

Laboratory **Material Testing Laboratory, B-103, Okhla Industrial Area, Phase-1, New Delhi**

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

Certificate Number **TC-7008**

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Validity **22.08.2018 to 21.08.2020**

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

I.	RUBBER & RUBBER PRODUCTS					
1.	Natural Rubber Products, Synthetic Rubber Products	Density	ASTM D297 IS 3400 (Part 9) ISO 2781	0.8 g/cm ³ to 2 g/cm ³		
		Apparent Density	IND/ME/645(a)	0.20 g/cm ³ to 90 g/cm ³		
		Ash Content (Filler)	ASTM D297 IS 3400 (Part 22)	0.01 % to 50.0 %		
		Carbon Black Content	ASTM D297 IS 3400 (Part 22)	5.0 % to 40 %		
		Chemical Composition of Filler (SiO ₂ , Al ₂ O ₃ , TiO ₂ , Fe ₂ O ₃ , CaO, MgO, ZnO)	ASTM D297 IS 3400 (Part 22)	0.10 % to 99.0 %		
		Total Extract (Solvent Extract)	ASTM D297 IS 3400 (Part 22)	5.0 % to 55.0 %		
		Polymer Identification	IS 3400 (Part 22) ASTM D3677	Qualitative		
		Polymer Content	ASTM D 297 IS 3400(Part 22)	40.0 % to 85.0 %		
		pH of Water Extract	IS 4253(Part 2) IS 8391 IND/ME/645(a)	4.0 to 12.0		
		Total Sulphur	ASTM D297 IS 3400 (Part 22)	0.10 % to 5.0 %		
		Free Sulphur	IS 5193	0.01 % to 0.5 %		
		Volume Change (Swelling after Immersion)	IS 3400 (Part 6) ISO 1817	10.0 % to 80 %		
		2.	Carbon Black for Rubber	Ash Content	IS 7498	0.01 % to 5.0 %
				pH of Water Extract	IS 7498	4.0 to 8.0

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		Pour Density (Bulk Density)	IS 7498	1.0 g/cm ³ to 5.0 g/cm ³
		Relative Density	IS 7498 IND/ME/944 (Prov)	1.30 to 2.5
		Solvent Extractable Matter (Acetone/Toluene)	IS 7498	0.01 % to 1.0 %
		Sulphur Content	IS 7498	0.10 % to 2.0 %
		Volatile Matter	IND/ME/944 (Prov)	0.10 % to 5.0 %
		Water Soluble Chlorides	IND/ME/944 (Prov)	0.01 % to 0.5 %
		Water Soluble Sulphates	IND/ME/944 (Prov)	0.01 % to 0.5 %
		Moisture Content (Loss on Heating)	IS 7498	0.10 % to 5.0 %
		Particle Size Distribution (Residue on Sieve)	IS 7498	0.10 % to 100 %
II.	PLASTICS & RESINS			
1.	Plastics (Raw Material & Its Products)	Density	IS 13360 (Part 3, Section 1) ASTM D 792 ISO 1183 IS 7888	0.8 g/cm ³ to 2 g/cm ³
		Melting Point	IS 13360 (Part 6, Section 10) ISO 3146	90 °C to 280 °C
		Ash Content (Filler)	IS 13360 (Part 8, Section 8) ISO 3451 (Part 1) ASTM D 5630	0.01 % to 50 %
		Glass Content	IS 10661 ISO 1172	5.0 % to 55.0 %
		Polymer Identification	ASTM E1252	Qualitative
		pH of Water Extract	IS 1060 (Part 1) JSS-9330-03	4.0 to 9.0

