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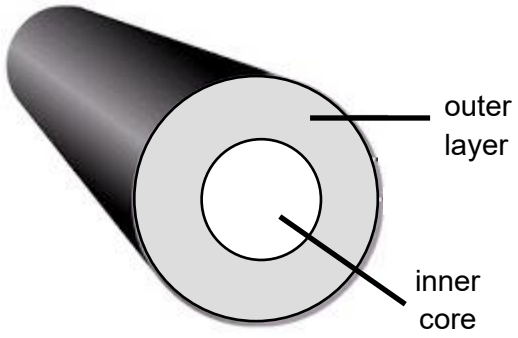
A cylindrical electrical wire which is 10 m in length consists of an inner cylindrical core made of copper and an outer layer made of aluminium as shown in the figure. The diameter of the inner core is 0.0050 m and the diameter of the whole rod is 0.010 m.



Given that the resistivity of copper is 1.7×10^{-8} Ω m and the resistivity of aluminium is 2.7×10^{-8} Ω m, what is the overall resistance of the electrical wire?

A

0.0030 Ω

B

0.0060 Ω

C

0.0090 Ω

D

0.013 Ω