

Title (en)
Ceramics heat exchanger and production method thereof

Title (de)
Keramischer Wärmetauscher und zugehöriges Herstellungsverfahren

Title (fr)
Echangeur de chaleur et procédé de fabrication correspondant

Publication
EP 2246539 A3 20101110 (EN)

Application
EP 10250810 A 20100421

Priority
• JP 2009105246 A 20090423
• JP 2010095149 A 20100416

Abstract (en)
[origin: EP2246539A2] There is provided a heat exchanger having high heat exchange efficiency in comparison with conventional heat exchange elements, heat exchangers, and the like and realizing miniaturization, weight saving, and cost reduction and a production method thereof. In a heat exchange element 1, first fluid circulation portions 5 having a honeycomb structure having a plurality of cells separated by ceramic partition walls 4, extending through in an axial direction from one end face 2 to the other end face 2, and allowing a heated medium as a first fluid to flow therethrough and second fluid circulation portions 6 being separated by ceramic partition walls 4, extending in the direction perpendicular to the axial direction, allowing a second fluid to flow therethrough, transferring heat to a medium to be heated as the second fluid are alternately formed as a unit. The cells 3 on the first fluid circulation portion 5 side are smaller than the cells 3 on the second fluid circulation portion 6 side, and the partition walls have a density of 0.5 to 5 g/cm³ and a thermal conductivity of 10 to 300 W/mK.

IPC 8 full level
F01N 3/28 (2006.01); **F01N 3/02** (2006.01); **F28D 7/00** (2006.01); **F28F 7/02** (2006.01); **F28F 21/04** (2006.01)

CPC (source: EP US)
F28D 7/0025 (2013.01 - EP US); **F28F 7/02** (2013.01 - EP US); **F28F 21/04** (2013.01 - EP US); **F01N 2240/02** (2013.01 - EP US); **F28D 21/0003** (2013.01 - EP US); **Y10T 29/4935** (2015.01 - EP US)

Citation (search report)
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• [XDA] JP S6124997 A 19860203 - NGK INSULATORS LTD
• [A] EP 0816065 A1 19980107 - IBIDEN CO LTD [JP], et al
• [Y] FERROCERAMIC.COM: "Cermic Properties Tables - Silicon Carbide", 1 January 2005 (2005-01-01), XP002601960, Retrieved from the Internet <URL:http://www.ferroceramic.com/Silicon%20Carbide_table.htm> [retrieved on 20100923]
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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)
EP 2246539 A2 20101103; EP 2246539 A3 20101110; JP 2010271031 A 20101202; US 2010270011 A1 20101028

DOCDB simple family (application)
EP 10250810 A 20100421; JP 2010095149 A 20100416; US 76329610 A 20100420