



# Hex-Pave

by Carl Hoff ([carl.n.hoff@gmail.com](mailto:carl.n.hoff@gmail.com))

There are 15 integer sided equiangular convex hexagons with edge lengths of 1, 2, and 3 units (seen to the left). The main objective is to pack all 15 pieces into a size 8 regular hexagon (the black boarder shown below). This puzzle has 19 solutions.

Some auxiliary objectives can also be considered:

- (1) Pack the 14 pieces left after the smallest piece is removed.  
(3051 solutions)
  - (a) and leave only 10 voids, the minimum possible, within the frame.  
(1 solution)
  - (b) and leave 21 voids, the maximum possible, within the frame.  
(12 solutions if voids can touch at a corner, 3 solutions otherwise)
  - (c) with no like colors sharing an edge.  
(75 solutions)
  - (d) with no like colors touching, not even at a corner.  
(43 solutions)
  - (e) with the 6 colors each in their own edge connected region.  
(1 solution)
- (2) Pack the 14 pieces left after the second smallest piece is removed.  
(76378 solutions)

Kadon Enterprises, Inc. offers a physical version of Hex-Pave in laser cut acrylic here: <http://www.gamepuzzles.com/tiling4.htm#HPv>.

