

Title (en)

METHOD OF MANUFACTURING A PERMANENT MAGNET USING A MAGNETIC MATERIAL MOLD

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES PERMANENTMAGNETEN UNTER VERWENDUNG EINER MAGNETMATERIALFORM

Title (fr)

PROCÉDÉ DE FABRICATION D'UN AIMANT PERMANENT À L'AIDE D'UN MOULE EN MATÉRIAU MAGNÉTIQUE

Publication

EP 4000766 A1 20220525 (EN)

Application

EP 20209447 A 20201124

Priority

EP 20209447 A 20201124

Abstract (en)

It is described a method of manufacturing a permanent magnet, the method comprising: i) providing a mold (100), wherein the mold (100) comprises a cavity (110), and a mold region (120) around the cavity (110), ii) establishing a magnetic flux (150) with respect to the cavity (110), iii) placing a magnetic powder (130), comprising a plurality of magnetic particles, into the cavity (110), so that the magnetic particles of the magnetic powder (130) are oriented in the magnet flux (150) to provide an angular distribution of magnetization directions, and iv) forming the permanent magnet from the magnetic powder (130) particles with the oriented angular distribution of magnetization directions. The mold region (120) comprises a magnetic material with a relative magnetic permeability that is larger than the relative magnetic permeability of air, in particular larger than $1.01 \mu_{\text{r}}$. Further, a method of providing an electromechanical transducer, a mold (100), and a use of the mold (100) are described.

IPC 8 full level

B22F 3/12 (2006.01); **H01F 1/057** (2006.01); **H01F 1/08** (2006.01); **H01F 41/02** (2006.01); **C22C 33/02** (2006.01)

CPC (source: EP)

B22F 3/1208 (2013.01); **H01F 1/0577** (2013.01); **H01F 41/0273** (2013.01); **B22F 2998/10** (2013.01); **B22F 2999/00** (2013.01); **C22C 33/0278** (2013.01); **C22C 2202/02** (2013.01)

C-Set (source: EP)

1. **B22F 2998/10** + **B22F 3/004** + **B22F 3/02** + **B22F 3/10**
2. **B22F 2999/00** + **B22F 3/004** + **B22F 2202/05**

Citation (applicant)

EP 2762838 A2 20140806 - ARNOLD MAGNETIC TECHNOLOGIES AG [CH]

Citation (search report)

- [XII] WO 2019238981 A2 20191219 - SIEMENS GAMESA RENEWABLE ENERGY AS [DK]
- [XA] WO 2004105062 A1 20041202 - AICHI STEEL CORP [JP], et al
- [XA] DE 102014202848 A1 20150820 - BOSCH GMBH ROBERT [DE]
- [A] WO 2019219986 A2 20191121 - SIEMENS GAMESA RENEWABLE ENERGY AS [DK]
- [AD] EP 2762838 A2 20140806 - ARNOLD MAGNETIC TECHNOLOGIES AG [CH]

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)

EP 4000766 A1 20220525; CN 116490938 A 20230725; WO 2022111876 A1 20220602

DOCDB simple family (application)

EP 20209447 A 20201124; CN 202180079104 A 20210917; EP 2021075617 W 20210917