

PRELIMINARY STUDIES ON THE ELECTRICAL PROPERTIES OF LOCAL MICA

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The dielectric constant and dissipation factor of some local mica samples were determined over the frequency range 30 Hz to 1 MHz. The measurements from 30 Hz to 30 kHz were carried out using the bridge method, where as the susceptance variation method was used from 40 kHz to 1 MHz. The measurements were made at reduced pressures to eliminate the effect of moisture, which is present between the mica films, on the above electrical properties.

It was found that the dissipation factor decreased from values of the order of 10^{-2} at power frequencies to about 10^{-3} at frequencies above 100 kHz. The dielectric constant, at room temperature, varied between 5 and 6.5 depending on the sample.

Measurements carried out with some Indian samples showed that the frequency variation of these properties differ significantly between the local samples and the Indian samples.