

[54] **PROCESS FOR THE PRODUCTION OF HYDROPHILIC SURFACES ON SILICON ELASTOMER ARTICLES**

[75] **Inventors:** Paul Feneberg, Planegg; Ulrich Krekeler, Munich, both of Germany

[73] **Assignee:** AGFA-Gevaert, A.G., Leverkusen, Germany

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[58] **Field of Search**..... 204/165, 168, 169

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Primary Examiner—F. C. Edmundson
Attorney, Agent, or Firm—Michael J. Striker

[57] **ABSTRACT**

An article composed of a silicon elastomer and which includes activated silicon dioxide as a filler is subjected to ion bombardment. The nature and energy of the ions are such that certain regions of the outer silicone elastomer layers of the articles are destroyed while, at the same time, the silicon dioxide filler is exposed at these regions. The nature and energy of the ions are also such that the remaining regions of the outer silicon elastomer layers of the article are transformed into activated silicon dioxide. As a result, the surface of the article becomes hydrophilic. The effects achieved are due to rupture of the silicon-oxygen and/or silicon-carbon bonds of the silicon elastomer during the ion bombardment, that is, the kinetic energy of the ions is sufficient to break these bonds. The ions used are activated gas ions formed by gaseous discharge and the ions generally have a kinetic energy between 3 and 50 electron volts. Preferably, oxygen ions are utilized for the ion bombardment. The ion bombardment may be carried out in an atmosphere consisting essentially of oxygen or consisting essentially of oxygen and small amounts of water vapor. The pressure in the atmosphere may lie between 10^{-1} and 10^3 torr. Improved results may be obtained when, subsequent to the ion bombardment, the article is contacted with water having a temperature in excess of 80°C, and particularly when the article is contacted with water vapor subsequent to the ion bombardment.

17 Claims, No Drawings