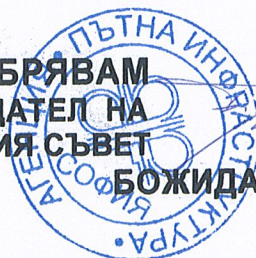




РЕПУБЛИКА БЪЛГАРИЯ
МИНИСТЕРСТВО НА РЕГИОНАЛНОТО РАЗВИТИЕ И БЛАГОУСТРОЙСТВОТО

АГЕНЦИЯ „ПЪТНА ИНФРАСТРУКТУРА”

ОДОБРЯВАМ
ПРЕДСЕДАТЕЛ НА
УПРАВИТЕЛНИЯ СЪВЕТ
БОЖИДАР ЙОТОВ



ТЕХНИЧЕСКИ ПРАВИЛА
за приложение на ограничителни
системи за пътища по Републиканската
пътна мрежа

СЪСТАВИЛ:

(н.с.инж. Николай Стоянов)

ДИРЕКТОР
на ЦИПТНЕНС:

(н.с.инж. Веселин Димитров)



2010 г.

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пътища от 1994 г.

1.	2
1.1	2
1.2	2
1.3	3
1.4	5
2.	6
2.1	6
2.2	6
2.3	7
2.4	7
2.5	8
2.6	9
2.7	9
2.8	9
3.	10
3.1	10
3.2	10
3.3	11
3.3.1	11
3.3.1.1	12
3.3.1.2	14
3.3.1.3	15
3.3.1.4	16
3.3.1.5	20
3.3.2	21
3.3.3	22
3.3.4	23
3.4	23
3.4.1	23
3.4.1.1	24
3.4.1.2	24
3.4.2	26
3.4.3	26
3.4.4	27
3.5	27
3.5.1	27
3.5.1.1	28
3.5.1.2	28
3.5.1.3	28
3.5.1.4	28
3.5.2	28
3.5.3	28
3.5.4	29
3.6	30
3.6.1	30
3.6.1.1	30
3.6.1.2	30
3.6.1.3	31
3.6.2	31
3.7	31
3.7.1	31
3.7.2	32
3.7.3	32
3.7.4	32
4.	33

:

EN 1317

1.

1.1

EN 1317

-
-
-
-
-
-
-

1.2

EN 1317-1:2010, 1:
EN 1317-2:2010, 2:
EN 1317-3:2010, 3:
ENV 1317-4, 4:
prEN 1317-4, 4:
(: ENV 1317-4:2001
EN 1317-5, 5:
prEN 1317-6, 6:
();

prEN 1317-8,

8:

().

5

2004 .

1.3

.1.2

1.3.1

1.3.2

1.3.3

1.3.3.1

1.3.3.2

1.3.4

1.3.5

1.3.6

1.3.7

1.3.8

1.3.9

1.3.10

ENV 1317-4.

1.3.11

(VI), (W)

EN 1317-2.

1.3.12

1.3.13

1.3.14

EN 1317.

1.3.15

EN 1317-3,

ENV 1317-4.

1.3.16

EN 1317-2.

1.3.17

1.3.18

1.3.18.1

■

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■

EN 1317-2.

EN 1317

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(

$$).$$

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2.
2.1

EN 1317 „ ”.

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(), , -
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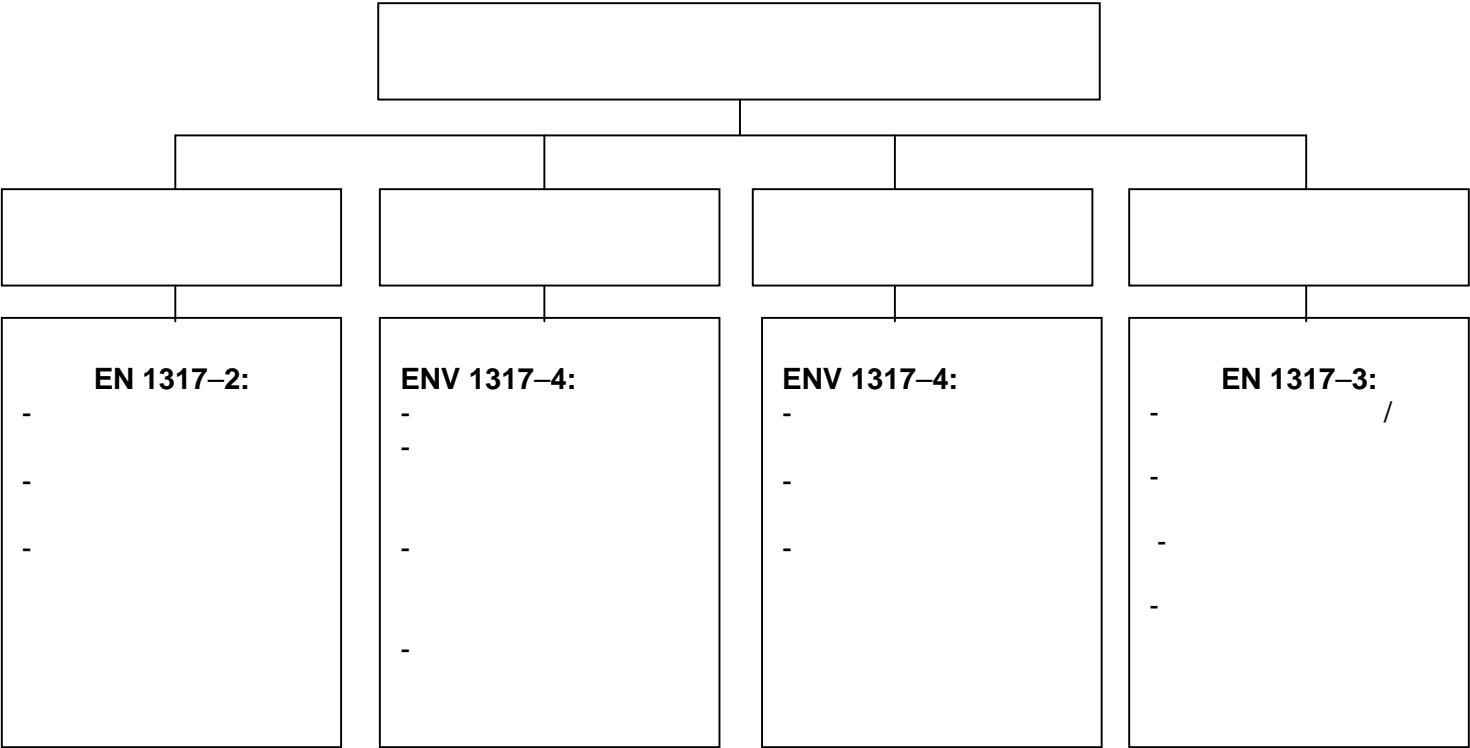
,

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EN 1317.
EN 1317 (1).

1

EN 1317



2.2

EN 1317-2

- ;
- ;
- .

3

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3

EN 1317-2).

3

2.3

ENV 1317-4

1.

1

	N2	H1	H2	H4b
N2	N2	N2	H1	H2
H1	N2	H1	H1	H2
H2	H1	H1	H2	H2
H4b	H2	H2	H2	H4b

2.4

D8,

Z4.

2.6

7,5 cm.

2.7

EN 1317.

(EN 1317-2 4.),

2.8

. 2.7.

3.

3.1

-

-

-

-

-

-

-

-

-

-

-

-

-

-

3.2

-

EN 12767

- , - 1,5
- . :
- - 5
- , - „ „
- - ,

3.3

- - : , 130 km/h,
- - : , 30
- , > 500
- - : ,
- V- : ,

> 1 > 1:3, > 3 > 1:3,

> 76,0 mm > 76,1 mm > 3,0 mm > 2,9 mm

V-

> 1:3 V-

3.3.1

，
，
3.3.
1
3.3.1.1
3.3.1.2;
3.3.1.3;
3.3.1.4.
3.3.2
3.3.3,
3.3.4.
2 4,
7.

