

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719 **Page 1 of 37**

Validity 16.08.2018 to 15.08.2020 **Last Amended on** 19.11.2018

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

CHEMICAL TESTING

I.	RUBBER AND RUBBER PRODUCTS			
1.	Natural Rubber Synthetic Rubber Rubber Compound Rubber Vulcanizates Rubber Products Hard Rubber/ Ebonite Latex Goods Textile Rubber Composite	Total sulfur content	ASTM D-297 (Sec.X1)	Upto 25 %
		Ash by	ASTM D-297	Upto 50 %
		-direct method	(Sec-35 and 37)	
		-sulfation method	ISO 247	
		Acetone extract	ASTM D-297 (Sec.19)	Upto 50 %
		Effect of liquids (Swelling Test), Volume change, mass change, Dimension change	ASTM D-471 IS 3400 (Part VI) ISO 1817	(-)200 % to (+)200 %
		Identification of rubbers (By Chemical Method)	ASTM D-297 (Sec.52)	
		Isoprene		Qualitative
		Chloroprene		Qualitative
		Butyl		Qualitative
		Styrene butadiene		Qualitative
		Acrylonitrile		Qualitative
		Fourier transform infra red spectroscopy (FTIR)	ISO 4650 ASTM D 3677-10	Qualitative
		SiO ₂ content	ASTM D 297 (Sec-42)	Upto 80 %
		Low temperature Gehman Test (T2, T5, T10, T100) (Torsional modulus of rigidity)	ISO 1432 ASTM D 1053 92a IS 3400 (Part 18)	30 °C to (-)70 °C 1 Mpa to 500 Mpa
		Low temperature Retraction	ASTM D1329 ISO 2921	30 °C to (-) 70 °C
		Flammability Test	IS 15652	Qualitative

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 2 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Water immersion	IS 4355/UL 94	
		Water Absorption	IS 3400 (Part 6)	Upto 100%
		Acid Alkali Resistance	IS 5382	Upto 20%
			IS 937	Qualitative
			IS 5382	
		Low Temperature Flexibility & Bitterness point	ASTM D 2137 ISO 812	(-) 70 °C to 30 °C
		Elemental analysis of metallic elements by Inductively coupled plasma optical emission spectroscopy (ICP OES)	ISO 19050	
		Pb		0.1 mg/kg to 10,000 mg/kg
		Cr		0.1 mg/kg to 10,000 mg/kg
		Cd		0.1 mg/kg to 10,000 mg/kg
		Hg		0.1 mg/kg to 10,000 mg/kg
		As		0.1 mg/kg to 10,000 mg/kg
		Cu		0.1 mg/kg to 10,000 mg/kg
		Zn		0.1 mg/kg to 10,000 mg/kg
		Mn		0.1 mg/kg to 10,000 mg/kg
		Fe		0.1 mg/kg to 10,000 mg/kg
		Ca		0.1 mg/kg to 10,000 mg/kg
		Mg		0.1 mg/kg to 10,000 mg/kg
		Al		0.1 mg/kg to 10,000 mg/kg
		Compositional analysis by thermal-techniques	ASTM E 1131	
		Low volatiles content/Oil	ASTM D 6370	
		Plasticizers		Upto 90 %
		Polymer content		Upto 100%
		Carbon black content		Upto 95%

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 3 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Filler content		Upto 95%
		Glass transition temperature	ASTM D 7426 ASTM D 3418	(-)150 °C to 400 °C
		Zinc oxide content	IS 7466 Annex-A	Upto 10%
		Heavy metals	IS 7466 AnnexB	Qualitative
		Performance Test	IS 7466 Annex-C	Qualitative
2.	Natural Rubber Synthetic Rubber	Moisture content	IS 7086 (Part I, Sec-7)	Upto 50 %
		Melting point	IS 6918 ASTM-D 1519 ASTM D 3418	60 °C to 300 °C
		Water soluble ingredient's	IS 7086 (Part 1, Sec-8)	Upto 30 %
		Loss on ignition	IS 7086 (Part1, Sec-10)	Upto 50 %
		Softening point of Resin	ASTM E 28	30 °C to 200 °C
		Flash point	IS 1448 (Part 69)	100 °C to 300 °C
		Brookfield viscosity	ASTM D-1084 (Method B)	10Cps to 5000Cps
		Surface area by BET	ASTM D-5604	0.1 m ² /g to 1500 m ² /g
		Kinematic Viscosity (mineral oil)	IS 1448 (Part 25)	2Cst to 150Cst
		Pour point (mineral oil)	IS 1448 (Part 10)	30 °C to (-) 50 °C
		Aniline point (mineral oil)	IS 1448 pt 3 ASTM D 611	10 °C to 200 °C
		Microstructure of Polybutadiene rubber CisButadiene		Upto 100 %
		Trans butadiene	ISO 12965	Upto 100 %
		Vinyl butadiene	ISO 12965	Upto 100 %
		Microstructure of Styrene Butadiene rubber Styrene		Upto 100 %
		Cis-Butadiene	ISO 21561	Upto 100 %
		Trans butadiene	ISO 21561	Upto 100 %

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 4 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Vinyl Butadiene	ISO 21561	Upto 100 %
		Solvent extraction of raw rubber	ASTM D 5774	Upto 90 %
		Volatile content of raw rubber	ASTM D 5668	Upto 90 %
		Percentage sulphur by extraction	ASTM D 4578	Upto 100 %
		ZnO purity	IS 3399	Upto 100 %
		Acid value/neutralization number for oils and fats	IS 548 (Part 1)	Upto 300 mg KOH/g
		Iodine adsorption	IS 7498	Upto 200 mg/g
		Carbon black	ASTM D 1510	
		Ash content of carbon black	ASTMD1506	Upto 50 %
		Fineness(sieve residue)	IS 7086 (Part I) ASTM D1514	Upto 50 %
		Dirt content of natural rubber	ASTM D 1278 IS 3660 (Part 1)	Upto 10 %
		Nitrogen content of synthetic rubber/natural rubber	ISO 1656 IS 3660 (Part 10)	Upto 50 %
		Acrylonitrile content in Acrylonitrile Butadiene (NBR)	ISO 3900	Upto 50 %
		PH Value-Rubberised Coir	IS 8391 Cl.6.5 (Appendix F)	2 pH to 14 pH
		Chloride content- Rubberised Coir	IS 8391 Cls.6.6 (Appendix F)	Upto 20 %
		Sulphate content- Rubberised Coir	IS 8391 Cl 6.7 IS 4203	Upto 20 %
		Fire retardance test	IS 3181 (Annex G)	Upto 90 sec
		PH of aqueous extract	IS 4148 Cl 7.7	2 pH to 14 pH

