

High Sensibility finishing of Split type N/P micro-fiber fabrics

Jinpyo Hong, Seokhan Yoon, Mikyung Kim, Muntag Kim¹ and Beupsu Seo¹

Korea Dyeing Technology Center, ¹GREEN HILL
404-7 Pyongri-6 dong, Seo-gu, Daegu, 703-834, Korea
E-mail: romancehong@dyetec.or.kr

1. Introduction

The quality of life comes to be high according to demand of the consumer is becoming diversification. And high sensibility of fabric products was considered seriously.

Last study was various and new sensitive fabrics development about the N/P micro-fiber fabrics using the high shrinkage finishing. And establish a dyeing process on the developed high density fabrics.

Purpose of this study was a new sensibility finishing about the split type N/P micro-fiber fabrics. And establish a dyeing process which is treated simultaneously with shrinkage finishing.

Results of this research will become foundations of which various and high sensibility of the split type N/P micro-fiber fabric products.

2. Experimental

2.1. Materials

Split type N/P micro-fiber fabric (composition ratio 40:60, 50:50, Filament size 30de, 50de, 75de) was obtained from Seojin textile Ltd., Korea. Shrinkage agent of benzyl-alcohol type was imported from Japan. Other chemicals in this study such as sodium hydroxide were chemical grade.

2.2. Pre-treatments & Dyeing

Pre-treatments in last research were advanced with three-step process. 1st treatment was desizing & scouring. 2nd treatment and 3rd treatment were separating & shrinkage finishing. Split type N/P micro-fiber fabrics were dyed after three-step pre-treatments.

To this study, shrinkage finishing and dyeing process was treated simultaneously.

2.3. Testing and analysis of treated fabrics

K/S values of the dyed samples were calculated from the reflectance curves measured using a spectrophotometer (Data color SF-600 Plus) interfaced with a personal computer.

The dry-cleaning fastness of each dyeing was performed using the test method K ISO 105-D01 to evaluate color change and staining of adjacent

multifibers.

The light fastness test was conducted according to ISO 105 B02 method assessing fading with gray scale by exposure at 63°C for 20 hours.

The tear strength and density of fabrics were evaluated by tearing resistance and scope.

3. Conclusions

The purpose of this research was to product new sensitive textile goods and to develop the technique of pre-treatment which can appears various sensibility of fabric. The density of the fabrics comes to be higher, new sensitivity is revealed. But too high density of fabric makes tear strength to weaker. Dyeing on the split type N/P micro-fiber fabrics was impossible with shrinkage finishing simultaneously using dyes and high shrinkage agents. And color fastness was good compared conventional micro-fiber fabrics.

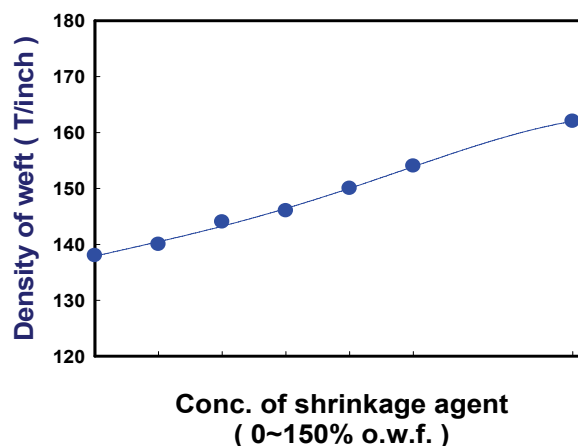


Fig. 1. Density of split type N/P micro-fiber fabrics (N:P = 40:60, 50de.) versus shrinkage agent conc.