Laboratory	**ADS Labtech, 39/2/10-A, Site-4, Sahibabad Industrial Area, Ghaziabad, Uttar Pradesh**
Accreditation Standard	**ISO/IEC 17025: 2005**
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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

CHEMICAL TESTING

I.	**BUILDING MATERIAL**			
1.	Admixture	Ash Content	IS 9103:1999 RA: 2013	1 to 30 %
		Chloride Content	IS 6925:1973 RA: 2013	0.001 % to 0.5 %
		Dry Material Content	IS 9103:1999 RA: 2013	10 % to 60 %
		pH	IS 9103:1999 RA: 2013	4 to 10
		Relative Density	IS 9103:1999 RA: 2013	1 to 2
2.	Aggregate	Alkali Aggregate Reactivity((dissolved silica)	IS :2386 part 7,clause 3.7 gravimetric:1963 RA: 2016	10 to 700 milli moles/L
		Alkali Aggregate Reactivity (reduction in alkalinity)	IS :2386 part 7 clause 3.9 RA: 2016	3 to 700 milli moles/L
3.	cement (OPC, PPC)	Chloride	IS 4032:1985 RA: 2014	0.01 to 2 %
		Insoluble Residue	IS 4032: 1985 RA: 2014	0.1 to 40 %
4.	cement OPC	Ferric oxide (Fe_2O_3)	IS 4032 clause 4.5.2 EDTA:1985 RA: 2014	0.5 to 15 %
		Loss on Ignition	IS 4032:1985 RA: 2014	0.1 to 10 %
5.	cement PPC	Calcium oxide (CaO)	IS 4032 clause 4.7.2 EDTA:1985 RA: 2014	30 to 70 %
		Magnesia (MgO)	IS 4032 clause 4.8.2 EDTA:1985 RA: 2014	0.5 to 6 %
6.	Cement (OPC, PPC)	Combined Alumina oxide and iron oxide	IS 4032 clause 4.4:1985 RA: 2014	0.5 to 18 %
		Sulpuric Anhydride(SO_3)	IS 4032:1985 RA: 2014	0.2 to 5 %
		Silica Content(As SiO_2)	IS 4032:1985 RA: 2014	0.5 to 30 %
7.	Fly ash	Combined Alumina oxide	IS : 1727: 1967 RA	20 to 90 %

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		and iron oxide	2013	
		Loss on Ignition	IS 1727:1967 RA: 2013	0.5 to 10 %
		Magnesia (MgO)	IS 1727:1967 RA: 2013	0.5 to 15 %
		Silica content (SiO2)	IS 1727-1967 RA : 2013	5 to 50 %
		Sulphuric Anhydride (SO3)	IS 1727:1967 RA: 2013	0.05 to 15 %
		Total Chloride	IS 4032:1985 RA: 2014	0.01 % to 2 %
II.	**METALS & ALLOYS**			
1.	Galvanised Sheet	Mass of Zinc Coating	IS 6745:1972 RA: 2016	10 to 800 gm/m2
2.	Plain Carbon Steel	Carbon	IS :228, P-1:1987 RA:2018	0.05 to 1.5 %
3.	Plain Carbon Steel / Low Alloy Steel	Manganese	IS 228,P-2 :1987 RA:2018	0.1 % to 1.50 %
4.	Plain Carbon Steel / Low Alloy Steel, Stainless Steel	Phosphorous	IS : 228,P-3:1987 RA:2018	0.01 to 0.5 %
		Silicon	IS 228, P-8:1989 RA: 2014	0.05 to 5 %
		Sulphur	IS 228, P-9:1989 RA: 2014	0.01 to 0.25 %
5.	Stainless Steel	Chromium	IS 228, P-6:1987 RA: 2014	1.0 to 30 %
		Copper	IS 228, P-15:1992 RA: 2014	0.05 % to 5.0 %
		Molybdenum	IS 228 P-7:1987 RA: 2018	1.0 to 5.0 %
		Nickel	IS 228, P-5:1987 RA: 2014	0.1 to 20 %
III.	**WATER**			
1.	water	Chloride content	IS 3025:1988 RA: 2014	10 to 3000 mg/l
		Inorganic Solids	IS 3025:1984 RA: 2017	10 to 6000 mg/l
		Organic Solids	IS 3025: 1984	5 mg/l to 400 mg/l
		pH value	IS 3025- Part 11 -1983- RA: 2017	2 to 12
		Sulphate content	IS 3025-1986 RA : 2014	5 mg/l to 1200 mg/l
		Total suspended solids (Suspended Matter)	IS 3025:1984 RA-: 2017	5 mg/l to 3000 mg/l

