US005688855A

United States Patent [19]

Stoy et al.

[11] Patent Number: 5,688,855

[45] Date of Patent: Nov. 18, 1997

[54] **THIN FILM HYDROPHILIC COATINGS**

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[21] Appl. No.: **434,573**

[22] Filed: **May 1, 1995**

[51] **Int. Cl.**[6] **C08K 5/15**; C08K 5/07; C08K 5/02; C08K 5/06

[52] **U.S. Cl.** **524/505**; 524/113; 524/360; 524/361; 524/323; 524/378; 524/379; 524/462; 524/464

[58] **Field of Search** 524/113, 360, 524/361, 323, 378, 379, 462, 464, 505

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[57] **ABSTRACT**

A hydrophilic coating composition used to impart increased lubricity and wettability to the surface of a hydrophobic substrate which is comprised of three essential components:

1) Hydrogel-forming polymer component A
2) Water-soluble polymer component B
3) Common solvent C for the components A and B

The water-insoluble, hydrogel-forming component A consists of a segmented copolymer with long, hydrophilic terminal blocks and the essentially hydrophobic central section. The two polymer components A and B have a limited miscibility in the absence of a common solvent C. Therefore, their blend tends to separate spontaneously into two polymer phases. The phase separation takes place during the solvent evaporation or extraction. A gradient of hydrophilicity and swelling within the coating layer is thus spontaneously created achieving a good adhesion to the substrate and high surface hydrophilicity at the same time.

18 Claims, No Drawings