

PHYSICAL QUALITY EVALUATION LABORATORY

- Scope :** 1) Testing of Various types of Fibres, Silvers, Rovings, Yarns, Threads, Ropes, Fabrics, Garments, Carpets, Pile fabrics, Nets, Blankets, Filter fabrics, Automobile fabrics, Non-Wovens fabrics, Medical Textiles and other textile materials.
 2) Opinion on Technical Problems on Textile process, Product and related aspects.
 3) In process Inspection.
 4) Fabric Defect Analysis.

I. Fibre (Cotton and other natural Fibres)

S.No.	Nature of Test	Instrument	Testing Charges (Rs.)	Test Method
1.	<ul style="list-style-type: none"> • 2.5% Span Length • 50% Span Length • Uniformity Ratio • Micronaire • Bundle Strength • Elongation% • Colour Grade 	SPINLAB HVI 900	500.00	ASTM D-5867
2.	Fibre Length <ul style="list-style-type: none"> • Effective length • Mean Length • Short fibres% 	Baer Sorter	500.00	IS:233 Part-2
3.	Fibre Length <ul style="list-style-type: none"> • 2.5% Span Length • 50% Span Length • Uniformity Ratio 	Digital Fibrograph Spinlab	250.00	IS:233, Part-4 ASTM D-1447
4.	Fibre Fineness (Mic)	Port-ar, Spinlab	150.00	IS:3674 ASTM D-1448
5.	Fibre Maturity (NaoH Swelling Method)	Projection Microscope	300.00	IS:236 ASTM D-1442 BS:3085
6.	Fineness & Maturity (only mature Fib.%)	WIRA, FMT, SDL	300.00	ASTM D-1448 ASTM D-3818 BS:3181 ISO 2403 DIN 53943
7.	Bundle Strength At 3mm Gauze, Elongation at break	Stelometer Spinlab	250.00	IS:3675 ASTM D-1445 ASTM D-2524
8.	Trash Content	Trash Analyser	250.00	IS:4871 ASTM D-2812 BS 2889
9.	Sugar Content	BAT 20, LHI USA	400.00	BAT Instrument Manual
10.	Seed Coat Analysis	Trash Analyser	500.00	In-House Method
11.	Nep Content	-----	300.00	IS:684
12.	Colour Grade-Rd Value, +b Value	HVI, Spinlab	100.00	ASTM D-5867
13.	Cotton Seed Attachment Force	Shirley Cotton Seed Attachment Force Tester	150.00	In House Method

14.	WOOL Fibre Diameter / Fineness Grade	Projection Microscope	450.00 500.00	IS:744, IWS TM 24 IS:5910/5911
15.	WOOL Fibre Length	Baer Sorter	500.00	ASTM D 519 (Wool Top) IS:1377 (Mean Fibre Length of wool) IS:8387
16.	Med and kemp Fibres In Wool.	Projection Microscope	500.00	ASTM D-2968

II. Man-Made Fibre / Filaments

S.No.	Nature of Test	Instrument	Testing Charges (Rs.)	Test Method
1.	Mean Length	Measuring Scale	450.00	BISFA IS:10014 Part-1 ASTM D 5103 (Oil Plate Method)
2.	Over Length Fibre%	Measuring Scale	300.00	ASTM D-3513
3.	Fibre Denier	Electronic Balance Measuring Scale	400.00	IS:10014 Part-2 ASTM D-1577 (Cut & Weigh Method)
4.	Single Fibre Denier	Vibro Skop-400, Lenzing, Austria	400.00	BISFA ASTM D-1577 ISO 5079 DIN 53816
5.	Single Fibre strength & Elongation	Vebrodyne Lenzing Austria	500.00	BISFA, ASTM D-3822, ISO 5079, DIN 53816
6.	Crimp % & Removal Crimp %, Arc/cm	Vibrotex Lenzing, Austria, Manual	400.00	ASTM D 3937
7.	Fibre Cross Section Fibre diameter / linear density	Projection Microscope	450.00	IS:10014
8.	Fused Fibres/Undrawn Fibres	Projection Microscope	450.00	In-House Method
9.	No. of Filament	Projection Microscope	200.00	In-House Method
10.	• Fibre to Fibre Friction • Fibre to metal / Any Surface Friction.	NITRA Friction Tester	300.00 300.00	In-House Method
11.	Cohesive Force-silver/Roving	NITRA Friction Tester	300.00	In-House Method
12.	Shrinkage of textile Fibre bundle	-----	500.00	ASTM D-2102

III. YARN (Spun / Filament)

S.No.	Nature of Test	Instrument	Testing Charges (Rs.)	Test Method
1.	Yarn Lea Count with CV%	Wrap Reel & Electronic Balance	200.00	IS:1315 ASTM D-1907
2.	Denier of Filament Yarn	Wrapping m/c	200.00	IS:7703 Part-3
3.	Yarn CSP	Wrap Reel, Lea Tester, UTM-350 Electronic Balance	300.00	IS:1671 ASTM D-1578
4.	Fibre Staple Length from yarn	Baer Sorter	600.00	IS 10014 (Pt I)

