Laboratory	**Central Institute of Plastics Engineering & Technology (CIPET) IDA Phase-II, Cherlapally, Hyderabad, Telangana**	
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.	**PLASTICS & RESINS**			
1.	**UPVC Pipes**	Sulphated Ash Content	IS 4985	0.1% to 25 %
		Effect on water	IS 12235 (Part 4 & 10)	0.001 mg/ltr to 100 mg/ltr
		K- Value (Viscosity)	IS 4669	45 to 100
2.	**UPVC Screen and Casing Pipes**	Effect on Water	IS 12235 (Part 4 & 10)	0.001 mg/ltr to 100 mg/ltr
3.	**UPVC Pipes**	Resistance to Conc. H_2SO_4	IS 12235 (Part 7)	0.0001 to 1g;
		Resistance to dichloromethane	IS 12235 (Pt.11)	Qualitative
4.	**UPVC injected moulded fittings**	Effect on Water	IS 12235 (Part 4 & 10)	0.001 mg/ltr to 100 mg/ltr
5.	**HDPE Pipes**	Carbon Black Content	IS 2530	0.1% to 50 %
		Carbon Black Dispersion	IS 2530	Qualitative
		Overall Migration	IS 9845	0.1 mg/l to 100 mg/l
6.	**High density Polyethylene Material**	Carbon Black Content	IS 2530	0.1 to 50 %
		Carbon Black Dispersion	IS 2530	Qualitative
7.	**Polyethylene Pipe**	Environmental Stress Cracking Resistance	IS 12786 Annex D	Qualitative
		Carbon Black Content	IS 2530	0.1% to 50 %
		Carbon Black Dispersion	IS 2530	Qualitative
8.	**Polyethylene pipes**	Carbon Black Content	IS 2530	0.1 % to 50 %
		Carbon Black Dispersion	IS 2530	Qualitative
9.	**Rotational Moulded Polyethylene Water Storage Tank**	Overall Migration	IS 9845	0.1 mg/l to 100 mg/l
		Carbon Black Content	IS 2530	0.1% to 50 %
		Carbon Black Dispersion	IS 2530	Qualitative

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10.	**Polyethylene Sheets**	Black Film: Carbon Black Content	IS 2530	0.1% to 50 %
		Carbon Black Dispersion	IS 2530	Qualitative
11.	**Poly Vinyl Chloride Resin**	Viscosity (K-Value)	IS 4669	45 to 100
12.	**HDPE Pipes**	Carbon Black Content	IS 2530	0.1% to 50 %
		Carbon Black Dispersion	IS 2530	Qualitative
13.	**PVC and its Copolymers**	Overall Migration	IS 9845	0.1 mg/l to 100 mg/l
14.	**Emitting Pipe systems**	Carbon Black Content	IS 2530	0.1% to 50 %
		Carbon Black Dispersion	IS 2530	Qualitative
		Environmental Stress Cracking Resistance Test	IS 12786, Annex D	Qualitative
15.	**UPVC Injection moulded Fittings**	Sulphated Ash Content	IS 14735, Annex B	0.1 % to 50%
		Resistance to Conc.H_2SO_4	IS 12235 (Part 7)	0.0001 g to 1g
16.	**Polyethylene Micro Tubes**	Material- Environmental Stress Cracking Resistance	IS 12786, Annex D	Qualitative
		Carbon Black Content	IS 2530	0.1 % to 50 %
		Carbon Black Dispersion	IS 2530	Qualitative
17.	**Containers**	Overall Migration	IS 9845	0.1 mg/l to 100 mg/l
		Water portability	IS 15410	Odour and taste Qualitative
18.	**PE/Al/PE Composite pressure Pipe**	Carbon Black Content	IS 2530	0.1 to 50 %
		Carbon Black Dispersion	IS 2530	Qualitative
19.	**UnPlasticized Non-Pressure PVC Pipes**	K- Value (Viscosity)	IS 4669	45 to 100
20.	**Laminated HDPE**	Carbon Black Content	IS 2530	0.1 % to 50 %
		Carbon Black Dispersion	IS 2530	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
21.	**Aerial Bunched Cables for Working Upto and Including 1, 100 Volts (XLPE Cables)**	Carbon Black Content	IS 2530	0.1% to 50 %
		Carbon Black Dispersion	IS 2530	Qualitative
22.	**Tarpaulins made from HDPE Woven Fabric –**	Material – Carbon Black Content	IS 2530	0.1% to 50 %
		Product - Carbon Black Content	IS 2530	0.1% to 50 %
		Carbon Black Dispersion	IS 2530	Qualitative
23.	**Blow Moulded HDPE Containers**	Migration Test	IS 9845	0.1 mg/l to 100 mg/l
24.	**Glass Fiber Reinforced Plastics Pipes, Joints and Fittings**	Smell of the Extract	IS 12709	Odour/ taste Qualitative
		Clarity of the Colour of the Extract	IS 12709	Qualitative
		Acidity and Alkalinity	IS 12709	0 to14 pH
		Global Migration	IS 9845	0.1 mg/l to 100 mg/l