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		Water Soluble Matter	JSS-9330-03 JSS-9330-01	0.01 % to 0.5 %
		Water Soluble Chlorides	IS 1060 (Part 2) JSS-9330-03	0.01 % to 0.5 %
		Water Soluble Sulphates	IS 1060 (Part 2) JSS-9330-03	0.01 % to 0.5 %
		Solubility in Organic Solvents(Toluene/Ethyl acetate/Acetone/Benzene/Methanol)	JSS-9330-03 JSS-9330-01 IS 867	0.10 % to 100 %
		Total Nitrogen (Acrylonitrile Content)	ASTM E 258	5.0 % to 20.0 %
		Iodine Value	JSS-1010	5.0 to 40.0
		Water Content	ASTM D 789	0.10 % to 10.0 %
		Water Absorption	ASTM D 570 IS 867 IS 13360(Part 8, Section 1)	0.05 % to 10.0 %
2.	Phenolic Moulding Materials, Laminated Sheet	Density	IS 867	0.8 g/cm ³ to 2 g/cm ³
		Water Absorption	IS 867	0.01 % to 5.0 %
		Free Phenol	IS 867	0.01 % to 1.0 %
		Moisture & Volatile Matter	IND/ME/951(Prov) (Appendix A)	0.01 % to 1.0 %
		Free Ammonia	IS 867	0.01 % to 1.0 %
		Binder Content	IND/ME/951(Prov) Appendix B	20.0 % to 80.0 %
		pH of Water Extract	IND/ME/951(Prov) (Appendix C)	4.0 to 8.5
III.	TEXTILES			
1.	Woven & Non Woven Fabrics Yarns	Analysis of Binary Mixture of Polyester Fibre with Cotton	IS 3416	1 % to 100 %
		Analysis of Mixture of Viscose Rayon , Cotton & Protein Fibre	IS 6504	1 % to 100 %

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		pH of Aqueous Extract	IS 1390	1 to 12.0
		Wool Content	IS 8476	1 % to 100 %
		Water Soluble Matter	IS 3456	0.01 % to 0.5 %
		Water Soluble Chlorides	IS 4202	0.01 % to 0.50 %
		Water Soluble Sulphates	IS 4203	0.01 % to 0.5 %
		Ash Content	IS 199	0.01 % to 10.0 %
		Fatty Matter	IS 199	0.01 % to 2.0 %
		Moisture Content	IS 199	0.01 % to 15.0 %
		Scoring Loss	IS 1383	0.01 % to 5.0 %
		Dimensional Change Soaking in Water (Relaxation Shrinkage)	IS 2977	0.01 % to 12.0 %
		Heat Shrinkage	IS 13717 (Annexure C)	0.01 % to 5.0 %
		Metallic Content (Cu/Cr/Fe)	IS 3522 (Part 1) IS 3522 (Part 2)	0.01 % to 2.0 %
IV.	METALS & ALLOYS			
1.	Low Alloy Steel, Carbon Steel	Carbon	IS 228 (Part 1)	0.05 % to 2.5 %
		Sulphur	IS 228 (Part 9)	0.01 % to 0.25 %
		Silicon	IS 228 (Part 8)	0.05 % to 5.0%
		Manganese	IS 228 (Part 2) ASTM E 350 (Clause 269)	0.10 % to 2.0 % 0.01 % to 2.0 %
		Phosphorous	IS 228 (Part 3)	0.01 % to 0.5 %
		Nickel	IS 228 (Part 5) ASTM E 350 (Clause 318)	0.10 % to 5.0 % 0.01 % to 0.50 %
		Molybdenum	IS 228 (Part 10)	0.01 % to 1.5 %
		Chromium	IS 228 (Part 6) ASTM E 350 (Clause 220)	0.10 % to 5.0 % 0.01 % to 1.0 %
		Copper	ASTM E 350 (Clause 279)	0.004 % to 0.5 %
2.	Stainless Steel	Carbon	IS 228 (Part 1)	0.05 % to 2.5 %
		Sulphur	IS 228 (Part 9)	0.01 % to 0.25 %
		Silicon	IS 228 (Part 8)	0.10 % to 5.0 %
		Manganese	IS 228 (Part 2) ASTM E 353	0.10 % to 15.0 %

