

PROTECTING A SURFACE OF A NICKEL-BASE ARTICLE
WITH A CORROSION-RESISTANT ALUMINUM-ALLOY LAYER

ABSTRACT OF THE DISCLOSURE

A surface of a nickel-base article such as an internal surface (36) of a gas turbine airfoil (22) is protected with a protective layer (40) of aluminum and at least one other element. To form the protective layer (40), a donor alloy is contacted to the protected surface of the article, and simultaneously the article and the donor alloy are heated to a coating temperature that is greater than about 0.7 of the absolute solidus temperature of the donor alloy but is such that the donor alloy remains in the form of a condensed phase contacting the protected surface of the article. The donor alloy is thereafter interdiffused into the protected surface of the article.

Figure 3