

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 1 of 33

Validity 19.05.2018 to 18.05.2020

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.	TEXTILES (WOVEN AND NON WOVEN)			
1.	Yarns & chords, Finished Fabrics Apparels/ Garments Made-ups, Carpet & rugs, Terry Fabrics & its products, Automotive textiles, Sports textiles, Domestic Textiles, Accessories, textile toys	Colorfastness to Domestic & commercial Washing/Laundrying	ISO-105-C06:2010 IS/ISO-105-C06:2010 ISO -105-C10:2006 AATCC 61:2013	(Grade) 1 to 5 / ± 0.5
		Colorfastness to Crocking/Rubbing	ISO 105 X12 : 2016 AATCC 8 : 2016 IS 766 : 1988 (RA: 2009)	(Grade) 1 to 5 / ± 0.5
		Colorfastness to Perspiration	ISO 105 E04 : 2013 AATCC 15:2013 IS 971:1983 (RA: 2009)	(Grade) 1 to 5 / ± 0.5
		Colorfastness to Artificial Saliva	DIN 53160-1-2010	(Grade) 1 to 5 / ± 0.5
		Colorfastness to Organic Solvent	IS 688-1988(RA 2017)	(Grade) 1 to 5 / ± 0.5
		Colorfastness to Sea Water	ISO 105 E02:2013 AATCC 106:2013	(Grade) 1 to 5 / ± 0.5
		Colorfastness to Water	ISO 105 EO1: 2013 AATCC 107: 2013 IS/ISO 105 : Part E01 : 2013 (RA 2017)	(Grade) 1 to 5 / ± 0.5
		Colorfastness to Dry Cleaning with perchloroethylene solvent	ISO 105 D01: 2010 AATCC 132:2013 IS 4802:1988 (RA: 2006)	(Grade) 1 to 5 / ± 0.5
		Colorfastness to Bleaching - Hypochlorite	ISO 105 NO1: 1993 IS 762 :1988(RA: 2017)	(Grade) 1 to 5 / ± 0.5
		Colorfastness to Bleaching - with Hydrogen Peroxide	ISO 105 NO2: 1993 AATCC 101:2016	(Grade) 1 to 5 / ± 0.5

Laboratory **Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh**

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

Certificate Number **TC-6611**

Page 2 of 33

Validity **19.05.2018 to 18.05.2020**

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
		Colorfastness to Chlorinated swimming Pool Water	ISO 105 EO3: 2010	(Grade) 1 to 5 / ± 0.5
		Colorfastness: Dye Transfer in storage, Fabric to Fabric	AATCC163-2013	(Grade) 1 to 5 / ± 0.5
2.	Grey fabric Finished Fabrics Apparels, Garments Made-ups, Carpet & rugs, Terry Fabrics & its products, Automotive textiles, Sports textiles, Domestic Textiles, Accessories & textile toys	Dimensional Changes on Soaking in Water	IS 2977:1989(RA 2016)	(\pm) 0.5 to 25%
		Relaxation Dimensional Changes on Machine Washing of woolen products	IS 1313 : 1984 (RA 2017) (Clause. 2.1.1)	(\pm) 0.5 to 50%
		Felting Dimensional Changes on Machine Washing of woolen products	IS 1313 : 1984 (RA 2017) (Clause. 2.1.2)	(\pm) 0.5 to 50%
		Dimensional Changes due to Relaxation of Wool-Cotton Vest	IS 3330:1988(RA 2013), Appendix Amd. 5	(\pm) 0.5 to 50%
		Area Dimensional Changes on Electrolux Machine Washing of Woolen Products	Woolmark TM 31 : 2000 IS 1313:1984(RA 2017) IS 2360 –1977(RA 2013) Appendix Amd. 5	(\pm) 0.5 to 30%
		Dimensional Changes of fabrics after Home Laundering	AATCC 135 : 2015	(\pm) 0.1 to 25%
	Dimensional Changes of garment after Home Laundering	AATCC 150 : 2012	(\pm) 0.1 to 25%	
	Dimensional Changes in washing and drying	ISO 6330 : 2012 / ISO 3759 : 2011 ISO 5077 : 2007 IS 2977 :1989	(\pm) 0.5 to 25%	
	Dimensional Stability to Dry-cleaning	TTI /006 : 2013, Issue No.03, Issue Date.01.01.2013	(\pm) 0.5 to 25%	

Laboratory **Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh**

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

Certificate Number **TC-6611**

Page 3 of 33

Validity **19.05.2018 to 18.05.2020**

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
		Skewness Change in Fabric and Garment: Twist Resulting from Automatic Home Laundering	AATCC 179-2012	(±) 0.1 to 50%
		Spirality after Laundering i) Woven and Knitted Fabrics ii) Woven and Knitted Garments	ISO 16322-2:2005 / Cor 1 : 2007 ISO 16322-3:2005	0.5 to 50%
3.	Yarns & cords, Grey fabric Finished Fabrics Apparels/ Garments Made-ups, Carpet & rugs, Terry Fabrics & its products, Technical Textile , Industrial textile, Geo textile, Automotive textiles, Protective textiles, Sports textiles, Packaging textiles , Agro-textiles Domestic Textiles & Accessories, textile toys	Fiber Analysis : Qualitative	AATCC 20 :2013	Qualitative
		Identification of textile fibers	IS 667 :1981 (RA: 2017)	Qualitative
		Fiber Analysis : Quantitative Chemical Analysis :- Mixtures of Cellulose and polyester fibers using Sulfuric Acid	AATCC 20 A :2017	0.1% to 100%
			ISO 1833 – 1 : 2006 / Cor 1 2009 SASO- ISO 1833-1 :2006	2% to 100%
			ISO 1833 – 11 : 2017 SASO- ISO 1833-11 :2006	2% to 100%
			IS 3416 -1 :1988 (RA: 2017)	2% to 100%
		Mixtures of Protein fibre with certain other Non protein fibres	IS 2006:1988 (RA 2017)	2% to 100%
		Mixtures of Acrylic Chlorofibers, Elastane and other fibers using DMF	ISO 1833 – 1:2006/Cor 1 2009 SASO- ISO 1833-1 :2006	2% to 100%
			ISO 1833 – 12 :2006	2% to 100%
		Mixtures of Polyamide and certain other fibers using formic acid	ISO 1833 – 1 : 2006/Cor. 1 2009 SASO- ISO 1833-1 :2006	2% to 100%
	ISO 1833 – 7: 2017	2% to 100%		

