

The Benefits and Limitations of Using Stake Anchors

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In areas where natural anchors are limited, and vehicles can not be placed near the rescue, stake anchors are a viable alternative. Understanding the limitations of stake anchors and the variables that affect their strength are vital to having a strong foundation to the rescue.

The purpose of the study was to gather data on using steel stakes as anchors in different soil conditions. We did not tie the stakes in line as is done with a traditional picket system. Instead the stakes were positioned side by side in a load sharing system. Our study was done in several different parts of the country with dis-similar soil conditions.

While there are many different ways to make an anchor out of stakes or pickets, we chose a standard method that is currently in use by several rescue teams. Slow pulling was done and failure forces were noted and compared. While scientific soil analysis was not done, the soil was categorized using current USAR terminology and methods.

We hope our data will help rescue teams answer the following questions:

- Are stake anchors a viable anchor alternative for us?
- What configuration gives the stakes more strength?
- What type of soil is conducive to using stake anchors?