

Title (en)  
POLYMER-FUNCTIONALIZED CARBON NANOTUBE, METHOD FOR THE PRODUCTION THEREOF AND USE THEREOF

Title (de)  
POLYMERFUNKTIONALISIERTE KOHLENSTOFFNANORÖHRE, VERFAHREN ZU DEREN HERSTELLUNG UND VERWENDUNG

Title (fr)  
NANOTUBES DE CARBONE À POLYMÈRES FONCTIONNALISÉS, PROCÉDÉ POUR LEUR PRÉPARATION ET LEUR UTILISATION

Publication  
**EP 2417192 A1 20120215 (DE)**

Application  
**EP 10711018 A 20100326**

Priority  
• EP 2010001922 W 20100326  
• EP 09005138 A 20090408  
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Abstract (en)  
[origin: EP2241593A1] Polymer functionalized carbon nanotube comprises a carbon nanotube, a coupling product of a first polymer containing an amino group, adsorbed on the outer surface of the carbon nanotube, and a second polymer that is covalently bound to the first polymer, where the second polymer is bound to the first polymer by a reaction of amino group of first polymer with a reactive group against the amino group of the second polymer. Independent claims are included for: (1) preparation of the polymer functionalized carbon nanotube comprising (a) mixing carbon nanotube with an aqueous solution of an amino group containing first polymer to obtain an aqueous dispersion of carbon nanotube with the first polymer adsorbed on it, (b) optionally separating the aqueous solvent and purifying the carbon nanotube, and (c) adding a solution a second polymer containing reactive groups against the amino groups to the dispersion obtained in step (a) or step (b) containing the carbon nanotube with the first polymer adsorbed on it and allowing the second polymer to react with the first polymer; (2) a dispersion comprising the above polymer functionalized carbon nanotube and a dispersion agent; (3) a polymer composition comprising at least one base polymer and the above polymer functionalized carbon nanotube as additive for increasing the electrical conductivity and/or for increasing the mechanical stability of the base polymer; and (4) a surface coating comprising at least one binder and the above polymer functionalized carbon nanotube as additive for increasing the electrical conductivity and/or for increasing the mechanical stability of the coating.

IPC 8 full level  
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