

What is claimed is:

1. An apparatus for substrate processing comprising:
 - a chamber body;
 - a lower liner disposed within the chamber body;
 - an upper liner disposed on top of the lower liner and within the chamber body;
 - a liner door disposed through the upper liner and the chamber body, wherein each of the lower liner, the upper liner, and the liner door further comprise a spray coated yttrium zirconium oxide layer disposed thereon;
 - a chamber lid disposed on top of the chamber body; and
 - a gas nozzle disposed through the chamber lid, wherein the gas nozzle further comprises a bulk ceramic gas nozzle.
2. The apparatus of claim 1, further comprising a plasma screen ring disposed on top of the electrostatic chuck, wherein the plasma screen ring is a bulk ceramic plasma screen ring.
3. The apparatus of claim 1, further comprising one or more fasteners disposed through and securing the lower liner and the substrate support pedestal, each of the one or more fasteners having a bulk yttrium zirconium oxide ceramic fastener cover disposed thereon.
4. The apparatus of claim 1, wherein the chamber lid comprises an Al_2O_3 lid and a Y_2O_3 coating.
5. The apparatus of claim 1, wherein the chamber lid comprises an Al_2O_3 - Y_2O_3 ceramic composite and a Y_2O_3 coating.
6. The apparatus of claim 1, wherein the chamber lid further comprises a quartz lid.
7. The apparatus of claim 1, wherein the chamber lid further comprises one of an aluminum oxide lid or an Al_2O_3 - Y_2O_3 lid with a laminated or sintered yttrium zirconium oxide coating.

8. The apparatus of claim 1, wherein the yttrium zirconium oxide further comprises a $\text{Y}_2\text{O}_3\text{-ZrO}_2$ solid solution.
9. The apparatus of claim 1, wherein one or more gaskets are disposed between the lower chamber body and the upper chamber body.
10. The apparatus of claim 9, wherein one or more gaskets are disposed between the upper chamber body and the chamber lid.
11. The apparatus of claim 10, wherein one or more gaskets are disposed between the lower chamber body and the substrate support pedestal.
12. The apparatus of claim 11, wherein each of the one or more gaskets comprises a nickel plated gasket or a stainless steel gasket.
13. An apparatus for substrate processing comprising:
a chamber body;
a lower liner disposed within the chamber body;
an upper liner disposed on top of the lower liner and within the chamber body;
a liner door disposed through the upper liner and the chamber body, wherein each of the lower liner, the upper liner, and the liner door further comprise a spray coated yttrium zirconium oxide layer disposed thereon, wherein the yttrium zirconium oxide further comprises a $\text{Y}_2\text{O}_3\text{-ZrO}_2$ solid solution;
a chamber lid disposed on top of the upper liner;
a gas nozzle disposed through the chamber lid, wherein the gas nozzle further comprises a bulk ceramic gas nozzle; and
one or more nickel plated or stainless steel gaskets disposed between the lower liner and the upper liner, the upper liner and the chamber lid, and the lower liner and the substrate support pedestal.
14. The apparatus of claim 13, wherein the thickness of each of the spray coated yttrium zirconium oxide layer is about 25 microns to about 300 microns.

15. The apparatus of claim 13, wherein the chamber lid further comprises an aluminum oxide lid and a PVD coated yttrium zirconium oxide layer, wherein the PVD coated yttrium zirconium oxide layer has a thickness of about 0.5 microns to about 10 microns.
16. The apparatus of claim 13, wherein the spray coated yttrium zirconium oxide layer is a purified yttrium zirconium oxide coating with a concentration of 99% or more Y_2O_3 and ZrO_2 .
17. The apparatus of claim 16, wherein the bulk ceramic gas nozzle is a yttrium zirconium oxide ceramic gas nozzle with a porosity of equal to or less than about 0.2%.
18. The apparatus of claim 13, further comprising a plasma screen ring disposed on top of the electrostatic chuck, wherein the plasma screen ring is a bulk yttrium zirconium oxide ceramic or an alumina ring coated by Y_2O_3 - ZrO_2 .
19. An apparatus for substrate processing comprising:
a chamber body;
a lower liner disposed within the chamber body;
an upper liner disposed on top of the lower liner and within the chamber body;
a liner door disposed through the upper liner and the chamber body, wherein each of the lower liner, the upper liner, and the liner door further comprise a spray coated yttrium zirconium oxide layer disposed thereon;
a chamber lid disposed on top of the upper liner;
a gas nozzle disposed through the chamber lid, wherein the gas nozzle further comprises a bulk ceramic gas nozzle;
an induction coil disposed above the chamber lid; and
a shielding electrode disposed between the induction coil and the chamber lid, wherein
the thickness of the spray coated yttrium zirconium oxide layer is about 25 microns to about 300 microns and the spray coated yttrium zirconium

oxide layer is a purified yttrium zirconium oxide coating with a concentration of 99% or more Y_2O_3 and ZrO_2 .

20. The apparatus of claim 19, wherein the chamber lid further comprises an aluminum oxide lid and a PVD coated yttrium zirconium oxide coating.