METHOD AND COMPOSITION FOR PROVIDING PORE SEALING LAYER ON POROUS LOW DIELECTRIC CONSTANT FILMS

ABSTRACT OF THE DISCLOSURE

Described herein is a method and composition comprising same for sealing the pores of a porous low dielectric constant ("low k") layer by providing an additional thin dielectric film, referred to herein as a pore sealing layer, on at least a surface of the porous, low k layer to prevent further loss of dielectric constant of the underlying layer. In one aspect, the method comprises: contacting a porous low dielectric constant film with at least one organosilicon compound to provide an absorbed organosilicon compound and treating the absorbed organosilicon compound with ultraviolet light, plasma, or both, and repeating until a desired thickness of the pore sealing layer is formed.

Fig. 1A