Laboratory	**Central Institute of Plastics Engineering and Technology (CIPET), B-25, C.N.I. Complex, Patia, Bhubaneswar, Orissa**
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.	**PLASTIC & RESINS**			
1.	**UPVC Pipe for Potable Water Supplies**	Effect on Water	IS: 12235 (Pt.4,10,11)2004	
		Lead		0.01 mg/l to 10 mg/l
		Tin		0.01 mg/l to 10 mg/l
		Cadmium		0.01 mg/l to 10 mg/l
		Mercury		0.01 mg/l to 10 mg/l
		Reversion Test	IS:12235 (Pt.5)2004	0.01% to 10%
		Vicat Softening Temp.	IS:12235 (Pt.2) 2004 ASTM D 1525-2000	50^0C to 150^0C
		Sulphated Ash Content	IS:12235 (Pt.17)2004	0.01 % to 20 %
2.	**UPVC Screen and Casing Pipes for Bore/Tube Well**	Vicat Softening Temp.	IS:12235 (Pt.2) 2004 ASTM D 1525:2000	50^0C to 150^0C
		Effect on Water Lead Tin Cadmium Mercury	IS: 12235 (Pt.4,10,11) 2004	 0.01 mg/l to 10 mg/l 0.01 mg/l to 10 mg/l 0.01 mg/l to 10 mg/l
3.	**UPVC Pipes for soil and waste Discharge System inside building excluding ventilation and Rain water System**	Reversion	IS: 12235 (Pt.5)2004	0.01 % to 10 %
		Stress Relief Test	IS: 12235 (pt.6) 2004	Qualitative
		Vicat Softening Temp.	IS:12235 (Pt.2) 2004 ASTM 1525:2000	50^0C to 150 ^{0}C
		Resistance to Sulphuric Acid	IS: 12235(Pt.7) 2004	0.001 g to 10 g
		Axial Shrinkage Resistance to Dichloromethane	IS:13592 : 2013 IS: 12235(Pt.11) 2004	0.01% to 20 % Qualitative

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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
4.	**Injection Molded PVC Fitting with Solvent Cement Joints for Water Supplies**	Stress Relief Test	IS: 12235(pt.6)-2004	Qualitative
		Effect on Water Lead Tin Cadmium Mercury	IS: 12235-2004 (Pt.4,10,11)	 0.01 mg/l to 10 mg/l 0.01 mg/l to 10 mg/l 0.01 mg/l to 10 mg/l 0.01 mg/l to 10 mg/l
5.	**High Density Polyethylene Pipes for Potable Water Supplies sewage & Industrial Effluents**	Reversion Test	IS:4984 : 1995 RA-2008	0.01% to 10 %
		Melt Flow Index	IS :2530 : 1963 (RA-2003)	0.1 g/10min to 20g/10min
		Overall Migration	ASTM D 1238 : 2004 IS: 9845 : 1986 (RA-1998)	0.1 mg /dm^2 to 80 mg /dm^2
		Carbon Black content	IS: 2530 : 1963 (RA2003) ASTM 1603 : 2001	0.01 % to 40 %
		Carbon Dispersion	IS: 2530 : 1963 (RA-2003)	Qualitative
6.	**Irrigation Equipments Polyethylene Pipes for Irrigation Laterals**	Reversion Test	IS: 12786 : 1989 (RA-2002)	0.01 % to 10 %
		Susceptibility to Environmental Stress Cracking	IS: 12786 : 1989 (RA-2002)	Qualitative
7.	**Polyethylene Pipes for Sprinkler Irrigation System**	Melt Flow Index	IS: 2530-2003 ASTM D 1238-2004	0.1 g/10 min. to 20 g/10 min.
