

Laboratory	Aglow Quality Control Laboratory Pvt. Ltd., P 47 Kasba Industrial Estate, Phase-2, Kolkata, West Bengal		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Mechanical Testing	Issue Date	24.01.2015
Certificate Number	T-0945	Valid Until	23.01.2017
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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	PLASTICS, RUBBER AND LEATHER			
1.	Rubber & rubber products	Tensile Strength	IS 3400 (Part 1): 2012 (RA 2003) ASTM D: 695: 10 D:412-98a (RA 2012)	1.0 kg to 1000 kg
		Elongation at break	BS 9039 (Part A2): 1956	10 % to 1500 %
		Shore – A hardness	IS 3400 (Part 2): 2003 ASTM D– 2240: 05 (2010) BS - 903 (Part 7): 1957	10 to 90
		Shore – D Hardness	ASTM D – 2240: 05 (2010)	30 to 100
		IRHD Hardness	IS 3400 (Part 2): 2003 BS 903 (Part A26): 1969 (Method N)	10 to 100
		Density	IS 3400 (Part 9): 2003 IS 8391: 1987 (RA 2004) BS 903 (Part A 2): 1956	0.5 g/c.c to 5 g/c.c
		Water absorption	IS 5424: 1969 (RA 2006) IS 5382: 1985 (RA 2003)	0.01% to 10 %
		Resistance to Flex cracking	IS 3400 (Part 7): 1985 (RA 2006) IS 3400 (Part 8):1983, RA 2001 IS 15298(Part 1): 2011 BS 903 (Part 10): 1956, Amd.1	10 Cycle to 200000 Cycle (Qualitative)
		Adhesion of Rubber to textile fabric	IS 3400 ((Part 5): 1986 (RA 2003) BS 903 (Part 12): 1956, Amd.1 ASTM D 413:1982 (Strip specimen machine Method)	0.1 kg to 100 kg (1 N to 1000 N)

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	Rubber & rubber products	Accelerated ageing test	IS 3400 (Part 4): 2012 IS 8391: 1987 (RA 2004) BS 903 (Part A 19): 1956 ASTM D 573: 99	50 °C to 250 °C (Qualitative)
		Abrasion Resistance by DIN method	IS 3400 (Part 3): 1987 (RA 2003) DIN 53516: 87 (2006) IS 15298(Part 1); 2011 ISO 8782-1: 98	10 Cu.mm to 100 Cu.mm 100 Cu. mm to 350 Cu. mm
		Tension set	IS 3400 (Part 13): 1983 (RA 2003) BS 903 (Part A 5): 1958 ASTM D 412-98a (RA 2012)	0.5 kg to 250 kg
		Tear Strength (Angular test piece)	IS 3400 (Part 17):1974 (RA 2003) IS 15298 (Part 1): 2002 ASTM D 624-00 (2012)	2.5 N/mm to 500 N/mm
		Tear Strength (Crescent test piece)	IS 3400 (Part 12): 1971 (RA 2003) BS 903 (Part A3 – 56) (Amdt No. 3-1965) ASTM D 624-00 (2012)	2.5 N/mm to 500 N/mm
		Cut growth of rubber by ross flexing m/c.	IS 3400 ((Part 16): 1974	2 mm to 20 mm
		Adhesion of rubber to metal	IS 3400 (Part 14): 1984 (RA 2003)	(Qualitative)
		Compression set at constant strain	IS 3400 (Part 10): 1977 ASTM D – 395: 2014 IS 8391: 1987 (RA 2004) BS 903 (Part A6): 1963	1% to 70 %
		Proofing content of rubberised fabrics	IS 6110 : 1983 (RA 2001) IS 5915: 1970 (RA 2012)	20 g/m ² to 500 g/m ²
		Effect of liquids / Swelling Test	IS 3400 (Part 6): 2012 (RA 2001) BS 903 (Part A 16): 1956 ASTM D 471-06	(Qualitative)