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Volume of 0.02 Normal H2SO4 required to Neutralize 100 ml of sample (Alkalinity)	IS 3025– Part 23-1986 RA: 2014	0.3 to 40 ml
		Volume of 0.02 Normal NaOH required to Neutralize 100 ml of sample (Acidity)	IS 3025- Part 22-1986 RA: 2014	0.3 to 40 ml

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		ELECTRICAL TESTING		
I.	**CABLES & WIRES**			
1.	Aluminium Conductor Galvanised steel Reinforced for Overhead Transmission Purposes	Breaking load test of individual wire	IS:398 (Pt-1): 1996	10 N to 40 kn
2.	H.R PVC Insulated Winding Wires for Submersible Motors (Test on Insulation and Jacket Material)	Heat shock Test	IS: 10810 (Pt- 14): : 1984	Qualitative(Ambient 250 °C)
3.	Welding Cable (Test on Conductor)	Diameter of wire	IS: 8130: 2013	1 mm to 25 mm
4.	PVC Insulated Unsheathed and sheathed cable/cords with rigid and Flexible conductor for rated voltages Up to & Including 1100 volts	Smoke density test	ASTM-D2843: 2016	Qualitative(0% to 100 %)
5.	Aerial Bunched Cables for working Voltage up to and Including 1100 Volts (Physical Test on	a)Tensile Strength after ageing in air oven	IS: 10810 (Pt 11)-: 1984	1 °C to 1500 °C
		b) Elongation after ageing in air oven	IS: 10810 (Pt 11): 1984	1 % to 800 %
		Elongation test at break	IS: 10810 (Pt 7-: 1984	100 % to 800 %

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	XLPE insulation)	High voltage test	IS: 10810 (Pt 45): 1984	Qualitative()
		Hot set test	IS: 10810 (Pt 30): 1984	1 °C to 250 °C
		Shrinkage test	IS: 10810 (Pt 12): 1984	1 °C to 250 °C
		Tensile strength at break	IS: 10810 (Pt 7): 1984	10 N to 2500 N
		Test for thickness	IS: 10810 (Pt 6): 1984	10 MM to 150 MM
		Volume resistivity	IS: 10810 (Pt 43): 1984	1000000 mohm to 100000000 Mohm
		Water absorption	IS: 10810 (Pt 33)-: 1984	Ambient to 150°C
		Test on Complete CableBending Test	IS: 14255: 1995	Qualitative
		Breaking load tests	IS: 10810 (Pt- 2): 1984	1 kN to 100 kN
		Elongation test	IS :10810 (Pt 7): 1984	0.1 % to 100 %
		Wrapping test on alumminum conductor	IS: 10810 (Pt 3): 1984	Qualitative
		Conductor resistance test	IS: 10810 (Pt 5): 1984	0.2 µohm to 11 ohm
		Tensile test on alumminum conductor	IS: 10810 (Pt 2)-: 1984	10 N to 2500 N
6.	Aluminium Conductor Galvanised steel Reinforced for Overhead Transmission Purposes	Breaking load test of steel wire	IS:398 (Pt-1): 1996	10 N to 40 kn
		Conductor resistance test	IS:398 (Pt-1): 1996	0.2 µohm to 11 ohm
		Diameter of individual wire	IS:398 (Pt-1): 1996	1 mm to 150 mm
		Ductility Test (Elongation Test)	IS:398 (Pt-1): 1996	2.5 % to 800 %
		Measurement lay ratio	IS:398 (Pt-1): 1996	6 % to 34 %
		Weight of zinc coating	IS:398 (Pt-1): 1996	10 gms/m² to 200 gms/m²
		Wrapping Test	IS:398 (Pt-1): 1996	Qualitative
		Breaking load test	IS:398(Pt-4): 1994	10 N to 40 kn
		Conductor Resistance Test	IS:398(Pt-4): 1994	0.2 µohm to 11 ohm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Diameter of wire	IS:398(Pt-4): 1994	10 mm to 150 mm
		Elongation test	IS:398(Pt-4): 1994	0.1 % to 800 %
7.	Aluminum alloys stranded alloy Conductor for Overhead Transmission Purposes	Measurement of Lay Ratio	IS:398(Pt-4): 1994	6 % to 20 %
8.	Aluminum stranded Conductor for Overhead Transmission Purposes	Breaking Load Test	IS:398 (Pt-1):: 1996	10 N to 2500 N
		Conductor resistance test	IS:398 (Pt-1): 1996	0.2 µohm to 11 ohm
		Measurement of Diameters of Wires	IS:398 (Pt-1): 1996	1 mm to 50 mm
		Measurement of lay ratio	IS:398 (Pt-1): 1996	6 % to 22 %
		Wrapping test for aluminium wire	IS:398 (Pt-1): 1996	Qualitative
9.	Cross-Linked Polyethylene (XLPE) Insulated Thermoplastic Sheathed Cables for Working Voltages up to and including 1100 Volts	Ageing in air oven (elongation)	IS 10810 (Pt 11): 1984	27 °C to 250 °C
		Annealing test(Copper Conductor Only	IS 10810 (Pt 1): 1984	10 N to 2500 N
		Cold bend test	IS 10810 (Pt 20): 1984	Qualitative
		Cold impact test	IS 10810 (Pt 21): 1984	Qualitative
		Conductor Resistance	IS 10810 (Pt 5): 1984	0.2 µohm to 11 ohm
		Dimension for	IS 10810 (Pt 36): 1984	10 mm to 150 mm
		Armouring Material		
		Elongation on sheath	IS 10810 (Pt 7): 1984	10 N to 2500 N
		Elongation test	IS: 10810 (Pt- 37):	10 mm to 2500 N
		armouring	1984	

