

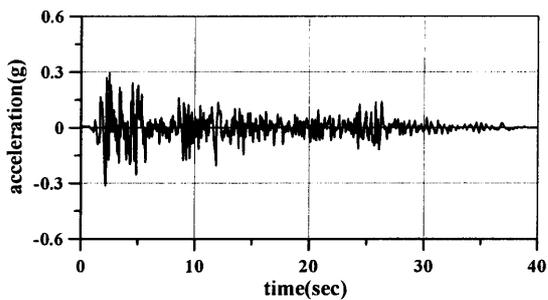


( 3 : )

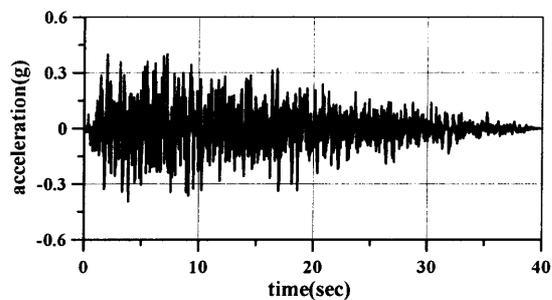


가 가  
(Capacity Spectrum Method: CSM)

1.1



(a) El Centro (1940, NS)



(b)

< 1.1 > 가

1.2

< 1.1(a) > El Centro (1940NS)  
가

< 1.1(b) >  
UBC - 97 4(Z=4.0) SB  
(CA = 0.4 CV = 0.4)  
가  
가)

가 UBC - 97 < 1.2(a) (b) >

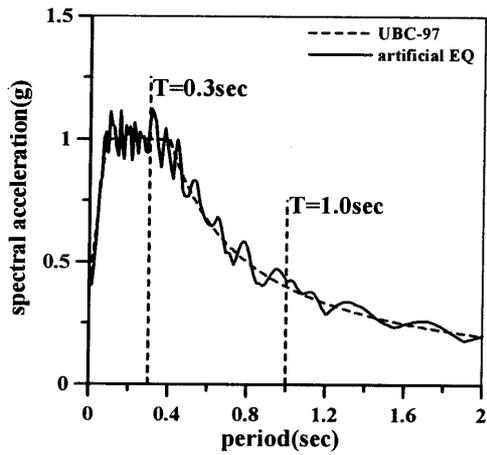
1.0ton( 1tonf ) 0.447tonf/cm

0.3 가 5% 가

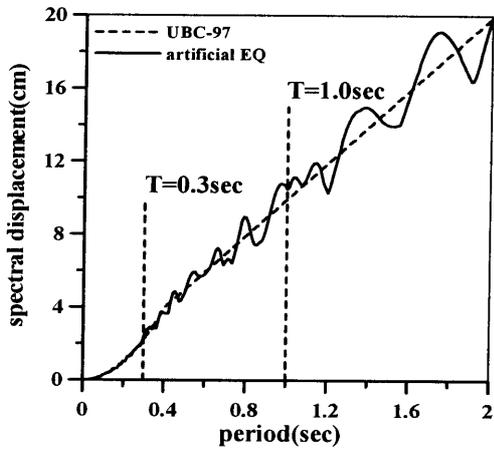
가 < 1.3 >

2.34cm 가

1.0g < 1.2 >



(a) 가



(b)

< 1.2> 가

가0.3

< 1.2> 가

가

< 1.4(a)>

가

가

(acceleration - displacement response spectrum:

ADRS)

