

CHEMICAL QUALITY EVALUATION LABORATORY

S.No.	Nature of Test	Test Method	Testing Charges (Rs.)	Instruments
(A) Colour Fastness to				
1A.	Light (Xenon Arc) - Upto 20 AFU	IS: 2454 ISO 105-B02, DIN 54004 BS-1006, AATCC-16H	1000.00	Xenon Tester (ATLAS)
1B.	Light (Xenon Arc)	ISO 105-B04,	2500.00	Xenon Tester (ATLAS)
2A.	Laundering (Washing)	IS: 687, 3361, 764, 765 & 3417 ISO 105 : CO1/CO2/CO3 CO4/CO5	300.00	Launder-o-meter
2B.	Laundering (Washing)	IS : 764 (After 04 washing)	600.00	Launder-o-meter
2C.	Laundering (Washing)	ISO 105 CO6, AATCC-61	450.00	Launder-o-meter
3.	Crocking/ Rubbing (Dry & Wet)	IS : 766 ISO 105 -X12 AATCC-8	300.00	Motorised Crock Meter
4.	Water	IS : 767, ISO 105-E01, AATCC-107	300.00	Perspirometer (James H. Heal)
5.	Perspiration	IS : 971 ISO105 E04, AATCC-15, DIN 54020	300.00	Perspirometer (James H. Heal)
6.	Dry Cleaning	IS : 4802 ISO 105 D01, AATCC-132	300.00	Launder-o-meter
7.	Hot Pressing/Sublimation	IS : 689, IS : 975 AATCC-133,	300.00	Sublimation Tester/ Scotch Tester
8.	Sea Water	IS: 690 AATCC-106 ISO105 E02,	300.00	Perspirometer (James H. Heal)

9.	Organic Solvent/ Water Spotting	IS : 688 AATCC104, JISL0853, ISO-105 E07, AATCC-157	300.00	-
10.	Wet Scrubbing	IS : 11908	300.00	Wet Scrub Abrasion Tester
11.	Shampooing	IS : 11969	300.00	-
12.	Chlorinated Water/ Hypochlorite Bleach	IS : 762, IS : 4803 ISO 105-E03, DIN 4019 AATCC-162	300.00	-
13.	Non-chlorine Bleaching/ Hydrogen Peroxide bleach	IS : 763 ISO 105 NO.1&2, AATCC-3, AATCC-101	300.00	-
B. Dimensional Change to				
1.	Hand Washing	ISO 6330	300.00	-
2.	Domestic Washing (Horizontal drum & Agitator type machine)	ISO 6330	600.00	Automatic Washing Machine & Drying procedure - Tumble dry, Line dry etc.
3.	Automatic Home Laundering (Machine wash)	IS : 1299 AATCC-135, AATCC-150, ISO 5077	600.00	Shrinkage Tester & Drying procedure - Tumble dry, Line dry etc.
4.	Relaxation Shrinkage / Shrinkage or Elongation	IS 2977, IS : 665	350.00	Water Tray
5.	Shrinkage when Heated/ Shrinkage or Elongation (Hot Condition)	IS : 11248- Annexure C IS : 11815 -Appendix B	350.00	Hot Air Oven
6.	Appearance After Laundering/Hand Wash	AATCC-124, AATCC-88, AATCC-143	600.00	Shrinkage Tester
7.	Dry & Wet Shrinkage for Polyester sewing thread	IS : 9543	600.00	Hot Air Oven
8.	Skewness	AATCC-179, ASTM-D3882	600.00	Shrinkage Tester
9.	Fabric Wrinkle Recovery	AATCC-128	400.00	Wrinkle Recovery Tester

(C) Fibre Composition

1.	Qualitative Analysis	IS :667 AATCC-20	300.00	Microscop
2.	Quantitative Analysis - Binary Mixture. - Extra Each component (Fibre)	IS :3416, IS:2006, IS:2005, IS :3421, IS:9889, AATCC-20A, BS: 4407	400.00 150.00	---
3.	Flax, Jute etc.	Internal method (Moisture Regain Basis)	800.00	Humidity Chamber

