

CLAIMS

What is claimed is:

1. A method of fabricating a platen for use in a semiconductor processing apparatus, the method comprising:
 - 5 depositing or otherwise forming a coating on a heater to form a coated heater, wherein the heater comprises a metal wire on which the coating is formed;
 - placing the coated heater in powder;
 - consolidating the powder into a cohesive mass to form a powder-based composite; and
 - 10 sintering the powder-based composite to form the platen, wherein the platen comprises the heater embedded in sintered ceramic material.
2. The method of claim 1, wherein the coating is deposited on the heater using a technique selected from the group consisting of atomic layer deposition, chemical vapor deposition, electroplating, electroless plating, dip coating, thermal spraying or plasma spraying, and physical vapor deposition.
- 15 3. The method of any of claims 1-2, wherein the coating is deposited to a thickness of at least about 5 angstroms.
4. The method of any of claims 1-3, wherein the coating comprises a metal, metal oxide, an elemental metal, a metal nitride, or an intermetallic compound.
5. A platen for use in a semiconductor processing apparatus, wherein the platen is fabricated according to any of the methods claimed or otherwise described herein.
- 20 6. A platen for use in a semiconductor processing apparatus, the platen comprising:
 - a coated heater comprising a metal wire with a coating thereon; and
 - a sintered ceramic material, wherein the coated heater is embedded in the sintered ceramic material.
- 25 7. A platen for use in a semiconductor processing apparatus, the platen comprising:
 - a heater comprising a metal wire, wherein the metal wire does not have carbide particles embedded therein; and
 - a sintered ceramic material, wherein the heater is embedded in the sintered ceramic material.
- 30 8. A powder-based composite for use as a platen in a semiconductor processing apparatus, the powder-based composite comprising:
 - a coated heater comprising a metal wire with a coating thereon; and
 - an unsintered ceramic material, wherein the coated heater is embedded in the unsintered ceramic material.

9. The powder-based composite of claim 8, wherein the coating has a thickness of at least about 5 angstroms.
10. The powder-based composite of any of claims 8-9, wherein the coating comprises a metal or metal oxide or an elemental metal or a sacrificial coating or a barrier coating.

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