

2. The following data are for cold-worked carbon steel tested in a tensile test:

Original diameter : 12.725 mm
 Final diameter : 8.433 mm
 Original gauge length : 50.8 mm
 Final gauge length : 60.71 mm

Load (kN)	5.5	11.7	17.0	22.1	27.4	40.5	53.1	60.5	64.7	66.9	68.7	70.5	71.5	72.1	72.8
Extension (mm)	0.010	0.020	0.030	0.040	0.050	0.076	0.102	0.127	0.152	0.178	0.203	0.225	0.305	0.356	0.508

The maximum load was 74.3 kN. Plot the **stress – strain** graph and determine;

- realistic estimation of the modulus of elasticity
- relationship between stress and strain