

Title (en)

Mixed carbon foam/metal foam heat exchanger

Title (de)

Gemischter Kohlschaum/Metallschaum Wärmetauscher

Title (fr)

Échangeur thermique mixte mousse en carbone / mousse en métal

Publication

EP 2124009 A3 20130821 (EN)

Application

EP 09250904 A 20090327

Priority

US 12409208 A 20080520

Abstract (en)

[origin: EP2124009A2] A heat exchanger (1) includes a thermally-conductive fluid barrier having first (18a) and second (18b) surfaces, at least one first type (10) of foam element placed in thermally-conductive contact with the first surface (18a) of the thermally-conductive fluid barrier and having a first coefficient of thermal expansion and at least one second type (14) of foam element placed in thermally-conductive contact with the second surface (18b) of the thermally-conductive fluid barrier and having a second coefficient of thermal expansion. The first coefficient of thermal expansion of the first type (10) of foam element and the second coefficient of thermal expansion of the second type (14) of foam element are different by at least a factor of three.

IPC 8 full level

F28D 9/00 (2006.01); **B64D 13/08** (2006.01); **F28F 13/00** (2006.01); **F28F 21/02** (2006.01); **F28F 21/08** (2006.01)

CPC (source: EP US)

F28D 9/0062 (2013.01 - EP US); **F28F 13/003** (2013.01 - EP US); **F28F 21/02** (2013.01 - EP US); **F28F 21/08** (2013.01 - EP US); **F28F 2265/26** (2013.01 - EP US)

Citation (search report)

- [A] US 2004103660 A1 20040603 - KAWAMURA HIDEO [JP]
- [A] US 4795618 A 19890103 - LAUMEN MICHAEL [DE]
- [A] WO 2005054768 A1 20050616 - WIELAND WERKE AG [DE], et al
- [A] US 2448315 A 19480831 - KUNZOG THEODORE W

Cited by

DE102013218164B4; CN103429982A; CN103206879A; EP2333475A3; CN113670098A; US8720828B2; US9080818B2; US9951997B2; WO2012106606A3; WO2013086388A3

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)

EP 2124009 A2 20091125; **EP 2124009 A3 20130821**; **EP 2124009 B1 20141105**; CA 2659944 A1 20091120; CA 2659944 C 20140826; US 2009288814 A1 20091126

DOCDB simple family (application)

EP 09250904 A 20090327; CA 2659944 A 20090325; US 12409208 A 20080520