

ABSTRACT

MULTI-COMPONENT DEPOSITS

The disclosure describes an example technique that includes 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. The first and second particles have been subjected to different heat treatments prior to cold spraying. Cold spraying involves accelerating the first particles and the second particles toward the surface of the substrate without melting or creating other thermally induced changes to a microstructure of the first and second particles. As a result, the first particles form a first, heat-treated component and the second particles form a second non-heat-treated or differently-heat-treated component, and the particles and substrate are not subject to a heat treatment during the cold spray process that may further modify their thermomechanical properties.

FIG. 1A