

UDC



P

GB 50205—2001

2002—01—10

2002—03—01

Code for acceptance of construction quality of steel structures

GB 50205—2001

:

:

: 2002 3 1

[2002]11

”

”（ [2001]87 ）

GB50205—2001 2002 3 1 4.2.1 4.3.1 4.4.1 5.2.2
5.2.4 6.3.1 8.3.1 10.3.4 11.3.5 12.3.4 14.2.2 14.3.3

GB50205—95

GB50221—95

[2001]87 “

”

GB 5020595

GB 50221—95

”

”

GB 50300

15

9

10

”

”

”

”

(

33

100088)

:

:

:

()

:

1	.....	9
2	.....	10
2.1	.....	10
2.2	.....	11
3	.....	12
4	.....	14
4.1	.....	14
4.2	.....	14
4.3	.....	15
4.4	.....	15
4.5	.....	16
4.6	.....	17
4.7	.....	18
4.8	.....	18
4.9	.....	18
4.10	.....	19
5	.....	20
5.1	.....	20
5.2	.....	20
5.3	()	22
6	.....	24
6.1	.....	24
6.2	.....	24
6.3	.....	24
7	.....	27
7.1	.....	27
7.2	.....	27
7.3	.....	28

7.3		28
7.4		31
7.5		32
7.6		33
8		36
8.1		36
8.2	H	36
8.3		36
8.4		37
8.5		37
9		39
9.1		39
9.2		39
10		40
10.1		40
10.2		40
10.3		42
11		46
11.1		46
11.2		46
11.3		48
12		52
12.1		52
12.2		52
12.3		53
13		56
13.1		56
13.2		56
13.3		57
14		59
14.1		59

14.2	.....	59
14.3	.....	60
15	.....	62
A	.....	64
B	.....	66
C	.....	71
D	.....	81
E	.....	82
F	.....	88
G	.....	90
H	.....	91
J	.....	92
	.....	106

1

1.0.1

1.0.2

1.0.3

1.0.4

GB50300

1.0.5

2' t

2.1'

- 2.1.1 part
- 2.1.2 component
- 2.1.3 element
- 2.1.4 the smallest assembled rigid unit
- 2.1.5 intermediate assembled structure
- 2.1.6 set of high strength bolt
- 2.1.7 slip coefficient of faying surface
- 2.1.8 test assembling
- 2.1.9 space rigid unit
- 2.1.10 () stud welding
() ()
()
- 2.1.11 ambient temperature

2.2

2.2.1

P—

P—

I—

T_c—

T_o—

2.2.2

a—

b

d—

e

f—

H—

H_i—

h—

h_e—

l—

R_a— ()

r—

t—

—

2.2.3

K—

3'

3.0.1

3.0.2

3.0.3

:

1

()

2

3

(

)

3.0.4

()

()

GB 50300

3.0.5

:

1

2

80%

()

1.2

3

3.0.6

:

1

2

3.0.7

:

1

()

2

3

4

4

4.1

4.1.1

()

4.1.2

4.2

I

4.2.1

:

:

4.2.2

1

2

3

40mm

Z

4

5

6

:

4.2.3

:

5

:

4.2.4

:

5

:

4.2.5

:

1

1/2

2

GB 8923 C C

3

:

:

4.3

I

4.3.1

:

:

4.3.2

:

:

4.3.3

GB

10433

: 1% 10

:

4.3.4

: 1% 10

:

4.4

I

4.4.1

)

(

()

:
:

4.4.2

B

B

:
:

B

4.4.3

B

B

:
:

B

4.4.4

:
:

5%

3

4.4.5

40m

8.8

HRC21

29 10.9

HRC32 36

:
:

8

10

4.5

I

4.5.1

:

4.5.2 :

: 5% 3
:

4.5.3 :

: 5% 3
:

4.5.4 :

: 5% 3 1.5mm
:

4.6

I

4.6.1 :

:
:

4.6.2 :

: 5% 5
: 10

4.6.3 :

GB196
GB197 6H

: 5% 5
:

4.6.4 :

: 5% 3

:

4.7 t

I

4.7.1

:

4.7.2

:

5% 10

:

4.8

I

4.8.1

:

:

4.8.2

:

:

4.8.3

:

5% 3

:

4.9.2 :
:

4.9.3 :

: 5% 3
:

4.10
I

4.10.1 :

4.10.2 :

5

5.1

5.1.1

5.1.2

5.1.3

24h

5.1.4

5.2

I

5.2.1

JGJ81

:

:

5.2.2

:

:

5.2.3

:

:

