

Title (en)
MEMBRANE-ELECTRODE UNIT AND FUEL ELEMENTS WITH INCREASED SERVICE LIFE

Title (de)
MEMBRAN-ELEKTRODEN-EINHEITEN UND BRENNSTOFFZELLEN MIT ERHÖHTER LEBENSDAUER

Title (fr)
UNITE MEMBRANE-ELECTRODES ET PILES A COMBUSTIBLE A LONGEVITE ELEVEE

Publication
EP 1790026 A2 20070530 (DE)

Application
EP 05769994 A 20050805

Priority

- EP 2005008487 W 20050805
- EP 04018600 A 20040805
- EP 04025081 A 20041021
- EP 05769994 A 20050805

Abstract (en)
[origin: EP1624512A2] The present invention relates to a membrane electrode assembly comprising a) two electrochemically active electrodes (1, 3) separated by a polymer electrolyte membrane (5) wherein the surfaces of the polymer electrolyte membrane (5) are in contact with the electrodes (1, 3) in such a way that the first electrode (1) partially or totally covers the front of the polymer electrolyte membrane (5) and the second electrode (3) partially or totally covers the back of the polymer electrolyte membrane (5); b) two gasket layers (15, 17) made of a first gasket material wherein the first gasket layer (15) partially covers the front of the polymer electrolyte membrane (5) and/or the first electrode (1) and the second gasket layer (17) partially covers the back of the polymer electrolyte membrane (5) and/or the second electrode (3); wherein the membrane electrode assembly also comprises a second gasket material (7, 9) on the front of the first gasket layer (15) and on the back of the second gasket layer (17); each of the gasket layers (15, 17) comprises at least one recess (11, 12); the second gasket material (7) on the front of first gasket layer (15) is in contact with the second gasket material (9) on the back of the second gasket layer (17). The present membrane electrode assemblies may be used in particular for producing fuel cells which have a particularly high long-term stability.

IPC 8 full level
H01M 8/02 (2006.01); **H01M 8/10** (2006.01)

CPC (source: EP US)
H01M 8/0273 (2013.01 - EP US); **H01M 8/0276** (2013.01 - EP); **H01M 8/0284** (2013.01 - EP US); **H01M 8/0286** (2013.01 - EP US); **H01M 8/1004** (2013.01 - EP US); **H01M 8/1007** (2016.02 - EP US); **H01M 8/1027** (2013.01 - EP US); **H01M 8/103** (2013.01 - EP US); **H01M 8/1032** (2013.01 - EP US); **H01M 8/1048** (2013.01 - EP US); **H01M 8/1072** (2013.01 - EP US); **H01M 8/1081** (2013.01 - EP US); **H01M 8/109** (2013.01 - EP US); **H01M 8/242** (2013.01 - EP); **H01M 2300/0082** (2013.01 - EP US); **Y02E 60/50** (2013.01 - EP); **Y02P 70/50** (2015.11 - EP US); **Y10T 156/10** (2015.01 - EP US)

Citation (search report)
See references of WO 2006015806A2

Citation (examination)
US 2004096734 A1 20040520 - CALUNDANN GORDON [US], et al

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
EP 1624512 A2 20060208; EP 1790026 A2 20070530; EP 1794830 A2 20070613; JP 2008508692 A 20080321; JP 5001837 B2 20120815; US 2010068585 A1 20100318; US 8206870 B2 20120626; WO 2006013108 A2 20060209; WO 2006013108 A3 20061207

DOCDB simple family (application)
EP 04025081 A 20041021; EP 05769994 A 20050805; EP 05783154 A 20050805; EP 2005008488 W 20050805; JP 2007524290 A 20050805; US 57310705 A 20050805