가

가0.3

가

가

1.06g 2.34cm

가

<

1.4(a)>

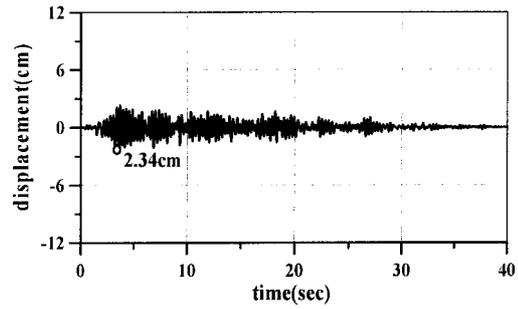
A

가

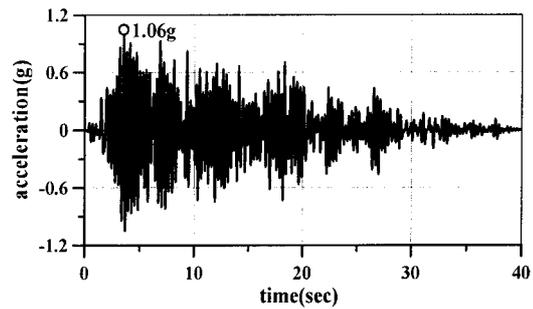
가

가

가



(a)



(b) 가

< 1.3> 가0.3

(demand spectrum )

가

가

)

(V)

(D)

(1.1)

$$V = mA = kD \quad (1.1)$$

(1.1)

< 1.5(a)>

가

가k

가T

w =

$$2 T = \sqrt{k/m}$$

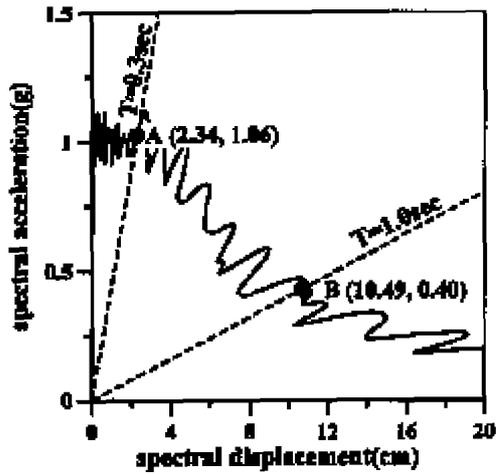
가

$$k = m \frac{4}{T^2} \quad (1.2)$$

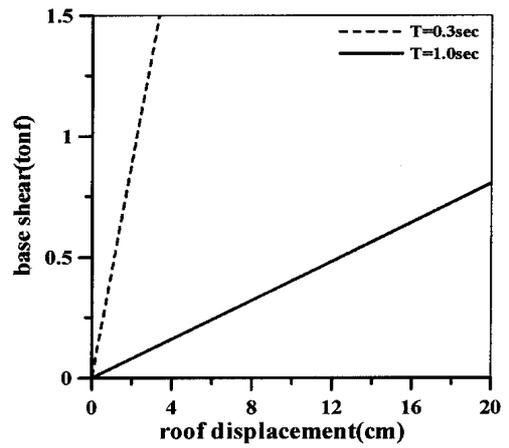
(1.2)

가

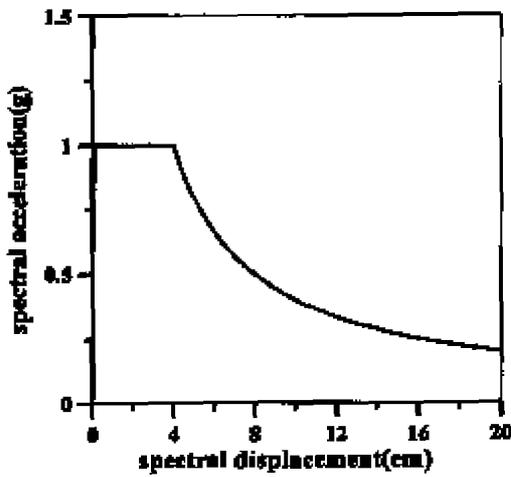
가



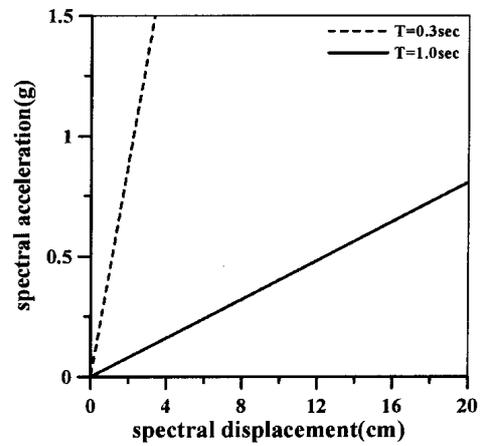
(a)



