

22 A copper wire has length 1.7 m and uniform diameter 0.64 mm.

The Young modulus of copper is 1.2×10^{11} Pa.

What is the spring constant of the wire?

A $2.3 \times 10^4 \text{ Nm}^{-1}$

B $9.1 \times 10^4 \text{ Nm}^{-1}$

C $4.5 \times 10^7 \text{ Nm}^{-1}$

D $7.1 \times 10^7 \text{ Nm}^{-1}$