



TEST CHARGES MANUAL

WOOL RESEARCH ASSOCIATION, THANE

PHYSICAL TESTING

CHEMICAL TESTING

ECO TESTING



WOOL RESEARCH ASSOCIATION

P.O.- SANDOZ BAUGH, KOLSHET ROAD, THANE-400607, INDIA

Phone no.- 022-25314294/25868398, Fax no. 022-25868365, E-mail- wra@wraindia.com, Web www.wraindia.com

FOREWORD

Wool Research Association (WRA) is a co-operative research Association established in 1963 under Societies Registration Act 1860. It is linked to Ministry of Textiles, Government of India as a grantee organization.

Besides R&D, consultancy, training and education in the field of woollens and allied areas in particular, and textiles in general, WRA offers excellent facilities of testing and evaluation of textiles - both physical and chemical testing. Besides, it also undertakes instrumental microanalysis in chemical (organic and inorganic) and ecological testing.

WRA Textile Test House is **NABL accredited** for ISO-17025 standards. The laboratory is also certified and calibrated by **Interwoollabs, Bradford** for various tests on wool fibres. WRA is an Associate Member of IWTO. The laboratories are SIRO recognized by Department of Science and Technology. Testing assignments are undertaken against specifications of BIS, ISO, IWTO, ASTM, AATCC, etc.

WRA is rendering continual testing and consultancy services at various levels in textile and allied industries. Government agencies, international agencies etc. WRA has prepared this schedule of charges in a most reasonable and realistic manner for implementation.

Mr. M. K. Bardhan
Director
Wool Research Association

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Wool Research Association
P.O-Sandoz Baugh, Kolshet Road, Thane, 400607. INDIA
Phone-25868398, 25314294, Fax: 91-022-25868365
E-mail: wra@wraindia.com / wratexlab@gmail.com
Website: www.wraindia.com



TEST CHARGES MANUAL

Ref. No.	TEST DESCRIPTION	SAMPLE QUANTITY REQUIRED	STANDARDS	CHARGES in ₹
	FIBRE / SILVER TESTING			
1.	Moisture %	0.5 kg	IS 6637, ASTM D 1576 In-house Test Method	200.00
2.	Invoice Weight	0.5 kg	IWTO-34 FOR TOP	1000.00
3.	Clean Wool Fiber Content	1.0 kg	IWTO-19	1000.00
4.	Vegetable Matter	0.5 kg	IWTO-19	200.00
5.	Wool Base	1.0 kg	IWTO-19	1000.00
6.	Ash content Of Loose Wool	0.5 kg	IS 1719	350.00
7.	Black Fiber Content	0.5 kg	IWTO35	300.00
8.	Color	0.5 kg	IWTO	250.00
9.	<i>Fiber Fineness (Micron)</i> Air Flow Method	0.5 meter	IWTO-6 and 28	300.00
10.	OFDA	0.5 kg	IWTO-47	350.00
11.	Fiber diameter (Projection Microscope)	0.5 kg	IWTO-8, IS 744	400.00
12.	Wool Fiber Grade	0.5 kg	IS-5910, IS-5911	400.00
13.	Single Fiber Length	0.5 kg	IS 1377	400.00

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Ref. No.	TEST DESCRIPTION	SAMPLE QUANTITY REQUIRED	STANDARDS	CHARGES in ₹
14.	HAUTUER (Sliver / Top)	5 meters	IWTO-17	500.00
15.	Kemp Content (projection)	280 gms	ASTM D 2968	300.00
16.	Staple Length	0.5 kg	IWTO-30	350.00
17.	Nep Count (Visual)	5 meters		200.00
18.	Staple Strength And P.O.B.	0.5 kg	IWTO-30	600.00
19.	Residual Grease (Soxhlet Extraction)	0.5 kg	IWTO-10	350.00
20.	Denier Of Fiber	0.5 meter	ASTM D 1577	350.00
21.	Single Fiber Strength	280 gms	ASTM D 3822, ASTM D 3379, ISO 5079	500.00
22.	Sampling By Core Drill	Per bale		100.00
23.	Crimp	25 gram	ASTM D 3937	200.00
24.	Bundle Strength	1.5 meter	ASTMD-1294	500.00
25.	Evenness (U %)	250 meter	IWTO 18	400.00

