

(19)



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(11)

Publication number:

0 584 596 A3

(12)

EUROPEAN PATENT APPLICATION

(21)

Application number: **93112487.9**

(51)

Int. Cl.⁵: **C22C 21/00, C22C 45/08**

(22)

Date of filing: **04.08.93**

(30)

Priority: **05.08.92 JP 209115/92**
05.08.92 JP 209116/92
02.03.93 JP 41528/93

(43)

Date of publication of application:
02.03.94 Bulletin 94/09

(84)

Designated Contracting States:
DE FR

(88)

Date of deferred publication of the search report:
10.08.94 Bulletin 94/32

(71)

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High strength and anti-corrosive aluminum-based alloy.

(57)

The present invention provides a high strength and anti-corrosive aluminum-based alloy essentially consisting of an amorphous structure or a multi-phase amorphous/fine crystalline structure, which is represented by the general formula $Al_xM_yR_z$. In this formula, M represents at least one metal element selected from the group consisting of Ti, V, Cr, Mn, Fe, Co, Cu, Zr, Nb, Mo and Ni, and R represents at least one element or mixture selected from the group consisting of Y, Ce, La, Nd and Mm (misch metal). Additionally, in the formula, x, y and z represent the composition ratio, and are atomic percentages satisfying the relationships of $x + y + z = 100$, $64.5 \leq x \leq 95$, $0.5 \leq y \leq 35$, and $0 < z < 0.5$.

EP 0 584 596 A3



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EUROPEAN SEARCH REPORT

Application Number
EP 93 11 2487

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
X	GB-A-2 243 617 (MASUMOTO) 6 November 1991 *claims and Fig.6* ---	1,2	C22C21/00 C22C45/08
X	EP-A-0 136 508 (ALLIED CRPORATION) 10 April 1985 *Tables 1 and 2* ---	6-9	
X	EP-A-0 354 391 (YOSHIDA KOGYO KK) 14 February 1990 *Table, Example 1* ---	3,4	
X	MATERIALS TRANSACTIONS JIM vol. 30, no. 9 , 1989 pages 666 - 676 TSAI, INOUE AND MASUMOTO 'Icosahedral, Decagonal and Amorphous Phases in Al-Cu-M (M=Transitional Metal) Systems' ---	1-9	
X	MATERIALS TRANSACTIONS, JIM vol. 32, no. 4 , 1991 pages 331 - 338 KIM, INOUE AND MASUMOTO 'Increase in Mechanical Strength of Al-Y-Ni Amorphous Alloys by Dispersion of Nanoscale fcc-Al Particles' ---	1,2	TECHNICAL FIELDS SEARCHED (Int.Cl.5) C22C
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The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 24 May 1994	Examiner Badcock, G
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



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A,D	PATENT ABSTRACTS OF JAPAN vol. 14, no. 43 (C-0681)26 January 1990 & JP-A-01 275 732 (MASUMOTO) 6 November 1989 * abstract * -----	1-9	TECHNICAL FIELDS SEARCHED (Int.Cl.5)
The present search report has been drawn up for all claims			
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