Laboratory	**RITES Eastern Region Laboratory, QA-Division, 56, C. R. Avenue, (3rd Floor), Kolkata, West Bengal**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Discipline	**Mechanical Testing**	**Issue Date**	**23.02.2015**
Certificate Number	**T-0486**	**Valid Until**	**22.02.2017**
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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.	**Paints (Ready mixed and Synthetic Enamel)**	Consistency (Flow Cup Method)	IS 101 (Part 1/Sec.5): 1989	20 s to 150 s
		Flash Point (Closed Cup)	IS 101 (Part 1/Sec.6): 1987	15 ºC to 100 ºC
		Mass per ten liter	IS 101 (Part 1/Sec.7): 1987	8 kg/10 L to 18 kg/10 L
		Wet Opacity (Chequer Board)	IS 101 (Part 4/Sec.1): 1988	50 m^2/L to 320 m^2/L
		Dry Film thickness	IS 101 (Part 3/Sec.2): 1989	10 µm to 200 µm
		Finish	IS 101 (Part 3/Sec.4): 1987	Qualitative
		Scratch Hardness (Mechanised Appratus)	IS 101 (Part 5/Sec.2): 1988	Qualitative
		Flexibility and Adhesion (Type 1 Bend Test Appratus)	IS 101 (Part 5/Sec.2): 1988	Qualitative
II.	**PLASTICS, RUBBER AND LEATHER**			
1.	**Rubber**	Hardness (Shore A)	IS 3400 (Part 2): 2003	25 to 90
		Tensile Strength	IS 3400 (Part 1): 1987	30 kg/cm^2 to 450 kg/cm^2
		Elongation	IS 3400 (Part 1): 1987	50 % to 700 %
		Accelerated Ageing	IS 3400 (Part 4): 1987	50 ºC to 200 ºC
		Compression Set	IS 3400 (Part 10): 1977	5 % to 50 %

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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
III.	**TEXTILE MATERIALS**			
1.	**Textiles**	Mass	IS 1964: 2001	20 g/m^2 to 600 g/m^2
		Ends and Picks (per dm)	IS 1963: 1981	150 to 440
		Breaking Load	IS 1969: 1985	250 N to 10000 N
		Moisture Content	IS 199: 1989	0.1 % to 20 %
IV.	**MECHANICAL PROPERTIES OF MATERIALS**			
1.	**Metallic Materials/ Products (Ferrous/ Non-Ferrous)**	Tensile Test Yield Strength Ultimate Tensile Strength % Elongation % Reduction of Area	IS 1608: 2005 (RA 2010)	10 kN to 250 kN 150 Mpa to 450 Mpa 250 Mpa to 600 Mpa 10 % to 40 % 30 % to 70 %
		Bend	IS 1599: 2012	Qualitative (Mandrel Diameter: R6, R16, R20, R22, R120, R140)
		Brinell Hardness	IS 1500 (Part 1): 2013	100 HBW to 650 HBW (10 mm /3000 kg) 100 HBW to 650 HBW (2.5 mm /187.5 kg)
		Rockwell Hardness	IS 1586(Part 1): 2012	60 HRB to 100 HRB 20 HRC to 70 HRC

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
V.	**METALLOGRAPHY TEST**			
1.	**Steel**	Avg. Grain size	IS 4748: 2009	Qualitative (Magnification: 50X, 100X, 500X & 1000X)
		Depth of decarburization by microscopic method	IS 6396 : 2000 (RA 2007)	0.01 mm to 2 mm (Magnification: 100X)
		Case depth (by Macro structure & Microscopic method)	IS 6416:1988 (RA 2007), (Cl.7 & 8)	0.01 mm to 2 mm (Magnification: 50X & 100X)
		Inclusion content By comparison method	IS 4163: 2004 (RA 2010)	Qualitative (Magnification: 100X)
2.	**Cast Iron**	Graphite Distribution & size	IS 7754: 1975 (RA 2007)	Qualitative (Magnification: 100X)
3.	**Ferrous and Non ferrous**	Micro Structure	ASM Hand book Vol 7-Atlas of Microstructure Vol 9: metallography & Microstructure	Qualitative (Magnification: 50X, 100X, 500X & 1000X)

-X-X-X-X-X-X-X-X-X-X-X-X-X-X-