

AMTE-18 FABRIC QUALITY EVALUATION

UNIT-1 CONSTRUCTION CHARACTERISTICS

- 1.1 Basic fabric particulars,
- 1.2 Measurement of ends and picks per inch, count of warp and weft,
- 1.3 Determination of the type of weave,
- 1.4 Measurement of length, width, thickness and Area density (GSM); warp and weft crimp measurements for spun and filament yarn fabrics, the cover factor calculations;
- 1.5 Fabric sampling techniques.

UNIT-2 STRENGTH CHARACTERISTICS

- 2.1 Tensile strength measurement- ravelled strip test and grab test
- 2.2 Mechanical and electronic measuring systems.
- 2.3 Tear strength- importance- measuring systems. Bursting strength and its measurement.
- 2.4 Ballistic impact strength. Universal tensile tester - principle and operation

UNIT-3 COMFORT AND SURFACE CHARACTERISTICS

- 3.1 Fabric stiffness- principle of measurement of flexural rigidity;
- 3.2 Drape ability- measurement of drape coefficient;
- 3.3 Crease recovery measurement techniques.
- 3.4 Wrinkle recovery assessment using standard grades;
- 3.5 Principle and functioning of air permeability testers, water repellency, contact angle and fabric shrinkage testing;
- 3.6 Fabric abrasion resistance, measuring technique;
- 3.7 Fabric pilling resistance- methods of determination.

UNIT-4 SPECIAL CHARACTERISTICS

- 4.1 Fabric bending hysteresis testing; Shear hysteresis measurements;
- 4.2 Fabric compression and decompression behaviour;
- 4.3 Fabric surface roughness and friction measurements; Fabric tensile hysteresis measurements; Fabric flame resistance testing methods; Moisture and thermal characteristics.

UNIT-5 FABRIC INSPECTION AND GARMENT QUALITY

- 5.1 Fabric inspection, manual, semi-automatic and Automatic Inspection systems,
- 5.2 Classification of fabric defects, independent product quality certification, acceptable quality level, MIL standards and final inspection.
- 5.3 Quality assessment of garments - cutting, sewing, pressing, finishing and packaging defects.

Textbooks Books:

1. Booth J.E., "Principle of Textile Testing", Butterworth Publications, London, 1989
2. Saville B.P., "Physical Testing of Textiles", Textile Institute, Manchester, 1998
3. Kothari V. K., "Testing and Quality Management", Progress in Textile Technology Vol.1, IAFL Publications, New Delhi, 1999.