

Title (en)

Folded tube for an evaporator and evaporator assembly therewith

Title (de)

Gefaltetes Rohr für einen Verdampfer und Verdampferanordnung damit

Title (fr)

Tube plié pour évaporateur et assemblage d'évaporateur comportant ce tube

Publication

EP 2388545 A3 20180321 (EN)

Application

EP 11166227 A 20110516

Priority

- US 34652210 P 20100520
- US 201113107045 A 20110513

Abstract (en)

[origin: EP2388545A2] An evaporator assembly having a first header, a second header, at least two banks of evaporator tubes extending therebetween and in hydraulic communication with the first and second headers. At least one of the evaporator tube may be folded from a unitary strip clad aluminum folded having a thickness (t). The evaporator tube includes a height (h) which is measured from the bottom exterior surface to the top exterior surface, and a corner radius (r c) defined by the transition radius from the flange segments to the channel walls. The bottom wall includes a width (2w), the corrugated portion includes alternating flange segments abutting the interior surface and channel walls connecting the alternating flange segments, at least one of the alternating adjacent flange segments includes a length (a) cooperating with adjacent the channel walls to define a channel having a width (b). The evaporator tube also includes a number of ports per millimeter width (PPMW) in a range of 0.40 to 1.0 as defined by the equation $PPMW = 2/(a+b+t)$; a Port Shape (PS) ratio of 0.05 to 0.6 as defined by the equation $PS \text{ ratio} = a/b$; a non-dimensional gauge (NDG) ratio of 0.11 to 0.21 as defined by the equation $NDG \text{ ratio} = t/h$; and a non-dimensional corner radius (NDCR) ratio of 0.10 to 0.5 as defined by the equation $NDCR \text{ ratio} = r \text{ c } /2t$.

IPC 8 full level

F28D 1/03 (2006.01); **F28D 1/053** (2006.01); **F28F 1/02** (2006.01)

CPC (source: EP US)

F28D 1/0391 (2013.01 - EP US); **F28D 1/05383** (2013.01 - EP US); **F28F 1/022** (2013.01 - EP US)

Citation (search report)

- [I] EP 1712862 A2 20061018 - DELPHI TECH INC [US]
- [I] EP 1941954 A1 20080709 - DELPHI TECH INC [US]
- [I] EP 1172623 A2 20020116 - DELPHI TECH INC [US]
- [I] JP H10193085 A 19980728 - SHINKO ALCOA YUSO KIZAI KK

Designated contracting state (EPC)

AL 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 RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2388545 A2 20111123; **EP 2388545 A3 20180321**; CN 202216603 U 20120509; US 2011284195 A1 20111124

DOCDB simple family (application)

EP 11166227 A 20110516; CN 201120235811 U 20110517; US 201113107045 A 20110513