

Title (en)

PROCESSING METHOD FOR CRACKING DESENSITISATION USING A NICKEL BASED ALLOY ENVIRONMENT, MAINLY FOR A NUCLEAR REACTOR FUEL ASSEMBLY AND FOR A NUCLEAR REACTOR, AND PART MADE OF THE ALLOY THUS PROCESSED

Title (de)

VERFAHREN FÜR RISSDESENSIBILISIERUNG MITTELS LEGIERUNGSUMGEBUNG AUF NICKELBASIS, HAUPTSÄCHLICH FÜR EIN KERNBRENNSTABBÜNDEL UND FÜR EINEN KERNREAKTOR SOWIE AUS DERARTIG VERARBEITETER LEGIERUNG HERGESTELLTES TEIL

Title (fr)

PROCEDE DE TRAITEMENT THERMIQUE DE DESENSIBILISATION A LA FISSURATION ASSISTEE PAR L'ENVIRONNEMENT D'UN ALLIAGE A BASE NICKEL, NOTAMMENT POUR ASSEMBLAGE DE COMBUSTIBLE DE REACTEUR NUCLEAIRE ET POUR REACTEUR NUCLEAIRE, ET PIECE REALISEE EN CET ALLIAGE AINSI TRAITE

Publication

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Application

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Priority

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- FR 0611538 A 20061229

Abstract (en)

[origin: FR2910912A1] Process for heat treatment for crack desensitizing assisted by a nickel (Ni)-based alloy environment of composition comprising (in wt.%) e.g. carbon (C) (= 0.10), manganese (Mn) (= 0.5), silicon (Si) (= 0.5), phosphorus (P) (= 0.015), sulfur (S) (= 0.015), Ni (≥ 40), chromium (Cr) (12-40), cobalt (Co) (= 10), aluminum (Al) (= 5), molybdenum (Mo) (0.1-15), titanium (Ti) (= 5), boron (B) (= 0.01), copper (Cu) (= 5), and tungsten (W) (0.1-15), comprises maintaining the alloy at 950-1160[deg] C in an atmosphere containing 100 ppm of hydrogen mixed with neutral gas or in pure hydrogen. Process for heat treatment for crack desensitizing assisted by a nickel (Ni)-based alloy environment of composition comprising (in wt.%), carbon (C) (= 0.10), manganese (Mn) (= 0.5), silicon (Si) (= 0.5), phosphorus (P) (= 0.015), sulfur (S) (= 0.015), Ni (≥ 40), chromium (Cr) (12-40), cobalt (Co) (= 10), aluminum (Al) (= 5), molybdenum (Mo) (0.1-15), titanium (Ti) (= 5), boron (B) (= 0.01), copper (Cu) (= 5), tungsten (W) (0.1-15), niobium (Nb) (0-10), tantalum (Ta) (= 10), and the remainder of iron (Fe), and unavoidable impurities obtained by elaboration, comprises maintaining the alloy at 950-1160[deg] C in an atmosphere containing 100 ppm of hydrogen mixed with neutral gas or in pure hydrogen. Independent claims are included for: (1) a manufacturing process of a piece of Ni-based alloy composition, comprising the heat treatment of crack desensitization assisted by the alloy environment; and (2) a part made of a Ni-based alloy, where the alloy is subjected to the heat treatment of desensitization.

IPC 8 full level

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CPC (source: EP KR US)

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