

Title (en)  
FLEXIBLE THIN-FILM ELECTROCHEMICAL CELL HAVING A VARIABLE EMISSIVITY IN THE INFRARED AND AN AQUEOUS ELECTROLYTE

Title (de)  
BIEGSAME DÜNNSCHICHTELEKTROCHEMISCHE ZELLE MIT REGELBARER EMISSIONSSTÄRKE, WELCHE MIT EINEM WASSERHALTIGEN ELEKTROLYT VERSEHEN IST

Title (fr)  
CELLULE ÉLECTROCHIMIQUE SOUPLE EN COUCHES MINCES PRÉSENTANT UNE EMISSIVITÉ VARIABLE DANS LA INFRAROUGE AYANT UN ÉLECTROLYTE AQUEUX

Publication  
**EP 1828838 A1 20070905 (FR)**

Application  
**EP 05825617 A 20051219**

Priority  
• FR 2005051106 W 20051219  
• FR 0453111 A 20041221

Abstract (en)  
[origin: WO2006067354A1] The invention concerns a thin film electrochemical cell with aqueous electrolyte, having variable emissivity in the infrared (absorption and reflection) based on an applied control voltage. It consists of the following flexible stacked elements respectively in close contact: a first current collector (11) made of an electrically conductive material designed to be connected to a first potential of the control voltage; a porous counter-electrode (12) made from a mixture of vinylidene fluoride and hexafluoropropylene copolymer, known as PVDF-HFP, ethylene polyoxide, known as PEO and a powder of a compound comprising ions complementary of an insertion material (i.e., an interlayer); a porous separator (13) made from a mixture of PVDF-HFP and PEO; a second current collector (14) made of an electrically conductive material, designed to be connected to a second potential of the control voltage and adapted to be run through by ions; an electronically conductive porous layer (15) made from a mixture of PVDF-HFP, PEO and a powder of insertion material (i.e., an interlayer);. The aqueous electrolyte medium enables faster ion exchange resulting from higher ionic conductivity levels due to the high dissociation constant of water. Other advantages of water consist in its transparency in the infrared and its ecological character. The production of such an aqueous cell requires finding an adapted polymer and the use thereof.

IPC 8 full level  
**B64G 1/50** (2006.01); **G02F 1/15** (2006.01); **H01M 4/02** (2006.01); **H01M 4/48** (2010.01); **H01M 10/36** (2010.01)

CPC (source: EP US)  
**G02F 1/15165** (2018.12 - EP US)

Citation (search report)  
See references of WO 2006067354A1

Designated contracting state (EPC)  
DE ES GB IT NL SE

DOCDB simple family (publication)  
**FR 2879764 A1 20060623; FR 2879764 B1 20070323**; CN 101128772 A 20080220; CN 101128772 B 20130327; EP 1828838 A1 20070905; JP 2008524822 A 20080710; SG 158161 A1 20100129; US 2008131773 A1 20080605; US 7722986 B2 20100525; WO 2006067354 A1 20060629; WO 2006067354 A8 20071004

DOCDB simple family (application)  
**FR 0453111 A 20041221**; CN 200580043876 A 20051219; EP 05825617 A 20051219; FR 2005051106 W 20051219; JP 2007547593 A 20051219; SG 2009085226 A 20051219; US 79310505 A 20051219