5.2.4

GB11345

GB3323

T K Y

JB/T3034.1

JB/T3034.2

JGJ81

5.2.4

:
:

5.2.4

		B	B
		100	20
		AB	AB
		100	20
		(1)	(2)
200mm		200mm	
200mm	1		

5.2.5 T

$t/4$ (5.2.5a b c)

$t/2$ (5.2.5d)

10mm

0 4mm

:
:

10%

3

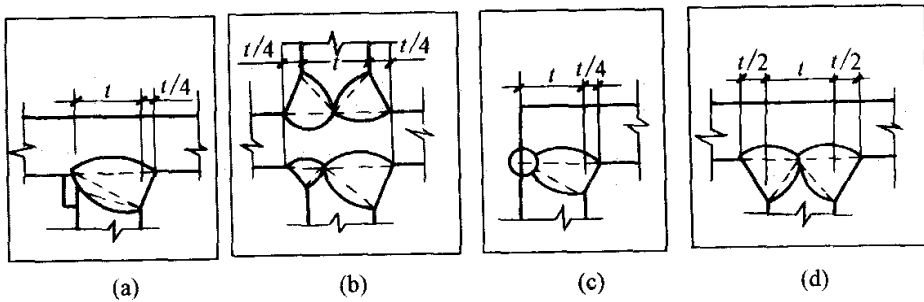


图 5.2.5 焊脚尺寸

5.2.6

: 10% 3
5% 1 1 10
:

5.2.7

1.5 100mm
25mm 1h
:
:

5.2.8

A A.0.1

: 10% 3
5% 1 1 10
:

5.2.9

A A.0.2

: 10% 3
5% 1 1 10
:

5.2.10

: 10% 3
:

5.2.11

:

: 10% 3
5% 5
:

5.3 ()

I

5.3.1

:

:

5.3.2

:

10%

10

1%

1

:

30°

5.3.3

360°

:

1%

10

:

6

6.1

6.1.1

6.1.2

6.2

I

6.2.1

B

GB3098

:
:

8

6.2.2

:
:

1%

3

6.2.3

:
:
:
:

10%

3

2

6.2.4

10%

3

6.3

I

6.3.1

B

: B

:

6.3.2

1h 48h

B

: 10% 10

10% 2

: B

6.3.3

5%

6.3.2

: 10% 10

: B

6.3.4

JGJ82

:

:

6.3.5

2 3 10%

1 4

: 5% 10

:

6.3.6

:

:

6.3.7

1.2d(d)

:
:

6.3.8

1.0d(d)

: 5% 10
:

7.2.3

(mm)

	± 3.0
	1.0
	2.0

7.3

I

7.3.1

-16

-12

900

:

:

7.3.2

700

800

900

1000

:

:

7.3

I

7.3.1

-16

-12

900

:

:

7.3.2

700

800

900

1000

:

:

7.3.3

0.5mm

1/2

:

:

7.3.4

7.3.4

:

10%

3

:

0.5mm

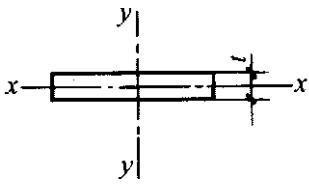
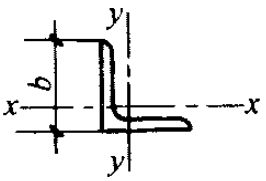
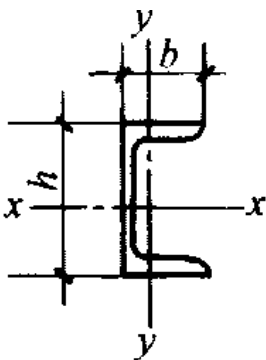
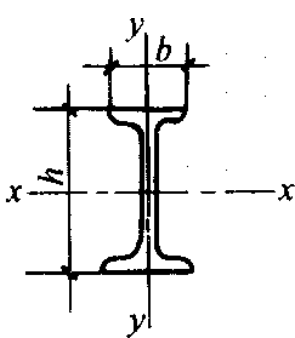
1/2

:

:

7.3.4

(mm)

	-	50	$\frac{2}{400}$	25	$\frac{2}{200}$	
	- ()	100	$\frac{2}{800}$	50	$\frac{2}{400}$	
	-	90	$\frac{2}{720}$	45	$\frac{2}{360}$	
	-	50	$\frac{2}{400}$	25	$\frac{2}{200}$	
	-	90	$\frac{2}{720}$	45	$\frac{2}{360}$	
	-	50	$\frac{2}{400}$	25	$\frac{2}{200}$	
	-	50	$\frac{2}{400}$	25	$\frac{2}{200}$	