Laboratory **Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh**

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

Certificate Number **TC-6611**

Page 4 of 33

Validity **19.05.2018 to 18.05.2020**

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
		Mixtures of Nylon 6 or Nylon 6.6 with certain other fibres	IS-2005 : 1988	2% to 100%
		Fiber Analysis Quantitative by Physical Separation	AATCC 20 A :2017 ISO 1833 – 1 : 2006 / Cor. 1 2009 Annexure B	2% to 100%
		Colorfastness to Artificial Light (Xenon Arc lamp)	ISO-105-B02-2014 AATCC 16-Option-3-2014 IS 2454 : 1985 (RA 2017)	Grade 1 to 5 / ± 0.5 / Blue Wool Grade 1 to 8/1/2 Grade / ± 0.5
4.	Grey fabric Finished Fabrics Apparels/ Garments Made-ups, Carpet & rugs, Terry Fabrics & its products, Automotive textiles, Sports textiles, Domestic Textiles	Scouring Loss of Jersey, Y Neck Plain Knitted, Worsted	IS 2360: 1977 (RA 2013) Amendment No. 1, Appendix A-6	0.5 % to 20 %
		Alkali Solubility	IS 3429 : 1966(RA 2016)	5 % to 40%
		Ease of ignition of vertically oriented specimen.	BS EN ISO 6940 : 2004	1 - 120 sec
		Flame spread properties of Vertically oriented specimen	BS EN ISO 6941 : 2003 BS EN 1102:2016 BS EN 1103:2005	1 - 120 sec
		Burning Behavior of Children Nightwear/sleep wear	BS EN 14878:2007	1 - 120 sec
		Flammability of Children's Sleepwear sizes 0 to 6x (FF 3-71)	CPSC 16 CFR 1615: 2016	Char length 0.25 cm to 25.4 cm (0.1 to 12 inch)
		Flammability of Children's Sleepwear sizes 7 to 14 (FF 5-74)	CPSC 16 CFR 1616: 2016	Char length 0.25 cm to 25.4 cm (0.1 to 12 inch)
		Burning Behavior of Bedding Item : Ignitability by a Smoldering Cigarette	ISO 12952-1: 2010 ISO 12952-2: 2010	Qualitative : (Visual)
5.	Toys	Safety of Toys: Flammability	EN 71 Part-2:2014 IS 9873(Part-2):2017 ISO 8124-2:2014	0.1 mm/s to 480 mm/s

Laboratory **Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh**

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

Certificate Number **TC-6611**

Page 5 of 33

Validity **19.05.2018 to 18.05.2020**

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
6.	Protective Textiles	Protection against heat & Flame (Protective clothing)	BS EN ISO 15025:2002	1 to 120 sec
7.	Finished fabric, Apparels /Garment, Madeup- ups, Terry fabrics & its products ,Sports Textiles, Domestic textiles	Visual Appearance after Washing / Home Laundering/Dry Cleaning	TTI / 016 : 2012, Issue No.02, Issue Date.01.01.2012	Grade 1 to 5 / ± 0.5
		Appearance of Apparel and other Textile End-products after domestic washing and drying	ISO 15487:2009	Grade 1 to 5 / ± 0.5
		Appearance of Apparel and other Textile End-products after repeated home laundering	AATCC 143-2014	SA Grade 1 to 5 / ± 0.5
		Smoothness of Seams after repeated Home Laundering	AATCC 88B – 2014	Grade 1 to 5 / ± 0.5
		Retention of Creases after Repeated Home Laundering	AATCC 88C – 2014	Grade 1 to 5 / ± 0.5
	Metallic & accessories	Corrosion Resistance (For metallic accessories)	ISO 22775:2004	Rating 1 to 5
8.	Yarns & chords	Scouring Loss of Worsted yarn	IS 3330 :1988 (RA 2013) Appendix- A-7.2.1	0.5 % to 20 %
		Scouring Loss of Cotton yarn	IS 1383 :1977(RA 2017)	0.5 % to 20 %
9.	Carpets & Rugs	Colorfastness to Rug Back Staining	AATCC 137:2012	Grade 1 to 5 ± 0.5
		Surface Flammability of Carpets & Rugs	16 CFR 1630 :2015 16 CFR 1631 :2015	Char length 0.1 c m to 20 cm

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 6 of 33

Validity 19.05.2018 to 18.05.2020

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
II.	LEATHER			
1.	Finished Leather , Leather accessories, Leather products, Semi –finished leather, Synthetic leather & Accessories	Colorfastness to Rubbing/Crocking	ISO 11640 : 2012 (Veslic) ISO 20433 : 2012 SATRA TM 167	Grade 1 to 5 ±0.5
		Colorfastness to Perspiration	EN ISO 11641:2012	Grade 1 to 5 ±0.5
		Colour Fastness to Water	ISO 11642 : 2012	Grade 1 to 5 ±0.5
		Colour Fastness to Dry Cleaning	ISO 105 D01 : 2010 AATCC 132-2013	Grade 1 to 5 ±0.5
		Colour Fastness to Light	ISO 105 B02 : 2014 AATCC 16-Option-3-2014	Blue Wool Rating 1 to 8/ ± 0.5 Grade Grade 1 to 5 / ± 0.5
		Moisture	ASTM D 3790-17 (Oven drying)	0.1 % to 15 %
		pH Value	ISO 4045 : 2008	1 to 14
		Degree of Tannage	IS 582 : 1970 (RA 2014) LC-21	30% to 80%
		Water Soluble Matter	IS 582 : 1970 (RA 2014) LC-6	0.2% to 25%
		Solvent Extractable Substances	IS 582 : 1970 (RA 2014) LC-4	0.5% to 15%
		Total Ash	IS 582 : 1970 (RA 2014) LC-3 ASTM D 2617-17a	0.5% to 20% 0.1 % to 20 %
		Chromic Oxide Content	IS 582 : 1970 (RA 2014) LC-10	0.5% to 6%
		Carbon Black Content in rubber	IS 3400 (Part 22) : 1984 (RA 2013)	10% to 50%
	Rubber Hydrocarbon Content (Natural Rubber Composition)	IS 6110 :1983 (RA 2017) Amend 1, 2 & 3	15% to 80%	
	Ash Content of Rubber Sole &Heel	IS 3400 (Part 22) :1984 (RA 2013)	0.5% to 20%	

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 7 of 33

Validity 19.05.2018 to 18.05.2020

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
III.	PLASTICS AND RESINS			
1.	Plastics , polymers, Resin, Films. Plastic film & Polymer coated food contact material	Dye Test	IS 9220:1979 (A-1) (RA2013) GSO 142:2010 Clause 5.3.1	Qualitative
		Sulphuric Acid Test	IS 9220:1979 A-2) (RA2013) GSO 142:2010 Clause 5.3.2	
		Wet Heat Resistance Test	IS 9220:1979(B-1) (RA2013) GSO 142:2010 Clause 5.4	
		Dry Heat Resistance Test	IS 9220:1979 (C-1) (RA2013) GSO 142:2010 Clause 5.5	
		Staining Test	IS 9220:1979 (RA2013) (D-1)	
		Resistance to Low Heat	GSO 142-2010 Clause 5.6	
		Water Absorbance Test	GSO 142-2010 Clause 5.7	0.05 to 5%
		Material Type Detection	GSO 142-2010 Clause 5.1.1	Qualitative
		Overall Migration into Aqueous Food Simulants by Total Immersion Simulant A - Water Simulant B – 3% Acetic Acid Simulant C – 10 % Ethanol	BS EN 13130-1: 2004 (Cl. 16) BS EN 1186-1: 2002 BS EN 1186-3: 2002 (Method A) IS 9845 :1998(RA 2015)	0.02 mg/dm ² to 20 mg/dm ²
Overall Migration into Aqueous Food Simulants by Article Filling Simulant A - Water Simulant B – 3% Acetic Acid Simulant C – 10 % Ethanol	BS EN 13130-1:2004 (Cl. 19) BS EN 1186-1: 2002 BS EN 1186-9: 2002 IS 9845 :1998(RA 2015)	0.02 mg/dm ² to 20 mg/dm ²		

