

Laboratory **Kulkarni Laboratory & Quality Management Services, E-1, Omega Heritage, DSK Vishwa Road, Dhayari, Pune, Maharashtra**

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

Certificate Number **TC-7556 (in lieu of T-2201)**

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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.	WATER			
1.	Drinking Water, Packaged Water, Industrial Water	pH	IS 3025 (Part 11) Clause 2	3 to 10
		Chloride	IS 3025 (Part 32) Clause 2	1 mg/l to 500 mg/l
		Total Hardness as CaCO ₃	IS 3025 (Part 21) Clause 5	5 mg/l to 1000 mg/l
		Total Dissolved solids	IS 3025 (Part 16)	10 mg/l to 5000 mg/l
		Total Alkalinity as CaCO ₃	IS 3025 (Part 23)	5 ng/l to 1000 ng/l
		calcium	IS 3025 (Part 40) Clause 5	2 mg/l to 500 mg/l
		Electrical conductance	IS 3025 (Part 14)	0.001 mS/cm to 15 mS/cm
		Magnesium	IS 3025 (Part 46) Clause 6	2 mg/l to 500 mg/l
		Acidity as CaCO ₃	IS 3025 (Part 22) Clause 8	10 mg/l to 1000 mg/l
		Density	IS 3025 (Part 12)	0.9 gm/cc to 2.0 gm/cc
2.	Waste Water	Total Suspended solids	IS 3025 (Part 17)	10 mg/l to 5000 mg/l
		Oil and grease	IS 3025 (Part 39) Clause 7	10 mg/l to 500 mg/l
		Chemical oxygen demand	IS 3025 (Part 58)	50 mg/l to 5000 mg/l
II.	ANIMAL FOOD AND FEEDS			
1.	Pet Food	Moisture	IS 7874 (Part 1)	0.1 % to 40 %
		Ash	IS 7874 (Part 1)	0.1 % to 20 %
		Acid insoluble ash	IS 7874 (Part 1)	1 % to 5.0 %
		Protein	IS 7219	1 % to 55 %
		Crude fiber	IS 7874 (Part 1)	0.1 % to 25 %
		Fat	IS 7874 (Part 1)	0.1 % to 60 %

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III.	PAINTS & SURFACE COATING			
1.	Paints & Enamels	Consistency by Flow Cup	IS 101-Amendment 2 (Part I) Section. 5	30s to 200s
		Flash point	IS 101-(Part I) Section. 6	10 ⁰ C to 80 ⁰ C
		Mass per 10 Lit.	IS 101-(Part I) Section. 7 ASTM D-1475	6 to 18
		Water content by Dean & Stark, % Karl Fischer method	IS 101-(Part 2) Section. 1 ASTM D 4017	0.5 % to 5.0 % 0.005 % to 5 %
		Volatile matter	IS 101-(Part 2) Section. 2 ASTM D 2369	20 % to 70 %
		Drying time in Minutes Surface dry	IS 101-Amendment 2 (Part 3) Section. 1 ASTM D 1640-14	1 min to 200 min
		Hard dry	IS 101-Amendment 2 (Part 3) Section 1 ASTM D 1640	1 min to 1200 min
		Tack free	IS 101-Amendment 2 (Part 3) Section 1	1 min to 1500 min
		Film thickness in micron	IS 101-(Part 3) Section 2 ASTM D 7091	1 μ to 30 μ
		Finish	IS 101-Amendment 3 (Part 3) Section 4	Qualitative (Visual observation)
		Flexibility & adhesion (Bend Test)	IS 101-(Part 5) Section 2 ASTM D:522	Qualitative (Visual observation)
		Resistance to humidity	IS 101-Amendment 3 (Part 6) Section1 ASTM D:2247	Qualitative (Visual observation)
		Keeping quality	IS 101 (Part 6) Section 2	Qualitative (Visual observation)
		Resistance to water	IS 101(Part 7) Section 1	Qualitative (Visual observation)