7.3.5

7.3.5

:

10%

3

:

:

7.4.2

(mm)

--	--

± 1.0

3000

1a2 1 2a9 ± 0.72 re273.48

7.5.3

: 10%

: 7.5.3

7.5.3

(mm)

	120	1.5	
	120	2.5	
	120	0.2	V
	120	0.3	
		± 0.2	
		± 30	
		0.005	
	120	+2.0 -1.0	
	120	+3.0 -1.5	

7.5.4

7.5.4

: 10% 5
: 7.5.4

7.5.4

(mm)

	± 0.005 ± 2.5	
	2.5	
	0.13 1.5	
	1.0	

7.5.5

()

7.5.5

: 10% 5
: 7.5.5

7.5.5

()

(mm)

	± 1.0	
	0.005	V
	1.0	

7.6

I

7.6.1 A B

(I)

H12

Ra

12.5

μ m

7.6.1-1

C ()

Ra

25μ m

7.6.1-2

:

10%

3

:

7.6.1—1

A B

(mm)

1	10~18	0.00 0.21	+0.18 0.00
2	18~30	0.00 0.21	+0.21 0.00
3	30~50	0.00 0.25	+0.25 0.00

7.6.1-2

C

(mm)

	+1.0 0.0
	2.0
	0.03 , 2.0

7.6.2

7.6.2

:

10%

3

:

7.6.2

(mm)

	500	501~1200	1201~3000	3000
	± 1.0	± 1.5		
	± 1.5	± 2.0	± 2.5	± 3.0
1				
2				
3				
4				

7.6.3

7.6.2

:
:

8`

8.1`

8.1.1

8.1.2

8.2` H

I

8.2.1 H 2 300mm 200mm 600mm

:

:

8.2.2 H C C.0.1

:

10%

3

:

8.3`

I

8.3.1

:

:

8.3.2 C C.0.2

:

10%

3

:

8.3.3 75%

:

10%

10

:

0.3mm

25%

0.8mm

8.3.4

3.0mm

4.0mm

: 10% 3 10%

3

:

8.4

I

8.4.1

8.4.1

: 10% 3

:

8.4.1 (mm)

	± 2.0
	± 0.5
	0.3
	1500

8.4.2

8.4.2

: 10% 3

:

8.4.2

	± 5°
	± 1.0mm

8.4.3

:

:

8.5

I

8.5.1

8.5.1

:
:

8.5.1

(mm)

()	± 1.0
	± 1.0
	± 3.0
	± 3.0
	2.0
()	1000 10.0

8.5.2

C

C.0.3

C.0.9

: 10% 3
: C C.0.3 C.0.9

9

9.1

9.1.1

9.1.2

9.1.3

9.1.4

9.2

I

9.2.1

:

1

1.0mm

85%

2

0.3mm

100%

:

:

9.2.2

D D

:

:

D D

10`

10.1`

10.1.1

10.1.2

10.1.3

10.1.4

10.1.5

10.1.6

10.1.7

10.1.8

10.2`

I

10.2.1

: 10% 3
:

10.2.2

() 10.2.2
: 10% 3
:

10.2.2

()

(mm)

		± 3.0
		1000
()		5.0
		10.0

10.2.3

10.2.3

:

10%

3

:

10.2.3

(mm)

	0.0
	3.0
	1000
	20.

10.2.4

10.2.4

:

10%

4

:

10.2.4

(mm)

	0.0
	5.0
H	± 5.0
	H 100 10.0
	10.0

10.2.5

()

10.2.5

()

:

10%

3

:

10.2.5	()	(mm)
	()	+30.0 0.0
		+30.0 0.0

10.3`

I

10.3.1

: 10% 3
:

10.3.2

70%

0.8mm

: 10% 3
: 0.3mm 0.8mm

10.3.3

()

10.3.3

()

(mm)

	250	15.0	
	30m	1000 10.0	
	30m 60m	1000 30.0	
	60m	1000 50.0	

10.3.4

10.3.4

:

:

10.3.4

(mm)

	<i>H</i> 1000	25.0	

10.3.5

: 10% 3
:

10.3.6 ()

10mm () 10mm
: 10% 3
:

10.3.7

E E.0.1
: 10% 3
: E E.0.1

10.3.8

DG£ : 10% 3
: E.0.1

~~GD~~¹ 10% 3
: E.0.1

10.3.11**(mm)**

	+3.0 0.0
	+3.0 2.0

10.3.12

: 10% 3
:

