

ABSTRACT

SURFACE PROPERTIES AND WETTABILITY OF PLASTICS

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Present knowledge of the ability of aqueous and nonaqueous liquids to spread and wet polymeric solid surfaces is reviewed and related to the surface energy of the solid and surface tension of the liquid. A discussion is then given of the effect on the wetting properties of addition agents dissolved either in the liquid phase or in the polymer. Since the relations of these properties and of surface roughness to adhesion are now well established, the subject of adhesion and adhesives for use in polymer implants can be treated with much more simplicity and confidence than had been possible in the past. The close relation of friction between solids and their adhesion is explained and then illustrated through a discussion of the effects of coatings and of addition agents on the frictional behavior of plastics.

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