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Flame retardance test	IS: 10810 (Pt- 61):	Qualitative(Scale Up to
		on single cable	1988	600 mm)
		Flame retardation test	IS 10810 (Part-62):	10 mm to 5 meters
		on bunched cable	1993	
		flammability test	IS 10810 (Pt 53): 1984	0.500 IPM to 50 IPM
		Halogen acid gas	IS: 10810 (Pt- 59):	Upto 30%
		evolution	1988	
		Heat shock test	IS 10810 (Pt 14) : 1984	Qualitative(Ambient
		High voltage test at	IS 10810 (Pt 45): 1984	Qualitative(1 kV to 5 kV
		room temp		2 kV to 10 kV)
		Hot deformation test	IS 10810 (Pt 15): 1984	27 % to 250 %
		Hot set test	IS 10810 (Pt 30): 1984	27 °C to 250 °C
		Loss of mass test	IS 10810 (Pt 10): 1984	100 mg to 200 gm & sample size0.1 to 20mg/cm2
		Mass of zinc coating	IS: 10810 (Pt- 41):	10 gm/m² to 200 gm/m²
			1984	
		Oxygen Index Test	IS: 10810 (Pt- 58):	10 % to 98 %
			1998	
		Resistivity test of	IS: 10810 (Pt- 42):	0.2 µohm to 11 ohm
		armouring (Wire/Strips)	1984	
		Shrinkage test	IS 10810 (Pt 12): 1984	27 °C to 250 °C
		Smoke density test	ASTM-D2843: 2016	Qualitative(Up to 100 %)
		Temperature Index	IS: 10810 (Pt- 64):	Upto 350 °C
		Test	2003	
		Tensile strength of	IS: 10810 (Pt- 37):	10 mm to 150 mm
		Armouring	1984	
		Tensile strength on	IS 10810 (Pt 7): 1984	10 N to 2500 N
		sheath		
		Tensile Test	IS 10810 (Pt 2): 1984	10 N to 2500 N

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		(Aluminium Conductor		
		Only)		
		Thermal stability test	IS 10810 (Pt 60): 1984	250 °C to 0.5 °C
		Thickness of insulation	IS 10810 (Pt 6): 1984	10 mm to 150 mm
		Thickness of sheath	IS 10810 (Pt 6): 1984	10 mm to 150 mm
		Torsion test(	IS: 10810 (Pt- 38):	Qualitative
		galvanized steel)	1984	
		Uniformity of zinc	IS: 10810 (Pt- 40):	Qualitative
		coating	1984	
		Volume resistivity test	IS 10810 (Pt 43): 1984	1000000 Mohm to
		at 90°C		100000000 Mohm
		Water absorption	IS 10810 (Pt 33): 1984	Ambient to 150°C
		Winding test	IS: 10810 (Pt- 39):	Qualitative
		(galvanized steel)	1984	
		Wrapping test (Aluminium Conductor Only)	IS 10810 (Pt 3): 1984	Qualitative
10.	Elastomer Insulated /Elastomer Sheathed Cables for Working Voltages up to and including 1100 Volts	Annealing test(copper	IS 10810 (Pt 1): 1984	10 N to 2500 N
		conductor only)		
		b)Variation in	IS 10810 (Pt 16): 1984	10 N to 2500 N
		elongation on Oxygen		
		bomb		
		Conductor resistance	IS 10810 (Pt 5): 1984	0.2 µohm to 11 ohm
		Test		
		Elongation on sheath	IS 10810 (Pt 7): 1984	100 % to 800 %
		Flammability test	IS 10810 (Pt 53): 1984	1 mm to 600 mm
		High voltage test at	IS 10810 (Pt 45): 1984	Qualitative(2 to 10