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 8 of 33

Validity 19.05.2018 to 18.05.2020

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
		Substitute Test for Overall migration from plastic for fatty Foodstuffs by Article Filling Simulant A – Iso Octane Simulant B - 95% Ethanol	BSEN 13130-1 :2004 (Cl. 8) BS EN 1186-1 : 2002 BS EN 1186-14 : 2002	0.02 mg/kg to 20 mg/kg
IV.	BUILDING MATERIALS			
1.	Cement (OPC, PPC & PSC)	Silica	IS 4032 : 1985, Rev. 1 Amd-2, Clause 4.3 (RA 2014)	10 % to 40 %
		Ferric Oxide (Iron Oxide)	IS 4032 :1985, Rev. 1 Amd-2, Clause 4.5(RA 2014)	0.5 % to 10 %
		Alumina	IS 4032 : 1985, Rev. 1 Amd-2, Clause 4.6 (RA 2014)	0.5 % to 10 %
		Calcium Oxide	IS 4032 : 1985, Rev. 1 Amd-2, Clause 4.7 (RA 2014)	40 % to 80%
		Magnesia	IS 4032 : 1985, Rev. 1 Amd-2, Clause 4.8 (RA 2014)	0.1 % to 5 %
		Sulphuric Anhydride	IS 4032 : 1985, Rev. 1 Amd-2, Clause 4.9 (RA 2014)	0.5 % to 6 %
		Insoluble Residue	IS 4032 : 1985, Rev. 1 Amd-2, Clause 4.10 (RA 2014)	1 % to 40 %
		Loss on Ignition	IS 4032 : 1985, Rev. 1 Amd-2, Clause 4.2 (RA 2014)	0.1% to 10 %
		Chloride	IS 4032 : 1985, Rev. 1 Amd-2, Clause 4.13 (RA 2014)	0.01 %to 0.5 %

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 9 of 33

Validity 19.05.2018 to 18.05.2020

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
		Alkali as Na ₂ O	IS 4032: 1985, Rev. 1Amd-2, Clause 4.11 (RA 2014)	0.05 % to 2 %
		Alkali as K ₂ O	IS 4032: 1985, Rev. 1Amd-2, Clause 4.11 (RA 2014)	0.05 % to 2 %
2.	Bitumen	Matter soluble in TCE	IS 1216 :1978(RA 2014)	80 % to 99.9 %
V.	METALS & ALLOYS			
1.	Steel (TMT)	Carbon	IS 228: (Part 1):1987, RA 2012	0.05 % to 2.5%
		Sulphur	IS 228: (Part 9):1989, RA 2014	0.01 % to 0.25%
		Phosphorus	IS 228: (Part 3) :1987, RA 2012	0.01% to 1%
		Manganese	IS 228: (Part 2) :1987, RA 2012	0.1 % to 10 %
2.	Steel (Mild)	Carbon	IS 228: (Part 1) :1987, RA 2012	0.05 % to 2.5 %
		Sulphur	IS 228: (Part 9) :1989, RA 2014	0.01 % to 0.25 %
		Phosphorus	IS 228: (Part 3) :1987, RA 2012	0.01 % to 1 %
		Manganese	IS 228: (Part 2) :1987, RA 2012	0.1 % to 10 %
3.	Steel (Stainless Steel)	Carbon	IS 228: (Part 1) :1987, RA 2012	0.01 % to 0.5 %
		Sulphur	IS 228:1989, (Part 9): RA 2014	0.01 % to 0.5 %
		Phosphorus	IS 228: 1987, (Part 3): RA 2012	0.01 % to 0.5 %
		Manganese	IS 228: 1987, (Part 2): RA 2012	0.1 % to 5 %

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 10 of 33

Validity 19.05.2018 to 18.05.2020

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
		Nickel	IS 228: 1987, (Part 5): RA 2012	1 % to 25 %
		Chromium	IS 228: 1987, (Part 6): RA 2014	5 % to 30 %
4.	Stainless Steel Cooking Utensils	Staining Test	IS 14756 : 2017 Clause 7.1	Qualitative
VI.	WATER			
1.	Construction Water	pH	IS 3025 (Part 11):1983 (RA 2017) Clause 2.0	2 to 12
		Total Dissolved Solids	IS 3025 (Part 15) :1984 (RA 2014)	1 mg/l to 2000 mg/l
		Suspended Matter	IS 3025 (Part 17):1984 (RA 2017)	5 mg/l to 1000 mg/l
		Organic Solids	IS 3025 (Part 18) :1984 (RA 2017)	5 mg/l to 1000 mg/l
		Inorganic Solids	IS 3025 (Part 18):1984 (RA 2017)	5 mg/l to 4000 mg/l
		Chloride Content as Cl	IS 3025 (Part 32) :1988 (RA 2014) Clause 2.0	5 mg/l to 2000 mg/l
		Sulphate Content as SO ₄	IS 3025 (Part 24) :1986 (RA 2014) Clause 2.0	10 mg/l to 500 mg/l
		using phenolphthaline Indicator Acidity (Volume of 0.02 N NaoH required to neutralize 100 ml sample)	IS 3025 (Part-22):1986 (RA 2014)	0.1 ml to 10 ml
		using mixed Indicator Alkalinity (Volume of 0.02 N H ₂ SO ₄ required to Neutralize 100 ml sample)	IS 3025 (Part 23) :1986 (RA 2014)	1 ml to 40 ml

