

KALIMER

**Isolator Arrangement Design and Structural Analysis of Upper Basemat
for KALIMER Reactor Building**

150

가

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가

Abstract

The axial loads on the isolators under upper basemat of KALIMER reactor building vary according to the weight distribution of reactor building, so the unbalanced deflection and the stresses can be occurred on upper basemat supported by isolators. For evaluating the phenomena, the axial forces on the isolators are calculated using the finite element modeling of reactor building and isolators. Optimal design study of isolator arrangement is performed, and the structural integrity of isolators and upper basemat is evaluated.

1.

가

PRISM

[1,2].

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가

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가

2.

KALIMER
 56m x 39m , 1 2
 가 1.5m ,
 가 0.5Hz 3
 1.2m
 2.1m
 15 , 10 가 가 가 150
 320 , 가 5 8 KALIMER
 180 가 . 180
 2.1m , 4
 5 .

3. KALIMER

6 ANSYS
 [3].
 (COMBIN14)
 320 3,166KN/m, 5584,824KN/m [4].

1.

	Number	Description
AREA	1-120	
	121-134	SG
	135-170	
NODE	1-3058	
	4001- 4238	
ELEMENT	1-104	(STIF4)
	105-399	(SHELL63)
	400-3439	(SHELL63)
	3901-3916	(MASS21)
	4001-4221	(STF4)
	4301-5082	(COMBIN14)

가

3234 , 4325 . 1 .

2400

[5].

가

4.

1,2,3

0.48Hz

가

, 2

3

0.5Hz

가

, 1

가

1

가

가

가

5.

4

5

7

8

,

7

5

가

8

가

9

394

,

193

320

± 60

142 (78%)가

,

40

6

, 34

50%(160) 200%(600)

30%

[4]

(creep)

가

가

1mm

11

RC

24MPa (240kg/cm²)

