

(Roundabout)

(Roundabout)

1



1. ( )

1.

	30~40km/h	50~70km/h

2.

1970

(Roundabout)

			1	2	1	2
			1	2	1	2
( / )	12,000	15,000	20,000	40,000	20,000	40,000
	/				/	/
(km/ )	16~19	16~20	20~25	23~30	23~30	25~35
(m)	13~25	25~30	30~40	45~55	30~40	55~60
(m)	1~17	13~22	18~32	25~37	23~32	35~42
(m)	4~6	4~6	4~6	9~10	4~6	9~10
(km/ )	25	25	35	40	40	50
(m)	8~14	8~30	11~30	30~61	12~37	39~80
(m)	4~5	4~5	4~5	7.5~8.5	4~5	7.5~8.5

가





25  
5  
가

2~  
가

4.

가

가

3.

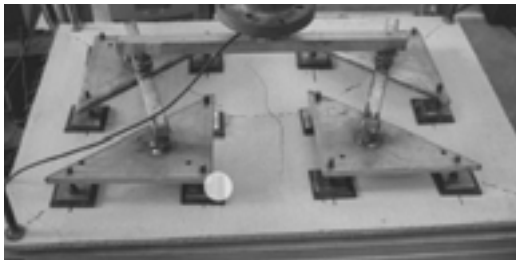
가  
가

가

1.

가

	NBL( )	SP( )	BRE( )	IRC( )	CSIRO( )
가	<ul style="list-style-type: none"> <li>· 4m × 3m × 1.5m ( × × )</li> <li>· 7m × 3m × 1.5m ( × × )</li> </ul>	<ul style="list-style-type: none"> <li>· 3m × 5m( × )</li> <li>· 3m × 3m( × )</li> </ul>	<ul style="list-style-type: none"> <li>· 가 ( 1m × 6m)</li> <li>· 가 :25</li> <li>· 가 (4 가 )</li> </ul>	<ul style="list-style-type: none"> <li>· Wall</li> <li>· Floor</li> <li>· Column(1000 )</li> </ul>	<ul style="list-style-type: none"> <li>· 3m × 3m( × )</li> <li>· 4.6m × 3.7m ( × )</li> </ul>



6. 3



7.

가

4.

5.

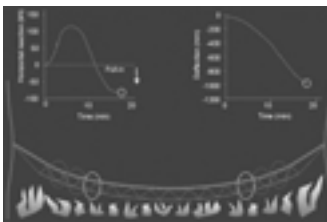
가

가  
VULCAN

50 MPa

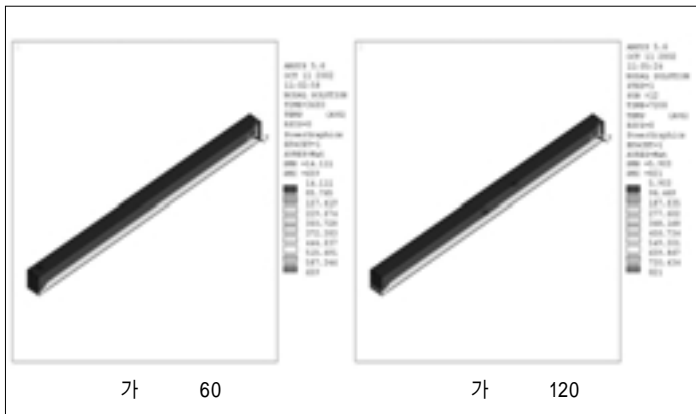


8. WTC 9/11



9. WTC composite floor system

FEM(Finite Element Method)



10. 가

RETScreen International :

가

1.

(OECD)

' 2003

2001

1 2,3205 TOE

, 1991 2001 10

가

OECD (15.4%) 5.4

82.9%

가

: 1. (2003).

2001 4 3,580

10

73.6% 가

(8.5%),

(18.7%), (1.2%)

가

, OECD 13.2%

'99 1 10

가

가가 5.7% 가

, 가

20.4% 90 가

가

가

hykim@kict.re.kr

가  
( 1).