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		room temp		kVAC)
		Hot set test	IS 10810 (Pt 30): 1984	27 °C
				to 250 °C
		Insulation resistance	IS 10810 (Pt 43): 1984	1000000 Mohm to
		constant		100000000 Mohm
		Over all dimensions	IS 10810 (Pt- 6) : 1984	10 mm to 150 mm
		Over all dimensions	IS 10810 (Pt- 6): 1984	10 mm to 150 mm
		Persulphate test	IS 10810 (Pt 4): 1984	Upto 5 gm
		Tear resistance test on	IS 10810 (Pt 17) : 1986	10 N to 2500 N
		Tensile strength on sheath	IS 10810 (Pt 7): 1984	10 N to 2500 N
		Tensile test(alumminum conductor only)	IS 10810 (Pt 2): 1984	10 N to 2500 N
		Thickness of insulation	IS 10810 (Pt 6) : 1984	10 mm to 150 mm
		Thickness on sheath	IS 10810 (Pt 6: 1984	10 mm to 150 mm
		Variation in elongation after ageing in air oven	IS 10810 (Pt 11): 1984	10 N to 2500 N
		Variation in elongation after oil resistance test	IS 10810 (Pt 31): 1984	10 N to 2500 N
		Variation in Tensile Strength elongation on Oxygen bomb	IS 10810 (Pt 16): 1984	10 N to 2500 N
		Variation in Tensile Strength after ageing in air oven	IS 10810 (Pt 11): 1984	10 N to 2500 N
		Variation in Tensile Strength after oil resistance test	IS 10810 (Pt 31): 1984	10 N to 2500 N
		Wrapping test(alumminum conductor only)	IS 10810 (Pt 3): 1984	Qualitative
11.	Elastomer Insulated /Elastomer Sheathed Cables	Flame retardance test on single cable	IS: 10810 (Pt- 61): 1988	1 mm to 600 mm
		Flame retardation test	IS: 10810 (Pt- 62):	1 mm to 600 mm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	for Working Voltages up to and including 1100 Volts (Fire Retardance Properties)	on bunched cable	1988	
		Halogen acid gas	IS: 10810 (Pt- 59):	1 % to 30 %
		evolution	1988	
		Oxygen index test	IS: 10810 (Pt- 58)::	10 % to 98 %
			1998	
		Smoke density test	ASTM-D2843: 2016	Qualitative(Up to 100
		Temperature index test	IS: 10810 (Pt- 64):: 2003	1 °C to 350 °C
12.	H.R PVC Insulated Winding Wires for Submersible Motors	Annealing Test(Elongation)	IS 10810 (Pt -01): 1995	1 % to 200 %
		Conductor Resistance Test	IS 10810 (Pt -05): 1995	0.2 µohm to 11 ohm
		Diameters of Conductor	IS 10810 (Pt -01): 1995	10 mm to 150 mm
		Insulation Thickness	IS 10810 (Pt- 06): 1984	10 mm to 150 mm
		Overall Diameters	IS 10810 (Pt- 06): 1984	10 mm to 150 mm
13.	H.R PVC Insulated Winding Wires for Submersible Motors (Test on Insulation and Jacket Material)	Elongation at break Test	IS: 10810 (Pt- 07):: 1984	2.5 % to 800 %
		Elongation on	IS: 10810 (Pt- 07) :	2.5 % to 650 %
		insulation	1984	
		Hot Deformation Test	IS: 10810 (Pt- 15) :	27 °C to 250 °C
			1984	
		Shrinkage test	IS: 10810 (Pt- 12):	27 °C to 250 °C
			1984	
		Tensile strength on	IS: 10810 (Pt- 07) :	10 N to 2500 N
		insulation	1984	
		Tensile strength Test	IS: 10810 (Pt- 07) :	10 N to 2500 N
			1984	
		Volume resistivity test	IS: 10810 (Pt- 43):	1000000 Mohm to
			1984	100000000 Mohm
		Water absorption	IS: 10810 (Pt- 33):	Ambient to 150°C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			1984	
14.	PVC Insulated Unsheathed and sheathed cable/cords with rigid and Flexible conductor for rated voltages Up to & Including 1100 volts	Additional Ageing Test	IS:694: 2010	Qualitative
		Ageing in air Oven(	IS:10810 (Pt 11): 1984	10 % to 800 %
		Elongation)		
		Annealing test for	IS:10810 (Pt 1)-: 1984	10 N to 2500 N
		Copper Conductor		
		Cold Bend Test	IS:10810 (Pt 20) : 1984	Qualitative
		Cold Impact Test	IS:10810 (Pt 21): 1984	Qualitative
		Conductor resistance	IS:10810 (Pt 5): 1984	0.2 µohm to 11 ohm
		Elongation on Insulation	IS 10810 (Pt- 7): 1984	2.5 % to 650 %
		Elongation on sheath	IS:10810 (Pt- 7): 1984	100 % to 800 %
		Elongation on sheath	IS:10810 (Pt- 7): 1984	100 % to 800 %
		Flame Retardance test on single cable	IS: 10810 (Pt- 61): 1988	Qualitative(Scale: 0 Up to 600 mm)
		Flame retardation test on bunched cable	IS 10810 (Part-62): 1993	Upto 5 meter
		Flammability Test	IS:10810 (Pt 53)- : 1984	10 mm to 600 mm
		Halogen acid gas evolution	IS: 10810 (Pt- 59): 1988	Upto 30 %
		Heat shock test	IS: 10810 (Pt- 14): 1984	Qualitative(Ambient 250°C)
		High voltage test at (water immersion)	IS:694: 2010	Qualitative(1 kV to 10 kV ACUp to 5 kV DC)
		High voltage test at room temp	IS:10810 (Pt-45) : 1984	Qualitative(2 kV to 10 kV)
		High voltage test at room temp	IS:694: 2010	Qualitative
		Hot deformation test	IS: 10810 (Pt- 15): 1984	27 °C to 250 °C
		Isulation resistance	IS 10810 (Pt- 43): 1984	1000000 Mohm to

