

# 重庆市朝天门两江隧道越江段盾构法合理覆盖层厚度研究

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**摘要** 江底隧道的覆盖层厚度十分重要。一方面, 如果覆盖层厚度太小, 江底隧道工作面就有面临严重的失稳问题和江水涌入的危险, 会使辅助工法的投入增大。另一方面, 覆盖层厚度太大将增加江底隧道的长度、坡度与造价。首先将重庆朝天门两江隧道与国内外一些知名海底隧道进行比较, 得出其在盾构施工方法下的覆盖层厚度建议。然后根据公路隧道施工技术规范, 提出标准隧道新概念。结合重庆朝天门两江隧道的工程实际情况, 分别比较在不同覆盖厚度下朝天门两江隧道与标准隧道拱顶位移和主拉应力, 最后得出该隧道的合理覆盖层厚度。

**关键词** [隧道工程](#); [水下隧道](#); [覆盖层厚度](#); [工程类比法](#); [数值模拟](#)

分类号

## STUDY ON REASONABLE COVER THICKNESS FOR SUBMARINE TUNNEL OF CHAOTIANMEN IN CHONGQING BY SHIELD CONSTRUCTION

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### Abstract

The determination of the cover thickness of the submarine tunnel is very important, because it will be very dangerous if the cover thickness is too small, whereas the length, slope gradient and cost will be increased after a larger cover thickness is chosen. At first, the reasonable cover thickness for submarine tunnel of Chaotianmen in Chongqing is proposed by comparing this tunnel with some domestic and foreign well-known submarine tunnels. According to the Technical Specification for Construction of Highway Tunnel, a new concept of standard tunnel is put forward. Based on the actual situation of Chongqing Chaotianmen tunnel, by comparing the crown displacement and the principal tensile stress of standard tunnel and this tunnel in different cover thicknesses, the reasonable cover thickness is finally put forward.

**Key words** [tunnelling engineering](#); [submarine tunnel](#); [cover thickness](#); [engineering analogism](#); [numerical simulation](#)

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