Laboratory	**Plastics Testing Centre, Central Institute of Plastics Engineering & Technology, VACDC Campus, Block-12, CR-15, New Auto Nagar, Kanuru, Vijayawada, Andhra Pradesh**
Accreditation Standard	**ISO/IEC 17025: 2005**
Certificate Number	**TC-7035** **Page 1 of 12**
Validity	**16.03.2018 to 15.03.2020** **Last Amended on --**

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 Pipe for Potable Water Supplies, Soil and Waste Discharge System for inside and Outside Building including Ventilation & Rain Water System**	Reversion Test	IS 12235 (Pat.5)	0.001 % to 10 %
2.	**High Density Polyethylene Pipes for Water Supply**	Longitudinal Reversion	IS 4984 (Annexure–F)	0.001 % to 20 %
4.	**Irrigation Equipments: PE Pipe for Irrigation Laterals, Sprinkler Pipes**	Reversion Test	IS 12786 (Clause 7.2) IS 14151 (Clause 7.2)	0.001 % to 20 %
6.	**High Density Polyethylene Pipes For Sewerage**	Reversion Test	IS 14333 (Clause 8.2, Annexure–C)	0.001 % to 20 %
7.	**UPVC Pipe for Potable Water Supplies**	Vicat Softening Temperature	IS 12235 (Part 2)	50 °C to 300 °C
8.	**UPVC Pipes for Soil and Waste Discharge System for inside & outside Building including**	Vicat Softening Temperature	IS 12235 (Part 2)	50 °C to 300 °C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Ventilation & Rain Water System			
9.	**Unplasticized polyvinyl chloride (PVC-U) screen & casing pipes for bore / tubewell**	Vicat Softening Temperature	IS 12235 (Part 2)	50 °C to 300 °C
10.	**UPVC Pipe for Potable Water Supplies**	Sulphated Ash Content	IS 4985 (Annexure–B, Clause 10.7)	0.01 % to 60 %
11.	**Textiles – HDPE / PP Woven Sack for Packaging of 50 kg Food Grains**	Ash content	IS 14887 (Annexure–D)	0.01 % to 30 %
12.	**Textiles – HDPE / PP Woven Sacks for Packaging of 10 kg, 15 kg, 25 kg & 30 kg food grain**	Ash content	IS 16208 (Annexure–D)	0.01 % to 30 %
13.	**Textile – High Density Polyethylene (HDPE) / Polyethylene (PP) Woven Sack for Filling Sand**	Ash content	IS 14252 (Annexure–D)	0.01 % to 30 %
14.	**Textiles - High Density Polyethylene (HDPE) / Polypropylene (PP) Woven Sacks for Packing 50 kg and 25 kg Sugar**	Ash content	IS 14968 (Annexure–D)	0.01 % to 30 %

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
15.	**High Density Polyethylene Pipes for Water Supply, Sewerage and Sprinkler Pipes (Irrigation Equipments)**	Melt Flow Rate	IS 2530	(0.01 g to 50 g) per 10 minute
16.	**High Density Polyethylene Pipes for Water Supply and Sewerage**	Carbon Black Content	IS 2530	0.01 % to 15 %
17.	**Rotational Moulded Polyethylene Water Storage Tanks and Sprinkler Pipes (Irrigation Equipments)**	Carbon Black Content	IS 2530	0.01 % to 15 %
19.	**High Density Polyethylene Pipes for Water Supply and Sewerage**	Carbon Black Dispersion	IS 2530	Qualitative
20.	**Rotational Moulded Polyethylene Water Storage Tanks Sprinkler Pipes (Irrigation Equipments)**	Carbon Black Dispersion	IS 2530	Qualitative
21.	**High Density Polyethylene Pipes for Water Supply, Rotational Moulded Polyethylene Water Storage Tank**	Overall Migration / Migration	IS 9845	0.1 mg/dm^2 to 80 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
22.	**Irrigation Equipments-Polyethylene Pipes for irrigation lateral and Emitting Pipe Systems**	Susceptibility to Environmental Stress Cracking	IS 12786 (Annexure–D)	Qualitative
23.	**UPVC Pipes for Soil and Waste Discharge System for Inside and Outside Buildings Including Ventilation and Rain Water System**	Resistance to Sulphuric Acid	IS 12235 (Part 7)	0.001 g to 10 g
24.	**Injection Moulded PVC Socket Fittings with Solvent Cement Joints for Water Supplly, UPVC Pipe for Soil & Waste Discharge System for Inside & Outside Building Including Ventilation and Rain Water System**	Stress Relief Test	IS 12235 (Part 6)	Qualitative
25.	**UPVC Pipe for Soil & Waste Discharge System for Inside And Outside Building Including Ventilation and Rain Water System**	Axial Shrinkage	IS 13592 (Annexure–B)	0.01 % to 20 %
		Resistance to Dichloromethane	IS 12235 (Part 11)	Qualitative

