

**-123**

(J. Don Brock)





1988

Astec Industries  
JMJ Research (

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NAPA

1990

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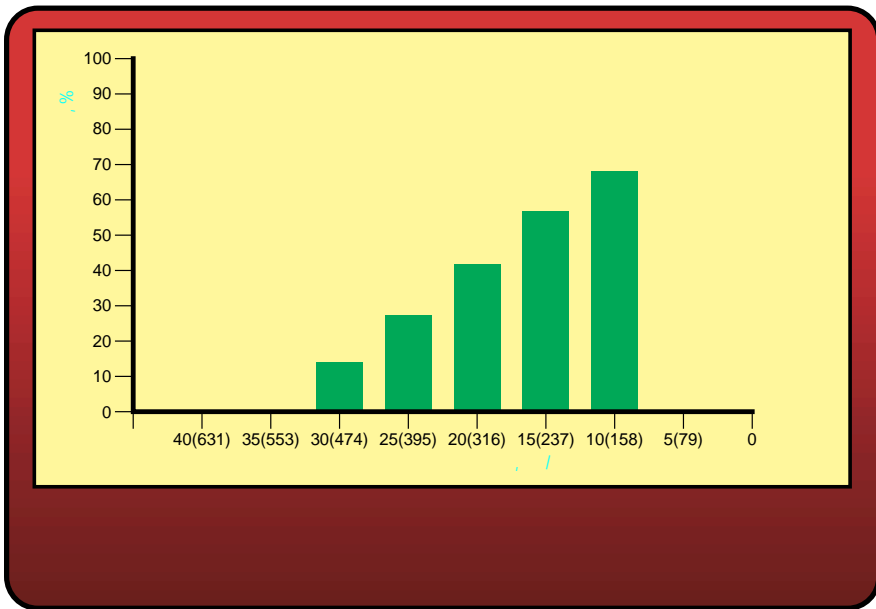
3)

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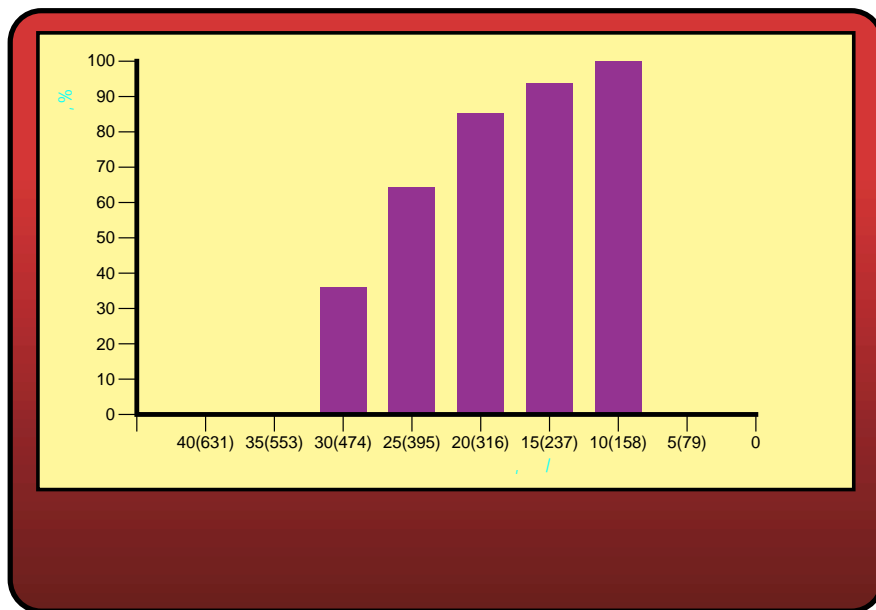
1

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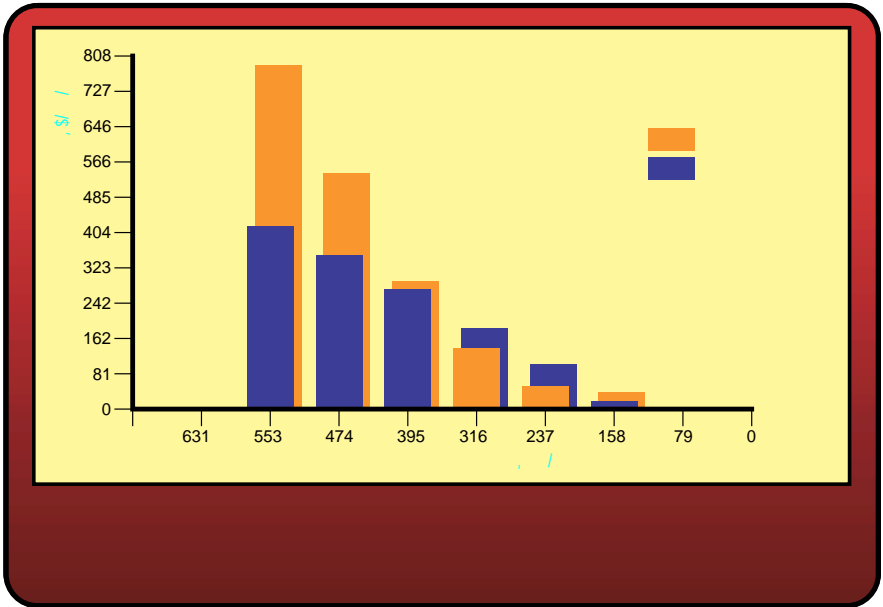
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 Mays  
 , 553 1 ,  
 , 158 1 , ,  
 10  
 67%,  
 100%,  
 \$559,35.

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. 4, 5 6  
 79 1 . ( . 4 5),  
 552,5 1  
 ,  
 . 6.  
 \$78 1 79 1  
 552,2 1 .  
 \$373 1 552,5 158 1  
 \$746 1 \$78 1 \$249  
 158 1 \$559,35 1 552,5  
 158 .

