

METHOD FOR REDUCING WETTABILITY OF INTERCONNECT MATERIAL AT CORNER INTERFACE AND DEVICE INCORPORATING SAME

ABSTRACT OF THE DISCLOSURE

A method for forming an interconnect structure (10) includes forming a recess (40) in a dielectric layer (20) of a substrate (25). A first transition metal layer (60) is formed in the recess on corner portions (70) of the recess. A second transition metal layer (80) is formed in the recess over the first transition metal layer to line the recess. The recess is filled with a fill layer (90). The substrate is annealed. The first transition metal layer (60) and the second transition metal layer (80) form an alloy portion proximate the corner portions during the annealing. The alloy portion has a reduced wettability for a material of the fill layer than the second transition metal. The substrate is polished to remove portions of the fill layer extending above the recess. A device made in accordance with the method includes an alloy of a first and second transition metal disposed on the corner portion.

Figure 5