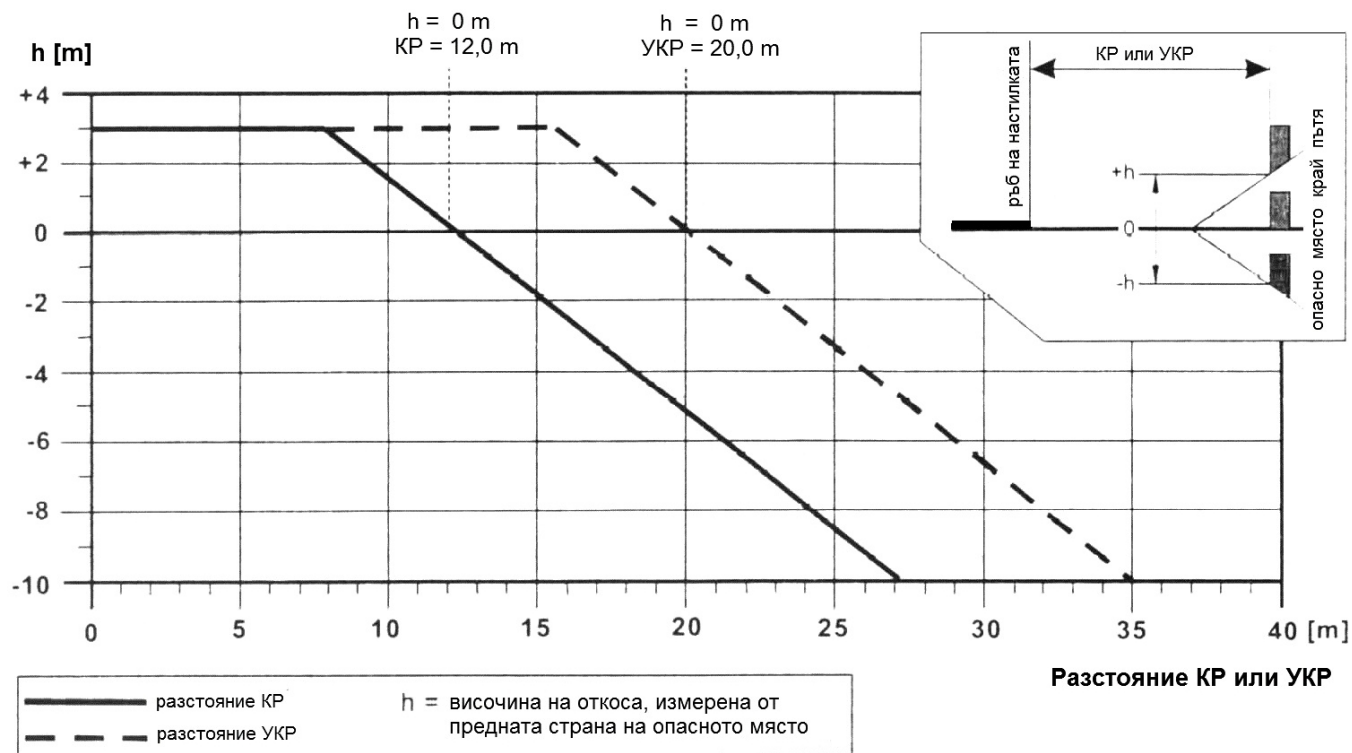
3.3.1.1

，
，
V-
V
：
2, $V > 100$ / ,
3, $V \leq 100$ / ;
4, $V \quad 80 \quad / \quad 100 \quad /$;
 $V \quad 60 \quad / \quad 70 \quad /$.
V
85 % $V \quad (V_{85})$.
(. 5).
7 (. 3.3.1.2).

