



가

가

가

“

”



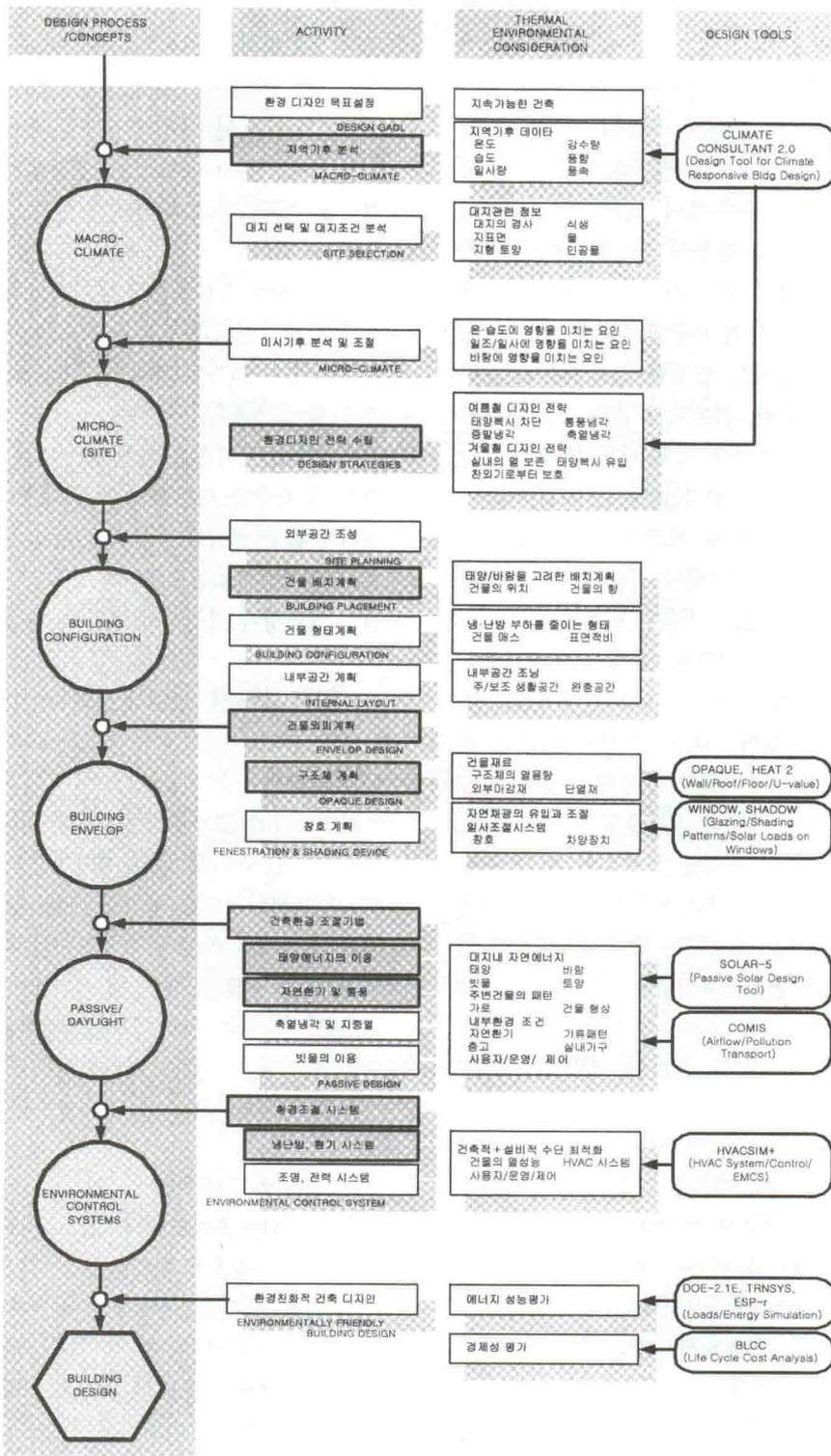
[2] 가()



[1] 가(가)

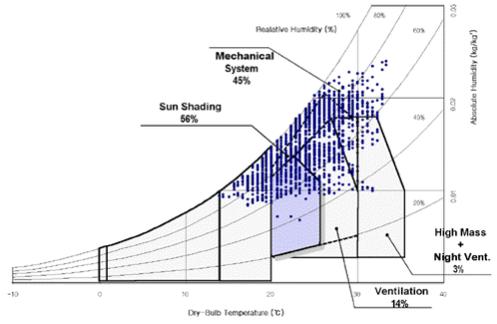
(shelter)

