

## AUTO PLOT STIFFNESS TESTER-PERFORMANCE EVALUATION

### WITH SHIRLEY STIFFNESS TESTER

L R. SOMANAGOUDAR<sup>1</sup>, T ANANATHA KRISHNAN<sup>2</sup> & J S MURALIDHARA<sup>3</sup>

<sup>1</sup>Faculty, Department of Textile Technology, REC, Hulkoti, India

<sup>2</sup>Academic Advisors, SRSI Group of Institutions, Bellur, India

<sup>3</sup>Formerly Professor, Department of Textile Technology, BIET, Davangere, India

#### ABSTRACT

*A new Auto-Plotter stiffness tester is developed to reduce human interference in the bending measurement. This paper highlights the investigation made on the tester in order to confirm the reliability of its measurement. For that, 40 controlled samples were developed and 29 commercials were selected and tested for bending length, bending modulus. These results are compared with the Shirley stiffness tester results of the sample.*

*The statistical tools such as ANOVA, paired mean test, Wilcoxon signed rank test and multiple correlation regression are used to know the significance differences among the samples as well as between Auto-Plot tester and Shirley. The results of Auto-Plot tester are comparable with Shirley Tester; Auto Plot Stiffness Tester has an advantage of examining the intermediary behavior of samples before reaching 41.5 degrees. This Auto-Plot tester has provision for storing the data's and further it may be electronically transmitted to other sources.*

**KEYWORDS:** Auto-Plotter, Stiffness Tester, Human Interference & Bending Measurement

**Received:** Dec 06, 2018; **Accepted:** Dec 26, 2018; **Published:** Jan 18, 2019; **Paper Id.:** IJTFTFEB20192