		UV absorbing Materials	IS 12709	Qualitative
		Heavy Metals	IS 12709	0.001 mg/ltr to 100 mg/ltr
25.	**PRE-Laminated Particle Boards**	Moisture Content	IS 2380, Pt.3	0.5% to 50%
		Water Absorption	IS 2380, Pt.16	0.01 %to 50%
		Swelling in Water	IS 2380, Pt.17	0.1% to 25%
		Surface Resistance to Steam	IS 12823	Qualitative
		Crack Resistance	IS 12823	Qualitative
		Resistance Cigarette Burn	IS 12823, Annex F	Qualitative
		Resistance to Stain	IS 12823, Annex G	Qualitative
26	**Solvent cement for with UPVC Pipe with Fittings**	Viscosity	IS 14182, Annex B	90 to 1980 mpa.s
27.	**Multilayered Cross Laminated Sheets & Tarpaulins / Covers**	Carbon Black Content	IS 2530	0.1% to 50 %
		Carbon Black Dispersion	IS 2530	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
28.	**Chlorinated Polyvinyl Chloride Pipes**	Effect on water test	IS 12235 (Part 4 & 10)	0.001 mg/ltr to 100 mg/ltr
29	**Plastics Products**	Toxicity	NCD 1409	0.01% to 25%
30	**Plastics Products**	Limiting oxygen Index	IS 13501	15% to 65%
31	**Plastics Products**	Resistance to Spread of Flame	Appendix 4, 5 & 11 of UIC 564-2	1 cm^2 to 200 cm^2
32	**Plastics Products**	Deterioration of Visibility due to smoke	Appendix 15 of UIC 564-2	0 to 100 lux
33	**Marine Plywood**	Moisture Content	IS:1734 (pt.1)	0.05% to 50%
34.	**Polyethylene pipes**	Volatile Matter content	IS 14885Annexure H	1 mg.kg to 500 mg.kg
35.	**Structured Wall Plastics piping systems**	Resistance to dichloromethane	IS12235 (Pt.11)	Qualitative
II.	**POLYMERIC MATERIALS AND PRODUCTS**			
1.	**Polymeric materials and Products**	Moisture Content	ISO 585 / ASTMD 817	0 to 3%
		Glass Transition Temp, Melting Point by DSC, Identification	ASTM D 3418	-75°C to upto 400°C
		Water Absorption	IS:13360(Pt.8) Sec 1, IS13411, ASTM D 570	0.001% to 100%
		Filler Content	ASTM D5630	0.01% to 100%
		Polymer Content by TGA	ASTM E 1131	0.01% to 100%
		Ash Content / Sulphated Ash Content	ASTM D 5630	0.01% to 100%
		Flammability (Vertical & Horizontal)	UL 94	Qualitative
		UV Resistance	IS 14887 / IS 16208 / IS 14968 / IS 11652/ IS 9755 /IS 7903/ IS 14611/ IS 15351/ ASTM G 154	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Environmental Stress Cracking Resistance (ESCR)	IS 8747/ ASTM D 1693/ IS 15907 Annex C	Qualitative
		Resistance to dichloromethane	IS 12235 (Pt.11)	Qualitative
		Haze / Luminous Transmittance	ASTM D1003 / IS 1541	0.01 % to 100%
		Oxidation Induction Time	ASTM D 3895	0.1 min to 180 min
		Volume Resistivity	ASTM D 257	10^5 to 10^{30} / 0.1 Ω-cm
		Surface Resistivity	ASTM D 257	10^5 to 10^{30} / 0.1 Ω

MECHANICAL TESTING

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	**PLASTICS AND PLASTIC PRODUCTS**			
1.	**UPVC Pipes**	Dimension	IS 12235 (Part 1)	0.1 mm to 1000 mm
		Visual Appearance	IS 4985	Qualitative
		Reversion Test	IS 12235 (Part 5)	0.1% to 20%
		Vicat Softening Point	IS12235 (Part 2)	25°C to 300^{0}C
		Density	IS12235 (Part 14)	0.1 g/cc to 100 g/cc
		Hydrostatic Characteristics	IS 12235 (Part 8/Sec.1)	0.1 kgf/cm^2 to 150 kgf/cm^2
		Resistance to External Blows at 0 ^{0}C	IS 4985	Qualitative
		Opacity	IS 12235 (Part 3)	0.00 % to 100.0%
2.	**UPVC Screen and Casing Pipes**	Dimension – 'OD'	IS12235 (Part 1)	0.1 mm to 1000 mm
		Thickness	IS 12235 (pt.1)	0.01 mm to 50 mm
		Dimensions of the Socket	IS 12818	0.1 mm to 1000 mm
		Density	IS12235 (Part 14)	0.1 g/cc to 100 g/cc
		Resistance to External Blows at 0^{0}C	IS12235 (Part 9)	Qualitative
		Tensile Strength	IS 12235 (Part13)	1 MPa to 500 MPa
		Vicat Softening Point	IS 12235 (Part2)	25°C to 300^{0}C
		Hardness	IS 12818	10 A to 100 A
3.	**UPVC Pipes**	Dimension – 'OD' & Ovality	IS 12235(Part 1)	0.1 mm to 1000 mm
		Socket Dimensions	IS 13592	0.1 mm to 1000 mm