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		Resistance to liquids, petroleum solvents & oils	IS 101Amendment 1 (Part 7) Section 2	Qualitative (Visual observation)
		Resistance to heat	IS 101Amendment 1 (Part 7) Section 3	Qualitative (Visual observation)
		Resistance to Acids & Alkalies	IS 2932 (Part 7) Section 5	Qualitative (Visual observation)
		Resistance to bleeding of pigment	IS 101Amendment 1 (Part 7) Section 4	Qualitative (Visual observation)
		Pigments & Non volatile Matter	IS 101Amendment 4 (Part 8) Section 2 ASTM D 2698	1 % to 75 %
		Ash content	IS 101(Part 8) Section. 3	10 % to 60 %
		Lead Restriction	IS 101Amendment 1 (Part 8) Section. 5 IS 6947 (Part III)-2009 Amendment 1	0.10 % to 5.0 %
		Volume Solids	IS 101(Part 8) Section 6 ASTM D 2697	10 % to 50 %
		Fineness of Grind	IS 101:(Part 3) Section 5 ASTM D 1210	Upto 100
		Gloss at 60°	IS 101 (Part 4) Section 4 Amendment 1 ASTM D 523	0.1 to 99
		Scratch Hardness test	IS 101:(Part 5) Section 2	Qualitative (Visual observation)
		Adhesion by cross cut test	ASTM D-3359 IS 101: (Part 5) Section 2	Qualitative (Visual observation)
		Impact Resistance	IS 101:(Part 5) Section 3 ASTM D 2794	Qualitative (Visual observation)
		Salt spray test	ASTM B-117 IS (Part 6) Section 1 ASTM 1654 ISO:9227-2017 JSS:55555	Qualitative (Visual observation)

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		Accelerated storage stability	Annex-D IS 168 Revision 3	Qualitative (Visual observation)
		Calcium compounds (as CaCO ₃), percent By mass on dry pigment, Max.	App. A of IS 138 Revision:3	0.1 % to 100 %
		Argillaceous matter	JSS 8010:68 Rev.3 Appendix D	1 % to 15 % (Percent by Mass)
		Pencil Hardness	IS 101:(Part 5) Section1 ASTM D:3363	Qualitative (Visual observation)
		Pot life	IS 13213 Annex 'D' IS 13799	1h to 5 h
		Residue on Sieve	IS 101:(Part 8) Section 1	0.1 % to 5 % (Percent by Mass)
		Volatile Organic Compound	ASTM D 3960	0.1 % to 10 %
		Pull of test	IS 101:(Part 5) Section 2 ASTM D 4541	Qualitative (Visual observation)
		Pressure test	IS 101:(Part 5) Section 1	Qualitative (Visual observation)
		Print free test	IS 101:(Part 5) Section 4	Qualitative (Visual observation)
		Moisture vapor permeability test	IS 101:(Part 6) Section 3 ASTM D 1653	Qualitative (Visual observation)
		Degradation of coating	IS 101:(Part 6) Section 4	Qualitative (Visual observation)
		Zinc content	IS 14946	1 % to 99 % (Percent by Mass)
		Zinc oxide	IS 6947 (Part III) Amendment 1	1 % to 99 % (Percent by Mass)
		Chromium oxide	IS 6947 (Part III) Amendment 1	1 % to 50 % (Percent by Mass)

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		Ferric oxide as Fe ₂ O ₃ , percent by mass	IS 6947 (Part III) Amendment 1	1 % to 50 %
IV.	ADHESIVES			
1.	Adhesive (APC-2)	Drying time	JSS 8030-14 Rev no.4	30 min to 90 min.
		Volatile matter	Appendix C JSS 8030-14 Rev no.4	10 % to 60 %
		Red oxide of iron	Appendix D JSS 8030-14 Rev no.4	5 % to 20 %
		Coarse particles & skins	Appendix A JSS 8030-14 Rev no.4	0.05 % to 0.8 %
		Soluble lead compounds	JSS 8030-14 Rev no.4	0.2 % to 2.0 %
		Ferrous compounds	Appendix B JSS 8030-14 Rev no.4	0.05 % to 0.5 %
2.	Adhesive (APC-5)	Gelation time (at 27°C)	Appendix B JSS 8030-20 Rev No.3	50 min to 200 min
3.	Adhesive (APC-7)	Behavior on heating Height of button	Appendix A JSS 8030-19 Rev no. 2	2 mm to 12 mm
		Flow test	Appendix A JSS 8030-19 Rev no. 2	Qualitative (Visual observation)
		Softening point	JSS 8030-19 Rev no. 2	50 ^o C to 100 ^o C
		Elongation test	Appendix B JSS 8030-19 Rev no. 2	10 mm to 70 mm