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Validity	**16.03.2018 to 15.03.2020**	**Last Amended on --**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection

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MECHANICAL TESTING

I.	**PLASTICS AND PLASTIC PRODUCTS**			
1.	**Unplasticized PVC Pipe for Potable Water Supplies**	Dimension Mean Outer Diameter Diameter at any Point Wall Thickness	IS 12235 (Part 1)	 20 mm to 630 mm 20 mm to 630 mm 1 mm to 50 mm
		Visual Appearance	IS 4985	Qualitative
		Opacity	IS 12235 (Part 3)	0 % to 2%
		Hydrostatic Characteristics	IS 12235 (Part 8)	Qualitative
		Internal Hydrostatic Pressure (Acceptance Test) Internal Hydrostatic Pressure (Type Test)	IS 12235 (Part 8)	Qualitative
		Resistance to External Blow at 0 ºC	IS 4985 (Annexure–C)	Qualitative
		Density	IS 12235 (Part-14)	0.8 g/cc to 2.0 g/cc
2.	**Unplasticized polyvinyl chloride (PVC-U) screen and casing pipes for bore/tubewells**	Visual Appearance	IS 12818	Qualitative
		Dimension Mean Outer Diameter Diameter at any Point Wall Thickness	IS 12235 (Part-1)	 35 mm to 400 mm 35 mm to 400 mm 3 mm to 30 mm
		Test for Internal Diameter	IS 12818	Qualitative
		Density	IS 12235 (Part-14)	0.8 g/cc to 2.0 g/cc
		Resistance to External Blow at 0 ºC	IS 12235 (Part-9)	Qualitative
		Tensile strength	IS 12235 (Part-13)	0.1 MPa to 100 MPa
		Thread Checking	IS 12818	Qualitative
		Hardness	IS 3400 (Part-23)	1 Shore A to 90 Shore A

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
3.	**Fabricated PVC Fittings for Potable Water Supplies**	Dimensions Nominal Diameter	IS 10124 (Part 1)	20 mm to 630 mm
		Opacity	IS 12235 (Part 3)	Upto 100%
		Short Term Hydraulic Test	IS 10124 (Part 1)	Qualitative
		Dimensions Nominal Diameter	IS 10124 (Part 1 to 13)	20 mm to 630 mm
		Opacity	IS 12235 (Part 3)	Upto 2%
		Short Term Hydraulic Test	IS 10124 (Part 1)	Qualitative
4.	**Injection Moulded PVC Fitting with Solvent Cement Joints for Water Supplies.**	Dimensions Nominal Diameter	IS 7834	10 mm to 400 mm
		Opacity	IS 7834	Upto 2%
		Short Term Hydraulic Test	IS 7834	Qualitative
5.	**Polyethylene Pipes for Water Supplies**	Dimensions Mean OD Wall Thickness	IS 4984	16 mm to 2000 mm 1 mm to 200 mm
		Visual Appearance	IS 4984	Qualitative
		Hydraulic Characteristics - Internal Pressure Creep Rupture Test	IS 4984	Qualitative
		Density	IS 7328	800 kg/m^3 to 2000 kg/m^3
		Tensile Strength for Butt Fusion	IS 4984	Qualitative
		Elongation	IS 4984	1 % to 2000 %
6.	**Irrigation Equipments Polyethylene Pipes for Irrigation Laterals**	Dimensions Outside Diameter Wall thickness	IS 12786	12 mm to 32 mm 1 mm to 5 mm
		Visual Appearance	IS 12786	Qualitative
		Hydraulic Characteristics - Internal pressure Creep	IS 12786	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		rupture (Acceptance Test)		
		Hydraulic Characteristics -Internal pressure Creep rupture (Type Test)	IS 12786 IS 12786	Qualitative
		Tensile Strength	IS 2530	0.1 MPa to 100 MPa
7.	**Irrigation Equipment – Emitting Pipes**	General	IS 13488	Qualitative
		Uniformity of Emission Rate	IS 13488	Upto 16 LPH
		Dimensions Nominal Diameter Inside Diameter Wall Thickness Flow path in emitting unit	IS 13488	 12 mm to 25 mm Qualitative 0.1 to 2.2 mm 0.01 to 8 mm
		Resistance of Emitting pipes to Hydrostatic Pressure	IS 13488	Qualitative
		Resistance to Tension at Elevated Temperature	IS 13488	Qualitative
		Resistance to Pull-Out of Joints between Fitting and Emitting	IS 13488	Qualitative
		Resistance to PE Emitting pipe to Environmental Stress Cracking	IS 13488	Qualitative
8.	**Irrigation Equipment – Emitters**	Construction & Workmanship	IS 13487	Qualitative
		Flow path in emitting unit	IS 13487	0.01 mm to 8 mm
		Resistance to Hydrostatic Pressure	IS 13487	Qualitative
		Emitter Pullout	IS 13487	Qualitative
		Uniformity in Emission	IS 13487	Upto 16 LPH