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		Phosphorous	IS 228 (Part 3)	0.01 % to 0.30 %
		Nickel	IS 228 (Part 5) ASTM E 353	0.10 % to 48.0%
		Molybdenum	IS 228 (Part 7) IS 228 (Part 10)	1.0 % to 4.0 % 0.01 % to 1.5 %
		Chromium	IS 228 (Part 6) ASTM E 353	0.10 % to 35.0 % 0.01 % to 1.0 %
		Copper	IS 228 (Part 15)	0.05 % to 5.0 %
3.	Cast Iron	Carbon	IS 12308(Part 11)	1.50 % to 4.50 %
		Sulphur	IS 12308(Part 2)	0.005 % to 0.25 %
		Silicon	IS 12308(Part 6)	0.10 % to 6.0 %
		Manganese	IS 12308(Part 10)	0.10 % to 7.0 %
		Phosphorous	IS 12308(Part 5)	0.01 % to 0.50 %
4.	Copper & Its Alloys	Copper	IS 440 IS 3685 IS 4027 (Part 1)	50.0 % to 99.9 % 50.0 % to 85.0 % 50.0 % to 95.0 %
		Lead	IS 3685 IS 4027 (Part 1) ASTM E 478	0.10 % to 5.0 % 0.01 % to 25.0 % 0.001 % to 15.0 %
		Tin	IS 3685 IS 4027 (Part 5)	0.10 % to 1.5 % 0.10 % to 15.0 %
		Iron	IS 440 IS 3685 IS 4027 (Part 8)	0.01 % to 0.5 % 0.01 % to 1.5 % 0.01 % to 5.0 %
		Nickel	IS 440 IS 3685	0.01 % to 5.0% 0.01 % to 20.0 %
		Aluminium	IS 4027(Part 9)	0.01 % to 12.0 %
		Phosphorus	IS 4027 (Part 3)	0.01 % to 0.50 %
		Zinc	IS 3685 IS 4027(Part 6) ASTM E 478	15.0 % to 50.0 % 2.0 % to 25.0 % 0.01 % to 2.0 %
5.	Aluminium & Its Alloy	Copper	ASTM E34 (Clause 210)	0.01 % to 20.0 %
		Magnesium	ASTM E 34 (Clause 232)	0.01 % to 12.0 %
		Silicon	IS 504 (Part 1)	0.10 % to 25.0 %
		Iron	ASTM E 34 (Clause 221)	0.01 % to 3.0 %

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		Nickel	ASTM E 34 (Clause 243)	0.01 % to 4.0 %
		Manganese	ASTM E 34 (Clause 221)	0.01 % to 2.0 %
		Zinc	ASTM E 34 (Clause 210)	0.01 % to 12.0 %
		Chromium	ASTM E 34 (Clause 199)	0.01 % to 0.5 %
		Titanium	IS 504 (Part 11)	0.01 % to 0.50 %
		Tin	IS 504 (Part 9)	0.01 % to 0.50 %
		Lead	ASTM E 34 (Clause 188)	0.01 % to 1.0 %
6.	Zinc Base Alloy	Copper	IS 2600 (Part 2) ASTM E 536	0.001 % to 5.0 %
		Lead	IS 2600 (Part 2) ASTM E 536	0.002 % to 1.60 %
		Magnesium	ASTM E 536	0.001 % to 0.50 %
		Iron	IS 2600 (Part 2) ASTM E 536	0.003 % to 0.50 %
		Nickel	IS 2600 (Part 1)	0.001 % to 0.50 %
		Aluminium	ASTM E 536	0.001 % to 4.50 %
		Cadmium	IS 2600 (Part 2) ASTM E 536	0.001 % to 0.50 %
		Chromium	IS 2600 (Part 2)	0.001 % to 0.50 %
7.	Lead Tin Alloy (Solders Bearing Alloys)	Tin	IS 998 (Part 1) IS 1409	1.0 % to 96.0 %
		Copper	IS 998 (Part 2) IS 1409	0.01 % to 6.0 %
		Iron	IS 998 (Part 2) IS 1409	0.01 % to 0.5 %
		Antimony	IS 998(Part 1) IS 1409	0.10 % to 20.0 %
		Lead	IS 1409	0.10 % to 80.0 %
V.	METALLIC COATING & TREATMENT SOLUTIONS			
1.	Metallic Product	Anodic Coating	IS 5523 (Clause 2) IS 6012 (Clause 4.1)	1 µm to 40 µm
		Zinc Coating	IS 6745 IS 1573	1 g/m ² to 2500 g/m ² 1 µm to 250 µm

