

2004.12.30

- 1616

2005.08.11

- 1090

1

1 ()

2 ()

1. : 가 200km/h

2. : , , 가

3. : 14mm

가

4. :

5. :

6. :

7. :

(3m) 2

8. (Back gauge) :

가

(踏面)

(接點)

가

가

9. :

10. : (,)

11. :

2

가 가

12. :

13. : 2

14. :

15. : UIC 가
F18.5

16. :

17. :

18. :

19. : 가

20. : 가 300m

21. :

22. :

23. :

24. :

25. :

2mm (kgf/m)

26. :

2mm (kgf/m)

27. :

150m

32. :

33. :

3 ()

4 ()

3

1

5 ()

4

6 ()

1.

6

CAD

2

1

2.

5

2

1

3.

2

7 ()

2

1. (CV) :

2. (TV) :

3. (WV) :

가

4. (AV) : 1

5. (SV) :

6. , , 가

8 () 600m

4mm , 600m , 30mm

1.

$$S = \frac{2,400}{R} - S' \quad (S'=0-15)$$

$$S = \quad (\text{mm})$$

$$R = \quad (\text{m})$$

$$S' = \quad (\text{mm})$$

2.

[: mm]

(m)	S		(m)	S	
	(S'=15)	(S'=0)		(S'=15)	(S'=0)
90-120	12	27	300-349	0	8
120-169	5	20	350-399	0	7
170-189	0	14	400-499	0	6
190-209	0	13	500-599	0	5
210-249	0	11	600	0	4
250-299	0	9			

9 ()

10 ()

1.

2.

4m

가

3.

600

11 ()

(cant)

65mm,

85mm

180mm

$$C = 11.8 \frac{V^2}{R} - C'$$

C : (mm)

V : (km/h)

R : (m)

C' : (mm)

12 ()

13 ()

1.

2.

600

14 ()

1.

5.0m

4.0m

2.

4.3m

4.0m

4.3m

3

2

3.

1

2

15 ()

16 ()

1. ()

25 ±3

2.

100m

15 ±5

3. 0 ~ 22
0 ~ 10

17 ()

가

1.

2. 1,000m

3.

4. 5m

18 ()

1. 300m

2. 100m

3. 100m

4. 100m

5.

19 () 1m 60kg

, UIC60

1m 50kg

20 () 10m

21 () 가 10m

22 ()

1/20 , 2

23 () 60cm

24 ()

25 () 3 50mm

26 () 35cm ()

25cm
27 () 50cm
1:1.8

28 () 10cm

1. 100m

2. 50m

3. 50m

4. 50m

29 () 22.4 ~ 63mm

30 () 가 900kg/m

31 ()

1.

2. 2

3.

32 ()

1. 15/1000

2.

3. 가 30m 20m 가 30m

80m 50m 가 80m

100m

4. 가

5.

100m

6.

7.

$V/2$ (V

) 52m

8.

()

9.

5m

33

()

(

)

1.

0 ~ 40

4

2.

-5 ~ +50

34

()

5

35

()

가

6

1.

(E) :

(1)

2.

(O) :

)

가

(4)

3. (X) : X1
X2

4. (S) : 가
40 km/h 가
10 km/h

36 ()

1. ()가
()
60kg 13mm(15mm)
50kg 12mm(13mm)

2. 5 60kg 6 , 50kg

3. ,
37 ()

1. : : 1 ()
500,000)
: 3 1

2. 가

38 ()

1. : , ,
2. : 2m ,

39 () 가

40 ()

1. 가
2. ,
3. 25 ± 3 , 15 ± 5
4. 1 $100m$, $1,200m$
5. 10 가

41 ()

- 1.
- 2.
3. 가
- 4.

42 ()

1.

가

2.

43 ()

, 3m

44 ()

40mm

45 ()

1.

2.

3. PC

4.

46 ()

1.

2.

3.

5

1

10

2

3

4.

10

2

5.

150mm

47 ()

1. PC 가

1m

2. PC 가

3. PC 가

15

4.

48 ()

1. :

2. : 가 4mm

3. : 가 7mm

4.

200 ±20N .m

5. PC 300 ±20N m

6.

49 ()

50 () 25

1. 1 : 2cm

2. : 5cm

3. : 5cm

51 () 400mm

52 ()

35

53 ()

1. 22.4mm 가 20%

가

2. 가

3. ,

54 ()

1. ,

2. , ,

3. 10km/h

4. 가

5. ,

가

6. ,

7. ,

2

3

55 ()

1.

2. 0.5mm ,

0.3mm

3. 가

56 () 가

< >

	4mm	
	13mm	가
가	10mm	
	가	
	#1	3mm 10mm
	#2	
	가	200 mm
()	#2	#2 가 200 mm

57 ()

1.

50m

2.

58 () F46

가

, 가

59 ()
)

(5

60 ()

1. 가 :

2. 가 :

3. () -X , X S

4. 가 가

61 ()

1. ,

2.