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 5 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to n-pentane Extractable matter Absorb matter Burning Behavior	IS 10908 IS 9573 (Part 1 & 2)	Upto 25 % Upto 25 % Qualitative
		Fuel soluble matter	IS 2396 IS 10733	Upto 25%
		Loss in mass on Heating	IS 12585	Upto 10%
		Low Temperature Flexibility	IS 12585 IS 9573 (Part 1 & 2) IS 12657 ISO 10619-2	Qualitative
		Effect of chemicals on hose lining and cover	IS 443 1975	Qualitative
		Oil Absorption	IS 446	Upto 25%
		Moisture Absorption	IS 4770 Annex D	Upto 20 mg/cm ²
		Nitrogen content	IS 3708 (Part 8) ISO 1656	Upto 30 %
		Ash content	IS 3708 (Part 9)	Up to 50%
		Acetone Extract-Tests of feeding bottle	IS 3565 Appendix B1	Up to 20 %
		Free sulphur in acetone extract-Tests of feeding bottle	IS 3565 Appendix B2	Up to 5 %
		Properties of water Extract-Tests of feeding bottle	IS 3565 Appendix B4	Qualitative
		pH of the water extract-Tests of feeding bottle	IS 3565 Appendix B5	1 pH to 14 pH
3.	Latex Goods	Total Lubricant content-Condom	IS/ISO 4074 Annex C	Upto 1000 mg
		Water leak Test-Condom	IS/ISO 4074 Annex M	Qualitative
4.	Natural Rubber	Volatile matter content of	ASTM D 1278	Upto 98 %

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 6 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Synthetic Rubber	Natural Rubber	IS 3660 (Part 2)	
		Ash-content of Natural Rubber	ASTM D 1278	Upto 50%
		Solvent extract content of Natural Rubber	ASTM D 1278 IS 3660 (Part 9)	Upto 50 %
		Heating loss of carbon black	ASTM D 1509	Upto 50 %
		Pour density of carbon black	ASTM D 1513	100kg/m ³ to 1200 kg/m ³
		pH Value of carbon Black	ASTM D 1512	1 pH to 14 pH
		Solvent extractable of carbon black	ASTM D 4527	Upto 70 %
		Carbon Type analysis of mineral oil by Infrared Spectrophotometry C _A % C _P % C _N %	IS 13155	Upto 100 % Upto 100 % Upto 100 %
II.	HAZARDOUS & RESTRICTED CHEMICALS			
1.	Toys	Test of Finger paints/ Children articles by Gas Chromatography (GC) with mass & spectrometry. (Primary & aromatic amines) Benzidine CAS No. 92-87-5 2-Naphthylamine CAS No. 91-59-8 4-Chloro-2-methylaniline	IS 9873 PART 7 : 2017, ISO 8124-7 : 2015 (Annex C)	5 mg/kg to 1000 mg/kg

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719 **Page 7 of 37**

Validity 16.08.2018 to 15.08.2020 **Last Amended on** 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		(4-Chloro-o-toluidine) CAS No. 95-69-2 4-Aminobiphenyl CAS No.92-67-1 o-Aminoazotoluene (4-o- Tolyaza-o-toluidine)CAS No.97-56-3 2-Amino-4-nitrotoluene)5- Nitro-o-toluidine)CAS No. 99-55-8 4-Chloroaniline CAS No. 106-47-8 2,4-Diaminoanisole CAS No. 615-05-4 4,4'- Diaminodiphenylmethane (4,4'-Methylenedi-o- toluidine) CAS No.101-77-9 3,3'Dichlorobenzidine ^a CAS No.91-94-1 3,3'-Dimethoxybenzidine CAS No. 119-90-4 3,3' Dimethybenzidine CAS No. 119-93-7 3,3'-Dimethyl-4,4'- diaminodiphenylmethane (4-4'-Methylenedi-o- toluidine)CAS No.838-88- 0 p-Cresidine (6-Methoxy- m-toluidine) CAS No.120- 71-8		

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 8 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		2,2'-Dichloro-4,4'-methylenedianiline (4,4'-Methylene-bis-2-chloroaniline CAS No. 101-14-4 4,4'-Oxydianiline CAS No. 101-80-4 4,4'-Thiodianiline CAS No. 139-65-1 o-Toluidine CAS no. 95-53-4 2,4-Xylidine CAS No. 95-68-1 2,6-Xylidine CAS No. 87-62-7 4-Amino-3-fluorophenol CAS No. 399-95-1 2-Methoxyaniline (o-Anisidine) CAS No. 90-04-0 4-Aminoazobenzene CAS No. 60-09-3 4-Methyl-m-phenylenediamine (Toluene-2,4-diamine) CAS No. 95-80-7 2,4,5-Trimethylaniline CAS No. 137-17-7 Aniline CAS No. 62-53-3		
		Migration of certain elements (antimony, arsenic, barium, cadmium,	IS 9873 PART 3 : 2017, ISO 8124-3 : 2010	1 mg/kg to 5000 mg/kg

