

- 5 (a) Tensile forces are applied to opposite ends of a copper rod so that the rod is stretched. The variation with stress of the strain of the rod is shown in Fig. 5.1.

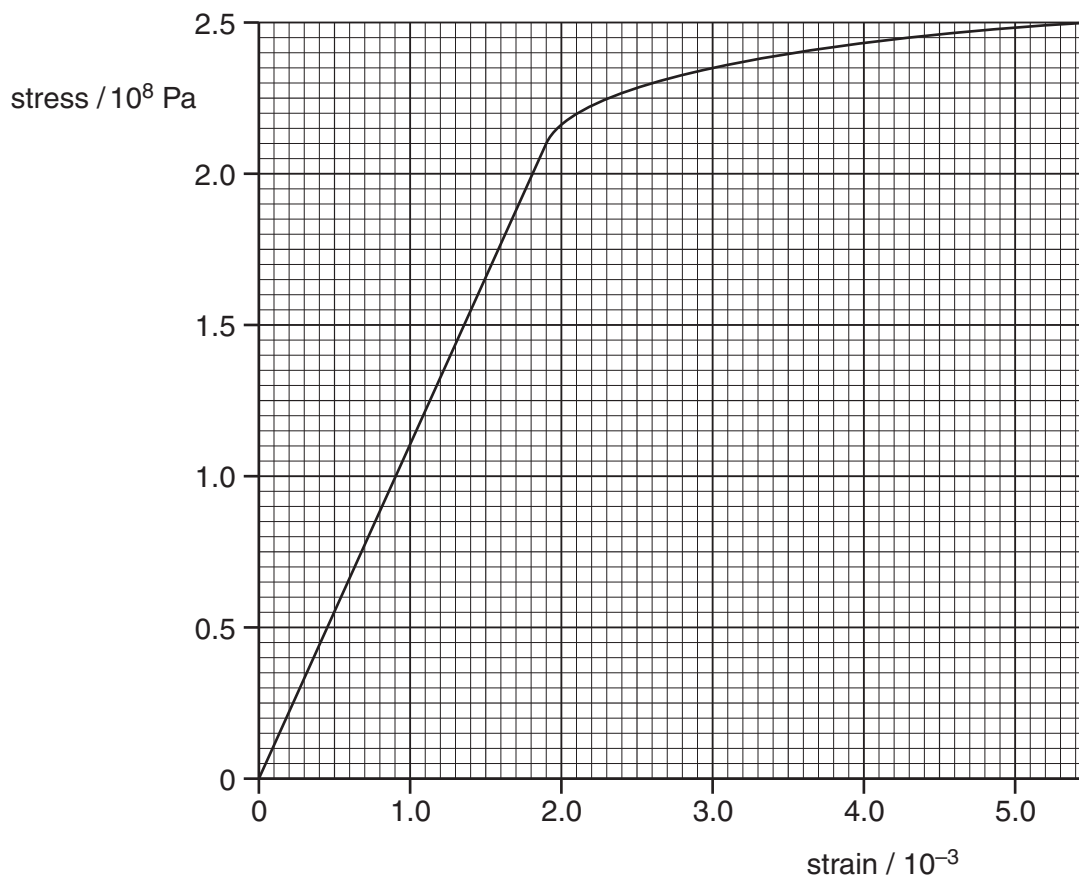


Fig. 5.1

- (i) Fig. 5.1 to determine the Young modulus of copper.

Young modulus = Pa [3]

- (ii) On Fig. 5.1, sketch a line to show the variation with stress of the strain of the rod as the stress is reduced from 2.5×10^6 Pa to zero. No further calculations are expected. [1]

- (b) The walls of the tyres on a car are made of a rubber compound. The variation with stress of the strain of a specimen of this rubber compound is shown in Fig. 5.2.

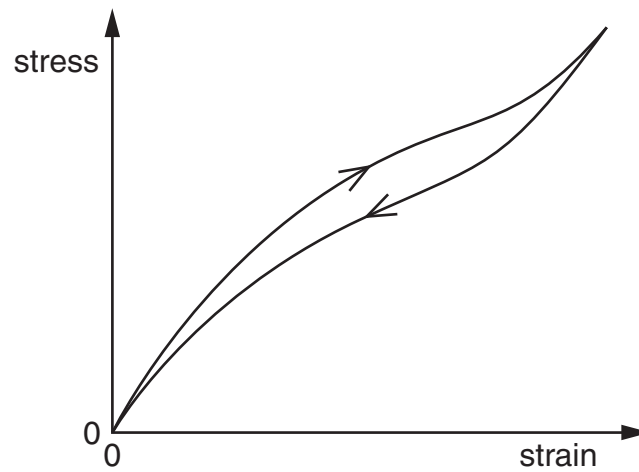


Fig. 5.2

As the car moves, the walls of the tyres bend and straighten continuously.

Fig. 5.2 to explain why the walls of the tyres become warm.

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