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Number of Outlets on Circuits in Dwellings

Code: 2005 Electrical Code **Date:** February 22, 2005
Section: 210.11 B

Question:
How many receptacles are allowed on a branch circuit in a single family dwelling?

Answer:
The requirement for number of outlets permitted on branch circuits in a dwelling is found in Section 210.11(B). The load considered for the dwelling is based on the number of square feet of the dwelling multiplied by 3 volt-amperes (watts) per square foot. This total is then evenly divided among branch circuits, meaning at least two. Section 210.11(C) regards the minimum number of 20-ampere branch circuits required for each dwelling. There is no limit to number of receptacles installed on each of those circuits.

For all other lighting and receptacle outlets, the total number of volt-amperes for any dwelling is determined by multiplying the dwelling area in square feet by 3 volt-amperes (watts) per square foot (Table 220.12). To determine the number of circuits, this load in volt-amperes is then divided by the volt-amps per circuit.

For a 20 amp circuit:
(dwelling area in sq ft X 3 volt-amperes per sq ft) / (20 amps X 120 volts per circuit) = number of circuits. Round up to the next whole number.

For a 15 amp circuit:
(dwelling area in sq ft X 3 volt-amperes per sq ft) / (15 amps X 120 volts per circuit) = number of circuits. Round up to the next whole number.

These calculations provide for the minimum number of branch circuits for the dwelling. There is no requirement that each outlet be considered in determining that number.

Keywords:
Dwelling calculations