Abstract

The dc electrical behavior of graphytized carbon-blacks filled rubbers was investigated in the temperature range 25°C to 125°C. The volume fraction of the fillers varied from 30% to 60%. The observed conductivity increases with increasing filler contents. At a temperature higher than 25°C for 60% filler concentration the behavior is ohmic, where at lower concentration two well defined regions were observed to indicate two types of conduction mechanism. The activation energy for conduction process increases from 0.3 eV for 60% to attain about 0.98 eV for 30% fillers concentration. At 60% fillers concentration, fillers form a conductive network which is ohmic in nature.