

Hong Kong **Productivity Council** 香港生産力促進局

Materials and Manufacturing Technology 材料及製造科技



用於牛仔服裝的臭氧噴霧整理系統

仿舊的牛仔服裝是一個重要的時裝潮流。為營造仿舊的效果,超過百分之七十的牛仔服需要作特別處理,傳統的處理 多用手工砂磨方法或使用高錳酸鉀作脫色處理來達致所需的設計效果,是勞動密集的,污染大及時間長。臭氧噴霧整 理系統是一種新的設計方案,可用於替代傳統的脫色過程。臭氧是一種很強的氧化劑並能與牛仔布中的靛藍等染料在 水溶液中發生化學反應產生漂白脫色的作用。比較於其它氧化劑,臭氧能夠自行分解。在脫色過程中臭氧能把染料變 成二氧化碳和水,剩餘的臭氧在系統中自行分解成氧氣而不會殘留在系統中。

優點

- 一個幾乎無水的生產過程
- 操作和設備費用低,能節省生產成本
- 自動控制能減少人力和改善工作環境
- 總體估算在化學藥品,廢料處理和能量費用方面 能有70%的節省

應用

該系統能夠提供一個新的綠色生產過程,無需使用 高錳酸鉀並目能在牛仔服裝整理中有廣泛的應用, 例如,脫色,漂白,圖案製造等

服務

- 開發新功能
- 生產機器的設計、 供應及安裝
- 廠房設施規劃
- 技術指導、培訓





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Ozone Spray Finishing System for Denim Wear

Vintage denims have been popular among the fashion-conscious. To achieve the antique finishing effect, over 70% of denim wear has to go through a partial bleaching process. Traditional methods are hand-sand or using potassium permanganate to achieve the decolouration finishing which are labour intensive and pollution as well as requiring a longer treatment time. The ozone spray finishing system is a new approach for conducting the discolouration process. Ozone is a powerful oxidizing agent and the reaction of ozone with indigo dye in an aqueous medium can achieve a significant bleaching effect. The advantage of ozonation over other oxidants is that it is a self-decomposed chemical. During processing, ozone converts the dye stuff into carbon dioxide and water, while any residual ozone in the system will be decomposed into oxygen due to its instable nature.

Advantages

- An almost waterless process
- Lower operation and equipment cost to save production cost
- Automatic control to reduce manpower and improve working environment
- As estimated 70% integrated cost saving on chemicals, waste treatment and energy

Applications

The system can provide a new approach as a green process to eliminate the use of permanganate and wide application in denim wear finishing such as discolouration, bleaching, pattern making and so on.

Services

- New function development
- **Production system** design, fabrication and installation
- Facilities layout design
- In-house training





