

Laboratory Kulkarni Laboratory & Quality Management Services, E1, Omega Heritage, Chavan Baug, DSK Vishwa Road, Dhayri, Pune, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 05.08.2014

Certificate Number T-2201 **Valid Until** 04.08.2016

Last Amended on - **Page** 1 of 13

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I. ADHESIVES				
1.	Adhesive (APC - 2)	Drying time	IS 101 (Part - 3 sec - 1) 1986 JSS 8030 - 14 : 2009	30 to 90 min.
		Volatile matter	Appendix C JSS 8030 - 14 : 2009	10 to 60 %
		Red oxide of iron	Appendix D JSS 8030 - 14 : 2009	5 to 20 %
		Coarse Particles & Skins	Appendix A JSS 8030 - 14 : 2009	0.05 to 0.8%
		Soluble lead compounds	IS 101 (Part - 3 sec - 5) 1986	0.2 to 2.0%
		Ferrous compounds	Appendix B JSS 8030 - 14 : 2009	0.05 to o 0.5%
2.	Adhesive (APC - 5)	Geletation time (at 27°C)	Appendix B JSS 8030 - 20 : 2009	50 to 200 min
3.	Adhesive (APC - 7)	Behavior on heating	Appendix A JSS 8030 - 19 : 2002	
		a) Height of button		2 to 12 mm
		b) Flow test		Pass /Fail
		Softening point	IP 58/65 JSS 8030 - 19 : 2002	50 to 100°C

Laboratory Kulkarni Laboratory & Quality Management Services, E1, Omega Heritage, Chavan Baug, DSK Vishwa Road, Dhayri, Pune, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 05.08.2014

Certificate Number T-2201 **Valid Until** 04.08.2016

Last Amended on - **Page** 3 of 13

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Adhesive (APC - 12)	Corrosion	Appendix to JSS 9150 - 45 : 1993	Visual observation (corrosion)
		Stability	JSS 9150 - 45 : 1993 Sr. No. 7	Pass / Fail
6.	Adhesive (APC - 101)	Softening point	IP 58/65	50 to 150 °C
		Low temp. resistance	Appendix B JSS 8030 - 28 : 2003	Pass / Fail
		Calcium compounds calculated as CaCO ₃	Appendix C JSS 8030 - 28 : 2003	0.02 to 1 % by mass
		Ash at 850 °C	Method 2 (a) JSG 0112 : 1997	10 to 60 % by mass
		Sieving	Appendix A JSS 8030 - 28 : 2003	
		a) Retained on 250 micrometer IS sieve		Nil to 0.1 %
		b) Grit		0.002 to 0.05%
		Lead compounds	Appendix JSS 8030 - 28 : 2003	1.0 to 5.0 %
7.	Adhesive (APC - 102)	Softening point	IP 58/65	50 to 100 °C
		Soluble Lead compounds calculated as lead monoxide	Appendix A JSS 8030 - 25 : 2009	0.5 to 7 % by mass

Laboratory	Kulkarni Laboratory & Quality Management Services, E1, Omega Heritage, Chavan Baug, DSK Vishwa Road, Dhayri, Pune, Maharashtra		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	05.08.2014
Certificate Number	T-2201	Valid Until	04.08.2016
Last Amended on	-	Page	4 of 13

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
8.	Varnish NC RD - 1198 B IND/ME/368 (c) : 1976	Drying time	IS 101 (Part - 3 sec - 1) 1986	
		a) Surface dry		1 to 50 min
		b) Hard dry		20 to 200 min
		Kinematic viscosity of thinned material at 25 °C ± 1 °C	IS 1448 (Method P 25) 1976	50 x 10 ⁻⁶ to 350 x 10 ⁻⁶ m ² /S
		Resistance to warm water	Appendix A IND/ME/368 (c) : 1976	Pass / Fail
		Acidity	Appendix C IND/ME/368 (c) : 1976	0.1 to 2 ml
		Bend test Flexibility & adhesion	Clause no. 16 of IS 101- 1964	Pass / Fail
	Freedom from corrosive compounds	Appendix B IND/ME/368 (c) : 1976	Visual observation (corrosion)	
9.	Adhesive (Lacquer NC RD - 1198) (APC - 104)	Drying time	IS 101(Part - 3 sect - 1) : 1986	
		a) surface dry		2 to 15 min
		b) hard dry		5 to 30 min
		Finish	IS 101(Part - 3 sec - 4) : 1986	Visual observation (Finish)
	Acidity calculated as H ₂ SO ₄	Appendix A JSS 8010 - 45 : 2004	0.001 to 0.01 % by mass	

