



15<sup>TH</sup> ERU SYMPOSIUM, 2009. FACULTY OF ENGINEERING, UNIVERSITY OF MORATUWA, SRI LANKA.

## **Design and Fabrication of Cable Bolt for Excavation in a Fractured Rock**

YLC Dhanawardana, HDPM Siriwardana, SH Henderson, HMCP Kumara, KAS Indika,  
PGR Dharmaratne, HS Welideniya and LPS Rohitha

### **Abstract**

*Most often in fractured rock masses, large excavations have an unsupported stand-up times less than the minimum time required to support the roof after the excavation. During past few years a wide variety of dowels and bolt types have been developed but most of them failed within a short period of time and the cost were high. Main objective of this research work was to design rock bolts using discarded cables at a low cost. The bolt consists of nearly 1.6m long cable and 16 cm of anchored part. Field data illustrated the amount of load that the bolt can carry as 5 KN. Suggestions were made to improve the design, which will enhance bolt performance. Field tests carried out at Bogala Graphite Lanka Ltd proved that cable bolts are effective in Sri Lankan conditions.*



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