		Carbon Black Content	IS: 2530-2003 ASTM D 1603-2001	0.01 % to 10 %
		Carbon Black Dispersion	IS: 2530-63 (RA-2003)	Qualitative
		Reversion Test	IS: 14151-99 (Pt.1) 2004	0.01% to 10%
8.	**Polyethylene Pipes for Sprinkler Irrigation System**	Melt Flow Index	IS: 2530-2003 ASTM D 1238-2004	0.1 g/10min to 20 g/10min
		Carbon Black Content	IS: 2530-1963 (RA-2003)	0.01% to 10 %
		Carbon Black Dispersion	IS: 2530-1963 (RA-2003)	Qualitative
9.	**Rotational Molded Polyethylene Water Storage**	Carbon Black Content	IS: 2530-2003 ASTM 1603-2001	0.01% to 10 %
		Carbon Black Dispersion	IS: 2530 : 2003	Qualitative
		Migration Test in Water & Acetic acid	IS: 9845 : 1986 (RA-1998)	0.1 mg/dm^2 to 10 mg/dm^2

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
10.	**Low Density Polyethylene Pipes for Potable Water Supplies**	Reversion Test	IS: 3076 : 1998	0.01 % to 10 %
11.	**Direct Action Hand Pump Specification**	Stress Relief Test	IS: 7834-87(Pt.1)(RA-1998)	Qualitative
		Effect on Water Test for Injection Molded Fittings Lead Tin Cadmium Mercury	IS:12235-(Pt-4,10,11)2004	 0.01 mg/l to 10 mg/l 0.01 mg/l to 10 mg/l 0.01 mg/l to 10 mg/l 0.01 mg/l to 10 mg/l
		Melt Flow Index	IS:7328:1992 (RA-2003)	0.1 g/10min to 20 g/10min
		Moisture Content	IS:2530:1963 (RA-2003)	0.01 %to 10 %
		Carbon Black Content	IS:2530:1963 (RA-2003)	0.01% to 10%
		Carbon Black Dispersion	IS:2530:1963 (RA-2003)	Qualitative
		Vicat Softening Point	IS:6307:1985	50°C to 150°C
12.	**HDPE Pipes for Sewerage**	Reversion	IS:14333 : 1996 (RA-2007)	0.01% to 50 %
		Carbon Black Content	IS:2530:1963/ (RA-2003)	0.01% to 40%
		Carbon Black Dispersion	IS:2530:1963 (RA-2003)	Qualitative
		Melt Flow Index	IS:2530:1963/(RA-2003)	0.1 g/10 min to 20 g/10 min
13.	**UPVC Pipes (Duct and fittings for Underground Telecom Cable Installation**	Reversion	IS: 12235-86 (Pt.5) (RA-1998)	0.01 % to 20 %
		Stress Relief Test	IS: 12235-86 (Pt.6) (RA-1998)	Qualitative
		Vicat Softening Temp.	IS:6307:1985/RA-2003	50^0 to 150^0C
		Resistance to Chemical action	IS: 14787 : 2000 RA-2005	Qualitative
		Ash Content	IS: 14787 : 2000 RA-2005	0.01 % to 20 %

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
14.	**Polyethylene pipes for the Supply of Gaseous Fuels**	Reversion	IS : 14885 : 2001 RA-2007	0.01 % to 10 %
		Melt Flow Index	IS: 2530 : 1963 (RA-2003)	0.1 gm/10min to 20 gm/10min
		Resistance to Weathering	IS: 14885 : 2001 RA-2007	Qualitative
15.	**Solvent Cement for use with Unplasticized Polyvinyl Chloride Plastic Pipe and Fittings**	Vinyl Chloride Polymer Content	IS: 14182:1994 (RA-2005)	0.01% to 20 %
		Dissolution	IS:14182 : 1994 (RA-2005)	Qualitative
		Viscosity	IS:14182 : 1994 (RA-2005)	50 cP to 9000 cP
16.	**Textile – Monoaxially Oriented High Density Polyethylene Tapes**	Density	IS:7328 : 1992 (RA-2008)	0.01 g/cc to 1.5 g/cc
		Heat Shrinkage	IS:6192 : 1994 (RA-1999)	0.1 % to 20 %
17.	**Monoaxially oriented Polypropylene tapes**	Melt Flow Index	IS:7328 : 1992 (RA-2008)	0.1 g/10min to 20 g/10min
		Dimensional Stability	IS:11197 : 1985 (RA-2010)	0.01% (Min)
