Indian Standard

THERMOPLASTICS PIPES AND FITTINGS — METHODS OF TEST

PART 1 MEASUREMENT OF DIMENSIONS

1 SCOPE

This standard (Part 1) specifies the method for measurement of outside diameter, wall thickness, length, and internal diameters and depths of pipe sockets of thermoplastics pipes and fittings, including those made from unplasticized PVC.

2 REFERENCES

The standards listed below contain provisions, which through references in this text constitute provisions of this standard. At the time of publication the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

IS No	*Title*
IS 1269	Legal metrology material measures of length
(Part 1) :1997	Woven metallic and glass fibre tape measurement (second *revision)*
(Part 2): 1997	Steel tape measures

PART 2 DETERMINATION OF VICAT SOFTENING TEMPERATURE

1 SCOPE

This standard (Part 2) specifies a method for the determination of the Vicat softening temperature for thermoplastics pipes and fittings.

PART 3 TEST FOR OPACITY

1 SCOPE

1.1 This standard (Part 3) specifies a method for the determination of the opacity of plastics pipes and fittings.

1.2 It lays down the maximum acceptable limit for light which may pass through the wall of the pipe or fitting, if the particular standard specifies that they be opaque.

PART 4 DETERMINING THE DETRIMENTAL EFFECT ON THE COMPOSITION OF WATER

1 SCOPE

This standard (Part 4) specifies the methods of test for determining the detrimental effect on the composition of water flowing through plastics pipes manufactured according to IS 4985.

2 REFERENCES

The standard listed below contain provisions, which through reference in this text constitute provisions of this standard. At the time of publication the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

IS No.	*Title*
1070:1992	Reagent grade water (*third revision*)
3025:1964	Methods of sampling and test (physical and chemical) for water used in industry
3025	Methods of sampling and test (physical and chemical) for water and waste :
(Part 41) :1992	Cadmium
(Part 47) :1994	Lead
(Part 48) :1994	Mercury
4985 : 2000	Specification for unplasticised PVC (PVC-U) pipes for potable water supplies (*third revision*)

PART 5 LONGITUDINAL REVERSION

Section 1 Determination Methods

1 SCOPE

This standard (Part 5/See 1) specifies the method of test for reversion performed on thermoplastics pipes.

PART 6 STRESS RELIEF TEST

1 SCOPE

This standard (Part 6) specifies the method for the stress relief test performed on thermoplastics pipes and fittings.

PART 7 RESISTANCE TO SULPHURIC ACID

1 SCOPE

This standard (Part 7) specifies the method of test for resistance to sulphuric acid of thermoplastics pipes and fittings, including those of unplasticized poly vinyl chloride (PVC-U).

PART 8 RESISTANCE TO INTERNAL HYDROSTATIC PRESSURE

Section 1 Resistance to Internal Hydrostatic Pressure at Constant internal Water Pressure

1 SCOPE

This standard (Part 8/See 1) specifies the method for the determination of resistance of thermoplastics pipes, including unplasticized PVC pipes, intended for the conveyance of fluids, to constant internal water pressure at constant temperature.

2 REFERENCE

The standard listed below contains provision, which through references in this text constitutes provisions of this standard. At the time of publication the edition indicated was valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below:

IS No	*Title*
4985:2000	Specification for unplasticised PVC (PVC-U) pipes for potable water supplies *(third revision)*

PART 9 RESISTANCE TO EXTERNAL BLOWS (IMPACT RESISTANCE) AT 0°C (ROUND-THE-CLOCK METHOD)

1 SCOPE

This standard (Part 9) specifies a method for the determination of the resistance to external blows of thermoplastics pipes, including unplasticized PVC pipes.

This method is applicable to isolated batches of pipe tested at 0°C.

PART 10 DETERMINATION OF ORGANOTIN AS TIN AQUEOUS SOLUTION

1 SCOPE

This standard (Part 10) specifies the method for the determination of organotin as tin aqueous solution of thermoplastics pipe, including unplasticized PVC pipes.

2 REFERENCE

The standard listed below contains provisions which, through references in this text, constitutes provisions of this standard. At the time of publication the edition indicated was valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below.

IS No	*Title*
1070 :1992	Reagent grade water *(third revision)*

PART 11 RESISTANCE TO DICHLOROMETHANE AT SPECIFIED TEMPERATURE

1 SCOPE

This standard (Part 11) specifies a method of test for determining the resistance of unplasticised PVC pipes to dichloromethane at a temperature specified in the relevant standard.

PART 12 DETERMINATION OF TITANIUM DIOXIDE CONTENT

1 SCOPE

This standard (Part 12) specifies a method of test for determining the titanium dioxide content in the unplasticized polyvinyl chloride pipes and fittings

PART 13 DETERMINATION OF TENSILE STRENGTH AND ELONGATION

1 SCOPE

This standard (Part 13) specifies a method for determining the tensile properties, including elongation, of thermoplastic pipes, including PVC-U pipes.

2 REFERENCE

The standard listed below contains provisions, which, through references in this text constitutes provisions of this standard. At the time of publication the editions indicated was valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below:

IS No	*Title*
8543 (Part 4/Sec 1) : 1984	Methods of testing plastics: Part 4 Short term mechanical properties, Section 1 Determination of tensile properties

PART 14 DETERMINATION OF DENSITY/RELATIVE DENSITY (SPECIFIC GRAVITY)

1 SCOPE

This standard (Part 14) specifies a method of test for the determination of density or relative density (specific gravity) of non-cellular plastics pipes and fittings.

PART 15 DETERMINATION OF VINYL CHLORIDE MONOMER CONTENT

1 SCOPE

This standard (Part 15) specifies a method for determining the concentration of vinyl chloride monomer in PVC-U pipes and fittings.

PART 16 HIGH TEMPERATURE TEST

1 SCOPE

This standard (Part 16) specifies a method of test for the matrix of thermoplastics pipes and fittings, including those made of unplasticized PVC, using high temperatures.

PART 17 DETERMINATION OF ASH CONTENT AND SULPHATED ASH CONTENT

1 SCOPE

This standard (Part 17) specifies methods of determination of the ash content of pipes and fittings made of unplasticized polyvinyl chloride (PVC-U). These methods can also be used for PVC resins and compounds.

NOTE — Polyvinyl chloride evolves hydrogen chloride on thermal decomposition, and precautions should be taken to avoid inhalation of fumes.

PART 18 DETERMINATION OF RING STIFFNESS

1 SCOPE

This standard (Part 18) specifies the method for the determination of the ring stiffness of thermoplastics pipes, including unplasticized polyvinyl chloride (PVC-U) pipes having a circular cross-section, under parallel-plate loading.

PART 19 FLATTENING TEST

1 SCOPE

This standard (Part 19) specifies a method for the determination of resistance to damage on flattening under load, of thermoplastics pipe, including unplasticized polyvinyl chloride (PVC-U) pipe.