5.	Yarn Twist • Single or Double or Filament • Twist Direction, Ply • Twist Balance	Electronic Twist Tester Visual	225.00	IS:832, ASTM D-1422 ASTM D-1423 ASTM D204
6.	• Single Thread Strength • Tenacity & Elongation • Initial Modulus • Loop Strength/Loop Ratio	• Uster Tensorapid; Zellweger Uster, Switzerland • UTM-350; SDL, UK	450.00	IS:1670 ASTM D-2256
7.	Dynamic Strength & Elongation %	CTT, LHI-USA	450.00	CTT Instrument Manual
8.	<u>Yarn Unevenness Test</u> • Evenness of Silver • Evenness of Roving • Evenness of Yarn with Imperfections • Faults Collection (Neps, Thin & Thick Places of Yarn)	UT-3, Zellweger Uster, Switzerland	300.00 300.00 400.00 400.00	ASTM D-1425
9.	Yarn Evenness & Hairiness	Laserspot, Keisokki	300.00	LST Instrument Manual
10.	Yarn Hairiness at different hair length	EIB, Lawson-Hemphill, USA	300.00	EIB Instrument Manual
11.	<u>Co-efficient of yarn friction</u> • Against metal/Ceramic • Yarn to yarn	CTT; Lawson-Hemphill, USA	350.00	ASTM D-3108 ASTM D-3412
12.	• Classimat faults • Faults Collection	• Uster Classimat-II • Keisokki Classifault	750.00 750.00 1000.00	Uster Classimat-II Instrument Manual Classifault Instrument manual
13.	Electronic Yarn Grading	EIB, Lawson-Hemphill, USA	600.00	EIB Instrument Manual
14.	Yarn Hairiness & Grading	EIB, Lawson-Hemphill, USA	600.00	EIB Instrument Manual
15.	Yarn Appearance Grade	ASTM Board	250.00	ASTM D-2255
16.	Lint Propensity Test	CTT: Lawson-Hemphill, USA	500.00	CTT Instrument Manual
17.	Weak Spot Detection	CTT: Lawson-Hemphill, USA	500.00	CTT Instrument Manual
18.	Blend%	BAT: Lawson-Hemphill, USA	300.00	BAT Instrument Manual
19.	Identification of yarn	Projection Microscope	300.00	In-House Method
20.	Contamination Check	Visual/Check Light	300.00	In-House Method
21.	Yarn Abrasion Test	CTT: Lawson-Hemphill, USA	300.00	CTT Instrument Manual
22.	Ticket No. of Sewing Thread	Wrap reel, Electronic Balance	400.00	ASTM D:3823

23.	Thread diameter	Thickness gauge	300.00	ASTM D-204
24.	Labeled Length per holder	Wrap reel	300.00	ASTM D-3693
25.	Contraction of Wet yarns records	-----	300.00	ASTM D-885

IV. Fabric (Knitted / Woven / Non-Woven)

S.No.	Nature of Test	Instrument	Testing Charges (Rs.)	Test Method
1.	Fabric width	Measuring Scale	100.00	IS:1954, ASTM D-3774 ISO-3932, DIN EN 1773
2.	Fabric Thickness	Thickness Tester	150.00	IS:7702, ASTM D-1777
3.	<ul style="list-style-type: none"> • Weight per unit area • Weight per liner meter 	Electronic Balance, Round, Cutter, Template	150.00 150.00	IS:1964, ASTM D-3776 ISO 3801
4.	Count of Warp & Weft <ul style="list-style-type: none"> • With size matter • After de-finishing 	Physical Balance, Crimp Tester - do -	250.00 400.00	IS:3442 ASTM D-1059
5.	Ends/Picks, Course/Wales Base & Bias	Pick Counter Textile Inspector, Textest	200.00 250.00	IS:1963, ASTM D-3775 ISO 7211 / 2
6.	Cover Factor of woven Fabric	Physical Balance, Measuring Scale, Crimp Tester	500.00	In-House Method
7.	<ul style="list-style-type: none"> • Crimp of Warp & Weft • Yarn Crimp/Take Up in woven Fabric 	Crimp Tester	225.00 250.00	IS:3442 ASTM D-3883
8.	Twist of yarn (Warp & Weft)	Electronic Yarn Twist Tester	450.00	IS:832; ASTM D 1422 ASTM D-1423
9.	Strength of yarn removed from Fabric	UTM-350; SDL; UK Uster Tensorapid	500.00	IS:1670
10.	Stitch length	Measuring scale	225.00	In-House Method
11.	<ul style="list-style-type: none"> • Breaking Strength • Elongation at specified load/ Elongation at break 	Tensile Strength Tester UTM-350; SDL; UK	450.00 500.00	IS:1969, ASTM D 5034 ASTM D 5035, ISO 5081 IWS TM 4 ASTM D-1775
12.	Tear Strength	Elmondrof Tear Tester Textest Tearing Tester Switzerland UTM-350, SDL; U.K	400.00	IS:6489, ASTM D-1424 ISO 9290 ASTM D 2261 IWS TM 172
13.	Bursting Strength	Prolific Bursting Strength Tester	400.00	IS:196, IWS TM 29 ASTM D-3786
14.	Abrasion Resistance	Universal Wear Tester ;CSI;USA Martindale Abrasion Cum Pilling tester, S.D.L.;UK	400.00 800.00	IS:12673, ASTMD-3885, ASTMD-3886 IS:12673, ASTM D 4966

