Laboratory	**Atmy Analytical Labs Pvt. Ltd., I-38, DLF Industrial Area, Phase-1, Faridabad, Haryana**			
Accreditation Standard	**ISO/IEC 17025: 2005**			
Discipline	**Mechanical Testing**	**Issue Date**	**11.09.2015**	
Certificate Number	**T-2575**	**Valid Until**	**10.09.2017**	
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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.	**MECHANICAL PROPERTIES OF MATERIALS**			
1.	**Metals (Steel Products)**	Tensile Strength	IS 1608: 2005	5 N to 50 kN
		Yield Stress	IS 1608: 2005	5 N to 50 kN
		Elongation	IS 1608: 2005	0.5 mm to 200 mm
		Bend Test (For stripes and sheet only)	IS 1599: 2012	180 °C (Upto 5 mm thickness) mandrel diameter 12.5 only
		Mass per meter run	IS 1786: 2008	0.1 kg/m to 16 kg/m
		Rockwell Hardness	IS 1586 (Part 1): 2012	30 HRB to 99 HRB 20 HRC o 70 HRC
		Vickers Hardness	IS 1501: 2002	100 to 1500 HV5/HV 10 /HV30
		Cupping test	IS 10175: 2009	0.1 mm to 2.0 mm
2.	**Metallographic Examination of Metals (Steel Products)**	Case Depth (by microscopic method)	IS 6416: 1988	0.05 mm to 15 mm
		Decarburised Depth (by microscopic method)	IS 6396: 2000	0.05 mm to 15 mm
		Average Grain Size (by comparison method)	IS 4748: 2009	ASTM No. 1 to 10 & average grain size in mm
		Non metallic Inclusion rating (by comparison method)	IS 4163: 2004	Upto 5 rating
	Metallographic	Examination of	ASM Vol IX	100 x to 400 x

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	Examination of Metals (Steel Products)	Microstructure	IS 7739 (Part 5): 1976	
		Macro Examination	IS 13015: 1991 (RA 2007) ASTM-E-340 (2013), ASTM E-381-01 (2012)	Qualitative (10 x magnification)
II.	**RUBBER AND PLASTICS**			
1.	**Rubber Vulcanizate / Rubber Product / Rubber Composites/ Thermoplastic**	Accelerated air ageing /Heat resistance , Change in Tensile strength/Elongation at break/ Hardness	IS 3400 (Part 4): 1987 (RA 2012), ISO 188: 2011, ASTM D 573-10, IS 10908: 1991, IS 5382: 1985, IS 4355: 1997, IS 1891 (Part 1): 1991 , IS 1741: 1960	30 °C to 250 °C
		Accelerated Oil ageing , ageing in liquid media, acid and alkali Change in Tensile strength/Elongation at break/ Hardness	IS 3400 (Part 6) (RA 2012), IS 8391: 1987, ASTM D 471-12, IS 15652 (RA 2006), ISO 188: 2011	30 °C to 250 °C
		Compression set	IS 3400 (Part 10) (RA 2012)	Up to 200 %
		Hardness Shore A Shore D	ASTM D 2240: 2010, DIN 5305, IS 3400 (Part 23) (RA 2012), ISO 7619-1: 2010	 35 to 95 (A) 20 to 95 (D)
		Tensile strength/Modulus/Elongation at break	IS 3400 (Part 1) (RA 2012), ASTM D 412-06, IS 2494 (Part 1): 1999, IS 10810 (Part 7) (RA 2001), JIS K 6301, ISO 37: 2011	0.1 kN to 48 kN
	Rubber	Tear Strength	IS 3400 (Part 17) (RA 2012),	0.1 kN to 48 kN