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		Uniformity of Zinc Coating	IS 2633	Qualitative
		Adhesion of Zinc Coating	IS 2629	Qualitative
		Tin Coating	IS 1359	1 µm to 5 µm
		Resistance to Sea Water	IS 2074 (Annexure C)	Qualitative
		Humidity Test	ASTM D 2247 IS 101(Part 6, Section 1)	Qualitative
		Phosphate Coating	IS 14503	1 g/m ² to 50 g/m ²
VI.	WATER			
1.	Drinking Water	Turbidity	IS 3025 (Part 10)	5 NTU to 500 NTU
		Colour	IS 3025 (Part 4)	5 Colour Units to 500 Colour Units
		Total Solid	IS 3025 (Part 15)	10 mg/l to 5000 mg/l
		Dissolved Solids	IS 3025 (Part 16)	10 mg/l to 5000 mg/l
		pH Value	IS 3025 (Part 11)	4.0 to 12.0
		Chloride	IS 3025 (Part 32)	1.0 mg/l to 1000 mg/l
		Total Hardness	IS 3025 (Part 21)	1.0 mg/l to 1500 mg/l
		Iron	IS 3025 (Part 53)	0.01 mg/l to 50 mg/l
		Total Alkalinity	IS 3025 (Part 23)	1.0.0 mg/l to 500 mg/l
		Sulphate	IS 3025 (Part 24)	1.0 mg/l to 1500 mg/l
		Residual Free Chlorine	IS 3025 (Part 26)	0.10 to 0.50
		Nitrates (as NO ₃)	IS 3025 (Part 34)	0.10 mg/l to 20.0 mg/l
		Calcium	IS 3025 (Part 40)	1.0 mg/l to 500 mg/l
		Magnesium	IS 3025 (Part 46)	1.0 mg/l to 500 mg/l
2.	Swimming Pool Water	Turbidity	IS 3025(Part 10)	5 NTU to 500 NTU
		Colour	IS 3025 (Part 4)	5 Colour Units to 500 Colour Units
		Total Solid	IS 3025 (Part 15)	10 mg/l to 5000 mg/l
		Dissolved Solids	IS 3025 (Part 16)	10 mg/l to 5000 mg/l
		pH Value	IS 3025 (Part 11)	5.0 to 12.0
		Chloride	IS 3025 (Part 32)	1 mg/l to 1000 mg/l

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		Total Hardness	IS 3025 (Part 21)	1 mg/l to 1500 mg/l
		Iron	IS 3025 (Part 53)	0.01 mg/l to 50 mg/l
		Total Alkalinity	IS 3025 (Part 23)	1 mg/l to 500 mg/l
		Sulphate	IS 3025 (Part 24)	1 mg/l to 1500 mg/l
		Residual Free Chlorine	IS 3025 (Part 26)	0.10 to 0.50
		Nitrates (as NO ₃)	IS 3025 (Part 34)	0.10 mg/l to 20.0 mg/l
		Calcium	IS 3025(Part 40)	1 mg/l to 500 mg/l
		Magnesium	IS 3025(Part 46)	1 mg/l to 500 mg/l
3.	Construction Water	Total Solid	IS 3025 (Part 15)	10 mg/l to 5000 mg/l
		pH Value	IS 3025 (Part 11)	6.0 to 12.0
		Chloride	IS 3025 (Part 32)	1 mg/l to 1000 mg/l
		Sulphate	IS 3025 (Part 24)	1 mg/l to 1500 mg/l
4.	Industrial Water	Total Alkalinity	IS 3025 (Part 23)	1 mg/l to 500 mg/l
		Dissolved Oxygen	IS 3025 (Part 38)	2 mg/l to 20 mg/l
		COD	IS 3025 (Part 58)	5 mg/l to 10000 mg/l
		Oil & Grease	IS 3025 (Part 39)	2 mg/l to 5000 mg/l
		BOD	IS 3025 (Part 44)	2 mg/l to 10000 mg/l
		Total Suspended Solids	IS 3025 (Part 17)	5 mg/l to 500 mg/l
VII.	PAINTS , VARNISHES & SURFACE COATINGS			
1.	Paints (Ready Mixed//Priming Red Oxide Zinc Chrome) Varnishes (Shellac Varnishes)	Flash Point	IS 101(Part 1, Section 6)	30.0 °C to 150 °C
		Volume Solids	IS 101(Part 6, Section 2) IS 2074 (Annexure D)	1.0 % to 70.0 %
		Lead (as PbO)	IS 101(Part 8, Section 5)	0.10 % to 10.0 %
		Iron oxide (as Fe ₂ O ₃)	IS 6947(Part 2)	1.0 % to 70.0 %
		Zinc Chrome	IS 2074	1.0 % to 65 %
		Ash Content	IS 101(Part 8, Section 3)	1.0 % to 60.0 %
		Calcium Compound (as CaCO ₃)	IS 63 (Annexure A)	1.0 % to 35.0 %
		Water Content	IS 101(Part 2, Section1)	0.10 % to 20.0 %
		Mass per 10 litre	IS 101(Part 1, Section 7)	5.0 kg to 15.0 kg
				Volatile Matter

