

QUALITY CERTIFICATION: METHODOLOGY AND PARAMETERS

- 1) Construction
- 2) Converted mass (gsm)
- 3) Ends / Picks
- 4) Thickness (mm)
- 5) Tensile Strength (kN/m) MD & CD
- 6) Elongation at break (%) MD & CD
- 7) Puncture Resistance (KN)
- 8) Burst Strength
- 9) Permittivity at 50 mm constant head
- 10) A.O.S. (micron) O₉₅

The JGT testing laboratory at the Department of Jute and Fibre Technology, University of Calcutta (erstwhile Institute of Jute Technology, IJT) and at the Indian Jute Industries' Research Association (IJIRA) are fully equipped to perform the above tests. The JGT testing laboratory of Institute of Jute Technology (IJT) is NABL accredited

LIST OF JUTE GEOTEXTILE TESTING INSTRUMENTS WITH SAMPLE SPECIFICATIONS AND OTHER PARAMETERS

Sl. No.	Name of the machine	Sample area and diameter	Results
1.	Electronic Weighing balance	Max. weight- 2 Kg	Value from Digital Display upto centigram
2.	Thickness Gauge Tester	Min. dead weight-1kpa Max. dead weight-10kpa Dial gauge – (0.01 to 25)mm	Thickness is measured from reading of dial gauge.
3.	Dry Sieve Test Apparatus (A.O.S)	Sample diameter-16.5 cm Testing time -10 min. Weight of glass bead-50 gm	O ₉₅ is determined by the curve
4.	Hydrodynamic Wet Sieve Test Apparatus	Sample diameter-14 cm Weight of glass bead-50 gm Effective Length – 7 cm	O ₉₅ is determined by the curve
5.	BTRA Permeability Tester	Sample diameter-10 mm to 50 mm at 50 mm Constant Water Head Pressure	Average LPM is obtained from the Rotameter readings, and standard formulations supplied by BTRA
6.	AIMIL Permeability Tester	At 50 mm Constant Water Head Pressure	Average flow rate, and other parameters are obtained from the collection of total water passing through the sample with a fix stipulated time by maintaining constant water head pressure.
	Cross Plane Permeability Test Apparatus	Sample Diameter – 9.5 cm. Testing Time – 10 min	
	IN - Plane Permeability Test Apparatus	Sample Diameter – 100 mm. Testing Time – fixed time	
7.	Universal Tensile Testing Machine	Speed of the machine – (5 to 320) mm/min Load Shell – 10 kN & 100 kN	Average values & Curves with the help of Computerised data
	(a) Wide – Width Tensile Strength Test	Sample size-20 X 10 cm ² Testing speed-10 mm/min	
	(b) Puncture Resistance Test (Index Puncture)	Sample diameter – 12 cm Working diameter – 4.5 cm Diameter of the probe -8 mm Testing speed-320 mm/min	
	(c) CBR Push Through Test (CBR Puncture)	Sample diameter – 21 cm Working diameter – 15 cm Diameter of the probe -50 mm Testing speed-5 mm/min	
8.	California Bearing Ratio (CBR) Test Apparatus	Speed of the machine – (1.25 to 2.5) mm/min Dial gauge – (0.01 to 25)mm Probe Ring-(0.002 to 5)mm	Result is obtained by the help of Provine Ring and Dial Gauge
		Sample diameter – 21 cm Working diameter – 15 cm Diameter of the probe -50 mm	
9.	Interface Friction Measurement Apparatus	Speed of the machine – (C) (0.0002 (D) to 0.625) mm/min (E) (0.0004 to 1.25) mm/min Dial gauge – (0.01 to 25)mm	Result is obtained by the help of Provine Ring and Dial Gauge

		Probe Ring-(0.002 to5)mm	
	(A) Pull Out Method	Sample size-14 X6 cm ² Working area –6 X 6 cm ² Testing speed-1.25 mm/min	
	(B) Direct Shear Method	Sample area-14 X6 cm ² Testing speed-1.25 mm/min	
10.	Cone Drop Testing Machine	Sample diameter – 21 cm Working diameter – 15 cm Weight of the cone-1kg Height- 50 cm Measuring cone- 2 mm to 50 mm	Average Cone Drop value is measured by Calibrated Measuring Cone
11.	Bursting Strength Tester	Sample diameter – 90 mm Working diameter – 40 mm	Result is obtained from the Digital Display Load Monitor
12.	Moisture Meter	—	Moisture Regain percentage is obtained from Analogue meter