

Alumina-Forming, Creep-Resistant Ni-Based Alloys for Use in Turbine and Other High Temperature Applications

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Technology Summary

The present invention comprises Ni-based alloy compositions that have excellent oxidation resistance at temperatures up to 1150 °C in air and air-water vapor containing environments. The alloys also have good creep resistance at comparable temperatures. These alloys develop the good oxidation resistance by the formation of a protective alumina scale. The alloys are designed to have good creep properties, comparable to the best chromia-formers such as alloy 230 but have better oxidation resistance. These alloys can be used to replace chromia-forming alloys and other alumina forming alloys at these temperatures. Applications include gas turbine applications and potentially other industrial process environments.

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