

Do photovoltaic support steel pipe screw pile foundations withstand frost jacking?

To study the frost jacking performance of photovoltaic support steel pipe screw pile foundations in seasonally frozen soil areas at high latitudes and low altitudes and prevent excessive frost jacking displacement, this study determines the best geometric parameters of screw piles through in situ tests and simulation methods.

What are the different types of photovoltaic support foundations?

The common forms of photovoltaic support foundations include concrete independent foundations, concrete strip foundations, concrete cast-in-place piles, prestressed high-strength concrete (PHC piles), steel piles and steel pipe screw piles. The first three are cast-in situ piles, and the last three are precast piles.

Are steel pipe piles used in offshore photovoltaic systems horizontal load-bearing?

This study investigates the horizontal load-bearing properties of steel pipe piles used in offshore photovoltaic systems by conducting field tests with single-pile horizontal static loads and performing numerical analysis.

Why are steel pipe screw piles used in photovoltaic support Foundation projects?

Among them, steel pipe screw piles are widely used in photovoltaic support foundation projects in various countries and Western China (Zarrabi and Eslami, 2016, Chen et al., 2018) because they have simple and fast construction, less noise and vibration and can be reused (Livneh and El Naggar, 2008, Aydin et al., 2011, Mohajerani et al., 2016).

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When the flexible PV support structure is subjected to wind pressure, the maximum of mean vertical displacement occurs in the first rows at high wind speeds. The shielding effect greatly affects the wind ...

In this study, the frost jacking characteristics of steel pipe screw piles for photovoltaic support foundations in high-latitude and low-altitude regions are studied via in situ tests and ...

Taking the foundation piles and surrounding soil of photovoltaic mounting structures on the cut slopes of the Taiyuan-Xin Zhou Expressway as the research subject, this study employs the ...

The designed wind pressure was 1333 Pa. Table 2 presents the test parameters used for a series of static pressure loading tests. In this test, a solar panel mounting structure with a ...

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# Photovoltaic static pressure pile support

This study has comprehensively investigated the bearing characteristics of three types of photovoltaic support piles, serpentine piles, square piles, and circular piles, in desert gravel areas.

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