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		Pigment Content & Non Volatile Matter	IS 101(Part 8, Section 2)	1.0 % to 70.0 %
		Resistance to Acid	IS 2932 IS 8662	Qualitative
		Resistance to Alkali	IS 2932 IS 8662	Qualitative
		Resistance to Boiling Water	IS 101(Part 7, Section 1)	Qualitative
		pH of Water Extract	JSS-8010-42	4.0 to 8.0
		Water Soluble Chlorides	JSS-8010-28	0.01 % to 0.5 %
		Gloss , 60°	IS 101(Part 4, Section 4)	30 to 105
		Residue on Sieve 63 µm	IS 101(Part 8, Section 1)	0.10 % to 20 %
		Accelerated Storage Stability Change in Gloss Change in Viscosity	IS 168 IS 138 IS 2932	2 to 20 2 s to 50 s
		Drying time Surface dry Hard dry Tack free	IS 101 (Part 3, Section 1)	10 minutes to 600 minutes 1 hr to 24 hrs 1 hr to 30 hrs
		Consistency	IS 101(Part 1, Section 5)	Qualitative
		Viscosity (Ford Cup No. 4)	IS 101(Part 1, Section 5)	10 s to 300 s
		Wet opacity	IS 101(Part 4, Section 1)	50 m ² to 300 m ² /10 l
		Resistance to Sea Water	IS 2074 (Annexure C)	Qualitative
		Humidity Resistance	IS 101(Part 6, Section 1)	Qualitative
		Neutral Salt Spray	IS 101(Part 6, Section 1)	Qualitative
		Sea Water Resistance	IS 2074 (Annexure C)	Qualitative
		Flexibility & Adhesion Bend test Scratch Hardness Cupping test	IS 101(Part 5, Section 2)	Qualitative Qualitative 3.0 mm to 10.0 mm
		Finish/Stripping Test	IS 101(Part 3, Section 4)	Qualitative
		Fineness of Grind	IS 101(Part 3, Section 5)	10 µm to 102 µm

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2.	Coated/Painted Sheets & Panels	Dry Film Thickness	IS 101(Part 3, Section 2)	10 µm to 200 µm
		Humidity Resistance	ASTM D 2247	Qualitative
		Humidity under Conditions of Condensation	IS 101(Part 6, Section 1)	Qualitative
		Resistance to Boiling Water	IS 101(Part 7, Section 1)	Qualitative
		Resistance to Petroleum Hydrocarbon Solvent	IS 101(Part 7, Section 2)	Qualitative
		Impact Resistance	IS 101(Part 5, Section 3) IS 14246	Qualitative
		Pencil Hardness	IS 101(Part 5, Section 1) IS 14246	2 B to 6 B
		Cross Cut Adhesion	ASTM D 3359 IS 14246	Qualitative
		Resistance to Acid/Alkali	IS 13871 (Annexure C)	Qualitative
VIII.	ADHESIVES			
1.	Synthetic Adhesives	Volatile matter	IS 7437 JSS-8030-14	10 % to 80 %
		Non Volatile Matter	JSS-8010-63	10 % to 80 %
		Ash Content	JSS-8010-63 IS 4835 IS 7437	0.10 % to 20.0 %
		Iodine Value	JSS-8010-63 IS 6921-1	1.0 to 35.0
		Adhesion & Finish	JSS-8010-63	Qualitative
		Confirmation of Shellac	JSS-8010-63 JSS-8030-14	Qualitative
		Red Oxide of Iron	JSS-8030-14	0.10 % to 55.0 %
		Ferrous Compound (as FeO)	JSS-8030-14	0.10 % to 55.0 %
	Coarse Particles & Skins	JSS-8030-14	0.10 % to 10 %	

