Plasma pre-treatments for better application of antimicrobial agent on textile materials

Internship report

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This report is the result of my two-month internship in the Department of Materials, Fibers and Textile Testing of the Faculty of Textile Technology of Zagreb under the supervision of Mrs Sanja Ercegović Ražić.
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Summary

During the internship at Faculty of Textile Technology University of Zagreb, some plasma treatments have been done to improve the properties of textile. The aim was to ease the intake of comfort and antimicrobial properties to the textile thanks to the use of chitosan, a derivative of chitin. Two experiments were done, the first one consisted in applying a chitosan solution on the textile samples, and for the second one, a cross-linking agent was added. Afterwards, tests have been done in order to know if the plasma pre-treatment was efficient to improve the application of chitosan on the textile’s surface of materials.

Résumé

Pendant mes deux mois de stage, des traitements plasma ont été effectués afin d’améliorer les propriétés de différents textiles. Le but de ces expériences était de faciliter l’apport de propriétés antimicrobiennes et de confort aux différents textiles grâce à l’application du chitosane, un dérivé de la chitine. Deux expériences ont été effectuées, la première consistait à appliquer une solution de chitosane sur les échantillons de textile, et pour la seconde, un agent de réticulation a été ajouté. Ensuite, des tests ont été effectués afin de savoir si le traitement plasma sur les textiles améliorait les propriétés de ceux-ci.