2

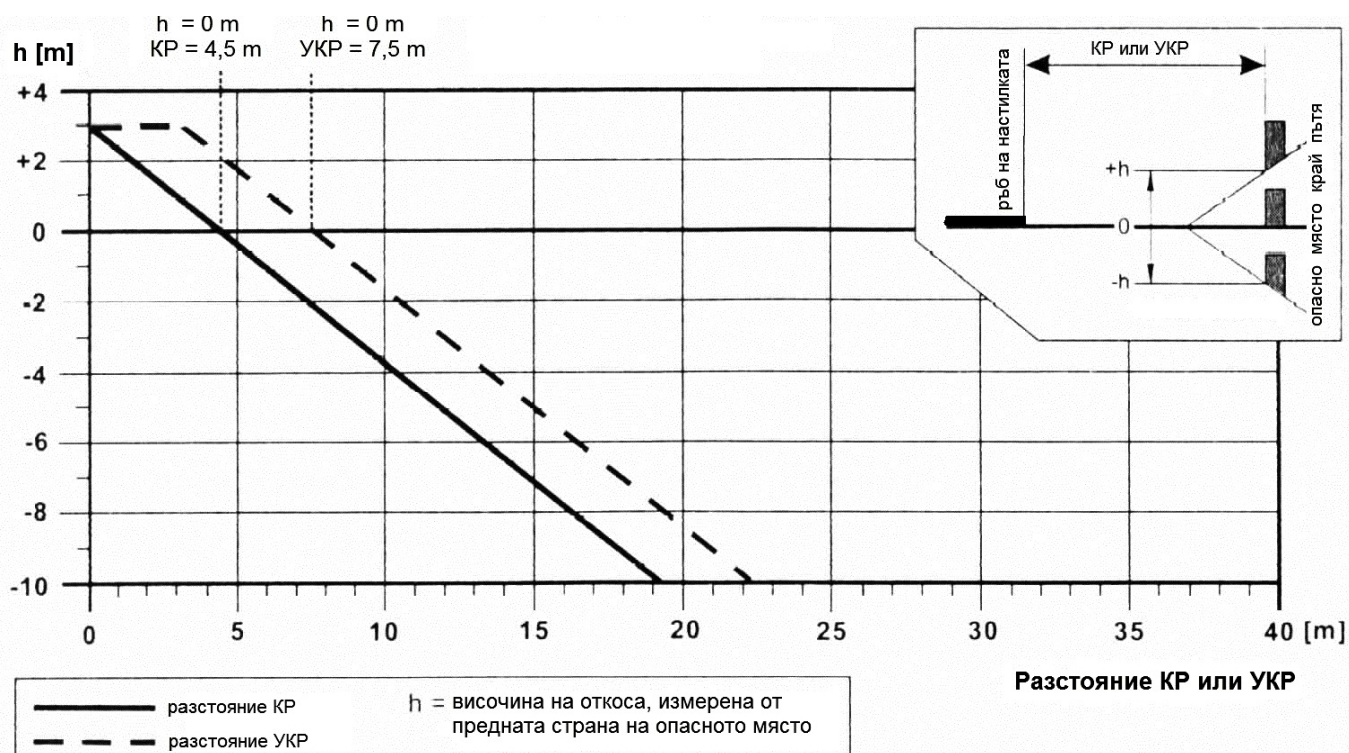
$$V > 100 /$$

$$V \leq 100 /$$

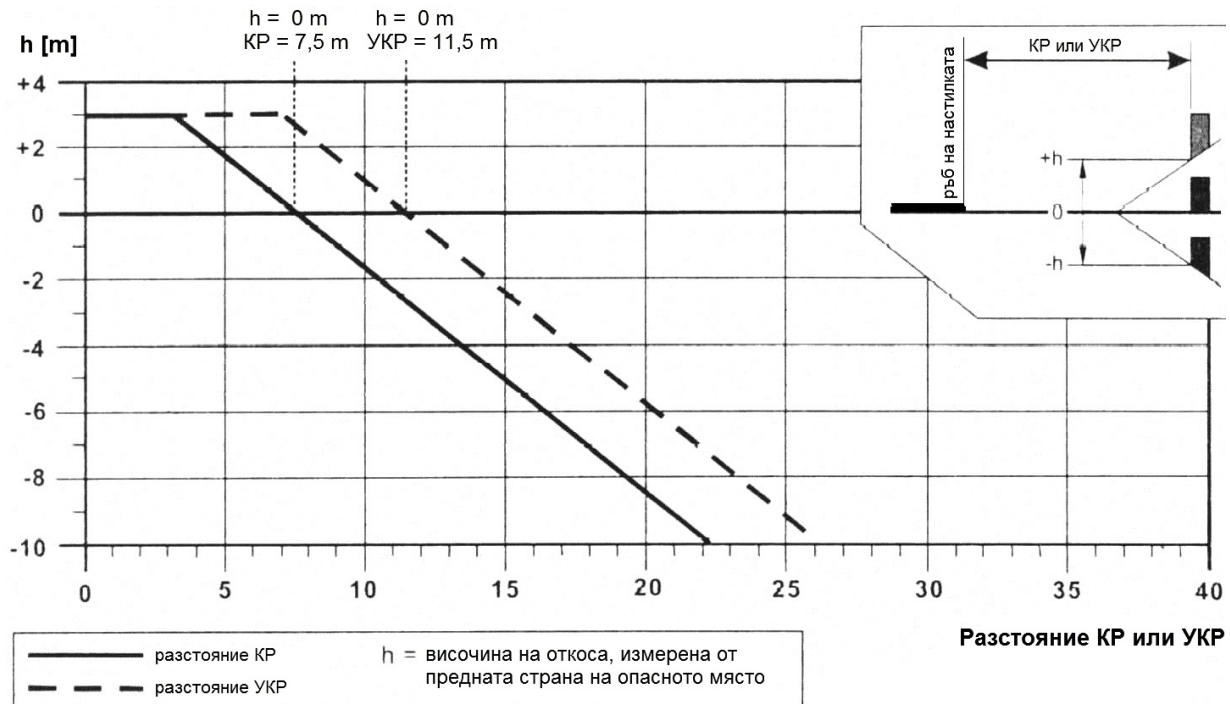


3

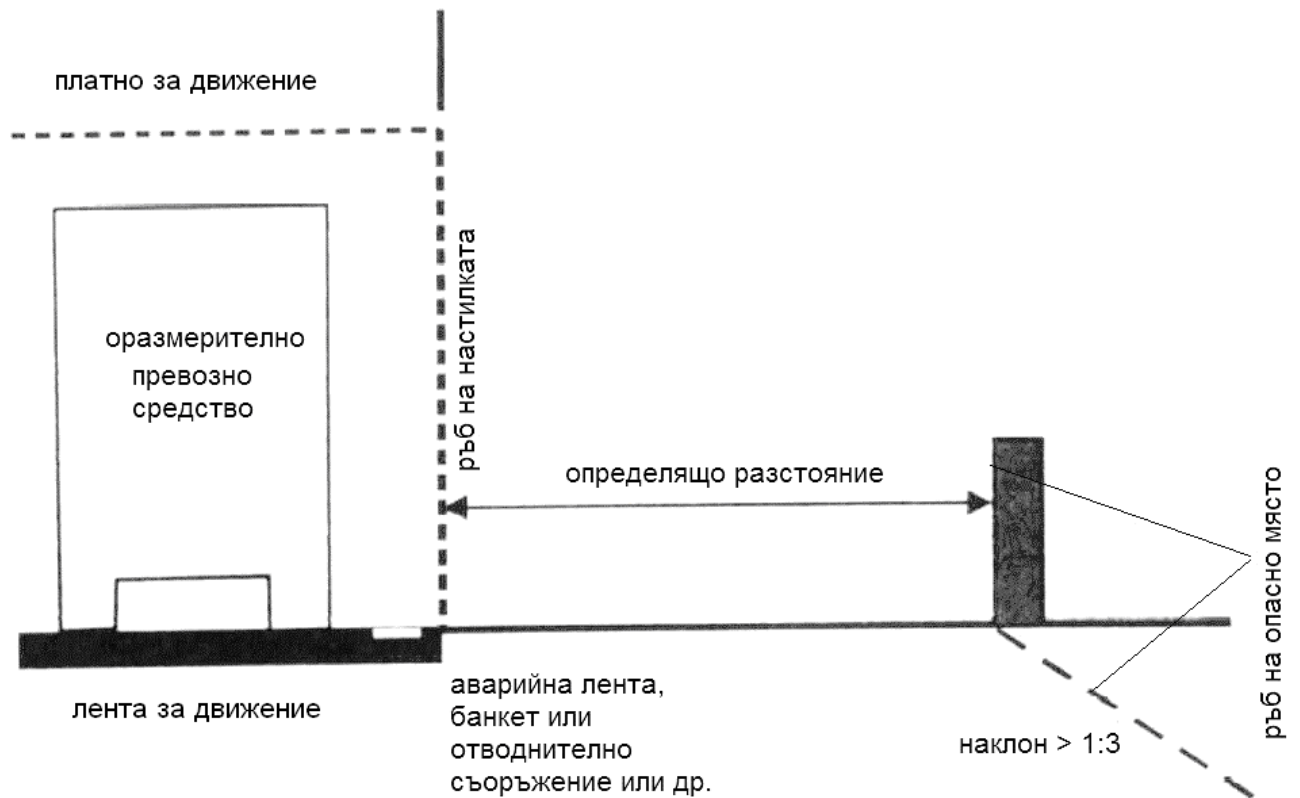
$$V = 80 / 100 /$$



$$V = 60 / 70 / 4$$



5



3.3.1.2

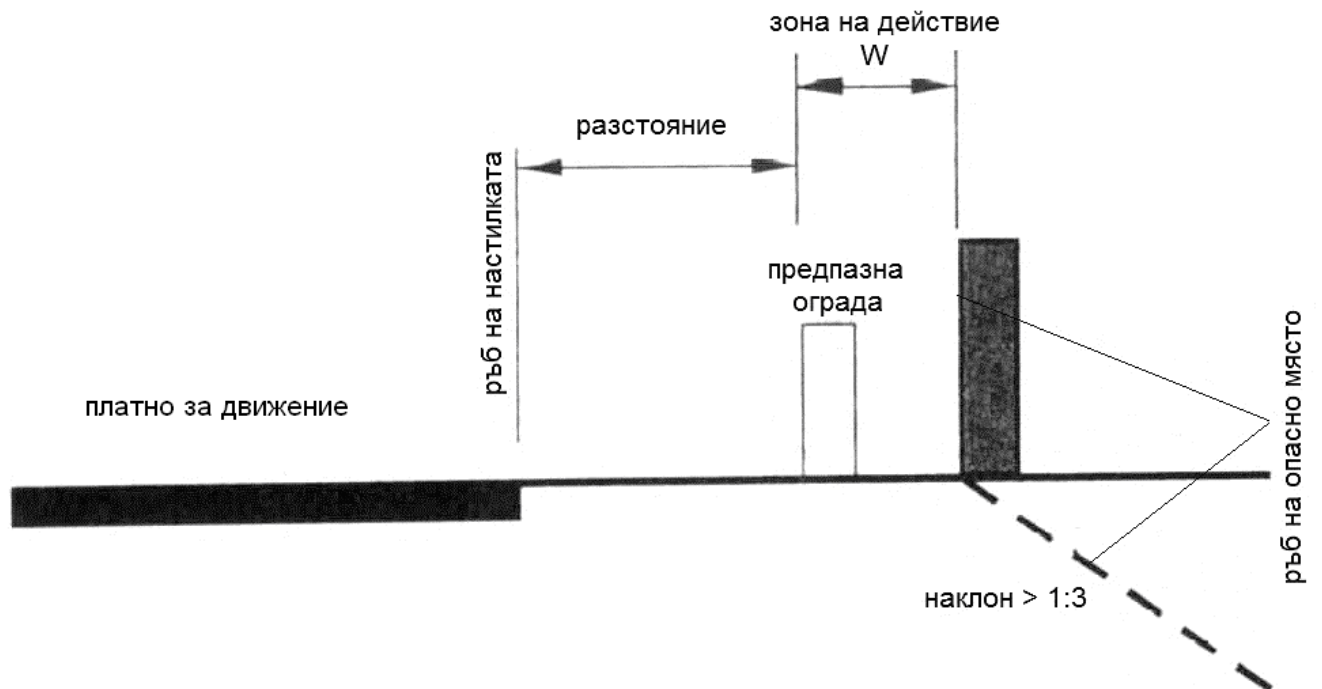
7. ,
7,
EN 1317-2:2010, 4.
4

	T1			21
	T2			22
	T3			41 21
	N1			31
	N2			32 11
	H1			42 11
	L1			42 32 11
	H2			51 11
	L2			51 32 11
	H3			61 11
	L3			61 32 11
	H4a			71 11
	H4b			81 11
	L4a			71 32 11
	L4b			81 32 11

3.3.1.3

(W) -
() (, 6) 5.
0,5 m. -
,
-
,
1,0 m 1,5 m . - ,
() ,
7, , -
- W7 W6.
- , -
EN 1317-2 ,

6



5

	m
<i>W1</i>	$W_1 \leq 0,6$
<i>W2</i>	$W_2 \leq 0,8$
<i>W3</i>	$W_3 \leq 1,0$
<i>W4</i>	$W_4 \leq 1,3$
<i>W5</i>	$W_5 \leq 1,7$
<i>W6</i>	$W_6 \leq 2,1$
<i>W7</i>	$W_7 \leq 2,5$
<i>W8</i>	$W_8 \leq 3,5$
:	<i>W1.</i>

3.3.1.4

1. L_1 –
EN 1317-2

2. L_2 –

8 8).

- L_2 . -
 $\frac{1}{2} L_2$, -
 $\frac{1}{2} L_2$ /
 L_2 .
 $\frac{2}{2} \frac{1}{2} L_2$, **H4b**
 $\frac{1}{2} L_2$ ($\frac{8}{8}$).
(, $\frac{2.3}{L_1}$.
 L_2 , **30 m** ($\frac{8}{8}$). -
- , $\frac{1}{2} L_2$, **5m** ,
 $\frac{1}{2} L_2$ **5m** ,
N2 **2** **N2** .
- ,
 L_2 () **40 m** , **40 m** ,
40 m .
- ,
 L_2 **1:20** (**1:12**) ,
6 .
, **10 m** , **10 m**
9 .
6 .
9 .
- **1:20** (**1:12**) ,
 L_2 **6** . ,
15 m **30 m** . **15 m**
- **9** . **6** .
9 .
1:20 ,
- **1:12** .

