

PRE-PACKAGED LIQUID MOLDING FOR COMPONENT ENCAPSULATION
ABSTRACT

A method and apparatus for encapsulating an integrated circuit die and leadframe assembly using liquid mold compound. A prepackaged liquid mold compound insert 11 is placed in a rectangular receptacle 43 in a bottom mold chase 31. The receptacle 43 is coupled to a plurality of die cavities 37 by runners 39. Leadframe strip assemblies containing leadframes, integrated circuit dies, and bond wires coupling the leadframes and dies are placed over the bottom mold chase 31 such that the integrated circuit dies are each centered over a bottom mold die cavity 35. A top mold chase 53 is placed over the bottom mold chase 31 and the mold compound package 11. The top mold chase 53 has die cavities 57 corresponding to those in the bottom mold chase 31. The prepackaged liquid mold compound is packaged in a plastic film which has heat sealed edges 15. The mold compound is forced through the heat seals 15 during the molding process by the pressure applied by a rectangular plunger 61. The plunger is applied using variable speed and pressure to control the rate the mold compound fills the cavities in the top and bottom mold chases, thereby avoiding voids in the completed packages and minimizing wire sweep of the bond wires of the integrated circuit assemblies.