NRCan(Natural Resources  
Canada) CANMET Energy  
Technology Centre-Varenes

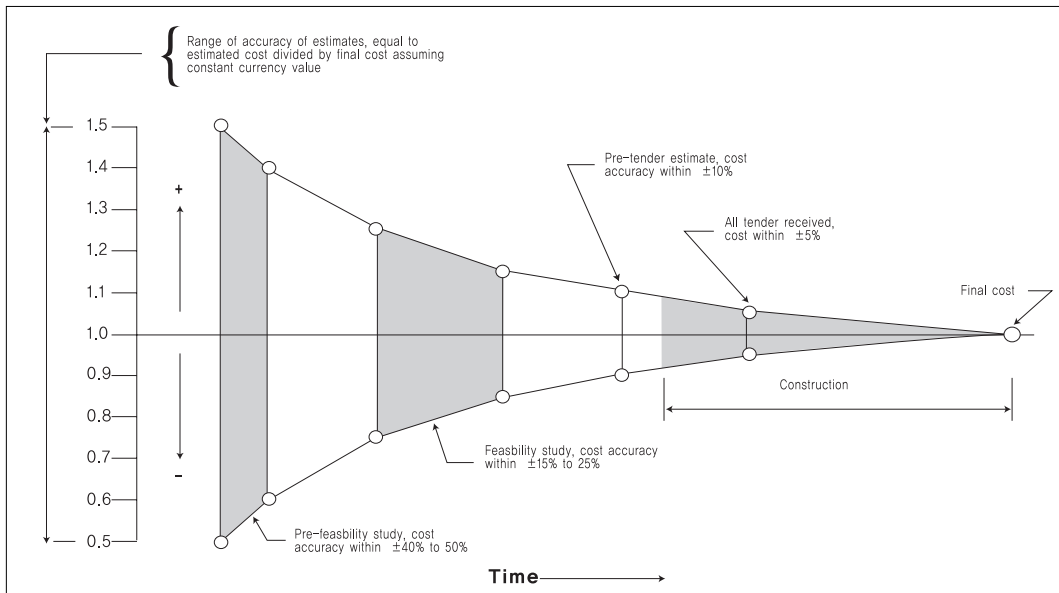
193

## 2. RETScreen International

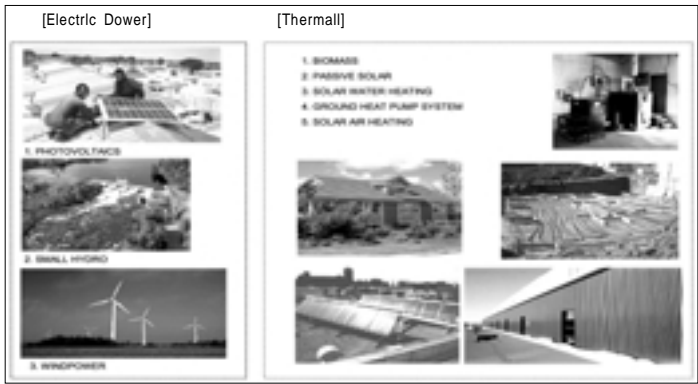
RETScreen (Renewable Energy  
Technology Screen)

가  
가  
가

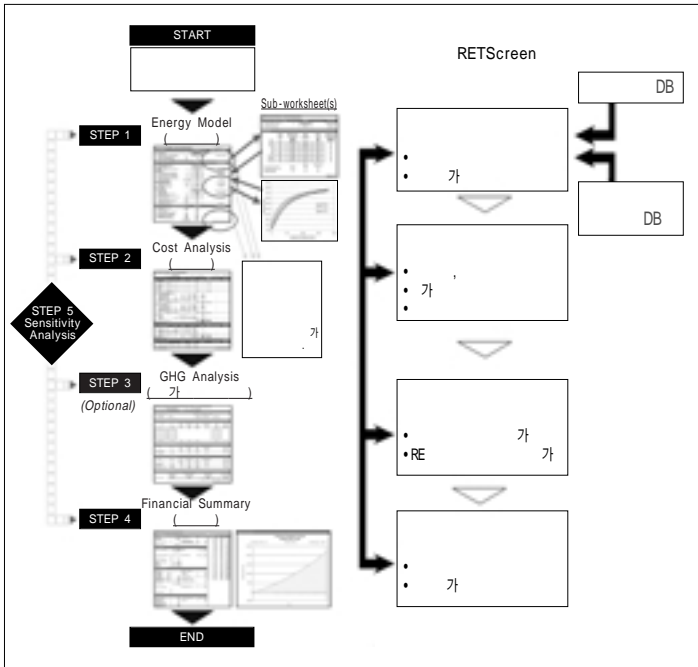
가



1.