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 11 of 33

Validity 19.05.2018 to 18.05.2020

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
2.	Drinking Water	pH	IS 3025 (Part 11):1983 (RA 2017) Clause 2.0	4 to 9
		Total Dissolved Solids	IS 3025 (Part 15):984(RA2014)	1 mg/l to 2000 mg/l
		Chloride Content as Cl	IS 3025 (Part 32):1988 (RA 2014) Clause 2.0	5 mg/l to 2000 mg/l
		Sulphate Content as SO ₄	IS 3025 (Part 24):1986 (RA 2014) Clause 2.0	5 mg/l to 500 mg/l
		Hardness as CaCO ₃	IS:3025 (Part 21):2009 (RA 2014)	5 mg/l to 10000 mg/l
		Magnesium	IS 3025 (Part 46) :1994 (RA 2014) (Clause 8.1)	1 mg/l to 500 mg/l
		Calcium	IS 3025 (Part 40):1991 (RA 2014)	1 mg/l to 500 mg/l
3.	Reagent Grade Water	pH	IS 3025 (Part-11):1983 (RA 2017) Clause 2.0	4 to 9
		Specific Conductivity at 25°C	IS 3025 (Part 14) :1984 (RA 2013)	0.01 μS/cm -10 μS/cm
VII. POLLUTION AND ENVIRONMENT				
1.	Waste water (Industrial water, Industrial Effluent & Domestic Sewage)	Total Kjeldahl Nitrogen (TKN)	APHA, 22 nd edition , 2012 Method 4500Norg-B	1-500 mg/l
		Colour	ISO 7887-B : 2011	0.1 – 50 m-1
		Ammonical Nitrogen	APHA, 22 nd edition , 2012 Method 4500 NH ₃ -C	1.0 – 500 mg/l
		Phosphorus	APHA, 22 nd edition , 2012 Method 4500 P-D	0.05 – 100 mg/l
		Oil and Grease	APHA, 22 nd edition , 2012 Method 5520 -B	2.0 – 100 mg/l
		Phenol	APHA, 22 nd edition , 2012 Method 5530 –B,C & D	0.01- 100 mg/l
		Sulfide	APHA, 22 nd edition , 2012 Method 4500 S ²⁻ -F	2- 500 mg/l
	Sulfite	APHA, 22 nd edition , 2012 Method 4500 SO ₃ ²⁻ -B	2- 500 mg/l	

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 12 of 33

Validity 19.05.2018 to 18.05.2020

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
		Cyanide (CN ⁻)	IS 3025: Part 27:1986(RA 2014) APHA, 22 nd edition , 2012 - Method 4500-E	0.01 – 50 mg/l
		Chemical Oxygen Demand	APHA, 22 nd edition , 2012 Method 5220-B IS 3025 part-58:2006 (RA 2017)	5 – 2000 mg/l
		Biochemical Oxygen Demand (BOD at 20°C for 5 Days) (BOD at 27°C for 3 Days)	APHA, 22 nd edition , 2012 Method 5210-B IS 3025 part-44:1993(RA 2014)	5- 1000 mg/l
VIII. HAZARDOUS & RESTRICTED CHEMICALS				
1.	Textile & Textile products including accessories ,Toys & sports equipments , Plastics & polymeric products (inclusive of polymer & Polymeric coated Food contact material), Leather products (including Synthetic leather & accessories),Prints, Zippers, inclusive Dyes, Pigments & Auxillaries, Paints (including finger paints),	4-Aminobiphenyl Benzidine 4-Chloro-o-toluidine 2-Naphthylamine O-Aminoazotoluene 2-Amino-4-nitrotoluene p-Chloroaniline 2,4-Diaminoanisol 4,4'-Diaminobiphenylmethane 3,3'-Dichlorobenzidine 3,3'-imethoxybenzidine 3,3'-Dimethylbenzidine 3,3'-Dimethyl- 4,4'-diaminobiphenylmethane p-Kresidin 4,4' Methylene-bis-(2-Chloroaniline) 4,4' -Oxydianiline 4,4'- Thiodianiline O-Toluidine	DIN EN ISO 14362-1:2017 BS EN ISO 14362-1:2017 ISO 14362-1:2017 BS EN ISO 14362-3:2017 DIN EN ISO 14362-3:2017 ISO 14362-3:2017 (Leather) ISO 17234-1:2015 SASO-ISO 17234-1:2010 ISO 17234-2:2011 (Toys) IS 9873 (Part-7) : 2017 ISO 8124-7 : 2015 Clause 4.5.1 & Annex C EN 71-7:2014 (Annex D)	5 mg/kg to 1000 mg/kg

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 13 of 33

Validity 19.05.2018 to 18.05.2020

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
		2,4-Toluyldiamine 2,4,5-Trimethylaniline o-Anisidine 2,4-Xylidine 2,6-Xylidine 4-Aminoazobenzene		
		Chlorinated Phenol :- a) Pentachlorophenol b) 2,3,5,6-Tetrachlorophenol c) 2,3,4,6-Tetrachlorophenol d) 2,3,4,5-Tetrachlorophenol e) Orthophenylphenol	DIN EN ISO 17070:2015 TTI/A-19:2012, Issue No.02, Issue Date.09.04.2012 TTI/A-21/2012, Issue No.02, Issue Date.09.04.2012 SASO- ISO 17070:2006 ISO 17070:2015 XPGO8-15 : 2000	0.05 mg/kg to 100 mg/kg
		Phthalates:- Dibutyl Phthalate (DBP) Benzyl Butyl Phthalate(BBP) Bis-2 ethyl hexyl Phthalate (DEHP) Di-N-octyl Phthalate (DNOP) Diisononyl Phthalate (DINP) Diisodecyl Phthalate (DIDP) Diisoheptyl Phthalate(DIHP) Diisobutyl Phthalate(DIBP) Di-N-Hexyl Phthalate (DNHP) Bis-2-methoxyethyl Phthalate(DMEP) Dipentyl phthalate(DPP)	BS EN ISO 14389:2014 CPSC-CH-C1001-09.4:2018 IS 9873 Part 9 :2017 IS 9873 Part 6 :2017 ISO 8124 – 6: 2017	20 mg/kg to 1500 mg/kg

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 14 of 33

Validity 19.05.2018 to 18.05.2020

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
		Dicyclo hexyl phthalate (DCHP) Di-n-Pentyl Phthalate (DPENP) 4. Di-n-Hexyl Phthalate (DHEXP)		
		pH of aqueous extract	ISO 3071:2005 SASO -ISO 3071:2005 AATCC 81 : 2016 IS 1390:1983 (RA 2017)	1 to 14
		Free and Hydrolysed Formaldehyde (Water Extraction Method)	ISO 14184 – 1 : 2011 SASO -ISO 14184-1: 2011	16 mg/kg to 1000 mg/kg
		Released Formaldehyde (Vapour absorption Method by sealed Jar method)	ISO 14184 – 2 – 2011 SASO -ISO 14184-2: 2011 AATCC 112 : 2014 JISL 1041:2011	20 mg/kg to 1000 mg/kg
		Nickel Screening Test	PDCR 12471:2002	Qualitative
		Extractable Formaldehyde	GSO 142-2010 DIN EN ISO 4614-2000(Procedure B) IS 3669-1994/ISO 2112 (RA 2015)Clause 7.12, Annex A, Procedure B	0.01 to 10 µg/ml
		Specific Migration of Formaldehyde	EN 13130-1: 2004 CEN/TS 13130-23: 2005	0.02 mg/dm ² to 40 mg/dm ²
		Chromium VI Content	ISO 17075-1:2017	1.0 mg/kg to 1000 mg/kg
			DIN EN ISO 17075-1:2017-05	1.0 mg/kg to 1000 mg/kg
		Formaldehyde Content	ISO 17226-2 : 2008/ Cor.1: 2009	20 mg/kg to 500 mg/kg
		pH of aqueous extract	BS EN ISO 787-9 : 1995 / ISO 787-9 : 1995	1 to 14