Laboratory	Kulkarni Laboratory & Quality Management Services, E1, Omega Heritage, Chavan Baug, DSK Vishwa Road, Dhayri, Pune, Maharashtra		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	05.08.2014
Certificate Number	T-2201	Valid Until	04.08.2016
Last Amended on	-	Page	5 of 13

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Adhesive (Lacquer NC RD - 1198) (APC - 104)	Kinematic viscosity at 27 °C ± 2 °C	IS 1448 (Method P - 25) : 1976	8 x 10 ⁻⁶ to 50 x 10 ⁻⁶ m ² /S
		Flexibility	IS 101 (Part 5 sec 2)	Pass / Fail
		Freedom from corrosive compounds	Appendix B IND/ME/368(C):1976	Visual observation (corrosion)
10.	Adhesive (APC - 210)	Viscosity at 27 °C ± 2 °C	IS 1448 (Method P 25) 1976	0.10 to 0.40 N s/m ²
		Acidity as H ₂ SO ₄	Appendix A JSS 8010 - 64 : 2009	0.005 to 0.05 % by mass
		Drying time	IS 101 (part 3 sect 1) 1986	
		a) Surface dry		5 to 80 min
		b) Hard dry		60 to 300 min
		Sulphur compounds on dry residue as H ₂ SO ₄	Appendix B JSS 8010 - 64 : 2009	0.05 to 0.3%
		Toughness test (Bend test) on Rod 6.35 mm.	IS 101 (Part 5 sec 2)	Pass / Fail
	Adhesion (Pressure test)	IS 101 (Part 5 sec 1)	Pass / Fail	

Laboratory Kulkarni Laboratory & Quality Management Services, E1, Omega Heritage, Chavan Baug, DSK Vishwa Road, Dhayri, Pune, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 05.08.2014

Certificate Number T-2201 **Valid Until** 04.08.2016

Last Amended on - **Page** 6 of 13

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
11.	Adhesive (APC - 213/214)	Drying time	IS 101 (Part 3 sect.1) 1986	
		a) surface dry		5 to 100 min
		b) hard dry		50 to 500 min
		Dynamic viscosity at 27 °C ± 1 °C	IS 1448 (Method P 25) 1976	0.03 to 0.5 N s/m ²
		Resistance to boiling water & alkali	Appendix A JSS 8010 - 41 : 2006 Appendix B JSS 8010 - 41 : 2006	Visual observation (Luster)
		Total solids	Appendix D JSS 8010 - 41 : 2006	10 to 60%
		Adhesion & finish	IS 197 (Method 8) JSS 8010 - 41 : 2006	Pass / Fail
		Flexibility	IS 197 Method 11 (i) JSS 8010 - 41 : 2006	Pass / Fail
		Webbing test	Appendix C JSS 8010 - 41 : 2006	Visual observation
Stability of colour	Appendix E JSS 8010 - 41 : 2006	Pass / Fail		
Water content	IS 101 (Part - 3 sect. - 1) 1986	0.10 to 1.0 %		

Laboratory Kulkarni Laboratory & Quality Management Services, E1, Omega Heritage, Chavan Baug, DSK Vishwa Road, Dhayri, Pune, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 05.08.2014