		Thickness	IS 13592	0.01 mm to 50mm
		Reversion Test	IS 12235(Part 5)	0.1 % to 20%
		Stress Relief Test	IS 12235(Part 6)	Qualitative
		Vicat Softening Point	IS 12235(Part 2)	25°C to 300^{o}C
		Effect on Sunlight	IS 12235(Part 13)	Qualitative
		Resistance to External Blows at 0C	IS 12235(Part 9)	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Axial Shrinkage	IS 13592	0.1% to 20%
		Water Tightness of Joint	IS 13592	0.1 kgf/cm^2 to 150 kgf/cm^2
		Tensile Strength	IS 12235(Part 13)	1 MPa to 500 MPa
4.	**Injection molded PVC socket fittings with Solvent cement joints**	Visual Appearance	IS 7834	Qualitative
		Dimension	IS 7834 (Pt.1 to 8)	0.1 mm to 1000 mm
		Dimensions of the Sockets	IS 7834 (Pt.1 to 8)	0.1 mm to 1000 mm
		Thickness	IS 7834 (Pt.1 to 8)	0.01 mm to 50 mm
		Stress Relief Test	IS 7834 (Pt.1)	Qualitative
		Opacity	IS 7834 (Pt.1)	0.00 % to 100 %
		Hydraulic Pressure Test	IS 7834 (Pt.1)	0.1 kgf/cm^2 to 150 kgf/cm^2
5.	**HDPE Pipes for Water Potable Supply up to 630mm nominal diameter**	Visual Appearance	IS 4984	Qualitative
		Dimension	IS 4984	0.1 mm to 1000 mm
		Thickness	IS 4984	0.01 mm to 50 mm
		Melt Flow Index	IS 2530	0.1 to 50 g/10 min
		Reversion Test	IS 4984, Annex F	0.1% to 20%
		Density	IS 7328	100 kg/m^3 to 10000 kg/m^3
		Hydrostatic Characteristics (acceptance & type test)	IS 4984, Annex E	0.1 kgf/cm^2 to 150 kgf/cm^2
6.	**HDPE Material**	Density	IS 7328	100 kg/m^3 to 10000 kg/m^3
		Melt Flow Index	IS 2530	0.1 g/10 min to 50 g/10 min
7.	**Irrigation Equipment - Polyethylene Pipe**	Visual Appearance	IS 12786	Qualitative
		Dimension – 'OD'	IS 12786	0.1 mm to 1000 mm
		Thickness	IS 12786	0.01 mm to 50mm
		Reversion Test	IS 12786	0.1% to 20%
		Hydrostatic Characteristics	IS 12786	0.1 kgf/cm^2 to 150 kgf/cm^2
		Tensile Strength	IS 12786	1 MPa to 500 MPa
		Elongation at Break	IS 12786	1 % to 1000 %
8.	**Irrigation Equipment - Polyethylene Pipes**	Visual appearance	IS 14151 (Pt.1)	Qualitative
		Dimension- 'OD'	IS 14151 (Pt.1)	0.1 mm to 1000 mm
		Thickness	IS 14151 (Pt.1)	0.01 mm to 50 mm
		Density	IS 7328	100 kg/m^3 to 10000 kg/m^3

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Melt Flow Index	IS 2530	0.1 to 50 g/10 min
		Hydrostatic Characteristics (acceptance & type test)	IS 14151 (Pt.1)	0.1 kgf/cm^2 to 150 kgf/cm^2
		Reversion Test	IS 14151 (Pt.1)	0.1 % to 20%
		Tensile Test	IS 14151 (Pt.1)	1 MPa to 500 MPa
		Elongation at Break	IS 14151 (Pt.1)	1 % to 1000 %
		Fusion Compatibility Test	IS 14151 (Pt.1)	0.1 kgf/cm^{2}to 150 kgf/cm^2
9.	**Irrigation Equipment - Polyethylene Pipes Quick coupled PE pipes & fittings**	Visual appearance	IS 14151 (Pt.2)	Qualitative
		Size of the Coupler Part Dimension	IS 14151 (Pt.2)	0.1 mm to 1000 mm
		Thickness	IS 14151 (Pt.2)	0.01 mm to 50 mm
		Rubber Ring (a)Hardness (Shore A)	IS 14151 (Pt.2)	10 A to 100 A
		Ageing Test	IS 14151 (Pt.2)	Qualitative
		Leakage Test	IS 14151 (Pt.2)	0.1 kgf/cm^2 to 150 kgf/cm^2
		Hydraulic Proof Test	IS 14151 (Pt.2)	0.1 kgf/cm^{2}to 150 kgf/cm^2
		Holding Attachments Used Coupler	IS 14151 (Pt.2)	0.1 kgf/cm^{2}to 150 kgf/cm^2
		Hydraulic Characteristics (weldability) a. Acceptance Test b. Quality Test	IS 14151Pt.2)	0.1 kgf/cm^2 to 150 kgf/cm^2
10.	**Rotational Moulded Polyethylene Water Storage Tank**	Weight of the Tank	IS 12701	0.25 kg to 600 kg
		Net Capacity	IS 12701	1 ltr to 25000 ltr
		Gross Capacity	IS 12701	1 ltr to 25000 ltr
		Dimensions	IS 12701	0.1 mm to 1000 mm
		Thickness	IS 12701	0.01 mm to 50 mm
		Top Load Resistance	IS 12701	Qualitative
		Tensile Strength	IS 8543 (Pt4/Sec.1)	1 MPa to 500 MPa
10.	**Rotational Moulded Polyethylene Water Storage Tank**	Flexural Modulus	IS13360 (Pt5/Sec.7)	1 MPa to 500 MPa
		Resistance to Deformation	IS 12701	0.1% to 20 %
