
Condition for provision of energy to the junction in peltier effect

- Flow of current from higher potential to lower potential

Condition for provision of energy by the junction in peltier effect

- Flow of current from lower potential to higher potential

Cause of reversibility of peltier effect

- Interchange hot and cold junction on changing polarity of source
- Interchange hot and cold junction on changing direction of current

Junctions present in the setup of experiment of variation of thermo emf with temperature of hot junction

- The hot junction
- The cold junction

Major experimental instrument of experiment of variation of thermo emf with the temperature of hot junction

- Thermocouple

Mediums of junction in experimental setup for verification of thermo emf with the temperature of hot junction

- Melting ice
- Hot oil Bath

Nature of variation of Temperature of cold junction in experimental setup for the verification of thermo emf with the temperature of hot junction

Instrument for measurement of temperature of hot junction in experiment of variation of thermo emf with the temperature of hot junction

- Thermometer

Working Principle of experiment of thermo emf with the temperature of hot junction

- One junction is at cold bath.
- One junction is at hot bath.
- The temperature of hot bath is increased.
- The increment of temperature is done gradually.

Resultant condition of same temperature of both junctions of thermocouple in experiment of variation of thermo emf

- Galvanometer shows no deflection.
- Thermo emf is not produced.

Abbreviation of neutral temperature in the experiment of thermo emf with the temperature of hot junction

$$\theta_n$$

Condition at neutral temperature of hot junction in the experiment of thermo emf with the temperature of hot junction

- Temperature at the instant of maximum production of thermo emf.

Factors affecting neutral temperature in thermocouple

- The nature of thermocouple.
- The properties of the material of thermocouple are under consideration in nature of thermocouple.

Factors not affecting neutral temperature in thermocouple

- Temperature of hot junction

Abbreviation for the temperature of inversion in the experiment of variation of thermo emf with the temperature of hot junction

$$\theta_i$$

Interval for condition for temperature to tend to temperature of inversion in observation of the experiment in variation of thermo emf with the temperature of hot junction

- The temperature interval after neutral temperature.

Magnitude of thermo emf at temperature of inversion in observation of the experiment in variation of thermo emf with the temperature of hot junction

- Zero

Sign of thermo emf after the increment of temperature beyond the inversion temperature in experiment of variation of thermo emf with the temperature of hot junction

- Negative

Factors affecting the temperature of inversion in variation of thermo emf

- The nature of thermo couple
- The temperature of cold junction

Nature of graph of variation of thermo emf with the temperature of hot junction

- Sinosudial

Shape of graph of variation of thermo emf with the temperature of hot junction

- Symmetrical parabola

Expression for magnitude of thermo electric emf in the equation of parabola in the variation of thermo emf with temperature

$$E = \alpha\theta + \frac{1}{2}\beta\theta^2$$

Derivation for expression for magnitude of general neutral temperature in variation of thermo emf with temperature The graph is a symmetrical parabola

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$$\theta_i - \theta_n = \theta_n - \theta_c$$

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$$\theta_n = \frac{\theta_c + \theta_i}{2}$$

Expression for magnitude of general neutral temperature in variation of thermo emf with temperature

$$\theta_n = \frac{\theta_c + \theta_i}{2}$$