

Laboratory	Central Institute of Plastics Engineering & Technology (CIPET), B-27, Amausi Industrial Area, Lucknow, Uttar Pradesh		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Mechanical Testing	Issue Date	01.04.2015
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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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I. PLASTICS, RUBBER AND LEATHER

1.	Upvc Pipe, QCPE Pipe), Pipe For Conduit System), CPVC Pipe, PE Pipe & Fitting, PVC Pipe & Fitting, Plastics Film, Sheet, Tank, Container, Bottle, Microtubes, Rope, Mesh, Door, Lathi, Shield, Body Protector, Emitters, Emiting Pipe, Helmet, Meter Box , Junction Box, Conduit Pipe, Vermibed, Tarpolene Film, Woven Sack, Water Filter, PVC Flooring, Geomembrane, HEF Dunnage Bitumen, Plumbing Pipe, PE Gas Pipe, Duct Pipe	Dimensions Diameter Wall Thickness	IS 4984: 95 IS 12235 (Part 1): 86 IS 10124 (Part 1 and 5): 88 IS 12786: 89 IS 12818: 2010 IS 14151(Part 1): 99 IS 14333: 96 IS 7834 (Part 1 and 8): 1987 IS 13488: 1992 IS 10840: 94 IS 9537: 1983 IS 3419: 1988 IS 14787: 2000 IS 14885: 2001 IS 15450: 2004 IS 15609: 2005 IS 15801: 2008 IS 14735: 1999 IS 9271: 2004 IS 14930: 2001 IS 15909: 2010 IS 15328: 2003 IS 15609: 2005 IS 7903: 2011 IS 14482: 1997 IS 14763 IS 8008: 03 IS 12742: 1989 IS 13488: 2008 IS 13487: 1992 , 13488: 2008	16 mm to 1000 mm 0.001 mm to 75 mm
		Flow Path		0 mm to 0.5 mm
		Spacing of Emitting Unit		10 mm to 1000 mm

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2.	QCPE fitting, Plumbing pipe, PVC Pipe & Fitting, container, Bottle.	Thread dimension	IS 14151(Part 2): 2008 IS 12818: 2010 IS 554: 85	Qualitative (Pass/ Fail) (Gauge fitness upto 250 mm)
3.	Water storage tank, Plastics film, HDPE container, HEF dunnage bitumen , Multilayered sheet & Tarpaulin / cover, Thermoplastics fumigation cover, Woven sack, lathi, body protector, shield, bottle, water storage tank, helmet.	Weight	IS 12701: 96 IS 10840: 94, IS 2508: 84 IS 14611: 98 IS 13217: 91	1g to 600 kg
4.	Plastic bottle, water storage tank, container, woven sack	Capacity	IS 12701: 96 IS 10840: 94 IS 12701: 96	1 ml to 10000 l

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5.	UPVC Pipe , QCPE Pipe, Pipe for Conduit system , CPVC Pipe , PE pipe & Fitting, PVC Pipe & Fitting, Plastics Film, Sheet, Tank, container, Bottle, microtubes, rope, mesh, door, lathi, shield, body protector, Emitters, emitting pipe, helmet, meter box , junction box, conduit pipe, vermibed, tarpolene film, woven sack, water filter, PVC flooring, Geomembrane, HEF dunnage bitumen , Plumbing pipe, PE gas pipe, Plastics material	Visual Appearance/workmanship/finish/ shape/colour	IS 3076: 85 IS 4984: 95 IS 4985: 2000 IS 12701: 96 IS 12786: 89 IS 13592: 2013 IS 14151(Part 1): 1999 IS 14151(Part 2): 2008 IS 14333: 96 IS 13487: 92 IS 13488: 2008 IS 10124: 88 IS 7834: 87 IS 4985: 2000 IS 12818: 2010 IS 13487: 92 IS 14787: 2000 IS 14735: 1999 IS 7834: 1987 IS 15778: 2007 IS 2508: 1984 IS 3419: 1988 IS 9537: 1983 IS 14887: 2000 IS 15410: 2003	Qualitativ (Pass/ Fail)

