WHAT IS CLAIMED IS:

1. A method comprising:

cold spraying first particles and second particles of a metal alloy on at least a portion of a surface of a substrate to form a deposit on the surface of the substrate,

wherein the first particles form a first component of the deposit and the second particles form a second component of the deposit,

wherein cold spraying comprises accelerating the first particles and the second particles toward the surface of the substrate without creating thermally induced changes to a microstructure of the respective first and second particles, and

wherein the first and second particles have been subjected to different heat treatments prior to cold spraying.

2. The method of claim 1, wherein the first particles comprise at least one of precipitation hardened particles, quenched hardened particles, or tempered particles.

3. The method of claim 1 or 2, wherein a volume percentage of the first component in the deposit is between about 1% and about 99%.

4. The method of any preceding claim~~of claims 1 to 3~~, wherein the metal alloy comprises at least one of a Mg-based alloy, a Ni-based alloy, a Ti-based alloy, a Fe-based alloy, an Al-based alloy, a Co-based alloy, a Ta-based alloy, a Nb-based alloy, a Zn-based alloy, a Cr-based alloy, or a Cu-based alloy.

5. The method of any preceding claim~~of claims 1 to 4~~, wherein the surface comprises a cracked surface, and wherein forming the deposit further comprises filling the cracked surface with the deposit.

6. The method of claim 1, wherein a tensile strength of the first particles is at least about twice as high as a tensile strength of the second particles.

7. The method of any preceding claim~~of claims 1 to 6~~, wherein an elongation of the first particles is at least about 50% greater than an elongation of the second particles.

8. The method of any preceding claim~~of claims 1 to 7~~, wherein the metal alloy comprises a first composition, and wherein the method further comprises forming the substrate from a second composition, different from the first composition.

9. The method of any preceding claim~~of claims 1 to 8~~, wherein the first and second particles and the substrate are not subject to a heat treatment during the cold spraying that would further modify thermomechanical properties of the first and second particles and the substrate.

10. The method of ~~any of~~ claim~~s~~ ~~8~~1 to 9, wherein the second ~~particles~~ composition comprises the metal alloy that has not been subjected to a heat treatment prior to cold spraying.

~~11. An article comprising:~~

~~a substrate defining a surface; and~~

~~a deposit on the surface of the substrate, wherein the deposit was formed using cold spraying,~~

~~wherein the deposit comprises a first component and a second component,~~

~~wherein cold spraying comprises accelerating first particles and second particles of a metal alloy toward the surface of the substrate without creating thermally induced changes to a microstructure of the respective first and second particles, and~~

~~wherein the first and second particles have been subjected to different heat treatments prior to cold spraying.~~

~~12. The article of claim 11, wherein the first particles comprise at least one of precipitation hardened particles, quenched hardened particles, or tempered particles.~~

~~13. The article of claim 11 or 12, wherein a volume percentage of the first component in the deposit is between about 1% and about 99%.~~

~~14. The article of any of claims 11 to 13, wherein the metal alloy comprises at least one of Mg-based alloys, Ni-based alloys, Ti-based alloys, Fe-based alloys, Al-based alloys, Co-based alloys, Ta-based alloys, Nb-based alloys, Zn-based alloys, Cr-based alloys, and Cu-based alloys.~~

~~15. The article of any of claims 11 to 14, wherein the surface comprises a cracked surface, and wherein the deposit fills at least a portion of the cracked surface.~~

~~16. The article of any of claims 11 to 15, wherein a tensile strength of the first particles is at least about twice as high as a tensile strength of the second particles.~~

~~17. The article of any of claims 11 to 16, wherein an elongation of the first particles is at least about 50% greater than an elongation of the second particles.~~

~~18. The article of any of claims 11 to 17, wherein the metal alloy comprises a first composition, and wherein the substrate comprises a second composition, different from the first composition.~~

~~19. The article of any of claims 11 to 18, wherein the first and second particles and the substrate are not subject to a heat treatment during the cold spraying that would further modify thermomechanical properties of the first and second particles and the substrate.~~

~~20. The article of any of claims 11 to 19, wherein the second particles comprise the metal alloy that has not been subjected to a heat treatment prior to cold spraying.~~