

Title (en)

Method of production of a Zircalloy-2 tubular blank internally clad with zirconium, adapted for ultrasonic measurement of the thickness of zirconium

Title (de)

Verfahren zum Herstellen eines mit Zirkonium innenbeschichteten rohrförmigen Rohlings aus Zircalloy-2, geeignet zum Ultraschallmessen der Dicke des Zirkoniums

Title (fr)

Procédé de fabrication d'une ébauche tubulaire en zircaloy 2 plaquée intérieurement en zirconium et apte au contrôle ultrasonore de l'épaisseur de zirconium

Publication

EP 0673691 B1 19970813 (FR)

Application

EP 95420069 A 19950320

Priority

FR 9403724 A 19940324

Abstract (en)

[origin: EP0673691A1] A tubing comprising a zircalloy 2 casing with an internal zirconium coating is produced by water quenching a worked zircalloy 2 bar from the beta range before or after cutting into billets which may be pierced or not followed by a possible anneal. Water quenching a worked non-alloy zirconium billet containing 250-1000 ppm Fe, before or after piercing from 880-1050 degrees C followed by extruding in the alpha range. The zirconium tube is positioned inside the zircalloy billet and the assembly extruded in the alpha range followed by cold rolling and heat treatment. The complete thermomechanical treatment is such that the size of the gains in the zircalloy and zirconium layers is respectively 9-12 and 6-10 ASTM with at least is difference of 2 ASTM being present.

IPC 1-7

B21C 37/06; **C22F 1/18**

IPC 8 full level

G21C 3/20 (2006.01); **B21C 37/06** (2006.01); **C22F 1/00** (2006.01); **C22F 1/18** (2006.01); **G21C 3/06** (2006.01)

CPC (source: EP US)

B21C 37/06 (2013.01 - EP US); **C22F 1/186** (2013.01 - EP US)

Cited by

EP1052650A1; CN107470385A; CN104368623A; CN111286686A

Designated contracting state (EPC)

DE SE

DOCDB simple family (publication)

EP 0673691 A1 19950927; **EP 0673691 B1 19970813**; DE 69500537 D1 19970918; DE 69500537 T2 19980205; FR 2717717 A1 19950929; FR 2717717 B1 19960515; JP 2923224 B2 19990726; JP H07306279 A 19951121; US 5609697 A 19970311

DOCDB simple family (application)

EP 95420069 A 19950320; DE 69500537 T 19950320; FR 9403724 A 19940324; JP 6606495 A 19950324; US 39955595 A 19950307