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		Total Solids	IS 4835 IS 7437	0.10 % to 60.0 %
		pH of Water Extract	IS 4835 IS 7437	4.0 to 8.0
		Strength of Adhesion	IND-ME-788(c)	Qualitative
		Water Soluble Chlorides	IS 7437 IND/ME/788(c)	0.01 % to 2.0 %
		Water Soluble Sulphates	IS 7437 IND/ME/788(c)	0.01 % to 2.0 %
		Mass per litre	IS 4835 IND/ME/788(c)	0.80 kg to 1.5 kg
		Drying Time	IS 101(Part 3, Section 1) JSS-8030-14	30 minutes to 60 minutes
IX.	HAZARDOUS & RESTRICTED CHEMICALS			
1.	Plastic, Rubber Ceramic & Metal Products	Lead	IEC-62321-5	10 mg/kg to 5000 mg/kg
		Cadmium	IEC-62321-5	10 mg/kg to 5000 mg/kg
		Mercury	IEC-62321-4	10 mg/kg to 5000 mg/kg
		Hexavalent Chromium	IEC-62321-5 IS 8602	10 mg/kg to 5000 mg/kg
2.	Paints/Metals	Total Lead	ASTM E1613 ASTM E1645 IS 101(Part 8, Section 5)	10 mg/kg to 5000 mg/kg
		Total Nickel	EN-1810	10 mg/kg to 5000 mg/kg
3.	Toys (Migration of Certain Elements)	Lead	IS 9873 (Part 3)	10 mg/kg to 5000 mg/kg
		Cadmium	IS 9873 (Part 3)	10 mg/kg to 5000 mg/kg
		Arsenic	IS 9873 (Part 3)	10 mg/kg to 5000 mg/kg
		Chromium	IS 9873 (Part 3)	10 mg/kg to 5000 mg/kg
		Mercury	IS 9873 (Part 3)	10 mg/kg to 5000 mg/kg

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X.	PAPER & PULP			
1.	Paper, Computer Paper, Writing Paper	pH of Aqueous Extract	IS 1060(Part 1, Clause 10)	3.0 to 12.0
		Moisture Content	IS 1060(Part 1, Clause 9)	0.01 % to 10.0 %
		Ash Content	IS 1060(Part 1, Clause 11)	0.01 % to 10.0 %
		Water Soluble Chlorides	IS 1060(Part 2, Clause 17)	0.01 % to 1.0 %
		Water Soluble Sulphates	IS 1060(Part 2, Clause 18)	0.01 % to 1.0 %
		Total Alkalinity (asCaCO ₃)	IS 1060(Part 3, Clause 12)	0.01 % to 2.0 %
		Fatty Acids (as Oleic Acid)	IS 1060(Part 2, Clause 19)	0.01 % to 1.0 %
		Soluble Lead Compound (as Pb)	IS 1060(Part 2, Clause 16)	0.01 % to 1.0 %
		Ether Soluble Matter	IS 1060(Part 2, Clause 20)	0.01 % to 1.0 %
		Benzene Soluble Matter	IS 1060(Part 2, Clause 21)	0.01 % to 1.0 %
2.	Paper Laminated	pH of Aqueous Extract	IS 1060(Part 1, Clause 7)	3.0 to 12.0
		Moisture Content	IS 1060(Part 1, Clause 9)	0.01 % to 10.0 %
		Ash Content	IS 1060(Part 1, Clause 11)	0.01 % to 10.0 %
		Water Soluble Chlorides	IS 1060(Part 2, Clause 17)	0.01 % to 1.0 %
		Water Soluble Sulphates	IS 1060(Part 2, Clause 18)	0.01 % to 1.0 %
		Total Alkalinity (asCaCO ₃)	IS 1060(Part 3, Clause 12)	0.01 % to 2.0 %
		Fatty Acids (as Oleic acid)	IS 1060(Part 2, Clause 19)	0.01 % to 1.0 %
XI.	CORROSION TESTS			
1.	Metallic Product	Salt Spray Test	IS 9844 IS 5528 ASTM B 117 IS 101(Part 6, Section 1)	Qualitative

