**EXPERIMENT NO. - 8**

**Object:** Determination of Impact Strength of a Polymer Film by Falling Dart Impact Taster

**Test Method:** As per IS-2508-1984, ASTM D1709, ISO 7765-1

**Specimen:** Film samples that can be cut to 230 mm x 230 mm (9" x 9") specimens  
 A minimum of 30 specimens are required for the test

**Scope:** Falling dart impact is a traditional method for evaluating the impact strength or toughness of a plastic film. This test uses a single dart configuration and a single drop height, while varying the weight of the dart. Test results can be used either as a quality control evaluation or for end use comparisons.

**Procedure:**

* Measure the thickness of the film in Microns and decide the Impact Loads as per IS Table.
* Take 10 samples of 10x10 inch sized and clamp the test specimen securely in a pneumatic ring at the base of the drop tower. The mounting bracket is adjusted to the appropriate drop height, and the dart is inserted into the bracket.
* Create the Vacuum and release the dart onto the center of the test specimen from the distance fixed as per IS.
* Observe the sample for failure and repeat the rest 9 samples for same load.
* Calculate the number of failures per 10 samples e.g. 8 pass /2 fail.
* Repeat for another 10 samples for load higher to previous one.
* Report the Load in Grams at which 50 % samples fail.

**Result:** The falling dart impact strength of given plastic film is ---------