

37 The charge carriers in a metal wire are free electrons.

Which statement about the charge of each free electron is correct?

- A** The magnitude of the charge increases with the potential difference across the wire.
- B** The magnitude of the charge is zero unless there is a potential difference across the wire.
- C** The sign and magnitude of the charge do **not** depend on the potential difference across the wire.
- D** The sign of the charge depends on the potential difference across the wire.