

Title (en)

METHOD FOR MANUFACTURING SUPER-REFRACTORY NICKEL-BASED ALLOY AND SUPER-REFRACTORY NICKEL-BASED ALLOY

Title (de)

VERFAHREN ZUR HERSTELLUNG EINER HOCHFEUERFESTEN LEGIERUNG AUF NICKELBASIS UND HOCHFEUERFESTE LEGIERUNG AUF NICKELBASIS

Title (fr)

PROCÉDÉ DE FABRICATION D'UN ALLIAGE À BASE DE NICKEL SUPER-RÉFRACTAIRE ET ALLIAGE À BASE DE NICKEL SUPER RÉFRACTAIRE

Publication

**EP 3772544 A1 20210210 (EN)**

Application

**EP 19764769 A 20190225**

Priority

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- JP 2019006991 W 20190225

Abstract (en)

A method for producing a Ni-base superalloy having a composition in which the equilibrium precipitation of gamma prime at 700 ° C. is 35 mol % or more. This method includes a preparation step of manufacturing a material having a crystal grain size of 200 μm or less by hot extrusion, and a processing step of performing cold plastic processing at a working rate of 30% or more. Cold plastic working may be a plurality of times of cold plastic working with a cumulative working rate of 30% or more, and heat treatment is not performed during a plurality of cold plastic working operations. In addition, the Ni-based super heat-resistant alloy has a composition of  $\geq 35$  mol% of the equilibrium precipitation of gamma prime at 700 ° C. The alloy may have linear tissue of gamma and gamma prime phases, or may have carbides aggregated linearly into an equiaxed crystal structure comprising gamma and gamma prime phases.

IPC 8 full level

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