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		Consistency test	Appendix C JSS 8030-19 Rev no. 2	15 mm to 60 mm
		Lead & Lead compounds	Appendix D JSS 8030-19 Rev no. 2	0.005 % to 0.05 %
4.	Adhesive (APC-11)	Behavior on heating height of button	Appendix B JSS 8030-24 Rev. No:2	2 mm to 12 mm
		flow test	Appendix B JSS 8030-24 Rev. No:2	Qualitative (Visual observation)
		Elongation test	Appendix C JSS 8030-24 Rev. No:2	2 mm to 10 mm
5.	Adhesive (APC-12)	Drop point	JSS 9150-45 Rev no. 2	70 °C to 102 °C
		Free organic acid calculated as oleic acid	JSS 9150-45	0.1 % to 3%
		Free alkali calculated as calcium hydroxide	JSS 9150-45	0.05 % to 0.25 %
		Sulphated ash	JSS 9150-45	1 % to 10 %
		Water content	JSS 9150-45	0.5 % to 5 %
		Corrosion	Appendix to JSS 9150-45 Rev no. 2	Qualitative (Visual observation)
		Stability	JSS 9150-45 Rev no. 2	Qualitative (Visual observation)
6.	Adhesive (APC-101)	Softening point	JSS 8030-28 Revision no.2 Amendment No.1	50 °C to 150 °C
		Low temp. resistance	Appendix B JSS 8030-28 Revision no.2 Amendment No.1	Qualitative (Visual observation)

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		Calcium compounds calculated as CaCO ₃	Appendix C JSS 8030-28 Revision no.2 Amendment No.1	0.02 % to 1 %
		Ash at 850 °C	JSS 8030-28 Revision no.2 Amendment No.1	10 % to 60 %
		Sieving Retained on 250 micrometer IS sieve Grit	Appendix A JSS 8030-28 Revision no.2 Amendment No.1	0.1 % to 0.5 % 0.02 % to 0.5%
		Lead compounds	JSS 8030-28 Revision no.2 Amendment No.1	1.0 % to 5.0 %
7.	Adhesive (APC-102)	Softening point	JSS 8030-25 Revision no.2	50° C to 100 °C
		Soluble Lead compounds calculated as lead monoxide	Appendix A JSS 8030-25 Revision no.2	0.5 % to 7 %
8.	Varnish NC (RD-1198 B)	Drying time surface dry Hard Dry	IS 101 Amendment 2 (Part 3) Section. 1	1 min to 50 min 20 min to 200 min
		Kinematic viscosity of thinned material at 25° C ±1° C	IS 1448 (Part 25)	50 x 10 ⁻⁶ 350 x 10 ⁻⁶ m ² /S
		Resistance to warm water	Appendix A (IND/ME/368 (c))	Qualitative (Visual observation)
		Acidity	Appendix C (IND/ME/368 (c))	0.1 ml to 2 ml
		Bend test Flexibility & adhesion	IS 101 (Part 5)Section. 2	Qualitative (Visual observation)
		Freedom from corrosive compounds	Appendix B (IND/ME/368 (c))	Qualitative (Visual observation)
		Scratch hardness test	IS 101 (Part 5) Section 2	Qualitative (Visual observation)

