
PROBLEM S1-1 QUESTION**Determining Material Properties From Test Results**

Using the (uniaxial) Tensile Stress data listed in Table 1, calculate the following parameters:

- Young's Modulus, E (Pa)
- The Yield Stress, σ_y (Pa)
- The Ultimate Stress σ_u (Pa)
- Poisson's ratio, $\nu = (\text{Transverse Strain}) / (\text{Axial Strain})$

Table I

<u>L (mm)</u>	<u>D (mm)</u>	<u>F(kN)</u>
50.000	7.0000	0.00
50.012	6.9995	2.00
50.025	6.9990	4.00
50.038	6.9985	6.00
50.057	6.9975	8.00
50.131	6.9928	9.99
50.501	6.9674	11.90
52.113	6.8592	13.45
55.467	6.6489	13.89
69.751	5.9294	12.43
129.415	4.3533	7.44