

Title (en)
HEAT EXCHANGER TUBE

Title (de)
WÄRMETAUSCHERROHR

Title (fr)
TUBE POUR ECHANGEUR THERMIQUE

Publication
EP 1681528 A4 20130612 (EN)

Application
EP 04773389 A 20040916

Priority
• JP 2004014005 W 20040916
• JP 2003340601 A 20030930

Abstract (en)
[origin: EP1681528A1] In a heat exchanger tube, a brazing material, which is required for brazing tops (310) of inner fins (300) which are a flow passage dividing body and the inner surface of a tube body portion (200), not clad to a first material which constitutes the tube body portion but clad to a second material which constitutes the inner fins. In the heat exchanger tube, the tube has a thickness t_{tube} of 1.2 mm or less and a width W_{tube} of 16 mm or less, the first material has a thickness t_1 of 0.25 mm or less, the second material has a thickness t_2 of 0.10 mm or less, and the flow passages divided by the inner fins have an equivalent diameter of 0.559 mm or less. Besides, when brazing in a furnace, a brazing material disposed within the flow passages melts earlier than a brazing material which penetrates from outside into the flow passages, thereby preventing the flow passages from being clogged.

IPC 8 full level
F28F 1/02 (2006.01); **B23K 1/00** (2006.01); **F25B 39/00** (2006.01); **F28D 1/03** (2006.01); **F28F 1/40** (2006.01); **F28F 3/02** (2006.01); **F28F 19/06** (2006.01); **B23K 101/14** (2006.01)

CPC (source: EP US)
F28D 1/0391 (2013.01 - EP US); **F28F 1/022** (2013.01 - EP US); **F28F 3/025** (2013.01 - EP US); **F28F 2275/04** (2013.01 - EP US)

Citation (search report)
• [XII] US 5839646 A 19981124 - DUDA BERND [DE], et al
• [XII] US 5295302 A 19940322 - TAKAI TORU [JP], et al
• [XII] JP H04198692 A 19920720 - NIPPON DENSO CO
• [A] GB 575177 A 19460206 - CLIFFORD STUART STEADMAN, et al
• [A] JP H10249515 A 19980922 - CALSONIC CORP
• See references of WO 2005033606A1

Cited by
DE102006054814B4; CN104583703A; CN105121988A; DE102011108892B4; US10267572B2; WO2008064079A1; WO2014001498A1; DE102008052785A1; DE102008052785B4

Designated contracting state (EPC)
DE FR

DOCDB simple family (publication)
EP 1681528 A1 20060719; EP 1681528 A4 20130612; JP 2005106389 A 20050421; US 2007119581 A1 20070531; WO 2005033606 A1 20050414

DOCDB simple family (application)
EP 04773389 A 20040916; JP 2003340601 A 20030930; JP 2004014005 W 20040916; US 57307704 A 20040916