

Title (en)  
PROCESS FOR PRODUCING POLYMER-CNT COMPOSITES

Title (de)  
VERFAHREN ZUR HERSTELLUNG VON POLYMER-CNT-KOMPOSITEN

Title (fr)  
PROCÉDÉ DE FABRICATION DE COMPOSITES POLYMÈRE-CNT

Publication  
**EP 2614109 A1 20130717 (DE)**

Application  
**EP 11749861 A 20110902**

Priority

- EP 10175594 A 20100907
- EP 2011065215 W 20110902
- EP 11749861 A 20110902

Abstract (en)

[origin: EP2426163A1] Producing polymer-carbon nanotube composites, comprises: (a) providing carbon nanotube agglomerates having an average agglomerate size of 0.02-6 mm; (b) contacting the carbon nanotube agglomerates with an impregnating material, where the contacting is performed such that the carbon nanotubes agglomerates after contacting exhibit an average agglomerate size of  $\geq 0.02$  mm; and (c) incorporating the product obtained in the step (b) into a thermoplastic polymer material or into a reactive resin system with a impregnating material contacted carbon nanotube agglomerates. Producing polymer-carbon nanotube composites, comprises: (a) providing carbon nanotube agglomerates having an average agglomerate size of 0.02-6 mm; (b) contacting the carbon nanotube agglomerates with an impregnating material, where the contacting is performed such that the carbon nanotubes agglomerates ( $\geq 50$  wt.%, based on the weight of the carbon nanotubes) after contacting exhibit an average agglomerate size of  $\geq 0.02$  mm; and (c) incorporating the product obtained in the step (b) into a thermoplastic polymer material or into a reactive resin system with the impregnating material, which is contacted with carbon nanotube agglomerates. Independent claims are also included for: (1) carbon nanotubes agglomerates ( $\geq 50$  wt.%, based on the weight of the carbon nanotubes) contacted with impregnating material exhibit an average agglomerate size of  $\geq 0.02$  mm, where the impregnating material includes polyethers, esters, ketones, phosphates, phosphonates, sulfonates, sulfonamine, carbonates, carbamates, amines, amides, silicones, organic compounds with long chain alkyl groups, waxes, glycerides, fats, benzoates, phthalate, adipic acid derivatives, succinic acid derivatives and/or monofunctional epoxides; and (2) carbon nanotubes comprising polymer composite, where the amount of carbon nanotubes is  $\geq 50$  wt.% and the amount of carbon nanotubes in agglomerates having an average agglomerate size of 0.02-6 mm in the total amount of carbon nanotubes is  $\geq 10$  wt.%.

IPC 8 full level  
**C08J 5/00** (2006.01); **C08K 3/04** (2006.01); **C08K 9/04** (2006.01)

CPC (source: EP KR US)  
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