

Effects of Processing Parameters on the Bulk
Properties of Textured Modacrylic and PVC Fibers

Seok Gee Moon, Jae Kon Lee, and Tae Jin Kang

Department of Textile Engineering, Seoul National
University, Seoul, Korea

ABSTRACT

The effects of bulk processing conditions on the bulk properties of modacrylic and PVC fibers were studied. The results showed that the pre-wet sprayed filament is textured more uniformly than the unsprayed one. It also showed that the crimp rigidity increases with increasing gear temperature, but above a certain temperature it decreases with increasing gear temperature, and the fibers showed some damage at these temperature range.

The most important parameters which affect the bulk property were the texturing temperature and its residence time. The optimum bulking temperature of modacrylic fiber was about 80°C to 90°C while that of PVC fiber was in the vicinity of 75°C to 85°C.

An increase in the residence time of the fiber during the bulking process increases the crimp rigidity very sharply, and then it tends to flatten out to constant value at longer residence time.