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719 **Page 9 of 37**

Validity 16.08.2018 to 15.08.2020 **Last Amended on** 19.11.2018

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		chromium, lead, mercury, selenium)		
		Test of Finger paints/ Children articles by Gas Chromatography (GC) with mass spectrometry (Impurities in Finger paints/Children articles) Polychlorinated biphenyls Hexachloro benzene (CAS No 118-74-1), Benzo (a) pyrene (CAS No 50-32-8)	IS 9873 PART 7 : 2017, ISO 8124-7 : 2015 (Annex E)	1 mg/kg to 1000 mg/kg 5 mg/kg to 1000 mg/kg 0.02 mg/kg to 1000 mg/kg
		Test of Finger paints/ Children articles – Taste and smell	IS 9873 PART 7 : 2017, Cl.4.6	Qualitative Test
		Test of Finger paints/ Children articles –pH Value	ISO 787-9-1995	1 pH to 14 pH
		Phthalate ester in Toys and Children's product Di-n-butyl phthalate (DBP) CAS No. 84-74-2 Benzyl butyl phthalate (BBP)CAS No. 85-68-7 Bis-(2-ethylhexyl) phthalate (DEHP)CAS No.117-81-7 Di-n-octyl phthalate (DNOP) CAS No.117-84-0 Di-iso-nonyl phthalate (DINP) CAS No. 28553-12-0°	IS 9873 PART 9 IS 9873 PART 6: 2017, ISO 8124-6 : 2014	0.01 % to 5.0 %

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 10 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		68515-48-0 ^c Di-iso-decyl phthalate (DIDP) CAS No. 26761-40-0 ^d , 68515-49-1 ^e		
		Flammability Test relating to beards, Moustaches, Wigs etc. made from hair, pile, or material that behaves in a similar manner to hair (e.g. free-hanging ribbons, paper, cloth strands, or other flowing elements), which protrude 50mm or more from the surface of the toy.	IS 9873 PART 2 : 2017, ISO 8124-2 : 2014 Cl.5.2	Time -1 to 600 sec Burn length - 1 to 2000mm Burn length – 0-100%
		Test relating to beards, Moustaches, Wigs etc. made from hair, pile, or material that behaves in a similar manner to hair (e.g. free-hanging ribbons, paper, cloth strands, or other flowing elements), which protrude less than 50mm from the surface of the toy and full or partial moulded head masks.	IS 9873 PART 2 : 2017, ISO 8124-2 : 2014 Cl.5.3	Time -1 to 600 sec Burn length - 1 to 2000 mm
		Test relating to flowing elements of toys to be	IS 9873 PART 2 : 2017, ISO 8124-2 : 2014	Burn rate -1 to 500mm/sec

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 11 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		worn on the head (except those covered by 4.2.2 and 4.2.3), hood, headdresses etc. and masks not covered by 4.2.4 which partially or fully cover the head (e.g. Fabric and cardboard masks, eye masks, face masks), toy disguise costumes and toys intended to be entered or worn by a child.	Cl.5.4	Or Qualitative
		Test for Soft filled Toys.	IS 9873 PART 2 : 2017, ISO 8124-2 : 2014 Cl.5.5	Burn rate -1 to 500mm/sec Or Qualitative

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 12 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

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

MECHANICAL TESTING

I.	RUBBER AND RUBBER PRODUCTS			
A.	Gaskets, Seals & Packings			
1.	Rubber Sealing Rings For Gas Mains, Water Mains and Sewers.	Stretch Test	IS 5382	Qualitative
		Finish		Qualitative
		Dimensions & Tolerance		Qualitative (0.01 mm to 250 mm)
2.	Gaskets for Pressure Cookers	Autoclave ageing at 120°C/100kN/m² steam pressure/8hrs		
		Change in Tensile strength	IS: 7466 IS 3400(II&IV)	0.01 N/mm ² to 40 N/mm ²
		Change in Elongation at Break		10 % to 1000 %
		Change in Hardness		Up to 90 Shore A
3.	Sealants	Application life		
		Difference in depth of the Sealant surface (5°C./48hrs.)	IS 12118 (Part 1&2) ISO11600 BS-5212	0.1 mm to ± 6 mm
		Time		Minimum 30 minutes
		Tack free conditions (R.T./16hrs.)		Qualitative

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 13 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		The following test are conducted on assemblies after curing at RT / 7days		
		Penetration and Recovery test		
		Penetration (Before ageing)	BS 5212	1 mm to 10 mm
		Penetration fuel B RT, 48 hrs		1 mm to 10 mm
		Recovery before (Ageing)		1 % to 100 %
		Recovery (After 70° C /14 days)		1 % to 100 %
		Recovery (After fuel B /RT /48 hrs)		0.1 % to 100 %
		Mass loss (70°C / 14 Days)		0.1 % to 100 %
		Mass change (Fuel "B" / RT / 48 hrs)		1 % to 100 %
		Flame resistance test		Qualitative
		Cyclic test		Qualitative
		Resistance to Plastic flow		0.1 mm to 5.0 mm
		Elastic Recovery	ISO 11600 ISO 7389	1 % to 100 %
		Tensile properties, secant tensile modulus at 23°	ISO 11600 ISO 8339	0.1 N/mm ² to 8 N/mm ²
		Tensile properties at maintained extension	ISO 11600 ISO 8340	Qualitative
		Adhesion / Cohesion Properties at variable Temperature	ISO 11600 ISO 9047	Qualitative
		Adhesion / Cohesion properties at maintained	ISO 11600 ISO 10590	Qualitative