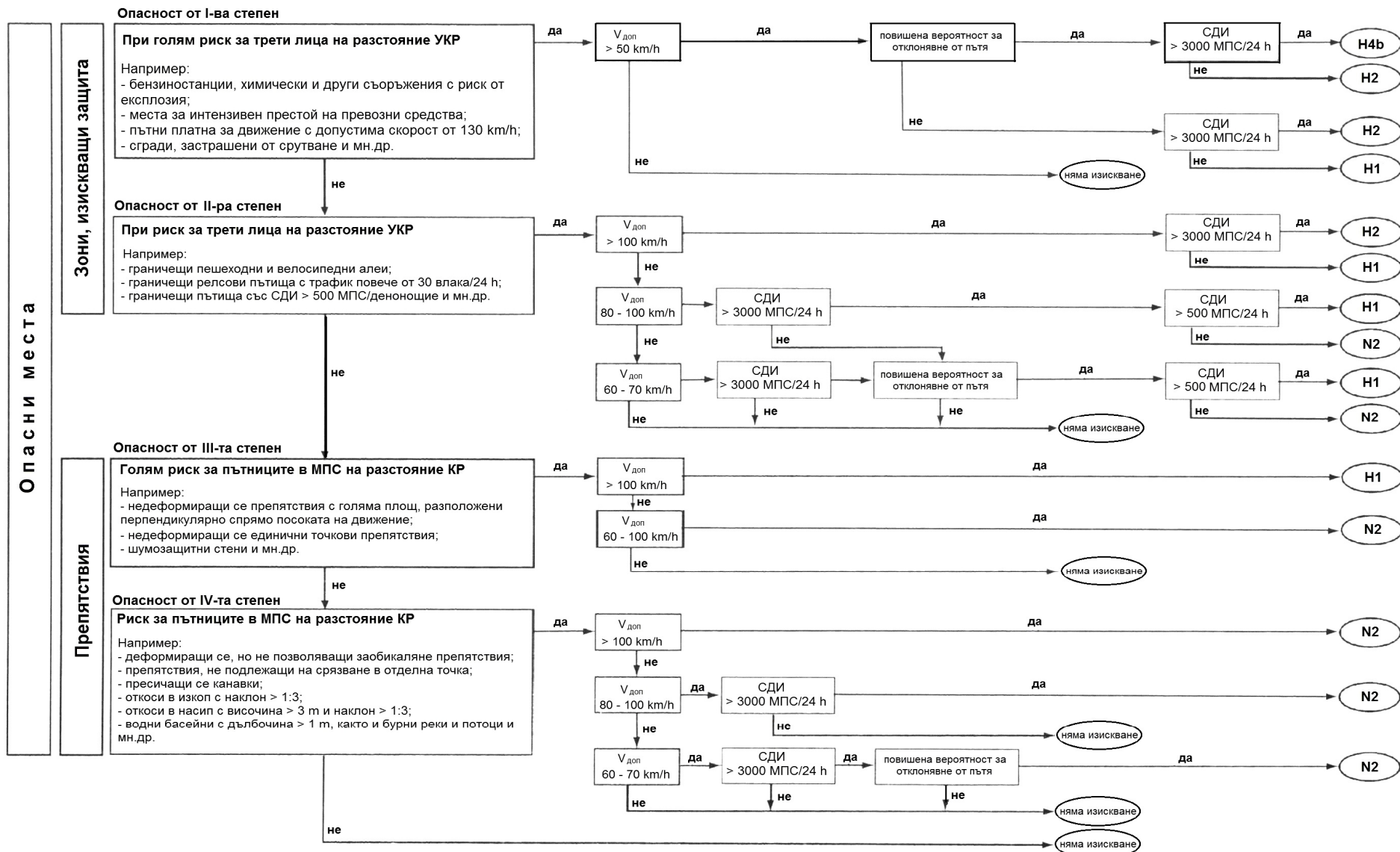
6

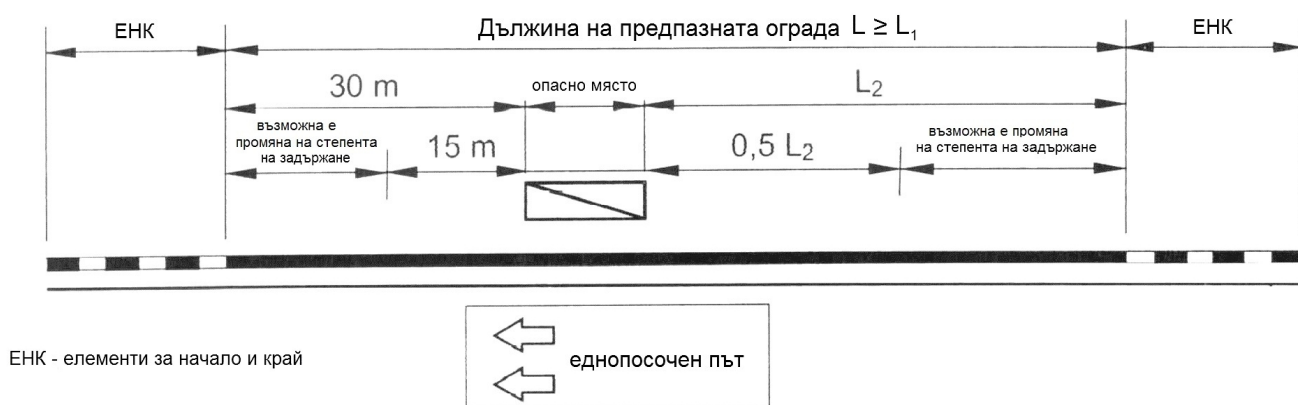
L_2

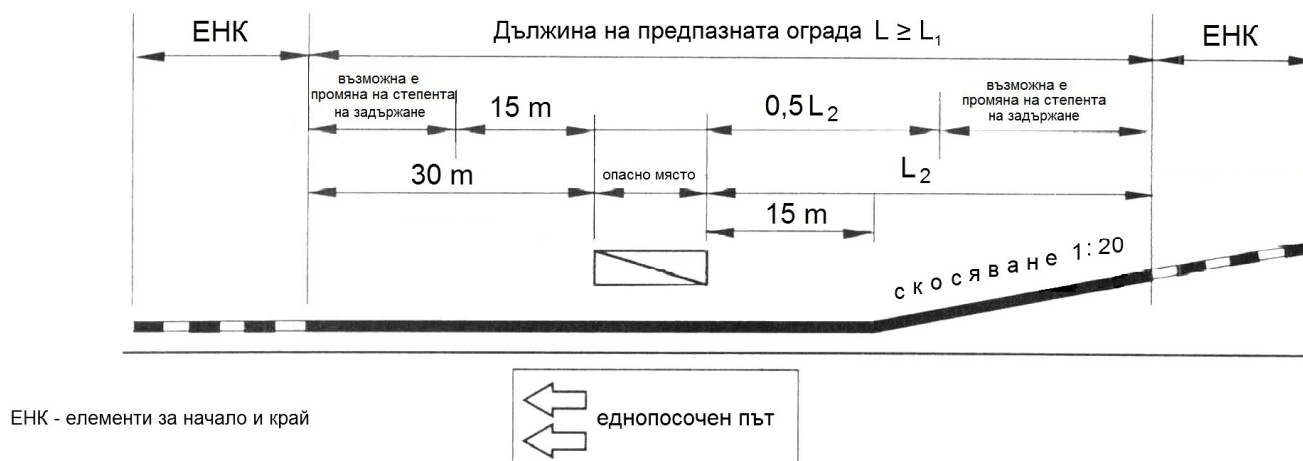
, 1,5 m		$L_2 = 100 \text{ m}$	
		$L_2 = 140 \text{ m}$	
		$L_2 = 80 \text{ m}$	$L_2 = 60 \text{ m}$
		$L_2 = 100 \text{ m}$	$L_2 = 60 \text{ m}$