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9.	Adhesive (Lacquer NC RD-1198) (APC-104)	Drying time Surface Dry Hard Dry	JSS 8010-45 Revision no.1	2 min to 15 min 5 min to 30 min
		Finish	JSS 8010-45 Revision no.1	Qualitative (Visual observation)
		Acidity calculated as H ₂ SO ₄	Appendix A JSS 8010-45 Revision no.1	0.001 % to 0.01% by mass
		Kinematic viscosity at 27°C ±2° C	JSS 8010-45 Revision no.1	8 x 10 ⁻⁶ m ² /S to 50 x 10 ⁻⁶ m ² /S
		Flexibility	JSS 8010-45 Revision no.1	Qualitative (Visual observation)
		Freedom from corrosive compounds	JSS 8010-45 Revision no.1	Qualitative (Visual observation)
10.	Adhesive (APC-210)	Viscosity at 27°C ±2° C	JSS 8010-64 Revision no. 2	0.10 N s/m ² to 0.40 N s/m ²
		Acidity as H ₂ SO ₄	Appendix A JSS 8010-64 Revision no. 2	0.005 % to 0.05 % by mass
		Drying time Surface Dry Hard Dry	IS 101 (Part 3 sect 1)	5 min to 80 min 60 min to 300 min
		Sulphur compounds on dry residue as H ₂ SO ₄	Appendix-B JSS 8010-64 Revision no. 2	0.05 % to 0.3 %
		Toughness test (Bend test) on Rod 6.35 mm.	JSS 8010-64 Revision no. 2	Qualitative (Visual observation)
		Adhesion (Pressure test)	JSS 8010-64 Revision no. 2	Qualitative (Visual observation)
		Scratch hardness test	IS 101 (Part 5) Section 2	Qualitative (Visual observation)
		Thickness of film	IS 101 (Part 3) Section 2	0.001 mm to 1 mm

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11.	Adhesive (APC-213/214)	Drying time surface Dry Hard Dry	IS 101 Amendment 2 (Part 3) Section1	1 min to 100 min 1 min to 500 min
		Dynamic viscosity at 27 °C ±1° C	IS 1448 (Part 25)	0.01 Ns/m ² to 0.5 Ns/m ²
		Resistance to boiling water & alkali	Appendix-A and B JSS 8010-41 Revision no.3	Qualitative (Visual observation)
		Total solids	Appendix-D JSS 8010-41 Revision no.3	10 % to 60 %
		Adhesion & finish	JSS 8010-41 Revision no.3	Qualitative (Visual observation)
		Flexibility	JSS 8010-41 Revision no.3	Qualitative (Visual observation)
		Webbing test	Appendix-C JSS 8010-41 Revision no.3	Qualitative (Visual observation)
		Stability of colour	JSS 8010-41 Revision no.3	Qualitative (Visual observation)
		Water content	JSS 8010-41 Revision no.3	0.10 % to 1.0 %
12.	Adhesive (Lacquer clear NC) (APC-217)	pH of water extract	Appendix C JSS 8010-42 Revision no. 3	1 to 14
		Kinematic viscosity	Appendix D JSS 8010-42 Revision no. 3	40 x 10 ⁻⁶ m ² /S to 140 x 10 ⁻⁶ m ² /S
		Drying time in min surface dry Hard dry	JSS 8010-42 Revision no. 3	1 min to 70 min 1 min to 100 min
		Finish	JSS 8010-42 Revision no. 3	Qualitative (Visual observation)
		Bend test	JSS 8010-42	Qualitative

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			Revision no. 3	(Visual observation)
		Scratch hardness test	IS 101(Part 5)Section 2	Qualitative (Visual observation)
13.	Adhesive (Lacquer NC Adhesive Orange & Red APC-219)	Drying time Hard Dry	JSS 8010-48 Revision no. 1	1 min to 60 min
		Finish	JSS 8010-48 Revision no. 1	Qualitative (Visual observation)
		Viscosity at 25 °C	JSS 8010-48 Revision no. 1	100 x 10 ⁻⁶ m ² /S to 350 x 10 ⁻⁶ m ² /S
		Total solids	Appendix A JSS 8010-48 Revision no. 1	5 % to 15 %
		pH of water extract	Appendix E JSS 8010-48 Revision no. 1	1 to 14
		Flexibility	JSS 8010-48 Revision no. 1	Qualitative (Visual observation)
		Scratch hardness test	IS 101 (Part 5)Section 2	Qualitative (Visual observation)
14.	Adhesive (APC-221 Grade I & Grade I special)	Volatile matter (110 ⁰ C for 3 hrs.)	IS 101 (Part 2) Section 2	45 % to 55 % by mass
		Ash on incineration	IS 101 (Part 8) Section 3	0.01 % to 10 % by mass
		Resistance to water at 60 °C	IS 101 (Part 7) Section 1	Qualitative (Visual observation)
		Consistency	IS 101Amendment 2 (Part I) Section 5	Qualitative (Visual observation)
		Finish of stoved film	IS 101 Amendment 3 (Part 3) Section 4	Qualitative (Visual observation)
		Flexibility	IS 101 (Part 5) Section 2	Qualitative (Visual observation)
		Flash point	IS 101	20 ° C to 50 °C

