

Title (en)  
Functionally graded high temperature bonding of fiberglass fibers to steel

Title (de)  
Funktionell gradierte Hochtemperaturverbindung von Fiberglasfasern mit Stahl

Title (fr)  
Liaison haute température fonctionnellement graduée de fibres de verre sur de l'acier

Publication  
**EP 2179841 B8 20151028 (EN)**

Application  
**EP 09173460 A 20091019**

Priority  
US 25811508 A 20081024

Abstract (en)  
[origin: EP2179841A1] Method for chemical bonding of fiberglass fibers to steel surfaces to prepare the steel for bonding with carbon composite material. This fiber-bonding step greatly increases the strength of the subsequent metal-composite bond. The fiberglass fibers which are chemically bonded to the steel provide a high surface area interface to entangle with carbon fibers in the composite component, and thereby inhibit crack formation on the boundary surface between the steel and composite components when they are bonded together.

IPC 8 full level  
**B22F 7/08** (2006.01); **B32B 7/04** (2006.01); **B32B 9/04** (2006.01); **B32B 15/18** (2006.01); **C04B 37/02** (2006.01)

CPC (source: EP US)  
**B22F 7/08** (2013.01 - EP US); **B32B 7/04** (2013.01 - EP US); **B32B 9/007** (2013.01 - EP US); **B32B 9/041** (2013.01 - EP US); **C04B 37/026** (2013.01 - EP US); **B32B 2262/101** (2013.01 - EP US); **B32B 2307/30** (2013.01 - EP US); **B32B 2307/50** (2013.01 - EP US); **B32B 2605/08** (2013.01 - EP US); **B32B 2605/18** (2013.01 - EP US); **C04B 2237/083** (2013.01 - EP US); **C04B 2237/121** (2013.01 - EP US); **C04B 2237/122** (2013.01 - EP US); **C04B 2237/385** (2013.01 - EP US); **C04B 2237/406** (2013.01 - EP US); **C04B 2237/708** (2013.01 - EP US); **C04B 2237/72** (2013.01 - EP US); **Y10T 428/12007** (2015.01 - EP US); **Y10T 428/12181** (2015.01 - EP US); **Y10T 428/12535** (2015.01 - EP US); **Y10T 428/24893** (2015.01 - EP US); **Y10T 428/24967** (2015.01 - EP US); **Y10T 428/31678** (2015.04 - EP US)

Cited by  
CN103115221A

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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 SE SI SK SM TR

DOCDB simple family (publication)  
**EP 2179841 A1 20100428**; **EP 2179841 B1 20150916**; **EP 2179841 B8 20151028**; US 2010104886 A1 20100429; US 8178212 B2 20120515

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