

Title (en)  
Component with graphene and method for producing components with graphene

Title (de)  
Bauteil mit Graphen und Verfahren zur Herstellung von Bauteilen mit Graphen

Title (fr)  
Composant avec graphène et procédé de fabrication de composants avec graphène

Publication  
**EP 2584067 A1 20130424 (DE)**

Application  
**EP 11185872 A 20111020**

Priority  
EP 11185872 A 20111020

Abstract (en)  
The component (1) has a substrate (4) and graphene layer (7'). The substrate is made of metallic material such as nickel-or cobalt-based superalloy. The graphene layer is directly arranged on the substrate. A metallic protective layer such as metal-chromium-aluminum layer (10) is formed on the substrate. A ceramic layer is directly arranged on the graphene layer. An independent claim is included for method for producing component.

Abstract (de)  
Durch die Verwendung von Graphen alleine oder in der Kombination mit bekannten Schutzschichten wird der Oxidationsschutz oder Korrosionsschutz oder mechanische Festigkeit der Schutzschichten deutlich verbessert.

IPC 8 full level  
**C23C 28/00** (2006.01); **C23C 30/00** (2006.01); **F01D 5/28** (2006.01)

CPC (source: EP)  
**C23C 28/3215** (2013.01); **C23C 28/345** (2013.01); **C23C 28/3455** (2013.01); **C23C 30/00** (2013.01); **F01D 5/288** (2013.01)

Citation (applicant)  

- EP 1204776 B1 20040602 - SIEMENS AG [DE], et al
- EP 1306454 A1 20030502 - SIEMENS AG [DE]
- EP 1319729 A1 20030618 - SIEMENS AG [DE]
- WO 9967435 A1 19991229 - SIEMENS AG [DE], et al
- WO 0044949 A1 20000803 - SIEMENS AG [DE], et al
- US 6024792 A 20000215 - KURZ WILFRIED [CH], et al
- EP 0892090 A1 19990120 - SULZER INNOTEC AG [CH]
- EP 0486489 B1 19941102 - SIEMENS AG [DE]
- EP 0786017 B1 19990324 - SIEMENS AG [DE]
- EP 0412397 B1 19980325 - SIEMENS AG [DE]
- EP 1306454 A1 20030502 - SIEMENS AG [DE]

Citation (search report)  

- [X] US 2011198313 A1 20110818 - BARATON LAURENT [FR], et al
- [X] FR 2946663 A1 20101217 - SNECMA [FR]
- [X] "Technology for Graphene Growth Using the Vapor Phase Epitaxial Method", HITACHI REVIEW - HITACHI TECHNOLOGY 2010-2011 - MATERIALS, vol. 68, no. 2, August 2010 (2010-08-01), Hitachi Ltd. [JP], pages 65 - 71, XP055014937, Retrieved from the Internet <URL:http://www.hitachi.com/rev/archive/2010/\_icsFiles/afiedfile/2010/08/05/r2010\_technology07\_mt.pdf> [retrieved on 20111215]

Cited by  
US2014112797A1; CN110468384A; EP2842911A1; DE102017123817A1; US11975381B2; WO2015131505A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
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