15.	Pilling Resistance	Martindale Abrasion cum Piling Tester, S.D.L.; UK ICI Piling Box (Tumble Type) Universal wear tester, CSI, USA	300.00 500.00	ASTM D-4970 IS:10971, IWS TM 152, IWS TM 249 ASTM D-3514
16.	Drape of the fabric Drape of Blanket Fabric	BTRA Drape Tester James H. Heal Drape Tester	400.00	IS:8357 IWS TM 249 ASTM D-737
17.	Air Permeability	Shirley Air-Permeability Tester, WIRA Air Permeability Tester	400.00	IS:11056, BS:5635 ISO 9237
18.	• Crease Recovery Angle • Crease Recovery Angle -3 Wash	Crease Recovery Tester	450.00 600.00	IS:4681 ISO 2313
19.	• Anti Staticity • Surface Resistance • Half Decay time	ROTHSCHILD Static Voltmeter-R-4021; Switzerland	400.00	Instrument Manual
20.	• Stiffness/Flexibility • Flexural Rigidity	Stiffness Tester, SDL; UK	250.00 300.00	IS:6490, ASTM D-1388 BS:3356
21.	Type of Weave / Knit	Visual	400.00	ISO 3572
22.	Seam strength	UTM-350, SDL; UK	450.00	ASTM D 1683, ASTM D434
23.	Seam Slippage	UTM-350, SDL; UK	450.00	ASTM D 1683, ASTM D434 IWS TM 117
24.	Compression & elasticity ratio	UTM, SDL-350; UK	500.00	In-House Method
25.	Microscopic examination with coloured photograph	Micro Watcher, Mitsubishi Japan	500.00	Instrument Manual
26.	Tuft With-drawl force	Tuft withdrawl Tester S.D.L.;UK, UTM-350 SDL; UK	200.00	ISO 4919, BAS 5229 IWS TM 202 ASTM D-1335
27.	Constant load, elongation & permanent set	UTM-350, SDL; UK	600.00	HES-6506 MS-308
28.	Fabric to Fabric Friction	NITRA Friction Tester	300.00	In House Method
29.	• Peel Strength • Bond Strength • Delamination Strength of Sec. Backing of Floor Covering	UTM-350, SDL; UK	500.00 500.00 500.00	ASTM D 2724 ASTM D 3636
30.	Puncture Resistance Test	UTM-350, SDC, UK	600.00	DIN 54307
31.	Spirality	Protector	300.00	IWS TM 276
32.	Bow and Skewness(Bias) in woven / Knitted Fabric	Measuring Scale	300.00	ASTM D : 3882

33.	Knittability of Yarn	Knittability Tester	500.00	In House Method
34.	Fabric Handle	NITRA Fabric Handle Tester	500.00	In House Method
35.	Stretch Property of Fabric from woven stretched Yarn	*****	400.00	ASTM D 3107
36.	Cover Factor of Knited Fabric	Crimp Tester	400.00	IWS TM 169
37.	Pile Height of carpets	Pile Height Gauges	150.00	IWS TM 20
38.	• Surface Pile Weight (Band Knife Machine Method) • Pile Weight Density Factor	*****	300.00 300.00	IWS TM 234 IWS TM 216
39.	Stitch and gauge	Measuring Scale		IWS TM 140
40.	• Shorn pile weight / unit area • Surface Pile Weight / Unit Area of pile textiles (Dissection Method)	Physical Balance, Scale	150.00 150.00	IWS TM 15 IWS TM 21
41.	Pile Thickness	Thickness Tester	150.00	IWS TM 142
42.	Surface Pile Density	Measuring Scale	200.00	IWS TM 285
43.	Fibre Permeation through cover Fabric of Fabric filled product	ICI Pilling Box Tester		IWS TM 266
44.	Percentage Pile Area	Steel Rule	300.00	IWS TM 289
45.	Thickness Loss of Pile Textiles Floor Coverings	Thickness Gauge	225.00	IWS TM 284
46.	Stretch & Recovery Properties of Textile fabrics	UTM-350, SDL; UK	400.00	IWS TM 179
47.	Fabric Defect Analysis	*****	4000.00 - 6000.00	*****
48.	Splitting resistance	UTM-350, SDL; UK	400.00	ASTM D-461

Note :

- 1) The Testing may also be carried out with other methods specified by BS, ISO, DIN, EN, HES, MS or any national / International standard / specification as per client's requirement.
- 2) Clients are requested to ensure that sample size is sufficient to carry out the test as per standard requirement.