

**A NOVEL APPROACH FOR SULPHUR TEST ON VISCOSE BASED MATERIALS**

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ABSTRACT

When the fiber consumption rates are considered, consumption of viscose fibers is gradually increasing in connection with the increasing demand and trends. Regenerated fibers with cellulosic base and different properties are produced in order to fulfil every kind of need with the aid of new production techniques developed especially in the last years. However, certain problems are confronted in repeatability in finishing processes because of the differences in production methods, and most of these problems are projected to be sourced from sulphur present on the viscose fabrics. In spite of all of these, there is no standard sulphur indication method in the market that is widely accepted. To determine the sulphur content, a practical test system for sulphur indication was developed and a sulphur scale like "TEGEWA Violet Scale" to evaluate the starch desizing degrees was formed in scope of this study. With the aid of this scale, the presence of sulphur on viscose and the amount can be determined practically, even though it is a subjective method.

Keywords: Viscose, sulphur, sulphur analysis, sulphur scale, finishing

INTRODUCTION

Wood cellulose is the most widely used raw material of manufactured fibers made from natural polymers. Fibers obtained by the regeneration of wood cellulose are named as "regenerated cellulose fibers" [1]. Rayon (artificial silk, viscose filament fiber, viscose rayon), which was produced to take the place of valuable silk, is the first regenerated cellulose fiber [2]. In 1892, Cross, Bevan in England and Beadle in USA has managed to solve the cellulose in the form that is not nitrocellulose as it was previously. Cellulose was processed with caustic soda and then with carbon disulphide, and viscose process, that is used presently, was discovered [3]. Production

for commercial usage has been made by an American company Avtex Fibers in 1910. First rayon has been named as regenerated silk, however producers thought word regenerated was not a good commercial name. At last, "rayon" name was found. French word "rayon" means "rays of light," "light beams." In 1924, "rayon" has entered the industry as an official name. In the beginning, it couldn't take the place of silk, however rayon producers tried to improve the properties of these fibers, and these studies were made mostly in USA, Russia and Japan [2].

We cannot disregard that viscose method, used widely in the production of regenerated cellulose fibers, has drawbacks from the