4

/	/	%
553	647	0
474	553	13
395	474	27
316	379	40
237	300	54
158	205	67

5

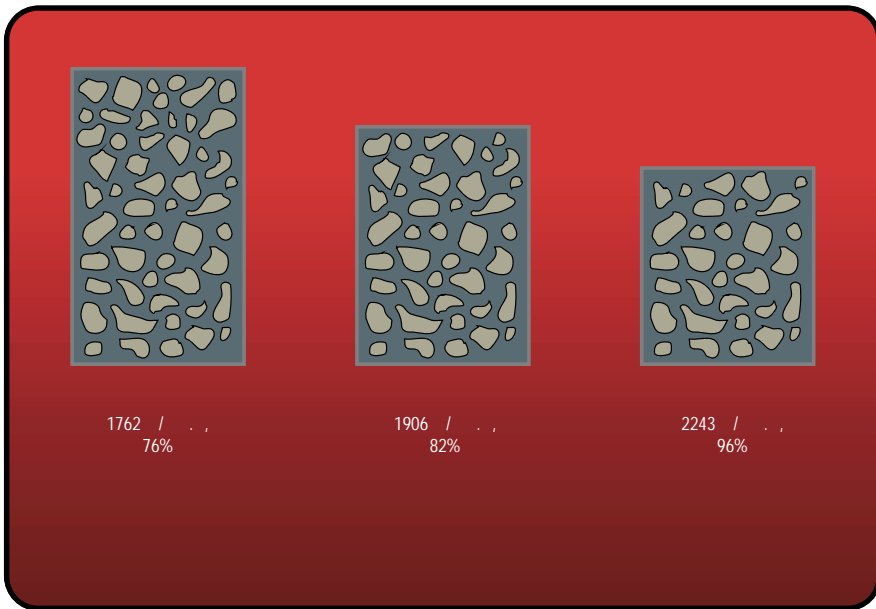
/	/	%
553	410	0
474	268	35
395	150	63
316	63	85
237	16	96
158	0	100

6

/	\$/	\$/
553	590	0
474	416	174
395	273	316
316	162	428
237	81	508
158	32	558

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 ,  
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 Mays, 7,6  
 Mays 4. , 10 35 ,  
 Mays 2,5 9 Mays , 10 Mays  
 \$5593,54 1 10-  
 1989 ,  
 50,8 3,7  
 \$11 875.  
 14-  
 \$7830,95.  
 \$4875,00  
 \$12705,95 4 1 ,  
 \$7968,75,  
 67%  
 , 5%  
 Mays)  
 ( 35 10  
 9 2,5 ).

76%.



7

25,4	32,0
50,8	64,3
76,2	96,3
101,6	128,3

8

96%

( 3% 5% ) ( .7).

1,25

50,8

63,5

50,8 . 8

9

25%

50,8

59,4 64,3 82%

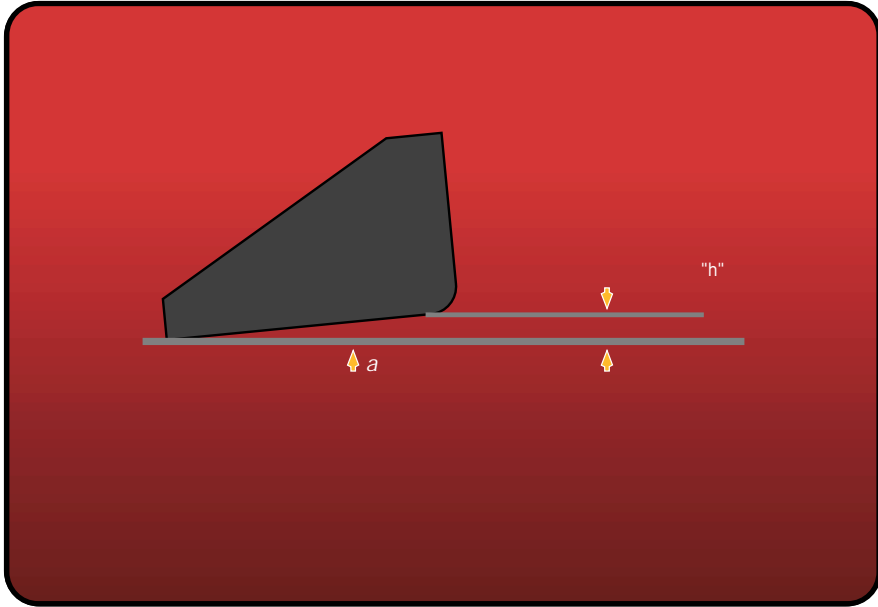


96 %	25,4	50,8	76,2	101,6	127,0
94 %	25,9	51,8	77,7	103,6	129,5
92 %	26,4	52,8	79,5	105,2	132,6
90 %	27,2	54,1	81,3	108,5	135,4
88 %	27,7	55,4	82,8	110,7	138,4
86 %	28,2	56,6	85,1	113,3	141,7
84 %	29,0	57,9	87,1	116,1	145,0
82 %	29,7	59,4	89,2	118,9	148,3
80 %	30,5	61,0	91,4	121,9	152,4
78 %	31,2	62,5	93,7	125,0	156,2
76 %	32,0	64,3	96,3	128,3	160,3

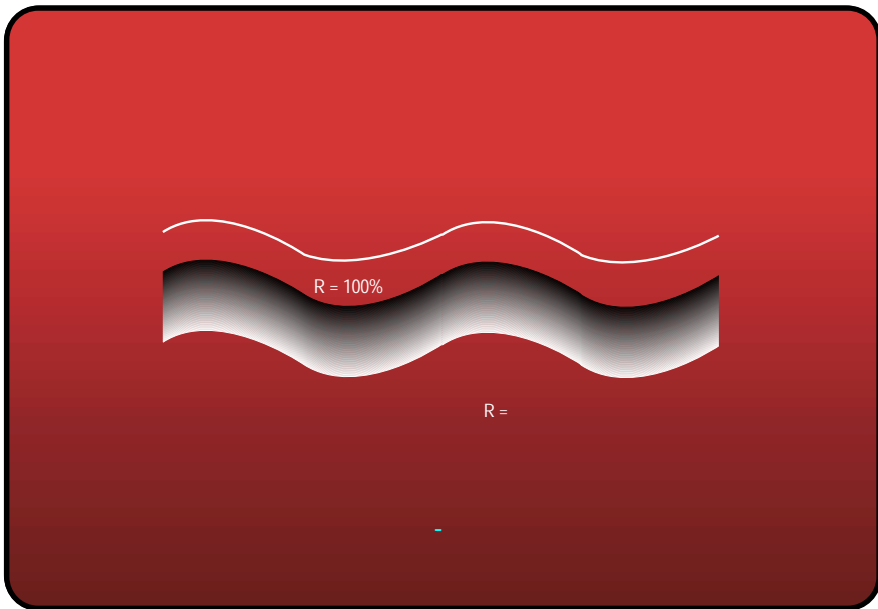
1762 / . . .  
2243 / . . . 100%

"h", . . .  
2339 / . . .