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 15 of 33

Validity 19.05.2018 to 18.05.2020

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
<u>MECHANICAL TESTING</u>				
I.	TEXTILES MATERIALS			
1	Textile fabric (Woven & Non-Woven), Garment & apparel	Linear density of Yarn removed from Fabric	TTI – 007:2006, Issue No.01, Issue Date.01.12.2006 ISO-7211-5 :1984 IS 3442:1980(RA 2014)	5 Tex to 98 Tex
		Construction: Threads per unit Length (Woven fabric)	ISO 7211-2 : 1984 ASTM D 3775 – 17 IS 1963 : 2004(RA 2014)	(5 Threads to 275 Threads) /cm (12 Threads to 700 Threads) / 2.54 cm
		Stitch density (knitted fabric/ Knitted: Wool Cotton Vests Knitted Y Neck, Worsted Jerseys	BS 5441 : 1988 ASTM D 3887 : 96 (2008) Woolen Round Neck Vest IS 3330:1988 (RA 2013) (Appendix A-4) Woolen Y Neck Vest IS 2360:1977(RA 2013) (Appendix A-4)	(5 Loops to 225 Loops) /cm
		Thickness of Textile and textile Products	ISO 5084:1996 ASTM D 1777 – 96 (2015) IS 7702 : 2012 (RA 2017) ISO-1765-1986 (2012)	0.1 mm to 15 mm
		Mass Per Unit Area / Mass per unit Length	ISO 3801 : 1977 ASTM D 3776 -09a (2017) BS EN 12127 : 1998 IS 1964 : 2001 (RA 2017)	(10 g to 1000 g)/m ²
		Mass of Wool Cotton Vests	IS 3330:1988 (RA 2013)(Appendix A-3)	(500 g to 9000 g)/ 10 Vests
		Mass of Jerseys	IS 2360:1977(RA 2013) (Appendix A-3)	

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 16 of 33

Validity 19.05.2018 to 18.05.2020

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
		Tensile Properties of Fabric - Strip Test	ISO 13934-1 : 2013 ASTM D 5035 -11(2015) IS 1969 Part -1 : 2009 (RA 2014)	5 N to 8000 N
		Tensile Properties of Fabric - Grab Test	ISO 13934-2 : 2014 ASTM D 5034 – 09 (2017) IS 1969 Part 2 : 2010 (RA 2014)	5 N to 3000 N
		Seam Rupture Using Grab Method	ISO 13935-2:2014 ASTM D1683 / D1683M -17e1	5 N to 490 N
		Seam resistance of yarn at a seam of woven fabrics Fixed seam opening method	ISO 13936-1:2004	5 N to 490 N
		Seam resistance of yarn at a seam of woven fabrics Fixed Load method	ISO 13936-2:2004	1 to 50 mm
		Tear Strength (Elemendorf Method)	ISO 13937-1:2000 ASTM D 1424-09 (2013)e1 IS 6489 Part 1 :2011 (RA 2017)	3 N to 54 N
		Bursting Strength-Diaphragm Method	ISO 13938-1:1999 ASTM D 3786 / D3786 M-13 IS 1966-1:2009 (RA 2014)	210 kPa to 1375 kPa (2.1 kg/cm ² to 14 kg/cm ²)
		Pilling Resistance - ICI Pill Box Method	ISO 12945-1 : 2000	Qualitative (1 to 5 Grade / ± ½ Grade)
		Pilling Resistance - Random Tumble Method	ASTM D 3512 / D 3512 M -16	Qualitative (1 to 5 Grade / ± ½ Grade)

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 17 of 33

Validity 19.05.2018 to 18.05.2020

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
		Width of Fabric / Garment	ISO 22198 : 2006 ASTM D 3774 : 96 (2016) IS 1954:1990(RA 2017) (Clause 8)	1 cm to 300 cm
		Length of Fabric / Garment	ISO 22198:2006 IS 1954:1990 (RA 2017) (CL 7)	0.05 m to 100 m
2.	Fibre ropes and cords, Yarns	Single Yarn Strength & R.K.M	ISO 2062 : 2009 ASTM D 2256 / D2256M-10 (2015) IS 1670 : 1991 (RA 2017)	Breaking Strength : 1 N to 300 N R.K.M : (4.9 cN to 49.0 cN)/Tex
		Lea Count (Ne), Breaking Strength & Count Strength Product of Yarn in Skein form	ASTM D 1578-93 (2016)	Count: 6 Ne to 120 Ne
			IS 1671:1977 (RA 2014) IS 1315 : 1977(RA 2014)	Lea Strength : 5 N to 1600 N
3.	Garment & Apparel & Accessories	Button Attachment/Pull off Strength/Snap Pull off Strength:	TTI-014:2006, Issue No.01, Issue Date.01.12.2006	1 N to 300 N
		Slide Fasteners (Zipper) Tests : Top stop strength Slider pull, pull-off strength Bottom Stop Holding Stringer Separation Strength Chain Crosswise Strength Bottom Stop Holding Strength Element Pull off strength	ASTM 2061 – 07(2013)	1 N to 600 N

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 18 of 33

Validity 19.05.2018 to 18.05.2020

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
		Top Stop Strength Puller attachment Strength Closed end Strength Lateral Strength of fastener Reciprocating Strength	BS 3084:2006	1 N to 600 N
4.	Carpet , Rugs (textile floor covering)	Carpet Tufts/or loops/100 mm Spaces/100mm Tufts/ 100 cm ² area	ISO 1763 : 1986	(31 to 100)/100 mm (21 to 100)/100 mm (100 to 5000)/100 cm ²)
		Thickness loss under Dynamic Loading	ISO 2094-1999	0 to 15 mm
		Dimensions : Length / Width of Carpet	ISO-3018-1974	10 to 30,000 cm
5.	Wool and its products, Garment & Apparel, Fabric (Woven & Non-woven)	Dimensions of Wool Cotton Vests Wool Fibre Diameter	IS 3330:1988 (Appendix A-2) IS-744-2000 (RA 2017/ IS 5911-1977(RA 2017)	4 cm to 100 cm 3 µm to 180 µm
6.	Wool and its products & fibers	Fineness of Grade of Wool	IS 5910 : 1977 IS 5911-1977 (RA 2017)	10 µm to 50 µm
7.	Garment & Apparel	Dimensions of Plain Knitted, Y Neck, Worsted Jerseys	IS 2360:1977(RA 2013)(Appendix A-2)	1 cm to 120 cm
8.	Carpet, rugs (terry fabric and its products)	Tuft Withdrawal strength	ISO 4919-2012	1 N to 100 N
II.	TOYS & SIMILAR PRODUCTS			
1.	Children Products & Toys	Small Parts (Choking Hazard Test)	EN 71-1:2014- Clause 8.1 16 CFR 1501 IS 9873 (Part-1) : 2017, ISO 8124-1 : 2014 Clause 5.2	Qualitative

