

Laboratory **Modern Testing Services (India) Private Limited, No. 37/1 (Old No. 242/243), BBMP Ward No. 191, Singasandra, Hosur Main Road, Bengaluru, Karnataka**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-5767**

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Validity **13.05.2018 to 12.05.2020**

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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CHEMICAL TESTING

I.	TEXTILE			
1.	Yarns & Chords, Grey Fabric, Finished Fabric, Apparel & Garments	Color Fastness to Light	AATCC 16.3:2014	Qualitative (Grade 1 to Grade 5)
			BS EN ISO 105-B02:2014	Qualitative (Grade 1 to Grade 5)
		Color Fastness to washing	BS EN ISO 105-C06: 2010	Qualitative (Grade 1 to Grade 5)
			BS EN ISO 105-C08: 2010	
			BS EN ISO 105-C10: 2007	
		Color Fastness to laundering accelerated	AATCC 61:2013	Qualitative (Grade 1 to Grade 5)
		Color Fastness to Dry Cleaning	AATCC 132:2013 BS EN ISO 105-D01: 2010	Qualitative (Grade 1 to Grade 5)
		Color fastness to water	BS EN ISO 105-E01: 2013 AATCC 107 : 2013	Qualitative (Grade 1 to Grade 5)
		Color fastness to Sea water	BS EN ISO 105-E02: 2013 AATCC 106:2013	Qualitative (Grade 1 to Grade 5)
Color fastness to Perspiration	BS EN ISO 105-E04: 2013 AATCC 15:2013	Qualitative (Grade 1 to Grade 5)		
Color Fastness to Rubbing (Crocking)	BS EN ISO 105-X12: 2016 AATCC 8:2016	Qualitative (Grade 1 to Grade 5)		
2.	Fibre & Filaments, Yarn & Chords, Grey Fabric, Finished Fabric, Apparel & Garments	Fiber Analysis	AATCC 20:2013	Qualitative
		Fiber Blend Analysis - All Single Fibers Blends - Cotton + Polyester - Cotton + Spandex - Cotton + Linen - Cotton + Viscose - Cotton + Wool	ISO 1833:2006 (Part 1, 2, 5, 11, 12) Annexure A EU 1007:2011 AATCC 20A:2017	0.1 % to 100%

Nand Kumar
Convenor

Battal Singh
Program Manager

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		-Cotton + Polyester -Spandex		
		pH Value of Aqueous Extract	EN ISO 3071:2006 AATCC 81:2016	1 to 14
3.	Grey Fabric, Finished Fabric, Apparel & Garments	Color Fastness to Phenolic yellowing	ISO 105-X18:2007	Qualitative (Grade 1 to Grade 5)
		Dimensional change after washing for woven/Knitted fabrics & Garments	ISO 5077:2010 BS EN ISO 6330:2012 ISO 3759:2011 AATCC 135:2018 AATCC 150: 2018	(-)50% to 50%
		Spirality & Skewness after washing for woven/knitted fabrics & garments	ISO 16322-1,2,3:2005 AATCC 179-2017	0.5% TO 25%
4.	Finished Fabric, Apparel & Garments	Color Fastness Artificial Saliva	DIN 53160-1:2010	Qualitative (Grade 1 to Grade 5)
		Color Fastness Artificial Sweat	DIN 53160-2:2010	Qualitative (Grade 1 to Grade 5)