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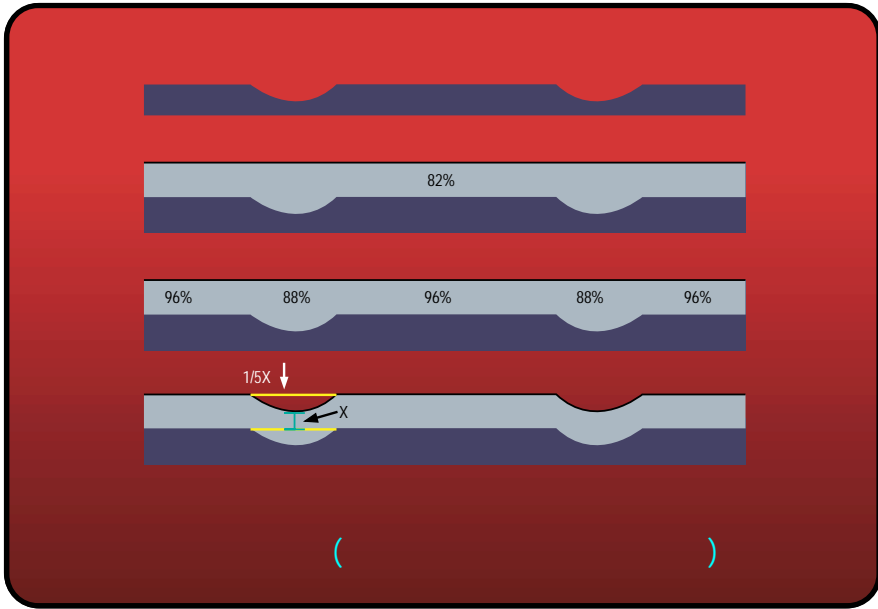
. 10.

. 11,

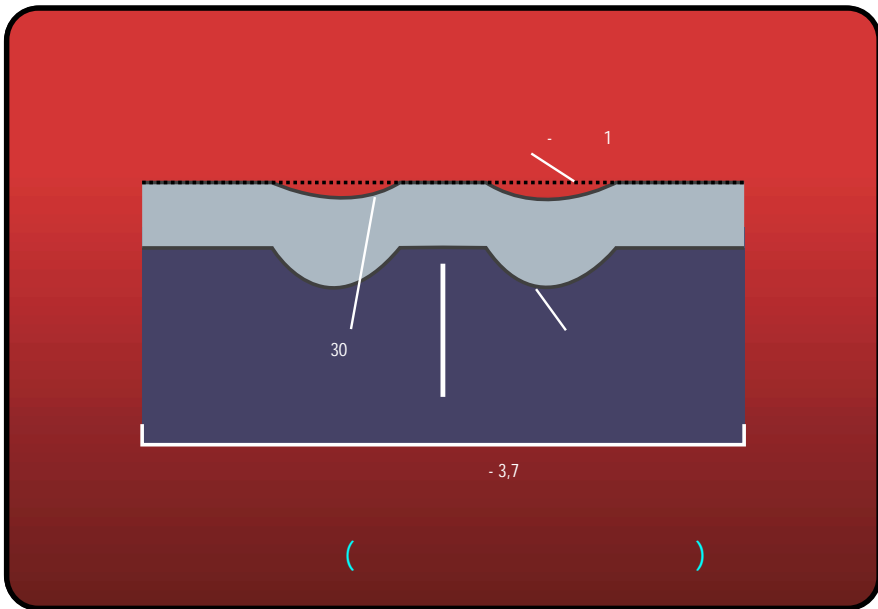
. 12,

70,7%.





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( . 17).

153



17

38,1 50,8

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ASSHTO ( )

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24 NAPA

B

(NAPA),  
(ASSHTO)

( 1 , 0,16 )	, %
157.9	100
157.9 - 173.6	98
173.6 - 189.4	96
189.4 - 205.2	94
205.2 - 221.0	92
221.0 - 236.8	90
236.8	

ASSHTO

18

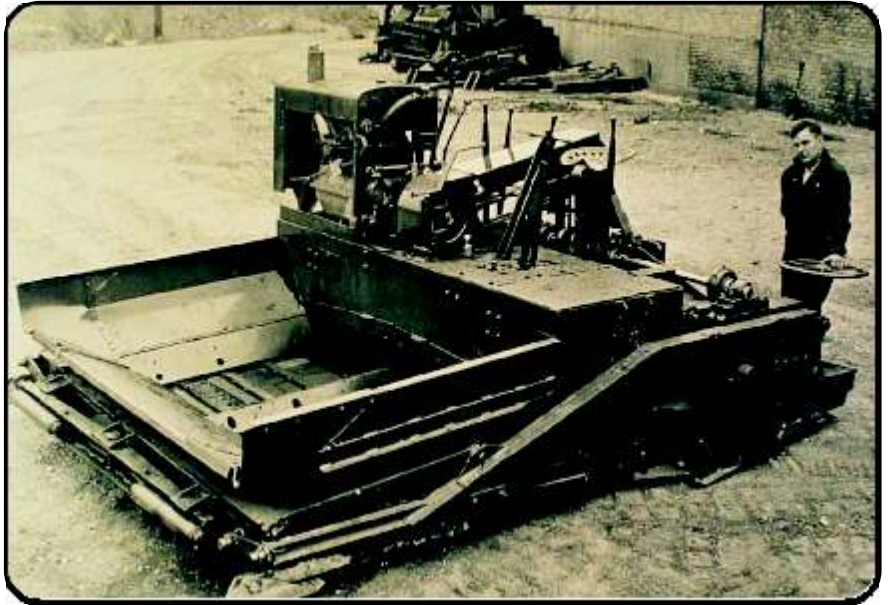
( 1 , 0,16 )	, %
47.4	105
47.4 - 63.1	104
63.1 - 78.9	103
78.9 - 94.7	102
94.7 - 110.5	101
110.5 - 157.9	100
157.9 - 173.6	98
173.6 - 189.4	96
189.4 - 205.2	94
205.2 - 221.0	92
221.0 - 236.8	90
236.8	