(a) -



(b)



(b)

< 1.4>

< 1.5> 가 0.3 1.0 가

(1.2) (1.1)

가

)

$$\frac{V}{m} = A = \frac{k}{m} D = \frac{4}{T^2} D \quad (1.3)$$

(1.1) - (V - D) (1.3) 가 -

(A - D)  $\frac{4}{T^2}$  가

가 (A) 가 (g)

가 가

5.7>

가

< 1.6

(A )

가

(performance point )

(A - D) (capacity

curve) 가 < 1.4>

가 가 < 1.4 1.5>

가

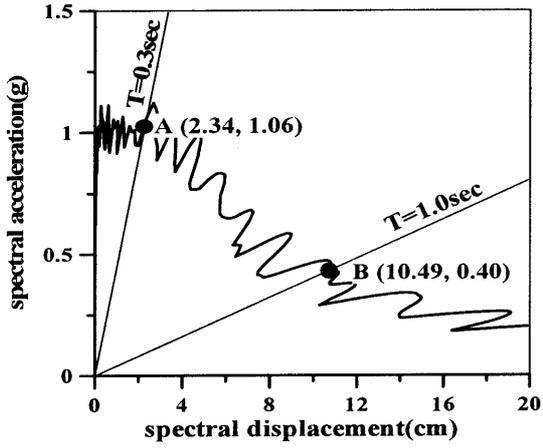
가 0.3

<

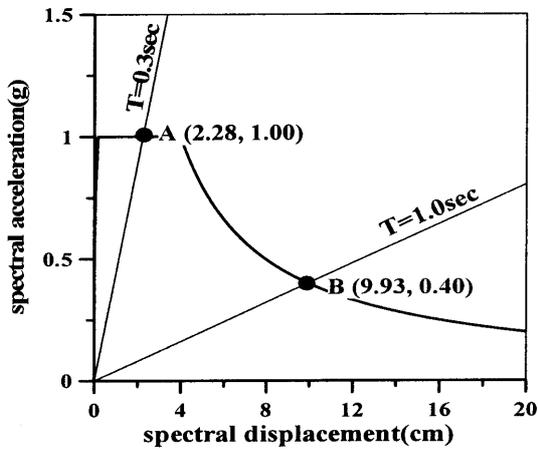
1.6> A

234cm

가



< 1.6 >



< 1.7 >

1.06 < 1.3 14 >

가

1.2

2006 3 50 < 1.9 >

2006 3 52 <

1.13 >

( )

가

가

가가

가

가)

