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IS 8008-6 (2003): Injection Moulded/Machined High Density Polyethylene (HDPE) Fittings for Potable Water Supplies, Part 6: Specific Requirements for Pipe Ends [CED 50: Plastic Piping System]



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भारतीय मानक

पेयजल पूर्ति के लिए अन्तःक्षेपण संचकित

एच डी पी ई फिटिंगें — विशिष्टि

भाग 6 पाइप के सिरों की विशिष्ट अपेक्षाएँ

(पहला पुनरीक्षण)

Indian Standard

INJECTION MOULDED/MACHINED HIGH DENSITY
POLYETHYLENE (HDPE) FITTINGS FOR POTABLE
WATER SUPPLIES — SPECIFICATION

PART 6 SPECIFIC REQUIREMENTS FOR PIPE ENDS

(First Revision)

ICS 83.140.30; 91.140.60

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BUREAU OF INDIAN STANDARDS
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FOREWORD

This Indian Standard (Part 6) (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Plastic Piping System Sectional Committee had been approved by the Civil Engineering Division Council.

This standard covers general requirements for injection moulded/machined HDPE fittings which are used for connection by welding process to HDPE pipes covered by IS 4984 : 1995 'High density polyethylene pipe for water supply (*fourth revision*)'.

This standard was first published in 1976. Keeping in view the developments in this field and considering revision of IS 4984 this standard has been revised.

The requirements of injection moulded/machined HDPE fittings are covered in nine parts. The other parts in this series are:

- | | |
|-----------------|--------------------------------------------|
| (Part 1) : 2003 | General requirements for fittings |
| (Part 2) : 2003 | Specific requirements for 90° bends |
| (Part 3) : 2003 | Specific requirements for 90° tees |
| (Part 4) : 2003 | Specific requirements for reducers |
| (Part 5) : 2003 | Specific requirements for ferrule reducers |
| (Part 7) : 2003 | Specific requirements for sandwich flanges |
| (Part 8) : 2003 | Specific requirements for reducing tees |
| (Part 9) : 2003 | Specific requirements for end caps |

All revised parts have been aligned with IS 4984 with respect to grade of material, dimensional requirements, testing procedures and sampling methodology.

Provisions has been made for rewelding, in case any weld gets rejected. Weld length had been kept constant with a uniform tolerance.

Drawings have been revised from short neck pipe ends to long neck pipe ends. The range of diameter of fittings, weld length and clarity of the dimensions in the drawings had been incorporated in each part of the standard, wherever applicable.

This standard covers general requirements for materials, manufacture, dimensions, tolerances, etc for pipe ends. Specific requirement of different types of fittings are covered in separate parts of this standard.

Fittings from 20 mm to 315 mm are manufactured by the injection moulding methods and machined, wherever so required and fittings of 355 mm and above shall be manufactured by machining process from thick walled extruded pipes or compression moulded slabs.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

INJECTION MOULDED/MACHINED HIGH DENSITY POLYETHYLENE (HDPE) FITTINGS FOR POTABLE WATER SUPPLIES — SPECIFICATION

PART 6 SPECIFIC REQUIREMENTS FOR PIPE ENDS

(*First Revision*)

1 SCOPE

1.1 This standard (Part 6) covers the requirements for material, manufacture, dimensions and tolerances and marking of all types of injection moulded and machined HDPE pipe ends for potable water supplies.

1.2 Pipe ends from 20 mm to 315 mm shall be manufactured by the injection moulding methods and machined wherever so required. Pipe ends of 355 mm and above shall be manufactured from machining process from thick walled extruded pipes or compression moulded slabs.

2 REFERENCES

The following standards contains 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 standard indicated below:

| <i>IS No.</i> | <i>Title</i> |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8008 (Part 1) : 2003 | Injection moulded/machined high density polyethylene (HDPE) fittings for potable water supplies — Specification : Part 1 General requirements for fittings |
| 4984 : 1995 | High density polyethylene pipe for water supply (<i>fourth revision</i>) |

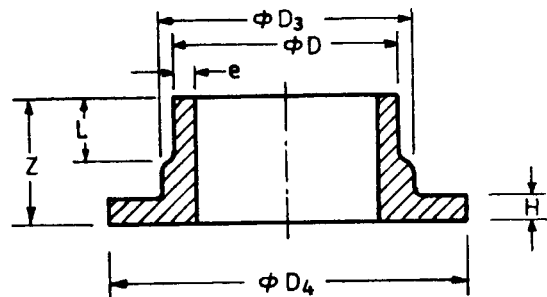
3 REQUIREMENTS

3.1 General

The general requirements for material, manufacture, grade, sizes, performance requirements, methods of test, sampling and inspection shall conform to IS 8008 (Part 1):

3.2 Manufacture

3.2.1 A typical illustration of pipe end is shown in Fig. 1.



e — Wall thickness corresponding to IS 4984.

