Claims

1. A chamber component surface coating, comprising:

a processing chamber component having a textured surface formed from one or more engineered features, wherein the textured surface comprises one or more structures, the one or more structures comprising:

a top surface; and

an overhang, having a rounded edge, located along a sidewall of the one or more structures, wherein a recess is formed within a center area of the top surface of each of the one or more structures located radially inward from the overhang.

2. The chamber component surface coating of claim 1, wherein one or more structures comprise a cylindrical shape having a rounded top surface, wherein a recess is formed in the one or more structures.

3. The chamber component surface coating of claim 2, wherein a depth of the engineered features is greater than a depth of the recess.

4. The chamber component surface coating of claim 2, wherein the recess has a concave surface.

5. The chamber component surface coating of claim 4, wherein the concave surface of the recess is adapted to exert a compressive force on a film deposited on the surface of the recess.

6. The chamber component surface coating of claim 1, wherein the engineered features are bounded by walls forming a hexagonal honeycomb pattern.

7. The chamber component surface coating of claim 6, wherein a trench is formed between the walls forming the hexagonal honeycomb pattern.

8. The chamber component surface coating of claim 7, wherein a surface of the trench is concave.

9. The chamber component surface coating of claim 1, wherein the engineered features forming the textured surface have at least one of a uniform shape, size and distribution across the textured surface.

10. The chamber component surface coating of claim 1, wherein the engineered features are arranged in a predefined pattern.

11. The chamber component surface coating of claim 1, wherein the engineered features are closely packed.

12. The chamber component surface coating of claim 1, wherein one or more of the engineered features has a concave surface.

13. The chamber component surface coating of claim 1, wherein the engineered features form discreet pillars.

14. A chamber component surface coating, comprising:

a processing chamber component having a textured surface formed from engineered features, the engineered features being arranged in a predefined pattern, wherein the engineered features comprise surfaces having a concave shape and one or more structures defining the textured surface, the structures comprising:

a rounded overhang located along a sidewall and extending radially outward from a top surface of the one or more structures, wherein a concave recess is formed within a center area of the top surface of the one or more structures.

15. The chamber component surface coating of claim 14, wherein the engineered features are bounded by walls forming a hexagonal honeycomb pattern.

16. The chamber component surface coating of claim 15, wherein the engineered features are bounded by structures forming mounds having a concave recess formed therein.

17. The chamber component surface coating of claim 14, wherein the engineered features are closely packed, and wherein the engineered features form discreet pillars.

18. A method for fabricating a chamber component surface coating, comprising:

covering a surface of a chamber component with a mask; and

removing material from the surface of the chamber component to form a plurality of engineered features defining a macro textured surface, wherein the

engineered features are arranged to prevent formation of a line of sight surface across the macro textured surface and the engineered features comprise surfaces having a concave shape, wherein the macro textured surface comprises one or more structures defined between the engineered features, the one or more structures comprising:

a top surface; and

an overhang, having a rounded edge, located along a sidewall of the one or more structures, wherein the overhang originates from the top surface of the one or more structures and a recess is formed within a center area of the top surface of each of the one or more structures located radially inward from the overhang.

19. The method of claim 18, wherein the mask further comprises:

a developed region, a partially developed region, and a non-developed region.

20. The method of claim 19, wherein removing material from the surface of the chamber component comprises:

pressure spraying $FeCl_3$ at a pressure of between 20 psi and 60 psi in an environment having a temperature between 75°C and 125°C.