가



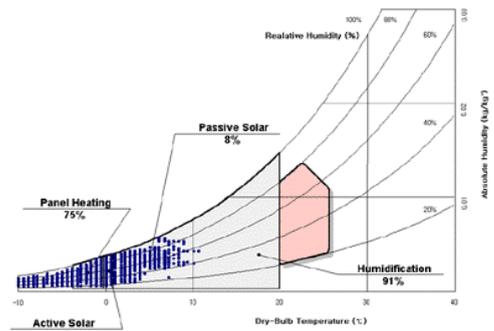
[그림 3] 환경디자인 프로세스

6 16 가
 , 가 8
 25 , 가 1 -0.7
 . 1,500mm,
 1,300mm 가 ,
 50 ~ 60%가 5 ~ 10%가
 ,
 7 가
 80 ~ 90% , 가
 1 4 30 ~ 50% 9, 10
 75% . 4 5



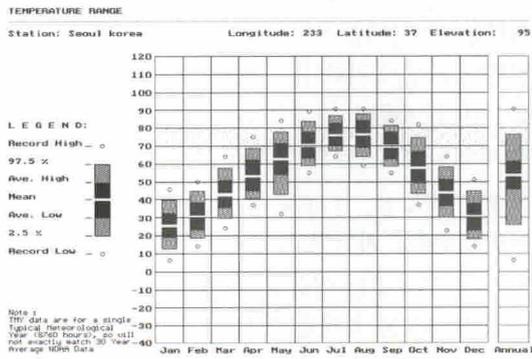
[6]

(2) () 가

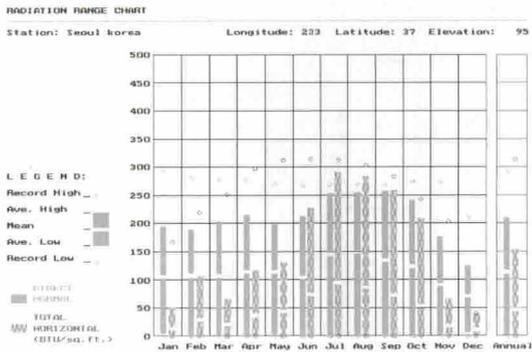


[7]

가 가
 . 6 7
 1 가



[그림 4] 서울지역 온도 데이터



[그림 5] 서울지역 일사량 데이터

[1] 가

(Summer)		(Winter)	
Sun Shading		Passive Solar	
Natural Ventilation		Humidification	
Mass Cooling + Night Ventilation	()	Panel Heating	()
Mechanical System		Active Solar	

8

() 가 “ ㄱ ”

가
가

“ 田 ”

가

가

() 가

가
가
가

가

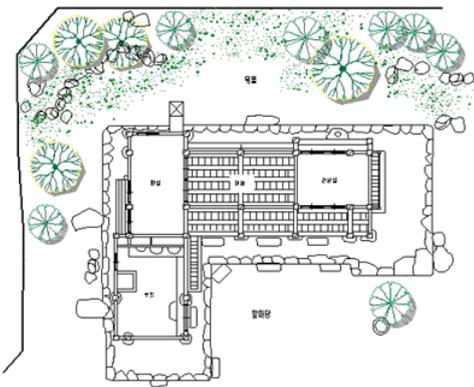
2.

9

가

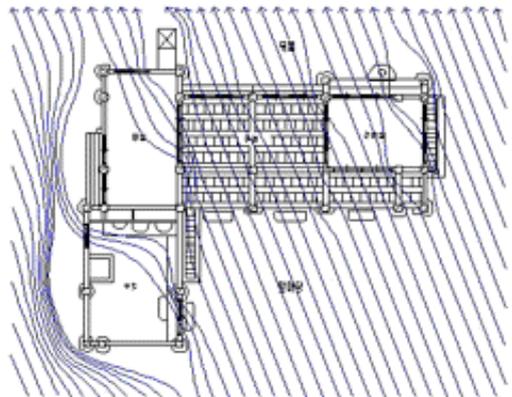
(1)

가



[8]

가



[9]

()

3.

