

Title (en)

Process for manufacturing of seamless drawn medium hard/hard copper fitting tubes

Title (de)

Verfahren zur Herstellung von nahtlos gezogenen halbharten/harten Installationsrohren

Title (fr)

Procédé pour la fabrication de tuyaux d'installation en cuivre durs ou demi-durs, étirés sans soudure

Publication

EP 0647723 B1 20000412 (DE)

Application

EP 94114354 A 19940913

Priority

DE 4334536 A 19931009

Abstract (en)

[origin: EP0647723A1] In this process, copper tube blanks hot-formed from cast rods are first cold-formed by drawing to an intermediate dimension. The internal surfaces of these intermediate tubes are then roughened and these roughened intermediate tubes are then heat treated at a temperature of from 350 DEG C to 650 DEG C while passing oxygen-containing protective gas into the interior of the tube. The intermediate tubes are then subjected to a medium hard/hard hardening drawing followed by a thermal treatment at a temperature of from 175 DEG C to 275 DEG C while passing an oxygen-containing gas mixture into the tube interior. This manufacturing process substantially reduces the copper ion release of hard/medium hard fitting tubes in the form of straight lengths of SF-Cu used for mains drinking water supply while retaining the same resistance to pit corrosion. The maximum copper ion solubility is about 1 mg/l for drinking water having a pH in the range from 6.5 to 9.0.

IPC 1-7

C22F 1/08; **C23G 5/00**

IPC 8 full level

B24C 3/32 (2006.01); **C22F 1/02** (2006.01); **C22F 1/08** (2006.01); **C23G 5/00** (2006.01)

CPC (source: EP)

B24C 3/325 (2013.01); **C22F 1/02** (2013.01); **C22F 1/08** (2013.01)

Cited by

DE19533410B4; EP0976845A1; EP0955394A3; EA007545B1; US6434967B2; WO2004078372A1; TWI719750B

Designated contracting state (EPC)

BE DE DK ES FR GB IT NL SE

DOCDB simple family (publication)

EP 0647723 A1 19950412; **EP 0647723 B1 20000412**; DE 4334536 A1 19950413; DE 59409284 D1 20000518; DK 0647723 T3 20000828; ES 2144475 T3 20000616

DOCDB simple family (application)

EP 94114354 A 19940913; DE 4334536 A 19931009; DE 59409284 T 19940913; DK 94114354 T 19940913; ES 94114354 T 19940913