

2008.05

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1.	3
2.	3
2.1	3
2.2	4
2.3	6
3.	6
3.1	6
3.2	6
3.3	6
3.4	6
3.5	7
3.6	7
3.7	7
3.8	8
3.9	8
3.10	8
3.11	9
3.12	9
3.13	10
3.14	10
3.15	.....	10
3.16	.....	11
3.17	.....	11
4.	.....	11
4.1	.....	11
4.2	11
4.3	11
4.4	11
4.5	12
4.6	12
4.7	12
4.8	12
1	13
2	16
3	19
4	20
5	21
6	22
7	23
8	().	26
9	28
10	29

2.1.4

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3 6

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2.1.5

3

2.1.6

2.1.7

2.2

2.2.1

1

2.2.2

2.2.3

1000

2000

2.2.4

40

100

40

40

1/3

PB AD

2.2.5

2.2.6

2.3

1 2

3.

3.1

6 8

8 10

3 4

4000 7000

3.2

25mm	word	A4	210mm	297mm		30mm
		28mm	25mm(		25mm	28mm)
		20mm		17.5mm		
		43		15.6		

3.3

400 800

500 1000

3.4

Abstract

3

×××

3.5

3.5.1

20

3.5.2

() ()¹

()	1	
()		
()		
()		

3.6

[] 4 [1]
4 [8 10 14]

3.7

CCT(Continuous Cooling Transformation)

3.8

3.8.1

GB3100 3102-86

1

3.8.2

1984

2 GB3100 3102

t km t/(a)

8 3

1000kg
8h45min

3.8.3

GB3100 3102-86 GB7159-87

3.9

1987

3

3.10

1

2

(2.1)

(1.

(1.

$a/(b \cos x)$

$a \cos x / b$

$(a/b) \cos x$

3.11

1.1
4
1
5
4 2
2 2

3.12

GB4457 GB131-83

3.12.1

1.
5
a) b) 5
1

3.12.2

1.1 1.1

3.2 3.3

3.12.3

/s /m s⁻¹

3.13

BG7714-87

. [D].

.

. ()

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**** . [.] . [.] .

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3.14

1 2

3.15

3.16

3.17

4.

4.1

Times New Roman

4.2

	1.5
(1.1)	1.0
(1.1.1 1.1.1.1)	0.5
	20

4.3

4.3.1

(7)

4.3.2

8

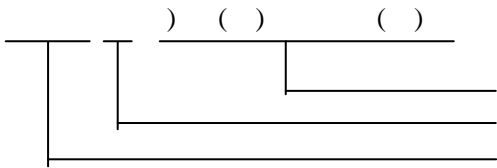
4.4

I II III

9

4.5

()



3 5 ()

4.6

10

4.7

1

4.8

× ÷

M_f (N·m)

θ_f

$$\theta_f = \frac{dG}{dl}, (\text{rad/mm})$$

$$x = \frac{2\pi(n_1 + n_3)}{\frac{n_1 + n_2}{n_1 - n_2}}$$

()

	q_m	()	U
	q_v		E
		[]	D
			$J (S \delta)$
	$T \Theta$		$A (a)$
	$t \theta$		H
[]	a_t	()	U_m
[]	$a_v \gamma$		$F F_m$
	a_p	[]	B
	β		
	κ	[]	Φ
	Q		μ
	φ		$M H_i$
[]	$q \varphi$	[]	R
()	λk	[]	G
	$h a$		ρ
[]	$k K$		$\gamma \sigma \kappa$
	M		R_m
	R		$\Lambda (P)$
	$\alpha(a \kappa)$	()	Z
	C		X
	c	[]	R
[]	γ	()	γ
	κ		B

()

	K		X_a
	V		M_a
	n		Y_a
			G_a
			B_a
	c		δ
	D_w		r
[]	W_P		τ
	Φ		a
[]	I	,	R
	Z_s		A
[]	Z_c		L_N
	Z_a		N
	R_e		

2

(1984 2 27)

()

- (1) : 2-1
 (2) : 2-2
 (3) : 2-3
 (4) : 2-4
 (5)
 (6) (2-5)

2-1

	()	m
	[]	kg
	[]	s
	[]	A
	[]	K
	[]	mol
	[]	cd

2-2

		rad
		sr

2-3

	[]	Hz	s ⁻¹
	[]	N	kg m/s ²
	[]	Pa	N/m ²

[]	J	N m
[]	W	J/s
[]	C	A s
[]	V	W/A
[]	F	C/V
[]		V/A
[]	S	A/V
[]	Wb	V s
[]	T	Wb/m ²
[]	H	Wb/A
[]	lm	cd sr
[]	lx	lm/m ²
[]	Bq	s ⁻¹
[]	Gy	J/kg
[]	Sv	J/kg