가, 2 4 8 가

가

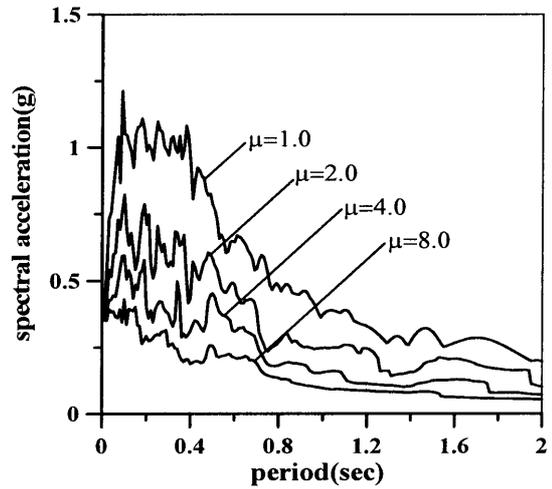
가

가

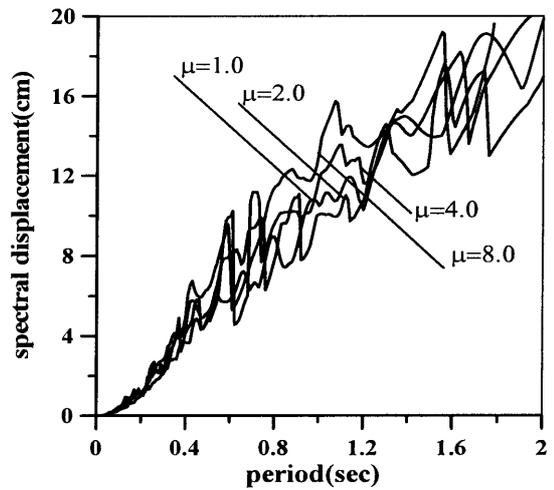
< 1.8a) (b) >

가

가



(a) 가



(b)

< 1.8 >

1.10>

가

가

< 1.9a)>

가1

1, 2

가

4 8 가

가

(w)

(u<sub>y</sub>)

가

가

(u<sub>m</sub>)

가

가

< 1.9b)>

가

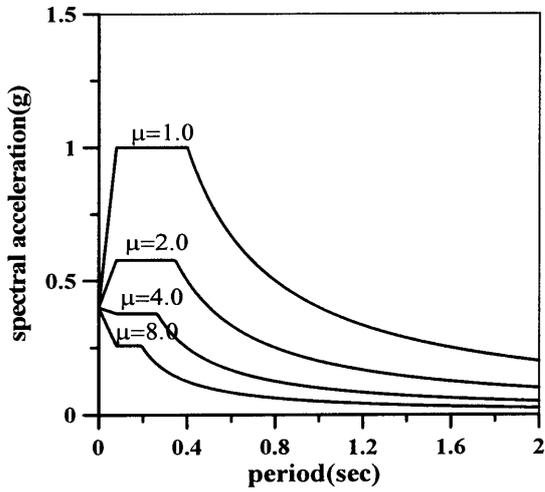
)