L_2

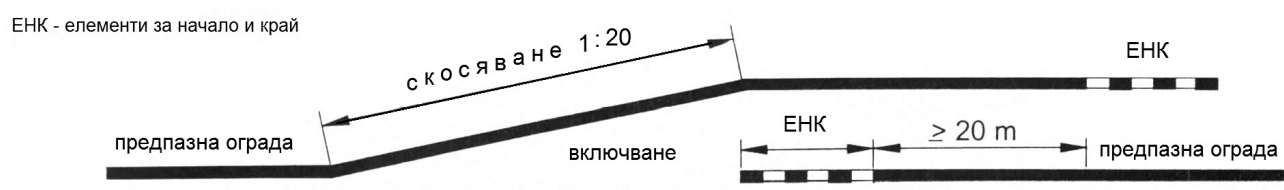
L

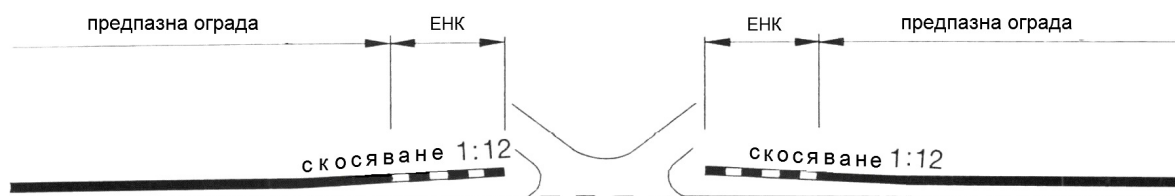




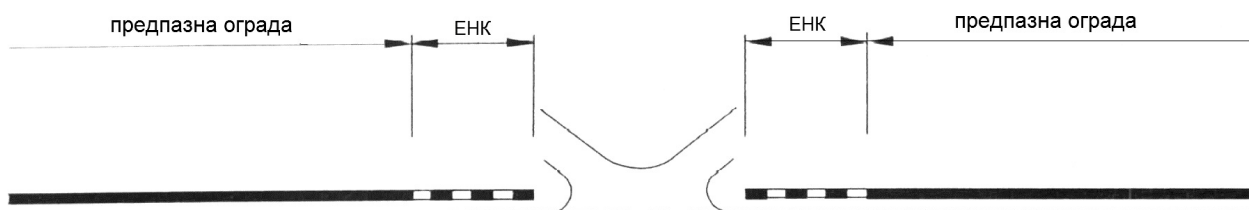


3.3.1.5



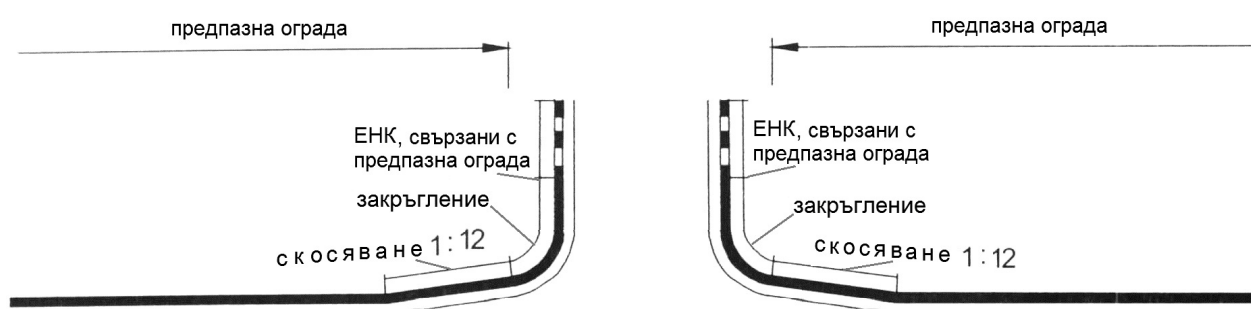


11

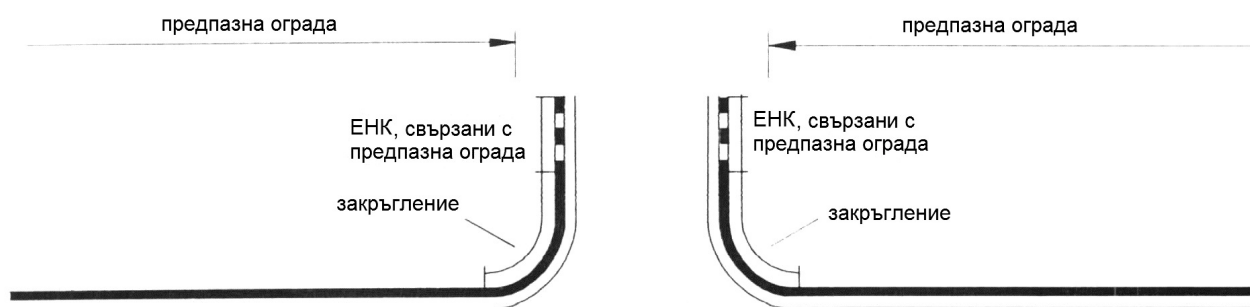


11

1:12



11



3.3.2

/ ,

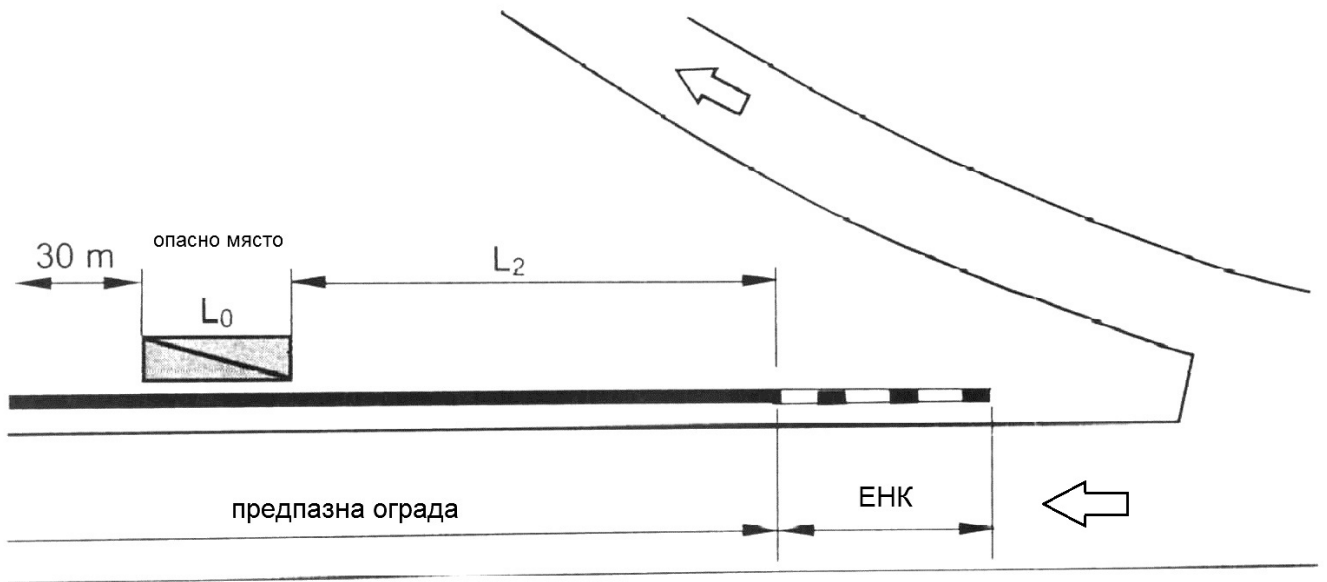
2.3.

3.3.3

— (12). 500

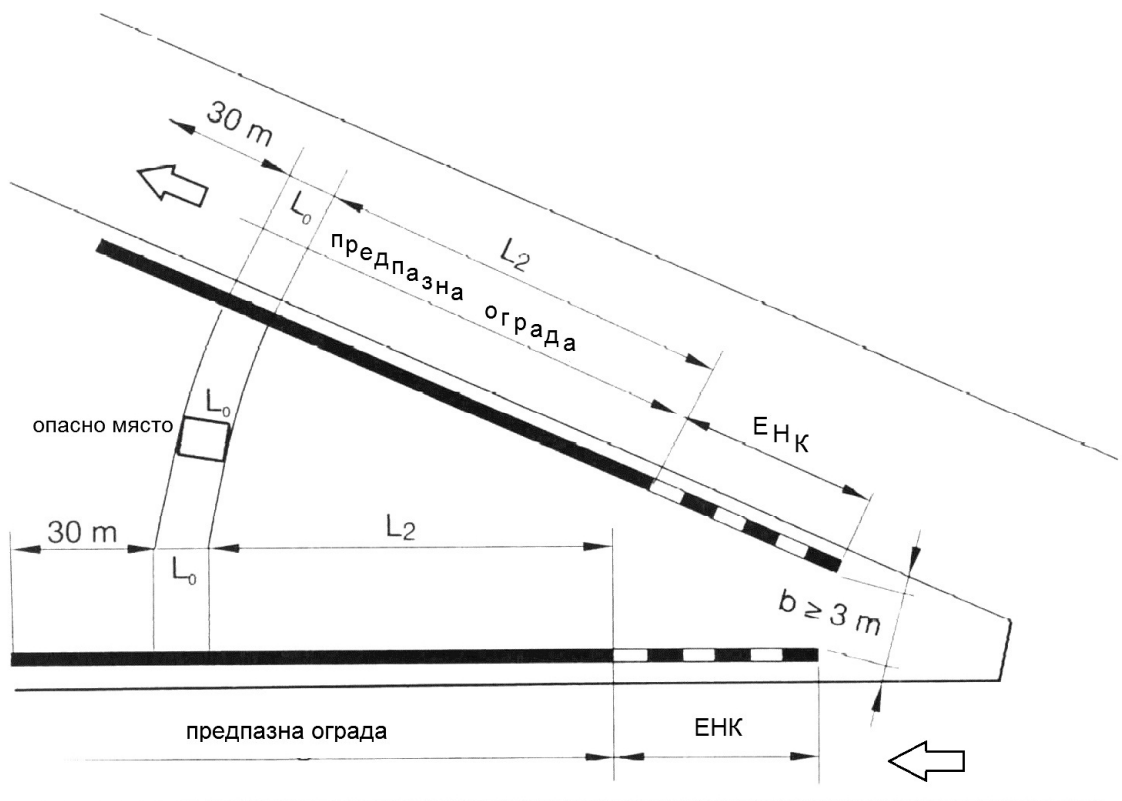
2.4.

12



- 3 m (13).