		Resistance to Impact	IS 12701	Qualitative
		Materials: Melt Flow Index	IS 2530	0.1 to 50 g/10 min

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Density	IS 7328	0.1 g/cc to 100 g/cc
11.	**Polyethylene Films & Sheets**	Visual appearance	IS 2508	Qualitative
		Density	IS 13360 (Pt.3/Sec.1)	0.1 g/cc to 100 g/cc
		Melt Flow Index	IS 13360 (Pt.4/Sec.1)	0.1 min to 50 g/10 min
		Thickness	IS 2508, Annex A	5 µm to 500 µm
		Width	IS 2508	10 mm to 15000 mm
		Tensile Strength	IS 13360 (Pt.5/Sec.1,3)	1 MPa to 500 MPa
		Elongation at Break	IS 13360 (Pt.5/Sec.1,3)	1% to 1000%
		Impact Resistance	IS 13360 (Pt.5/Sec.6)	30 gf to 1000 gf
12.	**HDPE Pipes**	Visual appearance	IS 14333	Qualitative
		Dimension -OD	IS 14333	0.1 mm to 1000 mm
		Thickness	IS 14333	0.01 mm to 50mm
		Reversion Test	IS 14333	0.1 % to 20 %
		Hydrostatic characteristics	IS 14333	0.1 kgf/cm^2 to 150 kgf/cm^2
		Density	IS 7328	100 kg/m^3 to 10000 kg/m^3
		Melt Flow Index	IS 2530	0.1 to 50 g/10 min
13.	**Irrigation Equipment Emitters**	Visual Appearance	IS 13487	Qualitative
		Flow Path	IS 13487	0.1 mm to 10 mm
		Uniformity of Emitting Rate	IS 13487	0.1lph to 15 lph
		Resistance to Hydrostatic Pressure	IS 13487	0.1 kgf/cm^2 to 150 kgf/cm^2
		Emission Rate as Function of Inlet Pressure	IS 13487	0.1 kgf/cm^2 to 10 kgf/cm^2
		Determination of Emitter Exponent	IS 13487	0.1 kgf/cm^2 to10 kgf/cm^2
		Emitting Pull out test	IS 13487	30 N to 45 N
14.	**Irrigation Equipment Emitting Pipe**	Dimension – 'OD'	IS 13488	0.1 mm to 1000 mm
		Thickness	IS 13488	0.01 mm to 50mm
		Spacing of Emitting Units	IS 13488	10 mm to 1000mm
		Flow Path	IS 13488	0.1 mm to 10 mm
		Uniformity of Emitting Rate	IS 13488	0.1 lph to 15 lph

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to Hydrostatic Pressure at ambient temperature	IS 13488	0.1 kgf/cm^2 to 150 kgf/cm^2
		Resistance to Hydrostatic Pressure at elevated temperature	IS 13488	0.1 kgf/cm^2 to 150 kgf/cm^2
		Resistance to Tension at Elevated Temperature	IS 13488	0.1 % to 15%
		Rest. TO PULL Out of Joints between Fitting and Emitting	IS 13479	Qualitative
15.	**UPVC Injection Moulded Fittings**	Visual appearance	IS 14735	Qualitative
		Dimension -MID	IS 14735	0.1 mm to 1000 mm
		Thickness	IS 14735	0.01 mm to 50mm
		Dimension of the socket	IS 14735	0.1 mm to 1000 mm
		Chamfer	IS 14735	10° to 45°
		Stress Relief Test	IS 12235(Part 6)	Qualitative
		Impact Test (Drop Test)	IS 14735	Qualitative
		Water Tightness of Joint	IS 14735	0.1 kgf/cm^2 to 150 kgf/cm^2
		Hardness	IS 5382	10 A to 100 A
		Vicat Softening Temperature	IS 6307	25°C to 300^{0}C
16.	**Irrigation Equipment-Polyethylene Micro Tubes**	Visual appearance	IS 14482	Qualitative
		Dimension – 'ID'	IS 14482	0. 1 mm to 1000 mm
		Thickness	IS 14482	0.01 mm to 50mm
		Reversion Test	IS12786	0.1% to 20%
		Resistance to Hydrostatic Pressure test	IS 14482	0.1 kgf/cm^2 to 150 kgf/cm^2
		Tensile Strength	IS12786	1 MPa to 500 MPa
		Elongation at Break	IS12786	1 % to 1000 %
17.	**Textiles-HDPE/ PP Woven Sacks**	Dimensions	IS 1954/IS 9755/IS:11652/ IS 14887	1 mm to 3000 mm
		Mass of the Fabric	IS 1964/IS 9755/IS:11652/ IS 14887	10 g to 2000 g

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Avg. Breaking Strength	IS 1969/IS 9755/IS 11652/ IS 14887	1 N to 5000 N
		Elongation at Break	IS1969/IS 9755/IS:11652/ IS 14887	1 % to 1000%
		Seam Strength	IS 9030	1 N to 5000 N
		Capacity	IS 14887	5 kgf to 200 kgf
18.	**PE/Al/PE Composite Pressure Pipes**	Dimensions	IS 15450	0.1 mm to 1000 mm
		Visual Appearance	IS 15450	Qualitative
		Thickness	IS 15450	0.01 mm to 50 mm
		Density	IS 7328	100 kg/m^3 to 10000 kg/m^3
		Melt Flow Index	IS 2530	0.1 to 50 g/10 min
		Adhesion Test	IS 15450	Qualitative
