To Measure Thickness of a Given Sheet Using Screw Gauge

Aim
To measure thickness of a given sheet using screw gauge.

Apparatus
Screw gauge, sheet (it must be rigid) or a notebook and magnifying lens.

Theory
Same as in Experiment 2A.

Procedure
Steps 1 to 6 are same as in Experiment 2A.
7. Repeat steps 4,5,6 for 5 different positions spread equally though out the surface of the sheet. Record observation in tabular form.
8. Find total reading and apply zero correction in each case.
9. Take mean of different values of thickness.

Observations
1. Determination of least count of the screw gauge.
Same as in Experiment 2A.
2. Zero Error.
Same as in Experiment 2A.
3. Table for the thickness (t)

Serial No. of Observations	*Linear Scale Reading (N) (mm)*	*Circular Scale Reading*		*Total Reading*	
		No. of Circular Scale division on reference line (n)	*Value [n × (L.C.)] (mm)*	*Observed $t_0 = N + n \times L.C.$ (mm)*	*Corrected $t = t_0 + c$ (mm)*
1.					$t_1 =$
2.					$t_2 =$
3.					$t_3 =$
4.					$t_4 =$

Calculations
1. Find value of t for each observation and write the observed value t0 in column (4a).
2. Write corrected value of t in column (4b).

3. Find mean of values of t recorded in column (4b).

$$\text{Mean thickness of the sheet, } t = \frac{t_1 + t_2 + t_3 + t_4}{4} \text{ mm.}$$

Result

The thickness of the given sheet is…….. mm.

Precautions

Same as in Experiment 2A.

Sources of error

Same as in Experiment 2A.