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TEST CHARGES MANUAL

Ref. No.	TEST DESCRIPTION	SAMPLE QUANTITY REQUIRED	STANDARDS	CHARGES in ₹
	YARN TESTING			
	Moisture %	10 bobbins	IS-6637, In-house	200.00
1.	Linear Density (Count)	10 bobbins	EN-ISO-2060-1995, IS 1315, ASTM D 1907	200.00
2.	Twist & Direction Of Twist	5 bobbins	IS 832	300.00
3.	<i>Fiber Fineness (Micron)</i> Projection Microscope	0.5 meter	IWTO-8 IS744	400.00
4.	OFDA	0.5 meter	IWTO-47	350.00
5.	Single Fiber Length Measurement	10 bobbins	IN HOUSE	500.00
6.	Evenness (U %) (With Imperfections)	10 bobbins	ASTM D 1425, IS 7703-PART V, IWTO18	400.00
7.	Yarn Friction Coefficient Of Friction Per Surface	10 bobbins / chesses	ASTM D 3108	350.00
8.	Single Yarn Strength Test (Without C.V.%)	10 bobbins	EN ISO-2062-1995, IS 1670	350.00
9.	Single Yarn Strength Test (With C.V.%)	20 bobbins	EN ISO-2062-1995, IS 1670	500.00

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TEST CHARGES MANUAL

Ref. No.	TEST DESCRIPTION	SAMPLE QUANTITY REQUIRED	STANDARDS	CHARGES in ₹
	FABRIC TESTING (woven and knitted)			
1.	Ends & Picks Per Inch/Dm.	0.5 meters	IS-1963	200.00
2.	Count (Warp & Weft)	0.5 meters	IS-3442-1980, ASTM D 1059	300.00 400.00 (after definish)
3.	Crimp of yarn in fabric	0.5 meters	IS 3442	200.00 100.00(for each additional colour)
4.	Weave	0.5 meters	visual	150.00
5.	Length and width	Full Pice (Blanket) Full Width (Other Fabric)	IS 1954, ASTM D 3774	150.00
6.	Fabric Strength	1.0 meters	IS 1969, ASTM D 5034/5, ASTM D 1775	400.00
7.	Seam Strength	1 meters	ASTM D1683	400.00

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Ref. No.	TEST DESCRIPTION	SAMPLE QUANTITY REQUIRED	STANDARDS	CHARGES in ₹
8.	Seam slippage	1 meter	ASTM D 434	400.00
9.	Ballistic Tear Strength Tester : (single rip, double tongue, trapezoid)	2 meters	IS 7016 ASTM D2261	400.00
10.	Bonding Strength	1 meter	IS 1719, ASTM D 2724	500.00
11.	Weight Per Square Meter Or Other Specific Area	0.5 meters	IS 1964, ASTM D3776, ISO 3801, TM-13	150.00
12.	Twist And Direction Of twist (Yarn Removed From Fabric)	0.5 meter	IS 832, ISO 17202 ISO 7211-4, ASTM D 1422	300.00
13.	Pilling (ICI Test)	0.5 meters	IS 10971, ASTM D3514, TM-152	400.00
14.	Pilling Martindale	0.5 meters	ISO 12945-2, ASTM D 4970 TWC-TM-196	400.00
15.	Thickness	0.5 meters	ASTM D 1777	150.00
16.	Air Permeability Max. Pressured Different Of 25m Head Of Water).	1 meter	ISO 9237, IS 11056	350.00

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Ref. No.	TEST DESCRIPTION	SAMPLE QUANTITY REQUIRED	STANDARDS	CHARGES in ₹
17.	Bursting Strength (Up to 55 Kg/Cm) (Diaphragm)	1 meter	IS 1966	350.00
18.	Abrasion Resistance (Up 10,000 Rubs) <i>Beyond 10,000 Rubs Per 1000 Rubs</i>	1 meter	ASTM D 4966, IS 12673	500.00
		1 meter		300.00
19.	Thermal Insulation (TIV) (Tog Meter)	1/2 meter	BS 4745	600.00
20.	Fabric Performance By SIRO Fast Compression Bending Length Extension Hygral Expansion	1/2 meter full width		1000.00
21.	Stiffness Test	1 meter	ASTM D 1388	300.00
22.	Crease Recovery Test	1 meter	IS 4681	350.00
23.	Bundesmann Test For Water Repellency	1 meter	IS-392	350.00
24.	Water Permeability (Cone Test)	1 meter	IS 6803	350.00

