

Title (en)
Heat exchanger.

Title (de)
Wärmetauscher.

Title (fr)
Echangeur de chaleur.

Publication
EP 0569808 A1 19931118 (EN)

Application
EP 93107123 A 19930503

Priority
• GB 9210069 A 19920509
• GB 9215853 A 19920725

Abstract (en)
A heat exchanger such as a fuel/oil heat exchanger for use in an aircraft operates in an environment whereby the heat exchanger is caused to vibrate. This causes the various components to move relative to one another, for example the tubes (3,33) move relative to the baffle plates (5,15) and results in tube wear known as fretting. In the extreme perforation (failure) of the tubes occurs. In the heat exchanger of the present invention an internal member such as a baffle plate (5,15) or a distance tube (7) against which the fuel tubes (3,13) move are made of polyetheretherketone (PEEK) (trade name: ARLON) or polyamide imide (trade name: TORLON), which has a low coefficient of wear. It also has the required structural rigidity and strength properties within the operating temperature. Furthermore the coefficient of thermal expansion of the material of the internal member is greater than that of the material e.g. aluminium alloy, of the remaining components. <IMAGE>

IPC 1-7
F28F 9/00; **F28F 9/22**; **F28F 19/00**; **F28F 21/06**

IPC 8 full level
F28F 9/00 (2006.01); **F28F 9/013** (2006.01); **F28F 9/22** (2006.01); **F28F 9/24** (2006.01); **F28F 19/00** (2006.01); **F28F 21/06** (2006.01)

CPC (source: EP)
F28F 9/0131 (2013.01); **F28F 9/22** (2013.01); **F28F 19/00** (2013.01); **F28F 21/067** (2013.01); **F28F 2265/26** (2013.01)

Citation (search report)
• [X] GB 2117503 A 19831012 - WESTINGHOUSE ELECTRIC CORP
• [X] US 4294659 A 19811013 - CAMPBELL CHARLES S
• [X] WO 8300381 A1 19830203 - TURBINE METAL TECHNOLOGY INC [US]
• [X] US 3856077 A 19741224 - SIEGLA D
• [A] EP 0390429 A2 19901003 - BTR INDUSTRIES LTD [GB]
• [Y] PATENT ABSTRACTS OF JAPAN vol. 15, no. 336 (M-1151)26 August 1991 & JP-A-03 129 120 (YASKAWA ELECTRIC MFG CO LTD) 3 June 1991
• [Y] PATENT ABSTRACTS OF JAPAN vol. 10, no. 331 (M-533)11 November 1986 & JP-A-61 136 027 (HITACHI CHEM CO LTD) 23 June 1986
• [A] PATENT ABSTRACTS OF JAPAN vol. 14, no. 242 (C-721)23 May 1990 & JP-A-02 064 137 (SUMITOMO CHEM CO LTD) 5 March 1990

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
EP 0569808 A1 19931118; JP H0626784 A 19940204

DOCDB simple family (application)
EP 93107123 A 19930503; JP 10844993 A 19930510