

论文

雅砻江锦屏二级水电站皮带输送隧洞施工中的地质问题分析及其处理措施

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摘要:

重力坍塌、脆性破坏和楔形掉块是锦屏二级水电站皮带输送隧洞施工中存在的主要地质问题。重力坍塌主要存在于IV类和V类松散破碎岩体中,围岩在重力作用下发生坍塌;脆性破坏主要存在于I类和II类完整坚硬岩体中,围岩在高地应力作用下发生脆性破裂;楔形掉块主要存在于II类、III类和IV类较完整岩体中,围岩在结构面切割组合下形成楔形块体并在重力作用下向临空面发生掉落。根据不同的破坏模式,分别采取了不同的开挖支护措施:重力坍塌段采取了超前锚喷、短进尺、强支护;脆性破坏采取了监测预报、光面爆破、超前钻孔;楔形掉块采取了喷锚支护。

关键词: 锦屏二级水电站,皮带输送隧洞,地质问题,处理措施

GEOLOGICAL PROBLEMS ENCOUNTERED IN ROCK TUNNEL AT JINPING | II HYDROELECTRIC POWER STATION AND THEIR TREATMENT MEASURES

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Abstract:

Gravitational collapse, brittle failure and wedge falling are key geological problems that occurred during the construction of a rock tunnel at Jinping II hydroelectric power station. The gravitational collapse mainly occurred in the IV and V rock mass. The brittle failure mainly occurred in the I and II rock mass. The wedges falling mainly occurred in the II, III and IV rock mass. Three failure modes are common in the rock tunnel. They would bring about severe danger for workers and construction equipments, and greatly affect the construction schedule. This paper analyzes the geological causes of the three failure modes and puts forward corresponding excavating and supporting measures. The proposed measures obtained favorable engineering results.

Keywords: Jinping II hydroelectric power station, Rock tunneling, Rock instability, Rock failure, Treatment measures

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