		Apparent Tensile Strength of pipe	IS 15450	1 Mpa to 500 Mpa
		Hydraulic Characteristics	IS 15450	0.1 kgf/cm^2 to 150 kgf/cm^2
19.	**Laminated Hdpe Woven Fabric (Geomembrane)**	Thickness	IS 7016 (Pt.1)	0.01 mm to 50 mm
		Mass, g/m2,Min	IS 7016 (Pt.1)	5 gsm to 1000 gsm
		Breaking load on 20 cmx10 cm strip (Before /After UV)	IS 13162 (Pt.5)	1 N to 5000 N
		Breaking load on 20 cmx10 cm strip, N,	IS 13162 (Pt.5)	1 N to 5000 N
		Impact failure load, at 1 520 mm drop, Min, gram force at 50% failure	IS 15351, Annex C	0.5g to 5000 gf
		Tear resistance, N, Min	IS 7016 (Pt.3) Method A1	1 N to 5000 N
		Puncture resistance, N, Min	IS 15351-2015,Annex D	1 N to 5000 N
		Bursting strength (ball burst)	IS 7016 (Pt.6)	1 N/cm^2 to 500 N/cm^2
		Seam Strength (Before/After UV exposure	IS 15060	1 N/mm to 5000 N/mm
		Hydrostatic resistance	IS 15351, Annex E	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
20.	**Aerial Bunched Cables – For Working Voltages upto and including 1 100 Volts**	Dimensions	IS 14255	12 mm to 100 mm
		Tensile Strength after ageing in Air Oven	IS 10810 (Pt.11)	1 MPa to 500 MPa
		Tensile Strength	IS 10810 (Pt.7)	1 MPa to 500 MPa
21.	**PVC Insulated unsheathed and sheathed Cables/ Cords with rigid and flexible conductor for rated voltages upto and including 450/750 V (Insulation & Sheath)**	Tensile Test	IS 10810 (Pt.7)	1 MPa to 500 MPa
		Dimensions	IS 694 & IS 1554 (Part 1)	10 mm to 1000 mm
		Loss of Mass	IS 10810 (Pt.3)	0.1 g to 200g
		Shrinkage	IS 10810 (Pt.12)	0.1% to 20%
22.	**Conduit System for Electrical Installation**	Visual Appearance	IS 14930 (Part I)	Qualitative
		Dimensions	IS 14930 (Part I)	0.1 mm to 1000 mm
		Compression Test	IS 14930 (Part I)	1 MPa to 500 MPa
		Tensile Test	IS 14930 (Part I)	1 MPa to 500 MPa
		Resistance to Flame Propagation	IS 14930 (Part I)	Qualitative
		Resistance to External Influences	IS 14930 (Part I)	Qualitative
23.	**Crosslinked Polyethylene Insulated PVC Sheathed Sheathed Cables**	Tensile Test	IS 10810 (Pt.7)	1 MPa to 500 MPa
		Elongation	IS 10810 (Pt.7)	1% to 1000 %
		Tensile Strength after ageing in Air Oven	IS 10810 (Pt.11)	1 MPa to 500 MPa
		Hot Set	IS 10810 (Pt.30)	2% to 200 %
24.	**Conduit for Electrical Installations**	Dimensions	IS 9537 (Pt-1& Pt.3)	12 mm to 630 mm
		Compression Test	IS 9537 (Pt-1)	1 MPa to 500 MPa
25.	**Specification for Unbacked Flexible PVC Flooring**	Thickness	IS 3464	0.01 mm to 50 mm
		Dimension Stability	IS 3464	0.1 % to 20 %
		Elastic Product	IS 3464, Appendix D	0.1 mN/m^2 to 10 mN/m^2

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
26.	**Fabricated PVC fittings**	Size of the fitting Dimension of the Socket	IS 10124 (Pt.1 to Pt. 13)	16 mm to 650 mm 0.1 mm to 1000 mm
		Thickness	IS 10124 (Pt .1to Pt. 13)	0.01 mm to 50 mm
		Opacity	IS 12235 (Pt.3)	0.00% to 100.0%
		Hydraulic Pressure Test	IS 10124 (Pt.1-Annex A) (Pt.1 to Pt.13)	0.1 kgf/cm^2 to 150 kgf/cm^2
27.	**Blow Moulded Hdpe Containers**	Capacity	IS: 10840	2 ML to 5000 ML
		Mass	IS 10840	5 g to 5 kg
		Wall Thickness	IS 10840	0.01 mm to 50 mm
		Drop Impact Test	IS 10840	0.250 to 15
28.	**High Density Polyethylene (HDPE) Crates**	Dimension	IS 11584	0.1 mm to1000 mm
		Mass	IS 11584	5 g to 5000 g
		Resistance to Stress	IS 11584,Appendix A	50±5 °C
		Resistance to Applied Load	IS 11584, Appendix B	0.1 mm to1000 mm
		Resistance to Drop	IS 11584, Appendix C	Qualitative
		Dimensional Stability	IS 11584 Appendix D	Qualitative
		Granules: Density	IS 7328	100 kg/m^3 to 10000 kg/m^3
29.	**Rotating Sprinklers**	Thread Connection	IS 12232 (Pt.1), Cl.6.2	50 Nm
		Diameter of Coverage	IS 12232 (Pt.1), Cl.7.4	1 to 30 m
		Test for resistance to Hydrostatic Pressure	IS 12232 (Pt.1), Cl.6.3	0.1 $kgf/cm^2$to 150 kgf/cm^2