11

11.1

11.1.1

11.1.2

11.1.3

11.1.4

11.1.5

11.1.6

11.1.7

10.L4 10.1.5 10.1.6 10.1. 10.1.8

11.2

I

11.2.1

()

()

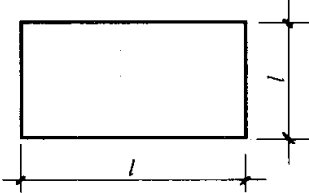
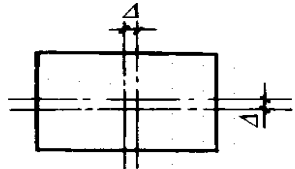
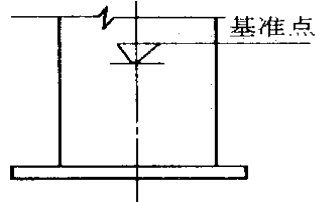
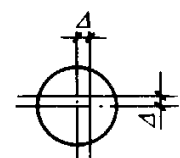
11.2.1

: 10% 3

:

11.2.1

() (mm)

	20000	3.0	
	1.0		
	± 2.0		
	2.0		

11.2.2

()

10.2.2

: 10% 3
:

11.2.3

10.2.3

: 10% 3
:

11.2.4

10.2.4

: 10% 4
:

11.2.5

()

10.2.5

(

)

: 10% 3
:

11.3

I

11.3.1

: 10% 3
:

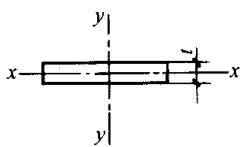
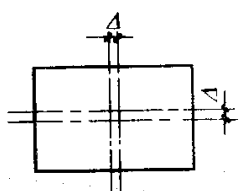

11.3.2

11.3.2

: 10% 3
:

11.3.2

(mm)

	3.0	
	1.0	
	1000	10.0
		

11.3.3

70%

0.8mm

: 10% 3
 : 0.3mm 0.8mm

11.3.4

10.3.3 ()

: 10% 3

:

11.3.5

11.3.5

:

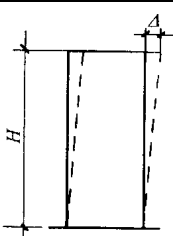
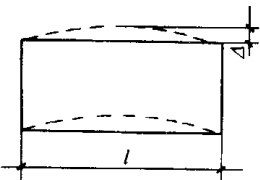
:

()

()

11.3.5

(mm)

	<p>(H 2500+10.0) 50.0</p>	
	<p>L 1500 25.0</p>	

11.3.6

: 10% 3
:

11.3.7

: 10% 3
:

11.3.8

: E E.0.5
: 10% 3
: 3 5m
: E E.0.5

11.3.9

: E E.0.6
: 10% 4
:

11.3.10

10mm () 10mm
: 10% 3
:

11.3.11

: E E.0.2
: 10% 3

: E E.0.2

11.3.12

E E.0.3

: 10% 3

: E E.0.3

11.3.13

GB4053.1

GB4053.2

GB4053.3

GB4053.4

E E.0.4

: 10% 10%

1 5m 1

: E E.0.4

11.3.14

10.3.11

: 10% 3

:

12`

12.1`

12.1.1 ()

12.1.2

12.1.3

12.1.4 10.1.4 10.1.5 10.1.6

12.2`

I

12.2.1

: 10% 4
:

12.2.2

12.2.2

12.2.2

(mm)

		15.0
		0
		3.0
		1000
		± 5.0

: 10% 4
:

12.2.3

: 10% 4
:

12.2.4

: 10% 4
:

12.2.5

10.2.5

: 10% 4
:

12.3

I

12.3.1

12.3.1

: 5% 5
:

12 3 1

(mm)

			2.0	
			1.0	
			₁ 1000 5.0	
			± 2.0	
			± 2.0	
			± 3.0	
		24m	3.0 7.0	
		24m	5.0 10.0	
			± 3.0	
				± L 5000
				10.0
	₁ 2	₁		

12.3.2

12.3.2

:
:

12.3.2

(mm)

20m		± 10.0
		± 5.0
20m		± 20.0
		± 10.0

12.3.3

40m

:

1

1.6

2

: 3

:

12.3.4

1.15

: 24m

24m

:

12.3.5

: 5% 10

:

12.3.6

12.3.6

: 5%

: 12.3.6

13'

13.1'

13.1.1

13.1.2

13.1.3

13.2'

I

13.2.1

: 5% 10
: 10

13.2.2

: 5% 10
:

13.2.3

: 5% 10 13.2.3
:

13.2.4

: 5% 10
:

