

Light Bulletproof Vest

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Bulletproof vests are used every day by the military service men and women who protect our country. These vests are vital to keeping our soldiers alive in foreign lands such Iraq, where there is a constant possibility of danger and harm. They must protect them by keeping shrapnel, rifle and handgun rounds from penetrating their body and causing harm to vital organs. Preventing penetration is the initial defense, but it is also important to remember that each of these objects carry such a high force from impact, that high trauma may occur even when objects don't penetrate. Thus, trauma protection and prevention is vital when designing a vest for military and law enforcement use. Protection of these individuals is the main focus, but another important factor is making sure that soldiers and law enforcement are as comfortable as possible while being protected. Soldiers often times complain about the heat and weight of bulletproof vests [Error! Reference source not found.], as well as the stiffness and maneuverability they have when within them. The main focus and task of this project was to develop and create a vest that is lighter and cooler, while still providing all the required protection standards for use in the field. Bulletproof testing pads consisting of Kevlar KM2 and Spectra 1000 were created in varying configurations to determine how to decrease trauma and increase comfort. The aerial weights of the fabrics were compared to that of a real life vest with Goldflex IIIa body armor. The configurations created ended up being less reliable in terms of trauma due to smaller impact areas, but were able to be more comfortable because of a lack of lamination, increasing air flow. Based on these experimental results, we believe that it is possible to design a better bulletproof vest that will as reliable as the commercial one yet a whole lot more comfortable due to breathability of the design.

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Front



Shooting Distance: 12 Inches

Bullet used: 0.357 Magnum SJHP (125 grain)

Restrains: None (Freely hanging)