

## Carrier/Solvent 전처리 후의 Polyethylene terephthalate

섬유의 염색성에 관한 연구

안경열, 김공주, 강영의

전북대 공대 섬유공학과

### Abstract

Polyethylene terephthalate fiber was pretreated with biphenyl/methylene chloride and other solutions. Other solutions used in this experiment were methylene chloride, perchloroethylene/methylene chloride, biphenyl/water and biphenyl/perchloroethylene.

The dyeing behaviors of the pretreated fibers with C.I. Disperse Red 4 in water were studied with reference to changes in the matter properties of fiber.

Also density and X-ray diffraction of the fibers were investigated as measure of crystalline region.

The results obtained are briefly discussed in terms of the plasticization of the fiber structure and penetrating biphenyl volume formed during the pretreatment and pretreated time and temperature.

The results are as follows;

- 1) The crystalline growth of PET fiber treated with 5% biphenyl/methylene chloride was also greater than that treated with other solutions, then this tendency was increased with volume of added biphenyl.
- 2) Equilibrium dye adsorption and initial rate of dyeing of PET fiber treated with 5% biphenyl/methylene chloride were greater than those of sample with other solution.
- 3) The diffusion and dye affinity of PET fiber treated with 5% biphenyl/methylene chloride were greater than those of sample with other solution.

I think that dyeing method of energy conservation of pretreated PET fiber is dyeing PET fiber pretreated with 5% biphenyl/methylene chloride.