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719 **Page 14 of 37**

Validity 16.08.2018 to 15.08.2020 **Last Amended on** 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		extension after water immersion		
		Resistance to compression	ISO 11600 ISO 11432	1 N/mm ² to 8 N/mm ²
		Loss of mass	ISO 11600 ISO 10563	0.01 % to 20 %
		Resistance to flow	ISO 11600 ISO 7390	Qualitative
4.	Polysulfide Rubber Sealant	Adhesion	IS 12118 (Part I and II)	Qualitative
		Cohesion	BS 4254	Qualitative
		Adhesion and Tensile modulus		
		Before Ageing	BS 5212 (Part I & II)	1 N/mm ² to 160N/mm ²
		After Ageing		1 N/mm ² to 160 N/mm ²
		Adhesion in peel (R.T./ Water Immersion/ 7days)		
		Sealant to cement	IS 12118 (Part I & II)	1 N/mm ² to 40 N/mm ²
		Aluminum to sealant	BS 4254	1 N/mm ² to 100 N/mm ²
		Glass-sealant	BS 5212 (Part I & II)	1 N/mm ² to 100 N/mm ²
		Rheological properties at the inclined position		Qualitative
		Difference in depth of Sealant surface (mm) (R.T / 24hrs / 2.5% slope	BS 5212 (Part I & II)	0.1 mm ² to 10 mm ²
B.	Rubber and Rubber Products Industrial belts			
1.	Rubber and Rubber Products Industrial belts	Adhesion of rubber to flexible support	IS 1891 (Part I)	0. 1 N/mm to 40 N/mm
		Adhesion of rubber to textile fabrics/Peel Strength	ISO 8094-94 CAN/CSA-M422-M 87	0. 1 N/mm to 40 N/mm
		Test on a seam strip	IS 1370	Qualitative

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719 **Page 15 of 37**

Validity 16.08.2018 to 15.08.2020 **Last Amended on** 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Drum Friction	CAN/CSA-M422-M87	27 °C to 400 °C
		Adhesion between Lining to reinforcement, between components,	IS 3181 IS 1891 (Part 1)	0. 1 N/mm to 40 N/mm
		Adhesion between reinforcement to outer cover		0. 1 N/mm to 40 N/mm
		Full thickness Breaking Strength		2 kN/m to 3000 kN/m
		Full thickness Elongation at Break		1 % to 500 %
		Elongation at Reference load		1 % to 500 %
		Designation & marking		Qualitative
C.	Rubber and Rubber Products Natural Rubber & products and Synthetic Rubber & Products			
1.	Raw material / Ingredients / Compound products	Mooney Viscosity	ASTM D-1646 IS 3660 (Part 7) ISO 289-1	1 MU to 200 MU
		Mooney Scorch	IS 3660(Part 7) ASTM D 1646	0.1 min to 60 min
		Vulcanization Properties (By Rheometer)	ASTM D 2084	0.1 min to 60 min
		Vulcanizing Properties by RPA		
		Torque (maximum)	ASTM D 5289	1 dNm to 200 dNm
		Torque(minimum)	ISO 6502/99E	1 dNm to 100 dNm
		Optimum Cure Time		1 min to 60 min
		Scorch Time		1 min to 60 min
		Dynamic Properties (S', S'', S*, G', G'', G*, Tan δ) of Raw & Compounded Rubber using RPA))		

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 16 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Storage Modulus	ASTM D 6601	0.1 N/mm ² to 100 N/mm ²
		Loss Modulus	ISO 6502	0.1 N/mm ² to 40 N/mm ²
		Tan Delta		0.1 to 2
2.	Raw material / Ingredients / Compound products	Stress-strain properties		
		Tension Modulus 100%, 200% & 300%	ASTM D 412 BCS 174 IS 3400 (Part I) IS 1891 (I)	0.01 N/mm ² to 40 N/mm ²
		Tensile strength	ASTM D 638	0.01 N/mm ² to 40 N/mm ²
		Elongation at break	IS 13098 IS 1891(1) IS 1370 JIS K 6301 IS 443 DIN 53504 -03 JIS K 6251 SAE AS 50141 GSO 52	10 % to 1000%
		Quadruple Shear Test	ISO 1827	0.1 N/mm ² to 40 N/mm ²
3.	Raw material / Ingredients / Compound products	Hardness		
		Shore A	ASTM D 2240 IS 3400 (Part 23) ISO 7619-1 ISO 868 DIN 53505 JIS K 6301 (Type A)	30 Shore A to 90 Shore A
		Shore D	ISO 7619-1 ASTM D 2240 IS 3400 (Part 23)	20 Shore D to 90 Shore D

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 17 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		IRHD (N)	ASTM D 1415 IS 3400 (II) ISO 48 BS-903 PART A26 UL 157 IS 5382 IS10908	30 IRHD to 95 IRHD
4.	Raw Material / Ingredients / Compound Products	IRHD (Micro)	ASTM D 1415 IS 3400 (II) ISO 48 BS 903 Part A 26 IS 5382 IS:10908 UL157 IS 5382 IS 10908 JIS K 6301 (Type C) DIN 53519	30 Micro IRHD to 95 Micro IRHD
		Stress Strain properties using video extensometer	ASTM D 412 ASTM D 638 IS 3400(I) ISO 527	0.01 N/mm ² to 40 N/mm ²
		Compression set		
		Under constant strain	ASTM D-395 Method-A ASTM D-395 Method-B JIS K 6262	Recovery 1 % to 100 %
		Under constant force	AWWA standard ANSI /AWWA C 515 ASTM D 1056 ASTM D 1229 BS: 4443(Part I) IS 3400 (Part X) BS-903 Part A6	Recovery 1 % to 100%

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 18 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			IS-1741 UL 157 ISO 4649 ISO 815 JIS K 6262	
		Abrasion resistance		
		ARI	IS-3400 (Part III)	10 index to 500 index
		RVL	ASTM D 5963 ISO 4649 IS 1891	10 mm ³ to 400 mm ³
		Dynamic mechanical properties using DMA		
		Storage Modulus	ASTM D-5992	0.1 N/mm ² to 100 N/mm ²
		Loss Modulus	ASTM D 4065	0.1 N/mm ² to 40 N/mm ²
		Tan Delta		0.1 to 2
		Loss Angle		1° to 40°
		Tg Values		(-)150° C to + 450° C
		Youngs Modulus		0.1 N/mm ² to 100 N/mm ²
		Shear Modulus		0.1 N/mm ² to 100 N/mm ²
		Ozone Resistance Test	ASTM D-1171 (Method A& B) ASTM D-1149 IS-3400 (Part 20) IS: 636 ISO 1431-1 ISO-1431-2 ISO-7326 IS 9573 IS:10908 IS:14933 UL 157 IS 7827	Qualitative