Certificate Number T-2201 **Valid Until** 04.08.2016

Last Amended on - **Page** 7 of 13

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
12.	Adhesive (Lacquer clear NC) (APC - 217)	pH of water extract	Appendix C JSS 8010 - 42 : 2009	1 to 10
		Kinematic viscosity	Appendix D JSS 8010 - 42 : 2009	40 x 10 ⁻⁶ to 140 x 10 ⁻⁶ m ² /S
		Drying time in min	IS 101 (Part - 3 sect. - 1) : 1986	
		a) surface dry b) hard dry		10 to 70 min 30 to 100 min
		Finish	IS 101 (Part - 3 sect. - 4)	Pass / Fail
		Bend test	IS 101 (Part - 5 sect. - 2)	Pass / Fail
		13.	Adhesive (Lacquer NC Adhesive Orange & Red APC - 219)	Drying time, hard dry min
Finish	IS 101 (Part - 3 sect. - 4) 1987			Visual observation
Viscosity at 25 °C	IS 1448 (Method P 25) 1976			100 x 10 ⁻⁶ to 350 x 10 ⁻⁶ m ² /S
Total solids	Appendix A JSS 8010 - 48 : 2004			5 to 15 %
pH of water extract	Appendix E JSS 8010 - 48 : 2004			1 to 12
Flexibility	IS 101 (Part - 5 sect. - 2)			Pass / Fail

Laboratory Kulkarni Laboratory & Quality Management Services, E1, Omega Heritage, Chavan Baug, DSK Vishwa Road, Dhayri, Pune, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 05.08.2014

Certificate Number T-2201 **Valid Until** 04.08.2016

Last Amended on - **Page** 8 of 13

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
14.	Adhesive (APC - 221 Grade I & Grade I special)	Volatile matter (110 °C for 3 hrs.)	IS 101 (Part - 2 sect. 2) : 1986	45 to 55 % by mass
		Ash on incineration	IS 101 (Part - 8 sect. 3) : 1993	0.4 to 1.0 % by mass
		Resistance to water at 60 °C	IS 101 (Part - 7 sect. - 1) : 1989	Pass / Fail
		Consistency	IS 101 (Part - 1 sect. - 5)	Pass / Fail
		Finish of stoved film	IS 101 (Part - 3 sect. - 4)	Pass / Fail
		Flexibility	IS 101 (Part - 5 sect. - 2)	Pass / Fail
		Flash point	IS 197 (Method no 13)	20 to 50 °C
		Protection against corrosion	IS 101 (Part - 6 sect. - 1)	Pass / Fail
15.	Adhesive (Ammunition protective compositions) (No. 201, 202, 211, 212, 218, 222, 223, 224, 225 & 226)	Chlorides	Appendix - A JSS 8010 - 28 : 2010	0.002 to 0.05 %
		Ash	Appendix - B JSS 8010 - 63 : 2004	0.1 to 1%
		Iodine value of non volatile matter	Appendix - C JSS 8010 - 63 : 2004	5 to 50
		Total non volatile matter	Appendix - A JSS 8010 - 63 : 2004	5 to 60 % by mass
		Adhesion & finish	Appendix - D JSS 8010 - 63 : 2004	Visual observation

Laboratory Kulkarni Laboratory & Quality Management Services, E1, Omega Heritage, Chavan Baug, DSK Vishwa Road, Dhayri, Pune, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 05.08.2014

