

## Nonaqueous Dry Dyeing of Aramid Spun Yarn with Disperse Dyes Under Supercritical Solvent Medium

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Supercritical carbon dioxide (SC-CO<sub>2</sub>) is one of the most environmentally acceptable solvents in use today, and textile processes using it have many advantages when compared to conventional aqueous processes. Supercritical Fluid dyeing with carbon dioxide for aramid fiber (NOMEX) was studied. It is well known that the conventional dyeing of aramid fiber is very difficult or even impossible. But, it was newly found that supercritical carbon dioxide (SC-CO<sub>2</sub>) could be good solvent to dye a aramid. Supercritical Fluid dyeing experiment was performed in the temperature and pressure ranging from 10 MPa, 363.15 K to 30 MPa, 423.15 K. Through this experiment, we could confirm colorfastness and K/S value of dyed Aramid fiber by the supercritical fluid dyeing (SFD) was similar to that by conventional wet dyeing.