

부가형 반응염료로 염색된 면직물의 탄산칼륨과 아황산부가물의 혼합발염호에 의한 발염

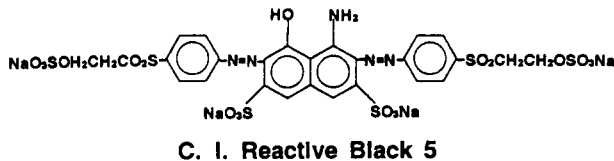
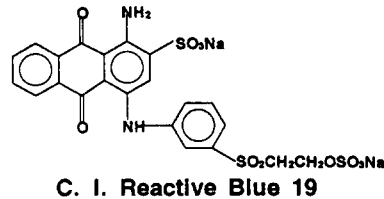
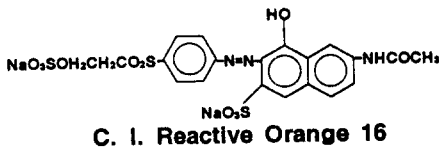
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1. 서론: 최근 면직물의 가공 기술 발달과 패션 산업의 활성화로 인해 고급 면직물 소재의 요구가 커짐에 따라 염색 및 날염의 고부가가치 상품의 개발이 크게 요구됨.

종래의 반응/반응염료에 의한 방염법에 비해 발염법은 공정이 간편하고 고부가가치를 얻을 수 있는 방법으로 기대 효과가 매우 큼.

2. 실험: 연속염색 → 발염호 날인 → 건조(110℃ × 3분) → 증열고착 → 수세
 연속염색: 염액 패딩 → 건조 → 알칼리 패딩 → 증열(100℃ × 90초) → 수세 → 건조
 부가형 반응염료: C.I. Reactive Orange 16(O-16), C.I. Reactive Blue 19(B-19),
 C.I. Reactive Black 5(BI-5) 각 50g/l



발염제: K₂CO₃(분말), benzaldehyde sodium bisulfite(BASB, 시판품 50% 용액)
 Cleantex DSR(시판 발염제, 日本 共榮化學, 강알칼리성)

치환형 반응염료: C.I. Reactive Orange 13(O-13, 40%),

C.I. Reactive Blue 72(B-72, 50%), C.I. Reactive Blue 49(B-49, 40%)

호제 및 조제: sodium alginate와 Emvatex G-8 혼합호(1:1), 요소, 환원방지제

2단계 증열고착: 102~120℃ × 8~30분 증열 후 160~190℃ × 1~7분 베이킹

1단계 증열고착: 130℃ × 5~20분 증열 또는 150℃ × 5~20분 증열

분석: 측색기(COLOR-7e2, KURABO)로 측정한 L값으로 백색 발염성을,

L, C, H, dL, dC, dH, dE 및 K/S로 착색 발염성을 비교 분석

3. 결과 및 고찰

3-1. 탄산칼륨이 백색 및 착색 발염에 미치는 영향

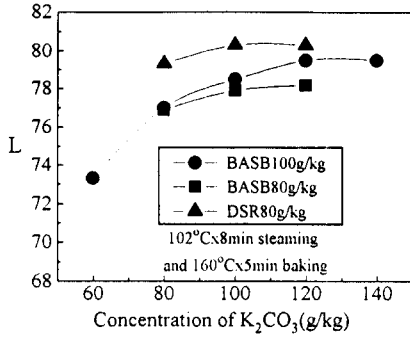


Fig. 1. The effects of K_2CO_3 mixed with BASB or DSR in the discharge agents on the white discharge of O-16 dyeing cotton.

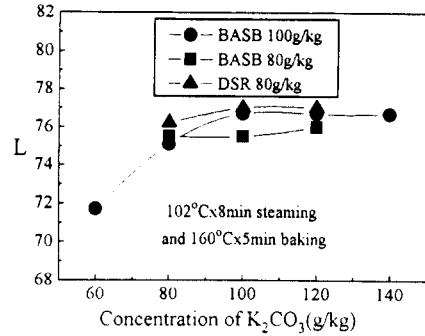


Fig. 4. The effects of K_2CO_3 mixed with BASB or DSR in the discharge agents on the white discharge of B-19 dyeing cotton.

