Title (en)

Vaporiser pipe with optimised undercut on groove base

Title (de)

Verdampferrohr mit opitmierten Hinterschneidungen am Nutengrund

Title (fr)

Tube d'évaporateur doté d'encoches optimisées à la base des rainures

Publication

**EP 2101136 A3 20130807 (DE)**

Application

**EP 09002560 A 20090224**

Priority

DE 102008013929 A 20080312

Abstract (en)

[origin: DE102008013929B3] The pipe i.e. integrally rolled ribbed type pipe (1), has ribs (2) running helically on a pipe exterior. Primary grooves (6) are found between the adjacent ribs. An undercut secondary groove (8) is arranged in an area of a groove base (7) of the primary grooves. A pair of oppositely lying material edges (9) extends continuously along the primary grooves. A cross section of the secondary groove is varied in space intervals without influencing a shape of the ribs. A distance is formed between the edges such that the distance is varied in spaced intervals to form local cavities (10).

IPC 8 full level

**F28F 1/40** (2006.01); **F28F 1/36** (2006.01); **F28F 13/18** (2006.01)

CPC (source: EP KR US)

**F28F 1/10** (2013.01 - KR); **F28F 1/36** (2013.01 - EP US); **F28F 1/42** (2013.01 - KR); **F28F 13/187** (2013.01 - EP US)

Citation (search report)

- [AD] EP 1223400 B1 20070314 - WIELAND WERKE AG [DE]
- [A] US 2007034361 A1 20070215 - LU MINGHUA [CN], et al
- [A] JP S6064194 A 19850412 - SUMITOMO LIGHT METAL IND

Cited by

DE102016006914A1; DE102016006914B4; WO2017207089A1; US10996005B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

**DE 102008013929 B3 20090409**; BR PI0900816 A2 20100119; BR PI0900816 B1 20201110; CN 101532795 A 20090916; CN 101532795 B 20130724; EP 2101136 A2 20090916; EP 2101136 A3 20130807; EP 2101136 B1 20150114; JP 2009216374 A 20090924; JP 5684456 B2 20150311; KR 20090097773 A 20090916; MX 2009001692 A 20091005; PT 2101136 E 20150422; US 2009229807 A1 20090917; US 8281850 B2 20121009

DOCDB simple family (application)

**DE 102008013929 A 20080312**; BR PI0900816 A 20090309; CN 200910001510 A 20090105; EP 09002560 A 20090224; JP 2009007352 A 20090116; KR 20090002202 A 20090112; MX 2009001692 A 20090213; PT 09002560 T 20090224; US 32273509 A 20090206