

Claims:

1. A method of forming raised ridges on the surface of a turbine component having an abradable coating formed on an outer surface of the turbine component, said method comprising the steps of:

- (a) positioning a mask having a predetermined pattern of openings therein adjacent the abradable coating on a surface of the turbine component;
- (b) providing a high pressure water jet; and
- (c) causing the high pressure water jet to have movement relative to the mask so that the high pressure water jet passes along the extent of the openings in the mask and passes through the openings in the mask to remove portions of the abradable coating on the turbine component located beneath the openings in the mask while leaving in place portions of the abradable coating that are not located beneath the openings to thereby form raised ridges of abradable material on the surface of the turbine component.

2. A method of forming raised ridges on the surface of a turbine component as defined in claim 1 wherein the method includes the step of adding an abrasive material to the high pressure water jet.

3. A method of forming raised ridges on the surface of a turbine component as defined in claim 1 wherein the turbine component is a shroud panel formed with a bond coat, a TBC layer covering the bond coat, with the abradable coating applied to the TBC layer on the shroud panel.

4. A method of forming raised ridges on the surface of a turbine component as defined in claim 1 wherein the abradable coating is a TBC coating that includes an AISi- polyester and nickel graphite filler.

5. A method of forming raised ridges on the surface of a turbine component as defined in claim 1, wherein the turbine component includes a base parent material, a bond coat applied to the base parent material, and a TBC applied over the bond coat, and wherein the abradable coating is applied over the TBC.

6. Apparatus for forming raised ridges on the surface of a turbine component having an abradable coating formed on an outer surface of the turbine component the apparatus including:

- (a) a water jet nozzle assembly from which a jet of high pressure water exits;
- (b) a workstation that supports the turbine component having a surface thereof covered with an abradable coating and that supports a mask at a position adjacent a surface of the turbine component, the mask having a predetermined pattern of openings therein that extend through the thickness of the mask; and
- (c) a control system having a plurality of motors and a programmable computer for moving the water jet nozzle along the extent of the openings in the mask to cause the water jet exiting the water jet nozzle to pass through the openings and remove portions of the abradable coating on the turbine component beneath the openings while leaving in place portions of the abradable coating which are not located beneath the openings in the mask, to thereby form raised ridges of abradable material on the surface of the turbine component.

7. Apparatus for forming raised ridges on the surface of a turbine component as defined in claim 1 wherein the water jet nozzle assembly includes a mixing chamber and source of abrasive material that is mixed with water in the mixing chamber to create an abrasive water jet.

8. Apparatus for forming raised ridges on the surface of a turbine component as defined in claim 6 wherein the turbine component is a shroud panel that includes a TBC layer, and the abradable coating is applied to the TBC layer on the shroud panel.

9. Apparatus for forming raised ridges on the surface of a turbine component as defined in claim 8 wherein the abradable coating is a TBC coating that includes an AlSi- polyester and nickel graphite filler.

10. Apparatus for forming raised ridges on the surface of a turbine component as defined in claim 6, wherein the turbine component includes a base parent material, a bond coat applied to the base parent material, and a TBC applied over the bond coat, and wherein the abradable coating is applied over the TBC.

The invention claimed is:

1. A method of forming raised ridges on the surface of a turbine component having an abradable coating formed on an outer surface of the turbine component, said method comprising the steps of:

- (a) positioning a mask having a predetermined pattern of openings therein adjacent to and above the abradable coating on a surface of the turbine component;
- (b) providing a high pressure water jet; and
- (c) causing the high pressure water jet to have movement relative to the mask so that the high pressure water jet passes along the extent of the openings in the mask and passes through the openings in the mask to remove portions of the abradable coating on the turbine component located beneath the openings in the mask while leaving in place portions of the abradable coating that are not located beneath the openings to thereby form raised ridges of abradable material on the surface of the turbine component.

2. A method of forming raised ridges on the surface of a turbine component as defined in claim 1 wherein the method includes the step of adding an abrasive material to the high pressure water jet.

3. A method of forming raised ridges on the surface of a turbine component as defined in claim 1 wherein the turbine component is a shroud panel formed with a bond coat, a TBC layer covering the bond coat, with the abradable coating applied to the TBC layer on the shroud panel.

4. A method of forming raised ridges on the surface of a turbine component as defined in claim 1 wherein the abradable coating is a TBC coating that includes an AlSi-polyester and nickel graphite filler.

5. A method of forming raised ridges on the surface of a turbine component as defined in claim 1, wherein the turbine component includes a base parent material, a bond coat applied to the base parent material, and a TBC applied over the bond coat, and wherein the abradable coating is applied over the TBC.