

Title (en)

NI-BASED SUPER HEAT-RESISTANT ALLOY AND METHOD FOR MANUFACTURING SAME

Title (de)

N-BASIERTE SUPERWÄRMEBESTÄNDIGE LEGIERUNG UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)

ALLIAGE SUPER-RÉSISTANT À LA CHALEUR À BASE DE NI ET SON PROCÉDÉ DE FABRICATION

Publication

EP 3587606 A1 20200101 (EN)

Application

EP 18758195 A 20180220

Priority

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- JP 2018006046 W 20180220

Abstract (en)

This Ni-based super heat-resistant alloy has a component composition in which the equilibrium precipitated amount of a gamma prime phase at 700 °C is 35 mol% or greater, and has grains having a maximum diameter of 75 nm or less in the cross-sectional structure thereof. Also provided is a method for manufacturing this Ni-based super heat-resistant alloy. This method includes a preparation step for preparing a raw material of a Ni-based super heat-resistant alloy having a component composition in which the equilibrium precipitated amount of a gamma prime phase at 700 °C is 35 mol% or greater, and a processing step for performing plastic processing of the raw material a plurality of times at a temperature of 500 °C or less so as to obtain a cumulative processing rate of 30% or greater. Furthermore provided is a method for manufacturing a Ni-based super heat-resistant alloy, comprising preparing an alloy material having the abovementioned component composition, a hardness of 500 HV or greater, and crystal grains having a maximum diameter of 75 nm or less in the cross-sectional structure thereof, performing plastic processing of the alloy material at a temperature of 500 °C or less, and obtaining an alloy having a hardness of 500 HV or greater.

IPC 8 full level

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CPC (source: EP US)

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