가

27 29

가
가
가

5 7

가

(1)

가

가

가

가

26 28.5

9

가

12

가

가

가

가

가

10

Heat 2

(k) 0.204 W/m

가

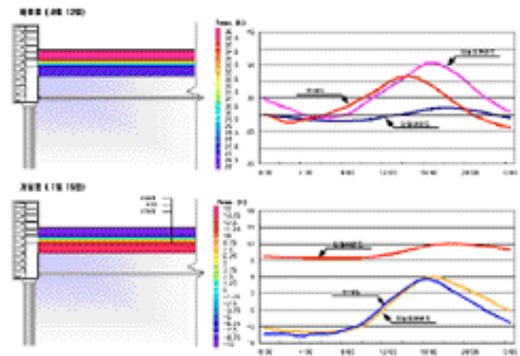
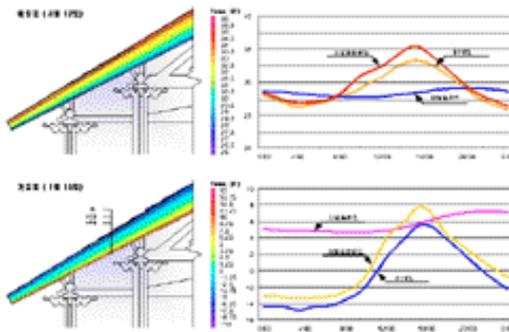
(k=1.628 W/m)

(k=0.616 W/m)

가

, 25 30cm

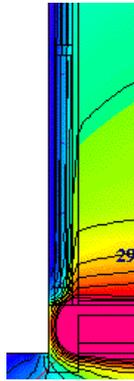
가



[10] 가



[11]



[12]



[13] ()



[14] ()

(2)

가

가

가

4.

가

(1)



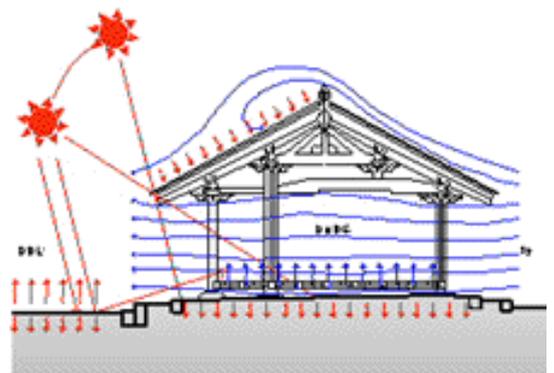
[15]

가

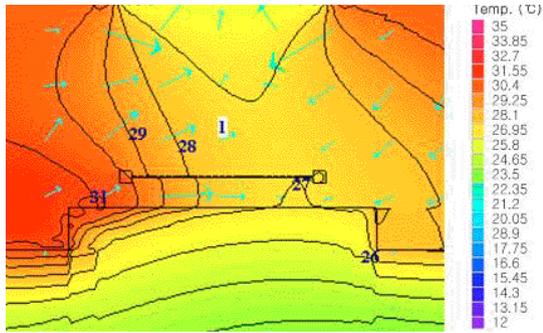
120cm

가

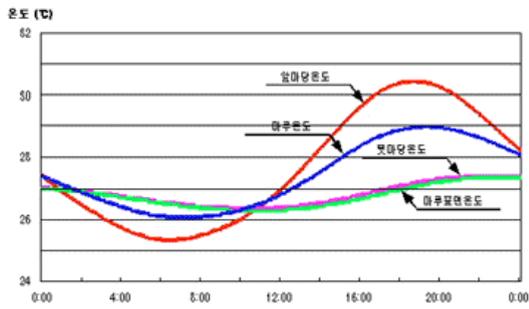
가



[16]



[17]



[18]

가

Heat2 TRNSYS15 가
17, 18

가

5.