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MECHANICAL TESTING

I.	TEXTILE MATERIALS			
1.	Fabric (Woven & Knitted)	Breaking Strength (Grab Method)	BS EN ISO 13934-2:2014 ASTMD 5034:2009 (RA 2013)	50 N to 2500 N (5 kgf to 250 kgf)
		Tear Strength (Elmendorf Apparatus)	BS EN ISO 13937-1:2000 ASTM D 1424:09 (RA 2013)	30N to 130N (3 kgf to 13 kgf)
		Width and length of the sample	ISO 22198:2006-10-01 ASTMD 3774-96 (RA 2016)	100mm to 2000 mm
2.	Fabric/ Garment & Apparel	Seam Strength	BS EN ISO 13935-1:2014 BS EN ISO 13935-2:2014 ASTM D 1683:2011	5 kgf to 500 kgf (11 lbf to 1100 lbf)
		Resistance to slippage of yarn in woven fabric using a standard seam	BS EN ISO 13936-1:2004 ASTM D 434 : 1995	5 kgf to 500 Kgf (11 lbf to 1100 lbf)
		Slippage Resistance of yarns at a seam in woven fabrics Fixed Load Method	BS EN ISO 13936-2:2004	
		Bursting Strength (Hydraulic Method)	ASTM D 3786/D3786M-2018	68 kPa to 1295 kPa (10 psi to 190 psi)
		Fabric Propensity to surface fuzzing & to Pilling (Pill Box Method)	BS EN ISO 12945-1:2001	Qualitative (Grade 1 to Grade 5)
		Fabric Propensity to surface fuzzing & to Pilling (Modified Martindale Method)	BS EN ISO 12945-2:2000	Qualitative (Grade 1 to Grade 5)

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Pilling Resistance and other related surface change of textile Fabric (Random Tumble Pilling Tester)	ASTMD 3512/D3512M-2016	Qualitative (Grade 1 to Grade 5)
		Pilling Resistance and other related surface change of textile Fabric: Elastomeric Pad	ASTMD 3514/D3514M: 2016	Qualitative (Grade 1 to Grade 5)
		Fabric Weight (Mass per unit area)	ISO 3801:1997 Method 5 BS EN 12127:1998 ASTM 3776/D3776M:09a (2017) Option C	10 gsm to 1000 gsm
		Flammability of Apparel Textile	16 CFR 1610:2012 ASTM D1230:2017	2 s to 100 s
3.	Woven Fabric	Thread per Unit length (woven Fabric)	ISO 7211-2:1984 ASTM D3775:2017 ASTM D3887:1996 (RA 2008)	40 threads/cm to 80 threads/cm (20 threads/inch to 200 threads/inch)
		Abrasion resistance of fabric by the Martindale method	BS EN ISO 12947-1:1998 BS EN ISO 12947-2:1999 ASTM D 4966:2016	16 Rubs to 99999 Rubs
		Abrasion resistance of fabric by the Martindale method	BS EN ISO12947-3:1998	0.5% to 50%
		Abrasion resistance of fabric by the Martindale method	BS EN ISO12947-4:1999	Qualitative (Grade 1 to Grade 5)
		Water repellency	AATCC 22:2014	Qualitative (Rating 0 to 100)
		Stretch & recovery – woven	ASTM D 3107:2007 (RA 2015)	5% to 50%

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4.	Knitted Fabric	Stretch & recovery - Knit	ASTM D 2594-04(2016)	0.1 % to 50 %
5.	Textile Accessories	Sharp point	ASTM F 963:2017(4.9), 16 CFR 1500.48 EN 71 (Part 1):2014(4.8)	Qualitative
		Sharp Edge	ASTM F 963-2017 (4.7), 16 CFR 1500.49 EN 71 (Part 1): 2014 (4.7)	Qualitative
		Small parts	16 CFR 1501.4, ASTM F 963-11: 2017 Section 4.6 EN 71 (Part 1): 2014 (8.2)	Qualitative
		Tension	ASTM F 963-11: 2017 Section 8.9, 16 CFR Part 1500.50, 16 CFR Part 1500.51, 16 CFR Part 1500.52, 16 CFR Part 1500.53, EN 71 (Part 1):2014	Qualitative
		Torque	ASTM F 963-11: 2017 Section 8.8, 16 CFR Part 1500.50, 16 CFR Part 1500.51, 16 CFR Part 1500.52, 16 CFR Part 1500.53	Qualitative
		Removal Force of attached Component	BS 7907:2007 Annexure B	20N to 1000N (2 kgf to 100 kgf)

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