In this study, corona plasma discharge was applied to desize polyvinyl alcohol (PVA) and starch on cotton fabrics. Plasma treated and non-treated samples were processed in various steps in a textile firm. The samples were tested to evaluate their weight loss, size dissolution, capillarity, dyeability, pilling resistance and strength values. The surface morphology and the chemical structures were examined by Fourier transform infrared spectroscopy, X-ray photoelectron spectroscopy and scanning electron microscopy analyses. The experimental results showed that the plasma has positive effects on size removal, hydrophility and the pilling values of the PVA and also starch sized fabrics.