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## 西安地裂区的岩土工程灾害与治理措施(PDF)

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Title: Geo-engineering disasters in Xi'an ground fracture area and its control measures

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摘要: 西安第四纪覆盖层受下伏岩层构造运动、人类工程活动及其它各种自然营力的作用而产生显著的不均匀沉降变形,导致地层出现地裂缝,构成了具有一定地裂缝分布特征、产状与运动特征的地裂区,从而使其中的地基基础与地下工程因地裂缝的发展变化而存在特殊的岩土工程破坏,如地基开裂、基础不均匀变形断裂、衬砌结构开裂或失稳、结构局部应力集中的强度破坏,等等。“点”式建筑的避让法和“线型”地下隧道工程的“局部调整地裂缝变形,兼顾主动适应变形和加强、改善支护结构”法是有效的工程治理方法。前者需要合理确定地裂缝上、下盘的安全距离,后者需要相应的防渗技术与结构措施及耐久、准确的监测技术,以便保证建筑或地下结构的安全运行。

Abstract: The areas of ground fracture with specifically distribution characteristics, occurrence and the movement characteristic are caused by the basement rock tectonic movements, the human project activity or Quaternary Period overburden layer remarkable non-uniform distortion and the relative displacement. There is special geotechnical engineering damage in the soil foundation and the understructure work because of the ground fracture development, such as cracking and fracture deformation of the foundation, cracks and instability of lining structure, damage on the strength of the local stress of structure, and so on. The avoidance method of "Points" buildings and the initiative adaptation distortion method of "linear" underground projects are effective

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engineering control methods. The former needs to determine reasonably safe distance between upward displaced block and downward displaced block. The latter needs the corresponding anti-seepage technology, structure measure and durability, accurate monitoring technology in order to ensure the safe operation of underground structures.

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