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 19 of 33

Validity 19.05.2018 to 18.05.2020

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
		Tension Test	BS EN 71-1:2014 Clause 8.4 16 CFR 1500.51 F2-53 Section(f): 2013 IS 9873 (Part-1) : 2017, ISO 8124-1 : 2014 Clause 5.24.6	2.5 N to 250 N
		Determination of Sharp Point	EN 71-1:2014: Clause 8.12 16 CFR 1500.48 : 2013 IS 9873 (Part-1) : 2017, ISO 8124-1 : 2014 Clause 5.9	Qualitative
		Determination of Sharp Edge	EN 71-1:2014: Clause 8.11 16 CFR 1500.49 : 2013 IS 9873 (Part-1) : 2017, ISO 8124-1 : 2014 Clause 5.8	Qualitative
		Drop test	IS 9873 (Part-1) : 2017, ISO 8124-1 : 2014 Clause 5.24.2 EN-71-1:2014 Clause 8.5	Qualitative
		Torque test	IS 9873 (Part-1) : 2017, ISO 8124-1:2014 Clause 5.24.5 EN-71-1:2014 Clause 8.3	Qualitative
		Compression test	IS 9873 (Part-1) : 2017, ISO 8124-1 : 2014 Clause 5.24.7 EN-71-1:2014 Clause 8.8	Qualitative

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 20 of 33

Validity 19.05.2018 to 18.05.2020

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
		Tension test for magnets	IS 9873 (Part-1) : 2017, ISO 8124-1 : 2014 Clause 5.31 EN-71-1:2014 Clause 8.4	Qualitative
		Impact test for magnets	IS 9873 (Part-1) : 2017, ISO 8124-1 : 2014 Clause 5.33	Qualitative
		Impact test for toys that cover the face	IS 9873 (Part-1) : 2017, ISO 8124-1 : 2014 Clause 5.14 EN-71-1:2014 Clause 8.7	Qualitative
		Cords and Drawstring Guideline on Children's clothing Presence of drawstrings at hood & Neck area. Presence of drawings at waist & Bottom area or lower of garments. If present: (i). Is the length of drawstring channel more than 75 mm when the garment is expanded to its fullest width, (ii). Presence of Toggles, Knots or any other decorative attachments at free end of drawstring. (iii). Is the drawstring bar tacked, If it is one continuous string	BS EN 14682 : 2014/ EN 14682: 2014	Qualitative

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 21 of 33

Validity 19.05.2018 to 18.05.2020

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
III.	LEATHER & LEATHER PRODUCTS			
1.	Leather , Artificial Leather, Synthetic Polymer, Rubber, Plastic, Coated Fabric , their Products including footwear	Thickness	BS EN ISO 2589:2016	0.1 mm to 10 mm
		Tear Load of Leather : Single Edge Tear	BS EN ISO 3377-1:2011	1 N to 600 N
		Tear Load of Leather : Double Edge Tear	EN ISO 3377-2:2016	
		Density	ISO 2781:2008 / Amd. 1 2010 Method -B	0.1 g/cm ³ to 4 mg/m ³
		Hardness (Shore Hardness)	BS EN ISO 868:2003 (Type-A) BS 903 : A 26 : N : 1995 SATRA TM 205 ISO 48 : 2010	Shore A : 3 Shore A to 100 Shore A
		Resistance to damage by flexing (De Mattia Method)	ISO-7854:1995(E) (Method-A)	Cracking or Surface Change : Qualitative (Absent or Present)
		Flex Resistance by Flexometer Method	ISO 5402 - 1:2017	Surface Change : Absent or Present Qualitative (Absent or Present)
		Tear Strength : Upper and Lining	BS EN ISO 20344 :2011 BS EN ISO 4674-1:2016 ISO 3377-2 : 2016	1 N to 600 N
		Tear Resistance (CRE Method)	BS EN ISO 20344 :2011 BS EN ISO-4674-1:2016	
		Tear Resistance (CRE Method) of Rubber / Plastic Coated Fabric	ISO 4674-1:2016 Method B ISO 20345 : 2011 IS 15298 : 2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010 ISO 4674-1 : 2016	10 N to 600 N

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 22 of 33

Validity 19.05.2018 to 18.05.2020

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
			(Method B) ISO 20344 : 2011 (Clause 6.3) ISO 20345 : 2011 ISO 3377-2 : 2016	
		Tear Resistance (Ballistic Pendulum)	BS EN ISO 4674-2: 1998	
		Flex Resistance by Flexometer Method	ISO 5402 - 1: 2017 SATRA TM 55 BS 3144 (Part 13) : 1981	Surface Change : Qualitative (Absent or Present)
		Resistance to Cut Growth on Flexing : Ross Flex Test	IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010 ISO 20345 : 2011 SATRA TM 60	0 to 15 mm cut growth
		Water Vapor Permeability and Absorption - Uppers and Lining	BS EN ISO 20344 : 2011 ISO 17699 :2003 ISO 20344 : 2011 (Clause 6.6, 6.7) ISO 20345 : 2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010 SATRA TM 178	0.1 mg/cm ² .h to 10 mg/cm ² .h
		Adhesion of finish	ISO 11644 : 2009	1 N to 100 N
2.	Leather & Synthetic Leather Footwear	Upper Sole Adhesion : Whole Shoe	ISO 17708 : 2003 BS EN ISO 20344 : 2011 ISO 20344 : 2011 (Clause 5.2) ISO 20345 : 2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011	0.4 N / mm to 20.0 N / mm

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 23 of 33

Validity 19.05.2018 to 18.05.2020

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
			IS 15298 Part 4 : 2010 ISO 20344 : 2011 (Clause 5.2)	
		Thickness of Non Cleated Outsole	ISO 20344 : 2011 ISO 20345 : 2011 (Clause 5.8.1) IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010	2 mm to 40 mm
		Thickness of Cleated Outsole	ISO 20344 : 2011 (Clause 8.1.2) ISO 20345 : 2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010	0.5 mm to 20 mm
		Design :- 1. Cleated & Non-Cleated Area of Total Length of Sole 2. Height of Cleat	ISO 20344 : 2011 ISO 20345 : 2011 (Clause 5.2) IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010	Qualitative
		Adhesion of finish: Films or Coating	SATRA TM 148	Qualitative Peeling / Delamination: Qualitative (Absent or Present)
		Interlayer Bond Strength	ISO 20344 : 2011 (Clause 5.2) ISO 20345 : 2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010	0.4 N to 20.0 N/mm

