

The properties of epoxy resin coated silica fillers composites

Abstract

Epoxy resin coated silica fillers composites with high percentage of filler loading, such as 80 to 95 vol.% are able to be produced by a mechanical mixing technique. The advantages of high filler loading of these materials are noted from the thermal and flexural modulus. Apparently, the materials exhibit low coefficient of thermal expansion (CTE) at as low as or below 10 ppm/°C and high flexural modulus of above 20 GPa. In general, these promising characteristics fulfill the requirement to be used as substrate materials in electronic packaging applications.

Keywords — Ceramic filler, electronic packaging, epoxy, polymer