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	Vulcanizate / Rubber Product / Rubber Composites/ Thermoplastic		ASTM D 624-00 (2012)	
		Low Temperature Flexibility	ASTM D 2137-11, JIS K 6261: 2006, ASTM D 2136-11, IS 15652 (RA 2006)	0 to 40 °C
2.	**Plastics**	Compressive Strength	ASTM D 695: 2010	0.1 kN to 500 kN
		Hardness Shore D	IS 13360 (Part 5/Sec XI): 1992 (RA 2008)	20 to 95
		Dimensions	IS 12235 (Part 1): 2004 (RA 2009)	0.05 mm to 600 mm
		Tensile Properties	IS 13360 (Part 5/ Sec I & II): 2003 ASTM D 638: 2010, ISO 527-2: 2012, IS 13360 (Part 4/Sec XXV)	0.1 kN to 48 kN
		Flexural Properties	IS 13360 (Part 5/Sec VII): 1996/ (RA 2008), ASTM D790-10	0.1 kN to 48 kN
III.	**BUILDING MATERIALS**			
1.	**Ordinary Portland Cement and Portland Pozzolana Cement**	Standard consistency	IS 4031 (Part 4): 1988 (RA 2014) Amds 1	Upto 50 %
		Setting Time	IS 4031 (Part 5): 1988 (RA 2014) Amds 1	10 Minutes to 700 Minutes
		Compressive Strength	IS 4031 (Part 6): 1988 (RA 2014) Amds 3	1.0 N/mm^2 to 60 N/mm^2
		Fineness Blaine	IS 4031 (Part 2): 1999 (RA 2013)	100 m^2/kg to 600 m^2/kg

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	Ordinary Portland Cement and Portland Pozzolana Cement	Soundness by Le-chatelier method	IS 4031 (Part 3): 1988 (RA 2014) Amds 1	0.5 mm to 30 mm
		Soundness by autoclave method	IS 4031 (Part 3): 1988 (RA 2014) Amds 1	Upto 5 %
		Density	IS 4031 (Part 11): 1988 (RA 2014)	2 g/cc to 3.5 g/cc
2.	**Aggregates**	Sieve analysis	IS 2386 (Part 1): 1963 (RA 2011)	0.1 % to 100 %
		Flakiness Index	IS 2386 (Part 1): 1963 (RA 2011)	1.0 % to 100 %
		Elongation Index	IS 2386 (Part.1): 1963 (RA 2011)	1.0 % to 100 %
		Crushing Value	IS 2386 (Part 4): 1963 (RA 2011)	1.0 % to 60 %
		Impact Value	IS 2386 (Part 4): 1963 (RA 2011)	1.0 % to 60 %
		Bulk Density	IS 2386 (Part 3): 1963 (RA 2011)	1000 kg/m^3 to 3000 kg/m^3
		Water Absorption	IS 2386 (Part 3): 1963 (RA 2011)	0.1 % to 10 %
4.	**Common Burnt Clay Building Bricks**	Compressive Strength	IS 3495 (Part 1): 1992 (RA 2011)	2.5 N/mm^2 to 30 N/mm^2
		Water Absorption	IS 3495 (Part 2): 1992 (RA 2011)	0.5 % to 30 %

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	Common Burnt Clay Building Bricks	Efflorescence	IS 3495 (Part 3): 1992 (RA 2011)	Qualitative
		Dimension	IS 1077: 1992 Amd 2008	100 mm to 600 mm
IV.	**SOIL & ROCK**			
1.	**Soil**	Proctor density MDD OMC	IS 2720 (Part 7 & Part 8): 1980 (RA 2007)	 1.2 g/cc to 2.5 g/cc 8 % to 25 %
		Moisture content	IS 2720 (Part 2): 1985 (RA 2010)	1 % to 30 %
		Liquid Limit	IS 2720 (Part 5): 1985 (RA 2010)	15 % to 80 %
		Plastic Limit	IS 2720 (Part 5): 1985 (RA 2010)	7 % to 30 %
		Grain size distribution (By Sieve)	IS 2720 (Part 4): 1985 (RA 2010)	0.075 mm to 4.75 mm
		Specific Gravity	IS 2720 (Part 3 & Sec 1): 1980 (RA 2007)	2 to 3.5
		Bulk Density	IS 2720 (Part 2): 1985 (RA 2010)	800 kg/m^3 to 2500 kg/m^3
		Free Swell Index	IS 2720 (Part 40): 1977 (RA 2007)	0.5 % to 100 %
		Direct Shear Test	IS 2720: 1986 (Part 13)	c=0.1 kg/$cm^2$to 6 kg/cm^2 ϕ =0 to 45^o
		California Bearing ratio (CBR)	IS 2720: 1987 (Part16)	0.1 % to100 %

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