

Title (en)

Process for producing a grain refiner for metals, grain refiner and metal or metal alloy

Title (de)

Verfahren zur Herstellung eines Kornfeinungsmittels für metallische Werkstoffe, Kornfeinungsmittel und Metall- oder Metallegierungswerkstoff

Title (fr)

Procédé de production d'un affineur de grains pour métaux, affineur de grains et métal ou alliage métallique

Publication

**EP 1611980 A1 20060104 (DE)**

Application

**EP 05013728 A 20050624**

Priority

DE 102004031367 A 20040628

Abstract (en)

A process for producing a fine grain agent for metals, especially for moulding metal components, comprises mixing nano sized particles of one material with a metal powder. The mixture is ground until the nano sized particles are linked to the metal powder.

IPC 8 full level

**B22D 27/20** (2006.01); **B22F 9/04** (2006.01); **C22C 1/03** (2006.01); **C22C 1/10** (2006.01)

CPC (source: EP)

**B22D 27/20** (2013.01); **C22C 1/06** (2013.01); **C22C 23/02** (2013.01); **B22F 2998/10** (2013.01)

Citation (search report)

- [X] WO 03095689 A1 20031120 - GROUPE MINUTIA INC [CA], et al
- [X] WO 03033750 A1 20030424 - GROUPE MINUTIA INC [CA], et al

Cited by

CN113441733A; CN111014680A; DE102018002714A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

**EP 1611980 A1 20060104**; DE 102004031367 A1 20060202

DOCDB simple family (application)

**EP 05013728 A 20050624**; DE 102004031367 A 20040628