

Title (en)

Finned heat exchanger tubes and method and apparatus for making same.

Title (de)

Gerippte Wärmetauscherrohre und Verfahren sowie Vorrichtung zu deren Herstellung.

Title (fr)

Tube à ailettes d'échangeurs thermiques et procédé et dispositif pour leur fabrication.

Publication

EP 0133801 A2 19850306 (EN)

Application

EP 84305270 A 19840803

Priority

US 52026583 A 19830804

Abstract (en)

Improved method and apparatus for making finned tubing from difficult-to-work materials such as titanium and stainless steel uses spaced sets (26, 28) of finning discs on a plurality of arbors to form a tube (11) against a mandrel having different diameters (14, 16) under each set of discs. By forming the tips of the fin turns (11 min) to their final O.D. in the first disc set (26) and by deepening their roots to bring the fin turns to their final height in the second disc set (28), tubes with higher fin turn counts and or higher fin heights can be achieved than were formerly possible. The process of separately cold working the tips and roots also permits tubes to be made which are dimensionally identical to prior art tubes but with higher quality and productivity since tube stresses are greatly reduced. An improved titanium tube is also disclosed which has at least a fin turn per mm (26 fins per inch), a fin height of at least 0.86 mm (0.034") and an outside to inside surface area ratio of at least 3.0.

IPC 1-7

B21C 37/20

IPC 8 full level

B21C 37/20 (2006.01); **B21D 53/06** (2006.01); **F28F 1/26** (2006.01); **F28F 1/36** (2006.01)

CPC (source: EP)

B21C 37/207 (2013.01)

Cited by

EP0301121A1; CN109405620A; FR2836649A1; CN113102542A; ES2064208A2; WO2005068927A1

Designated contracting state (EPC)

DE FR GB IT SE

DOCDB simple family (publication)

EP 0133801 A2 19850306; EP 0133801 A3 19850821; AU 3160484 A 19850207; AU 574376 B2 19880707; BR 8403702 A 19850702; CA 1247592 A 19881228; ES 290839 U 19860716; ES 290839 Y 19870401; ES 534869 A0 19850601; ES 8505563 A1 19850601; FI 843054 A0 19840802; FI 843054 A 19850205; JP S6099997 A 19850603; JP S6346358 B2 19880914; MX 160935 A 19900620

DOCDB simple family (application)

EP 84305270 A 19840803; AU 3160484 A 19840803; BR 8403702 A 19840725; CA 458443 A 19840709; ES 290839 U 19841212; ES 534869 A 19840803; FI 843054 A 19840802; JP 16376284 A 19840803; MX 20196084 A 19840710