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		constant		100000000 Mohm
		Loss of mass test	IS:10810 (Pt 10): 1984	100 mg to 200 gm & sample size is0.1 to 20mg/cm2
		Overall Dimension	IS:10810 (Pt 6): 1984	0.10 mm to 130 mm
		Oxygen Index Test	IS: 10810 (Pt- 58): 1998	10 % to 98 %
		Persulphate Test for Tinned Copper conductor	IS:10810 (Pt 4): 1984	0.2 g/m² to 10 g/m²
		Shrinkage test	IS: 10810 (Pt- 12): 1984	27 °C to 250 °C
		Temperature index test	IS: 10810 (Pt- 64): 2003	27 °C to 250 °C
		Tensile Strenght for Aluminium Conductor	IS:10810 (Pt 2): 1984	10 N to 25 N
		Tensile strength on insulation	IS:10810 (Pt 7): 1984	10 N to 2500 N
		Tensile strength on sheath	IS:10810 (Pt -7): 1984	10 N to 2500 N
		Thermal stability test	IS: 10810 (Pt- 60): 1988	27 °C to 250 °C
		Thickness of insulation	IS:10810 (Pt 6): 1984	10 mm to 150 mm
		Volume resistivity test	IS: 10810 (Pt- 43): 1984	1000000 Mohm to 100000000 Mohm
		Wrapping test for Aluminium Conductor	IS:10810 (Pt 3): 1984	Qualitative
15.	PVC Insulated/PVC sheathed (Heavy	Annealing test (Copper Conductor Only)	IS 10810 (Pt 1): 1984	10 N to 2500 N