NAPA

19

( . 20)

( .21).



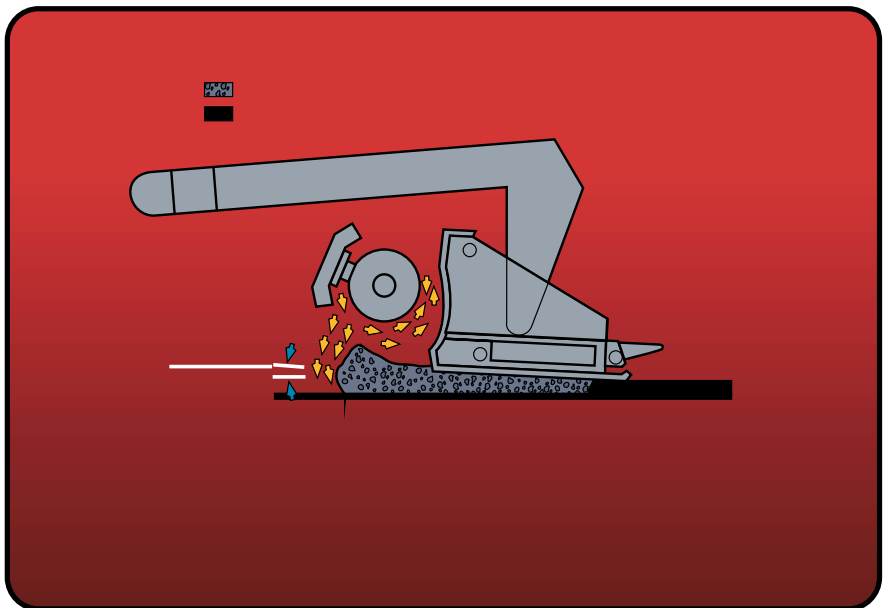
20

1)

( .22).

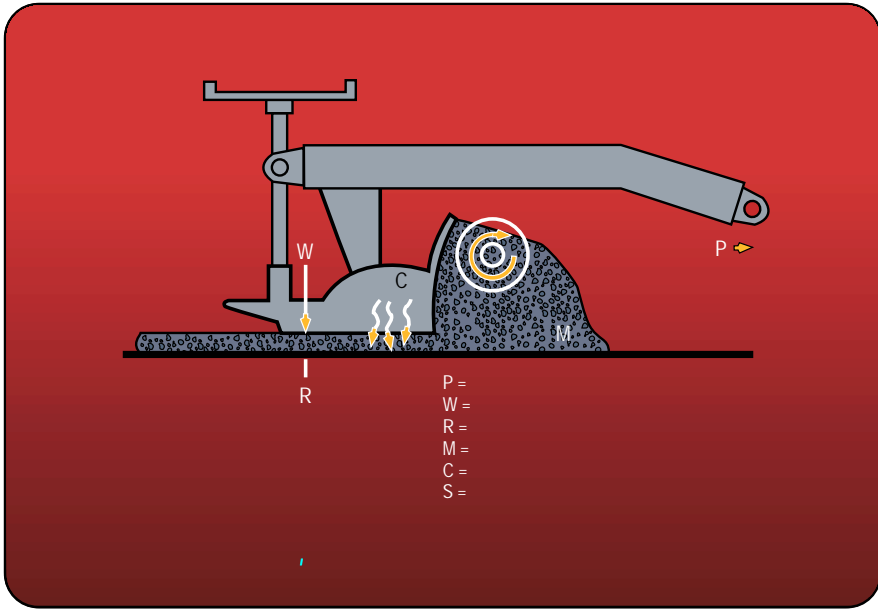


21

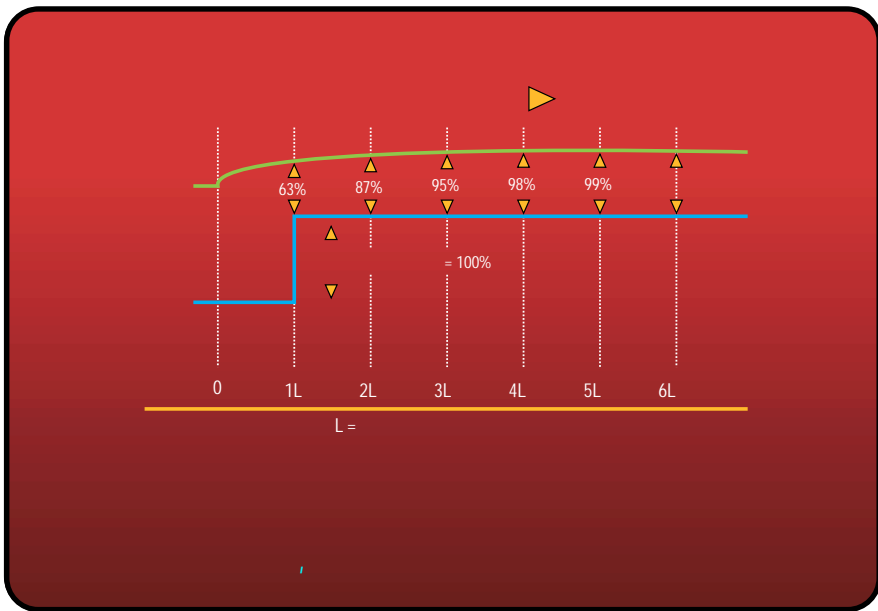


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13



23



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2)

