

斯堪的纳维亚硬岩海底隧道工程

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摘要 论述了北欧海底隧道特别是基岩中开挖的公路隧道的工程经验, 目前在北欧已建成25条以上的海底隧道, 总长超过100 km, 大部分在挪威, 最长的7.9 km, 最深的在海平面下264 m。所有这些隧道都是用钻爆法进行开挖的。同时, 叙述了勘探、规划、设计和施工等诸方面的重要问题, 讨论了从这些工程中的经验教训。最后, 介绍了规划中的海底隧道, 包括长24 km、埋深400 m的2条隧道。相应地, 介绍了其他北欧国家的海底隧道, 这些隧道大多也是根据挪威海底隧道的经验进行设计和施工的。

关键词 [海底隧道; 勘探; 规划; 设计与施工](#)

分类号

SUBSEA TUNNEL PROJECTS IN HARD ROCK ENVIRONMENT IN SCANDINAVIA

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Abstract

The paper reviews the experiences from Nordic subsea tunnel benchmark projects, with emphasis on subsea road tunnels excavated in bedrock. More than 25 such tunnels have been built in the Nordic countries, representing a total length of more than 100 km, and with the majority of the projects located in Norway. The completed projects include tunnels with length up to 7.9 km and depth below the sea level down to 264 m. All these tunnels have been excavated by methods of drilling and blasting. Important issues concerning investigation, planning, design and construction are described; and important lessons learned from these projects are discussed. Finally, plans for potential future subsea tunnel projects are presented, representing tunnel lengths of up to 24 km and depths below sea level down to 400 m. Also subsea tunnel projects in other Nordic countries will be presented as they have been designed and constructed according to Norwegian subsea tunnel principles.

Key words [subsea tunnel; investigation; planning; design and construction](#)

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