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	Polymerized compound	Flexural strength	IS 9162-1979 (RA 2001)	1 N/mm ² to 100 N/mm ²
		Compressive Strength	IS 9162: 1979 (RA 2001) ASTM D 575: 91 (2012)	1 N/mm ² to 100 N/mm ²
2.	Leather	Thickness	IS 5914 (LP 2): 1970 RA 2003	1 mm to 10 mm
		Apparent density	IS 5914 (LP 5): 1970 (RA 2003)	0.5 g/cc to 2.0 g/cc
		Tensile Strength	IS 5914 (LP 6): 1970 (RA 2003)	5 kg to 1000 kg (5 kg/cm ² to 500 kg/cm ²)
		Elongation at break		5% to 1000 %
		Double hole stitch tear strength	IS 5914 (LP 8): 1970 (RA 2003)	5 kg to 1000 kg (5 kg/cm to 250 kg/cm)
		Tounge tear Strength	IS 5914 (LP 9): 1970 (RA 2003)	5 kg to 1000 kg (5 kg/cm to 250 kg/cm)
		Shrinkage temperature	IS 5914 (LP 10): 1970 (RA 2003)	50 °C to 100 °C
		Absorption of water (Gravimetric method)	IS 5914 (LP 11): 1970 (RA 2003)	1% to 80 %
		Resistance to cracking of grain & crack index	IS 5914 (LP 13): 1970 (RA 2003)	Visual
		Flexing Endurance	IS 5914 (LP 19): 1970 (RA 2003)	1000 to 1 lakh cycle
		Bond Strength of laminated leather	IS 5914 (LP 23): 1970 (RA 2003)	5 kg to 500 kg (Qualitative)
		Tearing Strength	IS 5914 (LP 7): 1970 (RA 2003)	5 kg to 500 kg
		Colour fastness to rubbing	IS 6191 : 1971 (LF 10) (RA 2003)	Rating 1 to 5 (Qualitative)

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II. TEXTILES & RELATED PRODUCTS

1.	Jute & Textiles Fibre, filaments, yarn & fabric. (Grey & Finished Cotton, Wool & synthetic Material, Manila & Sisal Fibre, Handloom cotton bandage cloth & handloom cotton gauze absorbent non sterilized) Coated fabric	Tensile strength of Fabric and	IS 1969 (Part 1): 2009 IS 7016 (Part 2): 1981 (RA 2003) ISO 13934-1: 1999	5 kg to 1000kg (50 N to 1000N)
		Elongation of fabric		1 % to 30%
		Tensile strength of wool felt	IS 1719: 2000, Annex B	5 kg to 1000 kg (50 N to 1000N)
		Tensile strength and Elongation of yarn (single strand)	IS 1670: 1991	0.5 kg to 450 kg (5 N to 4500N) 1% to 50%
		Linear density of Yarn spun on cotton system	IS 1315: 1977	5 tex to 9999 tex
		Twist in yarn	IS 832: 1985, Method 1 Amendment 2000	40 TPM to 2400 TPM (1 TPI to 60 TPI)
		Thread per unit length of woven fabric/knitted fabric	IS 1963: 1981 (RA 2004) IS 13003: 1991 (Ann B2) Amendment 1, 1998 IS 2828 (Part 1): 1990 (RA 2006)	1000/dm Max
		Weight per sq. meter of fabric & weight per linear metre of fabric	IS 1964: 2001 (for textile), method A IS 10036 (Part 1): 1982 B-6 for Jute (RA 2006) IS 7016 (Part 1): 1982 (Clause 4.3) IS 2387: 1969 (RA 2003)	20 gm to 1000 gm./ Sq.Meter
	Dimensional stability	IS 2977: 1989 (RA 2005) IS 6803: 1972 (App A3) (RA 2012) IS 1259: 1984 (App F) (RA 2006) IS 665: 1989 (RA 2005) IS 1313: 1984 (RA 2003)	-20 % to 20 %	

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	Jute & Textiles Fibre, filaments, yarn & fabric. (Grey & Finished Cotton, Wool & synthetic Material, Manila & Sisal Fibre, Handloom cotton bandage cloth & handloom cotton gauze absorbent non sterilized) Coated fabric	Universal Count of yarn	IS 570: 1964 (RA 2000) IS 681: 1964 (RA 1983)	5 tex to 1000 tex
		Bursting Strength of fabric/coated fabric	IS 1966 : (Part 1): 2009 IS 7016 (Part 6): 1984 (RA 2003)	1 kg/cm ² to 30 kg/cm ² 10 kPa to 295 kPa
		Water absorption & penetration of fabric (Bundessmann)	IS 392: 1989 (RA 2005)	0.1 g to 180 g (absorption) 1 ml to 400 ml. (leakage)
		Water repellency test (Spray test)	IS 390: 1975 (RA 2003) ISO 4920: 2012	Rating: Upto 100 (Qualitative)
		Pilling resistance test	IS 10971: 1984 (RA 2008) Amd. 2006 ISO 12945-1: 2000	Rating :1 to 5 (Qualitative)
		Crease recovery angle test	IS 4681: 1981 (RA 2004)	20 ° to 180 °
		Water proofness test (Hydrostatic head test)	IS 391: 1975 (RA 2003)	10 cm to 90 cm
		Tear Strength for coated and Treated fabric	IS 7016 (Part 3): 1981 (RA 2003)	50 N to 900 N (5 kg to 90 kg)
		Tear Strength (Emendorf)	IS 6489 (Part 1): 2011 ISO 13937-1:2000	3 N to 100 N (30 g to 1000 g)
		Seam Strength of Jute Fabric	IS 9030: 1979 (RA 2003)	20 to 200 kg (200 to 2000N)
	Resistance to heating & loss of mass of coating	IS 1259: 1984 (RA 2012)	0.1 % to 10 %	

