

# An Improvement of Leveling Effect for Silk Dyeing( I )

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## 1. Introduction

Silk fabric having a similar dyeing adsorption rate is dyed together because silk fabric has difference of dyeing adsorption rate in a field dyeing according to Lot difference. Even though dyeing of silk having a similar dyeing adsorption rate is carried out, it is hard to get a same leveling effect.

Silk fiber has amide structure such as wool and nylon and has fast initial dyeing adsorption because of thin and wide surface compared to other fibers. Normally, a leveling agent including Tallow amine Ethylene oxide 60mol is used to improve leveling and penetration effect on silk dyeing. In this case, a retarding effect is not achieved because of fast initial adsorption and there is a limit of decreasing difference of Lot.

In this study, several leveling agents are used to find out more effective agent on leveling effect.

## 2. Experimental

### 2.1. Materials

The silk fabric used was produced by Namkyong Silk Co., Ltd. Dyes used this study was C.I. Acid Black 58(Clariant Co., Ltd.). Surfactants used this study were three Cationic leveling agents (Polyoxyethylene tallow amine TM60, Polyoxyethylene stearyl amin SM 30, SM15), two amphoteric leveling agents, three anionic scouring agents(Sodium dodecylbenzene sulfonate DBS, Sodium Lauryl sulfate LAS, normal synthetic detergent) and three anionic fixing agents. Several industrial grade agents were used.

### 2.2. Methods

Difference of dyeing adsorption rate of Lot, penetration effect and dye-transfer effect were investigated using Gretag Macbath COLOR-EYE 3100 after.

## 3. Conclusion

To decrease difference of dyeing adsorption rate of Lot, the leveling effect was investigated using several leveling agents. The cationic surfactants were better than other agents on penetration. The anionic surfactants were better than other agents on dye-transfer. The anionic surfactants and fixing agents are more effective to decrease difference of dyeing adsorption rate of Lot. However, the anionic surfactants were not effective on penetration. Therefore, investigation must carry out on penetration to improve leveling effect on difference of dyeing adsorption rate of Lot.

## 4. REFERENCES

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