(Infrared Radiation) 1/6 (Infrared Radiation) 가. () 가 0.8 1000µm 1800 (Wililam Herschel) 1890 1900 (N.Plank) 가 가 (Wisible Wave) (Micro Wave) 8.0 $1000 \mu m$ (IEC) 1. IBC (IEC Sect 841) Short Wave Infrared radiation $2\mu \mathrm{m}$ $0.8 \mu \mathrm{m}$ Medium Wave Infrared radiation $2\mu\mathrm{m}$ $4\mu\mathrm{m}$ Long Wave Infrared radiation $4\mu \mathrm{m}$ $1000 \mu m$ 가시광선 Ultraviolet Infrared X rays rays 적외선 Microwaves Radio waves rays 10-6 10-10-2 10 Visible Neat Far Intermediate infrared infrared infrared 0,3 0,72 1.5 5,6 1000 1. Spectrum.

1) Short Wave Infrared radiation(

(

가

2) Medium Wave Infrared radiation(

)

가

가

1.

 $0.8 \mu \mathrm{m}$

가

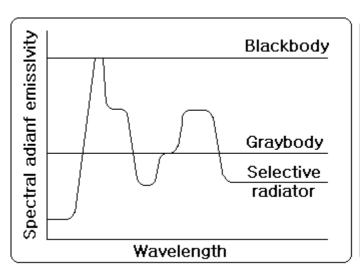
 $2\mu\mathrm{m}$

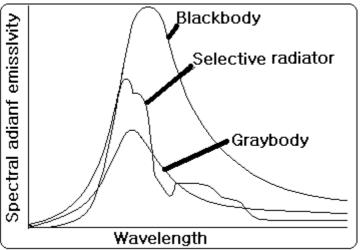
(Infrared Radiation) 2/6 Wave $4\mu\mathrm{m}$ $2\mu\mathrm{m}$ 가 Long Wave Infrared radiation(Microwave 가 $1000 \mu \mathrm{m}$ $4\mu\mathrm{m}$ 가 . Long wave $1000 \mu m$ Mirco 가 Microwave 2. 1) 가 (Infrared Heating) 가 가 가 가 가 2) (Thermal radiation) 가 (°K) 3) (Full radiatior) (Black Body) (Plank) 3. 1) 가 (Plank) (Black Body) ()= (Gray body) =1 ()가

1.

2004-07-04 / 1:59

(Infrared Radiation) 3 / 6





2.

2) ()

, , ,

(,) r(). ()

l = +r+ (1) . 가 r=0

=1- β

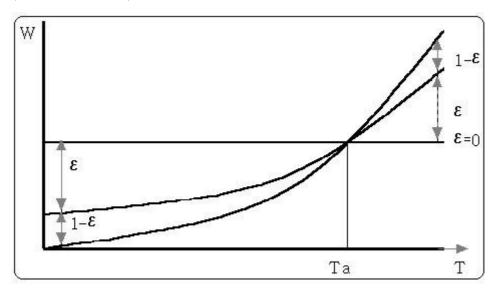
(?) . = + + + (R) + (A) + (B) + (B

0 ()=1- (R) ()=1 (A)= (: Emissivity) () 0 ()=

1- (R) (=0) 0 () 1

가

1. (Infrared Radiation) 4 / 6



3.

100 100 ()

= 1

가 .

Wi = W(T) (1 -)Wi

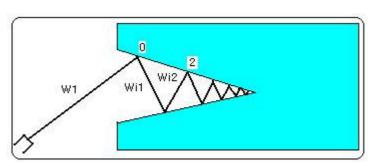
$$W_i = \lim_{n \to \infty} \sum_{t=0}^{n} \{ \epsilon W(T) + (1-\epsilon)W_i 2 \}^{12} = W(T) \epsilon \{ \frac{1}{1-(1-\epsilon)} \} = W(T)$$

$$Wi = W(T) (1 -) \{ W(T)=(1 -)Wi2 \}$$

$$Wi = WT$$

(.) 1 가 .

•



1. (Infrared Radiation) 5 / 6

4.

4)

25 가 40 가

. 가 .

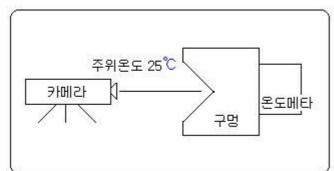
[(5)a]

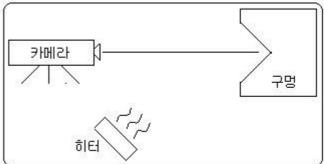
100 가 .

가

[5(b)]

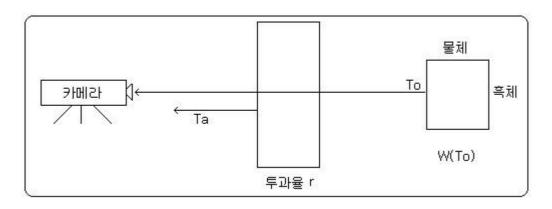
(a) (b)





5.

5)



6.

Wi Wi=wr(TO)+(1-r)W(Ta)

6.

Wi=r[W(TO)+(1-r)W(Ta2)]

Ta=Tal=Ta2

Wi

1. (Infrared Radiation) 6 / 6
Wi=r W(TO)+(1- r)W(Ta)

() () 가 =1

가 () 가 (

4.

. 7.

가.

120 가 90°

가 .