17.115. A rustic cabin has a floor area of 3.50 m × 3.00 m. Its walls, which are 2.50 m tall, are made of wood (thermal conductivity 0.0600 W/m · K) 1.80 cm thick and are further insulated with 1.50 cm of a synthetic material. When the outside temperature is 2.00°C, it is found necessary to heat the room at a rate of 1.25 kW to maintain its temperature at 19.0°C. Calculate the thermal conductivity of the insulating material. Neglect the heat lost through the ceiling and floor. Assume the inner and outer surfaces of the wall have the same termperature as the air inside and outside the cabin.