

This paper investigates the lateral working properties of large-scale steel casing-reinforced concrete pile composite members designed for overhead vertical wharves that are subjected to significant water ...

We analyze the electromagnetic fields arising in the vicinity of a vertical steel casing due to the excitation of a vertical electric field antenna placed in the borehole below the casing...

Hence, an energy-based method was proposed to predict the peak displacement of the widely used steel casing composite (SCC) piles under impact loading. The pile deformation energy ...

Abstract fracturing. In these settings, it is common that steel-cased wells and other steel infrastructure are present. Grounded source methods, which use electrodes to inject current into the earth, are of ...

Based on the failure characteristics observed on such poles, this paper develops an analytical study aimed at evaluating the wind-excited inelastic response of slender vertical cantilever structures. ...

The piles of channel bridges generally exist in the form of steel casing composite piles (SCC pile, namely, the reinforced concrete pile wrapped by st...

In summary, steel casing stands out as a critical element in the electrical insulation sector. Its mechanical strength, safety features, EMI protection capabilities, and ease of installation make it ...

In this paper we address the problem of the interaction of electromagnetic fields with wire cage structures. The two canonical shapes considered are cubes and cylinders.

A borehole-to-surface system is employed to energize the steel casing and measure electric and magnetic fields on the ground, and a convolutional neural network (CNN) is trained to ...

Based on the analytical equations derived to describe the hybrid modes of total magnetic fields that can be detected inside cased wells, numerical analyses aiming to describe the behavior of lateral waves ...

Zhou, Behavior of steel casing composite piles under lateral loading and parameter optimization, Eng. Struct., No 220 <https://doi/10.1016/j.engstruct.2020.110991>

Different casing sizes are required for different depths, the five general casings used to complete a well are: conductor pipe, surface casing, intermediate casing, production casing and liner.

Explore the principles of lateral stability in trusses, covering factors affecting stability, methods to enhance it,

and the critical role of lateral bracing to ensure ...

This paper presents the full-scale lateral response of drilled shaft foundations constructed with and without steel casing and with high- or mild-strength reinforcement.

If the lateral load towards the pile increases beyond the limit due to earthquake, wind action, natural calamities etc., casings can be provided to improve the lateral capacity. This paper presents the ...

This publication has been prepared by Dr Leroy Gardner of Imperial College London and updates earlier guidance given in the SCI publication Lateral stability of steel beams and columns - common cases ...

The electric potentials of metallic casing wells are largely influenced by electrochemical reactions between the steel material and groundwater in the vicinity.