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Rate		
9.	**Irrigation Equipment-Sprinkler Pipes (Polyethylene Pipes)**	Dimensions Nominal Diameter Wall Thickness	IS 14151 (Part 1)	 40 mm to 200 mm 2 mm to 15 mm
		Visual Appearance	IS 14151 (Part 1)	Qualitative
		Hydraulic Characteristics -Internal pressure creep rupture (Acceptance Test)	IS 14151 (Part 1)	Qualitative
		Hydraulic Characteristics -Internal pressure creep rupture (Type Test)	IS 14151 (Part 1)	Qualitative
		Tensile Strength	IS 14151 (Part 1)	0.1 MPa to 50 MPa
		Elongation Test	IS 14151 (Part 1)	1 % to 800 %
		Density	IS 7328	800 kg/m^3 to 2000 kg/m^3
		Fusion compatibility test	IS 14151 (Part 1)	Qualitative
10.	**Irrigation Equipment-Sprinkler Pipes (Quick Coupled Polyethylene Pipe)**	Workmanship and Appearance	IS 14151(Part 2)	Qualitative
		Hardness	IS 3400	1 Shore A to 90 Shore A
		Leakage Test	IS 14151 (Part 2)	Qualitative
		Hydraulic Proof Test	IS 14151 (Part 2)	Qualitative
		Weldability Test	IS 14151 (Part 2)	Qualitative
11.	**HDPE Pipes for Sewerage**	Dimensions Outside Diameter Wall Thickness	IS 14333	 63 mm to 630 mm 1 mm to 60 mm
		Hydraulic Characteristics - Internal Pressure creep rupture test (Acceptance Test)	IS 14333	Qualitative
		Internal Pressure creep rupture test (Type Test)	IS 14333	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
12.	**UPVC Pipe for Soil and Waste Discharge System inside buildings including ventilation & Rain Water System**	Color	IS 13592	Qualitative
		Dimension of Pipe Mean OD OD at any point Wall Thickness	IS 13592	 40 mm to 315 mm 39 mm to 320 mm 1 mm to 10 mm
		Visual Appearance	IS 13592	Qualitative
		Effect on Sunlight	IS 13592	Qualitative
		Resistance to External Blows at 0 °C	IS 13592	Qualitative
		Water Tightness of Joint	IS 13592	Qualitative
		Tensile Strength	IS 13592	0.1 MPa to 50 MPa
13.	**Rotational Moulded Polyethylene Water Storage Tanks**	Net/Gross Capacity	IS 12701	200 litreto 2000 litre
		Overall Diameter	IS 12701	650 mm to 3150 mm
		Overall Height	IS 12701	490 mm to 5000 mm
		Bottom Wall Thickness	IS 12701	0.1 to 25 mm,
		Weight of Tank	IS 12701	5 kg to 100 kg
		Finish	IS 12701	Qualitative
		Resistance to Impact	IS 12701	Qualitative
		Resistance to Deformation	IS 12701	0.1 to 20%
		Top Load Resistance	IS 12701	Qualitative
		Tensile Strength	IS 13360 (Part 5, Section 2 & 3)	Upto 20 N/mm^2
		Flexural Modulus	IS 13360 (Part 5 / Section 7)	0.1 N/mm^2 to 1000 N/mm^2
		Density	IS 7328	800 kg/m^3 to 2000 kg/m^3
14.	**Textiles – HDPE / PP Woven Sacks for Packaging of 50 kg Food Grains**	Dimensions Inside Length Inside Width	IS 14887	 1 mm to 1500 mm 1 mm to 570 mm
		Ends & picks per dm	IS 14887	Qualitative
		Mass of sack	IS 1964	Upto 200 g
		Average Breaking	IS 1969 (Part 1)	Upto 2000 N

