The majority of cast and molded epoxy components are for electrical applications. C-K has several proprietary formulations of epoxy resins, hardeners, accelerators and fillers.

Metal conductors and other metal inserts can be included as an integral part of the casting. Flanges, holes and "other-than-round" cross sections can be molded. Therefore, a properly designed single epoxy casting or molding can often replace an assembly of parts of other materials such as porcelain, high-pressure laminates, tapes and metals.

C-K offers design assistance to customers covering not only part design but mold design as well. Many technical issues in part and mold design are interrelated. The most common approach is for C-K to design and purchase the mold on the customer’s behalf, with C-K being responsible for the mold producing the specified part.

Many cast epoxy parts are poured and processed in a vacuum to minimize voids and assure a strong bond between epoxy and metal. C-K has extensive equipment for performing vacuum casting, including large capacity vacuum pumps and vacuum chambers. Finished parts are oven cured to achieve specified mechanical properties. Final operations include careful cleaning, inspection, and testing.

In addition to conventional casting C-K has the equipment and capability to perform epoxy automatic pressure gelation (APG). This process uses heat and pressure, usually with a steel mold, to achieve rapid cure time and superior surface quality. C-K has produced several thousand outdoor weathercases of epoxy using APG, with individual part weights of up to more than 100 pounds. APG is best suited for parts with a high production volume. C-K has two large-capacity molding machines for performing APG. Another name used for APG is epoxy liquid injection molding (LIM).

Cast And Molded Epoxy