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 19 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			IS 4770 DIN 53509-1 EN 549	
		Density	IS:7086 (Part I)	0.5 g/cc to 6.0 g/cc
		Relative Density	IS 3400 (9)	0.5 to 6.0
		Pour density	ASTM D 297	1 kg / m ³ to 800 kg / m ³
		Specific gravity	ASTM D 792 ISO 2781 IS 8391	0.5 to 6.0
5.	Auto tubes / Rubber materials	Air permeability by constant pressure	IS 3400 (21) IS 4355 ISO 2782 CQAV/IND/VEH/2081	0.1 m ² /pa s to 50 m ² /pa s
		Leakage	IS 13098	Qualitative
6.	Automobile Vehicles tubes For Pneumatic Tyres	Splice Flex Strength	CQAV/IND/VEH/2081	0.01 N/mm ² to 40 N/mm ²
		Pull out Strength	IS 9081 IS 13098	1 N to 4000N
7.	Valves for pneumatic tyre	Dimension and design features	IS 9081	Qualitative
		Bendability of value stem		Qualitative
		Buffing		Qualitative
		Adhesion test		Qualitative
		Value core leakage		Qualitative
		Value core interchangeability		Qualitative
		Value core marking		Qualitative
		Value core workmanship		Qualitative
8.	Automotive Vehical-Tubes For pneumatic Tyres	Form & Fit	IS 13098	Qualitative
		Thickness uniformity		Qualitative
		Air Tightness		Qualitative
		Strength of splice		0.01 N/mm ² to 40 N/mm ²

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 20 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
9.	Raw Rubber /Ingredients/ Compounds/ Rubber products including Automobile tubes	Set after ageing		1 % to 100 %
		Tensile	ASTM D 412 UL157 UL 260	1 % to 100%
		Set after break	ASTM D 412	1 % to 100%
		Indentation Hardness	IS 8391 IS 7888	0.1 N to 4000 N
		Compression Set at low temperature	ISO 815-91E JIS K 6262	1 % to 99 %
		Electrical Resistance	IS 2494 (Part 2)	Qualitative
		Electrical Bonding	IS 5894	Qualitative
		Electrical Continuity	IS 10733 IS 9573 part 1 IS 3181 SANS 971 BCS 174 ISO 8031 ISO 2878 ISO 2951	Qualitative
		Volume Resistivity	IS 3400 (XV) IS 3396	1x10 ⁷ ohm.cm to 1x10 ¹⁵ ohm.cm
10.	Rubber to metal bonded Items	Peel strength	UL 157 ASTM D 429 Method A, B, D, IS:7016 (V)	0.1 N/mm to 40 N/mm
		Load deflection test	ASTM D 575 Method A & B	1 N to 4000N 20 N to 80000 N
		Compression Modulus	BS 903 Part 12	1 N to 4000N 20 N to 80000 N

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 21 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Uniaxial Tension		1 N to 4000N 20 N to 80000 N
		Uniaxial Compression		1 N to 4000N 20 N to 80000 N
		Planner shear test		1 N to 4000N 20 N to 80000 N
		Dynamic stiffness		1 N to 4000N 20 N to 80000 N
		Natural frequency		1 N to 4000N 20 N to 80000 N
11.	Rubber Braided Wire Hose for Mining / LPG tubes, Air Hoses	Abrasion Resistance	BCS174 BS 5173 sec 103.9	0.01 mg to 5000 mg
		Mass of Hose	IS 10733	0.1 N to 4000 N
		Elongation under working pressure and permanent elongation of hose	IS 10733	1% to 100%
		Change in Dimension at proof pressure.	IS 443-75	1% to 100 %
		Minimum Bend radius	IS 443-75	1 mm to 200 mm
		Minimum breaking pressure.	IS 444	0.01 N/mm ² to 40 N/mm ²
		Heat Resistance	IS 636	Qualitative
		Increase in OD @ working pressure	IS 443	1 % to 100 %
		Hydrostatic Test.		
		Hydrostatic Burst pressure	BCS 174 EN1360	0.5 N/mm ² to 100 N/mm ²
		Hydrostatic proof pressure	IS 443	Qualitative
		Change in dia @ proof pressure	IS 10908 ISO-1402	1 % to 100 %

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 22 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Hose cover abrasion loss in weight	BCS-174 BS 5173 sec103.9	0.01 mg to 5000 mg
		Proof pressure	IS443 BCS 174 EN 1360 IS 443 75 IS 10908 ISO 1402 IS 10773	Qualitative
12.	Rubber Braided Wire Hose for Mining / LPG tubes, Air Hoses	Burst pressure of hose	IS 443 BCS-174 EN 1360 IS 443 IS 10908 ISO-1402 IS 10773 IS 446	0.5 N/mm ² to 100 N/mm ²
		Flexibility test for LPG Hose	IS 9573	Qualitative
		Resistance to Vacuum	IS 5797	Qualitative
		Grip Strength	IS 9573 IS 446 IS10908	Qualitative
		Crushing	IS 10908	Qualitative
		Flexibility.	IS 10908	Qualitative
		Grip Strength	IS 9573	Qualitative
13.	Rubber cork sheet	Resistance to Bending	IS 638 IS 3735 IS 4253	Qualitative
		Tensile Creep Test	IS 14635	10 % to 500 %

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 23 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Compressibility and Recovery Test	IS 2712 IS 4253 (PI,II) UL 157 IS 4253(Part I&II) ASTM F 36 ASTM F 806	1 % to 99 %
14.	Rubber Products including endless V belt, Conveyor belt, hose, LPG	Dimensions		
		ID, OD, bore size, length	IS 2494(Pt 1)	0.01 mm to 250 mm
		Liner, Cover & Wall thickness	IS 2712 IS 636	0.01 mm to 250 mm

