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Penetration-resistant material

Abstract:

A penetration-resistant material is disclosed comprising at least one layer having a thickness D , the layer comprising a first and second layer of woven fabric, with the first and second layers being bonded together with an adhesive material, the first layer of fabric composed of a first set of threads comprising 3.5 to 20 threads/cm, having a linear density of at least 210 dtex, the filaments forming the threads having a diameter F_1 , and comprising at least 65% of the fabric weight, and a second set of threads comprising 0.5 to 16 threads/cm and having a linear density of at least 50 dtex, with the second set of threads being at an angle of $> 0^\circ$ to 90° with respect to the first set of threads, and the ratio of the number of threads/cm of the first set to that of the second set being > 1 , and the second layer of fabric being composed of a first set of threads comprising 0.5 to 16 threads/cm and having a linear density of at least 50 dtex, and a second set of threads comprising 3.5 to 20 threads/cm, having a linear density of at least 210 dtex, and comprising at least 65% of the fabric weight, the filaments forming the threads having a diameter F_2 , with the second set of threads being at an angle of $> 0^\circ$ to 90° with respect to the first set of threads, and the ratio of the number of threads/cm of the second set to that of the first set being > 1 , and the first and second sets of threads of the first fabric layer being oriented parallel to the first and second sets of threads, respectively, of the second fabric layer and the ratio D/F_1 and D/F_2 being 14.5 to 40.