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Ref. No.	TEST DESCRIPTION	SAMPLE QUANTITY REQUIRED	STANDARDS	CHARGES in ₹
25.	Cover Factor	0.5 meter	IN HOUSE	300.00
26.	Stitch Density / Knitted Fabric Construction	0.5 meter	IS-236	300.00
27.	Spirality / Skewing of Fabrics & Garments	0.5 meter	ASTM D 3882	300.00
28.	Hygral Expansion	0.5 meter		300.00
29.	Whiteness Index (spectro photo meter)	0.5 meter		500.00
30.	Color Difference (Delta E Value)	0.5 meter		500.00

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Ref. No.	TEST DESCRIPTION	SAMPLE QUANTITY REQUIRED	STANDARDS	CHARGES in ₹
	CARPET TESTING			
1.	Thickness	0.5 meters	IS 5641	200.00
2.	Pile Density	0.5 meters	IS 5884	500.00
3.	Abrasion Resistance (Up 10,000 Rubs) <i>Beyond 10,000 Rubs Per 1000 Rubs</i>	1 meter		500.00 300.00
4.	Static Loading Short Term	1 sq. meter		500.00
5.	Static Loading Long Term	1 sq. meter		500.00
6.	Dynamic Loading Up To 1,000 Impacts	1 sq. meter		500.00
7.	Shorn Pile Weight Per Sq. Meter	1 sq. meter		500.00
8.	Weight Per Sq. Meter Of Carpet Backing	1 sq. meter		350.00
9.	Dimensional Stability To Heat	1 sq. meter		350.00
10.	Dimensional Stability To Water	1 sq. meter		350.00
11.	Tuft Bind	1 sq. meter		300.00
12.	Tuft / 10 Cm	1 sq. meter		250.00
13.	Tetra pod Walker	1 sq. meter		350.00

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Ref. No.	TEST DESCRIPTION	SAMPLE QUANTITY REQUIRED	STANDARDS	CHARGES in ₹
	CHEMICAL TESTING			
1.	Solvent Extractable Matter	0.5 kg 0.5 meter	IWTO-10	400.00
2.	Fiber Identification (Microscope)	25 GMS	IS 667	200.00
3.	Wool Content	25 GMS	IS-8476	300.00
4.	Blended Composition: By Chemical Method 2 Components Additional Components By microscope Method Per Component	200 GMS 200 GMS	IS-2006 AATCC	350.00 200.00 for each additional
5.	Alkali Solubility	200 GMS	BS-3568	350.00
6.	U.B. Solubility	200 GMS	BS-3584	350.00
7.	Scouring Loss	0.5 meters 2 bobbins	IS-1383	400.00

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Ref. No.	TEST DESCRIPTION	SAMPLE QUANTITY REQUIRED	STANDARDS	CHARGES in ₹
8.	pH Of Aqueous Extract	200 GMS 0.5 meter.	IS1390	250.00
9.	Water Soluble Matter	200 GMS. 2 bobbins 0.5 meters	IS 3456	300.00
10.	Hardness Of Water (Total, Temporary And Permanent And Dissolved Solids)	5 liters		350.00
11.	Proofing Content	1 meter	IS-2089	500.00
12.	Aluminum/Copper/Zinc/Iron/Chromium content	0.5 meter	IS-1039	500.00
13.	Comparative Assessment Of Combing Oil for Scour ability & Effect Of Exposure To Light	2 samples of 250 ml each	AATCC-77	1000.00
14.	Dye ability Of Dyes On Different Fibers	100 GMS		350.00
15.	Confirmation Of Class Of Dye On Fiber	200 GMS 2 bobbins	IS 4472 PART-I, II, III	500.00
16.	Flame Retardency Vertical	1 sq. Mt	IS 11871	500.00

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Ref. No.	TEST DESCRIPTION	SAMPLE QUANTITY REQUIRED	STANDARDS	CHARGES in ₹
	COLOR FASTNESS TESTING			
1.	Color Fastness To A) Light (Xenon Arc Lamp) (Up To Grade 8) B) Accelerated Fading Per 250 Hrs.	1 bobbin 0.5 meter	ISO 105	600.00 up to 5 std, 1200.00 up to 6 th std, 7 th 2000.00, 5000.00 for accelerating fading
2	Washing	0.5 meter	ISO 105 C01-C02, IS 761, IS 3361, IS 764	250.00
3.	Laundry	Full Garment	ISO 105- C06/C08	250.00
4.	Perspiration At pH 5.5 And pH 8.0	0.5 meter	ISO 105-E04, IS 971	350.00
5.	Water	0.5 meter	AATCC 107 IS 767, ISO 105-E01	250.00

