Silver Prize

Seoul International Invention Fair 2010 (SIIF 2010)

Development of Protective Body-Shield Against Explosive Fractions and Shrapnel of Small Bomb

The major objective of this research was to deverlop and produce flexible textile shield in order to prevent the body from the explosive fractions and shrapnel of small bomb. The fibers used were produced domestically from TWARON FABRIC T-750 and UHMWPE. The properties such as tensile strength, strain, and heat durability of the two materials were tested and evaluated. The hybridization and amount of layer of the sliver of each material were designed and calculated, with a set of different combinations. The designated sheets were then shot-test with 0.22 inches, 40 grains of weight, 330 meters per second of impact speed, and at 5 meter shooting range. The shot-tests affirmed that the designated combined sheet with 17 layers: 5 layers of TWARON FABRIC T-750 as outer shell and 12 layers of UHMWPE as inner filling was the foremost suitable and protective body-shield against explosive fractions and shrapnel of small bomb of all the designated sheets.

Patent application number : pending

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