

Claims

1. A chamber component for a processing chamber, the chamber component comprising:

a component part body having unitary monolithic construction, the component part body having a textured surface, the textured surface comprising:

a plurality of independent engineered macro features, wherein the engineered macro features include a macro feature body extending outwards from the textured surface, the macro feature body integrally formed with the component part body, wherein the engineered macro features are arranged in a pattern that prevents a line of sight surface from being formed between the engineered macro features across the textured surface, wherein a sidewall of the macro feature body is at least substantially perpendicular to the textured surface.

2. The chamber component of claim 1, wherein the engineered macro features further comprise: a plurality of engineered micro features formed thereon.

3. The chamber component of claim 2, wherein the micro features further include sub-features formed thereon.

4. The chamber component of claim 1, wherein the macro feature body comprises: an undercut.

5. The chamber component of claim 1, wherein the macro feature body comprises: an interior void.

6. The chamber component of claim 1, wherein the macro feature body has a helical shape.

7. The chamber component of claim 1, wherein the macro feature body comprises: one more holes.

8. The chamber component of claim 1, wherein the macro feature body comprises: a first material disposed in contact with the component part body; and

a second material disposed on with the first material.

9. The chamber component of claim 1, wherein the engineered macro features further comprise: a plurality of non-engineered micro features formed thereon.

10. The chamber component of claim 1, wherein the macro feature body comprises: a surface facing the component part body.

11. The chamber component of claim 1, wherein the macro feature body comprises:
an engineered micro featured formed on a surface of the macro feature body facing an adjacent macro feature body.

12. The chamber component of claim 1, wherein the component part body comprises a chamber liner, a process kit ring, a shield, or coil spacer.

13. The chamber component of claim 1, wherein the macro feature body comprises: a thermal choke.

14. The chamber component of claim 1, wherein the component part body further comprises: an internal surface having a plurality of heat transfer fins; and an external surface on which the engineered macro features are formed.

15. A cup of a coil spacer for a processing chamber, the cup comprising:
a body having unitary monolithic construction, the body comprising:
an exterior surface;
a top portion;
a bottom portion;
an opening disposed in the top portion and extending towards the bottom portion;
an interior surface disposed adjacent the opening;
an upper lip proximate the top portion and disposed between an exterior surface and the interior surface; and
a plurality of macro-level surface features formed outwards on the exterior surface, each of the plurality of macro-level surface features has a

sidewall that is at least substantially perpendicular to the exterior surface, wherein the macro-level surface features are arranged in a pattern that prevents a line of sight surface from being formed between the macro-level surface features across the exterior surface.

16. The cup of claim 15, wherein the macro-level surface features comprise:
a repetitive predetermined pattern of engineered surface structures.
17. The cup of claim 15, wherein the macro-level surface features comprise:
a repetitive predetermined pattern of recesses, projections or mixed recesses and projections that interrupts a macro-level surface contour of the exterior surface.
18. The cup of claim 15, wherein the interior surface comprises: a plurality of macro-level surface features.
19. The cup of claim 16, wherein the interior surface comprises: a plurality of fins.
20. The cup of claim 19, wherein the plurality of fins comprises: a width of between about 1 mm and about 8 mm.
21. The cup of claim 15 further comprising:
an electrical pathway extending through the body.