ABSTRACT OF THE DISCLOSURE

A METHOD TO PREVENT DISHING IN CHEMICAL MECHANICAL POLISHING

A method is described for filling trenches in a substrate for shallow trench isolation or for a metal damascene structure which will prevent dishing when the substrate is planarized using chemical mechanical polishing. Trenches are formed in the substrate. A layer of first material is formed on the substrate, sidewalls of the trench, and bottom of the trench. A layer of second material is then formed on the layer of first material. The substrate is then planarized using a chemical mechanical polishing. The first material, second material, and parameters of the chemical mechanical polishing are chosen so that the removal rate of the first material is greater than the removal rate of the second material. The chemical mechanical polishing then results in a planar substrate with no dishing.

(FIGURE 1 IS SUGGESTED FOR PUBLICAITON)