

TECHNICAL TEXTILES – PART XVI

REF: TT/ MAR 2022/ WK 1

SportTech or Sports Textile

Special clothing and different equipment used to enhance protection, comfort and performance are called sports textile or SportTech. These are used in different sports and leisure activities and the application area ranging from foot-wear to parachute fabrics.

Broadly, this technical textile category is classified in three application areas.

- **Sportswear** – Apparel with performance enhancement characteristics like moisture management, comfort, elastomeric resista, soil guard, anti-microbial, athletic wear, sport shoes, exercise wear, sport jerseys, gloves, etc.
- **Sport accessories** – Game equipment like astro-turfs, nets, rings, etc to provide requisite playing conditions.
- **Sports Goods** – Active sport items for the specific sport like inflatable balls for football, volleyball, rugby ball, hockey sticks, golf club, etc.

Sports footwear - Sports footwear includes appropriate shoes for different sports. Keeping in view the movement of feet and the type of surface on which a sport is played, the shoes uppers and soles are designed to meet the varying performance requirements. Textile components form considerable part of sports footwear. Shoe uppers and lining on the counter, socks below the shoe uppers are made of textiles. The shoe uppers and linings used in the inner part counters and socks are made of laminated fabrics. The laminated fabrics for shoe uppers are made up of fabric laminated with foam, polyurethane, rubber etc.

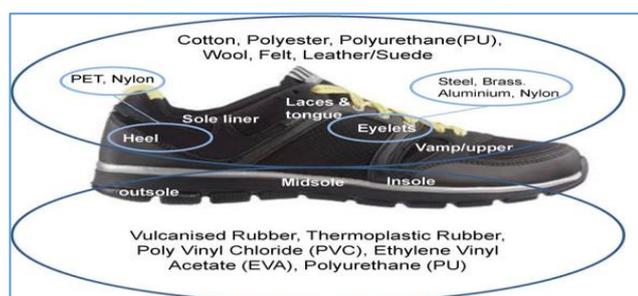


Fig 1.1 Sports shoe with main parts and fibers used

Ref: researchgate.net



In some shoes, sandwiched meshes are also used in place of fabric-foam laminated uppers. Sandwiched mesh is also known as **high-tech three dimensional fabrics** consisting of micro filaments sandwiched between two layers of meshes. Fibers used in these fabrics have wicking property which takes moisture away from the skin to the outer layer of the fabric; thus, increasing evaporation rate.

Other textile components used are nonwoven textiles, laces, tapes, threads, labels, elastic etc. Nonwoven fabrics are used as interlinings. Polyester, polypropylene, nylon and cotton are used for sporttech. However, the predominant use is that of polyester since it is cheap. Nylon is used for the premium range of shoes. Cotton is used predominantly in canvas shoes and children’s shoes.

Sports composites - Textiles are used as raw materials in certain sports items like inflatable balls, cricket protective equipment, boxing equipment etc. Inflatable balls (football, basketball, volley ball, beach ball, rugby ball etc.) are made of polyester-viscose / polyester / cotton fabric as inner layer and nylon or cotton threads are used for stitching. Protective equipment for cricket such as leg-guards, batting gloves, wicket keeping gloves, thigh pads, helmets, caps and hats, cricket kit bags etc. is made of textile materials. Leg-guards are made up of PU laminated / PVC (Polyvinyl chloride) coated fabric in front and cotton fabric on the inner side. Batting gloves are made up of PU (Polyurethane) laminated fabric while wicket keeping gloves are made of PVC coated fabric. Thigh pads are entirely made of cotton fabrics on outer and inner side whereas cricket kit bags are made entirely of polyester fabrics. Boxing equipment like boxing gloves, punch bags etc. is made of PU laminated / PVC coated fabrics, woven polyester fabric, nylon coated with PVC on both sides and canvas.

References:

1. <https://www.technicaltextile.net/>
2. <http://www.technotex.gov.in/>
3. <https://www.compositesworld.com/>
4. <https://textilevaluechain.in>

.....To be continued.....

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TALFINLEAB INFLATABLE
REAWTOOF
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Last week`s Answers: 1) LIGHTWEIGHT 2) EXHIBIT 3) CREEP 4) ASTRONAUT

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