



USU Technology Highlight:

# PERMAQUAD CLIMBING ANCHOR

*The “Permaquad” is an improved, streamlined, and safer version of the “quad anchor” commonly used by climbers.*

## DESCRIPTION

Rock and ice climbing involve obvious risks. Although accidents related to gear failure have declined as the result of technological advances, accidents attributed to human error have persisted. Hand-tied “quad anchors,” a relatively new advance in protection systems, can mitigate the risk of a fall by distributing the load equally between two anchor pieces. Because these systems are assembled by the climber, they are subject to human errors that can go unnoticed while knotting together the anchor components. Furthermore, climbers who wish to use the quad anchor system must carry either at least fourteen feet of cordelette or a quadruple-length sling with them while climbing and construct the system on their own. Many climbers are tempted to leave the knots of the quad systems permanently in place for convenience; this practice does not substantially improve the system’s portability and creates wear points that can lead to failure..

## BENEFITS

The Permaquad does not need to be re-assembled for each climb, reducing the chance of human error. It also avoids the erosion that typically occurs in a permanently self-tied system, and reduces bulk and weight of equipment.

## APPLICATIONS

Rock and ice climbing.

## CONTACT

Questions about this technology including licensing availability can be directed to:

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## INVENTORS

### SCOTT GREENHALGH, PH.D.

*Outdoor Product Design and Development*

## DEVELOPMENT STAGE

TRL 7

## LICENSING

Available for License

## WEBSITE