JOB NO: 2

STUDY OF SMALL INSTRUMENTS

1) Vernier Caliper

Scales:

- Main scale

- Vernier scale

Function:

It is used to measure

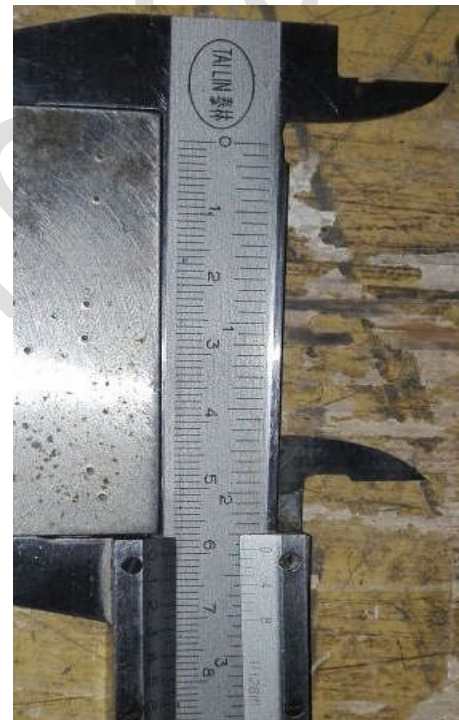- Internal and external diameter

- linear measurement and thickness

Least Count: 0.05mm

Actual Reading:

Main scale reading =60mm

Vernier scale reading= 14*0.05=0.07mm

Length =60+0.07=60.07mm

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2015-civ-20

2) Screw Gauge

Scales:

1) Main scale
2) 2)circular scale

Function:

It is used to measure

- External diameter

- linear measurement and thickness

Least Count: 0.001 inch

Capacity: 1 inch

Actual Reading:

Main scale reading =0.61 Inch

Circular scale reading=24*0.001=0.024 inch

Length = 0.634 inch

2)Batty's Entensometer

Scales:

- Large scale (25 div)

- Small scale (100 div)

Function: It is used to measure

- Extension

- Elongation

Least Count: O.001mm

Capacity: 25 mm

Actual Reading:

Small scale reading= 50

Large scale reading = 3

Total division = 50+3(100)=350

Actual reading = 350 * 0.001 = 0.35mm

4) Batty's Deflection Gauge

Scales:

- Large scale (10 div)

- Small scale (100 div)

Function:

It is used to measure deflection in structural member

Least Count: 0.001 inch

Capacity: 1 inch

Actual Reading:

Small scale reading= 70

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Large scale reading = 4

Total division = 70+4(100) =470

Actual reading = 470 * 0.001 = 0.47 inch

5) Dail Guage

Function:

It is use to measure

- External diameter

- linear measurement and thickness

Least Count: 0.0025 Inc

Capacity: 1 inch

6) Spring divider

Function:

It is used to measure

- Internal and external diameter

- linear measurement and thickness

Least Count: It has no its own L.C. L.C of ruler is considered

Capacity: It has no its own capacity.

7) Inside Caliper

Function:

It is used to measure internal daimeter.

Least Count: It has no its own L.C. L.C of ruler is considered

Capacity: No capacity

8) Outside Caliper

Function:

It is used to measure the internal diameter.

Least Count:

It has no its own L.C. L.C of ruler is considered

 Capacity: No capacity