13



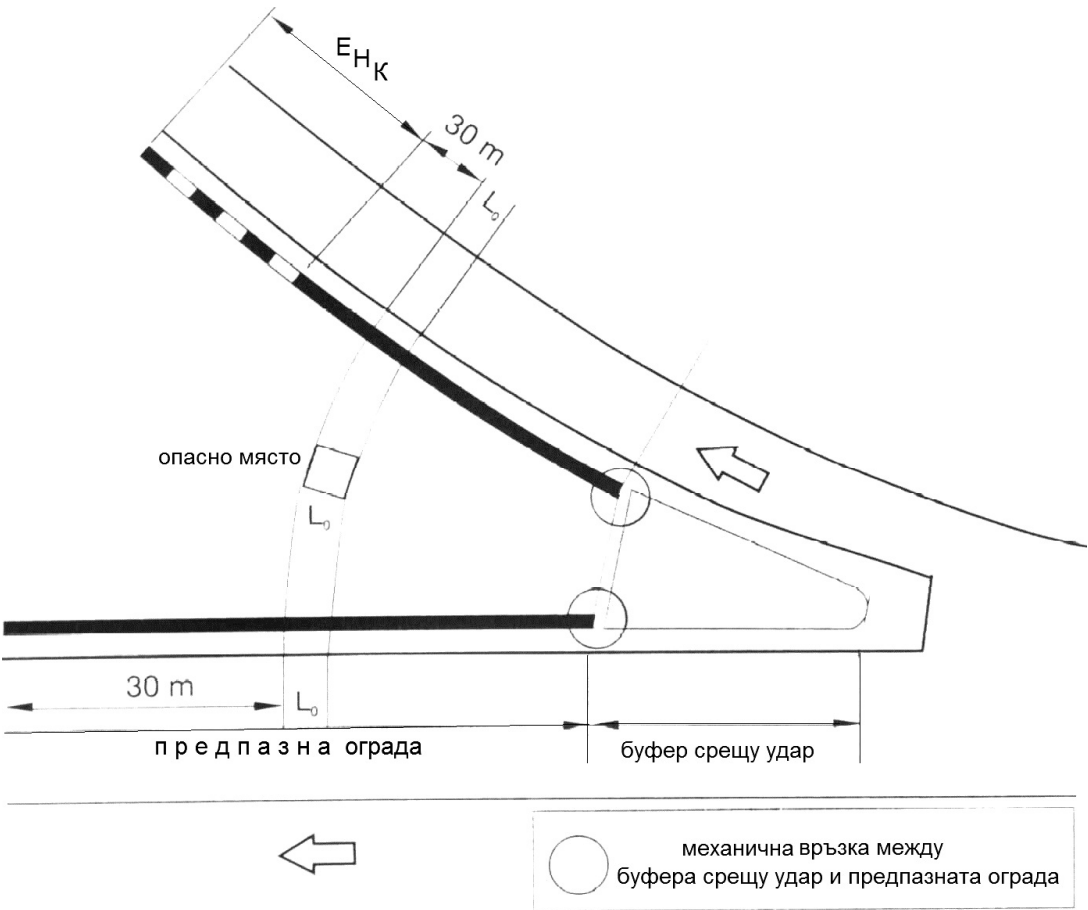
3.3.4

(3.3.1.1 14)

L₂

2.5.

14



3.4

3.4.1

V > 50 km/h

(3.4.1.1).

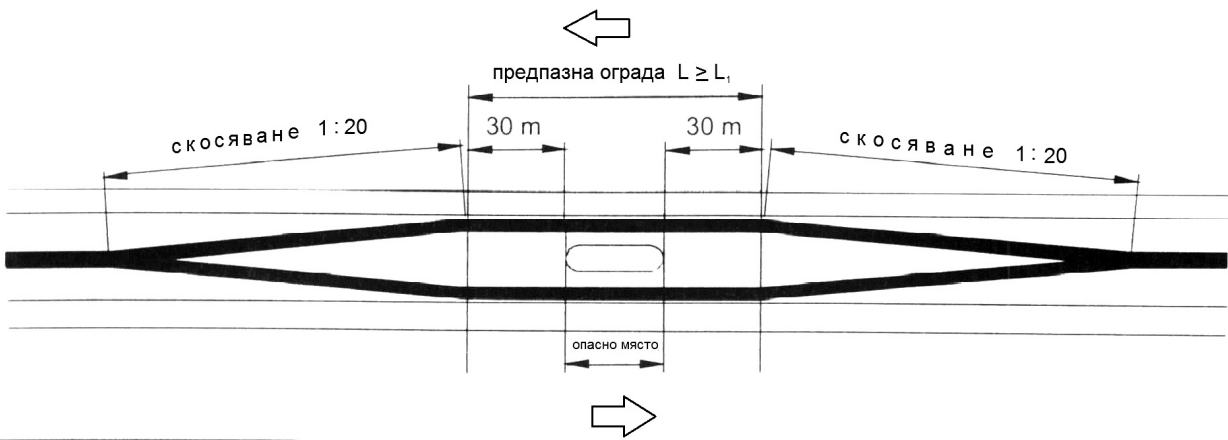
1:20.

$\geq 1:10$,

(3.4.2)

(3.4.3),
(3.4.4).

15



3.4.1.1

$V > 50 \text{ km/h}$

2.

> 3000

H4b.

$V > 50 \text{ km/h}$

1.

> 3000

H4b.

3.2.

3.4.1.2

W

(16 16).

W

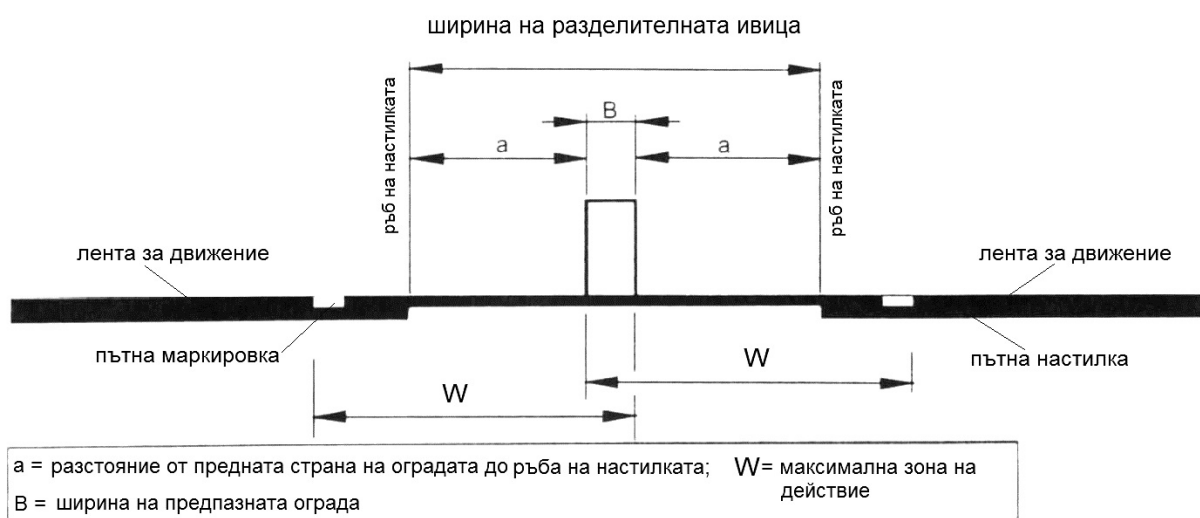
W

3.3.1.3.

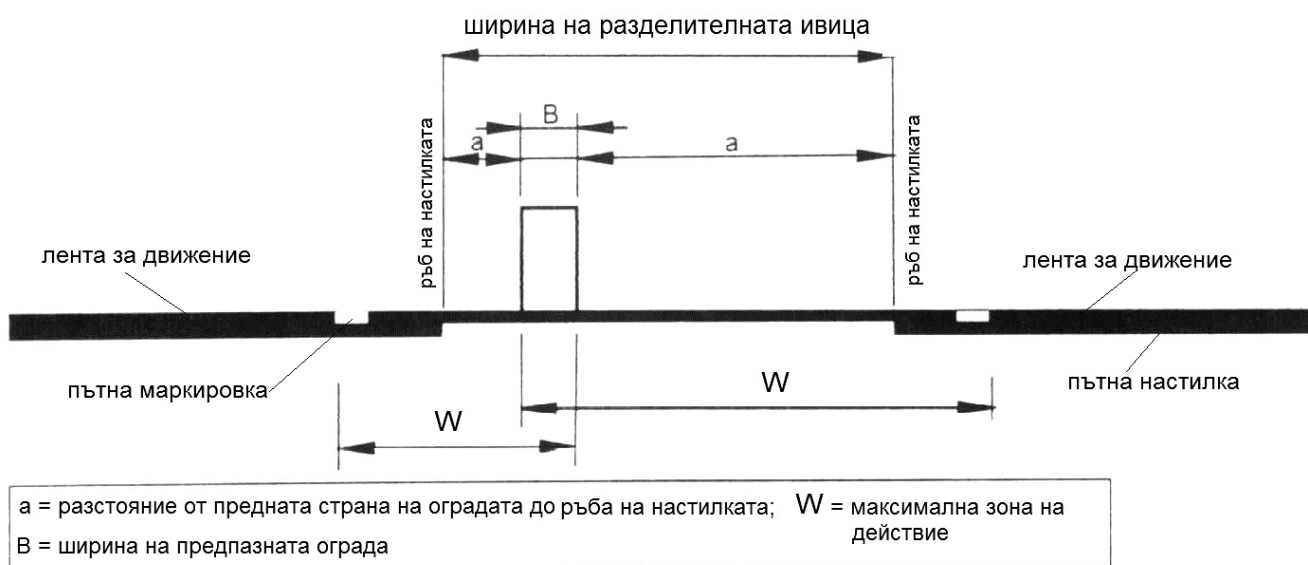
(6), 0,5 m.