< 1.8 5.9> 가

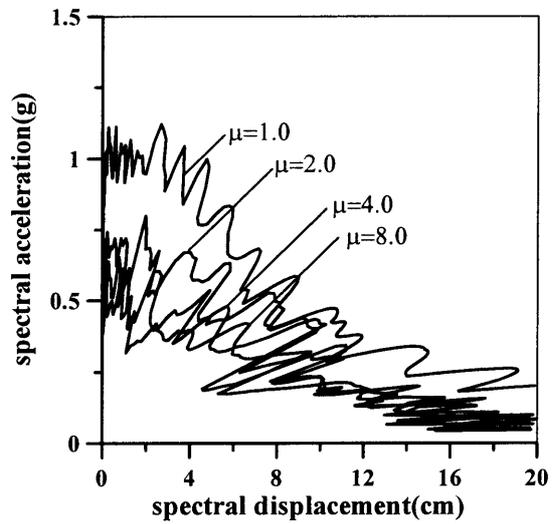
가

< 1.10>

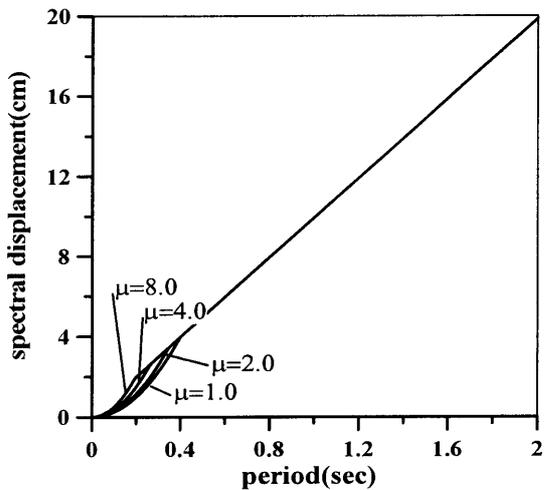
가



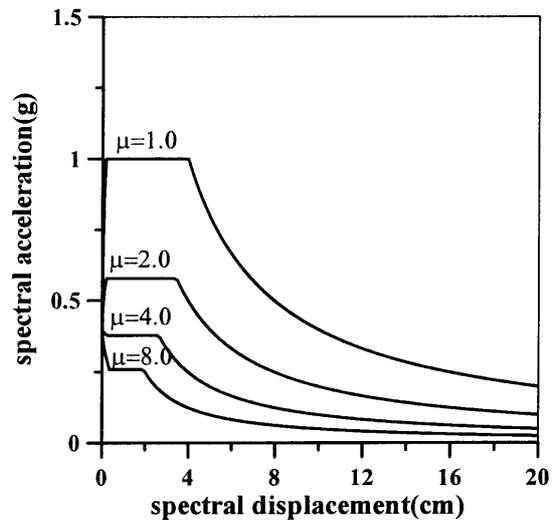
(a) 가



(a)



(b)



(b)

< 1.9> (UBC)

< 1.10>



( 가0.3 )

가

(push-over

1.0ton

analysis )

< 1.1(a)>

가0.3

0.447tonf/cm<sup>2</sup>

5% 가

(5.3)

가

가

가

가

가

981cm/sec<sup>2</sup>

< 1.7>

가0.3

가

1.0g

1.0ton

1.0ton

< 1.1(b)>

1.0ton가

가

가

가

가5.0

0.2tonf

가

)

가1.4 가

0.28tonf 가

(elastic - perfectly plastic )

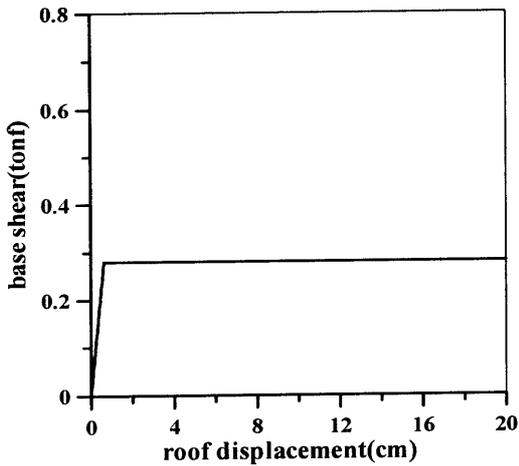
가

(bilinear )

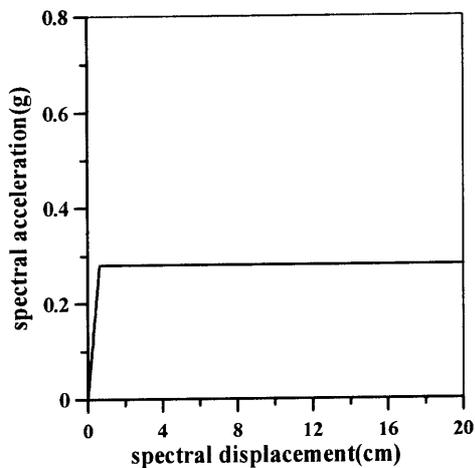
가

< 1.8 1.9>

가



(a) -



(b)

< 1.11>

가0.3

가

1.

(5.3)

2.

가

가

(4.16)

가

< 4.1>

가

3.가

4.

5.