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 24 of 33

Validity 19.05.2018 to 18.05.2020

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
		Rapid Sole Bond Strength	SATRA TM 404 : 1992 BS 5131:5.1:1990	5 N to 1000 N
		Strap to Sole Attachment	SATRA TM 120	5 N to 2000 N
		Strap/Buckle & Related Attachment strength	BS 5131 : 5 : 11:1981 SATRA TM 181	5 N to 1500 N
		Toe Post Attachment	SATRA TM 118	5 N to 1000 N
		Decorative Trim attachment	SATRA TM 117	5 N to 200 N
		Heel Attachment	SATRA TM 113 BS EN 12785 : 2000 BS 5131 : 5.10 : 1979	5 N to 2000 N
		Whole Shoes Flexing	SATRA TM 92	Qualitative
		Toe Piece Attachment	SATRA TM 108 BS 5131 : 5.9 : 1979	5 N to 500 N
		Height of Upper	ISO 20344 : 2011 (Clause 6.2) ISO 20345 : 2011 ISO 20346 (Part-1): 2014 ISO 20347(Part 2,3 & 4): 2012	70 mm to 200 mm
		Seat Region of Heel	ISO 20345 : 2011 (Clause 5.2.3) ISO 20346 (Part 1): 2014 ISO 20347 (Part 2, 3 & 4): 2012 IS 15298 Part 1: 2015	Qualitative : (Closed or not Closed)
		Construction of Insole:- Damage to Footwear on Removal of Insole	ISO 20345 : 2011 (Clause 5.3.1.1) ISO 20348 (Part 1): 2011 ISO 20348 (Part 2, 3 & 4): 2011	Qualitative : (Absent/Present)
		Toe Protection (General Clause) : Damage to Footwear on Removal of Toecap	ISO 20345 : 2011 (Clause 5.3.2.1) IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016	Qualitative : (Absent/Present)

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 25 of 33

Validity 19.05.2018 to 18.05.2020

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
			IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010	
		Internal Length of Toe Cap	ISO 20344 : 2011 (Clause 5.3) ISO 20345 : 2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010	2 mm to 80 mm
		Sole Flexing (Bennewart)	ISO 20344 : 2011 (Clause 8.4.2) ISO 20345 : 2011 ISO-17707-2005 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010 SATRA TM – 161 DIN 53543 : 1979	2 mm to 8 mm cut growth
		Sole Tear Strength	ISO 20344 : 2011 (Clause 8.2) ISO - 34 -1:2015 Method A ISO 20345 : 2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010	1 N/mm to 20 N/mm
		Electrical Properties (Conductive Footwear, Antistatic Footwear)	ISO 20344 : 2011 (Clause 5.10) ISO 20345 : 2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010 SATRA TM-240:2001	100 KΩ to 1000 MΩ

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 26 of 33

Validity 19.05.2018 to 18.05.2020

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
		Abrasion Resistance (Drum)	SATRA TM 174 ISO 4649: 2017 ISO 20344: 2011 (Clause 8.3) ISO 20345: 2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010 ISO 4649 : 2017 DIN 53516: 1987	10 mg/m ³ to 1200 mg/m ³
		Upper Tensile Strength	ISO 20344 : 2011 Clause.6.4 ISO 20345 : 2011 ISO 20346:2014 ISO 20347:2012 IS 15298 (Part 1, 2, 3 & 4)	1 N/mm ² to 40 N/mm ²
		Lace to Eyelet Attachment	SATRA TM-149	20 N to 600 N
		Behaviour of Toe Cap :- Corrosion of Metallic Toe Cap & Insert	ISO 20344 : 2011 Clause 5.6 ISO 20345 : 2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010	Qualitative : Observed / Not Observed
		Specific Ergonomic Features:- Walking Climbing Kneel Crunch Down	ISO 20344 : 2011 Clause 5.1 ISO 20345 : 2011 ISO 20346:2014 ISO 20347:2012 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010	Qualitative

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 27 of 33

Validity 19.05.2018 to 18.05.2020

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
		Cold Insulation of Sole Complex	ISO 20344 : 2011 (Clause 5.13) ISO 20345 : 2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010	- 20°C to 25°C
		Velcro Peel & Shear Strength (Initial)	SATRA TM 123 ISO 22776 : 2004 ISO 22777 : 2004	0.1 N/mm to 200 N/mm (Peel) 10 to 1000 kPa (Shear)
		Abrasion Resistance of Insole / Insock : 400 Cycles of Veslic	ISO 20344 : 2011 Clause 7.3 ISO 20345 : 2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010 ISO 1817 : 2015	Qualitative
		Resistance to Fuel Oil	ISO 20344 : 2011 Clause 8.6 ISO 1817 : 2015 ISO 20345 : 2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010 ISO 1817 : 2015	1 % to 30%
		Hydrolysis inside Oven at 70°C with Desiccators	ISO 20344 : 2011 Clause 8.5 ISO 5423:1992 Annex C & E ISO 20345:2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011	Qualitative : Growth of Cracking / or Surface Change

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 28 of 33

Validity 19.05.2018 to 18.05.2020

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
			IS 15298 Part 4 : 2010 ISO 5423:1992 Annex C & E	
		Finishing of Toe Caps	BS EN 12568:2010 Clause 4.2.1	Qualitative
		Internal Length	BS EN 12568:2010 Clause 4.2.2.1 & 5.2.1	2 mm to 100 mm
	Toe Caps	Width of Flange	BS EN 12568 : 2010 Clause 4.2.2.2	2 mm to 20 mm
		Corrosion Resistance of Metallic Toe Caps	BS EN 12568 : 2010 Clause 4.3 & 5.3	2 mm to 20 mm
		Corrosion Resistance of Metallic Inserts	BS EN 12568 : 2010 Clause 6.2.1 & 7.2.1	2 mm to 20 mm
		Compression Resistance	ISO 20344 :2011 / ISO 20345 :2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010	0.1 mm to 25 mm
		Penetration Resistance	ISO 20344 :2011 / ISO 20345 :2011 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010	1 N to 100 kN
		Energy Absorption of Seat Region	ISO 20344 :2011 / ISO 20345 :2011 ISO 20346:2014 ISO 20347:2012 IS 15298 Part 1 : 2015, IS 15298 Part 2 : 2016 IS 15298 Part 3 : 2011 IS 15298 Part 4 : 2010	1 J to 50 Joule

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 29 of 33

Validity 19.05.2018 to 18.05.2020

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
	Safety Gloves	Finger Dexterity Level Performance	EN 420 : 2010 Clause 6.2	Qualitative (Grade 1 to 5)
		Water Vapor Transmission & Absorption	EN 420 : 2010	0.1 mg/cm ² .h to 20 mg/cm ² .h
		Tear Test	EN 388:2003	10 N to 500 N
IV.	PERFORMANCE / DURABILITY / SAFETY TESTS			
	Domestic Appliances			
1.	Helmet for Motor Cycles Riders	Materials :-	IS 4151:1993 Clause 4.1	Qualitative
		Corrosion Test for Metal Parts	IS 4151:1993 Clause 4.5 IS 9844:1981(RA 2016)	Qualitative
		Size by Matching with Head Forms	IS 4151:1993 Clause 5.1	Qualitative 540 to 620 mm
		Mass	IS 4151:1993 Clause 8.1	500 g to 2000 g
		Construction :-	IS 4151:1993 Clause 6	Qualitative
		Shell	IS 4151:1993 Clause 6.2 Su clause : 6.2.1 to 6.2.7	Qualitative
		Retention Test (Chin Strap) Under load 15 kg	IS 4151:1993 Clause 6.4.1 Annex F-1.2	10 mm to 30 mm
		Peripheral Vision	IS 4151:1993 Clause 6.5, Annex B	15° to 180°
		Workmanship and Finish : All Edges : Smooth & Round	IS 4151:1993 Clause 7	Qualitative
		Impact Absorption Test	IS 4151:1993 Clause 9.1, Annex C	100 g to 500 g
	Resistance to Penetration Test under Load 3 ± 0.1 kg	IS 4151:1993 Clause 9.2, Annex D	10mm to 50 mm	

