

## 加筋土挡土墙水平位移研究

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**摘要** 视加筋土挡土墙为一粘结重力式挡土墙来考虑, 受到墙后土压力作用时会产生水平位移, 其大小是加筋土挡土墙墙面水平位移的重要组成部分。本文将加筋土挡土墙墙体等效成各向异性的弹性体, 视为L宽度的悬臂梁, 当受到墙背水平土压力三角形荷载作用时, 分别计算纯弯曲和纯剪切两种情况下的水平位移。通过理论计算与工程实例测试结果比较, 验证了该方法的正确性。

**关键词** [土力学](#); [加筋土挡土墙](#); [各向异性](#); [土压力](#); [水平位移](#)

分类号

## STUDY ON THE HORIZONTAL DEFORMATION OF REINFORCED RETAINING WALLS OF SOILS

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### Abstract

A new method of calculating the horizontal deformation of the reinforced retaining walls is proposed. Assuming that the reinforced soil retaining wall acts as a coherent block, just like the situation of a conventional retaining wall under the horizontal earth pressure backfill material. The reinforced soil retaining wall is taken as an equivalent anisotropic elastic medium and all the elastic properties are derived. During calculating the horizontal deformation of the reinforced soil retaining wall, the reinforced soil block as a cantilever beam is assumed. The horizontal deformation of the cantilever beam is calculated for pure bend and pure shear modes. The design method is proved to be correct, as compared with testing data.

**Key words** [soil mechanics](#); [reinforced soil wall](#); [anisotropic](#); [earth pressure](#); [horizontal deformation](#)

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