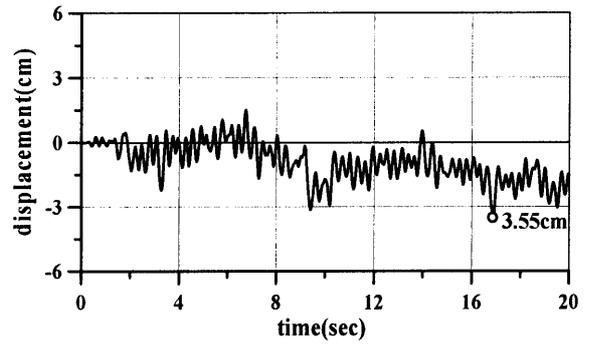
6. 5

7. 가 5 가

3-6

8.

가

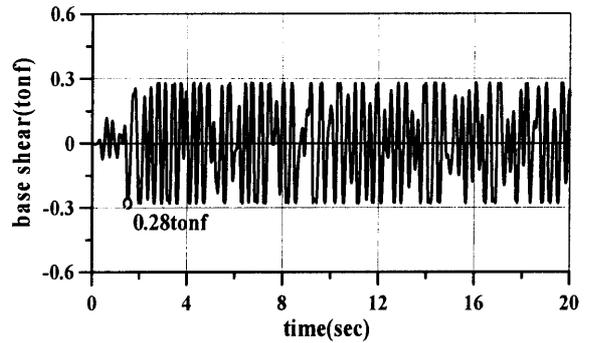


(a)

1.3

가

가)



(b)

가

< 1.12>

가0.3

3. 가 3.5

< 1.1(a)>

4. < 1.1(b)>

1 (A)

< 1.12>

5. 0.62tonf 1 7.61cm

3.55cm

1216

0.28tonf

0.62tonf

6. 5 1216

567

가

7. 3-6 < 1.14(c)>

가7.67

(B)

< 1.1(a)>

5.67

7.67

가

1.

< 1.1(a)>

< 1.1(b)>

가

2.

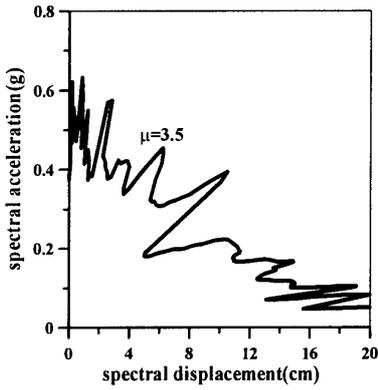
가5.0

가

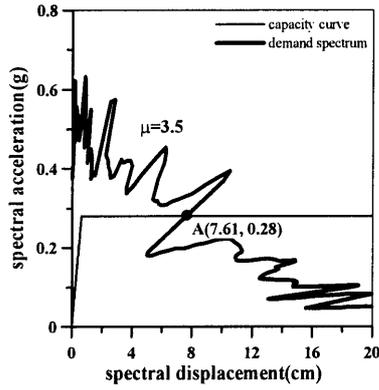
1.4 가

3.5

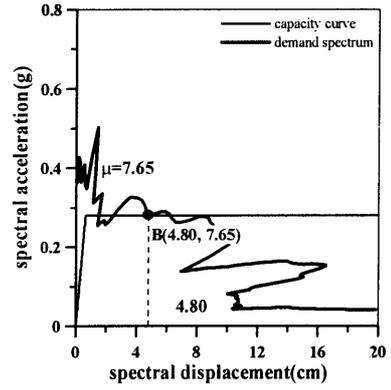
가



(a)  
( μ=3.5)



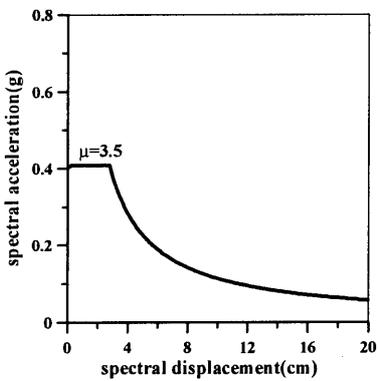
( μ=3.5)  
(c)