18.	**Monoaxially oriented High Density Polypropylene tapes**	Heat Shrinkage	IS:6193 : 1971 (RA-2002)	0.1 % to 20 %
19.	**HDPE Molding Extrusion**	Density	IS:7328 : 1992 (RA-2008)	800.0 Kg/m^3 to 1000.0 Kg/m^3
		Flow Index	IS:7328 : 1992 (RA-2008)	0.1 g/10min to 20 g/10min
		Carbon Black Content	IS:2530 : 1963 (RA-2003)	0.01% to 10%
		Carbon Black Dispersion	IS:2530 : 1963 (RA-2003)	Qualitative
		Deflection Temp. under load	IS:7328 : 1992 (RA-2008)	50 ^{0}C to 150 ^{0}C
		Vicat Softening Temp.	IS:7328 : 1992 (RA-2008)	50 ^{0}C to 150 ^{0}C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Water Absorption	IS:2530 : 1963 (RA-2003)	0.01 % to 10 %
		Environmental Stress Cracking Resistance	IS:7328 : 1992 (RA-2008)	Qualitative
20.	**Polymers & Plastic material**	Identification	IS: 3400 (Part-22)-RA-1998	Qualitative
		Melting point	As per IS:13360 (Pt.6) Sec.10-92 (RA-2003)	100 ^{0}C to 300 ^{0}C
		Filler content	As per ISO 3451-1(Part-1) Method-A	0.1% to 25 %
21.	**PVC Insulation and Sheath of Telecommunication Cables Specification**	Loss of mass	IS: 13176-1991	1.0 mg/cm^2 to 30 mg/cm^2
		Thermal stability	IS: 13176-1991	Qualitative
		Water absorption	IS:10810-2001(Pt.33)	0.1 % to 15 %
22.	**Containers for Packaging of Natural Mineral Water & Packaged Drinking Water Specification**	Environmental stress Crack resistance	IS:8747-1977	Qualitative
		Transparency	IS:15410-2003 RA-2009	Qualitative
		Migration test	IS:9845-86	0.1 mf/lit to 80 mf/lit
		Water portability test	IS:15410-2003 RA-2009	Qualitative
23.	**Polyvinyl Chloride Plastics pipe schedule 40,80 & 120**	Extrusion Quality test	ASTMD 2152-1980	Qualitative
24.	**Plastics Materials & Products**	Water absorption of plastics	ASTM D 570-1998	0.01 % to 30 %
25.	**Packaged Drinking Water Container (Other than Packaged Natural Mineral Water) Specification**	Migration Test	IS:9845-1998	0.1 mg/liter to 80 mg/liter

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
26.	**UPVC pipes for potable water supplies**	K- value	IS:4669-1968 (RA 2003)	50 to 80
27.	**PE flexible pouches for the packing of Natural Mineral Water Packaged Drinking Water**	Overall Migration	IS:9845-1998	0.1 mg/liter to 80 mg/liter
		Water portability test	IS:15609-2005 RA-2009 IS:15609-2005 RA-2009	Qualitative
		Ink Adhesion test for printed pouch	IS:15609-2005 RA-2009	Qualitative
		Product resistance for printed pouch	IS:15609-2005 RA-2009	Qualitative
28.	**Aerial Bunched Cables for working voltage upto and including 1100 volts**	Carbon Black Content	IS:2530 (RA-2003)	0.01 % to 10%
		Carbon Black Dispersion	IS:2530 (RA-2003	Qualitative
		Water absorption (Gravimetric)	IS:10810 (part-33)-1984 (RA-2001)	0.01% to 20%
29.	**Polymer Materials**	Oxidation Induction Time (@ upto 200 °C)	ASTM D 3895-14	0 min to 50 min
30.	**PVC Insulated (Heavy Duty) Electric Cables, Crossed linked polyethylene insulated PVC sheathed cables for working Voltages up to and including 1100V**	Mass of zinc coating	IS: 10810 (Pt.41)-84	1 g/mtr2 to 1000 g/mtr2
		Uniformity of zinc coating	IS: 10810 (Pt.40)-84	Qualitative
		Aging in Air Oven Shrinkage	IS: 10810 (Pt.11)-84 IS: 10810 (Pt.12)-84	Amb. to 200 °C 0.1 % to 3 %