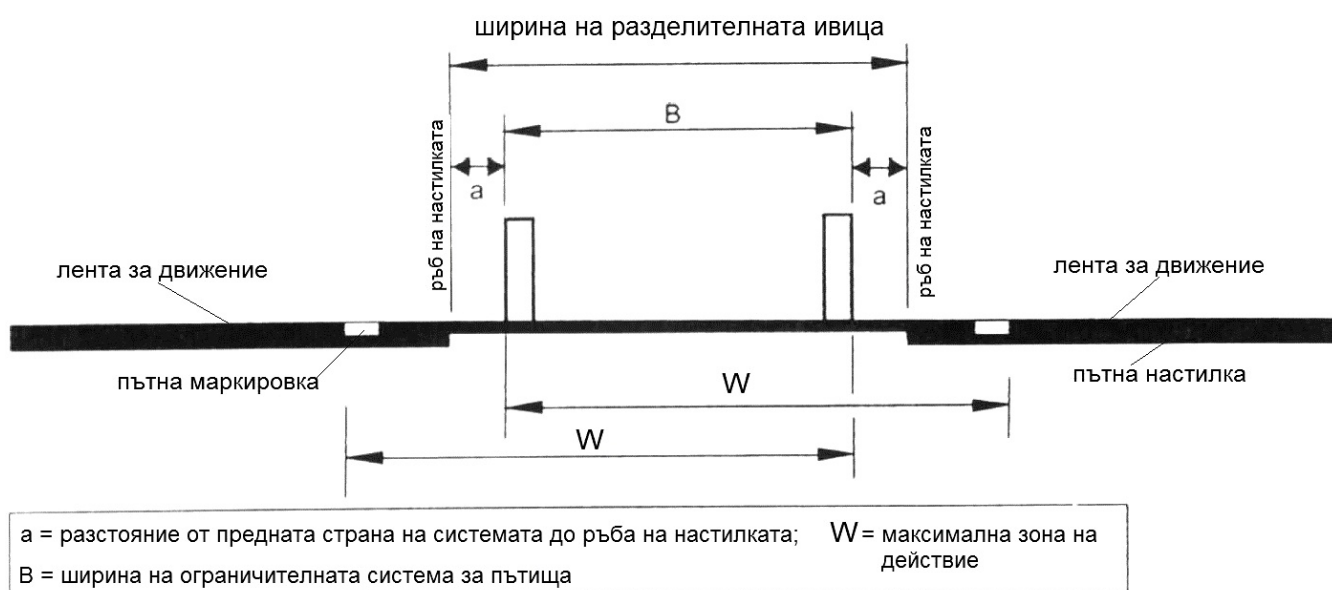
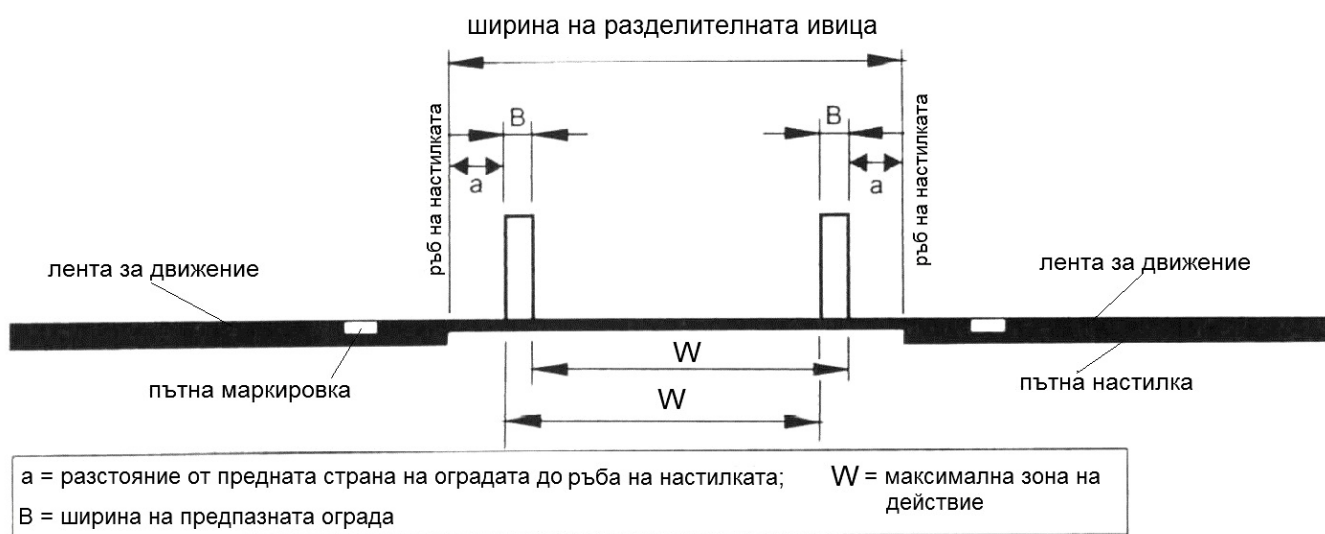
EN 1317-2,

16



16





3.4.2

2.3.

3.4.3

2.4.
3.3.1.4 L_2 (17).



3.4.4

3.3.1.4

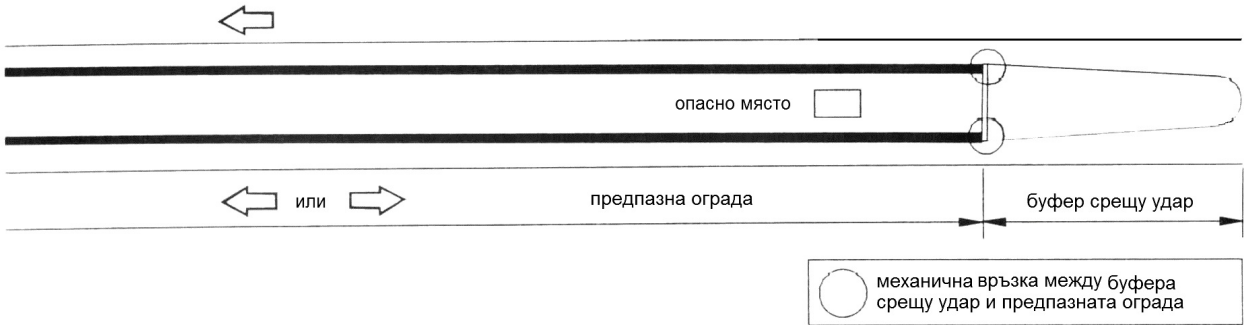
L_2

2.5. (18).

60 km/h, 50 m

(2.5).

18



3.5

2 m.

3.3.

3.5.1

H1 N2,

3.5.1.1

7.

- 10 m

3.3.1.2.

7

	V > 100 km/h	V 100 km/h > 500	V 100 km/h 500	V 50 km/h
-	H4b	H2	H2	H1
V-	H2	H2	H1	

3.5.1.2

1317-2.

3.5.1.3

. 3.3.1.4.

L₂

/

(19).

/

(3.3.1.4. ; 19).

2.3.

3.5.1.4

3.5.2

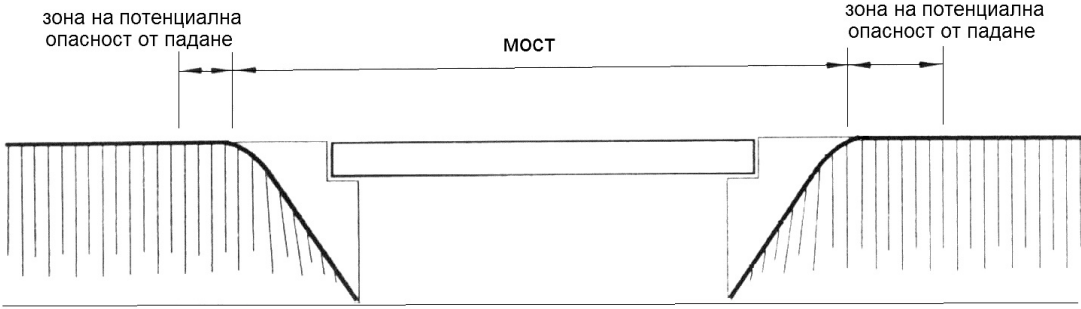
/

2.3.