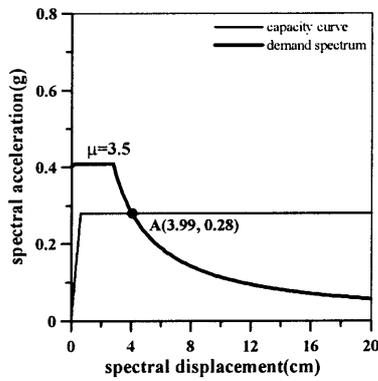
(b)  
( μ=7.67)

< 1.14 >

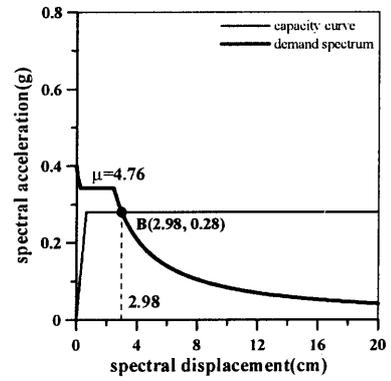
가 3.5 가 < .  
 1.15(a) > 가 가  
 < 1.15(b) > 가 1 ( 가 .  
 A) 3-6 < 1.15(c) > 가 .  
 ( B) 가 .  
 가 t . 가 2.98cm 가 가  
 0.626m 476 . 가  
 5.67 가 .  
 가  
 1.4 가 .  
 가



(a)  
( μ=3.5)

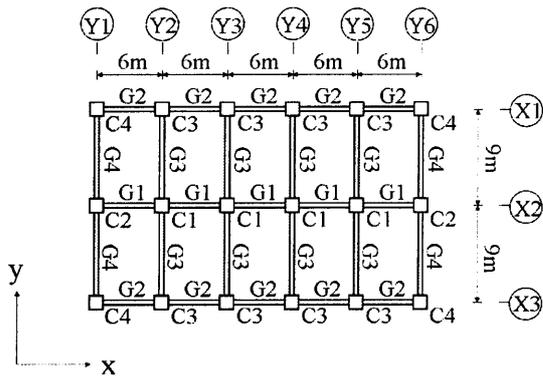


(b)  
( μ=3.5)

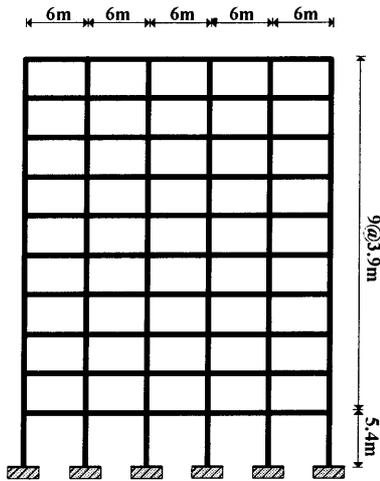


(c)

< 1.15 >



(a)



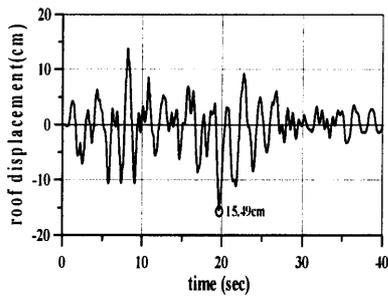
(b) 가2

< 1.16 >

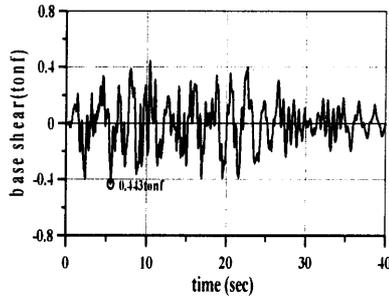
< 1.16 > 10

X - Y - 5 3 가

< 1.16(c) > 가 2 가

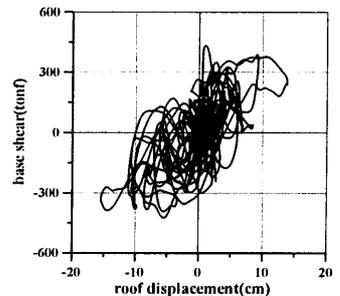


(a)