FIG. 1 PIPE ENDS

3.2.2 Laying Length

The overall laying length and tolerances thereon shall comply with those given in Table 1 read with Fig 1.

3.2.3 The outside diameters and wall thickness of the ends to be welded to pipe shall comply with requirements given in 8 of IS 8008 (Part 1).

4 MARKING

4.1 Each pipe-end fitting shall be clearly marked at a prominent place, with the following information:

- Identification of source of manufacture, and
- The size of the fittings, grade of material and appropriate class (working pressure) to which the pressure rating of the fitting corresponds.

4.2 BIS Certification Marking

Each pipe-ends fitting may also be marked with the Standard Mark.

4.2.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which a licence for the use

of the Standard Mark may be granted to the manufacturers or the producers may be obtained from the Bureau of Indian Standards.

Table 1 Dimensions for Injection and Machined Pipe Ends
(Clause 3.2.2)

All dimensions in millimetres.

| Sl No. | Nominal Diameter | Diameter for Manufacturing Reference | Collar Diameter | PN 6 | | | PN 10 | | |
|---------|------------------|--------------------------------------|-----------------|---------------|---------------|----------------|---------------|---------------|----------------|
| | | | | Laying Length | Collar Height | Welding Length | Laying Length | Collar Height | Welding Length |
| | | | | Z | H | L | Z | H | L |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| i) | 20 | 28 | 47 | 50 | — | — | 50 | 7 | 28 |
| ii) | 25 | 34 | 57 | 50 | 9 | 28 | 50 | 9 | 24 |
| iii) | 32 | 40 | 67 | 50 | 10 | 27 | 50 | 10 | 27 |
| iv) | 40 | 49 | 78 | 50 | 11 | 24 | 50 | 11 | 24 |
| v) | 50 | 60 | 88 | 50 | 12 | 23 | 50 | 12 | 23 |
| vi) | 63 | 72 | 103 | 50 | 14 | 16 | 50 | 14 | 16 |
| vii) | 75 | 84 | 123 | 50 | 16 | 14 | 50 | 16 | 14 |
| viii) | 90 | 99 | 138 | 80 | 17 | 43 | 80 | 17 | 43 |
| ix) | 110 | 119 | 158 | 80 | 18 | 37 | 80 | 18 | 37 |
| x) | 125 | 134 | 188 | 80 | 18 | 42 | 80 | 25 | 35 |
| xi) | 140 | 150 | 188 | 80 | 18 | 34 | 80 | 25 | 27 |
| xii) | 160 | 170 | 214 | 80 | 18 | 34 | 80 | 25 | 27 |
| xiii) | 180 | 190 | 214 | 80 | 20 | 30 | 80 | 30 | 20 |
| xiv) | 200 | 210 | 269 | 100 | 24 | 36 | 100 | 32 | 28 |
| xv) | 225 | 235 | 269 | 100 | 24 | 46 | 100 | 32 | 38 |
| xvi) | 250 | 261 | 320 | 100 | 25 | 35 | 100 | 35 | 25 |
| xvii) | 280 | 291 | 320 | 100 | 25 | 45 | 100 | 35 | 35 |
| xviii) | 315 | 327 | 370 | 100 | 25 | 35 | 100 | 35 | 25 |
| xix) | 355 | 373 | 430 | 120 | 30 | 50 | 120 | 40 | 40 |
| xx) | 400 | 427 | 482 | 120 | 33 | 42 | 120 | 46 | 29 |
| xxi) | 450 | 514 | 585 | 120 | 46 | 14 | 130 | 60 | 10 |
| xxii) | 500 | 530 | 585 | 120 | 46 | 24 | 120 | 60 | 10 |
| xxiii) | 560 | 615 | 685 | 120 | 50 | 10 | 130 | 60 | 10 |
| xxiv) | 630 | 642 | 685 | 120 | 50 | 30 | 120 | 60 | 20 |
| xxv) | 710 | 737 | 800 | 120 | 50 | 20 | 120 | — | — |
| xxvi) | 800 | 840 | 905 | 120 | 52 | 18 | 120 | — | — |
| xxvii) | 900 | 944 | 1 005 | 120 | 55 | 15 | 120 | — | — |
| xxviii) | 1 000 | 1 047 | 1 110 | 140 | 60 | 10 | 140 | — | — |

NOTE — Tolerance on various dimensions are given below:

| <i>Dimension</i> | <i>Tolerances</i> |
|---------------------------------------------|-------------------|
| Diameter for manufacturing reference, D_3 | ± 2 mm |
| Collar diameter, D_4 | ± 2 mm |
| Laying length, Z | ± 2 mm |
| Collar height, H | ± 1 mm |
| Welding length, L | ± 1 mm |

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Amendments Issued Since Publication

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