

METHOD TO PROMOTE GROWTH AND ADHESION OF ELECTROACTIVE POLYMER COATINGS ON CONVENTIONAL POLYMERS

ABSTRACT

A method of enhancing the growth and adhesion of an electrically conductive polymer coating on a substrate which has been functionalized via graft copolymerization with hydrophilic monomers is described. The preferred substrates and the best advantages of the present invention are obtained with polymeric substrates which may be selected from but are not limited to polyolefins, polyesters, polycarbonates etc. The objects and advantages of the present invention are obtained by providing first a method for modifying the surfaces of the substrate. The preferred method of surface modification is via thermally or near-UV-light induced surface graft copolymerization of the pre-activated substrate surfaces with functional monomers. The functional monomers are selected from a family of vinyl monomers which readily undergo free-radical initiated polymerization, and more particularly, from the family of water-soluble or hydrophilic monomers such as but not limited to the acrylic acid-based monomers, acrylamide and acrylate monomers and sulfonic acid-containing monomers.



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