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Strength of Fabric		
		Minimum Breaking Strength of Bottom Seam	IS 9030	Upto 1000 N
		Elongation at break of fabric	IS 1969 (Part.1)	Upto 50 %
15.	**Textiles – HDPE / PP Woven Sacks for Packaging of 10kg, 15 kg, 25 kg & 30 kg food grains**	Dimensions Inside Length Inside Width	IS 16208	 1 cm to 81cm 1 cm to 51 cm
		Ends & picks per dm	IS 16208	Qualitative
		Mass of sack	IS 1964	Upto 200 g
		Average Breaking Strength of Fabric	IS 1969 (Part 1)	Upto 1000 N
		Minimum Breaking Strength of Bottom Seam	IS 9030	Upto 1000 N
		Elongation at break of fabric	IS 1969 (Part 1)	Upto 50%
16.	**Textiles – High Density Polyethylene (HDPE) / Polyethylene (PP) Woven Sack for Filling Sand**	Dimensions Outside Length Outside Width	IS 14252	 1 cm to 100 cm 1 cm to 50 cm
		Ends & picks per dm	IS 14252	Qualitative
		Mass of sack	IS 1964	Upto 100 g
		Average Breaking Strength of Fabric	IS 1969 (Part 1)	Upto 1000 N
		Average Breaking Strength of Bottom Seam	IS 9030	Upto 500 N
		Elongation at break of fabric	IS 1969 (Part 1)	Upto 50%
17.	**Textiles - High Density Polyethylene (HDPE) / Polypropylene (PP)**	Dimensions Inside Length Inside Width	IS 14968	 1 mm to 1000 mm 1 mm to 700 mm
		Ends & picks per dm	IS 14968	Qualitative
		Mass of sack	IS 1964	Upto 200 g

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Woven Sacks for Packing 50 kg/25 kg Sugar	Average Breaking Strength of Fabric	IS 1969 (Part 1)	Upto 2000 N
		Minimum Breaking Strength of Bottom Seam	IS 9030	Upto 1000 N
		Elongation at break of fabric	IS 1969 (Part 1)	Upto 50%
18.	**Textiles - Woven Sacks for Packing Cement- HDPE/PP**	Dimensions Length of sack Width of Sack Width of gusset Width of Valve Depth of Valve	IS 11652	 1 cm to 100 cm 1 cm to 60 cm 1 cm to 10 cm 1 cm to15 cm 1 cm to 25 cm
		Ends & picks per dm	IS 11652	Qualitative
		Mass of sack	IS 1964	Upto 100 g
		Average Breaking Strength of Fabric	IS 1969 (Part 1)	Upto 2000 N
		Average Breaking Strength of top & Bottom Seam	IS 9030	Upto 1000 N
		Elongation at break of fabric	IS 1969 (Part 1)	Upto 50 %
19.	**Textiles - High Density Polyethylene (HDPE)/Polypropylene (PP) Woven Sacks for Packing Fertilizers**	Dimensions Inside Length Inside Width	IS 9755	 1 mm to 1500 mm 1 mm to 570 mm
		Ends & picks per dm	IS 9755	Qualitative
		Mass of fabric	IS 1964	Upto 150 g
		Average Breaking Strength of Fabric	IS 1969 (Part 1)	Upto 2000 N
		Minimum Breaking Strength of Bottom Seam	IS 9030	Upto 1000 N
		Elongation at break of fabric	IS 1969 (Part 1)	Upto 20 %