# Article information:

Frost heave and thawing settlement of the ground after using a freeze-sealing pipe-roof method in the construction of the Gongbei Tunnel - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0886779822001432>

# Article summary:

1. The Gongbei Tunnel of the Hong Kong Zhuhai Macao Bridge was constructed using a freeze-sealing pipe-roof method.

2. Laboratory tests were conducted to determine thermophysical and mechanical parameters such as frost heave ratio and thawing settlement coefficient.

3. Numerical simulations were used to predict the frost heave and thawing settlement of the ground, with results showing that the maximum vertical frost heave displacement of the stratum is 164.47 mm and the maximum horizontal frost heave displacement of the stratum is 53.80 mm.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article “Frost Heave and Thawing Settlement of the Ground After Using a Freeze-Sealing Pipe-Roof Method in the Construction of the Gongbei Tunnel” provides an overview of how a freeze-sealing pipe-roof method was used in constructing the Gongbei Tunnel in China, as well as laboratory tests conducted to determine thermophysical and mechanical parameters such as frost heave ratio and thawing settlement coefficient, followed by numerical simulations to predict frost heave and thawing settlement of the ground. The article appears to be reliable overall, providing detailed information on its subject matter, supported by evidence from laboratory tests and numerical simulations. However, there are some potential biases that should be noted when considering this article’s trustworthiness. For example, it does not provide any counterarguments or explore alternative methods for constructing tunnels that could potentially be more effective than using a freeze-sealing pipe-roof method. Additionally, it does not discuss any possible risks associated with using this method or present both sides equally when discussing its effectiveness. Furthermore, there is no mention of any promotional content or partiality in favor of this particular construction method over others which could potentially influence readers’ opinions on its effectiveness or reliability. All things considered, while this article appears to be reliable overall, it should still be read with caution due to potential biases that may exist within it.

# Topics for further research:

* Alternative tunnel construction methods
* Potential risks of freeze-sealing pipe-roof method
* Advantages and disadvantages of freeze-sealing pipe-roof method
* Comparative analysis of tunnel construction methods
* Promotional content related to freeze-sealing pipe-roof method
* Reviews of freeze-sealing pipe-roof method in tunnel construction

# Report location:

<https://www.fullpicture.app/item/3c908d9df64439dfd7c4c3946aa07500>