(D) Colour Matching System

1.	Assessment of Total Colour difference (dE)	Macbeth-3100 manual	300.00	Spectrophotometer Macbeth-3100
2.	Whiteness/Yellowness/ Brightness Index Evaluation Comparison	Macbeth-3100 manual	300.00	Spectrophotometer Macbeth-3100
3.	Comparison of strength of Dyestuff Powder Strength	Solvent soluble & CCM Macbeth-3100	600.00	Spectrophotometer Macbeth-3100
4.	Reflectance Value & Curve	Macbeth-3100 manual	300.00	Spectrophotometer Macbeth-3100
5.	Presence of optical Brightener	U.V. Light Source	200.00	Colour Matching Cabinet
6.	Optical Brightener-Active Content	UV-Vis. Spectrophotometer	600.00	UV- Spectrophotometer (Simadzu)

(E) Dyes

1.	Identification of Dyes on textile material	IS : 4472	1000.0	---
2.	Comparison of Dyestuff Strength Test (By Dyeing) and Evaluation by CCM	Dyeing Technique manual	1000.0	IR Dyeing machine
3.	Comparison of Dyestuff Strength	By UV-Visible Spectrophotometer	600.00	Colour Matching System
4.	Purity of Indigo Dyestuff	Titration	1000.0	---
5.	Dyestuff Performance (Levelling, Migration, Strike And Compatibility)	Evaluation of textile chemicals (Prof. V.A.Shenai)	1000.0	---
6.	Disperse Dye Performance	Evaluation of textile chemicals (Prof. V.A.Shenai)	1000.0	---

(F) Taber Abrasion

1.	Abrader Wheel (Available with CS-10, H-18, H-22 & H-38)	ASTM D: 3884 & 3389 ISO : 5470		Taber Abrasion Tester (USA)
	Upto 1000 Cycles		900.00	
	Upto 1500 Cycles		1650.00	
	Upto 2000 Cycles		2400.00	
(G) Flame Resistance				
1.	Inclined Plane	IS : 11871 ASTM D1230, AATCC-33	750.00	Inclined Flammability Tester
2.	Vertical	IS: 11871 IS : 15061 BS: 5438, BS: 5867, BS : 3119	750.00	-
3.	Horizontal	IS : 15061	750.00	-
4.	Limiting Oxygen Index (L.O.I) i) Fabric ii) Other than fabric (Plastic, Rubber, Decorative sheet etc.)	ASTM D2863 NCD 14510 IS : 13501	800.00	L.O.I. Tester (ATLAS, USA)
			1600.00	
5.	Ignition by Hot Nut metal	BS : 4790	500.00	Hot Nut metal method
6.	Carpet/Rugs Ignition Area	BS : 6307	1000.00	Methenamine Tablet
7.	Cigarette Test on Mattresses	ASTM D 4723	300.00	16 CFR 1632- (FF4-72)
8.	Other Textile Heat & Flammability Test method as per ASTM D 4723 and other methods can also be performed depending upon the availability of test material.			
(H) Water Resistance				
1.	Bundesmann / Shower	IS : 392	500.00	Bundesmann/ Shower Tester
2.	Cone Test	IS : 7941	300.00	-
3.	Spray Test	IS : 390 AATCC-22, ISO-4920	150.00	Spray Tester
4.	Hydrostatic Pressure Head Test	IS: 7016 (PART-VII) AATCC-79, ASTM D4772	500.00	Hydrostatic Pressure Head Tester (Water column height 100cm)

5.	Water Vapour Transmission Test	ASTM E-96, CAN-4.2-49	700.00	Water Vapour Permeability Tester
6.	Wettability/Absorbency	IS : 2349 AATCC-79	200.00	--
(I) General Parameters				
1.	pH Value of Aqueous Extract	IS : 1390 ISO-3071, AATCC-81	200.00	pH Meter
2.	Water Soluble Matter	IS : 3456	400.00	--
3.	Scouring Loss (i) Mild & Sever method (ii) Solvent method	IS : 1383 IS : 2360	400.00 500.00	Soxhlet Apparatus
4.	Ether Soluble/ Solvent soluble Matter	IS : 4390	500.00	Soxhlet Apparatus
5.	Barium Activity Number (Mercerised with Unmercerised)	IS : 1689	600.00	--
6.	Desizing of Fabric	IS :1383	300.00	--
7.	Scouring, Bleaching & Dyeing	As per fibre property	1000.00	
8.	Residual starch on bleached fabric	IS : 1967	1000.00	--
9.	Ash Content	IS : 199	400.00	Muffle Furnace
10.	Moisture Content	IS : 199, ASTM D2654	300.00	Hot Air Oven
11.	Solid Content	IS : 199	300.00	Hot Air Oven
12.	Ionic Nature	Solvent	400.00	--
13.	Active Content	Solvent	500.00	--
14.	Oligomer Content	Solvent Extraction	500.00	Soxhlet Apparatus
15.	Oil Content/Wax Content/ Spin Finish	Solvent Extraction	500.00	Soxhlet Apparatus
16.	Oil Repellency (Hydrocarbon)	AATCC-118	2000.00	--
17.	Buoyancy Test	IS : 3040	1500.00	--
18.	Raw Wool Fibres (Scouring Loss, Oil & Fat Content, Vegetable Matter , Ash Content)	IS :1349	2500.00	Hot Air Oven, Soxhlate Apparatus & Muffle Furnace