3. RETScreen International



4. RETScreen International ( 가 )

RETScreen International

(<http://www.retscreen.net/>)

8 technology models

International Product Data:

1,000 Suppliers

International Weather Data

1,000 ground monitoring stations

Satellite-derived NASA Surface Meteorology and Solar Energy DATA Set

Online User Manual

Available Software and Data free-of-charge

3

(1) (Wind Energy), (2) (Small Hydro),

(3) (Photovoltaic)

(4)

(Solar Air Heating), (5)

(Bio Mass Heating), (6)

(Solar Water Heating),

(7) (Passive Solar Heating), (8)

(Ground-Source



Heat Pumps) 8

(1) 가 (Biogas Electricity Generation), (2)

(High Efficiency Lighting),

(3) (High Efficiency Motors), (4) (Com-

combined Heat and Power Systems),

(5) (District Heating),

(6) (High Efficiency Wood-stove for Heating),

(7) (Geothermal Electricity

Generation), (8)

(Solar Thermal Electricity Generation) 8

가

4 4

가,

: 1.

2004.

2. <http://www.retscreen.net/>

: ( )

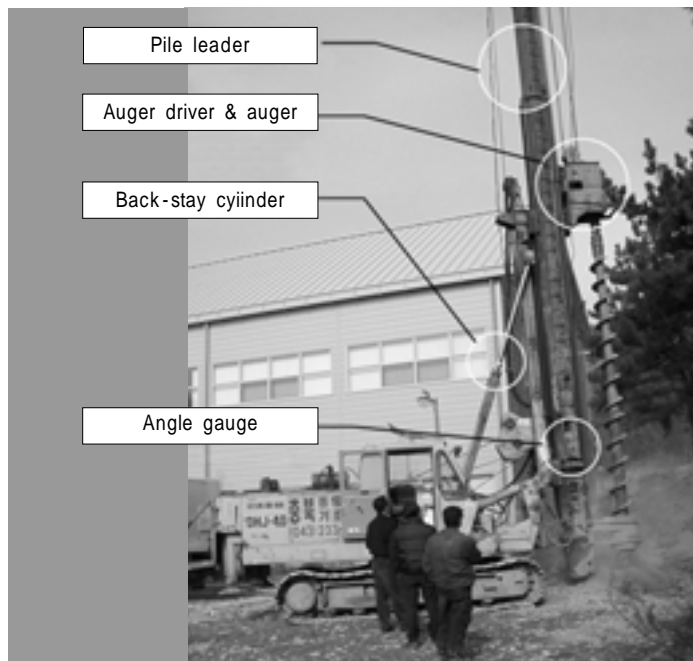
bear717@kict.re.kr



1.

( PHC

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1.

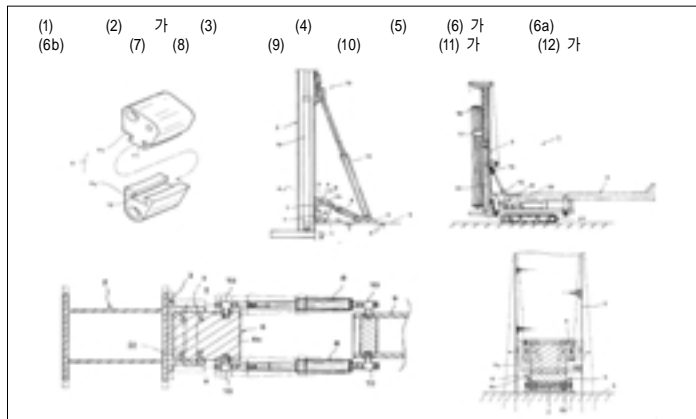
1 ,  
가

1.	가	-
2.		
3.		

, 가

back-stay cylinder  
angle

gauge

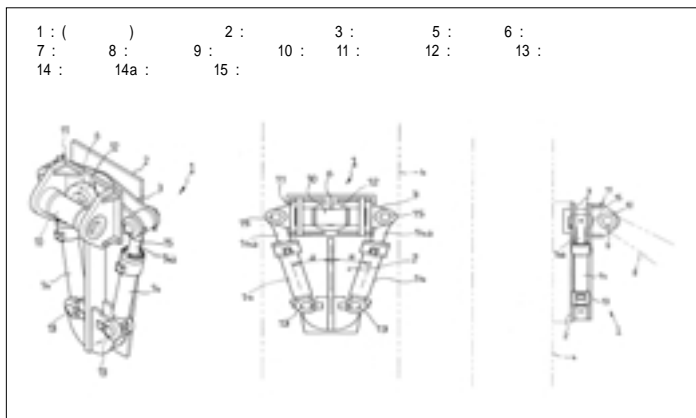


2. 가

가

, angle gauge  
가

가



3.

