TOPIC

Thermodynamics – Section 12 – Question 2

QUESTION

The specific heat of graphite over a temperature range of 200K to 800K is given by

$$C = 0.05749T^2 - 31.25T + 4370$$

where C is given in J/kg-K and temperature T is given in K. The amount of heat required in Joules to raise the temperature of 5 grams of graphite in an inert atmosphere from 400 K to 600K most nearly is

(A) 420
(B) 3309
(C) 3692
(D) 6316

HINTS

Note that the specific heat is not a constant but a function of temperature.

CONTRIBUTOR

Autar Kaw