



CIRCOT CALIBRATION COTTON



ISO 9001:2008

*Standard Reference Material for
Calibration of HVI System*



**ICAR - Central Institute for Research on Cotton Technology (CIRCOT)
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Calibration Cotton Standards for High Volume Instrument

In the liberalized quota-free textile trade, quality of both the raw material and finished goods has gained importance than ever before. Testing laboratories, therefore, are viewed as vital links connecting manufacturers, traders and consumers. The emergence of accredited laboratories and Mutual Recognition Agreements among accreditation bodies of different trading countries are manifestations of growing importance of quality in international trade. CIRCOT being one of the oldest accredited institution for textile testing in the country and a premier National Institute known for its research and development accomplishments on post harvest processing of cotton has been performing its role as a quality service provider to the textile trade and industry.

It is well known that the fibre assessment through objective measurement of fibre attributes is carried out using state-of-the-art instruments like the High Volume Instrumentation System that need calibration using what are known as "Calibration Cottons," the Standard Reference Materials. Till 1997, the United States Department of Agriculture (USDA) was the only accredited agency qualified to produce these reference materials. Import of calibration cottons involves time, foreign exchange and arduous procedural wrangles for import.

In 1997, USDA suddenly stopped supplying ICC mode calibration cotton and this created problems for Indian textile industry in calibrating their HVIs. CIRCOT took this as a challenge and developed calibration cotton and supplied to textile industry as an import substitution. The development of indigenous calibration cotton was achieved through ICAR Revolving Fund Project. A set of calibration cotton standards for HVI are being produced and marketed by CIRCOT from that year onwards. The novelty of the CIRCOT HVI standards is that the same calibration cottons are useful for both ICC and HVI mode operation.

The Institute has been able to create a customer base of more than 350 users who seem to be satisfied with both the quality and service as gauged by their repeat orders.

With years of experience in preparation of calibration cotton, CIRCOT has developed a processing flow chart and screening procedure for preparation of calibration cotton within acceptable standard and tolerance limits. Some of the important points that are carefully followed so as to meet the requirements of cotton as a reference material are as follows:

- (i) Basic cotton is normally sourced from breeding stations, wherein the high purity of seeds are ensured and best management practices are put in place
- (ii) Judicious selection of machinery is made from a wide range of various types of opening and cleaning machines available at CIRCOT spinning pilot plant so as to

ensure optimum preparation with minimum variation of fibre quality (iii) Provision exists for optimum selection of speeds and settings of opening and cleaning machines as per the fibre characteristics (iv) Thorough and homogenous mixing of fibres are ensured (v) Testing of uniformity is done by collecting random samples from different stages and periods of production (vi) Calibration cotton produced by CIRCOT is within the quality factor tolerance signifying homogeneity in preparation and sample integrity as a reference material.

Quality Characteristics of CIRCOT CALIBRATION COTTON

A. High Volume Instrument Set - ICC - Mode

Code	2.5% SL (mm)	UR (%)	Micronaire Value	Tenacity (g/tex)	Elongation (%)
S-1	22.1	51	5.3	16.9	5.5
L-1	31.6	45	3.5	24.3	5.6
EL-1	33.6	46	3.1	28.7	6.0
*Low Mic-1	-	-	2.7	-	-
Tolerances	± 0.5	± 1.0	± 0.1	± 1.5	-

*Mic only

**3.2mm gauge length

Quality Characteristics of CIRCOT CALIBRATION COTTON

B. High Volume Instrument Set - HVI - Mode

Code	2.5% SL (mm)	UR (%)	Micronaire Value	Tenacity (g/tex)	Elongation (%)
S-1	22.2	79.0	5.3	22.6	5.5
L-1	31.4	83.0	3.5	31.4	5.6
EL-1	33.0	83.0	3.1	34.4	6.0
*Low Mic-1	-	-	2.7	-	-
Tolerances	± 0.5	± 1.0	± 0.1	± 1.5	-

*Mic only

**3.2mm gauge length

CIRCOT is offering indigenously prepared calibration cotton standards at a price of Rs. 750/- for 200 gms. The cost of Low Mic-1 (Mic only cotton) is Rs. 300/- for 200 gms. A rebate of Rs. 125/- per sample (excluding Low Mic-1 cotton) is offered for the purchase of four or more cotton at a time. Further discount of 10% will be given for bulk orders placed for Rs. 10,000/- and above. The amount may be paid in advance by cash or cheque or by demand draft in favour of "Director, Central Institute for Research on Cotton Technology" payable at Mumbai.



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