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 24 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	tube, Hand gloves, Coir Sheet, Seals, Molded solid rubber, Soles & Heels, Sealing Rings, Insulating mats	Dimension & Tolerance	IS 9573 IS 638 IS 4253(Pt 1) IS 10733 IS 1370 IS 2396 IS 5894 IS 10908 IS 2765 IS 14151(Pt 2) IS 8189 IS 446 IS 10655 BCS-174 ISO 1307 IS 4148 IS 443 IS 444 IS 447 IS 937 ISO 4671 IS 8391 IS 5676 IS 5382 IS 3549 IS 2396 IS 1370 IS 9081 IS 4770 IS 15652 IS 15466 IS 1891 (I) ISO 23529 JIS 6250	0.01 mm to 250 mm

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 25 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
15.	Rubber and rubber products	Tensile Strength	ASTM D 412/UL 157 IS 2494 (Part1) IS 1891 BS 903 A2 ISO 37-05 GSO 52	0.01 N/mm ² to 40 N/mm ²
		Load deflection test	ASTM-D-575 Method A, B, UL157	1 N to 4000N 20 N to 80000N
		Compression Modulus		1 N to 4000N 20 N to 80000N
		Uni-axial Tension		1 N to 4000N 20 N to 80000N
		Uni-axial Compression		1 N to 4000N 20 N to 80000N
		Planer Shear Test		1 N to 4000N 20 N to 80000N
		Tension set	IS 3400 (Part 13) BS 903 A-5 ISO 2285 IS 4148 UL157 DIN 53518 -03	1 % to 100 %
Accelerated Air Ageing				
16.	Rubber and rubber products	Tensile strength	IS 1741	0.01 N/mm ² to 40 N/mm ²
		Elongation at break	IS 4355	10 % to 1000 %

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 26 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Hardness	IS 5382 ISO 188 IS 3400(Pt.4) ASTM D 573 BS 903 A19 IS 10908 UL 157 IS 1891(I) DIN 53508 IS 7016 (VIII) JIS K 6257 GSO 52	Up to 90 Shore A
		Accelerated Oil Ageing, Aging in Liquid Media, Acid and Alkali		
		Tensile strength	ASTM D 471	0.01 N/mm ² to 40 N/mm ²
		Elongation at break	BS 903 A	10 % to 1000 %
		Hardness	IS 3400 Part 6 ISO1817/IS 8391 IS 15652/UL157	Up to 90 Shore A
		Oxygen Ageing		
		Tensile Strength	IS 3400 (IV)	0.01 N/mm ² to 40 N/mm ²
		Elongation at break	ASTM D 572	10 % to 1000 %
		Hardness	IS 10810 (XVI) UL 157	Up to 90 Shore A
		Gamma Radiation /UV Radiation		
		Tensile strength	ASTM D 1672	0.01 N/mm ² to 40 N/mm ²
		Elongation at break		10 % to 1000 %
		Hardness		Up to 90 Shore A
		Tear resistance		
		Angular tear	IS 7016 (Pt.3)	1 N/mm ² to 250N/mm

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 27 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Trouser tear	IS 1891	1 N/mm ² to 250N/mm
		Crescent Tear	IS 3181	1 N/mm ² to 250N/mm
		Nicked Tab End	IS 3400 (Part17) IS 3400 (XII) ISO 34-1 ISO 36 ASTM D-624 Die A,B,C & T	1 N/mm ² to 250N/mm
		Resistance to Cut Growth & Cut Initiation by Ross Flexing machine	ASTM D 1052 IS 3400 (Part XVI) IS 6383 ASTM D 430	Qualitative
		De-Mattia Flexing Cut growth Cut Initiation	ASTM D 813 IS 3400 (Part VIII) IS 1741	Qualitative
		Taber Abrasion Test	ASTM D 3389 ISO 5470-1 ISO 9352	0.001mg to 1000 mg
		Heat Ageing in Autoclave	IS 4148	Qualitative
		Resilience Test	BS 903(Part A8) Method A ISO 4662	15 % to 100 %
		Workmanship and Construction. / Marking, Construction requirement for Lining, Reinforcement & Cover, Coil diameter, Visible Imperfection, End connection. Construction of hose having rough or smooth bore	IS 638 IS 5676 IS 13098 SANS 971 IS 5382 IS 5894 IS 12585 IS 10733 IS 9573 IS 44687 IS 10908 IS 7466	Qualitative

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 28 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			IS 444 IS 636 IS 4148 IS 3549 UL 157/ISn1891(I)	
17.	Rubber and rubber products	Resistance to bending, Test on seam strip	IS 638 IS 1370 IS 1891	Qualitative
		Cold Resistance (Increase in hardness)	IS 5382 UL 157	30 Shore A to 90 Shore A
		H V Testing, Proof Voltage, Break down voltage, Dielectric strength, Leakage Current, Insulation resistance with water Tracking & Erosion Test	IS 4770 IS 15652 IS 2584 IS 8264 ASTM D 149 ASTM D 1675 EN 12527 ISO 2878	0.5 kV to 60 kV
		Troughability	IS 1891 (I) SANS 971	0.1 % to 1.0 %
		Puncture Resistance	IS 4770	1 N to 4165 N
18.	Rubber Composite Products such as Mounts / Bushes	Adhesion of rubber to rigid support	ASTM D 429 Method A, B, D, E, IS 3400 (V) UL 157 IS 7016 (V) IS 3400 (XIV) IS 3400 (XXIV)	0.1 N/mm to 400 N/mm
19.	Rubber Knees Boots/ Rubber Product	Leakage Test	IS 3738 IS 13098 IS 9081 IS 4148	Qualitative