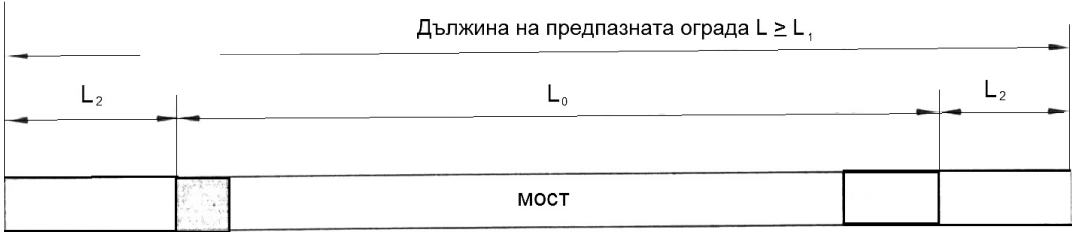
3.5.3

2.4.

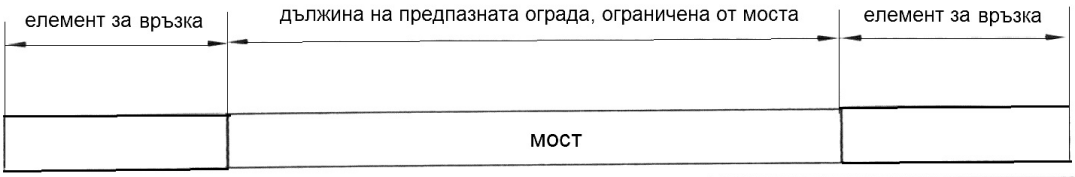
(, 20).
2.5.



Случай а/: предпазна ограда върху мост



Случай б/: предпазна ограда върху мост с елемент за връзка





3.6

3.6.1

H1 N2,

3.6.1.1

- 1,5 m,
 3.4.1.1 (1,5 m,).
 1,5 m /
 1,5 m,
 3.5.1.1.

3.6.1.2

- 0,1 m
 3.4.1.2. (0,1 m,
).
 0,1 m /

0,1 m,
3.5.1.2.

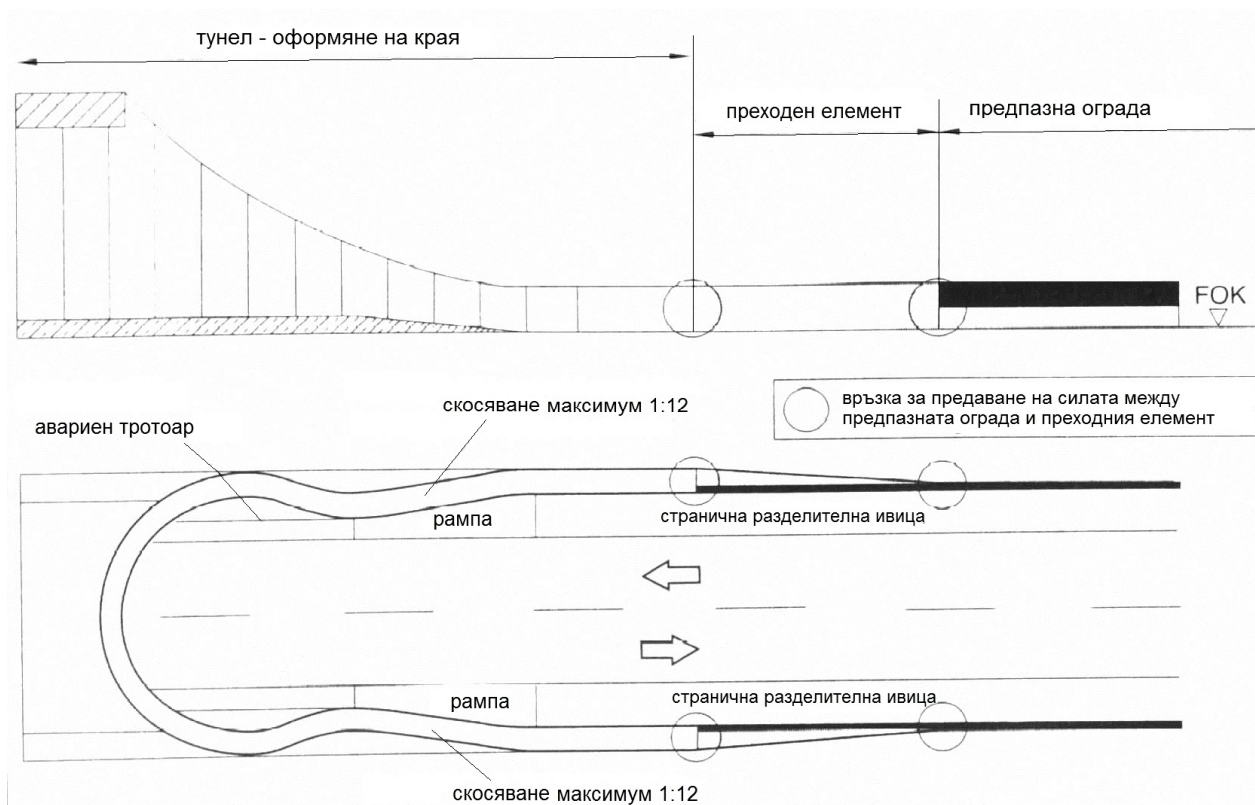
0,1m

3.6.1.3

3.6.2

. 2.3

21



3.7

3.7.1

- 4 m
0,1 m,

0,1 m

4 m,

3.3.1.2),

3.3

7

(), ()

3.3.1.3.

3.3.1.4.

3.7.2

2.3.

3.7.3

2.4.

3.7.4

.

2.5.

EN 1317**1****– N 1317-2:2010**

	km/h	°	kg	
11	100	20	900	
21	80	8	1 300	
22	80	15	1 300	
31	80	20	1 500	
32	110	20	1 500	
41	70	8	10 000	
42	70	15	10 000	
51	70	20	13 000	
61	80	20	16 000	
71	65	20	30 000	
81	65	20	38 000	

2**– EN 1317-2:2010**

A	ASI ≤ 1,0		THIV ≤ 33 km/h
B	ASI ≤ 1,4		
	ASI ≤ 1,9		

3**– EN 1317-2:2010**

		ASI – THIV	(VCDI)	
1	21	21	21	21
2	22	22	22	22
3	41 + 21	21	21	41
N1	31	31	31	31
N2	32 + 11	32 + 11)	32 + 11	32 + 11
H1	42 + 11	11	11	42 + 11
H2	51 + 11	11	11	51 + 11
H3	61 + 11	11	11	61 + 11
H4a	71 + 11	11	11	71 + 11
H4b	81 + 11	11	11	81 + 11
L1	42 + 32 + 11	32 + 11)	32 + 11	42 + 32 + 11
L2	51 + 32 + 11	32 + 11)	32 + 11	51 + 32 + 11
L3	61 + 32 + 11	32 + 11)	32 + 11	61 + 32 + 11
L4a	71 + 32 + 11	32 + 11)	32 + 11	71 + 32 + 11
L4b	81 + 32 + 11	32 + 11)	32 + 11	81 + 32 + 11
: VCDI				
EN 1317-1.				

– EN 1317-2:2010

	m	B m
	2,2	10
	4,4	20

– EN 1317-3:2010

a)		[kg]	[km/h]
1.1.50	,	900	50
1.1.80		900	80
1.1.100		900	100
1.2.80		1300	80
1.2.100			100
1.3.110		1500	110
2.1.80	, ¼	900 ^{b)}	80
2.1.100			100
3.2.80	, 15°	1300	80
3.2.100		1300	100
3.3.110		1500	110
4.2.50	, 15°	1300	50
4.2.80		1300	80
4.2.100		1300	100
4.3.110		1500	110
5.2.80	, 165°	1300	80
5.2.100		1300	100
5.3.110		1500	110
a)	: 1 2 80		
b)	ATD () -		

(Za Zd) –

ENV 1317-4

Z		
	Za [m]	Zd [m]
Z1	4	4
Z2	6	6
Z3	4	
Z4	6	

(Da Dd)
EN 1317-3:2010

()		
	Da [m]	Dd [m]
D1	0,5	0,5
D2	1,0	1,0
D3	2,0	2,0
D4	3,0	3,0
D5	0,5	≥ 0,5 3
D6	1,0	≥ 1,0 3
D7	2,0	≥ 2,0 3
D8	3,0	≥ 3,0 3

– **ENV 1317-4**

	e -					
				[kg]	[km/h]	
1			, ¼	900 kg	80	TT 2.1.80
P2	A	U	, ¼	900 kg	80	TT 2.1.80
			15°, 2/3 L	1300 kg	80	TT 4.2.80
		D	165°, 1/2 L	900 kg	80	TT 5.1.80
P3	A	U	, ¼	900 kg	100	TT 2.1.100
			–	1300 kg	100	TT 1.2.100
			15°, 2/3 L	1300 kg	100	TT 4.2.100
		D	165°, 1/2 L	900 kg	100	TT 5.1.100
P4	A	U	, ¼	900 kg	100	TT 2.1.100
			–	1500 kg	110	TT 1.3.110
			15°, 2/3 L	1500 kg	110	TT 4.3.110
		D	165°, 1/2 L	900 kg	100	TT 5.1.100

– **ENV 1317-4**

		[m]	
x	1	D_a	0,5
	2		1,5
	3		3,0
y	1	D_d	1,0
	2		2,0
	3		3,5
	4		> 3,5