3. , 가

3

62 ()

63 () 가

가

1.

2. 가

3.

64 () 가 가

1.

2.

3.

4.

65 () 가 ,

66 () , 가

67 ()

1.

2.

68 () , ,

69 ()

70 ()

1.

2.

71 ()

1. km m km 1km m 200m ,

2. , 1

72 ()

1.

2. , 1

73 ()

74 ()

75 ()

4m

76 () 1km

77 ()

1. 1km

2. 1km 10m

가 1m

78 ()

79 ()

가

80 ()

1.

2.

3.

4

81 (,)

82 ()

1.

2.

가

3.

4.

5

83 ()

가

가

84 ()

1.

2.

170km/h

3.

85 ()

1.

2.

3.

4.

86 ()

2.0m

170 km/h

87 () 가

가

가

가

1.

2.

3.

88 ()

1.

2. 가

가

(SLP)

170km/h

가

3.

(PSC)

()가

89 ()

170 km/h

90 () , ,

91 ()

92 ()

93 ()

1.

2.

3.

4

가

(CV)

5

4.

가

가

[2]

_____ (7)

1) .

d_p			
d_A	A A		
g_s	3m 3m		
E_d	10m B dB - 1/2(dC+dD)	5m C, D	. $E_d =$

		(mm)		
		(mm)		
		3m	10m	$ d_p - d_A $
(CV) Construction Value		$g_s > 3$	$E_d > 3$	$ d_p - d_A < 3$
(TV) Target Value		$g_s > 3$	$E_d > 4$	$ d_p - d_A < 3$
(WV) Warning Value	- -	$5 < g_s < 6$	$7 < E_d < 9$	$5 < d_p - d_A < 9$
(AV) Action Value	- 7 () - 15 ()	$g_s > 6$	$E_d > 9$	$ d_p - d_A > 9$
(SV) Speed Reduction Value	= 170 km/h	$15 < g_s < 21$	$15 < E_d < 18$	
	< 160 km/h	$g_s > 21$	$E_d > 18$	

2)

E_{\min}		
E_{\max}		
E_{avg}	100m	

		(mm)	(mm)
(CV)		E_{\min} 1433 E_{\max} 1440 1434 E_{avg} 1438	E_{\min} 1434 E_{\max} 1438
(TV)	(L < 100m)	1432 E_{\min} 1432 E_{\max} < 1440 1434 E_{avg} 1440	E_{\min} 1434 E_{\max} 1438
(WV)	WV WV	1430 E_{\min} < 1432 1440 < E_{\max} 1441 1440 < E_{\max} 1445 1433 E_{avg} < 1434 1440 < E_{avg} 1441 1440 < E_{avg} 1445	1432 E_{\min} 1434 1438 E_{\max} 1440
(AV)	3 AV	E_{\min} < 1430 E_{\max} > 1441 E_{\max} > 1445 E_{avg} < 1433 E_{avg} > 1441 E_{avg} > 1445	E_{\min} < 1432 E_{\max} > 1440
(SV)	= 230 km/h	1426 E_{\min} < 1428 1428 E_{avg} < 1431	1430 < E_{\min} < 1432 1440 < E_{\max} < 1455
	= 170 km/h	1422 E_{\min} < 1426 1455 < E_{\max} 1462	1428 < E_{\min} < 1430 1455 < E_{\max} 1465
	< 160 km/h	E_{\min} < 1422 E_{\max} > 1462 E_{avg} < 1428 E_{avg} > 1451	E_{\min} < 1428 E_{\max} > 1465

3)

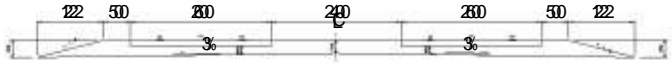



N_{iv}	10m	
N_{st}	30m Peak - Peak	
N_L	200m	

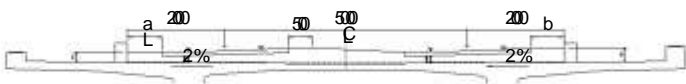
(CV)		N_{iv} 2 N_{st} 5	N_L 0.77	
(TV)	(L<100m) (1)	N_{iv} 3 N_{st} 7	N_L 1.03	
(WV)	- -	5 N_{iv} < 7 7 N_{st} < 8	N_L 1.54	
(AV)	1	N_{iv} 13 N_{st} 13		
(SV)	= 230 km/h	15 N_{iv} < 18 24 N_{st} < 30		
	= 170 km/h	18 N_{iv} < 22 N_{st} 30		
	< 160 km/h	N_{iv} 22		

4)

