21 Four solid steel rods equally support an object weighing 10 kN. Each rod is of length 2.0 m and cross-sectional area 250 mm^2. The weight of the object causes the rods to contract by 0.10 mm. The rods obey Hooke's law.

What is the Young modulus of steel?

A $2.0 \times 10^8 \, N \, m^{-2}$

B $2.0 \times 10^{11} \, N \, m^{-2}$

C $8.0 \times 10^8 \, N \, m^{-2}$

D $8.0 \times 10^{11} \, N \, m^{-2}$