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IS 8360-1 (1977): fabricated high density polyethylene (HDPE) fittings for potable water supplies, Part 1: General requirements [CED 50: Plastic Piping System]



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"पुनर्पुष्ट १९९२"
"RE-AFFIRMED 1992"
IS : 8360 (Part I) - 1977

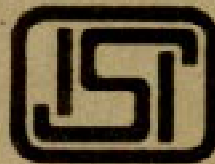
Indian Standard

SPECIFICATION FOR FABRICATED HIGH DENSITY POLYETHYLENE (HDPE) FITTINGS FOR POTABLE WATER SUPPLIES

PART I GENERAL REQUIREMENTS

(First Reprint OCTOBER 1983)

UDC 621.643.4.6:[678.742.2]:696.115



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INDIAN STANDARDS INSTITUTION
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NEW DELHI 110002

Indian Standard

SPECIFICATION FOR FABRICATED HIGH DENSITY POLYETHYLENE (HDPE) FITTINGS FOR POTABLE WATER SUPPLIES

PART I GENERAL REQUIREMENTS

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Indian Standard

SPECIFICATION FOR FABRICATED HIGH DENSITY POLYETHYLENE (HDPE) FITTINGS FOR POTABLE WATER SUPPLIES

PART I GENERAL REQUIREMENTS

0. FOREWORD

0.1 This Indian Standard (Part I) was adopted by the Indian Standards Institution on 17 January 1977, after the draft finalized by the Sanitary Appliances and Water Fittings Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 The fabricated HDPE fittings are used for connection, by welding process, to HDPE pipes covered by IS : 4984-1972*.

0.3 The requirements of fabricated HDPE fittings are covered in three parts of this standard. This Part I of the series deals with the general requirements applicable to all fabricated HDPE fittings. Specific requirements of different types of fittings are covered in separate parts of the standard.

0.4 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†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard (Part I) covers general requirements for material, sizes, performance requirements, sampling and marking of all types of fabricated HDPE fittings intended for connection to HDPE pipes covered by IS : 4984-1972* for potable water supplies.

2. MATERIAL

2.1 The pipes used for the fabrication of HDPE fittings for potable water supplies shall conform to IS : 4984-1972*.

*Specification for high density polyethylene pipes for potable water supplies (first revision).

†Rules for rounding off numerical values (revised).

3. SIZES OF FITTINGS

3.1 The sizes of the fittings shall be designated by their outside diameters at the free end. The outside diameters at the free end of the fittings shall correspond to the outside diameters of the pipes given in IS : 4984-1972*.

4. DIMENSIONS OF FITTINGS

4.1 The outside diameters and corresponding wall thicknesses of fittings at the free ends for weld shall comply with those given in Table 1 of IS : 4984-1972*.

4.2 The outside diameters shall be the average of two measurements taken at right angles. The wall thickness shall be measured with a ball ended micrometer. Resulting dimension shall be expressed to 0.1 mm.

5. PERFORMANCE REQUIREMENTS

5.1 Hydraulic Proof Test — A fitting duly plugged, when subjected to a hydraulic proof test of twice the recommended working pressure at ambient temperature and for a period of one hour shall not show any sign of localized swelling, leakage or weeping, and shall not burst during the prescribed test duration.

6. SAMPLING

6.1 Lot — All fittings of the same size, same thickness, same length and fabricated in a single consignment, shall be grouped together to constitute a lot.

6.2 The conformity of the lot to the requirements of this specification shall be ascertained for each lot separately. The number of fittings to be sampled from each lot shall depend on the size of the lot and shall be in accordance with col 1 and 2 of Table 1.

6.2.1 These fittings shall be selected from the lot at random. In order to ensure the randomness of selection, procedures given in IS : 4905-1968† may be followed.

6.3 Number of Tests and Criteria for Conformity

6.3.1 Each fitting so selected shall be examined for requirements given in 4 and 5. Any fitting failing in one or more of these requirements shall be considered as defective. The lot shall be considered as conforming to the requirements of this specification if the number of defective fittings found in the sample does not exceed the corresponding acceptance number *A* given in col 3 of Table 1.

*Specification for high density polyethylene pipes for potable water supplies (first revision).

†Methods for random sampling.

TABLE 1 SCALE OF SAMPLING AND PERMISSIBLE NUMBER OF DEFECTIVES

(Clause 6.2)

NUMBER OF FITTINGS IN THE LOT	SAMPLE SIZE	ACCEPTANCE NUMBER	
		A	B
(1)	(2)	(3)	(4)
Up to 150	3	0	0
151 to 300	5	0	0
301 „ 500	8	0	0
501 „ 1 000	13	1	0
1 001 „ 3 000	20	1	0
3 001 „ 10 000	32	2	1
10 001 „ 35 000	50	3	2
35 001 „ 150 000	80	5	3
150 001 and above	125	7	5

6.3.2 The lot rejected according to 6.3.1 may be retested for characteristics for which it has failed. For this purpose, the number of fittings to be selected at random from the lot shall be according to col 1 and 2 of Table 1. A fitting failing to satisfy the requirements of any of these characteristics shall be considered as defective. The lot shall be deemed to satisfy the requirements of the specification if the number of defective fittings found in the sample does not exceed the corresponding acceptance number *B* given in col 4 of Table 1, otherwise the lot shall be rejected.

7. MARKING

7.1 All fittings shall be clearly and indelibly marked at a prominent place visible even after the installation of the fittings with the following information:

- a) The manufacturer's name or identification mark, and
- b) The size of the fitting and the appropriate class (working pressure) of IS : 4984-1972* to which the pressure rating of the fitting corresponds.

7.1.1 HDPE fittings conforming to specific requirements as prescribed in the relevant parts of the standard may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

*Specification for high density polyethylene pipes for potable water supplies (first revision).

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