

TOPIC

Thermodynamics – Section XII – Question 1

QUESTION

In all adiabatic processes, there is

- (A) no heat flow
- (B) no change in temperature
- (C) no change in enthalpy
- (D) all of the above

HINT

- Is it possible to have a temperature change with no heat flow?
- Is it possible to have an enthalpy change with no heat flow?

SOLUTION

Mostly this requires the student to remember that adiabatic means (by definition) that there is no flow of heat. Then one must make sure that (B) and (C) do not also generally accompany an adiabatic process. While an adiabatic process *may* have no temperature change or enthalpy change, this is not generally true. For instance, enthalpy and temperature both change for an adiabatic turbine.

CORRECT ANSWER

(A)

CONTRIBUTOR

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