

Title (en)

METHOD OF MANUFACTURING NI-BASED SUPER HEAT RESISTANT ALLOY EXTRUDED MATERIAL, AND NI-BASED SUPER HEAT RESISTANT ALLOY EXTRUDED MATERIAL

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES EXTRUDIERTEN MATERIALS AUS EINER NI-BASIERTEN, EXTREM HITZEBESTÄNDIGEN LEGIERUNG UND EXTRUDIERTES MATERIAL AUS EINER NI-BASIERTEN, EXTREM HITZEBESTÄNDIGEN LEGIERUNG

Title (fr)

PROCÉDÉ DE FABRICATION DE MATÉRIAU EXTRUDÉ D'ALLIAGE TRÈS RÉSISTANT À LA CHALEUR À BASE DE NI, ET MATÉRIAU EXTRUDÉ D'ALLIAGE TRÈS RÉSISTANT À LA CHALEUR À BASE DE NI

Publication

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Application

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Priority

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Abstract (en)

[origin: EP3520915A1] Provided are a method of manufacturing a precipitation-strengthened Ni-based super heat resistant alloy extruded material with a high gamma prime content and an Ni-based super heat resistant alloy extruded material. This method of manufacturing an Ni-based super heat resistant alloy extruded material includes: a first step in which an ingot obtained by casting molten metal having a component composition of a precipitation-strengthened Ni-based super heat resistant alloy in which the equilibrium precipitation amount of gamma prime at 700 °C is at least equal to 40 mol% is used as a billet, and the billet is heated to a hot working temperature that is at least equal to 1030 °C and is less than the gamma prime solvus temperature of the Ni-based super heat resistant alloy; and a second step in which the billet that has been heated to the hot working temperature is inserted into a container, a compressive force is imparted to the billet from one end side of the container, and the billet is extruded at an extrusion rate of 10 to 300 mm/s from a hole in a die placed at the other end side of the container, to yield an Ni-based super heat resistant alloy extruded material. Furthermore, the Ni-based super heat resistant alloy extruded material has the component composition described hereinabove, with an average crystal grain diameter in a cross-sectional structure at most equal to 20 μm in terms of an equivalent circle diameter.

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

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