

## **EXPERIMENTAL/CALIBRATION PROCEDURE OF PLASTIC SHEET TESTING MACHINE**

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### **ABSTRACT**

In this work our main objective is to check the quality of plastic sheet paper of different companies and suggest best of one, so that farmers in India should know the quality and get awareness about the plastic sheet paper. This test method may be used to test all plastics within the thickness range described and the capacity of the machine employed. At this checking of tensile strength all size of sheet paper was performed. This tensile test measure the force required to break a specimen and extent to which the specimen stretches or elongate that braking point.

**Keywords: Calibration, Machine, Plastic paper, sheet**

### **1. Experimentation**

- a) First of all calibrate the load cell by using standard weights.
- b) Measure the initial dimensions offset specimen. Eg .length, width, thickness.
- c) Fix the test specimen between two clamping units.
- d) Set the load indicator at zero position by employing a fine & coarse adjustment knob.
- e) Mark the initial position of the movable clamping member.
- f) Apply the tensile load gradually by employing a lifting mechanism.
- g) Record the elongation of test specimen & period of your time elongation is in mm & load is in kg.

- h) Take the reading until the specimen breaks into two pieces.
- i) Plot the load versus elongation graph.



**Figure 1 Calibration of Load cell**



**Figure 1.2 Elongation of Plastic Sheet**

## 2. Observations

**Table No 1 Specimen name: HDPE super seal**

Sr.	Without neck specimen	Load (kg)	Elongation (mm)
1	Length -100 m Width -10mm Thickness- 1.5mm	17	10
2		18	15
3		20	20
4		20	115
5		21.4	450

**Table No 2. Specimen name: HDPE super seal**

Sr.	With neck specimen	Load (kg)	Elongation (mm)
1	Length -100 m Width -10mm Thickness- 1.5mm	19	10
2		28	15
3		16	20
4		17	23
5		18	25 (break)

**Table No3 Specimen name: LDPE**

Sr.	Without neck	Load (kg)	Elongation (mm)
1	Length -100 m Width -10mm Thickness- 0.5mm	5	5
2		5.8	20
3		6	45
4		6.3	75
5		6.2	370

**Table No 4. Specimen name: LDPE**

Sr.	With neck specimen	Load (kg)	Elongation (mm)
1	Length -100 m Width -10mm Thickness- 0.5mm	5	5
2		5.6	18
3		7	20
4		6.3	22(break)

## 3. Results and Discussion

- The actual design and fabrication work of the testing machine is performed as a part of project title.
- The actual load carrying capacity of two plastic specimens is studied by number of testing on this machine.

#### 4. Conclusions

- This machine having high accuracy and it shows correct load against any plastic sheet.
- This machine gives the result for HDPE having thickness 1.5 mm give load charring capacity 20 kg and Maximum Elongation 450 mm
- This machine gives the result for LDPE having thickness 0.5 mm give load carrying capacity 6.3 kg and Maximum Elongation 370 mm

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