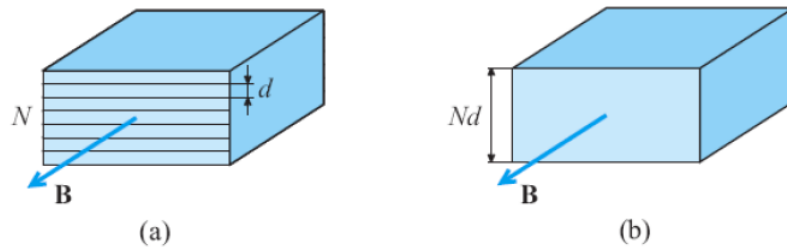


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*Ferromagnetic core of an ac machine.* Consider a ferromagnetic (e.g. iron) core of an ac machine or transformer made of mutually insulated stacked thin plates, shown in Fig. Q6.11(a), and a core made of a single piece of material, shown in Fig. Q6.11(b), and compare the respective distributions of the time-harmonic magnetic field in the two cases. The magnetic flux is more uniformly distributed throughout the volume of the core (or over its cross section) for

- (A) case (a).
- (B) case (b).
- (C) No noticeable difference between the two cases.



**Figure Q6.11** Ferromagnetic core made of  $N$  insulated thin plates (a) and core of the same dimensions made of a single piece of material (b); for Question 6.27.

*Solution:* (A)

*Answer:* (A)