		Durability	IS 12232 (Pt.1), Cl.6.8	0.1 kgf/cm^2 to 100 kgf/cm^2
29.	**Rotating Sprinklers**	Test for Water Tightness	IS 12232 (Pt.1)	0.1 kgf/cm^2 to 150 kgf/cm^2
		Test for Distribution Characteristics	IS 12232 (Pt.1), Cl.7.2	0.1 kgf/cm^2 to 150 kgf/cm^2
30.	**UPVC Non-Pressure Pipes**	Dimensions 1) Mean OD	IS 15328	0.1 mm to 1000 mm
		2) Wall Thickness	IS 15328	0.01 mm to 50 mm
		3) Length of Pipe	IS 15328	0.5 mm to 6000 mm
		Vicat Softening Temp (°C)	IS 15328, Annex A	25°C to 3000C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Longitudinal Reversion Test	IS 12235 (Pt.5)	0.1% to 20%
		Resistance to External Blows at 0^0 C	IS 15328, Annex B	Qualitative
		Ring Stiffness	IS 15328, Annex C	1 MPa to 500 MPa
		Resistance to Internal Hydrostatic Pressure (Type Test)	IS 12235 (Pt.8)	0.1 kgf/cm^2 to 15 kgf/cm^2
		Elastomeric Sealing Ring Joints	IS 15328, Annex D	0.1 kgf/cm^2 to 150 kgf/cm^2
		Internal Negative Hydrostatic Pressure (Internal Vacuum)	IS 15328, Annex E	0.1 kgf/cm^2 to 150 kgf/cm^2
31.	**Glass Fiber Reinforced Plastics Pipes, Joints and Fittings**	Dimensions & Tolerances	IS 12709, Annex A	1 mm to 1000 mm
		Pipe Stiffness	IS 12709,Annex B	1 MPa to 500 MPa
		Longitudinal Strength	IS 12709,Annex D	1 MPa to 500 MPa
		Hoop Tensile Strength	IS 12709,Annex E	1 MPa to 500 MPa
32.	**Chlorinated Polyvinyl Chloride Pipes (CPVC)**	Dimensions	IS 12235 (Pt.1)	0.1 mm to 1000 mm
		Opacity	IS 12235 (Pt.3)	0.00% to 100%
		Reversion test	IS 12235 (Pt.5/Sec.1&2)	0.1% to 20%
		Vicat Softening Temp	IS 12235 (Pt.2)	25°C to 300^{0}C
		Density	IS 12235 (Pt.14)	1 kg/m^3 to 3000 kg/m^3
		a. Acceptance test for 1hr	IS 12235 (pt.8) Sec 1	0.1 kgf/cm^2 to 150 kgf/cm^2
		b. Type test for 165 hrs		0.1 kgf/cm^2 to 150 kgf/cm^2
		c. Type test for 1000hrs		0.1 kgf/cm^2 to 150 kgf/cm^2
		Resistance to External Blows at 0^0 C	IS 4985	Qualitative
		Flattening test	IS 12235 (Pt.19)	1 MPa to 500 MPa
		Tensile strength	IS 12235 (Pt.13)	1 MPa to 500 MPa
33.	**Solvent cement for with UPVC Pipe with Fittings**	Lap shear strength	IS 14182	
		a) After 2 hrs.		1 MPa to 500 MPa
		b) After 10 hrs.		1 MPa to 500 MPa
		c) After 72 hrs.		1 MPa to 500 MPa
		Hydrostatic burst strength	IS 14182	0.1 kgf/cm^2 to 150 kgf/cm^2

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
34.	**Irrigation Equipments Micro Sprayers**	Resistance to threaded connection	IS 14605	0.1 Nm to 50Nm
		Resistance to hydrostatic pressure test at ambient temp.	IS 14605	0.1 kgf/cm^2 to 50 kgf/cm^2
		Uniformity of flow rate	IS 14605	0.1 lph to 50 lph
		Flow rate as a function of inlet pressure	IS 14605	1 kpa to 100 kpa
35.	**Fertilizers And Chemical Injection System**	Resistance of venturi Injector to internal hydrostatic pressure	IS 14483 (Pt.1)	0.1 kgf/cm^2 to 150 kgf/cm^2
		Performance test	IS 14483 (Pt.1)	0.1 kgf/cm^2 to 150 kgf/cm^2
		Type test	IS 14483 (Pt.1)	0.1 kgf/cm^2 to 150 kgf/cm^2
36.	**Multilayered Cross Laminated Sheets & Tarpaulins / Covers**	Type	IS 14611	Qualitative
		Sealing band distance		5 mm to 25000 mm
		Length & Width of the sheet		5 mm to 25000 mm
		Workmanship	IS 14611	Qualitative
		Mass per unit area	IS 7016 (Pt.1)	5 gsm to 1000 gsm
		Tensile strength	IS 13360 (Pt.5/Sec.1 & Sec.3)	1 MPa to 500 MPa
		Elongation at break	IS 13360 (Pt.5/Sec.1 & Sec.3)	1% to 1000 %
		Tear Strength	IS 14611,Annex F	1 g to 5000 g
		Dart Impact Strength	IS 13360 (Pt.5/Sec.6) Method B	5 g to 1000 g
		Water Proofness test	IS 7016 (pt.7)	Qualitative
		Strength of Joints/Seams	IS 14611, Annex C	Qualitative
		Flex Test	IS 7016 (pt.4 & 8)	Qualitative
37.	**Tarpaulins Made From Hdpe Woven Fabric**	Mass	IS 1964	1 gsm to 1000 gsm
		Breaking strength	IS 1969	1 N to 5000 N
		Elongation	IS 1969	1 % to 1000 %