		Hot deformation	IS: 10810 (Pt.15)-84	Qualitative
		Loss of mass in Air oven	IS: 10810 (Pt.10)-84	0.1 mg/cm^2 to 5 mg/cm^2
		Heat shock test Thermal Stability	IS: 10810 (Pt.14)-84 IS:1554:1998 (pt.1)	Qualitative Qualitative
		Flammability	IS: 10810 (Pt.53)-84	Qualitative
		Hot Set Test	IS: 10810 (Pt.30)-84	1% to 200 %
		Water absorption (Gravimetric)	IS: 10810 (Pt.33)-84	0.01 % to 20 %
31.	**Deep well Hand Pumps – Components – Nitrile Rubber**	Material Identification	IS :3400(Pt.22)-84	Qualitative
		Volume change (Distilled Water)	IS: 3400(Pt.6)-84 Cl.S.I.Volumetric method	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
32.	**PVC Insulation and Sheath of Telecom Cables**	Loss of Mass	IS:10810(Pt.10)-84	0.1 mg/cm^2 to 25 mg/cm^2
		Thermal Stability	IS:13176 : 2002	10 mg/cm^2 to 200 ^{0}C
		Hot deformation test	IS:10810(Pt.15) –84	10 ^{0}C to 200 ^{0}C
		Bleeding and Blooming	IS:10810(Pt.19) –84	Qualitative
33.	**High Density (HDPE) / Poly Propylene (PP) Woven Sacks For Packaging 10 kg, 15 kg, 20 kg, 25 kg and 30 kg Food Grains**	Ash Content	IS 16208:2016 (Annexure-D)	0.1 % to 20 %
34.	**Textiles - High Density Polyethylene (HDPE)/Polypropylene (PP) Woven Sacks for Packing 50 Kg/25 Kg Sugar**	Ash Content	IS: 14968:2015 (Annexure-D)	0.1 % to 20 %
35.	**Textiles - High Density Polyethylene (HDPE)/Polyethylene (PP) Woven Sack for Filling Sand - Specification (Second Revision)**	Ash Content	IS: 14252:2015 (Annexure-D)	0.1 % to 20 %
36.	**Low Density Polyethylene Films**	Carbon Black Content	IS:2530 : 63 ASTM 1603-2001	0.01 % to 10 %
		Carbon Black Dispersion	IS:2530:1963 (RA-2003)	Qualitative

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:2530-1963 ASTM 1238-2004	0.1 gm/10min to 20 gm/10min

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 AND ACCESSORIES**			
1.	**PVC insulation and sheath of telecommunication cables specification**	Volume Resistivity	IS:10810-2001(Pt.43)	10 Ohm.cm to10^{17} Ohm.cm
		Insulation resistance	IS:10810-2001(Pt.43)	0.01 Ohms to 100 Ohms
2.	**Aerial Bunched Cables for working voltage upto and including 1100 volts**	Volume Resistivity	IS:10810 (part-43):1984 (RA 2001)	Upto 10^{8}M Ω 0.01 mega ohms (min)
		Resistance Test	IS:10810 (part-5)-1984 (RA-2001)	10 ohms to 2000 ohms
		High Voltage Test	IS:10810 (part-45)-1984 (RA-2001)	Qualitative
3.	**PVC Insulated (Heavy Duty) Electric Cables, Crossed linked polyethylene insulated PVC sheathed cables for working Voltages up to and including 1100V**	Conductor Resistance	IS:10810 (part-5)-1984	Upto 2000 Ω
		Insulation Resistance	IS:10810 (part-43)-1984	10 to10^{8} MΩ
		High Voltage test (Water immersion)	IS: 10810 (Pt.45)-84	Qualitative
4.	**PVC Insulation and Sheath of Telecom Cables**	Volume Resistivity	IS:10810 (part-43)-1984	Upto 10^{8}M Ω

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.	**PLASTICS AND PLASTIC PRODUCTS**			
1.	**UPVC Pipe for Potable Water Supplies**	Dimension	IS:12235(Part-1): 2004	Nominal Dia.: 20 mm to 630 mm
		Visual Appearance	IS:4985:2000	Qualitative
		Opacity	IS-12235:2004 (Part.3)	0%. to 20 %.