D_{res}	10m	
D_{sil}	30m	
D	200m	
ATc	가	가
ATb	가	가

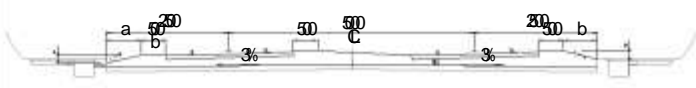
		(mm)		가 (m/s^2)
(CV)		D_{res} 3 D_{sil} 6	D 1.14	ATc 0.8 ATb 2.5 (2)
(TV)		D_{res} 4 D_{sil} 7	D 1.31	ATc 1.0 ATb 3.5 (2)
(WV)	- : -	D_{res} 7 D_{sil} 8	D 1.88	1.0 < ATc 2.5 3.5 < ATb 6.0
(AV)	-15 () -1 ()	$D_{res} > 7$ $D_{sil} > 10$		ATc > 2.5 ATb > 6.0
(SV)				
	= 230 km/h	12 D_{res} 14 20 D_{sil} 24		2.8 ATc 3.0 8.0 ATb 10.0
	= 170 km/h	14 D_{res} 17 D_{sil} 24		ATc 3.0 ATb 10.0
	160 km/h	D_{res} 17		

(PP)	
	 <p>C/G C/1,500 mm H1(mm) 631 - 0.388C, H2(mm) 1.797C+679</p>
(PR)	
	 <p>C/G C/1,500 mm H1(mm) 734 - 0.705C, H2(mm) 1.762C+783</p>



C/G C/1,500 mm H1(mm) 554 - 0.367C, H2(mm) 1.833C+510,

a, b=



H1, H2, a, b=

[4]

_____ (33 1)

t. :

		가	
		-	0 ~ 40
	-	(1,200m)	(t-25) ~ (t+15)
	-	(1,200m)	(t-25) ~ (t+10)
	-	(1,200m)	(t- 25) ~ (t+5)
	-	(1,200m)	(t- 25) ~ (t+0)
			5 ~ 35
			10 ~ 25

		(DTS)		
	20 mm		170km/h	-
			-	-
	20 ~ 50 mm		5,000ton	24
			-	-
	50 mm		20,000ton	48
			5,000ton	-
	15 mm		-	-
			-	-
	15 ~ 20mm		5,000ton	24
			-	-
	20 mm		20,000ton	48
			5,000ton	-

- 1) 170 km/h
24 100km/h
170 km/h
- 2) 가
40km/h 100 km/h
170 km/h
- 3) 가 45 100 km/h
170 km/h

Serial No	Check Item		/ Acceptable Criteria		Class
1	Rail head	Transversal Crack	Crack height	Crack depth D	-
			5 mm	-	
			5 mm	D 15 mm	o
				15 D 25 mm	X ₁
D 25 mm	X ₂				
2	#	() Horizontal Crack (without Railend)	Crack length L		-
			L 100 mm		o
			100 L 200 mm		X ₁
			L 200 mm		X ₂
3	#	Horizontal Crackwith Transversal Component	Crack height	Crack depth D	-
			5 mm	-	
			5 mm	D 15 mm	o
				15 D 25 mm	X ₁
D 25 mm	X ₂				

Serial No	Check Item		Acceptable Criteria		Class
4	Rail head	Longitudinal Vertical Crack	Crack length L		-
			L 50 mm		
			50	L 100 mm	o
			L 100 mm		X ₁
5	Welded Section	Flash - butt Welded Transversal Crack	Crack height	Crack depth D	-
			5 mm	-	
			5 mm	D 15 mm	o
				15 D 25 mm	X ₁
				D 25 mm	X ₂
6	#	Thermit Welded Horizontal Crack of the Web	Crack length L		-
			L 100 mm		o
			100	L 200 mm	X ₁
			L 200 mm		X ₂

) o :

X₁ : 1 가

X₂ : 10 가

_____ : _____ : _____

_____ : _____ : _____ , KTX , _____ , _____

()

가

_____ : _____ () _____ : _____ ()

1. 00 ~ 00 , 00 , 00 .
2. (2) .
3. : .(WV : , AV : ,)
SV :)
4. 가 .

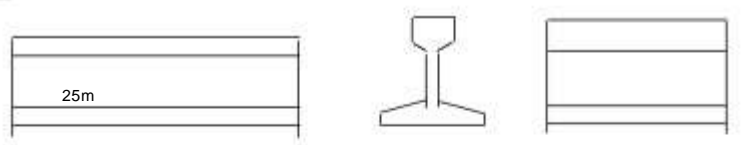

1. _____ .
2. _____ 가 _____ .
3. _____ , (50m) , (50m) _____ .
4. 00 ~ 00 , 00 , 00 _____ .
5. _____ (3) _____ .
6. _____ 가 가 _____ .

_____ : _____ :
_____ : _____ :

_____ : () _____ : ()

1. _____ .(가 2)
2. 00 ~ 00 , 00 , 00 .
3. DTS , (" ")
4. .
5. 가 .

_____ : _____ : km _____ : , , _____ :

						
: () UIC 60 LD 			19 : _____ :			
					()	()
1						
2						
3						
4						

(7f)

- 1.
- 2.