19.	Desizing efficiency/ Relative Efficiency of desizers	Evaluation of textile chemicals (Prof. V.A.Shenai)	1500.00	---
20.	Chloride content of textile material	IS : 4202	600.00	---
21.	Sulphate content of textile material	IS : 4203	600.00	---
22.	Titanium Oxide (TiO ₂)	---	1000.00	---

(J) Chemicals (Purity/Strength)				
1.	Ordinary Chemicals	Profiles in Analysis of Chemicals - Prof. N.F. Desai reference book	400.00	---
2.	Sodium Hypochlorite (i) Available Chlorine (ii) Available Chlorine & Sodium Hydroxide		400.00 500.00	---
3.	Acetic Acid		400.00	---
4.	Sodium Chloride		400.00	---
5.	Sodium Hydrosulphite		500.00	---
6.	Hydrogen Peroxide		400.00	---
7.	Hydrochloric Acid		400.00	---
8.	Sulphuric Acid		400.00	---

10.	Silicon (Oil Content)			600.00
(K) Sizing Chemicals				
1.	Starch (Moisture Content , Ash Content, pH, Water soluble matter, Acidity, Ether extract)	IS : 1605	1200.00	Hot Air Oven, Muffle Hot Air Oven, Muffle furnace
2.	Tallow (Total fatty matter, Total Ash , Water insoluble matter, Unsaponifiable matter)	IS: 1780	1200.00	Hot Air Oven, Muffle furnace

3.	CMC (Moisture Content, pH, Active CMC Content)	IS : 3520	1200.00	Hot Air Oven, pH meter
4.	PVA (Volatile matter, Residual acetate, Ash content)	Sizing material, Methods, Machines D. B. Aajgaonkar et al,	1200.00	Hot Air Oven, Muffle furnace
5.	China Clay /French Chalk (Moisture content, Loss on ignition, grit & total iron),	Profiles in Analysis of Chemicals - Prof. N.F. Desai	1200.00	Hot Air Oven
6.	Gum (Moisture Content, Ash Content, pH, Watersoluble matter, Acidity, Ether extract)	IS : 3988	1200.00	Hot Air Oven, Muffle furnace
(L) Dye & Printing Assistance				
1.	Dye Fixing Agent	IS : 11660	600.00	---
3.	Pigment Binder (Solid Content, Active content, pH)	IS : 14742 Evaluation of textile chemicals (Prof. V.A. Shenai)	1200.00	Hot air Oven, pH meter
4.	Comparative Strength of Levelling Agent	Evaluation of textile chemicals (Prof. V.A. Shenai)	1200.00	IR Dyeing machine
5.	Dispersing Agent	Evaluation of textile chemicals (Prof. V.A. Shenai)	750.00	---
6.	Defoamer	Evaluation of textile chemicals (Prof. V.A. Shenai)	750.00	---

8.	Wetting Agent	Wetting Efficiency Comparison by DRAVE'S method	600.00	---
9.	Resist Salt (Purity)	Evaluation of textile chemicals (Prof. V.A. Shenai)	600.00	---
10.	Desizing Agent (Purity)	Evaluation of textile chemicals (Prof. V.A. Shenai)	1000.00	---

