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# Wool/polyester blends with UV protection and disperse printing

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## *Abstract:*

A novel method for improving disperse print quality and UV-protecting efficiency of blended fabric wool/polyester was developed by combining UV-SUN® CEL LIQ as a UV-absorber or $TiO_2$-NPs as a blocker of UV into the disperse printing paste [βCD (10g/Kg), PEG-600 (20g/Kg), DMDHEU (10g/Kg), Citric acid (10g/Kg), Na-alginate (500g/Kg), and Disperse dye (20g/Kg)]. The achieved results reveal that when other parameters remain constant, the improvement in UV-protective capability follows the decreasing order $TiO_2$ NP's > UV-SUN® CEL. The depth of dispersed printings, on the other hand, is the polar opposite. The amount of UV-protective agent put into the fabric surface, as well as the positive impact of the utilized disperse dye on blocking and/or absorbing damaging UV-B radiation, influence UV-protection ability. Even after 15 washing cycles, the UV-protection characteristic imparted is still effective.

## *Keywords:*

Wool/polyester blended fabric, disperse printing, UV-protecting, Nanosized material, UV-absorber, or UV-blocker..

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