3-2. 탄산칼륨, BASB, 요소 및 고착조건이 백색 및 착색 발염에 미치는 영향

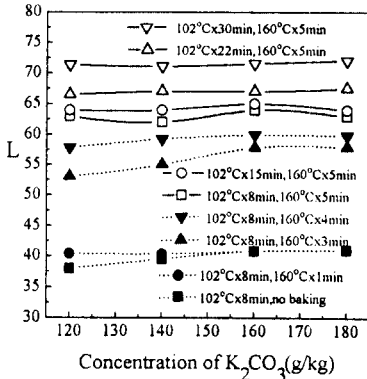


Fig. 1. The effects of fixing conditions and K_2CO_3 mixed with BASB (120g/kg) in the discharge agents on the discharge of BI-5 dyeing cotton.

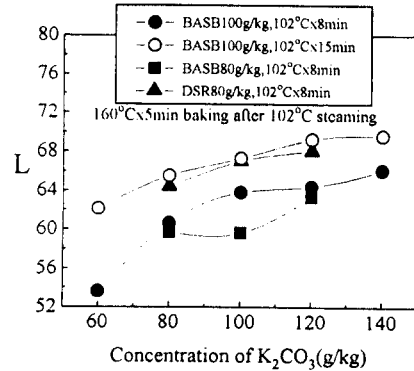


Fig. 7. The effects of K_2CO_3 mixed with BASB or DSR in the discharge agents on the white discharge of BI-5 dyeing cotton.

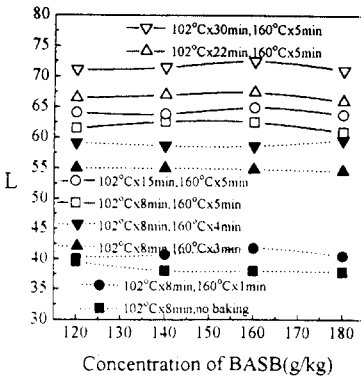


Fig. 2. The effects of fixing conditions and BASB mixed with K_2CO_3 (140g/kg) in the discharge agents on the discharge of BI-5 dyeing cotton.

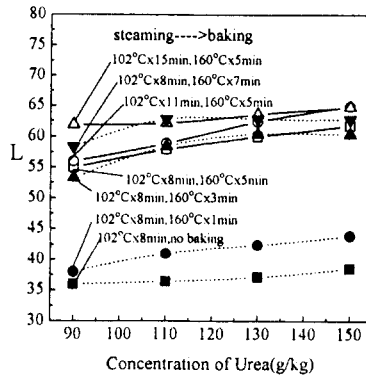


Fig. 5. The effects of fixing conditions and urea mixed with K_2CO_3 /BASB (120/120g/kg) in the discharge agents on the discharge of BI-5 dyeing cotton.

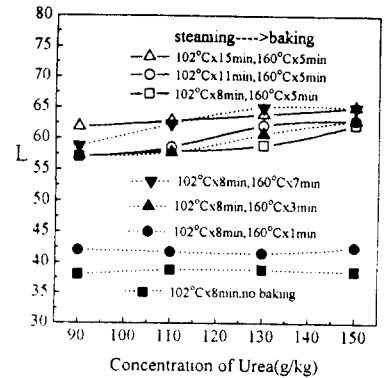


Fig. 6. The effects of fixing conditions and urea mixed with K_2CO_3 /BASB (140/140g/kg) in the discharge agents on the discharge of BI-5 dyeing cotton.