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6.	HDPE Pipe , PVC Pipe , QCPE Pipe & Coupler , HDPE Sewarage Pipe,, Water Storage Tank ,PE Film ,PE Gas Pipe :, UPVC Screen & Casing Pipe , PPR Pipe , PVC Duct Pipe , PE/AL/PE Pipe, Plastics Materials.	Density at 27 ⁰ C/ Specific Gravity	IS 4984: 1995 IS 14151 (Part 1): 1999 IS 14151(Part 2): 2008 IS 14333: 1996 IS 12701: 1996 IS 2508: 1984 IS 14885: 2001 IS 7328: 92 IS 8543 (Part 3/ Sec III) IS 13360 (Part 3/Sec VII): 95 IS 12786: 89 ASTM D 792: 2008 ISO 1183: 2004 IS 12235 (Part 14) IS 13487: 992 IS 13488: 2008 IS 15450: 2004 TEC No. GR/CDS-08/02 Nov'2004, GR/DWC-34/01.SEP 2007 (Party spec)	0.8 to 2.5 g /cc
7.	HDPE Pipe, QCPE Pipe & coupler, HDPE Sewarage pipe,, water storage tank, PE film ,PE Gas pipe , PPR Pipe , Plastics materials	Melt Flow Index	IS 4984: 1995 IS 14151(Part 1): 1999 IS 14151(Part 2): 2008 IS 14333: 1996 IS 12701: 1996 IS 14885: 2001 IS 15801: 2008 IS 2530: 63 IS 13360(Part 4) IS 2508: 84 IS 7328: 1992	0.02 to 100 g/10 min

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		Melt Flow Index	IS 12786: 89 IS 13592: 92 IS 13487 IS 13488 ASTM D 1238 TEC.No. 14930-2001 GR/CDS-08/02 Nov'2004, GR/DWC-34/01.SEP 2007 ISO 1133: 2011	0.02 to 100 g/10 min
8.	UPVC Pipe, CPVC Pipe, HDPE Pipe, HDPE Sewerage pipe, UPVC Fitting, QCPE Pipe & Coupler, PE Gas pipe, PE/AL/PE Pipe, Lateral pipe, Emitting pipe, Fabrics woven pipe.	Hydraulic Characteristics	IS 4985: 2000 IS 3076: 1985 IS 4984: 1995 IS 12235 (Part 1 and 8): 1986 IS 7834: 87 IS 10124 (Part 1): 88 IS 12786: 89 IS 13487: 1992 IS 14151(Part 1): 1999 IS 14151(Part 2): 2008 IS 14333: 1996 IS 14787: 2000 IS 14885: 2001 IS 13592: 1992 IS 14605: 1988 IS 13488: 1992 IS 12232 (Part 1 and 2): 1996 IS 15450: 2004 IS 15801: 2008 IS 14605: 98 IS 14735: 1999	0.1 kg/cm ² to 110 kg/cm ² 25 ⁰ C to 110 ⁰ C

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	UPVC Pipe, CPVC Pipe, HDPE Pipe, HDPE Sewerage pipe, UPVC Fitting, QCPE Pipe & Coupler, PE Gas pipe, PE/AL/PE Pipe, Lateral pipe, Emitting pipe, Fabrics woven pipe.	Hydraulic Characteristics	IS 15778: 2007 IS 14743: 1999 IS 15909 IS 15328: 2003 IS 14482: 1997 IS 14930: 2001 IS 14885: 01 IS 14887: 2000 TEC No. GR/CDS-08/02 Nov'2004 GR/DWC-34/01.SEP 2007 (Party Spec)	0.1 kg/cm ² to 110 kg/cm ² 25 ⁰ C to 110 ⁰ C
9.	UPVC Pipe, PPR Pipe, HDPE Pipe, Letteral pipe, PE microtube, hdpe Sewarage pipe, QCPE Pipe.	Reversion	IS 4985: 2000 IS 15801: 2008 IS 3076: 85 IS 4984: 95 IS 12239 (Part 5): 2000-86 IS 14151 (Part 1): 1999 IS 14333: 96 IS 12786: 89 IS 13592: 2013 IS 14787: 1992 IS 12235 (Part 1 and 5) IS 15778: 2007 IS 14885: 2001 IS 14930: 2001 TEC.No.:14930-2001GR/CDS-08/02 Nov'2004, GR/DWC-34/01.SEP 2007 IS 14930: 2001	0.1 % to 10 %