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719 **Page 29 of 37**

Validity 16.08.2018 to 15.08.2020 **Last Amended on** 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
20.	Rubber to Fabric composite product/Radiator hose/ rubber coated & treated fabric	Adhesion of rubber to flexible support	ASTM D-413 IS 2765 UL 157 IS 443	1 N/mm to 400 N/mm
		Adhesion of rubber to textile fabrics/Peel Strength	IS 3400(Part V) ISO 36	1 N/mm to 400 N/mm
		Kink test for Hose	IS 636	Qualitative
		Expansibility	IS 2765	Qualitative
		Crushing	IS 10908	Qualitative
		Drum Friction	IS 3181 ASTM D 5963	27 °C to 400°C
21.	Rubber to Fabric/ Composite products/ Radiator Hose rubber coated & treated fabric	Adhesion between Lining to reinforcement, between components,	UL 157	0. 1 N/mm to 40 N/mm
		Adhesion between reinforcement to outer cover		0. 1 N/mm to 40 N/mm
		Full thickness Elongation at Break		10 % to 1000 %
		Elongation at Reference load		10 % to 1000 %
		Designation & marking		Qualitative
		Breaking Load	IS 7016 (III) Type: A12 & A2 DIN 53515	20 N to 80000 N
		Tear strength		1 N to 4000N
		Breaking strength		20 N to 80000 N
		Resistance to Damage by Flexing	IS 7016(IV)	Qualitative
		Bursting pressure	IS 7016(VI)	0.5 Kpa to 3 Kpa

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 30 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Weight per square meter	IS 1964	Qualitative
		Coating Adhesion	IS 7016 (V) ISO 2411	0. 1 N/mm to 40 N/mm
		Blocking Resistance	IS 7016 (IX)	Qualitative
22.	Condoms & Gloves (Latex & Synthetics)	Dimensions Length/Width/Thickness	ISO 4074 ISO 23409	0.01 mm to 250 mm
		Bursting Volume		0.5 L to 50 L
		Bursting Pressure		0.5 kPa to 3 kPa
		Oven Treatment		Qualitative
		Packing test		Qualitative
23.	Rubber Flaps for Pneumatic Tyre	Flap Dimensions	IS 9168	0.01 mm to 250 mm
		Flap Width		0.01 mm to 250 mm
		Thickness at Centre		0.01 mm to 250 mm
		Valve Hole Diameter		0.01 mm to 250 mm
		Joint Adhesion Strength		0.01 N/mm ² to 40 N/mm ²
		Marking		Qualitative
24.	Rubber Sealing Rings for Gas Mains, Water Mains and Severs	Finish test	IS 5382	Qualitative
		Stretch Test		Qualitative
		Dimensions & Tolerance		Qualitative
		Cold Resistance		Qualitative
		Water Absorption		1 % to 80 %
25.	Rubber Seals for Hydraulic Gates.	Mass of Water Absorption	IS 15466	Qualitative
		Low temperature Brittleness test		Qualitative
		Dimensions & Shape		0.01 mm to 250 mm
		Adhesion between Rubber & Cladding		0.1 N/mm to 40 N/mm
		Adhesion between Fluorocarbon & Rubber		0.1 N/mm to 40 N/mm

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 31 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
26.	Teats For Feeding Bottles	Marking	IS 3565	Qualitative
		Workman ship & Finish		Qualitative
		Shape & Size		Qualitative
		Resistance to Auto Clave		Qualitative
27.	Aerospace Standard for NR/Butyl/EPDM Rubber Tubes	Tensile Strength	SAE-AS50141	0.01 N/mm ² to 40 N/mm ²
		Elongation at break		10 % to 1000 %
		Tensile Strength of Splice.		0.01 N/mm ² to 40 N/mm ²
		Maximum Set Stretch		1 % to 100%
		Thickness		0.01 mm to 250 mm
		Valve Attachment Strength		1 N to 4165 N
		Identification/ Marking		Qualitative
28.	Flexible Cellular Polymeric Materials/PU Foams	Determination of Fatigue by constant-Load Pounding	ISO3385 IS 7888 IS 8255	
		Loss in Hardness	JIS K-6400-2	1 % to 100 %
		Loss in Thickness	JIS K-6400-3	0.01 mm to 250 mm
		Hardness	JIS K-6400-4	1 N to 4165 N
		Resilience	JIS K6400-5	1 % to 85 %
		Tensile Strength		0.01 N/mm ² to 40 N/mm ²
		Elongation at break		10 % to 1000 %
		Compression Set		1 % to 100%
		Hardness Number		1 N to 4165 N
		Load Quotient		1 to 50
		Heat Ageing		Qualitative
		Adhesion to and Corrosion test	BS ISO 6505	Qualitative
		D. Rubber and Rubber Products		
1.	Tyres	Dimensions: Motorcycles & three wheelers tyres, Passenger cars , Bus /	IS 15627 ECE R75 Rev.2 IS 15633:2005 Amed.4	1 mm to 600 mm 1 mm to 2000 mm

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 32 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Truck tyres & Light CV tyres -Section Width -Outer Diameter	ECE-R30 Rev.3 GSO 52 GSO 53 IS 15636 Amed.3 ECE-R54 Rev 3 GSO 645 GSO 646	
		Endurance test : Motorcycles & three wheelers tyres, Passenger cars Bus / Truck tyres & Light CV tyres	IS 15627 Amed. 3 IS 15633: 2005 Amed.4 GSO 52 GSO 53 IS 15636 Amed.3 ECE-R54 GSO 646 GSO 647	50 kg to 4500 kg
		Load speed Test: Motorcycles& three wheelers tyres, Passenger cars Bus / Truck tyres & Light CV tyres	IS 15627 ECE R75 IS 15633 ECE-R30 GSO 52 GSO 53 GSO 1784 IS 15636 ECE-R54	50 kg to 2000 kg
		Plunger Test: Motorcycles& three wheelers tyres, Passenger cars Bus / Truck tyres & Light CV tyres	IS 15627 IS 15633 GSO 52 IS 15636 GSO 647	150 kgf.cm to 70000 kgf.cm

