

ABSTRACT

A plasma chamber in a semiconductor fabrication system eliminates the need for magnetron sputtering. It has been found that high density plasmas can produce sufficient ionization to provide for a high deposition rate of target material onto a workpiece and thereby eliminate the need for magnetron magnetic fields and the attendant magnetron magnets. By eliminating the magnetron, the uniformity of the deposition of target material onto a workpiece can also be improved. In addition, the sidewall coverage of trench-like structures and contact holes and the like can also be increased. Furthermore, the rate of the deposition of target material onto a workpiece can be the same or better than that obtainable using magnetron sputtering.

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