

Title (en)

Rare earth iron-based permanent magnet.

Title (de)

Auf Seltenerdeisen basierender Dauermagnet.

Title (fr)

Aimant permanent à base de métal de terre rare et de fer.

Publication

**EP 0386286 B1 19951018 (EN)**

Application

**EP 89104002 A 19890307**

Priority

- EP 89104002 A 19890307
- JP 23348187 A 19870917

Abstract (en)

[origin: EP0386286A1] A rare earth-based permanent magnet is formed of a ternary compound composed of 12-30% by weight of a rare earth element, 1-10% by weight of titanium and the balance of iron or a quaternary compound composed of 12-30% by weight of a rare earth element, 1-10% by weight of titanium, up to 34% by weight of cobalt and the balance of iron. Specifically, the ternary and quaternary compounds have a crystalline structure belonging to the body-centered tetragonal system of the ThMn<sub>12</sub> type. Different from conventional neodymium-boron-iron magnets, the inventive magnets are corrosion resistant and free from rusting and have a greatly improved Curie point as compared with rare earth-iron binary magnets. The incorporation of cobalt to the ternary compound has an effect of further increasing the Curie point.

IPC 1-7

**H01F 1/053; H01F 1/055**

IPC 8 full level

**H01F 1/055** (2006.01)

CPC (source: EP)

**H01F 1/055** (2013.01); **H01F 1/0557** (2013.01)

Citation (examination)

EP 0106948 A2 19840502 - SUMITOMO SPEC METALS [JP]

Cited by

CN109952621A; CN105555980A; US2019189314A1; EP3291250A1; CN107785140A; CN107785139A; CN113053605A; US10490325B2; US10923255B2; WO2019058589A1; US10250085B2; EP0827219B1; WO2014198708A1; WO2019058588A1; WO2019058977A1

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