

Pre-conference Seminar – Tuesday, November 17 – 8:30am – 12 Noon

*High Technology Fibers And Fabric Structures
in Body Armor Applications*

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The use of high technology fibers in body armor for ballistic protection has become quite extensive recently. Some of these fibers include aramids, ultrahigh density polyethylenes, liquid crystalline polyesters and a newly developed fiber named "M5". The properties of fibers, yarns such as filament and staple and woven and nonwoven fabrics made from them will be discussed. The manufacture and the role of weave structure in determining the mechanical and physical properties of fabrics will be presented. The effect of structure of various nonwoven fabrics and the type of bonding on the mechanical properties will be discussed. Yarn structure, the basic weave design in a woven fabric and the orientation and the type of bonding in a nonwoven fabric play an important role in determining the penetration of a projectile in the complex composite of flexible fabric arrangement in body armor system.