

裂隙岩体渗透结构类型分析

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ANALYSIS OF FRACTURED ROCK MASS PERMEABILITY STRUCTURE TYPES

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摘要 岩体的渗透结构控制着裂隙岩体的宏观渗透特征,而控制着岩体渗透结构类型的地质因素却是复杂多样。在实际工程岩体中,裂隙岩体的渗透结构通常是由基本渗透结构经过组合叠加而形成的复合渗透结构类型。本文通过野外调研和室内统计分析,总结了裂隙岩体中广泛存在的5种基本渗透结构类型及其4种组合形式的复合渗透结构类型及其渗流特征,分别归为 I - II 型、III-IV 型、I - II - III 型和 I - III-IV 型。并选择一工程实例,运用裂隙岩体复合渗透结构类型的分析方法,分析了西南某水电站主厂房和开关站边坡岩体的复合渗透结构类型以 III-IV 型和 I - III-IV 型为主,更符合实际情况。

关键词: 裂隙岩体 渗透特征 渗透结构 复合渗透结构

Abstract: The permeability structure of rock mass controls the macro-permeability characteristics of fractured rock mass. However, the geological factors are complex and diverse. They control the permeability structure of rock mass. As to the actual engineering rock mass, the rock permeability structures are the hybrid types that are formed by basic permeable structure types. Through practical research at the field and statistical analysis, this paper summarizes five types of basic permeable structures that are widespread and four types of hybrid permeability structures and percolation characteristics in fractured rock mass. The types are I - II, III-IV, I - II - III and I - III-IV respectively. Using a project instance, this paper analyzes the hybrid permeability structure types of the fractured rock, which are spread in the underground cavern and the switch stations of hydropower stations in southwestern China. At last, it is concluded that based on hybrid permeability structures, the hybrid types of permeable structures are mainly III-IV and I - II - III. Also, the results are more in line with the actual situations.

Key words: Fractured rock mass Permeability character Permeability structure Hybrid permeability structure

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