가

()

(1) ()

(+)

16

가

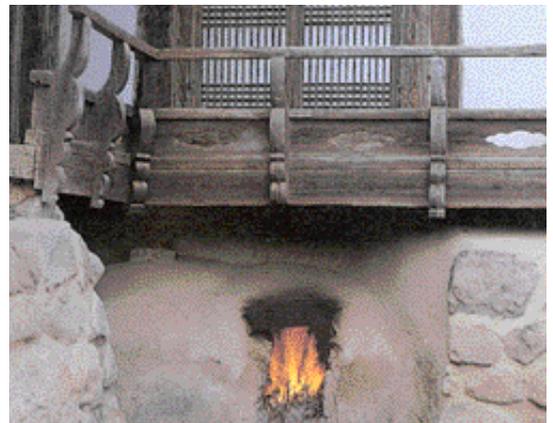
가

가

가

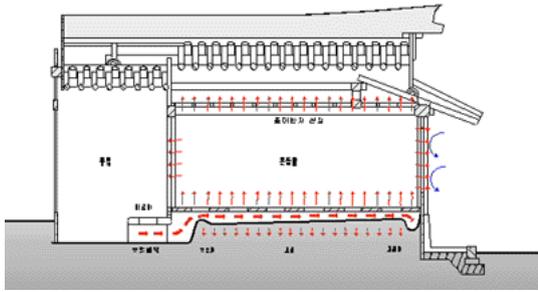
가

가



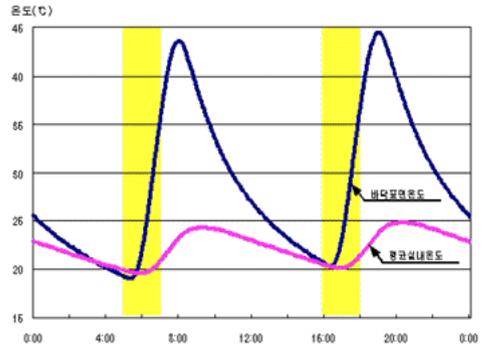
[19]

가



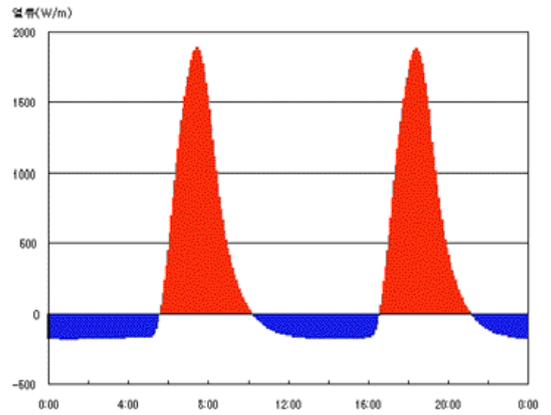
[20]

20



[22]

가



[23]

21

23

가

가
Heat2 가

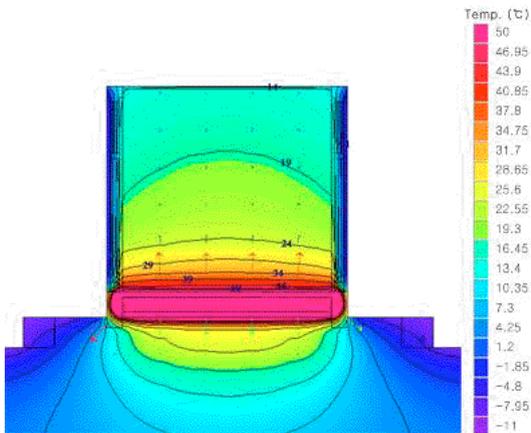
가

가

가

가

가



[21]

1
3 154.8
(Time-lag)

44
ASHRAE

가 29

가 가

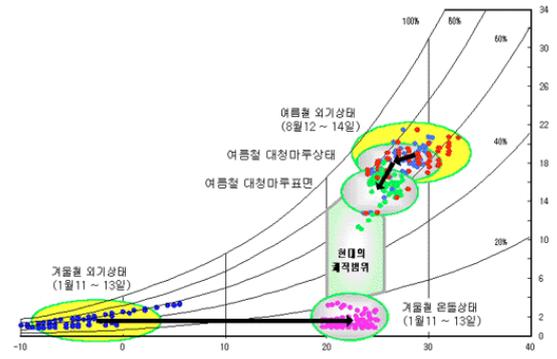
가

가

가

가

가



[24]

가

가

24 가

가

ASHRAE 20-60% (40%), 22.8 ()-25 () 가

22

가

27.5 ,

66%

19.6 25

< >

1. , 9309, pp.8 16.
2. 4 , 가 (), , 1994. 10, pp.365 370.
3. 3 , , 2000. 10, p.863.
4. 3 , 가 가, , 1995. 4, pp.259 262.
5. Heat2 Manual with brief theory and examples
6. TRNASHYS 15.0 Reference Manual