		Hydraulic Characteristics (Acceptance & Type)	IS:12235:2004(Part.8) (Sec 1 to Sec.4)	Qualitative
		Resistance to External Blow at 0 ºC	IS:4985:2000 – Annex C	Qualitative
		Density	IS:12235 (Part-14):2004	0.8 g /cc to 2.0 g /cc
2.	**UPVC Screen and Casing Pipes for Bore/Tube Well**	Visual Appearance	IS:12818:2010	Qualitative
		Dimension	IS:12235 (Part-1):2004	Nominal Dia.: 35 mm to 400 mm
		Test for Internal Diameter	IS-12818-2010	Qualitative
		Density	IS:12235 (Part-14):2004	0.8 g/cc to 2.0 g/cc
		Resistance to External Blow at 0ºC	IS:12235:(Pt.9):2004	Qualitative
		Tensile strength	IS:12235 (Part-13):2004	0.1N 100 KN
		Thread Checking Hardness	IS:12818:2010 ASTM D 2240-15	40 mm to 400 mm 1to100, Shore A
3.	**UPVC Pipe for Soil and Waste Discharge System inside buildings including ventilation and Rain Water System**	Colour	IS:13592:2013	Qualitative
		Dimension of Pipe	IS:13592:2013	Nominal dia. 40 mm to 160 mm
		Dimension of Grooved Socket	IS:12235(Part-1):2004	Nominal Dia.:40 to 160 mm,
		Visual Appearance	IS:13592:2013	Qualitative
		Effect on Sunlight	IS:13592:2013	Qualitative
		Impact Strength at 0°C	IS:13592:2013	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Water Tightness of Joint	IS:13592:2013	Qualitative
		Tensile Strength	IS:13592:2013	0.1N 100 KN
4.	**Fabricated PVC Fittings for Potable Water Supplies**	Dimension	IS:10124:2009 (Pt-1)	Nominal Dia.: 40 to 630 mm
		Opacity	IS:10124:2009(Pt-1)	0 % to 20 %
		Short Term Hydraulic Test	IS:10124:2009(Pt-1)	Qualitative
5.	**Injection Moulded PVC Fitting with Solvent Cement Joints for Water Supplies**	Dimensions	IS:7834:1987 RA-2008 (Pt-1)	Nominal Dia. 16 to 315 mm,
		Opacity	IS:7834:1987 RA-2008 (Pt-1)	0% to 20%
		Short Term Hydraulic Test	IS:7834:1987 RA-2008 (Pt-1)	Qualitative
6.	**High Density Polyethylene Pipes for Potable Water Supplies Sewage & Industrial Effluents**	Dimensions	IS:4984:1995 RA-2008	Dia.: 16 mm to 630 mm
		Visual Appearance	IS:4984:1995 RA-2008	Qualitative
		Hydraulic Characteristics (Acceptance & Type Test)	IS:4984:1995 RA-2008	Qualitative
		Density	IS:7328:1992 RA-2008	800.0 Kg/m^3 to 2000 Kg/m^3
7.	**Irrigation Equipments Polyethylene Pipes for Irrigation Laterals**	Dimensions	IS:12786:1989 RA-2009	Dia.: 1.0 mm to 600 mm
		Visual Appearance	IS:12786:1989 R-2009	Qualitative
		Hydraulic Characteristics (Acceptance & Type Test)	IS:12786:1989 RA-2009	Qualitative
		Tensile Test	IS:2530:2003	0.1N 100 KN
8.	**Irrigation Equipment-Sprinkler Pipes (Polyethylene Pipes)**	Dimensions	IS:14151(Pt.1):99 RA-2009	Dia.: 40 mm to 200 mm
		Visual Appearance	IS:14151(Pt.1):99 RA-2009	Qualitative
		Hydraulic Characteristics (Acceptance & Type Test)	IS:14151(Pt.1):99 RA-2009	Qualitative
		Tensile & Elongation Test	IS:14151(Pt.1):99 RA-2009 IS:2530:2003	0.1N 100 KN 1 % to 2000 %

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Density	IS:7328:1992 RA-2008	800 kg/m^3 to 2000 kg/m^3
		Fusion compatibility test	IS:14151(Pt.1):99 RA-2009	Qualitative
9.	**Irrigation Equipment-Sprinkler Pipes (Quick Coupled Polyethylene Pipe)**	Workmanship & Appearance	IS:14151 (Pt.2) :2008	Qualitative
		Hardness (Shore-A)	ASTM D 2240- 2015	20 to 100 Shore A
		Leakage Test	IS:14151 (Pt.2) :2008	Qualitative
		Hydraulic Proof Test		Qualitative
		Weld ability Test		Qualitative
10.	**Rotational Moulded Polyethylene Water Storage tanks**	Net/Gross Capacity	IS:12701:1996 RA-2006	200 ltrs.to 2,000 ltrs.
