

**DEFLECTION OF A SIMPLY SUPPORTED BEAM**

**Results**

W

L/2

L

**δ**

Figure 3: Deflection at the mid- span due to the point load.

Span of tested beam, L = \_\_\_\_\_\_\_\_\_\_\_\_\_mm

Width of beam specimen, b = \_\_\_\_\_\_\_\_\_\_\_\_\_mm

Depth of beam specimen, d = \_\_\_\_\_\_\_\_\_\_\_\_\_mm

Moment of inertia of beam specimen, (bd3/12) = \_\_\_\_\_\_\_\_\_\_\_\_\_mm4

Dial gauge reading, 1 div = 0.01 \_\_\_\_mm

**Table 1: Deflection at the mid-span**

|  |  |  |
| --- | --- | --- |
| **APPLIED LOAD****(N)** | **EXPERIMENTAL MID-SPAN DEFLECTION** | **THEORETICAL****DEFLECTION****(mm)** |
| **TEST 1** | **TEST 2** | **AVERAGE** |
| **(div)** | **(mm)** | **(div)** | **(mm)** | **(div)** | **(mm)** |
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1. Using the tabulated data in Table 1, plot the graph of load against experimental deflection.
2. Draw the best-fit curve through the plotted points and hence deduce the relationship between the applied load and the mid-span deflection result.
3. Calculate the modulus of elasticity using the slope of the graph obtained, assuming a linear relationship between load and deflection as shown below.

**Discussion/Analysis**

1. From this experiment what is the relationship between the applied load and the displacement.
2. How the experimental result does differs with the theoretical in terms of accuracy.

**Conclusions**

Refer to the objective.

**References/Appendices**

1. Text book, reference books from the library or electronic references from the internet.
2. Related photo or plate due to the experiment.