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2008 10 10

(71)
171
(72)
13-3 APT 201
1 281-29
APT 202-101
(74)

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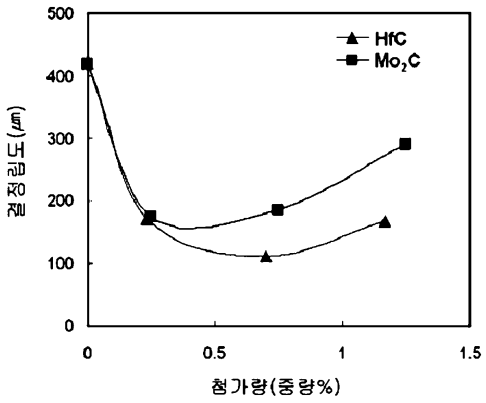
(57)

, , (HfC), (Mo_2C) ,

.

, .

- 1



PNK1490

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1

(HfC), (Mo_2C) ,

.

2

1 , (HfC)

.

3

1 , (Mo_2C)

.

4

1 , 0.1 5.0 %

.

5

1 , 0.1 10

.

6

1 ,

.

7

600 780

(1);

1 1 (2);

2

(3);

3

(4)

1 .

8

7 , 1
1 .

9

7 , 2 0.1 5.0 %
1 .

10

7 , 2 ,
,
1
.

11

7 , 3 1 2
1 .

12

7 , 4
, ,
1 .

[0001] , (HfC), (Mo_2C) , .

[0002] , , , , , .

[0003] , ( ) (Elfinal) , .

[0004] , 180 300

,

.

[0005] (Elfinal) 1942 ( )($FeCl_3$) 740 780

, (Fe)

.

[0006] (Zr) .

.

, .

[0007] ,

.

- (Mg-Al)

.

[0008] ,

(carbon black) ,

.

[0009] (C_2Cl_6) , 700

760 100

.

,

.

[0010] ,

.

836599 $MgCO_3$, PCT/AU03/000053 Mg-Zr

, 6616729 MnO_2 , PCT/CA01/001763

Ti-B , PCT/CA03/000715 Zr, SiC, TiC , 6395224

B, Mn , 2002-206153

(polytetrafluoroethylene) , 2001-342528 Al_4C_3, TiC, AlN, TiB_2

, 2003-025054 Al .

[0011] , ,

.

[0012] , ,

,

,

.

[0013] ,

.

[0014] , ,

,

.

[0015]

,

.

[0016] , .

[0017] ,

.

[0018] (HfC)

(Mo_2C) .

[0019] (HfC) (Mo_2C) 1 (close-packed)

10%

. ,

.

1

[0020]

α-Mg	(HCP)	a=0.3209nm, c=0.5211nm		
HfC	(FCC)	a=0.4641nm	$<>_{Mg}$ · $<011>_{HfC}$: 2.5%	$\{0002\}_{Mg}$ · $\{110\}_{HfC}$: 9%
Mo_2C	(HCP)	a=0.3012nm, c=0.4735nm	$<>_{Mg}$ · $<>_{Mo2C}$: 6.1%	$\{0002\}_{Mg}$ · $\{0002\}_{Mo2C}$: 9%

[0021] 0.1 10

. 0.1

(wettability) , 10

.

[0022] , (450 500) .

[0023] , ,

[0024] 600 780 (1);

[0025] 1 , (2);

[0026] 2 (3);

[0027] 3 (4)

[0028] .

[0029] .

[0030] 1 600 780 . 1 AZ91, AZ31, AM60 , . 600 780 , . 600 , 780 , . . (SF_6+CO_2) , .

[0031] 2 1 , . (Phosphorizer) , , (tablet) . 1 0.1 10 . , 0.1 5.0 % . 0.1 % , 5.0 % , .

[0032] 3 2 . 3 2 . 1 2 . 1 , 2 .

.

[0033] 4 3
. , , ,
.

[0034] ,
.

[0035]

[0036] < 1>

[0037] Mg-3 %Al (mild steel) 740
. (SF_6+CO_2) . 2
(HfC) 0.23 % 740 .
30 130 × 30 × 60 mm .

[0038] 380 24
, 1 2 .

[0039] < 2 3>

[0040] 2 1 ,
, 1 2
.

2

	마그네슘 합금		평균 입도
	Mg-3중량%Al		420 ㎛
실시예 1	탄화하프늄 (용탕량 대비 중량%)	0.23	172 ㎛
실시예 2		0.70	112 ㎛
실시예 3		1.17	167 ㎛

[0041]

[0042] < 4 6>

[0043] 3 1 ,
, 1 3
.

3

	마그네슘 합금		평균 입도
	Mg-3중량%Al		420 ㎛
실시예 4	탄화몰리브덴 (용탕량 대비 중량%)	0.25	175 ㎛
실시예 5		0.75	186 ㎛
실시예 6		1.25	290 ㎛

[0044]

[0045] 1 Mg-3 %Al . 1 , (HfC) 0.70 % . (Mo_2C) 0.25 % . 740 Mg-3 %Al 420 (2), 0.70 % 112 (3), 0.25 % 175 (4).

