Title (en)

HIGHLY CORROSION-RESISTANT HEAT EXCHANGER SYSTEM USING CONTROL OF ALLOY COMPOSITION AND ALLOY POTENTIAL

Title (de)

HOCHKORROSIONSBESTÄNDIGES WÄRMETAUSCHERSYSTEM MIT KONTROLLE DER LEGIERUNGSZUSAMMENSETZUNG UND DES LEGIERUNGSPOTENZIALS

Title (fr)

SYSTÈME D'ÉCHANGEUR DE CHALEUR HAUTEMENT RÉSISTANT À LA CORROSION UTILISANT LE CONTRÔLE D'UNE COMPOSITION D'ALLIAGE ET D'UN POTENTIEL D'ALLIAGE

Publication

EP 3633310 A4 20200708 (EN)

Application

EP 17910909 A 20170525

Priority

KR 2017005432 W 20170525

Abstract (en)

[origin: EP3633310A1] Disclosed is a technology for improving corrosion resistance of aluminum tubes, aluminum fins, and aluminum headers of a heat exchanger. The heat exchanger includes one or more tubes made of aluminum alloy, one or more headers made of aluminum alloy, one or more brazing header clads, one or more fins (or heat sinks) made of aluminum alloy, and one or more brazing fin clads. The corrosion potential of the tube ranges from -950 mV to -650 mV, the corrosion potential of the header has a difference of 0 mV to 150 mV with respect to the corrosion potential of the tube, and the corrosion potential of the header clad has a difference of -20 mV to 100 mV with respect to the corrosion potential of the tube. The Cu content in the aluminum alloy is 0.001% to 0.50% by weight, and the Zn content in the aluminum alloy is 0.001% to 5.00% by weight. The tube, the header, and the fin are joined by brazing of the header clad and the fin clad.

IPC 8 full level

F28F 21/08 (2006.01); **C22C 21/10** (2006.01); **C22C 21/16** (2006.01); **C22C 21/18** (2006.01); **F28D 1/053** (2006.01); **F28F 1/12** (2006.01); **F28F 19/00** (2006.01)

CPC (source: EP US)

C22C 21/10 (2013.01 - EP US); **C22C 21/16** (2013.01 - EP); **C22C 21/18** (2013.01 - EP); **C22F 1/053** (2013.01 - US); **C23C 2/06** (2013.01 - US); **C23F 13/02** (2013.01 - EP); **C23F 13/14** (2013.01 - EP); **F28D 1/05366** (2013.01 - EP); **F28F 1/126** (2013.01 - EP); **F28F 19/00** (2013.01 - US); **F28F 19/06** (2013.01 - EP); **F28F 21/084** (2013.01 - EP US); **F28F 21/089** (2013.01 - EP); F28F 2255/16 (2013.01 - EP)

Citation (search report)

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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 3633310 A1 20200408; **EP 3633310 A4 20200708**; US 2020173740 A1 20200604; WO 2018216832 A1 20181129

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