CLAIMS:

1. An article comprising:

a substrate~~,~~ wherein the substrate comprises ~~at least~~ one of a ceramic substrate or superalloy substrate; and

a bond layer deposited on the substrate, the bond layer comprising a rare earth silicate and a second phase, the second phase including at least one of silicon, silicides, alkali metal oxides, alkali earth metal oxides, glass ceramics, Al_2O_3, TiO_2, Ta_2O_5, HfO_2, ZrO_2, $HfSiO_4$, $ZrSiO_4$, $HfTiO_4$, $ZrTiO_4$, or mullite,

wherein the bond layer includes ~~up to approximately 50 percent by weight of the second phase; and~~

~~an overlay layer deposited on the bond layer, wherein the bond layer is between the overlay layer and bond layer, wherein respective coefficient of thermal expansions defined by the substrate, bond layer and overlay increases from the substrate to the overlay layer throughout the coating.~~

~~2. The article of claim 1, wherein the bond layer includes approximately~~ 0.1 percent by weight to ~~approximately~~ 30 percent by weight of the second phase.

2~~3~~. The article of claim 1~~2~~, wherein the bond layer includes ~~approximately~~ 1 percent by weight to ~~approximately~~ 20 percent by weight of the second phase.

3~~4~~. The article of claim 1, further comprising an intermediate layer deposited between the bond layer and the substrate, the intermediate layer comprising at least one of silicon, silicides, a MCrAlY alloy, wherein M is selected from Ni, Co, and NiCo, a β-NiAl alloy, a β-PtNiAl alloy, a γ-Ni + γ'-Ni_3Al alloy, or a γ-Ni + γ'-Ni_3Al alloy modified by at least one of Pt, Hf, or Si.

45. The article of claim 1, further comprising an overlay layer deposited on the bond layer, the overlay layer comprising at least one of glass ceramics, rare earth silicates, zirconia stabilized by rare earth oxides, or hafnia stabilized by rare earth oxides.

56. The article of claim 45, further comprising a transition layer provided between the bond layer and the overlay layer.

67. The article of claim 56, wherein the transition layer comprises at least one of Al_2O_3, TiO_2, Ta_2O_5, HfO_2, ZrO_2, $HfSiO_4$, $ZrSiO_4$, $HfTiO_4$, $ZrTiO_4$, or mullite.

78. The article of claim 56, wherein the transition layer comprises a mixture of components of the bond layer and components of the overlay layer.

89. The article of claim 56, wherein the transition layer has a coefficient of thermal expansion which is in between a bond layer coefficient of thermal expansion and an overlay layer coefficient of thermal expansion.

910. The article of claim 45, wherein the overlay layer is less than or equal to ~~approximately~~ 2.54 millimeters thick.

1011. The article of claim 1, wherein the bond layer is less than or equal to ~~approximately~~ 2.54 millimeters thick.

1112. The article of claim 1, wherein the bond layer is deposited directly on the substrate.

1213. The article of any one of claims 1-1112, wherein the bond layer is deposited on the substrate via one of plasma spraying or physical vapor deposition.

13~~14~~. A method comprising depositing a bond layer on a substrate to form the article of any of claims 1-11~~12~~.

14~~15~~. The method of claim 13~~14~~, wherein depositing a bond layer on a substrate to form the article of any of claims 1 to 11~~12~~ comprises depositing the bond layer, via one of plasma spraying or physical vapor deposition, on the substrate to form the article of any of claims 1 to 11~~12~~.