

Title (en)

Hot corrosion resistant single crystal nickel-based superalloys

Title (de)

Einkristalline Superlegierungen mit guter Korrosionsbeständigkeit bei hohen Temperaturen

Title (fr)

Superaliages monocristallins à base de nickel résistant à la corrosion à haute température

Publication

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Application

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Priority

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Abstract (en)

This invention relates to a hot corrosion resistant nickel-based superalloy comprising the following elements in percent by weight: from about 14.2 to about 15.5 percent chromium, from about 2.0 to about 4.0 percent cobalt, from about 0.30 to about 0.45 percent molybdenum, from about 4.0 to about 5.0 percent tungsten, from about 4.5 to about 5.8 percent tantalum, from about 0.05 to about 0.25 percent columbium, from about 3.2 to about 3.6 percent aluminum, from about 4.0 to about 4.4 percent titanium, from about 0.01 to about 0.06 percent hafnium, and the balance nickel plus incidental impurities, the superalloy having a phasial stability number NV3B less than about 2.45. Single crystal articles can be suitably made from the superalloy of this invention. The article can be a component for a gas turbine engine and, more particularly, the component can be a gas turbine blade or gas turbine vane. <IMAGE>

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