mmon Types of Thermocouples

Copper – Constantan (up to 400°C)

(ii) Iron – Constantan (up to 600°C)

(iii) Chromel – Copper (up to 800°C)

(iv) Chromel – Alumel (up to 1200°C)

(v) Platinum – Platinum/rhodium (up to 1600°C)

3.3 Kinds of Thermocouples

(i) Single Thermocouples – has one hot junction and one cold junction.

(ii) Integral Thermocouples – is a multi-junction thermocouple made of the same wires, say A and B. Their hot and cold junctions are welded in such an order A, B, A, B, etc so that the total emf value equals to the sum of the individual emf values of the elements of the integral thermocouple. This kind of thermocouples is used when the measured temperature differences is small.

(iii) Differential Thermocouple – is a combination of 2 thermocouples both made of the same wires, say, A, B and connected in an order A, B, B, A. In this case the resultant emf value is the difference between the emf values of the two thermocouples connected together at their cold junctions. These thermocouples are used when a differenle of two temperatures is measured.

4.0 EQUIPMENT

Single, integral and differential thermocouples.