1.0.1 GB/T5224 2014

1.0.2

2.1.1

2.1.2

2.1.3

2.1.4

2.1.5

D_n
S_n
R_m
F_m
$F_{p0.2}$
A_{gt}
F_a
D

5

1 2
1 3
1 3
1 7
1 7 C

3.2.1

3.2.2

15.20mm 1860MPa

1 7-15.20-1860-GB/T5224 2003

4.3.1

60

4.3.1 4.3.1

4.3.1

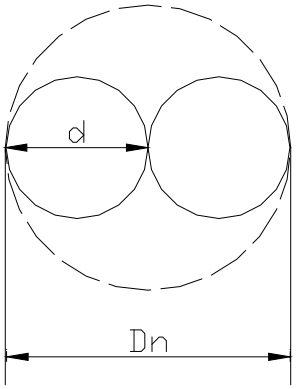
1				
2				
3		3 /		
4		3 /		
5		3 /		
6		3 /		
7		1 /		

4.3.2 1000h

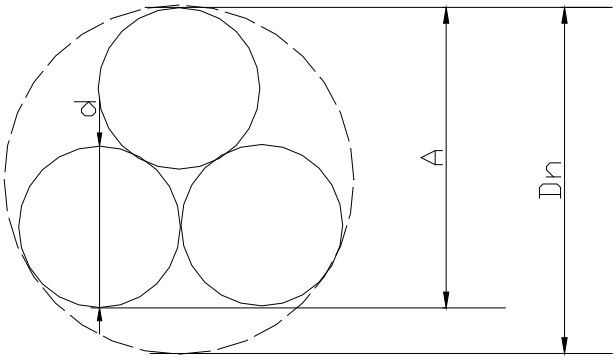
4.3.1

5

5.1 A 1 2 3



1 1 2



2 1 3

2 3

1 1 2

	mm				
	D_n	d	mm	S_n mm^2	g/m
1 2	5.00	2.50	+0.15 -0.05	9.82	77.1
	5.80	2.90		13.2	104
	8.00	4.00	+0.25 -0.10	25.1	197
	10.00	5.00		39.3	309
	12.00	6.00		56.5	444

2 1 3

	mm			A mm		
	D_n	d	A mm		S_n mm^2	g/m
	6.20	2.90	5.41	+0.15	19.8	155
	6.50	3.00	5.60	-0.05	21.2	166
1 3	8.60	4.00	7.46	+0.20 -0.10	37.7	296

6.1.3 1×7 6.1.3

6.1.1 1×2

	D_n mm	R_m MPa	F_mkN	$F_{p0.2}$kN	L_0		
						%	1000h r/%
1×2	5.00	1570	15.4	13.9	3.5	60	1.0
		1720	16.9	15.2			
		1860	18.3	16.5			
		1960	19.2	17.3			
	5.80	1570	20.7	18.6			
		1720	22.7	20.4			
		1860	24.6	22.1			
		1960	25.9	23.3			
	8.00	1470	36.9	33.2		70	2.5
		1570	39.4	35.5			
		1720	43.2	38.9			
		1860	46.7	42.0		80	4.5
		1960	49.2	44.3			
	10.00	1470	57.8	52.0			
		1570	61.7	55.5			
		1720	67.6	60.8			
		1860	73.1	65.8			
		1960	77.0	69.3			
	12.00	1470	83.1	74.8			
		1570	88.7	79.8			
		1720	97.2	87.5			
		1860	105	94.5			
$F_{p0.2}$						F_m 90%	

6.1.2 1×3

	D_n mm	R_m MPa	F_mkN	$F_{p0.2}$kN	L_0		
						%	1000h r/%
		1570	31.1	28.0			

6.20

1×3

3.5

60

		1720	36.5	32.9			1.0
		1860	39.4	35.5			
		1960	41.6	37.4		70	
		1470	55.4	49.9			2.5
	8.60					80	
							4.5

	12.70	1720	170	153		70	2.5
		1860	184	166			
		1960	193	174			
	15.20	1470	206	185		80	4.5
		1570	220	198			
		1670	234	211			
		1720	241	217			
		1860	260	234			
		1960	274	247			
	15.70	1770	266	239			
		1860	279	251			
	17.80	1720	327	294			
		1860	353	318			
(1 7)	12.70	1860	208	187			
	15.20	1820	300	270			
	18.00	1720	384	346			
$F_{p0.2}$						F_m 90%	

6.1.4 200MPa

6.1.5 195 10 GPa

6.1.6 6.1.1~6.1.3

6.1.7 1000h

6.2.1

6.2.2

1 D_n 1 3 2 A 1 7

3 D_n

7.3

3 1m

1mm 1g

$$M = \frac{m}{L}$$

M g/m

m g

L m

3

7.4

7.4.1

GB/T16825 1 1

GB/T12160

1

2

0.1mm

7.4.2

6~60 N/mm^2 $\cdot s^{-1}$

0.008/s

7.4.3

GB/T228 2

7.4.4

0.2% $F_{p0.2}$

1% F_{tl} $F_{p0.2}$

$F_{p0.2}$ $F_{p0.2}$ F_{tl} 10%

7.4.5

A_{gt} GB/T228

1 7

500mm 1 2 1 3 400mm

1% L1

L2 L2- L1 L1

1.0%

7.4.6

$10N/mm^2$

A_{gt} 0.5%

7.5

7.5.1 GB/T10120

7.5.2 20 2

7.5.3 60

7.5.4

7.5.5 3min~5min 1min

7.5.6 100h 1000h

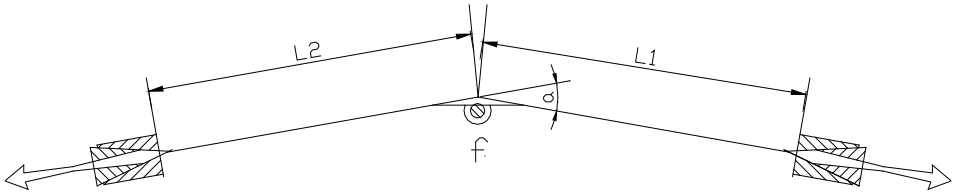
7.6

7.6.1

500mm

7.6.2 2 10^6 $0.7F_m$~ $0.7F_m$-2 F_a

2 F



f a b

L_1=700mm 50mm L_2 750mm

7.7.5-1

7.7.5-1

0%	5mm
F_m	2.5mm

3

a F_m 95%

b 90% F_m 0.5mm

c 7.7.5-1

d

e 2.5 3

4

58~62HRC

1 n7

2 Ra1.6 m

5

~ F_m 30MPa/s

F_m~ F_m 60MPa/s

7.7.6

1

2 7.7.5-5

3

4 F_{ai} 7.7.5-5 D_i

D_i= 1-F_{ai}/F_m 100%

5 D D_i

$$D \quad 1/5 \sum_{i\ 1}^{5} D_i$$

7.7.7

1 D 28%

2 D 20%