		Puncture strength	IS 7903, Annex B	1 N to 5000 N
		Tongue Tear strength	IS 14293	1 N to 5000 N
		Colour fastness	IS 2454	4 or better

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Welded seam strength	IS 1969	1 N to 5000 N
		Eyelets	IS 4084	Qualitative
		Line / Cord Beading	IS 7903	Qualitative
		Construction/ Dimensions & Visual Appearance	IS 7903	Qualitative
		Bonding Overlap distance	IS 7903	0.1 mm to 300 mm
		Fixing of Eyelets Thickness	IS 7903	0.1 mm to 300 mm
38.	**Strainer Type Filters**	Resistance of Strainer to Internal Hydrostatic Pressure Testing	IS 12785	0.1 kgf/cm^2 to 150 kgf/cm^2
		Resistance to Internal Hydrostatic Pressure at high temperature	IS 12785	0.1 kgf/cm^{2}to 150 kgf/cm^2
		Resistance of Strainer Element to buckling or tearing	IS 12785	0.1 kgf/cm^2 to 150 kgf/cm^2
		Tightness of Strainer Element	IS 12785	0.1 kgf/cm^2 to 150 kgf/cm^2
		Clean Pressure Drop	IS 12785	0.1 kgf/cm^2 to 150 kgf/cm^2
39.	**Polyethylene pipes for supply of Gaseous fuels**	Visual Appearance	IS 14885	Qualitative
		Dimension	IS 14885	1 mm to 1000 mm
		Thickness	IS 14885	0.1 mm to 75 mm
		Melt Flow Index	IS 2530	0.1 mm to 10 g/10 min
		Reversion Test	IS 14885	0.1 to 20%
		Density	IS 2530	100 kg/m^3 to 1000 kg/m^3
		Hydrostatic Characteristics (acceptance & type test)	IS 14885	0.1 kgf/cm^{2}to 150 kgf/cm^2
40.	**Polypropylene Random (PPR) Copolymer pipes**	Diameter	IS15801/ DIN 8077	12 mm to 315 mm
		Visual appearances / Surface Finish	IS 15801/ DIN 8078	Qualitative
		Hydrostatic characteristics / Hydrostatic Strength	IS12235 (Part 8) / DIN 8078	0.1 kgf/cm^2 to 150 kgf/cm^2

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Reversion	IS12235 (Part 5) / DIN 8078	0.1% to 20%
		Density	IS12235 (Part14)	100 kg/m^3 to 10000 kg/m^3
		MFR	IS13360 (Part 4)	0.1 min to 10 g/10 min
		Opacity	IS12235 (Part 3)	0.00 %to 100%
41.	**Plastic containers for lead-acid storage batteries**	Verification of Constructional requirements	IS 1146	Qualitative
		Izod Impact Strength (Notched) (Nm)	IS 1146	0.10 Nm to 25 Nm
		Plastic Yield (mm)	IS 1146, Append.D	0.1 mm to 10 mm
		Acid Resistance Test	IS 1146, Append. E	0.1 mg/cm^2 to 10.0 mg/cm^2
42.	**Structured Wall Plastics piping systems for non pressure Drainage & Sewerage Pipe (Foam core Pipe)**	Dimension Dimension of Integral Socket & Spigot ends	IS 16098 (part 1) / IS 12235 (part 1)	0.1 mm to 1000 mm 0.1 mm to 1000 mm
		Wall thickness	IS 16098 (part 1)	0.1 mm to 25 mm
		Visual Appearance	IS 16098 (part 1)	Qualitative
		Vicat Softening Point	IS 12235 (Part 2)	25°C to 300^{0}C
		Longitudinal Reversion	IS 12235 (Part 5)	0.1% to 20%
		Ring Stiffness	IS 16098 (Annexure C)	1 Mpa to 500 Mpa
		Resistance to External Blows	IS 12235 (Part 9)	Qualitative
		Ring Flexibility	IS 16098 (part 1	Qualitative
43.	**Plastic Containers**	Measurement of Dimensions	IS 2798	0.1 mm to 6000 mm
		Capacity	IS 2798	1 ml to 50000 ltr
		Mass of Container	IS 2798	1 to 5000
		Drop Impact Test	IS 2798	Qualitative
		Ink Adhesion Test	IS 2798	Qualitative
44.	**PE Bags**	Structure & Shape / Appearance	IS 9738	Qualitative
		Dimensions	IS 9738	10 mm to 15000 mm
44.	**PE Bags**	Nominal Thickness	IS 2508	1 µm to 250 µm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Water Leak Test	IS 9738	Qualitative
		Drop Impact Test	IS 9738	Qualitative
		Ink Adhesion Test	IS 9738	Qualitative
45.	**HDPE Bucket**	Appearance & Construction	IS 3730	Qualitative
		Mass	IS 3730	10 g to 5000 g
		Drop Impact Test	IS 3730	Qualitative
		Overload Test	IS 3730 Appendix A	Qualitative
46.	**HDPE Films**	Appearance / Film Form / Odour	IS 10889	Qualitative
		Density	IS 13360 (Pt.2/Sec 1)	0.1 g/cc to 100 g/cc
		Melt Flow Index	IS 13360 (Pt.4/Sec 1)	0.10 min to 15 g/10 min.
