**EXPERIMENT NO. - 2**

**Object:** Determination of Vicat Softening Temperature of given plastic sample

**Equipment:** Vicat Softening Temperature Measuring Apparatus

**Specimen**: Use at least two specimens to test each sample. The specimen shall be flat,

between 3 and 6.5 mm thick, and at least 10 by 10 mm in area or 10 mm in

diameter. When necessary to use multiple layers, no more than three layers of

material may be stacked in order to achieve the minimum thickness. The

specimens may be cut from sheet or molded material.

**Significance:** The Vicat softening temperature is the temperature at which a flat-ended needle

of 1mm2 penetrates the specimen to the depth of 1 mm under a specific load. The

temperature reflects the point of softening to be expected when a material is used in an

elevated temperature application. Data obtained by this test method may be used to compare

the heat-softening qualities of thermoplastic materials.

**Procedure:**

* Polymer sheet samples of dimensions 3/4 inch. wide and 1/8 inch. thick are taken. Three specimens are necessary.
* The apparatus for testing Vicat Softening Point consists of a temperature regulated oil bath with flat ended needle penetrater so mounted as to register degree of penetration on a gauge.
* A specimen is placed in the testing apparatus so that penetrating needle rests on its surface at least 1mm from the edge
* A load of 10N or 50N is applied to the specimen
* The specimen is then lowered into an oil bath at 23 degrees C.
* The temperature on the bath is raised at the rate of 500C/ hr. or 1200C/ hr
* The temperature at which the needle penetrates 1 mm is indicated on graduated scale of the apparatus and is considered as the Vicat Softening Point.

**Results:** TheVicat Softening Temperature of given plastic sample is -------------0C