

Title (en)  
Oxidation method

Title (de)  
Oxidationsverfahren

Title (fr)  
Procédé d'oxydation

Publication  
**EP 2634273 A1 20130904 (DE)**

Application  
**EP 13162488 A 20101029**

Priority  
• EP 13162488 A 20101029  
• EP 10014118 A 20101029

Abstract (en)  
The method comprises increasing a surface area of a first alloy containing silver and an oxidizable alloying element to obtain a second alloy, performing a first heat treatment of the second alloy at a reducing atmosphere to obtain a third alloy, and performing a second heat treatment of the third alloy in an oxygen containing atmosphere to obtain fourth alloy. The second heat treatment is carried out in two temperature stages. The second heat treatment is carried out at a first temperature of 150-500[deg] C below a solidus temperature of the first alloy for a first time period of 30-240 minutes. The method comprises increasing a surface area of a first alloy containing silver and an oxidizable alloying element to obtain a second alloy, performing a first heat treatment of the second alloy at a reducing atmosphere to obtain a third alloy, and performing a second heat treatment of the third alloy in an oxygen containing atmosphere to obtain fourth alloy. The second heat treatment is carried out in two temperature stages. The second heat treatment is carried out at a first temperature of 150-500[deg] C below a solidus temperature of the first alloy for a first time period of 30-240 minutes and at a second temperature of 5-500[deg] C below the solidus temperature of the first alloy for a second time period of 10 hours to 7 days. The second temperature is higher than the first temperature. The first heat treatment is carried out at a temperature of 5-350[deg] C below the solidus temperature of the first alloy for 15 seconds to 3 hours. The first and second heat treatments are further carried out under a pressure of less than 2 bars. The alloy is subjected at a temperature of 900-970[deg] C for 2-40 hours to obtain a fifth alloy, after the heat treatment of third alloy. The step of increasing the surface area of the first alloy is carried out by grinding, gas atomization, liquid atomization, granulation, manipulation, rolling sheets, extrusion, cutting, and/or extrusion process. The fourth and/or fifth alloy is pressed, sintered and optionally formed by extrusion molding.

Abstract (de)  
Die vorliegende Erfindung betrifft ein neues Verfahren zur Herstellung von Metall-Verbundwerkstoffen durch innere Oxidation.

IPC 8 full level  
**C22C 1/04** (2006.01); **C22C 1/10** (2006.01); **C22C 5/06** (2006.01); **C22C 32/00** (2006.01); **C22F 1/02** (2006.01); **C22F 1/14** (2006.01)

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Citation (applicant)  
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• US 4243413 A 19810106 - SHIBATA AKIRA  
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