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( , .23)

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12 ,



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50,8

82%

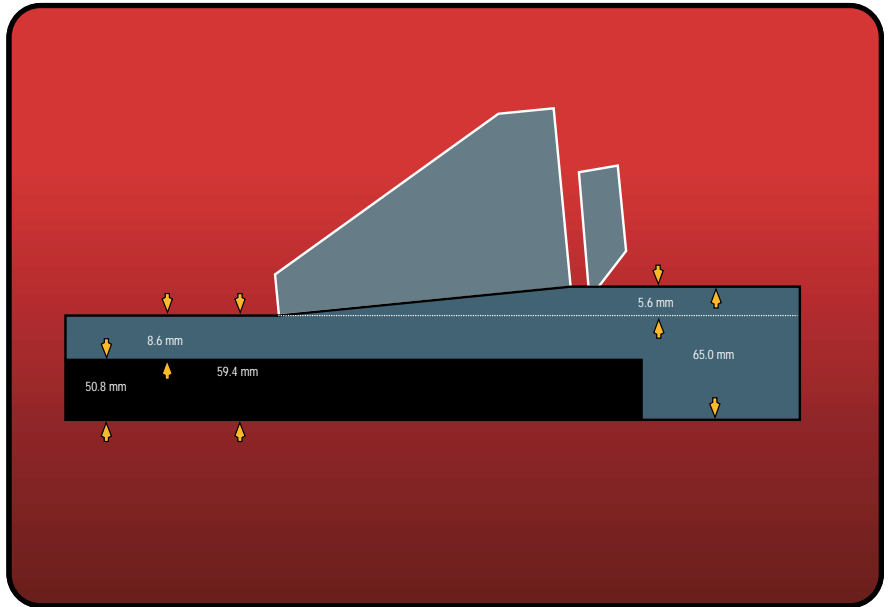
8,6

9,5

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(1000-1300 / ).

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22,7



28

3)

Shuttle Buggy ( . 29):

85

23

907 / .

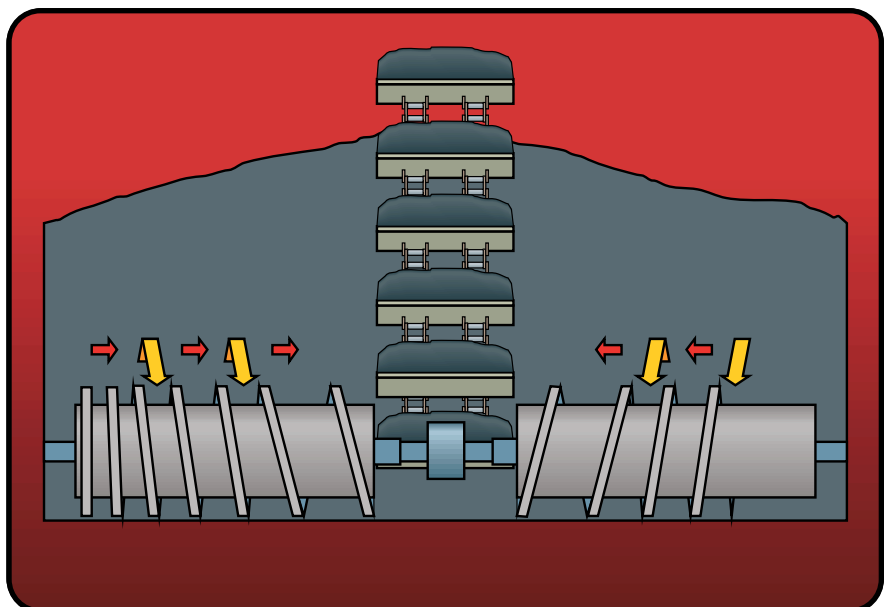
23



29

( . 30).

544 / .



30

17



31

/	( )							
	25.4	50.8	76.2	101.6	127.0	152.4	177.8	203.2
3.0	38	76	114	150	191	229	267	610
4.6	57	114	189	229	286	343	400	-
6.1	76	152	229	305	381	457	533	-
7.6	95	191	286	381	476	572	-	-
9.1	114	229	343	457	572	-	-	-
10.7	133	267	400	533	-	-	-	-
12.2	152	305	457	610	-	-	-	-
13.7	171	343	514	686	-	-	-	-
15.2	191	381	572	-	-	-	-	-
16.8	210	419	629	-	-	-	-	-
18.3	229	457	686	-	-	-	-	-
19.8	248	495	743	-	-	-	-	-
21.3	267	533	-	-	-	-	-	-
22.9	286	572	-	-	-	-	-	-
24.4	305	610	-	-	-	-	-	-
			3,7			2243	/	

32

Shuttle Buggy, 18 .

( .31).

Shuttle Buggy

41 . .32

267 / ,

10,7 /

50,8 . Shuttle Buggy 3,7

Shuttle Buggy

( .33).

Shuttle Buggy

Mays.

457,8 1  
Shuttle Buggy

189,4 1  
Mays.

1988 , 442 1 .

Shuttle Buggy,

189,4 .

110,5 1 .

1989 -

California.

28,6, 27,04, 23,7 19,86  
1 ,

\$105.000.

