



Mechanical Testing Laboratory 'Performing a Tensile Test to Metallic Materials'

You will be given a plain carbon steel specimen in the laboratory. Measure the followings;

Initial diameter, d_0mm
Gauge length, l_0mm
Diameter after fracture, d_fmm
Length after fracture, l_fmm

Using provided load, F (N) – elongation, Δl (mm) data draw engineering stress-strain diagram and based on this diagram, also do the followings;

- Compute the modulus of elasticity.
- Find the yield stress of the material in MPa.
- Calculate the maximum load in kgs that the material may carry.
- Compute the modulus of resilience and toughness.
- Find the ductility in % elongation (EL) and % Reduction in area (RA).