

a = absorptive power or absorptance

$$a = \frac{Q_A}{Q} \quad \text{--- (3)}$$

Absorptive power of a surface is defined as "the ratio of the radiant energy absorbed by it in a given time to the total radiant energy incident on it in the same time".

Note: If there is no transmission through a body

by eq (2) $a + r = 1$

$$a \uparrow, r \downarrow$$

Perfect Black Body: $t = 0, r = 0$ then

$$a = \frac{Q_A}{Q} = 1$$

$$\Rightarrow Q_A = Q$$

"A body which absorbs whole of the heat