

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 8008-3 (2003): Injection Moulded/Machined High Density Polyethylene (HDPE) Fittings for Potable Water Supplies, Part 3: Specific Requirements for 90° TEES [CED 50: Plastic Piping System]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



भारतीय मानक
पेयजल पूर्ति के लिए अन्तःक्षेपण संचकित
एच डी पी ई फिटिंगें — विशिष्टि
भाग 3 90 डिग्री टी की विशिष्ट अपेक्षाएँ
(पहला पुनरीक्षण)

Indian Standard

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

PART 3 SPECIFIC REQUIREMENTS FOR 90° TEE

(First Revision)

ICS 83.140.30; 91.140.60

© BIS 2003

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

FOREWORD

This Indian Standard (Part 3) (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 4) : 2003 | Specific requirements for reducers |
| (Part 5) : 2003 | Specific requirements for ferrule reducers |
| (Part 6) : 2003 | Specific requirements for pipe ends |
| (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 re-welding, 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 tolerance, etc, for 90° tees. 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 3 SPECIFIC REQUIREMENTS FOR 90° TEE

(First Revision)

1 SCOPE

This standard (Part 3) covers the specific requirements for material, manufacture, dimensions, tolerances and marking for injection moulded and machined HDPE 90° tees for potable water supplies.

2 REFERENCES

The following standards 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 standard indicated below:

IS No.	Title
8008 (Part 1) : 2003	Injection moulded/machined high density polyethylene (HDPE) fittings for potable water supplies— Specification : Part 1 General requirements for fittings

IS No.

4984 : 1995

Title

High density polyethylene pipe for water supply (*fourth revision*)

3 REQUIREMENTS

3.1 General

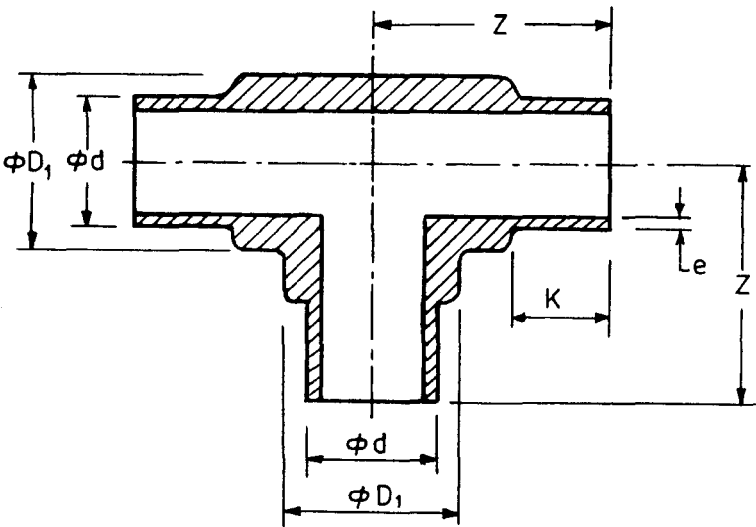
The general requirements for material manufacture, grade sizes, performance requirements, methods of test, sampling and inspection shall conform to IS 8008 (Part 1). 90° tees from 20 mm to 160 mm shall be manufactured by the injection moulding methods and machined wherever so required.

3.2 Manufacture

3.2.1 A typical illustration of injection moulded 90° tee is shown in Fig.1.

3.2.2 Laying Length

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



e — Wall corresponding to IS 4984.

FIG. 1 90° TEE

Table 1 Dimensions for 90° Tees*(Clause 3.2.2)*

All dimensions in millimetres.

Sl No.	Nominal Diameter	Diameter for Manufacturing Reference	Weld Length	Laying Length
	<i>D</i>	<i>D₁</i>	<i>K</i>	<i>Z</i>
(1)	(2)	(3)	(4)	(5)
i)	20	27	15	36.5 ± 1
ii)	25	29	15	39 ± 1
iii)	32	36.5	15	46 ± 1
iv)	40	46.5	15	63 ± 2
v)	50	57	15	75 ± 2
vi)	63	70.5	15	80 ± 2
vii)	75	85	15	88 ± 2
viii)	90	98	15	98.5 ± 2
ix)	110	122	15	122.5 ± 3
x)	125	135	15	135 ± 3
xi)	140	150	15	145 ± 3
xii)	160	170	15	157 ± 3

NOTE — Tolerance on various dimensions are given below:

<i>Dimension</i>	<i>Tolerances</i>
Diameter for manufacturing reference, <i>D₁</i>	± 2 mm
Weld length, <i>K</i>	± 3 mm

3.2.3 The outside diameters and wall thicknesses of the tees at ends (for welding) shall comply with requirements given in 8 of IS 8008 (Part 1).

4 MARKING

4.1 Each 90° tee 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 90° tee 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.

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act*, 1986 to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Director (Publications), BIS.

Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards: Monthly Additions'.

This Indian Standard has been developed from Doc : No. CED 50 (5920).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters :

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110 002
Telephones : 2323 0131, 2323 33 75, 2323 9402

Telegrams : Manaksanstha
(Common to all offices)

Regional Offices :

	Telephone
Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110 002	{ 2323 7617 2323 3841
Eastern : 1/14 C.I.T. Scheme VII M, V. I. P. Road, Kankurgachi KOLKATA 700 054	{ 2337 8499, 2337 8561 2337 8626, 2337 9120
Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160 022	{ 60 3843 60 9285
Southern : C.I.T. Campus, IV Cross Road, CHENNAI 600 113	{ 2254 1216, 2254 1442 2254 2519, 2254 2315
Western : Manakalaya, E9 MIDC, Marol, Andheri (East) MUMBAI 400 093	{ 2832 9295, 2832 7858 2832 7891, 2832 7892
Branches : AHMEDABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE. FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD. JAIPUR. KANPUR. LUCKNOW. NAGPUR. NALAGARH. PATNA. PUNE. RAJKOT. THIRUVANANTHAPURAM. VISAKHAPATNAM.	