Buggy

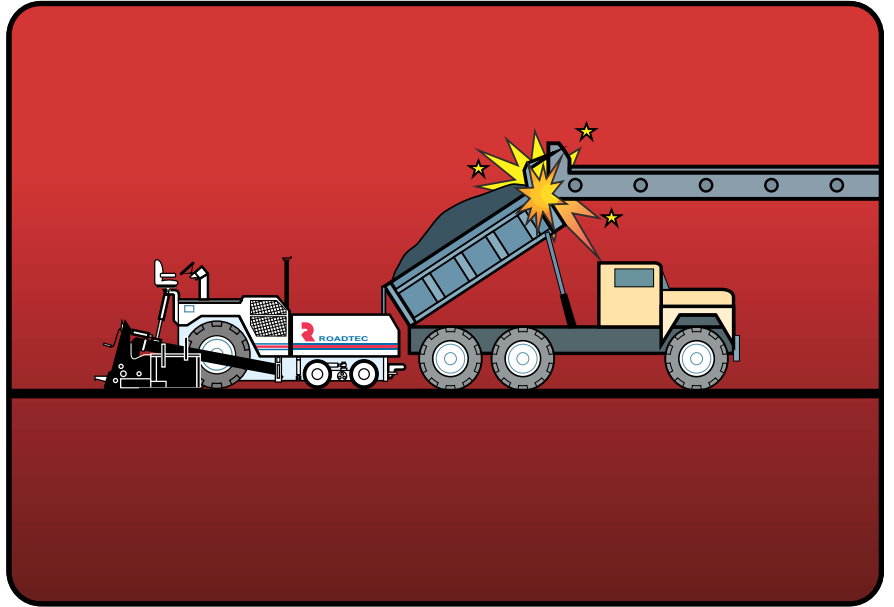
Shuttle

Buggy,

Shuttle

Shuttle Buggy

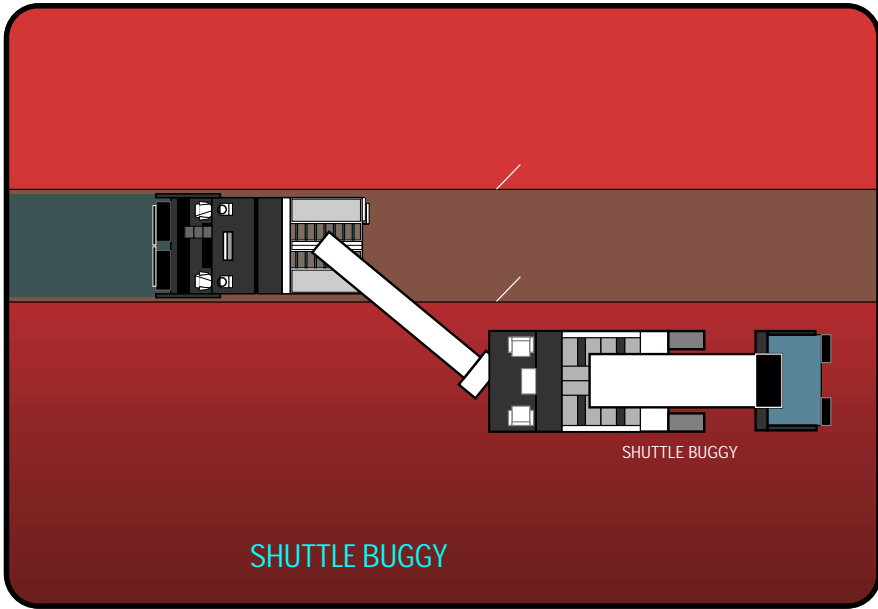
.34.