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Ref. No.	TEST DESCRIPTION	SAMPLE QUANTITY REQUIRED	STANDARDS	CHARGES in ₹
6.	Sea Water	0.5 meter	ISO 105 E02, IS 690	300.00
7.	Organic Solvents	1 bobbin 0.5 meter	IS 688	350.00
8.	Dry Cleaning	1 bobbin 0.5 meter	IS 4802, ISO 105-D01	350.00
9.	Rubbing (Dry & Wet)	1 bobbin 0.5 meter	ISO 105-X12, AATCC 8, IS 766	200.00
10.	Colour fastness to artificial weathering	1 bobbin 0.5 meter	IS 6152	2000.00
11.	Ironing (hot pressing)	1 bobbin 0.5 meter	IS 689, AATCC 133	350.00
12.	Water Spotting	1 bobbin 0.5 meter	ISO 105 E07, IS 976	200.00
13.	Acid Spotting	1 bobbin 0.5 meter	ISO 105 E 05 AATCC 6, IS 968	300.00

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Ref. No.	TEST DESCRIPTION	SAMPLE QUANTITY REQUIRED	STANDARDS	CHARGES in ₹
14.	Alkali Spotting	1 bobbin 0.5 meter	ISO 105 E 06, AATCC 6 IS 977	300.00
15.	Bleaching	1 bobbin 0.5 meter	ISO 105 N01 TO N04, IS 762, IS 763	300.00
16.	Non Chlorine Bleach	1 bobbin 0.5 meter	AATCC 172	500.00
17.	Solvent Spotting- Perchlorethylene	1 bobbin 0.5 meter	AATCC 157	250.00
18.	Shampooing	1 bobbin 0.5 meter	IS 11967, ISO105-UK-TB	350.00
19.	Cross Dyeing	1 bobbin 0.5 meter		400.00
20.	Alkaline Milling	1 bobbin 0.5 meter	ISO-105-E12	350.00
21.	Decatizing	1 bobbin 0.5 meter	ISO-105	400.00

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Ref. No.	TEST DESCRIPTION	SAMPLE QUANTITY REQUIRED	STANDARDS	CHARGES in ₹
22.	Potting	1 bobbin 0.5 meter	ISO-105-E09, IS-972	350.00
23.	(Copper & Iron)* Colour treatment to metal *	1 bobbin 0.5 meter	ISO-105-Z02	650.00
24.	Dry Cleaning Shrinkage	1 bobbin 0.5 meter		400.00
25.	Relaxation Shrinkage	1 meters	IS 665	250.00
26.	Washing & Ironing Shrinkage	1 meters	IN HOUSE	300.00
27.	Steaming Shrinkage	1 meters		400.00
28.	Oriental Rug Wash	1 meters	IN HOUSE	400.00
29.	Dyeing charges / shade	1 meters		600.00
30.	Chlorinated Water	1 meters	ISO 105 E03, IS 4803	300.00
31.	Barium activity No.	1 meters	IS-1689	500.00

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S. No.	TEST	SAMPLES	METHOD NO.	INSTRUMENT	TESTING CHARGES in ₹
1.	Free Formaldehyde	10 gms	ISO/DIS14184.1, Japanese Law 112/1973 or DIN 54260	UV-VIS	500.00
2.	Banned Aromatic Amines	10 gms	LMBG B-82.02	GC-MS & HPTLC	4000.00
3.	Heavy metals (ppm level)	25 gms	EN-71 (8 metals)	AAS	5200.00
		25 gms	AP-89 (10 metals)	AAS	5600.00
4.	Heavy Metals (Cu, Cd, Pb, Hg, Ni, As, Zn, Co, Cr, Fe, Na, Ca, Si, Mg, Ba)	-	-Extraction with perspiration as per DIN 54020 (For baby wear extraction with Saliva as per DIN 53160)	AAS	500.00 for the first metal and 300.00 for next successive metal of same sample
5.	Metal content (ppm level)	10 gms	In house	AAS	On request, (Rs 500.00 to 1500.00)

