

Title (en)
Production of a composite material

Title (de)
Herstellung eines Verbundwerkstoffs

Title (fr)
Fabrication d' un matériau composite

Publication
EP 1731631 A3 20080723 (DE)

Application
EP 06114825 A 20060601

Priority
DE 102005026267 A 20050608

Abstract (en)
[origin: EP1731631A2] In a process to form a composite material to reinforce a metal structure, an anode containing carbon and a metal oxide are brought into electrolytic contact with a cathode in the vicinity of the material to be strengthened. The metal is deposited under cathode conditions, the membrane sub-dividing the electrolytic cell into anode and cathode chambers. The anode is an inorganic substance containing CaCl₂. The metal oxide is a lightweight metal e.g. Al, Mg, Ti, Ni, Nb, W and/or Zr. The strengthening material is an electrically-conducting fiber, particle, open-pored foam, metal, carbon, or ceramic e.g. SiC. Also claimed is an electrolytic cell for the production of the composite material.

IPC 8 full level
C25D 3/66 (2006.01); **C25C 3/00** (2006.01)

CPC (source: EP)
C22C 1/08 (2013.01); **C22C 29/00** (2013.01); **C22C 32/00** (2013.01); **C22C 47/00** (2013.01); **C22C 49/04** (2013.01); **C22C 49/10** (2013.01); **C25C 3/00** (2013.01); **C25C 3/04** (2013.01); **C25C 3/06** (2013.01); **C25C 3/26** (2013.01); **C25C 7/025** (2013.01); **C25D 3/66** (2013.01); **C25D 15/02** (2013.01); **C25D 17/002** (2013.01); **C25D 17/10** (2013.01); **B22F 2998/10** (2013.01)

C-Set (source: EP)
B22F 2998/10 + B22F 9/16 + B22F 9/30

Citation (search report)

- [XDY] WO 2005019501 A2 20050303 - MATERIALS & ELECTROCHEMICAL RESEARCH CORP [US], et al
- [Y] US 2722509 A 19551101 - EUGENE WAINER
- [A] US 3498890 A 19700303 - DIVECHA AMARNATH P, et al
- [PY] DE 102004002343 A1 20050811 - DEUTSCH ZENTR LUFT & RAUMFAHRT [DE]
- [YD] "Preparing aluminum-titanium alloy by direct electrolysis with carbon anode containing titanium oxide", DERWENT., 1 January 1900 (1900-01-01), XP002325420 & CN 1376813 A 20021030 - ZHENGZHOU INST OF LIGHT METALS [CN]

Cited by
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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

Designated extension state (EPC)
AL BA HR MK YU

DOCDB simple family (publication)
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EP 06114825 A 20060601; AT 06114825 T 20060601; DE 102005026267 A 20050608