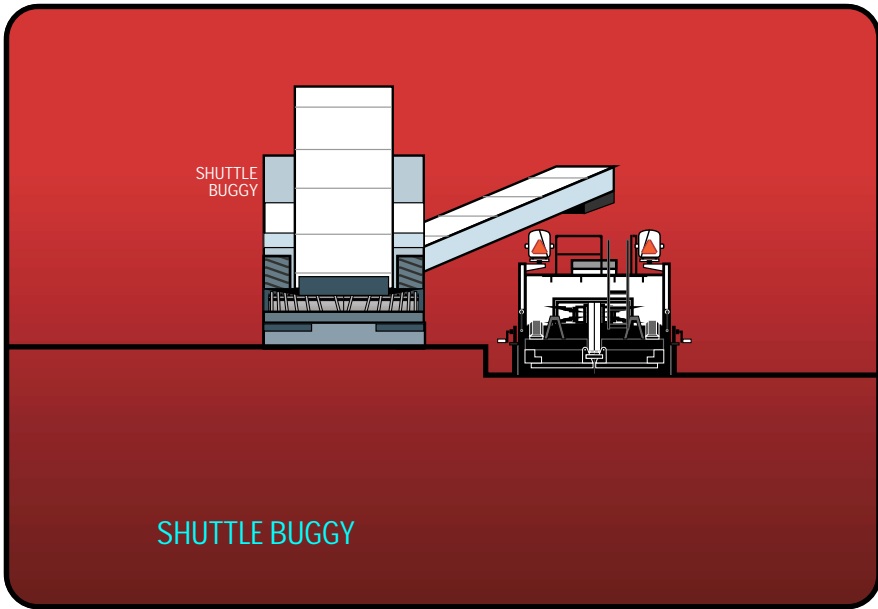
33



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35



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. 35

Shuttle Buggy,

Shuttle Buggy

( . 36) ,

Shuttle Buggy

Shuttle Buggy

( . 27),

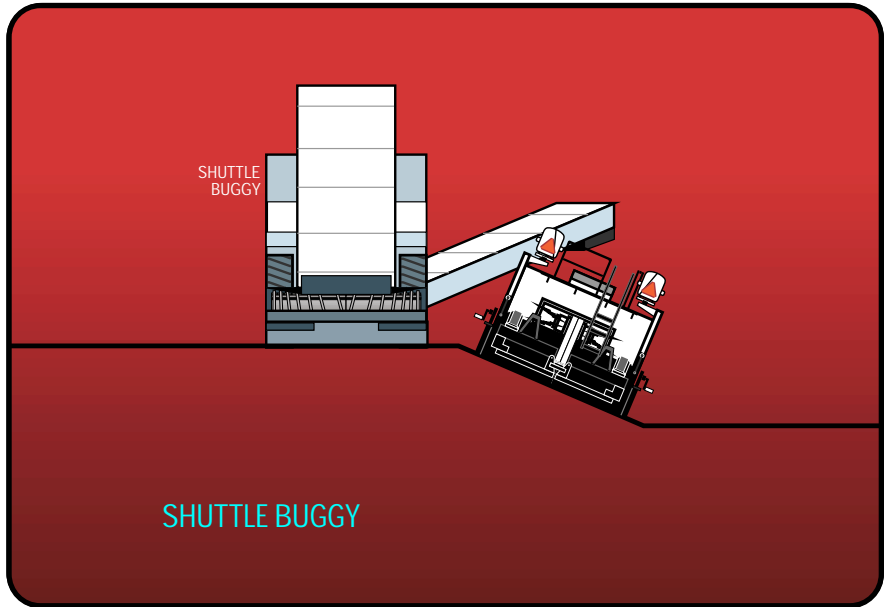
1

6,3  
7,6  
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Shuttle Buggy -

Buggy

Shuttle



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 2795  
 \$35 . -1  
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13-	
	, \$35/
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	1.0
	5.0
	20.0
	10.0
	2.0
	3.0
	20.0
	61.0
(10 )	9.8
	215.0
	22.0
	\$7700.00
Shuttle Buggy	—
	\$2.75
	( )

A-1

2795 215  
 , 9,8 22  
 \$7700 \$35  
 \$2,75 Shuttle Buggy  
 ( -2)





	13- , \$35/	13- , \$35/ Shuttle Buggy	20,4- \$40/
	0.0	0.0	0.0
	1.0	1.0	1.0
	5.0	5.0	5.0
	20.0	20.0	20.0
	10.0	—	10.0
	2.0	1.0	2.0
	3.0	1.5	4.4
	20.0	20.0	20.0
	61.0	48.5	62.4
(10 )	9.8	12.0	9.6
	215.0	215.0	137.0
	22.0	18.0	15.0
	\$7700.00	\$6300.00	\$6000.00
Shuttle Buggy	—	\$800.00	—
	<u>\$7700.00</u>	<u>\$7100.00</u>	<u>\$6000.00</u>
	\$2.75	\$2.54	\$2.14

( )

A-3

20,4 . . -3  
 15. , \$2,75 \$2,14 . 22

SHUTTLE BUGGY	13-	13-	20,4-	20,4-
		Shuttle Buggy		Shuttle Buggy
	0.0	0.0	0.0	0.0
	1.0	1.0	1.0	1.0
	5.0	5.0	5.0	5.0
	20.0	20.0	20.0	20.0
	10.0	—	10.0	—
	2.0	1.0	2.0	1.0
	2.8	1.5	4.4	2.0
	20.0	20.0	20.0	20.0
	60.8	48.5	62.4	49.0
(10 )	9.8	12.3	9.6	12.2
	215.0	215.0	137.0	137.0
	22.0	18.0	15.0	12.0
	\$7700.00	\$6300.00	\$6000.00	\$4800.00
	—	\$800.00	—	\$800.00
	<u>\$7700.00</u>	<u>\$7100.00</u>	<u>\$6000.00</u>	<u>\$5600.00</u>
	\$2.75	\$2.54	\$2.14	\$2.00

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A-4

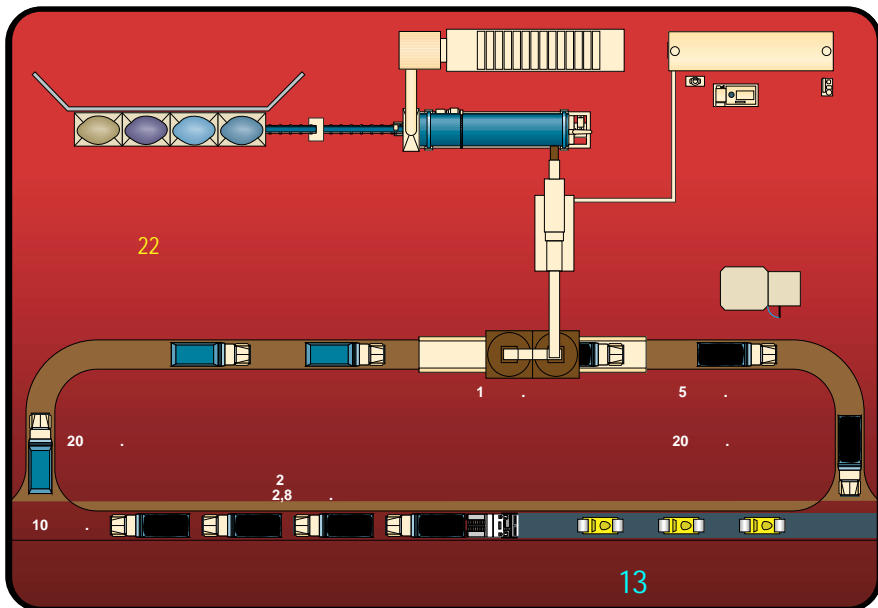
\$5600      12.      . -4,      Shuttle Buggy      \$6000  
                  \$2,14      \$2,00      Shuttle Buggy,  
                  .

	13- , \$35/	20,4 - \$40/	24 \$40/ \$80/	Shuttle Buggy, ( ), (Shuttle Buggy)
	( ) 60.8	62.4		53.3
(10 )	9.8	9.6		11.3
	215.0	137		114
	22.0	15.0		10
	\$7700.00	\$6000.00		\$4000.00
Shuttle Buggy	—	—		\$800.00
	\$2.75	\$2.14		\$1.70

2795 /

A-5

Shuttle Buggy . -5. ,  
10 , \$4000  
\$4800 Shuttle Buggy \$800 ,  
\$1,72  
Shuttle Buggy -



