CHEMICAL REMOVAL OF A METAL OXIDE COATING FROM A SUPERALLOY ARTICLE

Abstract

A method of removing a virgin metal oxide coating from the surface of a superalloy gas turbine engine component. The component bearing the applied metal oxide coating is contacted with an aqueous coating-removal solution, typically containing by weight about 10 – 25 % alkali hydroxide, about 1 – 8 % alkanolamine, and about 0.5 – 5 % gluconate salt at a temperature of from about 170 °F (67 °C) to about 210 °F (99 °C), for a time sufficient to remove the metal oxide coating from the superalloy blade by gentle mechanical means. The metal oxide coating can comprise one or more metal oxide layers, such as a chromium oxide layer and an aluminum oxide layer.

(No attached figure)