13.2.3**(mm)**

			± 2.0
		70	± 1.5
		70	± 2.0
	1	20.0	
1	10m	0.5m	(10m)

13.2.5**13.2.5**

: 5% 10
:

13.2.5**(mm)**

		70	+10.0 2.0
		70	+6.0 2.0
			± 9.0
			6.0
			± 6.0
			± 3.0
			2°

13.3**I****13.3.1**

:
:

13.3.2

13.3.2

: 10% 10m
:

13.3.2

(mm)

70		375
70	1 10	250
	1 10	200
		120

13.3.3

()

50mm

: 10% 10m
:

13.3.4

: 10% 10m²
:

13.3.5

13.3.5

: : 10% 10m :
20m 1 2
:

13.3.5

(mm)

		12.0
		800 25.0
		6.0
		4.0
1 2		800 25.0
		800 25.0
		6.0

14'

14.1'

14.1.1 ()

14.1.2

14.1.3

14.1.4

5 38 85%
4h

14.2'

I

14.2.1

14.2.1
: 10% 3
:

GB8923

14.2.1

	St2
	Sa2
	Sa2 $\frac{1}{2}$

14.2.2

: 150 μ m 125 μ m -25 μ m

-5μ m

: 10% 3
: 5 3 50mm

14.2.3

:
:

14.2.4

70%

: 1% 3 3
: GB1720
GB9286

14.2.5

:
:

14.3

I

14.3.1

: 10% 3
:
GB8923
5 3 50mm

14.3.2

500t

500t

:

14.3.3

80%

85%

:

10%

3

:

CECS24:90

F

14.3.4

0.5mm

1mm

:

10%

3

:

14.3.5

:

:

14.3.6

:

:

15

15.0.1

GB50300

15.0.2

G

15.0.3

H

15.0.4

:

1

2

3

4

15.0.5

:

1

2

3

4

5

6

7

8

9

10

11

12

15.0.6

:

1

GB50300

A

2

J J.0.1 J.0.13

3

GB50300 E

4 ()

GB50300 F

A'

A.0.1

A.0.1

A.0.1

(mm)

(	0.2 0.02 1.0	0.2 0.04 2.0
)	100.0	25.0
	0.2 0.02 1.0	0.2 0.04 2.0
	0.05 0.5 100.0 10	0.1 1.0
		5.0
	0.05 0.5	0.1 1.0
	1000.0	1
		0.2 0.5 , 20.0
		50.0 0.4 3.0 2 6

A.0.2

A.0.2

B

B.0.1

:

GB3098.1

:

25mm/min

(As)

GB3098.1

6

GB3098.1

(As b)

B.0.2

8

2%

50%

B.0.2

B.0.2

(kN)

(mm)	16	20	(22)	24
—	99~120	154~186	191~231	222~270
	10.1	15.7	19.5	22.7

B.0.3

3%

1h 48h

1

:

60°

10%

:

= • •

(B.0.3-1)

T_c — (N· m)

P_c — (kN) B.0.3

d — (mm)

K — B.0.4

o 0.5 c

o :

= 0.065 •

(B.0.3-2)

T_o — (N· m)

P_c — (kN) B.0.3

d — (mm)

2

:1)

2)

10°

3

:

B.0.3

(kN)

	(mm)					
	M16	M20	M22	M24	M27	M30
8.8s	75	120	150	170	225	275
10.9s	110	170	210	250	320	390

B.0.4

8

2%

P

T

K

$$= \frac{\quad}{\bullet}$$

(B.0.4)

T— (N· m)

d— (mm)

P— (kN)

B.0.4

B.0.4

(kN)

	(mm)	M16	M20	M22	M24	M27	M30
p	10.9s	93~113	142~177	175~215	206~250	265~324	325~390

1

()

2000t

2000t

(B.0.5)

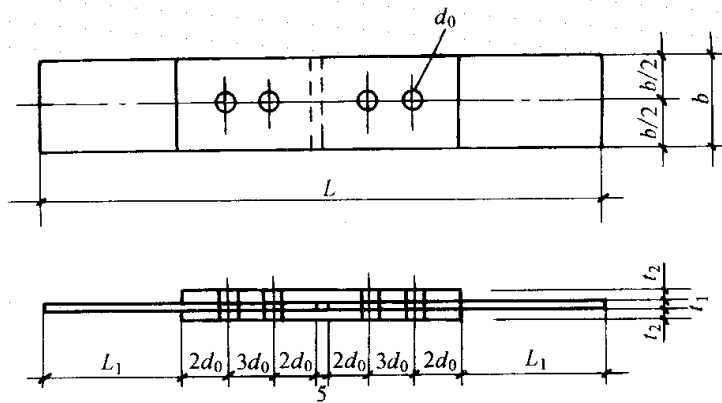


图 B.0.5 抗滑移系数拼接试件的形式和尺寸

t1 t2

b

B.0.5

L1

B.0.5

(mm)

