

Title (en)
Metallic heat exchange pipe

Title (de)
Metallisches Wärmeaustauscherrohr

Title (fr)
Tuyau d'échange thermique métallique

Publication
EP 2253922 A3 20140611 (DE)

Application
EP 10004200 A 20100420

Priority
DE 102009021334 A 20090514

Abstract (en)
[origin: EP2253922A2] The tube (1) has a tube wall, and integrally formed ribs (3) running around on an outer tube (21) and having a rib foot (31), rib flanks (32) and a rib tip (33). The rib foot projects radially from the tube wall, and the rib flanks are provided with additional structural elements, which are formed as material projections (4) arranged laterally on the rib flanks. The material projections have a set of boundary faces (41, 42), where one of the boundary faces is curved convexly. The projections are spaced apart from each other in a circumferential direction.

IPC 8 full level
F28F 1/26 (2006.01); **F28F 1/36** (2006.01); **F28F 1/40** (2006.01); **F28F 1/42** (2006.01)

CPC (source: EP KR US)
B21J 5/068 (2020.08 - EP US); **F28F 1/10** (2013.01 - KR); **F28F 1/12** (2013.01 - KR); **F28F 1/24** (2013.01 - KR); **F28F 1/26** (2013.01 - EP US); **F28F 1/32** (2013.01 - KR); **F28F 1/36** (2013.01 - EP US); **F28F 1/40** (2013.01 - EP US); **F28F 1/42** (2013.01 - KR); **F28F 1/422** (2013.01 - EP US); **F28F 13/18** (2013.01 - KR); **F28D 2021/0061** (2013.01 - EP US); **F28F 2215/10** (2013.01 - EP US)

Citation (search report)

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- [X] JP S5659194 A 19810522 - DAIKIN IND LTD
- [X] US 2008236803 A1 20081002 - CAO JIANYING [CN], et al

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US2016305717A1; EP3581871A1; US11073343B2; WO2015128061A1; WO2022089772A1; WO2022089773A1

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 SM TR

Designated extension state (EPC)
AL BA ME RS

DOCDB simple family (publication)
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DOCDB simple family (application)
EP 10004200 A 20100420; BR PI1001514 A 20100512; CN 201010174047 A 20100506; DE 102009021334 A 20090514; JP 2010094587 A 20100416; KR 20100032637 A 20100409; MX 2010003434 A 20100326; PL 10004200 T 20100420; PT 10004200 T 20100420; US 66158810 A 20100319