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

I.	RUBBER & RUBBER PRODUCTS			
1.	Natural Rubber Products, Synthetic Rubber Products	Tensile Properties	IS 3400 (Part 1) ASTM D412	10 N/mm ² to 800 N/mm ²
		Elongation	IS 3400 (Part 1) ASTM D412	10 % to 950 %
		Compression Set	IS 3400 (Part 10) ASTM D395	5 % to 60 %
		Tear Strength	IS 3400 (Part 17) ASTM D624	1 N/mm to 8000 N/mm
		Hardness	IS 3400 (Part 23) ASTM D2240	30 Shore A to 95 Shore A
		Accelerated Ageing Test Change in Tensile Strength Change in Elongation Change in Hardness	IS 3400 (Part 4) ISO 188 ASTM D573-01	1.0 % to 50.0 % 1.0 % to 50.0 % 2 Shore A to 20 Shore A
		Effect of Liquid (Fluid Resistance Test) Change in Tensile Strength Change in Elongation Change in Hardness	IS 3400 (Part 6) IS 443 ASTM D471	1.0 % to 60.0 % 1.0 % to 60.0 % 2 Shore A to 20 Shore A
		Volume Change, % (Swelling after Immersion)	IS 3400 (Part 6) IND/ME/884(Prov)	10.0 % to 80 %
		Low Temperature Bend Test/Low Temperature Resistance test	ASTM D 2136 JSS-9320-24 IS 2765	Qualitative (up to 40 °C)
		Adhesion to & Corrosion of Metals	BS 903 A JSS-9320-24 (Appendix A) IND/ME/884 (Appendix C)	Qualitative

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		Resistance to Crystallization	IND/ME/884 (Appendix D)	Qualitative
		Compressibility under Load	IND/ME/645(A)	20 % to 80 %
II.	PLASTICS AND PLASTIC PRODUCTS			
1.	Plastic Raw & Finished Products, Phenolic Moulding Material	Tensile Properties	IS 13360 (Part 5, Section 1) ASTM D 638 ISO 527-1	10 N/mm ² to 2500 N/mm ²
		Elongation	IS 13360 (Part 5, Section 1) ASTM D 638 ISO 527-1	5.0 % to 250 %
		Flexural Properties	IS 13360 (Part 5, Section 7) ASTM D790 ISO 78	10 N/mm ² to 3500 N/mm ²
		Hardness	IS 13360 (Part 5, Section 11) ISO 868	30 Shore D to 95 Shore D
		Melt Flow Index	IS 13360 (Part 4, Section 1) ISO 1133 ASTM D1238	0.10 g to 50 g/10 minutes
		Deflection Temperature under Load	IS 13360 (Part 6, Section 3) ATM D648	50 °C to 250 °C
		Compressive Strength	ASTM D695	50 N to 8000 N
		Vicat Softening Point	IS 13360 (Part 6, Section 1) ASTM D1525	40 °C to 250 °C
		Izod Impact Strength	IS 13360 (Part 5, Section 4)	1 J to 25 J

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			ASTM D256 ISO 180	
		Charpy Impact Strength	IS 13360 (Part 5, Section 5) ISO 179	1 J to 25 J
		Impact Strength	IS 867	10 kg to 50 kg
		Cross Breaking Strength	IS 867 IS 4671	10 kg/cm ² to 1800 kg/cm ²
2.	Cross Liked Polyethylene/Polyurethane Foam/Polystyrene Finished Products	Density (Apparent Density)	ASTM D3574 ASTM D3575 IS 7888 IS 4671	10 kg/m ³ to 100 kg/m ³
		Tensile Strength	ASTM D3574 ASTM D3575 IS 7888	10 N/mm ² to 2500 N/mm ²
		Elongation	ASTM D3574 ASTM D3575 IS 7888	10 % to 400 %
		Tear Strength	ASTM D3575 ASTM D3574	1 N/m to 200 N/m
		Compression Set	ASTM D3574 ASTM D3575 IS 7888	10 % to 80 %
		Compressive Strength At Specified Deflection	ASTM D3575 IS 4671	10 N to 8000 N
		Thermal Stability (Change In Dimensions)	ASTM D3575 IS 4671	Up to 150 °C
		Dimensions	IS 7888 IS 4671	1.0 mm to 300.0 mm
		Heat Ageing Test (Dry Heat Ageing)	ASTM D3574 IS 7888	0.10 % to 10 %
		Humidity Ageing Test (Wet Heat Ageing)	ASTM D3574 IS 7888	0.10 % to 10 %
III.	TEXTILE MATERIALS			