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			(Part I) Section 6	
		Protection against corrosion	IS 101 Amendment 3 (Part 6) Section 1	Qualitative (Visual observation)
		Chlorides	Appendix-A JSS 8010-28 Revision no.2	0.002 % to 0.05 %
15.	Adhesive (Ammunition protective compositions) (No. 201, 202, 211, 212, 218, 222, 223, 224, 225 & 226)	Ash	Appendix-B JSS 8010-63 Revision no.3	0.01 % to 5 %
		Iodine value of non volatile matter	Appendix-C JSS 8010-63 Revision no.3	1 to 50
		Total non volatile matter	Appendix-A JSS 8010-63 Revision no.3	1 % to 60 %
		Adhesion & finish	Appendix-D JSS 8010-63 Revision no.3	Qualitative (Visual observation)
		Confirmation test of shellac	Appendix-E JSS 8010-63 Revision no.3	Qualitative (Visual observation)
16.	Adhesive (Cement RD 1279)	Volatile matter	Appendix 'A' JSS 8030-41 Revision No. 3	0.5 % to 75%
		Drying time	JSS 8030-41 Revision No. 3	1 min to 20 min
		Kinematic viscosity (at 25 ±0.5° C)	JSS 8030-41 Revision No. 3	100 x 10 ⁻⁶ m ² /S to 1500 x 10 ⁻⁶ m ² /S
17.	Adhesive (NC Dope APC-236)	Drying time Surface dry Hard dry	JSS 8010-62 Revision no.2	10 min to 80 min 24 min to 480 min
		Viscosity at 27°C	JSS 8010-62 Revision no.2	5 sec to 200 sec

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		Acidity as H ₂ SO ₄	Appendix A JSS 8010-62 Revision no.2	0.01 % to 0.1% by mass
		Sulphur compounds	Appendix-B JSS 8010-62 Revision no.2	0.05 % to 0.5 %
18.	(Additive liners used in defense requirements)	Composition analysis wax mixture	CQA (A)-0317 DC NO.36461-A Dt.26.08.1998	1 % to 60 %
		Talc powder/TiO ₂		1 % to 40 %
		cloth		0.1 % to 10 %
		Potassium Sulphate		0.1 % to 50 %
19.	APC 215-216	Viscosity at 25 ° C	JSS:8010-51 (Revision No:3)	5 Sec to 200 Sec
		Drying Time: Surface dry Hard dry	JSS:8010-51 (Revision No:3)	1 min to 80 min 1 h to 75 h
		Flexibility	JSS:8010-51 (Revision No:3)	Qualitative (Visual observation)
		Stripping test (Hardness)	JSS:8010-51 (Revision No:3)	Qualitative (Visual observation)
		Resistance to Water at 60° C	JSS:8010-51 (Revision No:3)	Qualitative (Visual observation)
		Resistance to Ammonium Nitrate	Appendix ' A ' JSS:8010-51 (Revision No:3)	Qualitative (Visual observation)
20.	Lacquer, Clear, Phenol Formaldehyde, Stoving Lead Free (APC 209) Types A,B,C,D AND E	Total solids	APPENDIX 'A' JSS 8010-47 Revision No:2	0.1 % to 60 %
		Finish of stove film	JSS 8010-47 Revision No:2	Qualitative (Visual observation)
		Flexibility	JSS 8010-47 Revision No:2	Qualitative (Visual observation)

