ABSTRACT

Research has been conducted on positive corona discharge plasma radiation on dynamic organdi silk fabrics. This study aims to obtain the characteristics of the current (I) and voltage (V) relationship and obtain the characteristics of the fabric speed (S) to the discharge current in the sample after positive corona plasma radiation. Plasma generation uses a DC high-voltage source with a multipoint-field electrode configuration. The results of the characterization of the current (I) and voltage (V) show that the closer the electrode distance (d), the greater the current (I) produced with the same voltage (V). Positive corona plasma discharge radiation is performed with variations in radiation time (t), distance between electrodes (d), and speed (S). The results of the water absorption test show that the sample with a speed of 13.13 cm/s had a faster absorption time than a sample with a speed of 4.8 cm/s. This study also shows that the longer the radiation time (t) given, the faster the sample absorption time against the liquid. Thus, using a moving fabric can reduce the voltage (V) needed to generate positive corona plasma discharge.

Keywords: *Positive Corona Plasma, Multipoint-Field Electrodes, Organdi Silk Fabric, Moving Sample, Absorption Time, Speed.*