

Title (en)

HEAT EXCHANGER, METHOD OF MAKING HEAT EXCHANGER, AND HYDROCARBON CRACKING FURNACE CONTAINING HEAT EXCHANGER

Publication

EP 0253633 A3 19890208 (EN)

Application

EP 87306227 A 19870714

Priority

GB 8617214 A 19860715

Abstract (en)

[origin: EP0253633A2] A heat exchanger, particularly for use in a thermal cracking furnace for hydrocarbons, comprises a pair of coaxial metal tubes (12, 14) defining an inner duct (11), and a ceramic block (13) defining an outer duct (10) coaxially disposed about the inner duct for substantially radiative heat transfer between the outer duct and the inner duct. The surface area per unit length of the outer wall of the outer duct increases continuously along at least a portion of the length of the outer duct, and the cross sectional area of the outer duct (10) reduces along its length, to provide an inwardly directed radiative heat flux from the outer wall which varies along the said portion of the length of the outer duct. The heat flux through the heat exchanger can thereby be maximised and short residence times achieved. The outer wall of the outer duct is formed of a ceramic which may be cast monolithically and has inwardly projecting ribs having a cross sectional area which increases continuously along the said portion of the length of the outer duct.

IPC 1-7

C10G 9/20

IPC 8 full level

F28D 7/12 (2006.01); **C10G 9/00** (2006.01); **C10G 9/20** (2006.01)

CPC (source: EP)

C10G 9/20 (2013.01)

Citation (search report)

- [AD] EP 0074435 A2 19830323 - DOW CHEMICAL NEDERLAND [NL]
- [AD] US 4412975 A 19831101 - PARIZOT WILLIAM D [US], et al
- [A] FR 2249942 A1 19750530 - STONE & WEBSTER ENG CORP [US]
- [A] EP 0065046 A1 19821124 - EXXON RESEARCH ENGINEERING CO [US]
- [A] US 1560891 A 19251110 - RAGWILL WILLIAM L
- [A] US 2721735 A 19551025 - KARL PERMANN

Cited by

EP1683850A1; US6675880B2; WO9533016A1; WO9533015A1; WO2017078893A1; US7279610B2; US8398846B2; WO2006078159A1; WO03062352A3

Designated contracting state (EPC)

BE DE ES FR GB IT NL

DOCDB simple family (publication)

EP 0253633 A2 19880120; EP 0253633 A3 19890208; EP 0253633 B1 19921202; DE 3782874 D1 19930114; DE 3782874 T2 19930408; ES 2036211 T3 19930516; GB 8617214 D0 19860820; JP S6338888 A 19880219

DOCDB simple family (application)

EP 87306227 A 19870714; DE 3782874 T 19870714; ES 87306227 T 19870714; GB 8617214 A 19860715; JP 17692287 A 19870715