







## Article

### Experimental Investigation into the Effect of Adhesion Properties of PEEK Modified by Atmospheric Pressure Plasma and Low Pressure Plasma

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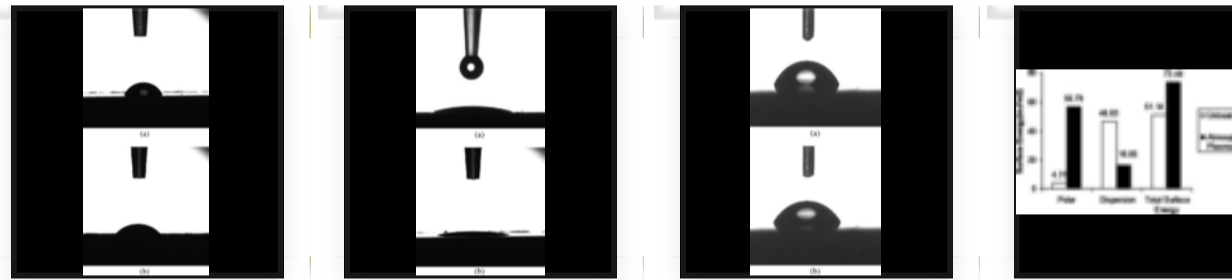
[more]

Journal of Applied Polymer Science (Impact Factor: 1.77). 10/2010; 118(1):173 - 179.  
DOI: 10.1002/app.31880

#### ABSTRACT

High performance polymer, Polyether Ether Ketone (PEEK) (service temperature  $-250^{\circ}\text{C}$  to  $+300^{\circ}\text{C}$ , tensile strength: 120 MPa) is gaining significant interest in aerospace a [more]

#### Figures in this publication



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"The three-dimensional scale-up of our PEEK surface modification from a laboratory rig to an industrial rig successfully incorporated near identical levels of oxygen into the PEEK surface with similar levels of oxygen functionalities [21]. The level of surface oxygen (Table 3) on the machined and injection moulded PEEK implant surfaces of w12 atom % was slightly lower than previously reported [26] [37] [38], Fig. 9. Panels show GE staining and fluorochrome labelling of the cancellous bone from the proximal tibia after 26 weeks implantation of a) PA, b) PAm, c) PO, d) POm PEEK implants (GE staining; pink-bone, blue-soft tissue, white-bone marrow). Fluorochrome labelling with calcein green 23 weeks post-implantation and xylenol orange 25 weeks postimplantation in the 26 week cancellous bone samples showing very limited new bone formation after the implantation of e) PA, f) PAm, g) PO, h) POm (red circle are the PEEK implants). "

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