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10.	PVC Screen & Casing Pipe, CPVC Pipe),Water Storage Tank(, PVC Duct Pipe , Woven Sack, Plastics Film , Sheet,Container, PE Latteral Pipe, QCPE Pipe, Roap, PE/AL/PE Pipe, HDPE Telecom Pipe, Geomembrane, Rubber, Plastics Material, Thermoplastics And Thermoset Composite Sheet	Tensile Strength/Modulus/Pullout, Breaking Strength	IS 8543 (Part 4/ Sec I)/ IS 12786: 1989 IS 2508: 1984 BS 2782 IS 12701: 1996 IS 13592: 2013 IS 14151: 1999 IS 14885: 2001 IS 14787: 2000 IS 1969 IS 14611: 98 IS 13217: 1999 IS 11805: 1989 IS 15450: 2004 IS 15609: 2005 IS 14487: 2000 IS 15909: 2010 IS 15907: 2010 IS 15308: 2003 IS 15609: 2005 IS 15351: 2008 IS 14482: 1997 ISO 527: 2012 IS 12235 (Part 13) ASTM D 638: 2010, TEC No. GR/CDS-08/02 Nov'2004, GR/DWC-34/01.SEP 2007(Party Spec)	1 MPa to 100 MPa

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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
11.	PVC Screen & Casing Pipe CPVC Pipe, Water Storage Tank, PVC Duct Pipe, Woven Sack, Plastics Film , Sheet, Container, PE Latteral Pipe, QCPE Pipe, Roap, PE/AL/PE Pipe, HDPE Telecom Pipe, Geomembrane, Rubber, Plastics Material, Thermoplastics And Thermoset Composite Sheet	Elongation at Break	IS 8543 (Part 4/ Sec I)/ IS 12786: 1989 IS 2508: 84 IS 7328: 1992 BS 2782 IS 3076: 85 IS 1969 IS 12701: 96 IS 4985: 2000 IS 13592: 2013 IS 14151: 99 IS 14885: 01 IS 14787: 2000 IS 14611: 98 IS 13217: 99 ISO 527: 2012 TEC No. GR/CDS-08/02 Nov'2004, GR/DWC-34/01..SEP 2007 (Party Spec)	0.1% to 1500 %
12.	Water Storage Tank, Plastics Material, Thermoplastics And Thermoset Composite Sheet	Flexural Modulus/Strength	IS 12701: 1996 IS 13360 (Part 5/ Sec VII): 95 ASTMD 790: 2010 ISO 178: 2010	0.1 N/mm ² to 1000 N/mm ²
13.	Plastics Material, Thermoplastics And Thermoset Composite Sheet	Compressive Strength/Modulus	ASTM D 695: 2010 ISO 604: 2003	0.1 MPa to 100 MPa

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14.	UPVC Pipe, Plastics Film Water Storage Tank	Impact Test	IS 12818: 2010 IS 13592: 2013 IS 9537: 1983 IS 2508: 1984 IS 12235(Part 9): 1986 IS 14735: 1999 IS 4985: 2000 IS 12235 (Part 9): 05 IS 16098 (Part 1): 2013 IS 2508: 84 (Plastic Film) IS 12701: 1996 (Water Storage Tank)	Qualitative (Pass/Fail)
15.	Plastic Material & Sheet	Izod	ASTM D 256: 2010 ISO 180: 2000	0.1 kJ/m ² to 64 kJ/m ²
16.	CPVC Pipe , PPR Pipe, Plastics Materials& Sheet	Charpy	ASTM D 6110: 2010 ISO 179: 2010 IS 15801: 08 IS 13360 (Part 5/ Sec V) IS 15778: 07	0.1 kJ/m ² to 64 kJ/m ²
17.	Plastic Film	Tear strength	ISO 8067: 08 ASTM D 1922: 2009	1g to 64 kgf
18.	Plastic Materials & Sheet, Rubber	Shore Hardness	IS 12818: 10 IS 14151 (Part 2): 99 ASTM D 2240: 10 ISO 7619: 10	10 to 90 (A) 10 to 90 (D)