	16	20	22	24	27	30
	100	100	105	110	120	120

2

1%

2%

:

50%

:

1)

$$0.95P \quad 1.05P(P \quad)$$

2)

()

10%

1min

3 5kN/s

Nv

:

1)

2)

3)X—Y

4)

" "

Nv

P

$$\mu = \frac{\quad}{\sum_{i=1} \quad} \quad (B.0.5)$$

N_v — (kN)

n_f — $nf=2$

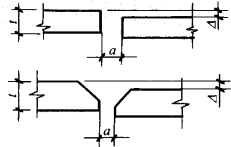
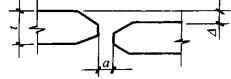
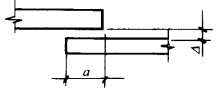
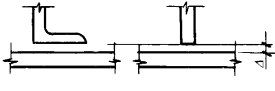
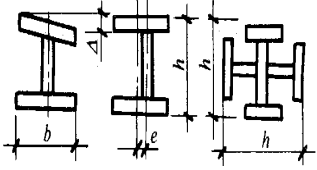
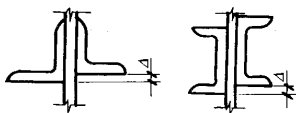
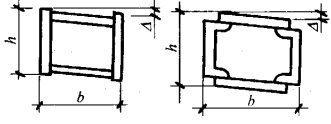
$$\sum_{i=1} \quad - \quad (\quad) \quad (\quad)$$

(kN)

m — $m=2$

C.0.2

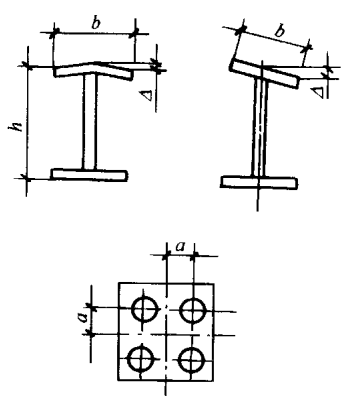
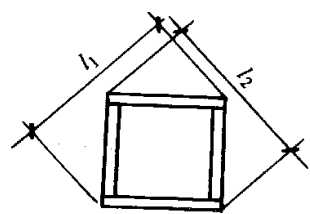
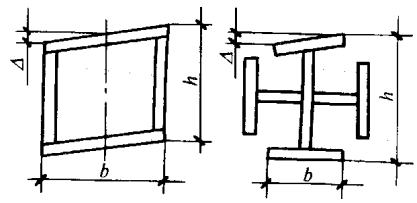
(mm)

		10 3.0	
		± 1.0	
		± 5.0	
		1.5	
		± 2.0	
		b 100 3.0	
		± 2.0	
		1.0	
		2.0	
	h	± 2.0	
	b	± 2.0	
		/200 3.0	

C.0.3

C.0.3

C.0.4

		1.5	
		100	
		5.0	
		3.0	
		3.0	
<p>የሥራ ስራ</p>		() 150	
		5.0	

ጠቅላይ

C.0.5

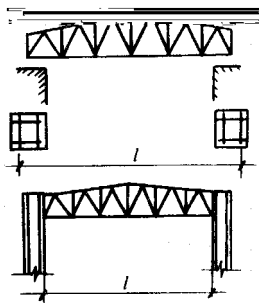
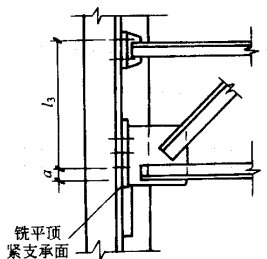
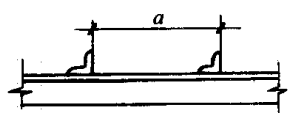
(mm)

		0 5.0		
		± 1 2500 ± 10.0		
	2000	± 2.0		
	2000	± 3.0		
		\pm 5000		
		10.0 -5.0		
		2000 10.0		
		/250 10.0		
	14	5.0	1m	
	14	4.0		

C.0.5

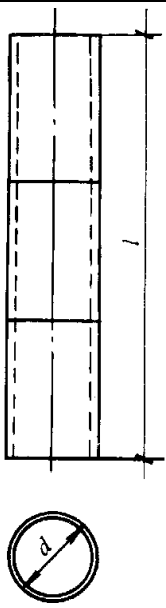
C.0.6

(mm)

