

Investigation for Correlativity of Disperse Dyes and Supercritical Fluid with Aramid

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Supercritical Fluid dyeing with carbon dioxide for aramid fiber(NOMEXTM) was investigated. It was well known that the conventional dyeing of aramid fiber is very difficult or even impossible. But, It was could dye in solvent as supercritical carbon.

Supercritical Fluid dyeing (SCF) experiment was performed in the temperature, pressure and o.w.f ranging from 393.15 K, 20 MPa, 1 to 423.15 K, 30MPa, 2 for 1 hr. Disperse dyestuffs used in this study are S-type (C.I DR360, C.I DB,79.1, C.I DY114) dyestuffs. Also, flow direction was changed from Inlet to outlet and from inlet to out let with interval of 15 min for uniform dyeing

It was compared colorfastness and K/S value of dyed Aramid fiber by the Supercritical Fluid dyeing with obtained solubility for disperse in supercritical carbon dioxide from literature.

Though this investigation, it was confirmed that colorfastness and K/S value of dyed Aramid fiber and solubility for disperse in supercritical carbon dioxide was correlation.