33 Two copper wires of the same length but different diameters carry the same current.

Which statement about the flow of charged particles through the wires is correct?

A Charged particles are provided by the power supply. Therefore the speed at which they travel depends only on the voltage of the supply.

B The charged particles in both wires move with the same average speed because the current in both wires is the same.

C The charged particles move faster through the wire with the larger diameter because there is a greater volume through which to flow.

D The charged particles move faster through the wire with the smaller diameter because it has a larger potential difference applied to it.