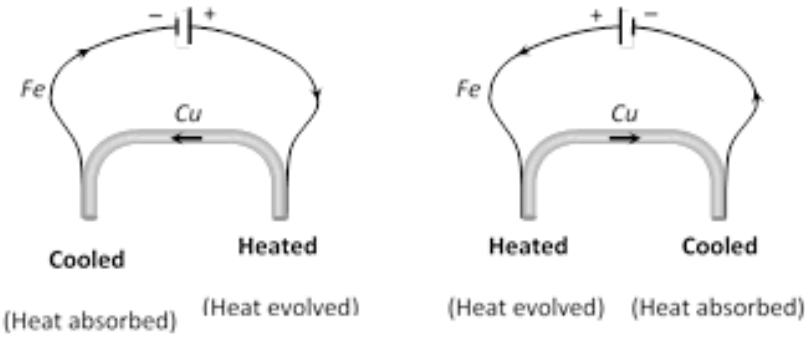
Peltier Effect:

When current is passed through a junction of two different metals, the heat is either evolved or absorbed at the junction. This effect is known as Peltier effect. It is the reverse of Seebeck effect. (When a positive charge flows from high potential to low potential, it releases energy and when positive charge flows from low potential to high potential it absorbs energy.)



Peltier co-efficient

$$(\pi)$$

: Heat absorbed or liberated at the junction is directly proportional to the charge passing through the junction i.e.

$$H \propto Q \Rightarrow H = \pi Q;$$

where

$$\pi$$

is called Peltier co-efficient. It's unit is J/C or volt.

Peltier co-efficient of a junction is the amount of heat absorbed or liberated per sec. When 1 amp of current is passed to the thermo couple.

It is found that

$$\pi = T \frac{dE}{dT} = T \times S$$

; where T is in Kelvin and

$$\frac{dE}{dT} = P;$$

Seebeck coefficient = S;