

高速公路碳质页岩高边坡加固处治研究

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摘要 结合汕梅高速公路梅州至梅南段边坡防护工程实例, 介绍对黑色碳质页岩高边坡在不利季节尤其是雨季施工时动态设计、动态施工的方法, 采用由上至下、分级开挖、边开挖、边防护的原则, 提出先排基岩裂隙水, 再喷素混凝土, 后进行锚杆和锚索格子梁施工的加固处治措施。工程实践结果表明, 采用该方法施工效果良好。

关键词 [边坡工程](#); [边坡防护](#); [碳质页岩](#); [动态设计](#); [动态施工](#); [锚杆\(锚索\)格子梁](#)

分类号

STUDY ON TREATMENT OF HIGH-CUT CARBONACEOUS SHALE SLOPE IN EXPRESSWAY

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Abstract

The Meizhou to Meinan section of the Shantou—Meizhou Expressway lies in the east of Guangdong Province, which connects the northeast and southeast mountainous areas of Guangdong littoral region. Its construction is important in completing the expressway network, providing access to northeast mountainous areas, improving the investment environment, and further accelerating economy development. The route is 12.288 km long with designed speed 80 km/h, and four lanes in both directions and with whole cross section. The subgrade width is 24.5 m. In the K1+300–K1+600 section, the cut depth of right side is more than 30 m and the left side is more than 50 m. This article is combined with the slope prevention example in this section, the methods of dynamic design and construction for with high-cut slope with carbonaceous shale in unfavorable season are presented. Because construction time is limited and rain is often heavy in summer, this section is constructed during period of light rain. Based on slope datum, preliminary slope treatment is designed. Then the nature of rock conditions, the rock flaw water increment and the directions of rock layer etc. are continually observed. As a result, the design can be adjusted in time according to new conditions. The principle of from up to down, excavation and prevention for each stage are put forward. In addition, draining of rock flaw water, spraying concrete and strengthening action of anchor-stick grid beam are

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adopted. In the late of 2003, this expressway was completed and slope prevention measures were adopted.

Key words [slope engineering](#); [slope prevention](#); [carbonaceous shale](#); [dynamic design](#); [dynamic construction](#); [anchor-sticks grid beam](#)

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