Expt. No. 3 Date

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

→ Apparatus required - sheet and screw gauge.

→ Procedure -

1. Find the pitch and least count of the given screw gauge.
2. Determine the zero error with proper sign.
3. Divide the surface of the sheet into four zones.
4. Place the sheet between two studs of the screw gauge.
5. Note the number of divisions of the main ~~table~~ scale uncovered by the edge of the cap. The corresponding reading is called main scale reading.
6. Using magnifying lens, find which number of circular scale division coincides with the reference line. The product of screw gauge reading and least count gives circular scale reading.
7. Release the sheet gently.

Teacher's Signature :

→ Observations :-

S. No	MSR	No. of div. of screw gauge coinciding	SGR x L.C.	MSR + SGR = d	r = d/2
1.	0	15	15 x 0.001 = 0.015	15	7.5
2.	0	15	15 x 0.001 = 0.015	15	7.5
3.	0	15	15 x 0.001 = 0.015	15	7.5

→ Calculation :-

Thickness of sheet = 15

→ Result :-

→ The mean corrected thickness of the given sheet is - - - - - mm.

→ Precautions

1. Zero error should always be taken into account.
2. If the screw gauge is free from zero error, this fact should also be recorded.
3. The screw should always be rotated in the same direction to avoid back lash error.

→ Sources of error

1. The sheet may not be of uniform thickness all through.
2. The divisions on the pitch scale and the head scale may not be evenly spaced.