

# 南部地區鋼板樁擋土措施深開挖案例探討

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## 摘 要

南部採用鋼板樁作為深開挖擋土措施並非首例，但過去受限於振動式施工方法，緊鄰工地之鄰房常發生損鄰災害，即便非靠近工地之結構設施亦可能因振動波傳遞而造成損害。今隨著靜壓植樁機的引進，除克服打設鋼板樁之振動問題外，所產生之噪音大約只有70分貝，為大部份民眾可接受範圍內，在堅硬地層亦可搭配水刀或鑽掘使用，且機具施作時所佔用之空間亦相當有限。本文擬藉由實際案例探討南部地區採靜壓式鋼板樁作為深開挖擋土措施之原因，除如前所述振動、噪音減少之因素外，亦包含工期及經費之考量。另外，根據土中傾度管監測結果同時探討採用TORS A2程式進行分析設計可能遇及模擬上之困難點，以及簡扼說明鋼板樁目前施工上遭遇之問題點及解決方式。

**關鍵字：**深開挖、鋼板樁、靜壓植樁機。

## Case Study of a Sheet Piles Retaining Excavation in Southern Taiwan

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## Abstract

It is not uncommon to use sheet piles as the retaining structure for deep excavations in southern region of Taiwan, though the vibrations induced by installation of sheet piles often results in damage to adjacent buildings. A new installation technique that induces relatively low vibration levels has been adopted in recent years, which greatly enhances the capability of sheet piles to serve as the retaining wall for deep excavations. This paper presents a deep excavation case in southern Taiwan. Details as vibration and noise mitigation of sheet pile installation, budget and construction schedule control of the overall project, etc., are addressed. The inclinometer readings are also delineated by the use of TORS A2 computer code to reveal the difficulties and blind spots that may be encountered in design stage

**Key Words :** deep excavation, sheet pile, silent piling.

## 一、前 言

在資訊氾濫的年代裡，欲從過去文獻裡搜尋鋼板樁相關文獻卻發現寥寥無幾，令人不禁

開始思考擋土措施發展史。早期連續壁工法還未引進之前，擋土措施不外乎是鋼板樁或擋土排樁，然隨著地下室開挖深度逐漸加深，及民眾工安意識抬頭，連續壁工法逐漸成為主流。連續壁確實為深開挖提升了安全性與帶來經