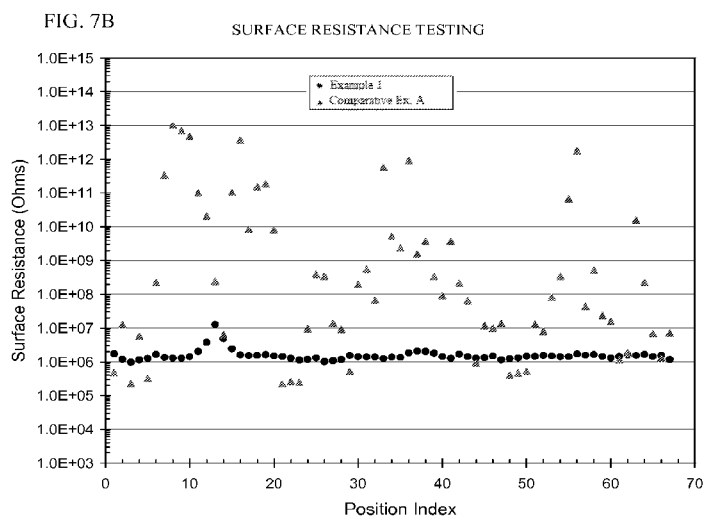
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(54) **Title:** NANOTUBE AND FINELY MILLED CARBON FIBER POLYMER COMPOSITE COMPOSITIONS AND METHODS OF MAKING



(57) **Abstract:** Embodiments of the present invention include composite compositions extrusion compounded together comprising a polymer, an amount of nanotubes, and an amount of finely milled carbon fiber having an aspect ratio greater than 1 and less than about 5. The resulting composite materials allow for high carbon loading levels with improved tribological properties including coefficient of friction and wear rates, provides uniform surface resistance with minimal processing sensitivity, retains rheological properties similar to the base resin, and provides isotropic shrink and a reduced coefficient of thermal expansion leading to minimal warp. In general, various articles can be formed that take advantage of the properties of the composite materials incorporating a polymer, carbon nanotubes and finely milled carbon fiber.