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Duty) cables for working voltage	Cold bend test	IS: 10810 (Pt- 20): 1984	Qualitative
		Cold impact test	IS: 10810 (Pt- 21): 1984	Qualitative
		Conductor Resistance	IS 10810 (Pt 5): 1984	0.2 µohm to 11 ohm
		Dimension for Armouring Material	IS 10810 (Pt 36): 1984	10 mm to 150 mm
		Elongation after ageing in air oven	IS: 10810 (Pt- 11): 1984	10 N to 2500 N
		Elongation on sheath at break	IS: 10810 (Pt- 7): 1984	100 % to 800 %
		Elongation test armouring	IS: 10810 (Pt- 37): 1984	10 N to 2500 N
		Flame retardance test on single cable	IS: 10810 (Pt- 61): 1988	Qualitative(0 to 600 mm)
		Flame retardation test on bunched cable	IS: 10810 (Pt- 62): 1984	Qualitative(0 to 5 Meter)
		Flammability test	IS: 10810 (Pt- 53): 1984	10 mm to 600 mm
		Halogen acid gas evolution	IS: 10810 (Pt- 59): 1988	27 to 30
		Heat shock test	IS: 10810 (Pt- 14): 1984	Qualitative
		High voltage test at (water immersion)	IS:10810(pt-45): 1984	Qualitative (2to 10 kV AC 1 to 5kV DC)
		High voltage test at room temp	IS:10810 (pt-45): 1984	Qualitative(2 to 10 kV AC 1 to 5kV DC)
		Hot deformation test	IS: 10810 (Pt- 15): 1984	27 °C to 250 °C
		Insulation resistance constant	IS 10810 (Pt- 43): 1984	1000000 Mohm to 100000000 Mohm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Loss of mass test	IS: 10810 (Pt- 10): 1984	0.1 mg to 200 mg & sample size0.1 to 20mg/cm2
		Mass of zinc coating	IS: 10810 (Pt- 41): 1984	0.5 gm/m² to 200 gm/m²
		Overall diameter of cable	IS: 10810 (Pt- 6): 1984	10 mm to 150 mm
		Oxygen index test	IS: 10810 (Pt- 58): 1984	10 % to 90 %
		Resistivity test of armouring (Wire/Strips)	IS: 10810 (Pt- 42): 1984	0.2 µohm to 11 ohm
		Shrinkage test	IS: 10810 (Pt- 12): 1984	27 °C to 250 °C
		Smoke density test	ASTM-D2843: 2016	Qualitative(Upto 90%)
		Temperature index test	IS: 10810 (Pt- 64): 2003	27 °C to 350 °C
		Tensile Strength after ageing in air oven	IS: 10810 (Pt- 11): 1984	10 N to 2500 N
		Tensile strength of armouring	IS: 10810 (Pt- 37): 1984	10 N to 2500 N
		Tensile strength on sheath at break	IS: 10810 (Pt- 7): 1984	10 N to 2500 N
		Tensile Test for Aluminium Conductor	IS 10810 (Pt 2): 1984	10 N to 2500 N
		Thermal stability test	IS: 10810 (Pt- 60): 1984	27 °C to 250 °C
		Thickness of insulation	IS: 10810 (Pt- 6): 1984	10 mm to 150 mm
		Torsion test(galvanized Roundsteel Wire)	IS: 10810 (Pt- 38): 1984	Qualitative(Qualitative)
		Uniformity of zinc coating	IS: 10810 (Pt- 40): 1984	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Volume resistivity test	IS: 10810 (Pt- 43): 1984	1000000 Mohm to 100000000 Mohm
		Winding Test(Galvanized Steel)	IS: 10810 (Pt- 30): 1984	Qualitative
		Winding Test(Galvanized Steel)	IS: 10810 (Pt- 30): 1984	Qualitative
		Wrapping test for Aluminium	IS 10810 (Pt 3): 1984	Qualitative
16.	Welding Cable	a)Tensile Strength after ageing in air bomb	IS: 10810 (Pt 56): 1987	10 N to 2500 N
		Elongation after oil resistance test	IS: 10810 (Pt 31): 1984	10 N to 2500 N
		Elongation after ageing in air bomb	IS: 10810 (Pt 56): 1987	10 N to 2500 N
		Elongation after ageing in air oven	IS: 10810 (Pt 11): 1984	10 N to 2500 N
		Elongation on covering at break	IS: 10810 (Pt 7): 1984	Qualitative(Upto 800%)
		Flammability test	IS: 10810 (Pt 53): 1984	0.500 LPM to 50 LPM
		High voltage water immersion test	IS: 10810 (Pt 45): 1984	Qualitative(0 to 10 kV AC & 0 TO 5kv (DC))
		Hot set test	IS: 10810 (Pt 30): 1984	27 °C to 250 °C
		Tensile Strength after ageing in air oven	IS: 10810 (Pt 11): 1984	10 N to 2500 N
		Tensile Strength after oil resistance test	IS: 10810 (Pt 31): 1984	10 to 2500
		Tensile strength on covering at break	IS: 10810 (Pt 7): 1984	1 N to 2500 N
		Test for thickness of covering	IS: 10810 (Pt 6): 1984	10 mm to 150 mm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
17.	Welding Cable (Test on Conductor)	Annealing test	IS: 10810 (Pt 1): 1984	10 N to 2500 N
18.	Welding Cable	Elongation on covering at break	IS: 10810 (Pt 7): 1984	0 % to 800 %
		Conductor resistance test	IS: 10810 (Pt 5): 1984	0.2 µohm to 11 ohm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		MECHANICAL TESTING		
I.	BUILDINGS MATERIALS			
1.	Aggregate(Fine)	Sieve analysis	IS 2386 – Part –1, : 1963	75 micron to 10 mm
2.	Aggregate(Coarse	Water Absorption	IS 2386, Part – 3: 1963	0.1 % to 10 %
		Bulk Density	IS 2386 – Part – 3,: 1963	1 Kg/litre to 2 Kg/litre
		Clay lumps	IS 2386 – Part – 2: 1963	0.1 % to 5 %
		Deleterious Material	IS 2386 – Part – 1,: 1963	0.1 % to 10 %
		Flakiness Index	IS 2386, Part – 1: 1963	2 % to 40 %
		Material Finer than 75 micron sieve	IS 2386 – Part – 1,: 1963	0.1 % to 15 %
		Organic Impurities	IS 2386 – Part – 2: 1963	Qualitative(Visual Observation)
		10 % Fines Value	IS 2386 Part - 4: 1963	10 kN to 400 kN
		Elongation Index	IS 2386 Part – 1: 1963	2 % to 40 %
		Sieve analysis	IS 2386 Part –1, : 1963	4.75 mm to 80.0 mm
		Specific Gravity	IS 2386, Part – 3: 1963	1.5 to 4.0
3.	Aggregate(Fine	Deleterious Material	IS 2386 – , Part – 1,: 1963	0.1 % to 10 %
		Bulk Density	IS 2386 – Part – 3: 1963	1 Kg/liter to 2 Kg/liter
		Clay lumps	IS: 2386- Part 2: 1963	0.1 % to 5 %
		Material Finer than 75 micron sieve	IS 2386 – , Part – 1: 1963	0.1 % to 15 %
		Organic Impurities	IS 2386 – , Part – 1: 1963	Qualitative(Visual Observation)

