CLAIMS

What is claimed as new and desired to be protected by Letters Patent of the United States is:

1. A thermal spray powder comprising:

a first component A mechanically blended with a second component B,

wherein the first component A is a solid lubricant clad with at least one of a metal and metal alloy, and

wherein the second component B is a metal or a polymer clad with at least one of nickel, nickel alloys, nickel chrome alloys, nickel chrome aluminum alloys, nickel aluminum alloys, cobalt and cobalt alloys.

2. There thermal spray powder of claim 1, wherein the first component A is at least one of Ni-Cr-Al clad ABN, Ni-Cr-Al clad HBN, Ni-Cr-Al clad agglomerated hexagonal boron nitride powder with organic binder, Ni-Cr-Al agglomerated hexagonal boron nitride powder with inorganic binder, an MCrAlY type powder where M is at least one of Ni, Co and Fe and agglomerated hexagonal boron nitride powder with inorganic or organic binder, and an intermetallic alloy and agglomerated hexagonal boron nitride powder with inorganic or organic binder.

3. There thermal spray powder of claim 1, wherein the lubricant in the first component A is at least one of hexagonal boron nitride, hexagonal boron nitride agglomerated with a bentonite binder (ABN), graphites, fluorides, and talc.

4. The thermal spray powder of claim 1, wherein component A is Ni 5%-Cr 5%-Al clad ABN.

5. The thermal spray powder of claim 1, wherein the clad layers of component A alloy together.

6. The thermal spray powder of claim 1, wherein the organic binder is at least one of a polyvinyl alcohol, polyvinyl acetate, polyvinyl pyrrolidinone, carboxymethylcellulose and an acrylic latex composition.

7. The thermal spray powder of claim 1, wherein the polymer is at least one of a polyester, polyamides, polyimides and acrylic based polymers.

8. The thermal spray powder of claim 1, wherein the clad polymer is one of a fugitive phase and a porosity former.

9. The thermal spray powder of claim 5, wherein the particle size is 40 to 120 microns.

10. The thermal spray powder of claim 1, wherein the average particle size ratio of component A to component B is approximately 0.5 to approximately 1.5 for d50 size fraction.

11. The thermal spray powder of claim 1, wherein the apparent density for component A is a minimum of 1.5.

12. The thermal spray powder of claim 1, wherein the apparent density of component B is a minimum of 2.5.

13. The thermal spray powder of claim 1, wherein the Ni-Cr-Al clad ABN is approximately 5% to approximately 15% Cr and approximately 5% to approximately 15% Al.

14. The thermal spray powder of claim 1, further comprising component A', wherein A' is Ni 5+x% - Cr 5+y% - Al clad ABN, and wherein x is greater than 5% and y is 0-10%.

15. The thermal spray powder of claim 1, wherein component B is a nickel clad agglomerate of fine polyester and alloy particles.

16. The thermal spray powder of claim 1, wherein the thermal spray powder is four distinctly different phases making the powder a four-phase blend.

17. A method of making the thermal spray powder of claim 1.

18. The thermal spray powder of claim 1,

wherein when component B is a metal, the blend ratio of the metal component B to the solid lubricant clad component A is about 10-90 wt%, preferably 25-75 wt%, and more preferably 40-60 wt%.

19. The thermal spray powder of claim 1, wherein a polymer can be substituted for the solid lubricant in component A when component B is a metal.

20. The thermal spray powder of claim 3, wherein the ABN comprises at least one of zirconia, ytterbia, dysprosia, and metal.

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wherein the apparent density of component B is a minimum of 2.5