

## **Proven Effective in the Fight Against Heat Stress**

www.silvereagleoutfitters.com

Silver Eagle Outfitters apparel is made of Hydroweave, a recently patented composite fabric that promotes evaporative cooling. In independent studies performed by Auburn University's Department of Health and Human Performance<sup>1</sup> and Thermal Lab<sup>2</sup>, physiological responses, thermal responses, and comfort perceptions were measured to determine the benefits of wearing a Hydroweave cooling

Core temperature was reduced when wearing a cooling vest made of Hydroweave verses no vest.



**Results:** ¥ In the Hydroweave vest trails, subjects core temperature was significantly reduced compared to the participants not wearing a vest.

\* Significant difference (p≥0.05) between trials.
# Significant difference (p≥0.01) between trials.

Data and statistics are not provided after 40 minutes because of the elimination of subjects due to WTCT.

Heart Rate Reduced heart rate and cardiovascular drift suggests that wearing a Hydroweave cooling vest when working in the heat reduces thermal and cardiovascular strain. "Cardiovascular drift" occurs as a result, of sweat losses that reduce the circulating blood volume.



¥ Heart rates nearly identical for first 30 minutes

¥ Hydroweave trials between 40 and 60 min. significantly lower compared to no vest trials ¥ Heart Rate in both trials increased steadily throughout ¥ This phenomenon is known as "cardiovascular drift", occurs as a result of sweat losses (filtrate of blood) that reduces the circulating of blood volume.

Endurance Wearing the Hydroweave cooling vest prolonged work time by an average of 16.4% before reaching a 2°C increase in core temperature, adding an average of 11.25 minutes to work times.



Results: ¥ Wearing the vest prolonged work time by an average of 16.4%

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1CORE TEMPERATURE AND PERCEPTIONS OF AQUATEX HYDROWEAVE® VEST WHILE WEARING A PROTECTIVE BARRIER SUIT. David D. Pascoe, Ph.D., Health and Human Performance; Auburn University; Auburn. AL (Available upon request)

<sup>2</sup> EFFICACY OF AQUATEX HYDROWEAVE® VESTS UNDER CLIMATIC CONDITIONS. Principal Investigator: David D. Pascoe, Ph.D.; Co Investigators: Ilgvu Jeong, Ph.D.; Seokjoo Yoon. Auburn University Thermal Lab; Auburn. AL (Available upon request) Hydroweave® is a registered trademarks of AquaTex Industries, Incorporated. Hydroweave is covered under U.S. Patent No. 5,885,912; 6,371,977; and R.S.A. Patent No. 2000/S183. Additional U.S. and foreign patents pending. Reprinted with permission. Copyright© 2003, Silver Eagle Outfitters, LLC. Printed in the U.S. Dehydration Cooling vests made of Hydroweave were shown to reduce the body's level of dehydration by 21%.



¥ Significant difference in the weight loss (sweat loss) between the Hydroweave vest trial ( $1.26 \forall 0.8 \text{ kg}$ ) and the no vest trials ( $1.63 \forall 0.4 \text{ kg}$ ). ¥ On average, 1.5% level of dehydration with the vest as compared to 1.9% in the no vest trial.

## Skin Temperature Mean skin temperatures are lower when wearing the Hydroweave cooling vest.



Results: ¥ Cooler mean skin temperatures in Hydroweave trials, in comparison to the no vest trials.

## Perceived Rating of Exertion (Borg Scale)

Subjects perceived the work trials to be less stressful at all compar-able time periods after 10 minutes. This difference in perception of physical exertion was significantly greater at 30 minutes and 40



Results: ¥ Participants rated the Hydroweave trials with significantly less exertion for all time periods after initiation of the trial.

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