	24m	+3.0 7.0		
	24m	+5.0 10.0		
		± 10.0		
		± 5000		
		10.0 5.0		
()		1000		
		± 1.0		
		± 5.0		

C.0.7

C.0.7**(mm)**

	± 500		 <p>The drawing shows a vertical rectangular section divided into three horizontal segments. A dimension line on the right indicates the total height. Below the rectangle is a circular detail with a diameter labeled 'd'.</p>
	± 5.0		
	± 3.0		
	500	5.0	
	500	3.0	
	1500	5.0	
	10	3.0	

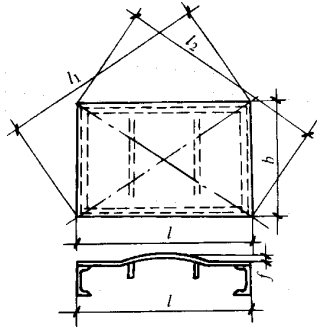
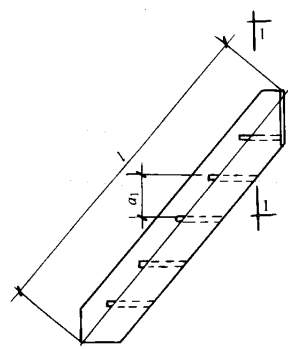
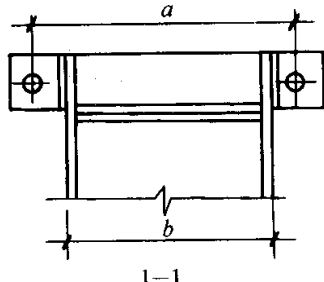
C.0.8**C.0.8****C.0.8****(mm)**

	± 4.0	
1	± 3.0	
	1000	10.0
	+5.0	
	2.0	

C.0.9**C.0.9**

C.0.9

(mm)

	± 5.0		
$|1-2|$	6.0		
	± 3.0		
	5.0		
1m	6.0	1m	
	± 5.0		
	± 5.0		
	± 3.0		
	/1000		
()	± 5.0		
	± 5.0		
	± 10.0		

D'

D.0.1

D

D

(mm)

		± 5.0	
		1500 10.0	
		2.0	
		200 5.0	
		± 2.0	
		+5.0 10.0	
		2.0	

± 1 5000 f53 15.84aed052182fb4d3637c704cf 3

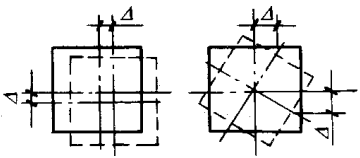
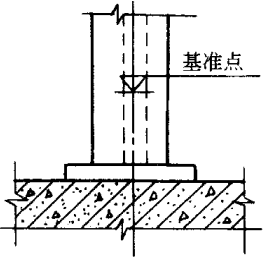
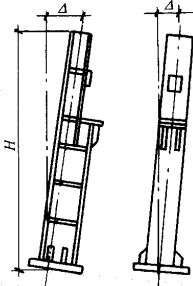
E

E.0.1

E.0.1

E.0.1

(mm)

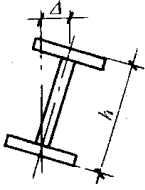
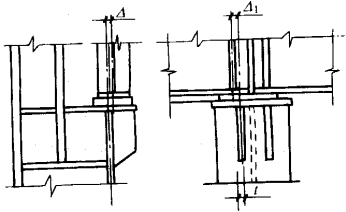
		5.0			
		+3.0 -5.0			
		+5.0 -8.0			
		/1200 15.0			
		10m	/1000		
		10m	/1000 25.0		
			/1000 10.0		
			35.0		

E.0.2

E.0.2

E.0.2

(mm)

	500		
	1500		
	10.0		
	10.0		
	5.0		
	5.0		
	2		
1			

E.0.3**E.0.3****E.0.3****(mm)**

		10.0	
		1000	10.0
		1000	15.0
		250	15.0
		± 5.0	
		750	12.0
		750	10.0
1			
2			
3			

E.0.4**E.0.4****E.0.4****(mm)**

		± 15.0	
		1000	20.0
		1000	15.0
		1000	10.0
		250	15.0
		/1000	15.0
		± 15.0	
		± 15.0	

E.0.5**E.0.5**

E.0.6

(mm)

	\pm (h z w)	
	1000 30.0	
	1000 30.0	
1 h		
2 z		
3 w		

F'