(b)

< 1.17 >



(c)

X - Y -  
가4 6 가 가2 Y -

(650tonf/m<sup>2</sup>) (250tonf/m<sup>2</sup>)

R=5.0

가2.5 가

2.0

1.4 가

1.4 가

< 1.17(a) >

1.17(b) >

0.443tonf 1549cm

< 1.17(c) >

< 1.17(a) >

983cm

1549cm

158

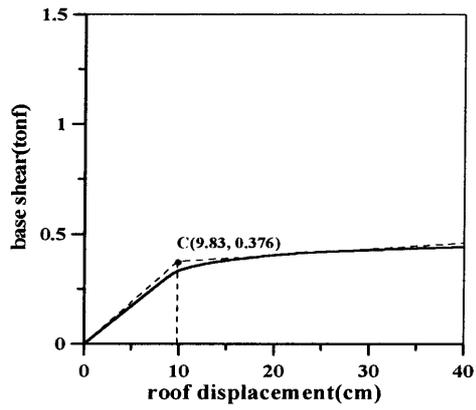
< 1.17(b) >

522cm

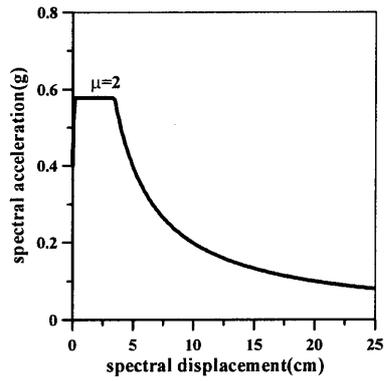
2.0 가 < 1.17(a) >

< 1.17(b) >

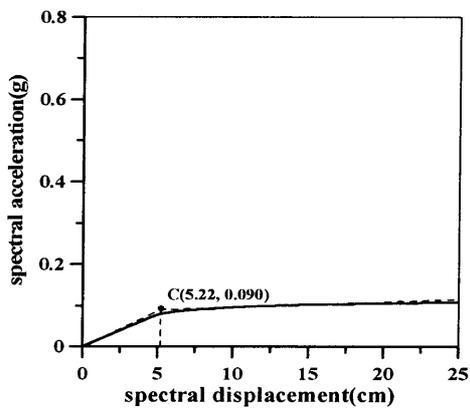
1 (A) 3-6



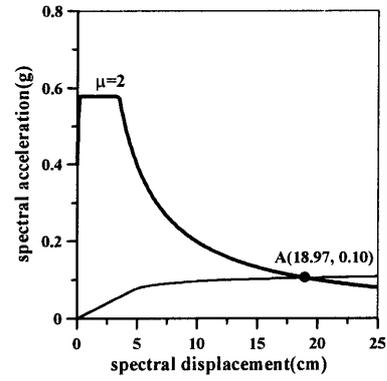
(a)



(a) ( $\mu=2$ )



(b)



(b) ( $\mu=2$ )

< 1.18 >

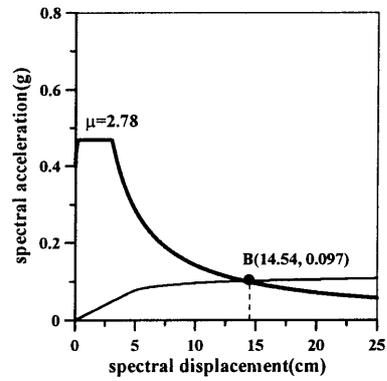
< 1.19(c) >

가 1454cm

( B )

< 1.19(b) > 5.22cm

279



(b) ( $\mu=2$ )

< 1.19 >

