

2.15 40224 TEXTILE TESTING

UNIT-1 SAMPLING AND QUALITY CONTROL

- 1.1 Definition of sample, sample size, sampling Technique, Introduction to quality control,
- 1.2 Accuracy of measurement, presentation and analysis of data,
- 1.3 SQC charts analysis of defects, difference between average and correlation.
- 1.4 Standard deviation and coefficient of variation.

UNIT-2 IMPORTANCE OF TEXTILE TESTING

- 2.1 Introduction to textile testing, properties of fibres,
- 2.2 Yarns and fabrics and their relevance in assessing the performance, of textiles during and after manufacture.

UNIT-3 FIBRE DIMENSIONS

- 3.1 Fibre Length Measurement - Use of Baer sorter,
- 3.2 Fibro graph, Uster-stapler, their principles of operation.
- 3.3 Fibre Fineness Measurement - By cutting and weighing method, Sheffield micron air,
- 3.4 Aerlometer, Maturity of cotton by caustic soda method and by airflow methods.
- 3.5 Role of Humidity - Absolute Humidity, Relative Humidity, moisture Regain, Moisture content.
- 3.6 Introduction to H.V.I. (High Volume Instruments)

UNIT-4 YARN DIMENSIONS

- 4.1 Measurement of yarn twist by Rock bank twist tester, continuous twist tester and by twist and untwist methods.
- 4.2 Measurement of yarn diameter by microscope.

UNIT-5 FABRIC DIMENSIONS

- 5.1 Measurement of fabric thickness. Measurement of crimp by crimp tester.
- 5.2 Air permeability of fabrics, its measurement by air permeability tester.
- 5.3 Crease recovery of fabrics, factors effecting crease recovery, measurements of crease recovery by crease recovery tester.
- 5.4 Water repellancy tests.
- 5.5 Abrasion resistance test on fabric by Mortindale, Abrasion Tester.

UNIT-6 TENSILE TESTING OF TEXTILES:

- 6.1 Fibre strength testing by Pressely strength tester, stelometer.
- 6.2 Yarn strength testing, types of testing machines, single yarn strength testing and Lea strength testing.
- 6.3 Fabric strength testing by cut strip, grab strip and revealed strip methods.
- 6.4 Fabric tear testing by tongue tear, trapezoid tear test.
- 6.5 Bursting strength testing by hydraulic strength tester.

UNIT-7 EVENNESS TESTING

7.1 Nature of irregularities - short term, medium term and long term variations, periodic and non-periodic irregularities.

7.2 Evenness testing by uster evenness tester and fielded and walker evenness tester.

7.3 Classmate faults and class faults.

Reference Books:

1. Textile Testing And Instruments” by Chitra Chowdhary
2. Tests Analyses and Research: Instruments and Textile Storage: Useful Tables and Publications” by United States Testing Co Inc
3. Textiles and the Skin (Current Problems in Dermatology)” by P Elsner and K Hatch