, 1/8

3 MPa

, 2.58 MPa

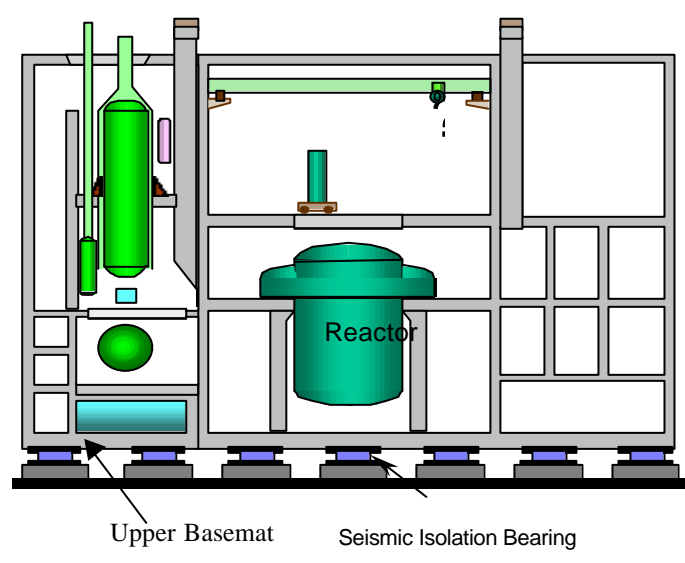
가

가

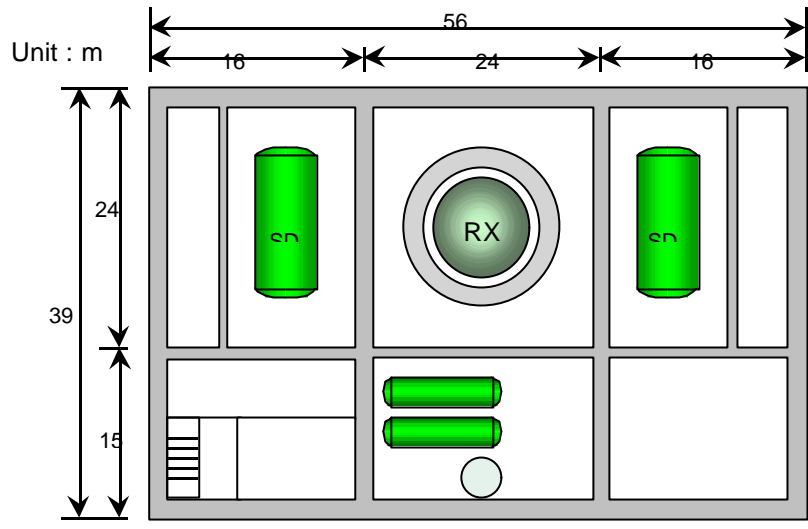
6.

182 , 394 , 193
320t +-60t 142 (78%)가 , 40
6 , 34
1mm , 2.58 MPa RC
가

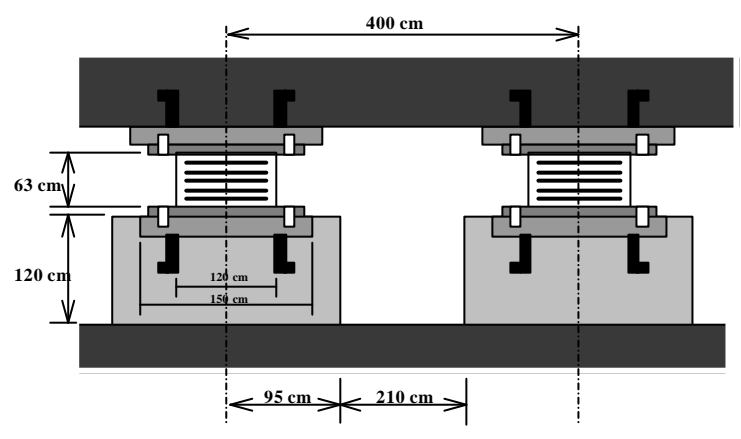
1. F.F. Tajirian, ALMR Basement Stress Analysis, 1994.
2. , 1991.
3. , KALIMER , KAERI/TR-1062/98, , 1998.
4. , KAERI/TR-809/97, , 1997.
5. C. K. Park, et.al, "KALIMER Design Concept Report," KAERI/TR-888/97, *Korea Atomic Energy Research Institute*, 1997.



