

Title (en)

Highly corrosion-resistant and high strength aluminum alloys.

Title (de)

Aluminiumlegierungen mit hoher Korrosionsbeständigkeit und hoher Festigkeit.

Title (fr)

Alliages d'aluminium à haute résistance à la corrosion et à haute résistance mécanique.

Publication

**EP 0195341 A1 19860924 (EN)**

Application

**EP 86103164 A 19860310**

Priority

- JP 4649785 A 19850311
- JP 17409185 A 19850809

Abstract (en)

A highly corrosion-resistant and high-strength aluminum alloy prepared by solidification through rapid quenching is disclosed. This novel aluminum alloy can be obtained by rapid solidification of a melt containing no less than 0.2 atomic% and no more than 15 atomic% of at least one element selected from the group consisting of Si, Ti, Zr, Nb, Ni, Cu and Mn, with the balance being substantially composed of aluminum.

IPC 1-7

**C22C 21/00; C22C 21/02; C22C 21/12**

IPC 8 full level

**C22C 21/02** (2006.01); **C22C 45/08** (2006.01)

CPC (source: EP KR)

**C22C 21/02** (2013.01 - KR); **C22C 45/08** (2013.01 - EP)

Citation (search report)

- [X] US 4347076 A 19820831 - RAY RANJAN, et al
- [XP] EP 0170963 A2 19860212 - ALLIED CORP [US]
- [A] EP 0100287 A1 19840208 - CENTRE NAT RECH SCIENT [FR]
- [X] CHEMICAL ABSTRACTS, vol. 96, no. 18, 3rd May 1982, page 315, no. 147603q, Columbus, Ohio, US; H.G. PARIS et al.: "The influence of particulate morphology and the thermal history in consolidation and metal working on mechanical properties of aluminum-iron-nickel-cobalt and aluminum-manganese-silicon alloys", & RAPID SOLIDIF. PROCESS.: PRINC. TECHNOL., PROC. INT. CONF., 2nd 1980, 331-41
- [X] CHEMICAL ABSTRACTS, vol. 96, no. 24, 14th June 1982, page 259, no. 203721r, Columbus, Ohio, US; M.C. FLEMINGS: "Segregation and structure in rapidly solidified cast metals", & METALL. TREATISES 1981, 291-300
- [X] CHEMICAL ABSTRACTS, vol. 99, no. 12, 19th September 1983, page 248, no. 92167e, Columbus, Ohio, US; S. HORI et al.: "Rapidly solidified structure and grain refinement of aluminum containing titanium", & KEIKINZOKU 1982, 32(11), 596-603
- [X] CHEMICAL ABSTRACTS, vol. 99, no. 10, 5th September 1983, page 263, no. 75202v, Columbus, Ohio, US; S. HORI et al.: "Structure of rapidly solidified aluminum-zirconium alloys and its thermal stability", & PROC. INT. CONF. RAPIDLY QUENCHED MET., 4th 1981 (Pub. 1982), 2, 1545-8
- CHEMICAL ABSTRACTS, vol. 98, no. 10, 7th March 1983, page 250, no. 76647k, Columbus, Ohio, US; I. PONTIKAPOS et al.: "Coarsening of intermetallic particles in rapidly solidified aluminum-transition metal alloys", & MET. SCI. 1982, 16(1), 27-30
- [X] CHEMICAL ABSTRACTS, vol. 102, no. 8, 25th February 1985, page 239, no. 65937e, Columbus, Ohio, US; V.Y. PROKHOVSKII et al.: "Eutectic structure in a rapidly solidified aluminum-1.62 at. % manganese alloy", & FIZ. MET. METALLOVED. 1984, 58(5), 1026-9
- [X] CHEMICAL ABSTRACTS, vol. 102, no. 14, 8th April 1985, page 277, no. 117895m, Columbus, Ohio, US; R.D. FIELD et al.: "Precipitates possessing icosahedral symmetry in a rapidly solidified aluminum-manganese alloy", & MATER. SCI. ENG. 1985, 68(2), L17-L21
- [X] CHEMICAL ABSTRACTS, vol. 102, no. 14, 8th April 1985, page 278, no. 117905q, Columbus, Ohio, US; K.F. KOBAYASHI et al.: "Rapid solidification of aluminum-silicon alloys by the single-roll method", & NIPPON KINZOKU GAKKAISHI 1985, 49(1), 59-63
- [X] CHEMICAL ABSTRACTS, vol. 102, no. 14, 8th April 1985, page 271, no. 117802d, Columbus, Ohio, US; I. YAMAUCHI et al.: "Production and structure of rapidly solidified aluminum-silicon alloy powder by rotating-water-atomization process", & NIPPON KINZOKU GAKKAISHI 1985, 49(1), 72-7

Cited by

CN103370429A; EP0445684A1; CN102343433A; US6056802A; EP0819778A3; US10329651B2; WO2012110788A3

Designated contracting state (EPC)

CH DE FR GB IT LI SE

DOCDB simple family (publication)

**EP 0195341 A1 19860924**; AU 5436086 A 19860918; AU 582834 B2 19890413; BR 8601251 A 19861202; KR 870002289 A 19870330;  
KR 900006612 B1 19900913

DOCDB simple family (application)

**EP 86103164 A 19860310**; AU 5436086 A 19860306; BR 8601251 A 19860311; KR 860001684 A 19860310