		Height, Diameter (Overall & Manhole)		0.1 mm to 3000 mm
		Wall Thickness		0.1 mm to 25 mm
		Finish		Qualitative
		Resistance to Impact		Qualitative
		Resistance to Deformation		0.1% to 20 %
		Top Load Resistance		Qualitative
		Tensile Strength	IS:8543 (pt.4/sec.1)-1984	0.1N 100 KN
		Flexural Modulus	IS:13360:2003 (Pt.5/Sec.7)	0.1N 100 KN
		Densit	IS:7328:1992 RA-2008	800 Kg/m^3 to 2000 Kg/m^3
II.	**PLASTICS & POLYMERS**			
1.	**Low Density Polyethylene Films**	Density	IS:2508:1984 RA-2008	0.8 gm/cc to 2.0 gm/cc
		Thickness		1 micron to 1,000 micron
		Tensile Strength & Elongation Break		0.1N 100 KN Upto 2000%
		Dart Impact resistance		1 gm to 800 gm
		Slip (Method-B)		Upto 1.00
		Tear Resistance		Up to 6400 gf

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2.	**Specification for Rotating Sprinklers (All type of Plastics & Metal Sprinklers)**	Construction & workmanship	IS:12232: (Pt.1 & Pt.2): 1996	Qualitative
		Thread connections		Qualitative
		Working pressure		Qualitative
		Uniformity of rotation speed		1 secs to 1800 secs
		Actuating mechanism		Qualitative
		Resistance to Hydraulic Pressure (ambient & high temperature)	IS:12232: (Pt.1 & Pt.2):1996	Qualitative
		Uniformity of flow rate		1 ltrs./hr to 10000 ltrs./hr
		Diameter of coverage		0.1 mtr to 36 mtr
		Durability tests		Qualitative
		Test for water tightness for sprinkler / nozzle	ISO-7749-2	Upto 10,000 ltrs/hr
		Distribution characteristics	IS:12232: (Pt.1 & Pt.2):1996	Qualitative
		Trajectory height	ISO-7749-2	0.1 mtr to 20 mtr
2.	**HDPE Pipes for Sewerage**	Dimensions	IS:14333:1996 RA-2007	Dia.: 63 mm to 630 mm
		Hydraulic Characteristics (Acceptance & Type Test)	IS:14333:1996 RA-2007	Qualitative
3.	**UPVC Pipes (Duct) and fittings for Underground Telecommunications Cable installation**	Pipe and Socket dimensions	IS:12235:2004 (Pt.1)	Dia.: 1 mm to 600 mm
		Visual Appearance	IS-14787-2000 RA-2005	Qualitative
		Pipe Stiffness	IS-14787-2000 RA-2005	0.1N 100 KN
		Crush Resistance	IS-14787-2000 RA-2005	0.1N 100 KN
		Flattening	IS-14787-2000 RA-2005	Qualitative
		Heat Distortion Test	IS-14787-2000 RA-2005	0.1 % to 50 %
		Coefficient of Friction	IS-14787-2000 RA-2005	0.1 to 20
		Impact Strength	IS-14787-2000 RA-2005	Qualitative
		Tensile Strength & Elongation	IS:-13360 :1996 Pt.5/Sec.2&3)	0.1N 100 KN Upto 1500 %
		Bending	IS:14787:2000	Qualitative
		Density	IS:13360:2003 (Pt.3/Sec.1)	0.8 g /cc to 2.0 g /cc

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
4.	**Polyethylene Pipes for the Supply of Gaseous Fuels**	Dimension	IS:14885:2001 RA-2007	16 mm to 630 mm
		Visual Finish	IS:14885:2001 RA-2007	Qualitative
		Wall Thickness	IS:14885:2001 RA-2007	0.1 mm to 50 mm