		Thickness	IS 10889	10 µm to 250 µm
		Width	IS 10889	10 mm to 15000 mm
		Yield Tolerance	IS 10889	± 50%
		Tensile Strength	IS 13360 (Pt.5/Sec 1 & 3)	1 MPa to 500 MPa
		Elongation at Break	IS 13360 (Pt.5/Sec 1 & 3)	1% to 1000 %
		Impact Resistance	IS 13360 (Pt.5/Sec 6)	30 gf to 1000 gf
47.	**Polymeric materials and Products**	Tensile Strength, Tensile Modulus	ASTM D 638 / ASTMD 882 /ISO 527/ IS 13360 (Pt.5/Sec 1 & 3)	1 MPa to 500 MPa
		Elongation at Break	ASTM D 638 / ASTMD 882 /ISO 527/ IS 13360 (Pt.5/Sec 1 & 3)	1 %to 1000 %
		Flexural strength, Flexural Modulus	ASTM D 790/ ISO 178/ IS:13360 (Pt.5/ Sec.7)	1 N to 5000 N
		Izod/Charpy Impact Strength	ASTM D6110-10/ISO 178/ ASTMD 256-10/ISO 18-2000/ IS:13360 (Pt.5/Sec.5) ISO 179/IS 15801 AnnexB	2 J/m to 1500 J/m, 1 KJ/m^2 to 175 KJ/m^2

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Compressive Strength / Ring Stiffness	ASTM D 695 / IS 16098/ IS:15328	1 N to 5000 N
		Seal Strength	ASTM F88 M-09	1 N to 5000 N
		Melt Flow Index	ASTM D 1238, ISO 1133, IS 13360(Pt.4/Sec 1-IS 2530	0.02 to 60 g/10 min
		Density / Specific Gravity	ASTM D 792 / IS 7328 / IS 12235(pt.4) / IS 13360(Pt.3/Sec.1),IS 8543 (Pt.3/Sec I / IS 11805 /IS 10889 / ISO 118/IS 11584	940.0 to 958.4 kg/m^3
		Heat Deflection Temperature	ASTM D 648 / IS 13360/ ISO 75 (Pt.1 & Pt.2)	25°C to 300^{0}C
		Vicat Softening Temperature	ASTM D 1525 / IS 6307/ ISO 306	25°C to 300^{0}C
		Coefficient of Friction (Slip test)	ASTM D 1894	0.1 to 5.0
		Rockwell Hardness –R Scale	ASTM D 785	30R to 150 R
		Inter Laminar Shear Strength (ILSSS)	ASTM D 2344	1 MPa to 500 MPa
		Abrasion Resistance	ASTM D 4060/ ASTM D 1044	0.1 mg to 10 g
		Grammage/Substance (GSM)	IS 1060 (Pt.1) Clause 6.2.1	0.01 gsm to 600 gsm
		Peel Bond Strength	IS 15909	1 N to 5000 N
48	**Wood Products - Pre-Laminated Particle Boards**	Density	IS 2380 (Part3)	500 Kg/m^2 and 900 Kg/m^2
		Water Absorption	IS 2380 (Part 16)	5 % and 15 %
		Swelling in Water	IS 2380 (Part17)	Max. 8%
		Modulus of Rupture	IS 2380 (Part 4)	0.05 KN to 50KN
		Tensile Strength	IS 2380 (Part 5)	0.05 KN to 50KN

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Screw Withdrawal	IS 2380(Part 14)	0.05 KN to 50KN
		Abrasion Resistance	IS 12823, Annex D	Upto 450 Rev
49.	**MARINE PLYWOOD**	Dimensions	IS 710	Upto 6000 mm,
		Thickness	IS 710	0.01 mm to 50 mm
		Workmanship & Finish	IS 710	Qualitative
		Glue Shear Strength	IS 1734 (Pt.4)	0.05 N to 50 KN
		Resistance to water	IS 710-2010	Qualitative
		Tensile Strength	IS 1734 (Pt.9)	0.05 N to 50 KN
		Resistance to Micro-organism (Mycological Test)	IS 1734 (Pt.7)	Qualitative
		Static Bending Strength (Dry State) a)Modulus of Elasticity b)Modulus of Rupture	IS 1734 (Pt.11)	0.05 KN to 50 KN
		Static Bending (Wet State) a)Modulus of Elasticity b)Modulus of Rupture	IS 1734 (Pt.11)	0.05 KN to 50KN