

Title (en)
MULTI-LAYER HEATING ELEMENT

Title (de)
MEHRSCHICHTIGES HEIZELEMENT

Title (fr)
ÉLÉMENT DE CHAUFFAGE À COUCHES MULTIPLES

Publication
EP 1996866 A4 20120411 (EN)

Application
EP 07758972 A 20070321

Priority
• US 2007064472 W 20070321
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• US 68829407 A 20070320

Abstract (en)
[origin: US2007221647A1] A heating element and, in particular, a ceramic heating element, such as ceramic heating elements used in high temperature glow plugs for diesel engines and gas igniters. The heating element includes an electrical insulator and an electrically conductive layer. The conductive layer is formed from a single material and single composition. The method of manufacture includes the steps of forming the insulative layer and molding a conductive layer around the insulative layer.

IPC 8 full level
F23Q 7/00 (2006.01); **H05B 3/14** (2006.01); **H05B 3/42** (2006.01)

CPC (source: EP KR US)
F23Q 7/001 (2013.01 - EP KR US); **H05B 3/141** (2013.01 - EP KR US); **H05B 3/42** (2013.01 - EP KR US); **F23Q 2007/004** (2013.01 - EP KR US); **H05B 2203/027** (2013.01 - EP KR US)

Citation (search report)
• [X] US 6184497 B1 20010206 - LEIGH PETER [CA]
• [X] US 4742209 A 19880503 - MINEGISHI SOKICHI [JP], et al
• [X] US 5304778 A 19940419 - DASGUPTA SANKAR [CA], et al
• [X] US 2004079745 A1 20040429 - HALUSCHKA CHRISTOPH [DE], et al
• See references of WO 2007112239A2

Designated contracting state (EPC)
DE FR IT

DOCDB simple family (publication)
US 2007221647 A1 20070927; BR PI0709051 A2 20110628; CN 101449103 A 20090603; CN 101449103 B 20110608;
EP 1996866 A2 20081203; EP 1996866 A4 20120411; JP 2009531640 A 20090903; JP 5261369 B2 20130814; KR 20080106339 A 20081204;
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