		Density	IS:7328:1992 RA-2008	800.0 Kg/m^3 to 2000 Kg/m^3
		Tensile strength & Elongation at break	IS:14885:2001 RA-2007 IS:2530-2003	0.1N 100 KN Upto 1500 %
		Hydraulic Characteristics (Acceptance & Type)	IS:14885:2001 RA-2007	Qualitative
5.	**Solvent Cement for use with Unplasticized Polyvinyl Chloride Plastic Pipe and Fittings**	Lap shear strength	IS:14182:1994 RA-2005	0.1N 100 KN
		Hydrostatic Burst Strength	IS:14182:1994 RA-2005	Qualitative
6.	**Unplasticized Polyvinyl Chloride (UPVC) Injection molded fittings for soil and waste discharge system for inside and outside buildings including ventilation and rain water system**	Visual Appearance	IS: 14735:1999 RA-2009	Qualitative
		Stress Relief Test	IS:12235(Pt.6): 2004	Qualitative
		Impact test (Drop Test)	IS: 14735:1999 RA-2009	Qualitative
		Water tightness of joint		Qualitative
		Colour		Qualitative
		Dimension		40 mm to 160 mm
7.	**High Density Polyethylene (HDPE) Woven Sacks for packing flour**	Visual Appearance	IS: 12100:1987 RA-2007	Qualitative
		Dimension		200 mm to 1500 mm
		Breaking Strength of fabric	IS: 1969 : 1999	0.1 N to 100 KN
		Seam Breaking Strength	IS: 9030 : 2003	0.1 N 100 KN
8.	**Textile- High Density Polyethylene**	Dimension	IS: 1954:2002	1 mm to 2000 mm
		Mass of sack	IS: 1964:2001	1 g to 5000 g
		Ends and Picks	IS: 14887:2000 RA-2006	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	(HDPE)/Polypropylene (PP) Woven Sacks for packaging for 50kg/25kg. Food grains	Average Breaking Strength of Fabric	IS: 1969 : 1999	0.1 N to 100 KN
		Average Breaking Strength of Seam	IS: 9030 : 2003	0.1 N to 100 KN
		Elongation at break of fabric	IS:1969:1999	1 % to 100 %
9.	**Textile- Woven Sacks for packaging Cement High Density Polyethylene/ Polypropylene**	Dimension	IS: 11652:2000 RA-2006	1 mm to 2000 mm
		Ends and Picks	IS: 11652:2000 RA-2006	Qualitative
		Mass of Fabric	IS:1964:2001	1 g to 5000 g
		Breaking load of fabric	IS: 1969 : 1999	0.1 N to 100 KN
		Breaking load of top & bottom Seam Elongation at break of fabric	IS: 9030 : 2003 IS:1969:1999	0.1 N to 100 KN 1 % to 100 %
10.	**Containers for packaging natural Mineral water and package water**	Workmanship / finish / appearance	IS:15410:2003 RA-2009	Qualitative
		Capacity	IS:2798:2003	100 ml to 30000 ml
		Wall thickness	IS:2798: 2003	0.01 to 25mm
		Leakage test Closure Leakage	IS:2798: 2003	Qualitative
		Vibration Leakage	IS:2798: 2003	Qualitative
		Air pressure Leakage	IS:2798: 2003	Qualitative
		Drop Test	IS:2798: 2003	Qualitative
		Transparency	IS:15410: 2003	0.1 % to 100 %
11.	**Polyvinyl Chloride Plastics Pipe Schedule 40,80 & 120**	Dimension	ASTM D 2122-87	1 mm to 650 mm
		Workmanship & Appearance	ASTM D 1785-15	Qualitative
		Flattening	ASTM D 1785-15	Qualitative