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		Water soluble chlorides	APPENDIX 'B' JSS 8010-47 Revision No:2	Qualitative Visual observation
		Resistance to water	APPENDIX 'E' JSS 8010-47 Revision No:2	Qualitative (Visual observation)
		Resistance to Nitrobenzene	APPENDIX 'E' JSS 8010-47 Revision No:2	Qualitative (Visual observation)
		Protection against corrosion	APPENDIX 'c' JSS 8010-47 Revision No:2	Qualitative (Visual observation)
		Lead content	JSS 8010-47 Revision No:2	0.1 % to 5 %
21.	Apc 6 Adhesive rubber Rosin XN APC 6a Adhesive Rubber rosin XP	Fillers	Appendix 'B' JSS 8040-12 Revision No:2	0.2 % to 50 %
		pH of Aqueous extract	Appendix 'A', & C JSS 8040-12 Revision No:2	1 to 14
		Carbonates	Appendix 'D' JSS 8040-12 Revision No:2	0.1 % to 10 %
		Sulphur	Appendix 'E' JSS 8040-12 Revision No:2	0.05 % to 10 %
		Lead compounds	Appendix 'F' JSS 8040-12 Revision No:2	0.1 % to 10 %
		Chlorides	Appendix 'G' JSS 8040-12 Revision No:2	0.005 % to 1 %
		Drying time	Appendix 'H' JSS 8040-12 Revision No:2	1 min to 60 min.

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		Total Solids	Appendix 'K' JSS 8040-12 Revision No:2	0.5 % to 50 %
		Free Sulphur	Appendix 'M' JSS 8040-12 Revision No:2	0.02 % to 5 %
		Adhesive Strength	Appendix 'J' JSS 8040-12 Revision No:2	1 N to 500 N
22.	Shellac	Color index	JSS-8010-17	Qualitative (Visual observation)
		Iodine value	JSS-8010-17	Upto 50
		Heat of Polymerization	JSS-8010-17	1 min to 60 min.
		Matter soluble in water	JSS-8010-17	0.05 % to 1 %
		Acidity to Methyl orange and Alkalinity to phenolphthalein	JSS-8010-17 Appendix 'A'	0.05 % to 1 %
		Matter soluble in cold alcohol	JSS-8010-17 Appendix 'B' & 'C'	1 % to 100 %
		Volatile matter	JSS-8010-17	0.5 % to 5.0 %
		Wax	JSS-8010-17	0.2 % to 10 %
		Ash	JSS-8010-17	0.002 % to 2 %
		Grit	JSS-8010-17	0.01 % to 2 %
23.	Paraffin Wax	Melting point	JSS 9160-06 Revision No:2 Appendix 'A'	50 °C to 70 °C
		Mineral Acidity	JSS 9160-06 Revision No:2 Appendix 'B'	0.05 % to 0.25 %
		Saponifiable matter	JSS 9160-06 Revision No:2 Appendix 'D'	0.1 % to 5 %
		Organic Acidity	JSS 9160-06 Revision No:2 Appendix 'C'	0.01 % to 0.5 %

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		Insoluble matter in petroleum ether	JSS 9160-06 Revision No:2	0.01 % to 1 %
		pH	JSS 9160-06 Revision No:2 Appendix 'E'	1 to 14
		Ash content	JSS 9160-06 Revision No:2	0.01 % to 0.5 %
24.	APC 220 Type A & B Lacquer, Shellac, Kaolin	Adhesive Finish	JSS:8010-46 Revision No:2	Qualitative (Visual observation)
		Drying Time	JSS:8010-46 Revision No:2	1 min to 50 min.
		Volatile matter	JSS:8010-46 Revision No:2	0.5 % to 60 %
		Ash content	JSS:8010-46 Revision No:2	0.5 % to 40 %
25.	APC No 9 APC No. 10	Soluble lead compounds calculated as Lead monoxide	JSS 8030-15 Revision no:2	0.1 % to 10 % (Percent by Mass)
		Compounds of Calcium Calculated as Calcium Carbonate	JSS 8030-15 Revision no:2	0.05 % to 2 % (Percent by Mass)
		Other Metal Compounds calculated as metals	JSS 8030-15 Revision no:2	0.05 % to 2 % (Percent by Mass)
26.	Cement Abs (APC-230)	Volatile matter	IND/ME/890 Appendix 'A'	5 % to 80 %
		Drying time	IND/ME/890 Appendix 'B'	1 min to 200 min
		Kinematic viscosity at 25 °C	IS 1448 (Part 25)	100 x 10 ⁻⁶ - 1500 x 10 ⁻⁶ m ² /S
		pH of water extract	JSS 1010 METHOD 5(b)	1 to 14
		Chlorides, calculated as NaCl	JSS 1010 METHOD 7(b)	0.01 % to 5 % (Percent by Mass)
		Sulphates calculated as Na ₂ SO ₄	JSS 1010 METHOD 8	0.01 % to 1 % (Percent by Mass)