F.0.1 :
()

30mm

(F.0.1)

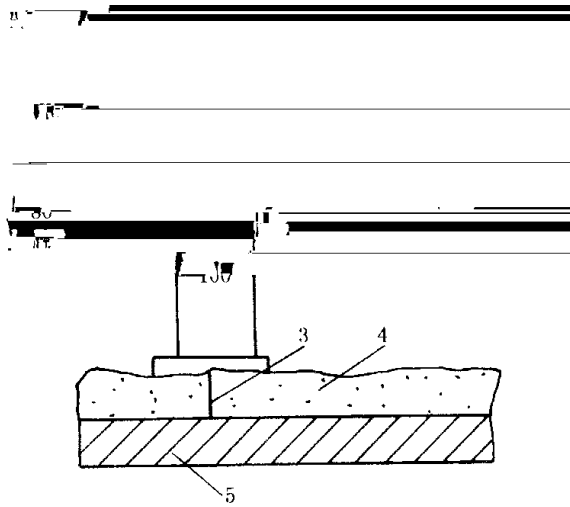


图 F.0.1 测厚度示意图

1—标尺;2—刻度;3—测针;4—防火涂层;5—钢基材

F.0.2 :

1

2

F.0.2

3m

G'

G.0.1

()

G

G ()

1	(1) (2) (3) (4)	4.4.2 4.4.3 4.2.2 4.3.2 6.3.1 12.3.3		
2	(1) (2) (3)	3 3 5.2.6 5.2.8 5.2.9 5.2.9	5.2.4 5.2.6 5.2.8 5.2.9	
3	(1) (2) (3)	3 3 6.3.2 6.3.3 6.3.8	6.3.2 6.3.3 6.3.8	
4	(1) (2) (3)	10 3		
5	(1) () (2) (3)	3 10.3.3 11.3.2 11.3.4 12.3.4	10.3.3 11.3.2 11.3.4 12.3.4	
6	(1) (2)	10.3.4 11.3.5	10.3.4 11.3.5	

Н

Н.0.1

()

Н

Н

()

1		3	14.2.3	
2		3	14.3.4 14.3.5 14.3.6	
3		3	13.3.4	
4		10		

J

J.0.1

()

J.0.1

J.0.2

()

		()		
1		4.3.1		
2		4.3.2		
3		5.3.1		
4		5.3.2		
		()		

1

J.0.3

()

J.0.5 ()

			()	
	()			
1		4.2.1		
2		4.2.2		
3		7.2.1		
4		7.2.1 7.3.2		
5		7.4.1		
6		7.5.1 7.5.2		
7		7.6.1		

J.0.6

()

			()	
	()	8.3.1		
1	()	8.3.1		
2		8.4.1		
3		8.5.1		
			()	
	()			
1	H	8.2.1		
2	H	8.2.2		
3		8.3.2		
4		8.3.3		
5		8.3.4		
6		8.4.2		
7		8.4.3		

8

J.0.7

()

J.0.8

()

		()		
1		10.2.1 10.2.2 10.2.3 10.2.4		
2		10.3.1		
3		10.3.2		
4		10.3.3		
5		10.3.4		
		()		
1		10.2.5		
2		10.3.5		
3		10.3.6		
4		10.3.7		
5		10.3.8		
6		10.3.9		
7		10.3.10		
8		10.3.11		
9		10.3.12		
		()		
		()		

J.0.9

()

J.0.9

J.0.9

()

		()	()	
1		11.2.1 11.2.2 11.2.3 11.2.4		
2		11.3.1		
3		11.3.2		
4		11.3.3		
5		11.3.4		
6		11.3.5		

h

()

J.0.10

()

		()		
		()		
1		4.5.1 4.5.2		
2		4.6.1 4.6.2		
3		4.7.1 4.7.2		
4		4.10.1		
5		12.2.1 12.2.2		
6		12.2.3 12.2.4		
7		12.3.1 12.3.2		
8		12.3.3		
9		12.3.4		
		()		
1		4.5.3 4.5.4		
2		4.6.4		
3		4.6.3		
4		12.2.5		
5		12.3.5		
6		12.3.6		
		()		
		()		

J.0.11

()

J.0.11

J.0.11 ()

		()		()	
1		4.8.1 4.8.2			
2		13.2.1			
3		13.2.2			
4		13.3.1			
5		12.3.2			
6		13.3.3			
		()		()	
1		4.8.3			
2		13.2.3 13.2.5			
3		13.2.4			
4		13.3.4			
5		13.3.5			
()		()			

J.0.12 ()

J.0.12

J.0.12

()

1