

## 感壓複寫紙-非碳複寫紙

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### Pressure-sensitive Copying Paper--- The Non-carbon Copying paper

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#### Summary

Pressure-sensitive copying paper is a kind of copying paper containing no carbon. The paper contains microcapsules of leuco-dye and lipophilic solvent in the upper and/or middle layers. The dye is released when written or tried on and seeps down to react with the acidic color rendering chemicals in the middle or bottom layers, thus provides duplicates of the original. In single-ply copying paper, both the dye and the color rendering chemical are microencapsulated and will mix to show color when both burst under pressure. The mechanism and techniques of encapsulation, as well as the chemicals in use are described in detail.

#### 一、緒言

感壓複寫紙是不含碳素等有色色素的複寫紙，其構成如圖 1，是由含有發色劑隱性(染料)及溶解油的微膠囊塗佈在上紙及中紙的裡面(背面)構成。微膠囊中的染料在以鉛筆或打字機加壓壓力壓破後，轉移到下層與塗佈在中紙或下紙上的酸性顯色劑反應而發色而得到複寫的目的。另外尚有在單張紙就可達到發色的自感型感壓複寫紙，即在紙張表面上順次塗佈以微膠囊及顯色劑(佐野,1987) (長谷川, 1991)。感壓複寫紙在 1954 年由美國 NCR 公司開發成功，對事務的合理化有很大助力。目前除了做為複寫用途外尚應用在多聯帳票，估價單等用途，近幾年由於電腦普及，需求有稍減，目前各生產商或研究單位對新的用途，如光學讀取用，NIP 用(non impact printing)用，高堅牢度等特殊商品已相力開發中。本論文介紹感壓複寫紙的各主要素材，微膠囊、發色劑及顯色劑等。