[0046] < 7>

[0047] Mg-3 %Al (mild steel) 1 6 680 . (SF_6+CO_2) . 2 (HfC) 1.0 % 680 . 30 130× 30× 60 mm .

[0048] 380 24 , 4 , 5 .

4

	마그네슘 합금		평균 입도
	Mg-3중량%Al		280 ㎛
실시예 7	탄화하프늄 (용탕량 대비 중량%)	1.0	85 ㎛

[0049]

[0050] 4 5 , 680 Mg-3 %Al 280 , 1.0 % 85 .

[0051] 1 1 6 (HfC) (Mo_2C) 740 30 Mg-3 %Al .

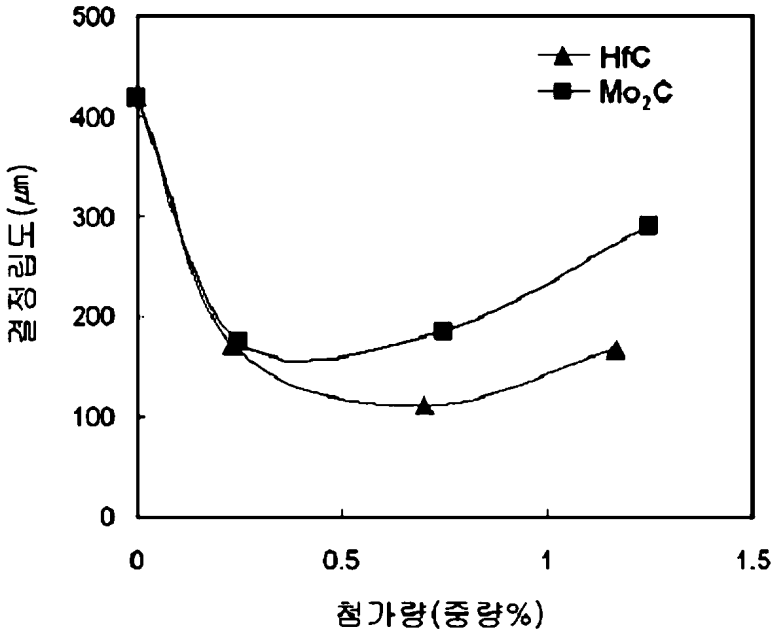
[0052] 2 1 6 Mg-3 %
.

[0053] 3 2 740 0.7 % 30
Mg-3 %Al .

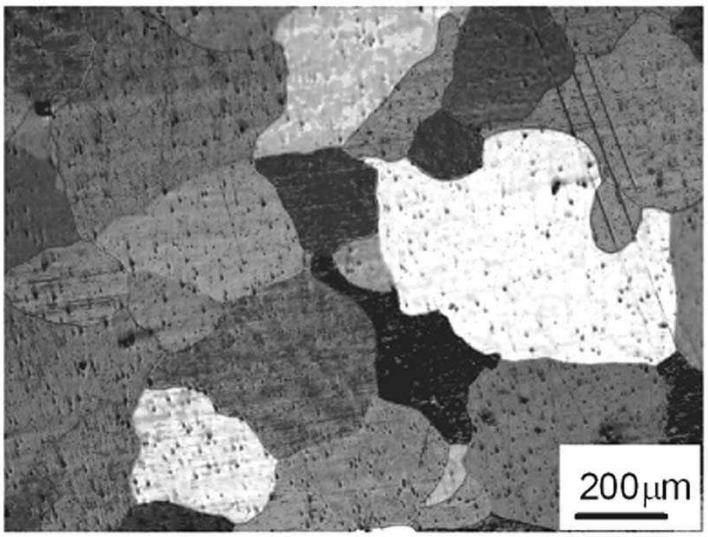
[0054] 4 4 740 0.25 % 30
Mg-3 %Al .

[0055] 5 680 1.0 % 30
Mg-3 %Al .

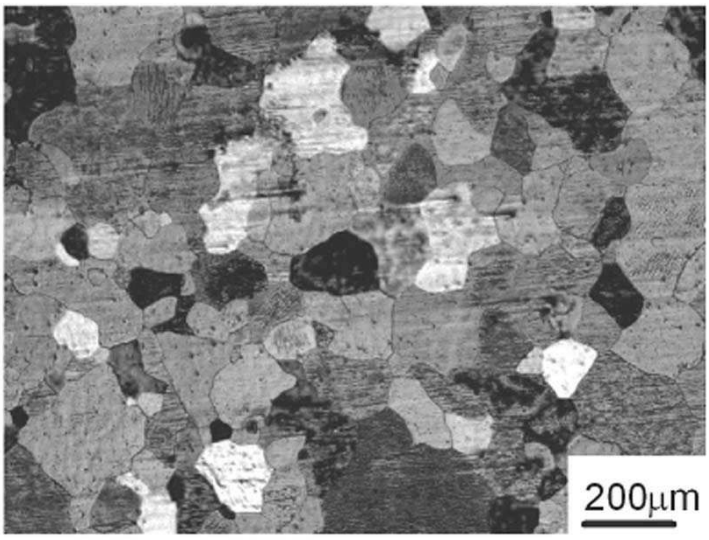
1



2



3



4