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MECHANICAL TESTING

I.	RUBBER & RUBBER PRODUCTS			
1.	Natural Rubber & Products & Synthetic Rubber & Products	Tensile Strength	IS 3400 (Part 1) ASTM D 412 Die C	0.5 MPa to 100 MPa
		Elongation at break	IS 3400 (Part 1) ASTM D 412 Die C	10 % to 1000 %
		Compression set	IS 3400 (Part 10) ASTM D 395 Method B	1 % to 100 %
		Density at standard temperature	IS 3400 (Part 9) Method B	0.1 g/cm ³ to 3 g/cm ³
		Accelerated ageing	IS 3400 (Part 4)	Qualitative
		Ageing in oil	ASTM D 471	Qualitative
		Ageing in ISO Octane	IS 3400 (Part 6)	Qualitative
		Hardness Shore A	ASTM D 2240	1 Shore A to 100 Shore A
		Hardness Shore D	ASTM D 2240	1 Shore D to 90 Shore D
		Compressive strength	ASTM D 575 Method A	0.5 MPa to 80 MPa
2.	Others: Sponge Rubber	Apparent density	IND/ME/645(a) Appendix A IND/ME/943 Appendix B	0.1 g/cm ³ to 3 g/cm ³
		Compressibility under load Pressure 172.5KPa & 345.2 KPa	IND/ME/645(a) Appendix B IND/ME/943 Appendix A	10 % to 90 %
		Compression set	ASTM D 395 Method B	1 % to 100%
		Accelerated ageing	IS 3400 (Part 10)	Qualitative

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II.	PLASTICS AND POLYMERS			
1.	Plastic: Plastic films	Tensile Strength MPa	IS 13360 (Part 5) Section 3	0.5 MPa to 100 MPa
		Elongation at break	IS 13360 (Part 5) Section 3	1 % to 300 %
		Tear Strength	IS 13360 (Part 5) Section 10	0.5 N/mm to 100 N/mm
2.	Plastic Material & Products (PP, PE, Unreinforced, Reinforced, rigid, semi rigid, thermoset, thermoplastic sheets)	Tensile Strength	ASTM D 638	0.5 MPa to 200 MPa
		Elongation at break	ASTM D 638	1 % to 500 %
		Compression Strength	ISO 604	0.5 MPa to 350 MPa
		Tear Strength	ASTM 1004	0.5 N/mm to 200 N/mm
3.	Flexible & rigid foam Polyurethane, Antistatic polyethylene foam based cushioning material	Density at standard temperature	IS 7888 Clause 4 ASTM D3575 suffix W	0.5 Kg/m ³ to 50 Kg/m ³
		Tensile Strength	IS 7888 Clause 5 ASTM D 3575 suffix T	0.1 MPa to 30 MPa
		Elongation at break	IS 7888 Clause 5 ASTM D 3575 suffix T	1 % to 500 %
		Compression Strength	ASTM 3575 suffix D	0.5 MPa to 10 MPa
		Compression set	IS 7888 Clause 8	1 % to 100 %
		Heat Ageing	IS 7888 Clause 10	Qualitative

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III.	TEXTILE MATERIALS			
1.	Textile Woven fabrics cotton, wool, Silk, Manmade fibers or blend	Breaking strength	IS 1969(Part I)	300 N to 4000 N
		Warp way		
		Weft way		
		Elongation at break	IS 1969 (Part I)	5 % to 40 %
		Threads per unit	IS 1963 Method B	20 Per cm to 600 Per cm
		Warp way		
		Weft way		
Shrinkage	IS 2977	0.1% to 5%		
GSM	IS 1964 Method A	20 g/m ² to 600 g/m ²		