

9.76 A supertanker has length, breadth, and draught (fully loaded) dimensions of 325 m, 48 m, and 19 m, respectively. In open seas the tanker normally operates at a speed of 15 kt (1 kt = 0.515 m/s). For these conditions, and assuming that flat-plate boundary-layer conditions are approximated, estimate the skin-friction drag of such a ship steaming in 10°C water. What power is required to overcome the skin-friction drag? What is the boundary-layer thickness at 300 m from the bow?