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Zhang, Heping [Zhang, He Ping²] (PRC-LAN); **Zhang, Fuji** (PRC-XIAM)
Perfect matchings of polyomino graphs. (English summary)
Graphs Combin. **13** (1997), *no. 3,* 295–304.

A polyomino graph is a connected finite subgraph of the infinite plane grid such that each interior face is surrounded by a regular square of side length 1 (called a cell) and each edge belongs to at least one cell. An edge of a graph G is said to be allowed if it lies in some perfect matching of G. A connected graph G is said to be elementary if all its allowed edges form a connected subgraph of G. The authors give necessary and sufficient conditions for a polyomino graph to have perfect matchings and to be elementary, respectively. Also, an application is given to calculate the number of perfect matchings of non-elementary polyominos.   *Rong Si Chen*