What is claimed is:

1. A method comprising:

simultaneously exposing a substrate surface having at least one feature thereon to reactants comprising a polysilane precursor and a plasma gas; and

igniting the plasma gas at a regular interval to form a plasma and deposit a flowable film on the substrate surface within the at least one feature,

wherein the flowable film is deposited at a rate of less than or equal to 500 Å/min.

2. The method of claim 1, wherein the flowable film is deposited at a rate of less than or equal to 250 Å/min.

3. The method of claim 1, wherein the regular interval has a duty cycle in a range of 5% to 90%.

4. The method of claim 3, wherein the duty cycle is less than or equal to 40%.

5. The method of claim 1, wherein the polysilane precursor comprises one or more of disilane, trisilane, tetrasilane, neopentasilane or cyclohexasilane.

6. The method of claim 1, wherein the plasma gas comprises one or more of He, Ar, Kr, H_2, N_2, O_2, O_3 or NH_3.

7. The method of claim 1, wherein the plasma has a power less than or equal to 200 W.

8. The method of claim 1, wherein the plasma has a frequency in a range of 10 Hz to 10 kHz.

9. The method of claim 1, wherein forming the flowable film occurs at a temperature of less than or equal to 50 ºC.

10. The method of claim 1, wherein forming the flowable film occurs at a pressure in a range of 1 Torr to 10 Torr.

11. The method of claim 1, wherein the flowable film comprises one or more of Si, SiN, SiO, SiC, SiOC, SiCN, SiON, or SiCON.

12. The method of claim 11, wherein the reactants further comprise one or more of propylene, acetylene, ammonia, hydrazine, NO_2, N_2, N_2O, O_2, ozone or water.

13. The method of claim 1, wherein the flowable film comprises a metal silicide.

14. The method of claim 13, wherein the reactants further comprise one or more tungsten, tantalum and/or nickel precursors.

15. A method comprising:

simultaneously exposing a substrate surface having at least one feature thereon to reactants comprising a polysilane precursor and a plasma gas; and

igniting the plasma gas at a regular interval to form a plasma and deposit a flowable silicon-containing film on the substrate surface within the at least one feature, the regular interval having a duty cycle less than 40%, and the flowable silicon-containing film being deposited at a rate of less than or equal to 500 Å/min; and

curing the flowable film to form a substantially seam-free gapfill.

16. The method of claim 15, wherein the flowable silicon-containing film comprises one or more of Si, SiN, SiO, SiC, SiCN, SiOC, SiON, SiCON.

17. The method of claim 15, wherein the polysilane precursor comprises one or more of disilane, trisilane, tetrasilane, neopentasilane or cyclohexasilane, the plasma gas comprises one or more of He, Ar, Kr, H_2, N_2, O_2, O_3 or NH_3.

18. The method of claim 15, wherein the plasma has a power less than or equal to about 200 W and a frequency in a range of 10 Hz to 10 kHz.

19. The method of claim 15, wherein forming the flowable silicon-containing film occurs at a temperature of less than or equal to 50 ºC and a pressure in a range of 1 Torr to 10 Torr.

20. A method comprising:

simultaneously exposing a substrate surface having at least one feature thereon to reactants comprising a polysilane precursor and a plasma gas, the polysilane precursor comprising one or more of disilane, trisilane, tetrasilane, neopentasilane, cyclohexasilane, TSA, TEOS, TRIES, TMOS, or TRIMOS, the plasma gas comprising one or more of He, Ar, Kr, H_2, N_2, O_2, O_3 or NH_3; and

igniting the plasma gas at a regular interval to form a plasma and deposit a flowable film on the substrate surface within the at least one feature, the regular interval having a duty cycle less than 40%, the plasma having a power less than or equal to 200 W, the film comprising one or more of Si, SiN, SiO, SiC, SiCN, SiOC, SiON, SiCON, the substrate surface being maintained at a temperature of less than or equal to 50 ºC, and the flowable film being deposited at a rate of less than or equal to 500 Å/min; and

curing the flowable film to form a substantially seam-free gapfill.