Measurement of: Bending Strength, Tensile Strength and Compressive Strength for Solids

Equipment: Instron Universal Testing Machine Model 5965, USA

Property Measured: Bending Strength, Tensile Strength and Compressive Strength for Solids

Photograph (small size)

Instron Universal Testing Machine

Basic Principle: Working principle is based on the load and displacement; load is applied to the specimen which can be converted into a stress-strain curve, which in turn, can be exploited to get required data. One sample will take about an hour and depending upon the type of test the testing time is variable. **The other parametrs that can be obtained from the raw data are flexural modulus, % elongation, young modulus and yield strength. For an error free measurement the dimensions of the specimen should be correct. Span to depth ratio vary from sample to sample. The load – Displacement curve signifies that load is directly proportional to the displacement until they achieve the maximum value which is called yield strength of the material.**

Capabilities: Measurement of Flexural Strength, Flexural Modulus, Tensile Strength and Young`s Modulus, Compressive Strength and Compressive modulus. The stress strain data can also be obtained.

Sample Requirement: Measurements will be done as per ASTM Standards D790 (for Flexural Strength), D638 (for Tensile Strength) and C695-91 (for Compressive Strength)