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	Jute & Textiles Fibre, filaments, yarn & fabric. (Grey & Finished Cotton, Wool & synthetic Material, Manila & Sisal Fibre, Handloom cotton bandage cloth & handloom cotton gauze absorbent non sterilized) Coated fabric	Length & Width of woven fabric	IS 1954 : 1990 (RA 2002)	2 cm to 3 mtr
		Absorbency	IS 2369: 1967(RA 2005)	1 sec to 100 sec.
		Freedom from optical whitener	IS 863: 1988 (RA 2002) (Table 1) IS 758 : 1988 (RA 2001) (Table 1)	Visual (Qualitative)
		Coating Adhesion Test	IS 7016 (Part 5): 2003 IS 1259 :1984(RA 2012) (App H)	50 N to 9000 N (5 kg to 900 kg).
		Resistance to damage by flexing	IS 7016 (Part 4): 2003, Method A	100 cycles to 200000 cycles (Qualitative)
		Accelerated ageing	IS 7016 (Part 8): 1975 (RA 2012)	70 °C & 100°C (Qualitative)
		Thickness	IS 7702: 1975 (RA 2012) IS 1719: 2000 (App B2)	1 mm to 20 mm
		Flame resistance	IS 1259: 1984 (RA 2012) (Clause 4.10), Appendix H IS 7888: 1976	Visual (Qualitative)
		No. of holes per 6.25 cm ²	IS 1431: 1973 (RA 1999) (App A)	By counting
		Pliability	IS 2089: 1977(RA 2001) (Clause 3.3.4) IS 6803: 1972 (RA 2006) (Clause 3.2.4)	Visual (Qualitative)

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	Jute & Textiles Fibre, filaments, yarn & fabric. (Grey & Finished Cotton, Wool & synthetic Material, Manila & Sisal Fibre, Handloom cotton bandage cloth & handloom cotton gauze absorbent non sterilized) Coated fabric	Cone Test	IS 2089 : 1977(RA 2001) (Clause 3.3.7.2) IS 6803: 1972 IS 7941: 1976 (RA 2004)	50 ml to 400 ml
		Water Proofness test (Pressure Head test)	IS 2089: 1977 (RA 2001) (Clause 3.3.7) IS 5915: 1970 (RA 2012) (Clause 4.3.4) IS 6110: 1983 (RA 2001) (App E) IS 7016 (Part 7): 2009	Visual (Qualitative)
		Autoclaving Test	IS 5915: 1970 (RA 2012) (Clause 4.3.8) IS 4135: 1974 (RA 2005) (App 8)	Visual (Qualitative)
		Heat Shrinkage of polyester blended fabric	IS 11248: 1995 (RA 2001) (Ann C) IS 11815: 1986 (RA 2002) (Ann B) IS 15853: 2009 IS 15852: 2009	0 to 20 %
		Sweating Test for common proofed fabric	IS 2089 : 1977 (RA 2012) (Clause 3.3.5)	Visual (Qualitative)
III. PAPER & PAPER PRODUCTS				
1.	Paper	Tensile Strength	IS 1060 (Part 1): 1966 (RA 2001)	0.5 kg to 100 kg (5 N to 1000 N)
		Tensile Index	IS 1060 (Part 1): 1966 (RA 2001)	0.5 N/gm to 80 N/gm (By calculation)

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	Paper	Grammage	IS 1060 (Part 1): 1966 (RA 2001)	10 g/m ² to 300 g/m ²
		Burst Strength & Burst factor	IS 1060 (Part 1): 1966 (RA 2001)	1 kg/cm ² to 35 kg/cm ²
		Burst Index	IS 1060 (Part 1): 1966 (RA 2001)	8 kPam ² /g to 15 kPam ² /g (By calculation)
		Tear Strength & Tear Factor	IS 1060 (Part 1): 1966 (RA 2001)	320 g to 6400 g
		Thickness	IS 1060 (Part 1): 1966 (RA 2001)	0.1 mm to 6 mm
		Opacity	IS 1060 (Part 1): 1966 (RA 2001)	1 % to 100 %
		Cobb test	IS 1060 (Part 1): 1966 (RA 2001)	1 g/m ² to 50 g/m ²

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