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
1.	Fabrics (Woven & Non-Woven), Yarn, Garments	Mass per unit Length of Fabrics	IS 1964	1 g/m to 2000 g/m
		Mass per unit Area of Fabrics	IS 1964	10 g/m ² to 5000 g/m ²
		Threads per unit Length of Fabric	IS 1963	20dm to 2000dm
		Length and Width of Fabric	IS 1954	Up to 5 m
		Breaking Load of Fabric	IS 1969 (Part 1)	10 N to 5000 N
		Elongation of Fabric	IS 1969 (Part 1)	10 % to 500 %
		Breaking Strength of Coated & Treated Fabrics	IS 7016 (Part 2)	50 N to 5000 N
		Extension at Break of Coated & Treated Fabric	IS 7016 (Part 2)	10 % to 500 %
		Tear Strength of Coated Treated Fabrics	IS 7016 (Part 3)	10 N to 3500 N
		Bursting Strength of Fabric	IS 1966	2.0 kg/cm ² to 25.0 kg/cm ²
IV.	MECHANICAL PROPERTIES OF METALS			
1.	Ferrous & Non Ferrous Metals (Steel & its Alloys, Aluminium & Its Alloys, Copper & its Alloys)	Ultimate Tensile Strength	IS 1608	1 N to 360 kN
		Yield Stress	IS 1608	1 N to 360 kN
		Elongation	IS 1608	1.0 % to 70 %
		Rockwell Hardness	IS 1586 (Part 1)	54 HRB to 81 HRB 33 HRC to 60 HRC
		Wrapping Test	IS 1755	Qualitative
		Bend Test	IS 280 IS 277 IS 1599	Qualitative (Mandrel Diameter: 16 , 24 , 32 mm)
		Cupping Test	IS 10175	8.0 mm to 12.5 mm

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
V.	PAPER & PAPER PRODUCTS			
1.	Writing Paper, Computer Paper	Thickness	IS 1060(Part 1, Clause 7)	0.01 mm to 5.0 mm
		Substance	IS 1060(Part 1, Clause 6)	10 g/m ² to 2000 g/m ²
		Breaking Load (Tensile Strength)	IS 1060 (Part 1, Clause 12.3)	10 N to 2500 N
		Breaking Length	IS 1060 (Part 1, Clause 12.4)	0.10 m to 40 m
		Stretch (Elongation)	IS 1060 (Part 1, Clause 12.3)	1.0 % to 40.0 %
		Tensile Index	IS 1060 (Part 1, Clause 12.3 & 6.0)	1.0 Nm/g to 100 Nm/g
		Bursting Strength	IS 1060 (Part 1, Clause 12.5)	10 kPa to 500 kPa
		Burst factor	IS 1060 (Part 1, Clause 12.5.4)	1 kPam ² /g to 10 kPam ² /g
		Bulk	IS 1060 (Part 1, Clause 8)	1.1 cm ³ /g to 2.0 cm ³ /g
		Water Penetration	IS 1060 (Part 3, Clause 10)	Qualitative
2.	Paper Laminated	Thickness	IS 1060 (Part 1, Clause 7)	0.01 mm to 5.0 mm
		Substance	IS 1060 (Part 1, Clause 6)	10 g/m ² to 2000 g/m ²
		Breaking Load (Tensile Strength)	IS 1060 (Part 1, Clause 12.3)	10 N to 2500 N
		Breaking Length	IS 1060 (Part 1, Clause 12.4)	0.10 m to 40 m
		Stretch (Elongation)	IS 1060 (Part 1, Clause 12.3)	1.0 % to 40.0 %
		Tensile Index	IS 1060 (Part 1, Clause 12.3 & 6)	1.0 Nm/g to 100 Nm/g
		Bursting Strength	IS 1060 (Part 1, Clause 12.5)	10 kPa to 500 kPa
		Burst Factor	IS 1060 (Part 1, Clause 12.5.4)	1 kPam ² /g to 10 kPam ² /g
		Bulk	IS 1060(Part 1, Clause 8)	1.1 cm ³ /g to 2.0 cm ³ /g

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Water Penetration	IS 1060(Part 3, Clause 10)	Qualitative
		Resistance to Water Perentation	IMD/ME/786(D) (Appendix B)	Qualitative
		Delamination of Water	IMD/ME/786(D) (Appendix C)	Qualitative
		Delamination at High Temperature & Humidity	IMD/ME/786(D) (Appendix D)	Qualitative