(M) Finishing Chemicals

1.	Polyethylene Emulsion (Solid Content, Active Content, pH, Ionic Nature)	Evaluation of Textile Chemicals (Prof. V.A Shenai)	1000.00	Hot air Oven, pH meter
2.	Silicones (Solid Content, Oil Content, pH, Ionic Nature)		1200.00	Hot air Oven, pH meter
3.	Softner (Solid Content, Active Content, pH, Ionic Nature)		1200.00	Hot air Oven, pH meter
4.	Resin (Solid Content, Formaldehyde Content (HCHO) Content, pH, HCHO To Nitrogen Ratio)		1200.00	UV-Spectrophotometer, Hot air Oven, pH meter
5.	Polyvinyl Acetate (Moisture Content, pH, Non Volatile Matter)		1000.00	Hot air Oven, pH meter

(N) Fabric Defect Analysis

1.	Processing Related Faults	-	6000.00	
2.	Opinion and Technical Problem on textile processing, product and related aspects		Depending upon nature of problem	

(O) Automotive Fabric

Ford Specification, Suzuki Engineering Standard, General Motors, Hyundai Specification, Toyota Engineering, Nissan, Maruti

1.	COLOR FASTNESS TO Light Xenon Arc - For One sample - For two samples - Three or more samples	GME 60292 SAE J 1885 TSL 3600 G TSL 0601 G MS -300-35 AATCC 16 H JASO M 403 HES D 6601 JASO M 346 EDS-T-7415 GM 9538P NESM0135, NESM0161	80 per hour 50 per hour 35 per hour	Xenon Tester (ATLAS)
2.	Colour definition/difference (XYZ & Lab Value) (ΔE)	CCM Macbeth-3100	300.00	Spectrophotometer Macbeth-3100
3.	Abrasion Resistance (Taber Type) Abrader Wheel CS-10, H-18, H-22 & H-38 Upto 1000 Cycles Upto 1500 Cycles Upto 2000 Cycles	SAE J1530 - A SES N 3246, JASO 403 SAE J948 MS 300-32 SES N 3298 NESM7100	900.00 1650.00 2400.00	Taber Abrasion Tester (USA)

4.	Flammability	SAE J 369 FMV SS 302 SES N 3245 HES D-6003 JASO M 313 GM 9070P MS 300-8 NESM009 4	750.00	Flammability Tester
5.	Smell (Dry & Wet Condition)	TSL 3505G TSM 0505 G	1200.00	Hot air Oven
6.	Smell (40C- 95% RH X 400 HRS)	TSL 3505G	8500.00	Humidity Chamber
7.	Odor property	HES D6507, MS 300-32FMLT 131-01 FLTM BO 131-01 NESM016 0	600.00	Hot Air Oven
8.	Glass Fogging	TSL 3608G MS : 300-54 EDS-T-7694-B TSM 0503G (Method A) NESM0161	600.00	U.V. Visible Spectrophotometer
9.	Colour Fastness to Crocking /Rubbing	FLTM BN 107-01 JASO M 313 EDS-T-7643 MS 300-35	600.00	Motorised Crock Meter
10.	Colour fastness to Rubbing after fade Resistance	MS-300-35 & Fade Resistance condition	600.00	Xenon Tester and Crock Meter
11.	Dimensional change by Moisturing/ Immersion shrinkage	HES D 6506 JASO M 313-83 MS 300-32 FLTM BN 105-01	600.00	Water bath
12.	Dimensional Stability against Humidity	MS 300-32	600.00	Humidity Chamber
13.	Dimensional Change by Heating	HES D 6506 FLTM-BN-105-01 NESM013 1	600.00	Hot Air Oven
14.	Water Inclusion	5SFTS-0303-0	450.00	---
15.	Water Resistance/ Repellency	HES D 6506 Ms 300-32	150.00	Spray Tester
16.	Soil and Cleanability	MS 300-32 FLTM BN 112-08	1000.00	Launder-o-meter
17.	Resistance to Bleeding	AN 101 -01	300.00	Perspirometer (JamesH. Heal)
18.	Resistance to Perspiration	AN 101 -01	300.00	Perspirometer (JamesH. Heal)

19.	Resistance to Heat	(100 ⁰ c for 8 Hrs.)	100.00	Hot Air Oven
20.	Resistance to Humidity	(40 ⁰ C- 95% RH for 8 hrs.)	150.00	Humidity Chamber
21.	Steaming in Auto-Clave	(100 ⁰ C for 1 hr.)	200.00	Auto-Clave
22	Thermal Cycle	NESM0132	11500.00	
23	Chemical Resistance	NESM0133	6000.00	
24	Scrach Test	NES Clause -38	2000.00	

Note :

Sample size will be decided on number and nature of tests.