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(54) Title: METHOD FOR IMPROVING NUCLEATION AND ADHESION OF CVD AND ALD FILMS DEPOSITED ONTO
LOW-DIELECTRIC-CONSTANT DIELECTRICS

(57) Abstract: A method to improve nucleation and / or adhesion of a CVD or ALD-deposited film / layer onto a low-dielectric
constant (low-k) dielectric layer, such as a polymeric dielectric or a carbon-doped oxide. In an embodiment, the method includes
providing a substrate into a deposition chamber. A dielectric layer having a reactive component is formed over the substrate. The
formed dielectric layer having the reactive component is then processed to produce polar groups or polar sites at least on a surface of
the formed dielectric layer. The present invention forms a low-k organic polymer dielectric layer or an organic-doped oxide dielectric
layer having improved nucleation and/or adhesion properties for a subsequently deposited layer such as a barrier material layer.



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