CLAIMS

1. A susceptor for use in a processing chamber for supporting a wafer, the susceptor comprising:

a susceptor substrate having a front side and a back side opposite the front side,

wherein the susceptor substrate comprises porous graphite; and

wherein the porous graphite has pores into which silicon-carbide (SiC) tendrils are formed; and

a coating layer deposited on the susceptor substrate, the coating layer comprising silicon-carbide (SiC) and having a thickness of between 40 μm and 300 μm,

wherein the front side has a pocket configured to hold a wafer to be processed in a processing chamber, the pocket being textured with a first pattern; and

wherein the back side is textured with a second pattern, the second pattern is the same as the first pattern or a grid pattern.

2. The susceptor of claim 1, wherein the first pattern is a grid pattern having a width of between 0.20 mm and 3.00 mm, a pitch of between 0.80 mm and 3.00 mm, and a depth of between 0.10 mm and 5.00 mm.

3. The susceptor of claim 2, wherein the second pattern is the same as the first pattern.

4. The susceptor of claim 2, wherein the second pattern is the grid pattern.

5. The susceptor of claim 2, wherein the second pattern comprises a ledge formed on an outer edge of a surface of the back side.

6. The susceptor of claim 1, wherein the susceptor substrate is a disc-shaped plate having a diameter of between 150 mm and 400 mm and a thickness of between 1 mm and 15 mm.

7. The susceptor of claim 1, wherein the pocket is a cylindrical recess having a diameter of between 150 mm and 300 mm, and a depth of between 0.30 mm and 1.00 mm.

8. A method for manufacturing a susceptor for use in a processing chamber for supporting a wafer, the method comprising:

forming a susceptor substrate having a front side and a back side opposite the front side,

wherein the susceptor substrate comprises porous graphite; and

wherein the porous graphite has pores into which silicon-carbide (SiC) tendrils are formed;

forming a pocket configured to hold a wafer to be processed in a processing chamber;

texturing the pocket with a first pattern;

texturing the back side with a second pattern, the second pattern is the same as the first pattern or a grid pattern; and

forming a coating layer on the susceptor substrate, the coating layer comprising silicon-carbide (SiC) and having a thickness of between 40 μm and 300 μm.

9. The method of claim 8, wherein the first pattern is a grid pattern having a width of between 0.20 mm and 3.00 mm, a pitch of between 0.80 mm and 3.00 mm, and a depth of between 0.10 mm and 5.00 mm.

10. The method of claim 9, wherein the second pattern is the same as the first pattern.

11. The method of claim 9, wherein the second pattern is the grid pattern.

12. The method of claim 9, wherein the second pattern comprises a ledge formed on an outer edge of a surface of the back side.