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S. No.	TEST	SAMPLES	METHOD NO.	INSTRUMENT	TESTING CHARGES in ₹
6.	Pentachlorophenol	50 gms	DIN EN ISO17070:2007	GC-MS	3000.00
7.	Pesticides	10 gms	-Extraction as per OKO-Tex stand 100	GC-MS	4000.00
8.	Residual Chlorine	10 gms	-Extraction (IS : 971, 1983)	GC – FID	2000.00
9.	Polychlorinated biphenyl	10 gms	In House	GC-MS	2000.00
10.	Polychlorinated aromatic hydrocarbon (Qualitative)	10 gms	In House	GC-MS	2000.00
11.	4-Nitrobiphenyl	10 gms	In House	GC-MS	2000.00
12.	Nitrobenzene	10 gms	In House	GC-MS	2000.00
13.	Phthalimide	10 gms	In House	GC-MS	2000.00
14.	Estimation of moth proofing agent on fabric (Mitin FF/ Perigen)	10 gms	In House	HPLC	4000.00
15.	HPLC with conditions Supplied (isocratic) per chromatograph	10 gms	n.a.		1000.00

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S. No.	TEST	SAMPLES	METHOD NO.	INSTRUMENT	TESTING CHARGES in ₹
16.	HPLC with conditions Supplied (gradient) per chromatograph	10 gms	n.a.		1500.00
17.	HPTLC per sample conditions supplied	10 gms	n.a.		500.00
18.	GC-FID per chromatograph	10 gms	n.a.		500.00
19.	GC-MS with library search per chromatograph	10 gms	n.a.		2000.00
20.	GC-MS per sample Direct probe	10 gms	n.a.		1500.00
21.	UV-VIS per sample	10 gms	n.a.		500.00
22.	FTIR per spectra	10 gms	n.a.		500.00
23.	Karl Fisher per sample	10 gms	n.a.		500.00
24.	Chemical Testing	10 gms	As applicable		Depending on Test
25.	Water Testing	1 Lit.	As applicable		On Request

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RULES & REGULATIONS

1. Sample for testing will be accepted during office working hours on all week days, Except on holidays, Sample acceptance hour are: **Monday to Saturday - 10.30 a.m. to 5.00 p.m.**
2. Test charges are payable strictly in advance at the time of submitting the samples. In any case, no test will be started till payment is received. Cheques are to be drawn in favor of **"WOOL RESEARCH ASSOCIATION"**.
3. Sufficient quantity of samples, as shown in the schedule of charges for tests, should be submitted along with an application for requisite tests.
4. The Test Report shall be based on **Samples as received**. In their own interest, the clients should make it certain that the samples represent the bulk. Samples for moisture estimation will be accepted only in airtight packing.
5. Samples must be clearly 'MARKED' and 'LABELLED' at the time of submitting them.
6. If samples are to be tested to some definite specifications, instructions in this regard in writing must be submitted along with the samples.
7. Sample for test will not be accepted if it is felt that their condition is such as to render the results unreliable one or, if the size is below the recommended one.
8. Tests not mentioned in the schedule will be carried out, if the relevant equipment is available; charges for such case will be decided by the association.
9. Additional Courier and administrative charges of ₹ 50.00 minimum on testing charges (up to ₹ 500.00) and above ₹ 500.00, it will be 10% of the actual testing charges.
In the normal course, only two copies of the Test Report will be supplied. Additional copies will be supplied at ₹ 60/- per copy.
10. In all matters regarding acceptance, rejection, priority in testing, etc. the decision of the association will be final.

11. The above rules & regulations and the schedule of charges are subject to change without previous notice.
12. All tests will be undertaken subject to the condition that no legal responsibility is attached to the association for test reports issued and findings given therein.
13. Normally, test reports will be issued **within 7 working days** of receipt of samples; however, if the number of samples and the number of tests to be carried out are large, WRA Test House has the authority to decide the period of testing.
14. On Party's request the testing of samples will be undertaken on priority or urgent basis, **on payment of one and half times the NORMAL charges**. In case of urgent samples if the reports are delayed the charges will be 'NORMAL'.
15. The WRA Test House will take all possible care as regards samples received for testing; however, it will not be responsible for any loss or damage, which may occur in transit. The sample will be preserved for **ONE MONTH after completing the test**.
16. All samples or goods must be delivered to and removed from the association by the party on whose behalf the tests will be carried out, but they may be forwarded by post /courier at the party's expense and risk. The association assumes no responsibility for delay or damage or loss of samples or reports sent by post.
17. The contents of test reports and correspondence with clients will be kept **strictly confidential**.
18. The material remaining after test will not be returned unless a specific request is made by the party at the time of submitting the sample for test.
19. Special consultancy charges will also include type of work, work involved, man-hours spent and procurement of raw material, if any.
20. Wool Research Association reserves the right to accept or reject the sample for testing without assigning any reason.
21. Test Report issued by WRA will be specifically for use of the client and not for any legal claim, damage, dispute etc.