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(54) Title: AMORPHOUS CARBON FOR GAP FILL

(57) Abstract: Methods for depositing an amorphous carbon layer on a substrate and for filling a substrate feature with an amorphous carbon gap fill are described. The method comprises performing a deposition cycle comprising: introducing a hydrocarbon source into a processing chamber; introducing a plasma initiating gas into the processing chamber; generating a plasma in the processing chamber at a temperature of greater than 600 C; forming an amorphous carbon layer on a substrate with a deposition rate of greater than 200 nm/hr; and purging the processing chamber.



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