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(54) Title: **METHOD FOR DEVELOPING AN ENHANCED OXIDE COATING ON A COMPONENT FORMED FROM STAINLESS STEEL OR NICKEL ALLOY STEEL** ✓

(57) Abstract

A method for creating an oxide coating on the surface of a component formed from austenitic stainless steel or nickel alloy steel is set forth. The component has a naturally formed oxide film at the surface. The naturally formed oxide is enhanced through a process comprising at least two steps. In the first step, the component is heated in the presence of circulating dry air for a first period of time at a temperature of approximately 300 degrees centigrade. In the second step, the component is heated in the presence of static dry air at an elevated pressure for a second period of time at a temperature that is higher than the temperature during the first period. The exterior portion of the enhanced oxide coating is removed with an oxidizing treatment whereby an oxide coating having a high ratio of chromium to iron is exposed at the surface of the stainless steel.