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Specific Gravity	IS 2386 – Part – 3: 1963	1.5 to 3.0
		Water absorption	IS 2386 – Part – 3, : 1963	0.1 % to 10 %
4.	Aggregate(Coarse)	Impact Value	IS 2386 Part – 4: 1963	1 % to 50 %
		Los Angeles abrasion value	IS 2386, Part – 4: 1963	1 % to 60 %
	Aggregate (Coarse) Bitumen	Crushing Value	IS 2386, Part – 4: 1963	1 % to 60 %
		Solubility	IS : 1216: 1978	0.1 % to 100 %
		Ductility	IS 1208 : 1978	40 cm to 100 cm
		Flash Point	IS 1209 : 1978	25 °C to 400 °C
		Penetration	IS 1203 : 1978	25 mm to 100 mm
		Softening Point	IS 1205 : 1978	40 °C to 60 °C
		Specific gravity	IS 1202 : 1978	0.99 to 1.102
5.	Bituminous Material	Binder content	ASTM D 2172 : 2011	1 % to 8 %
6.	Burnt clay bricks and Fly ash bricks	Compressive strength	IS 3495, Part–1 : 1992	3.5 N/mm² to 15.0 N/mm²
		Dimension(hieght)	IS 1077 : 1992	1300 mm to 1500 mm
		Dimension(length)	IS 1077: 1992	4520 mmto 4680 mm
		Dimension(width)	IS 1077 : 1992	2160 mm to 2300 mm
		Efflorescence	IS 3495, Part – 3: 1992	Qualitative
		Water absorption	IS 3495, Part – 2 : 1992	2 % to 25 %
7.	Cement (OPC / PPC)	Specific Gravity	IS 4031 – Part – 11 : 1988	1 to 3.5
		Compressive strength	IS 4031 – 1988, Part – 6 : 1988	10 N/mm² to 80 N/mm²
		Consistency	IS 4031 – Part – 4 : 1988	25 % to 40 %
		Final Setting time	IS 4031 – Part – 5 : 1988	30 minute to 700 minute
		Fineness by blain air permeability	IS 4031 – Part – 2 : 1999	100 m²/kg to 600 m²/kg
		Fineness by dry sieving (% retained)	IS 4031:Part – 1, : 1996	0 % to 10 %

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Initial Setting Time	IS 4031 – Part – 5 : 1988	5 minute to 250 minute
		Soundness By Autoclave method	IS 4031 – Part – 3: 1988	0.01 % to 10 %
		Soundness By Le-Chattalier method	IS 4031 – Part – 3, : 1988	0.05 mm to 10 mm
8.	Fly Ash	Comparative compressive strength at 28 days	IS 1727: 1967	20 % to 100 %
		Fineness (Specific Surface Blaine's	IS 1727: 1967	100 tagm²/kg
		Particle retained on 45 micron sieve (wet sieving)	IS 1727 : 1967	10 % to 70 %
		Soundness (by Autoclave)- lower limit(-)0.1%	IS 1727- : 1967	0.1 % to 1 %
9.	Glazed / Ceramic Tiles	Bulk density	IS: 13630: 2006	1.5 tagg/cc
		DimensionsLength, Width, Thickness	IS: 1237: 2012	20 mm to 1000 mm
		Hardness by Moh's scale	IS: 13630: 2006	1 to 9
		Modulus of Rupture/Breaking Strength	IS: 13630 Pt-6: 2006	0.1 N/mm2 to 60 N/mm2
		Water absorption	IS: 13630: 2006	0.5 % to 25 %
		Wet Transverse Strength Test	IS: 1237: 2012	0.1 N/mm2 to 5 N/mm2
10.	Hardened Concrete	Compressive Strength	IS 516 : 1959	10 N/mm² to 75 N/mm²
		Concrete Permeability	BS EN12390-8: 2009	0.5 mm to 25 mm
11.	Paver Block	Compressive Strength	IS 15658 : 2006	5 N/mm² to 75 N/mm²
		Water Absorption	IS: 15658: 2006	1 % to 20 %
12.	Timber	Density	IS:1708: 1986	400 kg/m³ to 900 kg/m³
		Moisture Content %	IS:11215: 1991	1 % to 20 %
II.	**MECHANICAL PROPERTIES OF METALS**			

