

عنوان مقاله:

Construction Methods for Vertical Tunnels, or So Called Shafts

محل انتشار:

دومین کنفرانس منطقه ای و یازدهمین کنفرانس تونل ایران (سال: 1394)

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خلاصه مقاله:

Shaft are essential components of underground construction. Often sinking shafts are the necessary initial steps to access underground space to set up tunneling operation. Despite the notable number of shafts constructed in soil and rock, the amount of literature about shaft design and construction, as well as estimation of production rate and costs of sinking a shaft is very limited. This paper is an attempt to compare shaft and tunnel construction methods and indicate a lot of similarities in the approaches used for selection of the shaft sinking method. The paper offers a review of shaft sinking methods for various ground conditions, sizes, and applications and some of the recent designs and developments in this area. The main goal is to offer a basis for engineers to approach shaft construction method in a similar way as tunneling and thus allow them to consider various approaches to design their vertical structure for safer and more efficient operation, increase production rates, and lower construction costs

کلمات کلیدی:

Shaft Design, Shaft Construction, Shaft Boring Machines, Shaft Drilling Machines, Raise Boring

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