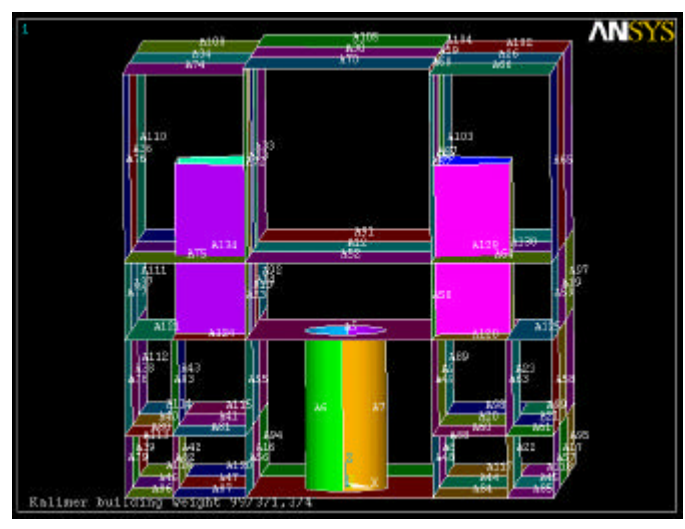
1. KALIMER



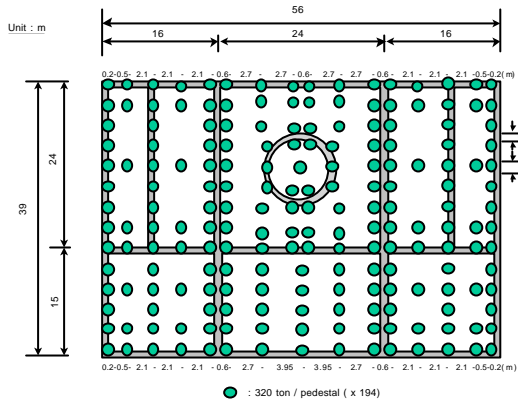
2. KALIMER



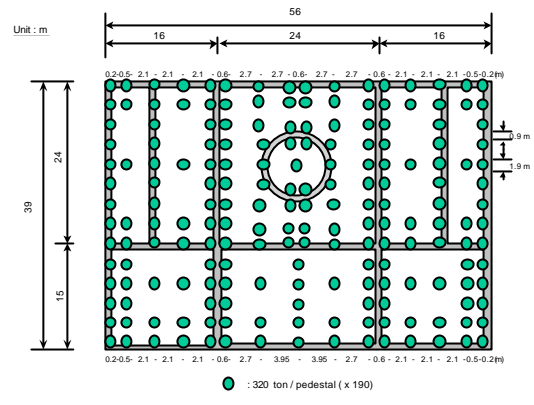
3.



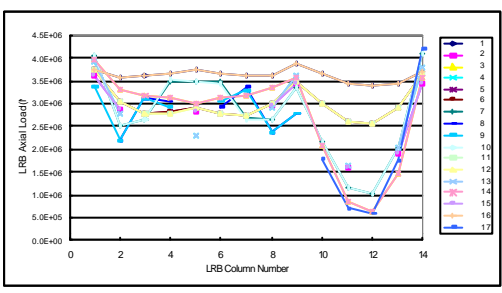
4.



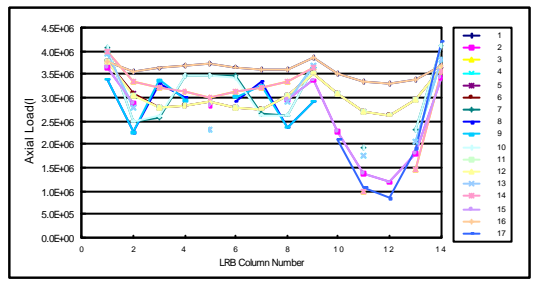
5. (1)



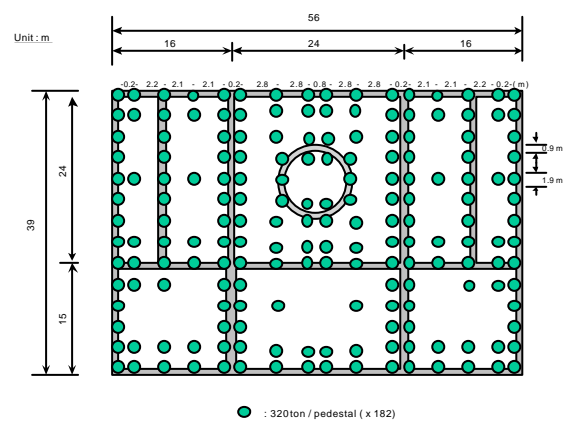
6. (2)



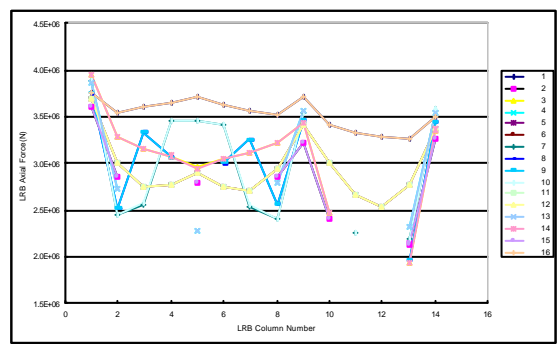
7. (1)



8. (2)



9. (3)



10. (3)