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
1.	Ferrous & non ferrous metal	Rockwell hardness	IS:1586(Part-1: 2012	20 HRC to 70 HRC
		Rockwell hardness	IS:1586(Part-1: 2012	20 HRB to 99 HRB
		Rockwell Hardness(extension of scope)	IS:1586: 2012	30 HRA to 90 HRA
2.	HT Stand Wire (Seven Ply)*	Tensile Load	IS 1608: 2005	50 kn to 1000 kn
3.	Non-Ferrous Metal	Bend Test	IS 1599 : 2012	Qualitative(Mandril size–32,40,48,50,56,60 ,64,80,84,96,100,112,1 28, mm)
		Yield stress	IS 1608: 2005	5 N/mm2 to 700 N/mm2
		Elongation	IS 1608: 2011	1 % to 60 %
		Tensile Strength	IS 1608: 2011	5 N/mm² to 850 N/mm²
4.	Steel Reinforcement/ Structural Steel	Bend Test	IS 1599 : 2012	Qualitative(Mandril size–32,40,48,50,56,60 ,64,80,84,96,100,112,1 28, mm)
		Elongation	IS 1786 : 2005	10 % to 40 %
		Nominal mass / meter	IS 1786 : 2008	0.09 kg to 10 kg
		Re–bend Test	IS 1786 : 2008	Qualitative(Mandril size–70,72,80,120,125, 140,150,160,168,175,1 92,196,224 mm)
		Ultimate Tensile Strength	IS 1608: 2005	100 N/mm2 to 850 N/mm2
		Yield stress	IS 1608: 2005	100 N/mm² to 750 N/mm²
		Total Elongation	IS 1608: 2005	1 % to 20 %
III.	**RUBBER AND RUBBER PRODUCTS**			

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
1.	Rubber & Rubber Products	Accelerated ageing in air	Change in elongation at break: 2012	20 to 50
		Accelerated ageing in air (Change in Hardness IRHD)	IS: 3400 (Pt.-4): 2012	10 to -5
		Accelerated ageing in air(Change in tensile strength)	IS: 3400 (Pt.-4): 2012	10 to 25
		Compression Set	IS: 3400: 2012	5 to 60
		Density	IS: 3400 (Pt.-9): 2003	0.5 mg/m³ to 2.00 mg/m³
		Elongation at Break	IS: 3400 (Pt.-1): 2012	110 % to 400 %
		Hardness IRHD (Shore A)	IS: 3400 (Pt.-2): 2003	10 to 90
		Tensile Strength	IS: 3400 (Pt.-1): 2012	5 Mpa to 60 Mpa
IV.	**SOIL AND ROCK**			
1.	Soil	California Bearing ratio	IS 2720, Part – 16 : 1987	1 % to 60 %
		Free Swell Index	IS 2720 (Part 40) : 1977	1 % to 90 %
		Grain Size Analysis	IS 2720 Part – 4: 1985	75 micron to 40 mm
		Heavy compaction(MDD)	IS 2720, Part – 8 : 1983	1.4 gm/cc to 2.60 gm/cc
		Heavy compaction(OMC)	IS 2720, Part – 8 : 1983	2 % to 30.0 %
		Light compaction(MDD)	IS 2720, Part – 7: 1980	1 gm/cc to 2.10 gm/cc
		Light compaction(OMC)	IS 2720 , Part – 7 : 1980	5 % to 40.0 %
		Liquid Limit	IS 2720 Part – 5: 1985	25 % to 120 %
		Plastic Limit	IS 2720, Part – 5 : 1985	15 % to 70 %
		Specific Gravity	IS 2720 Part – 3, Section-1,: 1980	1 to 3.0

Laboratory	**ADS Labtech, 39/2/10-A, Site-4, Sahibabad Industrial Area, Ghaziabad, Uttar Pradesh**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
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Validity	**23.11.2018 to 22.11.2020**	**Last Amended on 27.05.2019**	

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		NON-DESTRUCTIVE TESTING		
I.	**BUILDING MATERIALS - REINFORCED CONCRETE STRUCTURES**			
1.	Concrete Pile: Reinforced Concrete Structure	Low Strain Pile Integrity Test	ASTM-5882: 2007	1 mtr to 60 mtr
		Carbonation Test	BS:1881(Pt-201): 1986	1 mm to 100 mm
		Rebound Hammer Test	IS:13311 Part 2: 1992	10 rebound number to 70 rebound number
		Ultrasonic Pulse Velocity Test	IS:13311 Part 1: 1992	1.0 km/sec to 6.0 km/sec
2.	Bored cast (integrity testing of concrete deep foundations) – In-Situ Piles	Ultrasonic Crosshole Testing (CSL)	ASTM D 6760-16	Qualitative (Upto 60 M length of Pile)