Certificate Number T-2201 **Valid Until** 04.08.2016

Last Amended on - **Page** 9 of 13

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
16.	Adhesive (Cement RD 1279)	Volatile matter	Appendix A JSS 8030 - 41 : 2006	60 to 75%
		Drying time min	IS 101 (Part - 3 sec .- 1) : 1986	1 to 20 min
		Kinematic viscosity (at 25 °C ± 0.5 °C)	IS 1448 (Method P 25) : 1976	100 x 10 ⁻⁶ to 1500 x 10 ⁻⁶ m ² /S
17.	Adhesive (NC Dope APC – 236)	Drying time	IS 101 (Part - 3 sect .- 1) : 1986	
		a) surface dry in min		10 to 80 min
		b) hard dry in min		24 to 480 min
		Viscosity at 27°C	JSS 8010 - 62 : 2010 Table 6.4.1 Sr. No. 2	30 to 200 sec
		Acidity as H ₂ SO ₄	Appendix - A JSS 8010 - 62 : 2010	0.01 to 0.1 % by mass
	Sulphur compounds	Appendix - B JSS 8010 - 62 : 2010	0.05 To 0.5%	
18.	Adhesive (Additive liners used in defense requirements)	Composition analysis	CQA (A) - 0317	
		a) Wax mixture		5 to 60%
		b) Talc powder		10 to 40%
		c) Cloth		2 to 10%

Laboratory	Kulkarni Laboratory & Quality Management Services, E1, Omega Heritage, Chavan Baug, DSK Vishwa Road, Dhayri, Pune, Maharashtra		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	05.08.2014
Certificate Number	T-2201	Valid Until	04.08.2016
Last Amended on	-	Page	10 of 13

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
II. PAINTS & SURFACE COATINGS				
		Consistency	IS 101 : 1989 (RA 2004) Part - I Sect. - 5	30 to 200 sec.
		Flash point	IS 101 : 1987 (RA 2004) Part - I Sect. - 6	10 to 80 °C
		Mass per 10 Lit.	IS 101 : 1987 (RA 2004) Part - I Sect. - 7	0.6 to 1.8
		Water content by Dean & Stark	IS 101 : 1988 (RA 2004) Part - 2 Sect. - 1	0.05 to 5.0%
		Volatile matter	IS 101 : 1986 (RA 2001) Part - 2 Sect. - 2	20 to 70%
		Drying time		
		a) Surface dry	IS 101 : 1986 (RA 2001) Part - 3 Sect. - 1	1 to 200 min
		b) Hard dry	IS 101 : 1986 (RA 2001) Part - 3 Sect. - 1	15 to 1200 min
		c) Tack free	IS 101 : 1986 (RA 2001) Part - 3 Sect. - 1	30 to 1500 min
		Film thickness	IS 101 : 1989 (RA 2004) Part - 3 Sect.- 2	1 to 30 μ
		Finish	IS 101 : 1987 (RA 2004) Part - 3 Sect. - 4	Pass /Fail
		Flexibility & adhesion (Bend Test)	IS 101 : 1988 (RA 2004) Part - 5 Sect. - 2	Pass /Fail

Laboratory	Kulkarni Laboratory & Quality Management Services, E1, Omega Heritage, Chavan Baug, DSK Vishwa Road, Dhayri, Pune, Maharashtra		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	05.08.2014
Certificate Number	T-2201	Valid Until	04.08.2016
Last Amended on	-	Page	12 of 13

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
III. WATER				
1.	Water Drinking Water, Packaged water, Industrial Water	pH	IS 3025 (Part 11) 1984 CL 2 (RA 2002)	5 - 10 pH Units
		Chloride	IS 3025 (Part 32) 1988 CL 2 (RA 2003)	5 - 500 mg/l
		Hardness	IS 3025 (Part 21) 1983 CL 2 (RA 2009)	5 - 1000 mg/l
		Total Dissolved Solids	IS 3025 (Part 16) 1984 CL 1 (RA 2006)	50 - 50000 mg/l
		Alkalinity	IS 3025 (Part 23) 1986 CL 1 (RA 2003)	5 - 500 mg/l
		Calcium	IS 3025 (Part 40) 1991 CL 5 (RA 2009)	5 - 500 mg/l
IV. FOOD & AGRICULTURE PRODUCTS				
1.	Ready to eat & cooked food, Bakery Product, Grains Pulses & cereals, Spices Powder	Moisture	IS 1155 :2010 Appendix - A	0.1 to 40%
		Ash	IS 7874 : 2009	0.1 to 20%
		Acid Insoluble Ash	IS 7874 : 2009	0.05 to 2%
		Fat	IS 7874 : 2009	0.1 to 35%