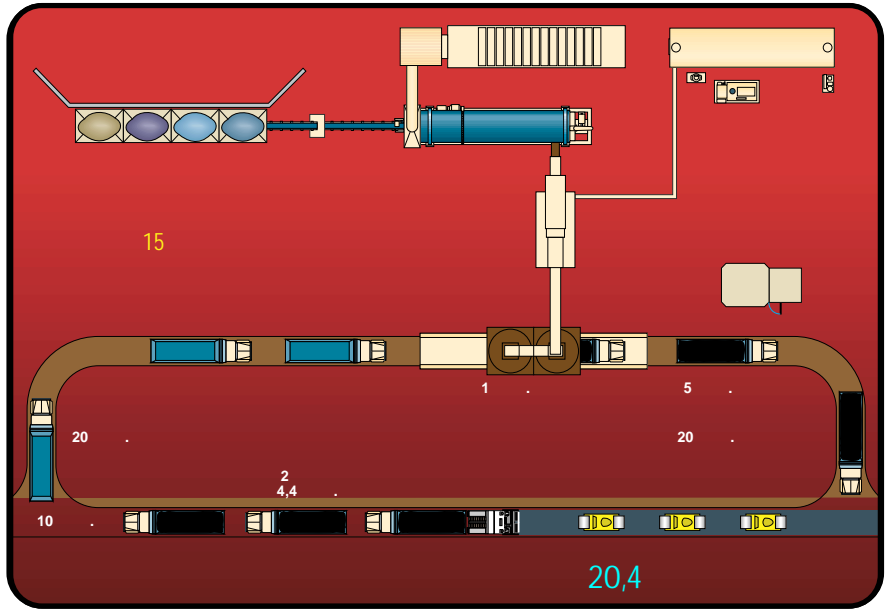
A-6

-6 -6, -7 -8.  
22 ,

-8 15  
10 Shuttle Buggy.

-7

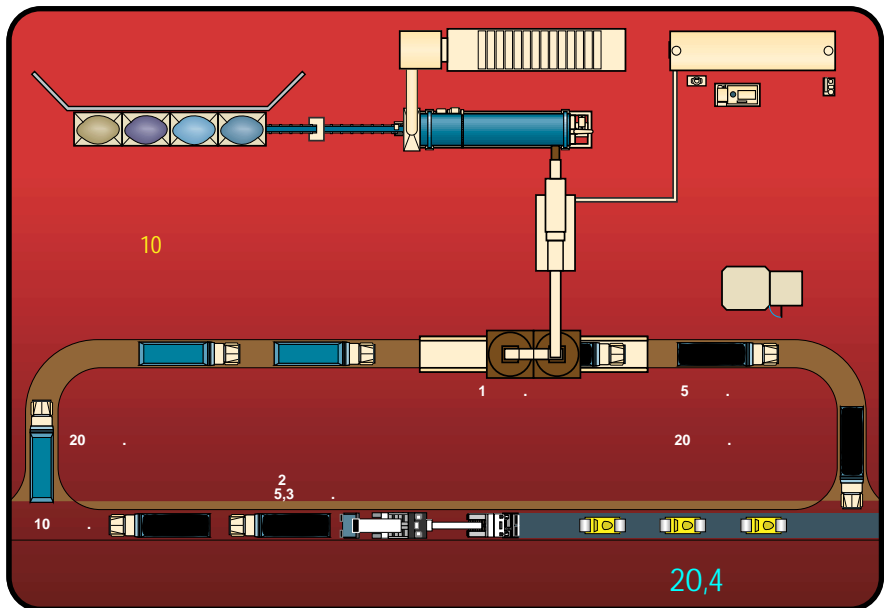
12



A-7

Shuttle Buggy

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A-8

## AASHTO 1988

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1.		65 /			
2.					
3.				158	1
4.		236,8	1		
5.					91
6.					-
7.					
8.			10,2	0,16	7,6
9.		158	237	1	237
10.				1	2.
11.					
12.					0,16

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**AASHTO-1988 :**

( #1)

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]. , — [ , 4,8 3,2  
) / , (

( #2)

64,4 /

California,

25,4

4,8 / ,

526

California.

158

1

237 , 1  
 4,6  
 3,7 0,91 3,7  
 91  
 0,16  
 0,16 ,  
 237 1 ,  
 237  
 1 ,  
 0,16 ,  
 10,2 0,16 7,6  
 10,2 7,6 ,  
 158  
 237 1 0,16 ,  
 158 1



1 , .

1) / / . -

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( #1)

158 1 0,16 ,

237 1 158 1 ,  
0,16 ,

0,16 ,

( #2)

1 0,16 , 110,5 1 , 158  
 237 1 0,16 , 158 1 ,  
 110,5 1 ,

0,16 ,

( 1 0,16 )	%
47.4	105
47.4 - 63.1	104
63.1 - 78.9	103
78.9 - 94.7	102
94.7 - 110.5	101
110.5 - 157.9	100
157.9 - 173.6	98
173.6 - 189.4	96
189.4 - 205.2	94
205.2 - 221.0	92
221.0 - 236.8	90
236.8	

NAPA

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**AASHTO-1988**

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4,8

( #2)

64,4 /

California,

25,4

4,8 / ,

526

California.

158

1

237

1

4,6



( #1)

237 1 158 1 0,16 ,  
158 1 ,  
0,16 ,

0,16 ,

( #2)

1 0,16 , 110,5 1 , 158  
237 1 0,16 , 158 1 ,  
110,5 1 ,

( 1 0,16 )	, %
157.9	100
157.9 to 173.6	98
173.6 to 189.4	96
189.4 to 205.2	94
205.2 to 221.0	92
221.0 to 236.8	90
236.8	

NAPA

0,16

( 1 0,16 )	, %
47.4	105
47.4 - 63.1	104
63.1 - 78.9	103
78.9 - 94.7	102
94.7 - 110.5	101
110.5 - 157.9	100
157.9 - 173.6	98
173.6 - 189.4	96
189.4 - 205.2	94
205.2 - 221.0	92
221.0 - 236.8	90
236.8	

NAPA

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MSHTO





3,7 .

24

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158

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3)

0,16 , 110,5 1 , 158 1  
 237 1 0,16 , 158 1 ,  
 110,5 1 ,

0,16 ,

( 1 0,16 )	, %
47.4	105
47.4 - 63.1	104
63.1 - 78.9	103
78.9 - 94.7	102
94.7 - 110.5	101
110.5 - 157.9	100
157.9 - 173.6	98
173.6 - 189.4	96
189.4 - 205.2	94
205.2 - 221.0	92
221.0 - 236.8	90
236.8	

NAPA

E-1