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**Effects of UV irradiation on textured silicone rubber material**
(2012) *Proceedings of the Universities Power Engineering Conference*, art. no. 6398436, . Cited 2 times.

**Abstract**
The energy absorbed from ultraviolet (UV) radiation affects some of the electrical characteristics such as leakage current (LC) on the surface of polluted silicone rubber (SiR) insulators, which may cause dry-band, arc discharge and loss of the unique characteristic of hydrophobicity, leading to material degradation in the form of tracking and erosion and/or flashover. This paper reports the results of the effect of UV radiation on textured and non-textured silicone rubber samples. Laboratory tests were carried out in two stages: a) applying the UV radiation in accordance with ISO 4892-2, with variable exposure/condensation cycle; b) inclined plane test (IPT) to evaluate tracking and erosion performance of both kinds of insulation samples as in accordance with IEC 60587. Ultraviolet treated samples showed a small increase of LC on their surfaces. The LC and applied test voltage are acquired continuously for later use as an indicator of the sample's condition. © 2012 IEEE.

2-s2.0-84872862039
**Document Type:** Conference Paper
**Publication Stage:** Final
**Source:** Scopus