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 33 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Dynamic growth Test for Motorcycle tyres	IS 15627 ECE R75	Qualitative
		Bead Unseating Resistance Test: (Tubeless passenger car Tyres)	IS 15633 GSO 52	Qualitative
		Rolling Resistance Test: Two wheeler, three wheeler, Passenger car & LCV tyres, Truck & bus tyres	ISO 28580 ISO 18164	10 N to 750 N
		Tread Wear Indicators: Motorcycles & three wheelers, Passenger cars & Light CV, Bus & Truck tyres.	IS 15627 IS 15633 IS 15636 ECE R75 ECE-R54 ECE-R30	0.8 mm to 2.5 mm
E.	Rubber and Rubber Products			
1.	Plastics/Ebonite	Flexural Strength	ASTM D 790 ISO 178	1 N/mm ² to 100 N/mm ²
		Izod Impact	ASTM D 256	0.1 J/m to 50 J/m
II.	TOYS AND SIMILAR PRODUCTS			
1.	Safety of Toys- Safety Aspects Related to Mechanical and Physical Properties	Small Parts test	IS 9873 Part-1 :2017 ISO 8124-1 :2014 Clause No. 5.2	Qualitative
		Test for shape and size of certain toys	IS 9873 Part-1 :2017 ISO 8124-1 :2014 Clause No. 5.3	

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 34 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Small balls test	IS 9873 Part-1 :2017 ISO 8124-1 :2014 Clause No. 5.4	
		Test for pompoms	IS : 9873 Part-1 : 2017 ISO : 8124-1 : 2014 Clause No. 5.5	
		Test for pre-school play figures	IS : 9873 Part-1 : 2017 ISO : 8124-1 : 2014 Clause No. 5.6	
		Accessibility of a Part or component	IS : 9873 Part-1 : 2017 ISO : 8124-1 : 2014 Clause No. 5.7	
		Sharp edge test	IS : 9873 Part-1 : 2017 ISO : 8124-1 : 2014 Clause No. 5.8	
		Sharp point test	IS : 9873 Part-1 : 2017 ISO : 8124-1 : 2014 Clause No. 5.9	
		Determination of thickness of plastic film and sheeting	IS : 9873 Part-1 : 2017 ISO : 8124-1 : 2014 Clause No. 5.10	
		Test for cords	IS : 9873 Part-1 : 2017 ISO : 8124-1 : 2014 Clause No. 5.11	
		Determination of cord thickness	Clause No. 5.11.1	Qualitative
		Self-retracting pull cords	Clause No. 5.11.2	
		Electrical resistance of cords	Clause No. 5.11.3	

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 35 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Stability and overload tests	IS : 9873 Part-1 : 2017 ISO: 8124-1 : 2014 Clause No. 5.12	
		Sideways stability test, feet available for stabilization.	Clause No. 5.12.2	
		Sideways stability test, feet unavailable for stabilization	Clause No. 5.12.3	
		Fore and aft stability test	Clause No. 5.12.4	
		Overload test for ride-on toys and seats	Clause No. 5.12.5	
		Stability test of stationary floor toys	Clause No. 5.12.6	
		Impact test for toys that cover the face	IS 9873 Part-1 : 2017 ISO 8124-1 : 2014 Clause No. 5.14	
		Kinetic energy and wall impact test.	IS 9873 Part-1 : 2017 ISO 8124-1 : 2014 Clause No. 5.15	
		Kinetic energy of projectiles	Clause No. 5.15.1	
		Wall impact test for projectiles	Clause No. 5.15.2	
		Free-wheeling facility and brake performance test.	IS 9873 Part-1 : 2017 ISO 8124-1 : 2014 Clause No. 5.16	
		Determination of free-wheeling facility	Clause No. 5.16.1	Qualitative

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 36 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Brake performance for mechanically or electrically powered ride-on toys other than toy bicycles.	Clause No. 5.16.2	
		Brake performance for toy bicycles	Clause No. 5.16.3	
		Determination of speed of electrically driven ride-on toys.	IS 9873 Part-1 : 2017 ISO 8124-1 : 2014 Clause No. 5.17	
		Determination of temperature increase.	IS 9873 Part-1 : 2017 ISO 8124-1 : 2014 Clause No. 5.18	
		Leakage of liquid-filled toys.	IS 9873 Part-1 : 2017 ISO 8124-1 : 2014 Clause No. 5.19	
		Expanding materials	IS 9873 Part-1 : 2017 ISO 8124-1 : 2014 Clause No. 5.21	
		Reasonably foreseeable abuse tests.	IS 9873 Part-1 : 2017 ISO 8124-1 : 2014 Clause No. 5.24	
		Drop test	Clause No. 5.24.2	
		Tip-over test for large and bulky toys	Clause No. 5.24.3	
		Dynamic strength test for wheeled ride-on toys other than toy scooters	Clause No. 5.24.4	
		Tension test	Clause No. 5.24.6	
		Compression test	Clause No. 5.24.7	
		Flexure test	Clause No. 5.24.8	

Laboratory Indian Rubber Manufacturers Research Association, Plot No.-254/ 1 B,
Road No. 16V, Wagle Industrial Estate, Thane, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7719

Page 37 of 37

Validity 16.08.2018 to 15.08.2020

Last Amended on 19.11.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Static strength for toy scooters	IS 9873 Part-1 : 2017 ISO 8124-1 : 2014 Clause No. 5.26	Qualitative
		Strength of toy scooter steering tubes	IS 9873 Part-1 : 2017 ISO 8124-1 : 2014 Clause No. 5.29	
		Resistance to downward forces	Clause No. 5.29.1	
		Resistance to upward forces	Clause No. 5.29.2	
		Resistance to separation of handlebar.	IS 9873 Part-1 : 2017 ISO 8124-1 : 2014 Clause No. 5.30	
		Determination of projectile range.	IS 9873 Part-1 : 2017 ISO 8124-1 : 2014 Clause No. 5.35	
		Length of suction cup projectiles	IS 9873 Part-1 : 2017 ISO 8124-1 : 2014 Clause No. 5.37	