		Burst Pressure	ASTM D 1599-99	Qualitative
		Sustained pressure	ASTM D 1598-97	Qualitative
12.	**Aerial Bunched Cables PVC Insulated (Heavy Duty) Electric Cables**	Annealing Test	IS:10810(Pt.1):2001	0.1 % to 100 %
		Tensile Test of Conductor	IS:10810(Pt.2):2001	0.1N to 100 KN
		Tensile test of Armour	IS:10810(Pt.37):2001	0.1N to 100 KN
		Tensile of Insulation	IS:10810(Pt.7):2001	0.1N to 100 KN
		Tensile test of Sheath	IS:10810(Pt.7):2001	0.1N to 100 KN

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	and Crossed linked polyethylene insulated PVC sheathed cables for working voltage upto and including 1100 volts	(Before aging after aging)		
		Wrapping Tests	IS:10810(Pt.3):2001	Qualitative
		Elongation test	IS:14255 : 1995 RA-2010	1% to 100%
		Thickness of Insulation & sheath	IS:10810(Pt.8):2001	0.01 mm to 20 mm
		Bending test	IS:14255 : 1995 RA-2010	Qualitative
13.	**Irrigation Equipment – Strainer – type Filters**	Resistance of Strainer to Internal Hydrostatic Pressure	IS:12785:1994 RA-2009	Qualitative
		Resistance to Internal Hydrostatic pressure at high temp.		Qualitative
		Resistance of Filter Element to Buckling or Tearing		Qualitative
		Tightness of filter element		Qualitative
		Clean Pressure Drop		Qualitative
		Technical Requirements (General)		Qualitative
14.	**High Density (HDPE) / Poly Propylene (PP) Woven Sacks For Packaging 10 kg, 15 kg, 20 kg, 25 kg and 30 kg food grains**	Dimension	IS: 1954:2002	1 mm to 2000 mm
		Mass of sack	IS: 1964:2001	1 g to 5000 g
		Ends and Picks	IS: 16208:2016	Qualitative
		Average Breaking Strength of Fabric	IS: 1969 : 1999	0.1 N to 100 KN
		Average Breaking Strength of Seam	IS: 9030 : 2003	0.1 N to 100 KN
		Elongation at break of fabric	IS:1969:1999	1 % to 100 %
15.	**Textiles - High Density Polyethylene**	Dimension	IS: 14968:2015	1 mm to 2000 mm
		Ends and Picks	IS: 11652:2000 RA-2006	Qualitative
		Mass of Fabric	IS:1964:2001	1 g to 5000 g

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	(HDPE)/Polypropylene (PP) Woven Sacks for Packing 50 Kg/25 Kg Sugar	Breaking load of fabric	IS: 1969 : 1999	0.1 N to 100 KN
		Breaking load of top & bottom Seam	IS: 9030 : 2003	0.1 N to 100 KN
		Elongation at break of fabric	IS:1969:1999	1 % to 100 %
16.	**Textiles - High Density Polyethylene (HDPE)/ Polyethylene (PP) Woven Sack for Filling Sand - Specification (Second Revision)**	Dimension	IS: 14252:2015	1 mm to 2000 mm
		Mass of sack	IS: 1964:2001	1 g to 5000 g
		Ends and Picks	IS: 14252:2015	Qualitative
		Average Breaking Strength of Fabric	IS: 1969 : 1999	0.1 N to 100 KN
		Average Breaking Strength of Seam	IS: 9030 : 2003	0.1 N to 100 KN
		Elongation at break of fabric	IS:1969:1999	1 % to 100 %