

廢輪胎材料對土石流撞擊力消能之研究

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摘 要 防砂壩是土石流防治經常被採用的方法。防砂構造物雖依規範設計，仍可能擋不住巨大之土石推移力或衝擊力，造成結構物之損壞，所以本研究進行衝擊試驗，模擬防砂構造物前加置廢輪胎緩衝材料，是否能有效地消滅撞擊時之能量，以保護結構物之安全。結果顯示，最大衝擊力僅為原有之 7%，若於廢輪胎內填充砂石（或細砂）者，最大衝擊力僅為原有之 5%。因此廢輪胎材料具有很好的消能效果。

關鍵詞：防砂壩、土石流、衝擊力、廢輪胎材料。

Impact Reduction of Used-tire Cushion

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ABSTRACT The check dam is usually adopted to control the debris flow. The control structures may not survive from the debris flow push and impact even though they are designed by codes. It is intended to carry out the impact tests on the proposed used-tire cushion materials to evaluate the effectiveness of such devices on reducing the maximum impact force. The results indicate that used-tire cushion material can significantly decrease the maximum impact force about 93% to 95%. It is concluded that the use-tire cushion has very good energy dissipation effect.

Key Words: check dam, debris flow, impact force, used-tire cushion.