

Title (en)  
METHOD FOR RECYCLING PERMANENT MAGNETS BY MELTING AND QUICKLY SOLIDIFYING

Title (de)  
Verfahren zum Recycling von Permanentmagneten durch Schmelzen und Rascherstarren

Title (fr)  
PROCÉDÉ DE RECYCLAGE D'AIMANTS PERMANENTS PAR FUSION ET SOLIDIFICATION RAPIDE

Publication  
**EP 3507389 A1 20190710 (DE)**

Application  
**EP 17758532 A 20170828**

Priority  
• DE 102016216355 A 20160830  
• EP 2017071544 W 20170828

Abstract (en)  
[origin: WO2018041775A1] The invention relates to a recycling method for producing powders containing magnetic alloys, having the following steps: a) providing a magnetic alloy from scrap magnetic material comprising a1) at least one rare-earth metal, a2) at least one transition metal, and a3) boron; b) mixing and melting the alloys provided in steps a) and b); c) quickly solidifying the molten metal from step b) under an inert gas atmosphere, thereby forming platelets, and d) grinding the platelets obtained in step d) into a powder, wherein prior to or during step b), a magnetic alloy of a primary magnetic material comprising the components a1) to a3) is added and melted together with the alloy provided in step a), or after step d), a magnetic alloy of the primary magnetic material comprising the components a1) to a3) is added and the content of the alloy of the primary magnetic material equals 5 to 95 wt.%, based on the weight of the alloy provided in step a). The invention additionally relates to a powder which can be produced using the method according to the invention and to the applications thereof.

IPC 8 full level  
**C22C 38/00** (2006.01); **B22F 5/00** (2006.01); **B22F 8/00** (2006.01); **B22F 9/00** (2006.01); **B22F 9/04** (2006.01); **C22B 1/00** (2006.01); **C22B 9/16** (2006.01); **C22B 59/00** (2006.01); **C22C 38/10** (2006.01); **C22C 38/16** (2006.01); **H01F 1/057** (2006.01); **H01F 41/02** (2006.01)

CPC (source: EP US)  
**B22F 5/00** (2013.01 - EP); **B22F 8/00** (2013.01 - EP US); **C22B 59/00** (2013.01 - EP); **C22C 38/005** (2013.01 - EP); **C22C 38/10** (2013.01 - EP); **H01F 1/0571** (2013.01 - EP); **H01F 41/0253** (2013.01 - EP); **B22F 2009/001** (2013.01 - EP); **B22F 2009/048** (2013.01 - EP); **B22F 2998/10** (2013.01 - EP); **B22F 2999/00** (2013.01 - EP); **C22C 2202/02** (2013.01 - EP); **Y02P 10/20** (2015.11 - EP); **Y02W 30/50** (2015.05 - EP)

Citation (search report)  
See references of WO 2018041775A1

Designated contracting state (EPC)  
AL 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 RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**DE 102016216355 A1 20180301**; EP 3507389 A1 20190710; WO 2018041775 A1 20180308

DOCDB simple family (application)  
**DE 102016216355 A 20160830**; EP 17758532 A 20170828; EP 2017071544 W 20170828