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19.	Plastic Sheet	Rockwell Hardness	ISO 2039: 01 ASTMD 785: 08	10 to 100 (R)
20.	SWR Pipe	Stress Relief Test	IS 7834 (Part 1 to 8): 87 IS 12235 (Part 6): 86 IS 13592: 2013	Qualitative (Pass/fail)
21.	Plastic pipe & Fitting	Opacity	IS 7834 (Part 1): 87 IS 4985: 2000 IS 12235 (Part 3): 86 IS 10124 (Part 1): 88	Up to 100%
22.	Plastic film	Gloss	IS 13360 (Part 9) ASTM D 523: 10	Upto 100%
23.	Plastic film & sheet	Haze	IS 13360 (Part 9) IS 2508: 1984 ASTM D 1003:13	Upto 100%
24.	UPVC Pipe , CPVC Pipe, UPVC Casing pipe, UPVC SWR Pipe).UPVC Fitting, Plastics Materials & thermoplastics composite sheet	Vicat Softening Point	IS 6307: 1985 IS 10124: 1988 IS 14787: 2000 12235 (Part 2) IS 14735: 1999 IS15328: 2003 ASTM D1525: 2009 ISO 306: 2004	50 ⁰ C to 300 ⁰ C

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25.	Plastics Materials & thermoplastics composite sheet, meter box	Heat Deflection Temperature	ASTM D 648: 2007 ISO 75: 3004	50 ⁰ C to 300 ⁰ C
26.	Plastic Materials & Sheet	Limiting Oxygen Index	ASTM D 2863: 2010 ISO 4589 1996 IS 13501	Upto to 50 %
27.	Water storage tank	Top load resistance	IS 12701: 1996	Qualitative (Pass/ Fail)
28.	UPVC Casing pipe	Test for internal dia	IS 12818: 2010	Passing of mandrel 39 mm to 395 mm
29.	PE Emitters	Emitter pull out test	IS 13487: 92 IS 13488: 2008	40 N pulling force
30.	PE Emitters & Pipe	Uniformity of emission rate	IS 13487: 92 IS 13488: 2008	Upto 4.2 Kg/cm ²
31.	UPVC SWR pipe	Axial Shrinkage	IS 13592: 2013	0.1 % to 25%
32.	UPVC SWR pipe, PE Gas pipe	Effect of Sunlight	IS 13592: 92 IS 14885: 2001	Qualitative (Pass/Fail)
33.	Plastic Materials & QCPE rubber ring	Aging Test (Thermal)	IS 13592: 2013 IS 14151 (Part 2): 2008	Qualitative (Visual Inspection)

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34.	Plastic Film & Sheet, Woven Sack, UPVC SWR Pipe, Vermibed, Microtube, Laminated Hdpe Fabric, PVC Geo Membrane, Trapauline HDPE Woven Fabric	UV Aging	IS 14887: 2000 IS 15909: 2010 IS 15907: 2010 IS 15351: 2008 IS 7903: 2011 IS 14482: 1997	Qualitative (Visual Inspection)
35.	Plastic Materials & Sheet, Conduit Pipe, Non Matelic Conduit Fitting	Resistance to Burning	IS 9537: 83 IS 3419: 88 UL-94 ASTM D 635: 2010	Qualitative (Pass/Fail)
36.	Blow Moulded HDPE Conainer, Bottle	Stacking Test	IS 10840: 94	Qualitative (Pass/Fail)
37.	Blow Moulded HDPE Conainer	Handle Pull Test	IS 10840: 94	Qualitative (Pass/Fail)
38.	Blow Moulded HDPE Conainer, Plastics Pouch	Ink Adhesion for Printed Containers	IS 10840: 94 IS 15609: 2005	Qualitative (Pass/Fail)
39.	Blow Moulded HDPE Conainer, Plastics Pouch	Product Resistance of Printed Containers	IS 10840: 94	Qualitative (Pass/Fail)

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40.	Water Storage Tank	Resistance to Deformation	IS 12701: 96	0.01% to 5%
41.	Rotating Sprinkler, Mmicrosprayer	Thread Connection	IS 12235 (Part 1 and 2): 2000 IS 14605: 1998	Qualitative (Pass/Fail)
42.	Water Storage Tank, Blow Moulded HDPE Conainer, Plastics Bottle	Lid Test Locking Clearance	IS 12701: 96 IS 10840: 94	Qualitative
43.	Telecom Pipe & Micro Duct Pipe & Fitting	Crush Resistance Length Weight Recovery After 1 minute After 5 minute	DOT Specification GR No. GR/MDS01/01. Feb 2010	10 mm to 5000 mm 50 Kg 0.01 % to 10 % 0.01 % to 5 %

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