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 30 of 33

Validity 19.05.2018 to 18.05.2020

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
		Test for Rigidity Under load 30 N to 630 N	IS 4151:1993 Clause 9.3 Annex E	10 mm to 50 mm
		Dynamic Test for Retention Under Load 15 kg	IS 4151:1993 Clause 9.4, Annex F	10 mm to 60 mm
		Audibility Test	IS 4151:1993 Clause 9.5, Annex G	5 dB to 15 dB
		Retention Test (Positional Stability)	IS 4151:1993 Clause 9.6, Annex C-1.3	15° to 40°
		Opening Angle (Visor) Test	IS 4151:1993 Clause 9.7	15° to 90°
		Flexibility of Peak	IS 4151:1993 Clause 9.8, Annex H	20 mm to 50 mm
B)	Industrial Equipments/Instruments/Products			
1.	Industrial safety helmets	Materials : Metal parts	IS-2925-1984 (RA 2015) Clause 3.3	Qualitative
		Size of Head Forms	IS 2925-1984 (RA 2015) Clause 4.1 & 4.1.1	Qualitative 540 to 620 mm
		Mass	IS 2925-1984 (RA 2015) Clause 7	500 g to 2000 g
		Construction :- Shell Harness Chin strap or Nape Strap Lamp Bracket Cable clip	IS 2925-1984 (RA 2015) Clause 5.1 IS 2925-1984 (RA 2015) Clause 5.2 IS 2925-1984 (RA 2015) Clause 5.3 IS 2925-1984 (RA 2015) Clause 5.4 IS 2925-1984 (RA 2015) Clause 5.5	Qualitative 1 to 100 mm Up to 100 mm Qualitative Qualitative Qualitative
		Workmanship and Finish All Edges : Smooth & Round	IS 2925-1984(RA 2015) Clause 6	Qualitative

Laboratory **Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh**

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

Certificate Number **TC-6611**

Page 31 of 33

Validity **19.05.2018 to 18.05.2020**

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
		Water Absorption	IS 2925-1984 (RA 2015) Clause 8.5 Appendix J	1 to 10%
		Heat Resistance	IS 2925-1984(RA 2015) Appendix K	Qualitative
		Corrosion Resistance	IS 2925-1984 (RA 2015) Appendix B	Qualitative
2.	Helmet Visor	Impact Resistance for Visor	IS 9973 – 1981 (RA 2012) Clause 5.1	Qualitative
		Penetration Resistance for Visor	IS 9973 – 1981 (RA 2012) Clause 5.2	Qualitative
		Mass of Visor	IS 9973 – 1981 (RA 2012) Clause 7	50 g to 200g
		Flammability Resistance of Visor	IS 9973 – 1981 (RA 2012) Clause 5.3	Qualitative
		Optical requirements	IS 9973-1981 (RA 2012) Clause 5.4.1 & 5.4.2 Appendix A	0.01 to 1 Dioptr
		Field of vision	IS 9973 -1981 (Clause 5.5)	Qualitative
3.	Rubber Gaskets	Water Absorption	IS 11149:1984(RA 2014) Clause 4.4, Appendix A	1 % to 25% water by weight
4.	Pressure Cooker	Capacity test	IS 2347:2017 Clause 4.1, Annex B	1 l to 22 l
5.	Melamine Plastics for Tableware	Thickness	IS 9220:1979 (RA 2013) Clause 3.4	1 mm to 20 mm
			GSO 142: 2010 Clause 3.3.1	1 mm to 20 mm
6.	Stainless Steel Cooking Utensils	Dimensions:- Height & Diameter.	IS 14756:2017, Clause 5.1	0.1 mm to 150 mm
		Thickness	IS 14756:2017, Clause 5.2	0.1 mm to 1 mm
		Workmanship and Finish	IS 14756:2017, Clause 6 Sub clause 6.1 & 6.2	Qualitative

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 32 of 33

Validity 19.05.2018 to 18.05.2020

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
V.	BUILDING MATERIALS			
1.	Cement (OPC Grade 43, 53 & PPC)	Fineness by Blaine's Permeability Method	IS 4031 (Part 2): 1999, (RA 2013)	150 m ² /kg to 500 m ² /kg
		Density	IS 4031(Part 11):1988, (RA 2014)	2.0 g/cm ³ to 3.5 g/cm ³
		Fineness by Dry Sieving	IS 4031 (Part 1):1996, (RA 2013)	0.3% to 15%
		Drying Shrinkage	IS 4031 (Part 10):1988, (RA2014)	0.01% to 0.5%
		Consistency Test	IS 4031 (Part 4):1988 (RA 2014) Amd. 1	10 % to 40 %
		Compressive Strength	IS 4031 (Part 6): 1988 (RA 2014)	2 N/mm ² to 80 N/mm ²
		Soundness (Le-Chatelier)	IS 4031(Part 3): 1988 (RA 2014) Amd-1 & 2	0.1 mm to 10 mm
		Soundness (Autoclave)		0.03 % to 2.0 %
		Setting Time : Initial	IS 4031 (Part 5) : 1988 (RA 2014)Amd-1	10 min to 400 min
		Setting Time: Final	IS 4031 (Part 2) : 1999 (RA 2013)	10 min to 700 min
2.	Pavers Block	Dimensions :- Length	IS 15658 : 2006 Clause 6.2.2 (RA 2017) Annex B 1.3.1	20 mm to 300 mm
		Width	IS 15658 : 2006 Clause 6.2.2 (RA 2017) Annex B 1.3.1	20 to 250 mm
		Thickness	IS 15658 : 2006 Clause 6.2.3 (RA 2017) Annex B 1.3.2	10 mm to 200 mm
		Water Absorption	IS 15658 : 2006 Clause 6.2.4	0.05% to 10% by mass

Laboratory Testtex India Laboratories Pvt. Ltd., Noida Branch, C-57, Sector 65, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6611

Page 33 of 33

Validity 19.05.2018 to 18.05.2020

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
3	Plywood	Dimensions :- Length	IS 4020 : 1998 (RA 2013) (Part 2) Clause 2.1 to 2.3	1000 mm to 2500 mm
		Width		500 mm to 1500 mm
		Thickness		3 mm to 25 mm
		Squareness	IS 4020:1998 (RA 3013) (Part 2) Clause 2.4	0.1 mm to 20 mm