2-4

[] ()	min h d	1 min 60 s 1 h 60 min 3 600 s 1 d 24 h 86 400 s	
[] []	(") (') (°)	1" (/648 000) rad () 1' 60" (/10 800) rad 1° 60' (/180) rad	
	r/min	1 r/min (1/60) s ⁻¹	
	n mile	1 n mile 1 852m ()	
	kn	1 kn 1 n mile/h (1 852/3 600) m/s ()	

		t	1 t 10 ³ kg
		u	1 u 1.660 565 5 10 ⁻²⁷ kg
		L, l	1 L 1dm ³ 10 ⁻³ m ³
		eV	1 eV 1.602 189 2 10 ⁻¹⁹ J
		dB	
	[]	tex	1 tex 1 g/km

2-5

10 ¹⁸	[]	E
10 ¹⁵	[]	P
10 ¹²	[]	T
10 ⁹	[]	G
106		M
103		k
102		h
101		da
10 ⁻¹		d
10 ⁻²		c
10 ⁻³		m
10 ⁻⁶		μ
10 ⁻⁹	[]	n
10 ⁻¹²	[]	p
10 ⁻¹⁵	[]	f
10 ⁻¹⁸	[]	a

1. (a)
2. []
3. ()
- 4.
5. 1
6. r
- 7.
8. km
9. 10⁴ 10⁸ 10¹²

1984

3

1987 1 1

7

1 20 80

4 3 1989 89

2

3/4 4.5% 10 500

3

4

5 5

345 000 000

3.45 34 500 , 3 4 500 3 4 5

6

4 4 3 (1/4) 3 000 000

3,000,000

7 1)

2) 3) 80%

100 180 4) 80% 100 80 5)

80% 100 20 6) 1/4 4 1 1

0.25

1/2 1/3

4

1

4.1

Table 4.1 Chemical composition and mechanical properties of the alloys

(%)							
C	Mn	Cr	MPa	MPa	MPa	%	HB
xxxxxx							

2

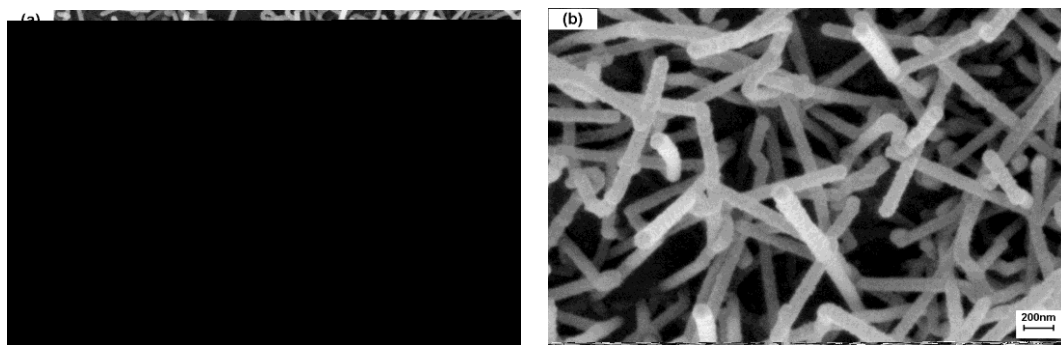
4.2

α

Table 4.2 The minimum thickness α of the workpieces

(mm)

		$\alpha \geq 0.8t$ $\alpha_{\min} \geq 0.5t$
	$t \leq 0.5$	$\alpha \geq 1.2t$



(a)

(b)

5.1 ZnO SEM

Fig. 5.1 SEM image of ZnO nanorods

6

[1] . M . 1957. 15-18.
 [2] , . [J]. .2000
 (4).1-4
 [3] M. Fujita, J. Y. Kwon, S. Washizu, et al. Synthesis and magnetic properties of a metallacryptate that behaves as a single-molecule magnet[J]. Angew. Chem. Int. Ed.,2003,42: 3763-3766.
 [4] [] 1998-12-25(10)
 [5] EB/OL <http://www.cajcd.cn/pub/wml.txt/980810-2.html>,1998-08-16/1998-10-04
 [6] . [D]. **** . 2003:8-131

GB 3469

	M	C	N	J	D	R	S	P
	(database)			(computer program)		(electronic bulletin board)		

	DB	CP
		EB

1

2

3

4

5

6

3

, J. Y. Kwon

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7 -1

10289

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7 -2

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10289

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MBA

8

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2

Times New Roman

14

(18)

Submitted by

Name

Supervised by

Professor Name

***** University

June, 2007

9

- 2 -

1

- 1 -

10

Abstract

1

1.1

1.2

1.2.1

1.2.2

1.2.3

1.2.4

1.2.5

1.3

1.3.1

1.3.2

1.4

1.5

2

2.1

2.2

2.5

()