3-3. 2단계 고착조건이 백색 및 착색 발염에 미치는 영향

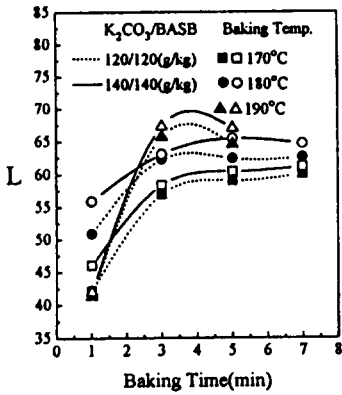


Fig. 1. The effects of baking after 102°C steaming and two kinds of mixtures of K_2CO_3 and BASB on the white discharge of BI-5 dyeing cotton.

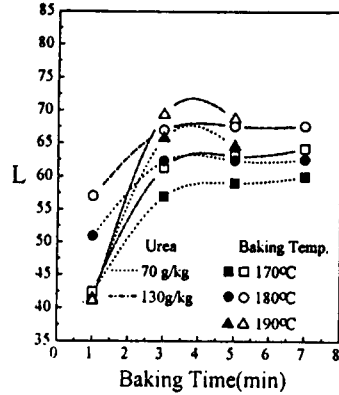


Fig. 2. The effects of baking after 102°C steaming and urea mixed with K_2CO_3 /BASB(120/120g/kg) on the white discharge of BI-5 dyeing cotton.

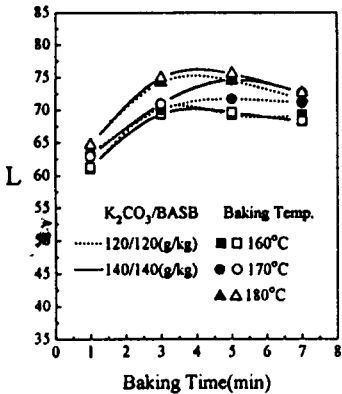


Fig. 3. The effects of baking after 120°C steaming and two kinds of mixtures of K_2CO_3 and BASB on the white discharge of BI-5 dyeing cotton.

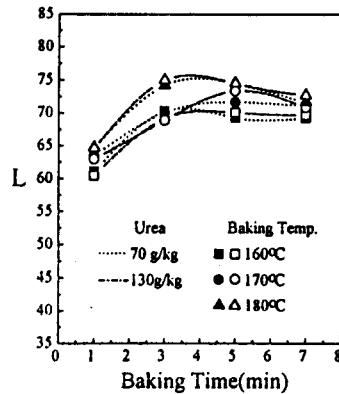


Fig. 4. The effects of baking after 120°C steaming and urea mixed with K_2CO_3 /BASB(120/120g/kg) on the white discharge of BI-5 dyeing cotton.

3-4. 1단계 고온증열 고착조건이 백색 및 착색 발염에 미치는 영향

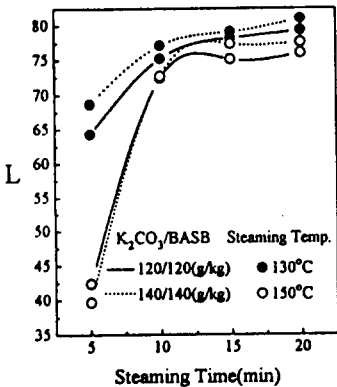


Fig. 1. The white dischargeability of BI-5 dyeing cotton discharged by two kinds of mixtures of K_2CO_3 /BASB and one-step steaming.

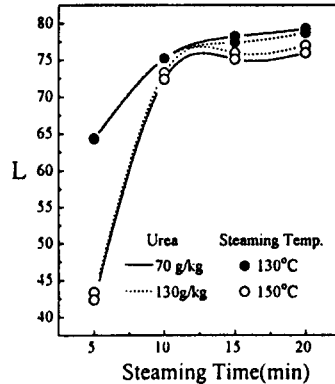


Fig. 2. The white dischargeability of BI-5 dyeing cotton discharged by mixtures of urea(70 or 130g/kg) and K_2CO_3 /BASB(120/120g/kg) and one-step steaming.