INTERNATIONAL STANDARD

ISO 8283-2

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Plastics pipes and fittings — Dimensions of sockets and spigots for discharge systems inside buildings —

Part 2:
Polyethylene (PE)

Tubes et raccords en matières plastiques — Dimensions des emboîtures et des bouts mâles pour raccordement de tubes et raccords dans les systèmes d'évacuation à l'intérieur des bâtiments —

Partie 2: Polyéthylène (PE)

Reference number
ISO 8283-2:1992(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 8283-2 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Sub-Committee SC 1, *Plastics pipes and fittings for soil, waste and drainage (including land drainage)*.

ISO 8283 consists of the following parts, under the general title *Plastics pipes and fittings — Dimensions of sockets and spigots for discharge systems inside buildings*:

— *Part 1: Unplasticized poly(vinyl chloride) (PVC-U) and chlorinated poly(vinyl chloride) (PVC-C)*

— *Part 2: Polyethylene (PE)*

— *Part 3: Polypropylene (PP)*

— *Part 4: Acrylonitrile/butadiene/styrene (ABS)*

Annex A forms an integral part of this part of ISO 8283.

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Introduction

The socket design appropriate for a particular application should be chosen according to the type of system and jointing techniques to be used. Various socket designs are specified in this part of ISO 8283. They may be selected for use in accordance with the requirements of relevant national standards and codes of practice, which give information on the choice of the type of system and jointing techniques to be used.

Plastics pipes and fittings — Dimensions of sockets and spigots for discharge systems inside buildings —

Part 2:
Polyethylene (PE)

1 Scope

This part of ISO 8283 specifies the design formulae and the derived dimensions, together with tolerances, of sockets and spigots for joints of polyethylene (PE) fittings and for integral sockets of PE pipes used in discharge systems inside buildings where such joints are intended to accommodate expansion and contraction in the discharge system. Sockets and spigots for thermal and electrothermal welding are excluded.

2 Ring-seal sockets and spigots

2.1 General

These sockets can accommodate expansion and contraction in a discharge system.

2.2 Ring-seal grooves

A selection of typical ring-seal groove designs is shown in figure 1, and the positions of measurement of specified dimensions are indicated. The design of the groove is not restricted to those illustrated.

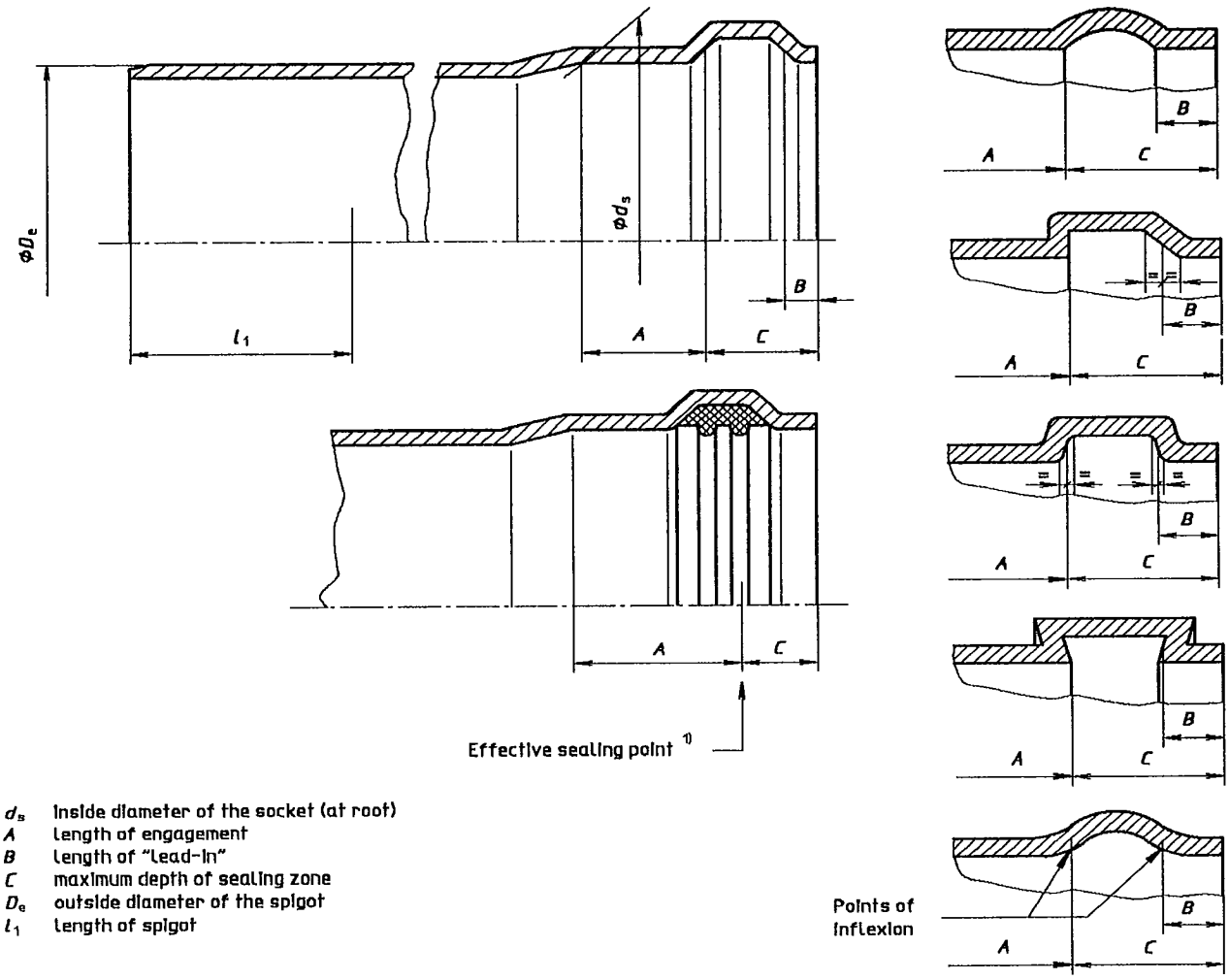
2.3 Seal-ring retaining components

Seal-ring retaining components may be manufactured from plastics materials other than PE.

2.4 Dimensions

When measured in accordance with figure 1, the dimensions of ring-seal sockets and related spigots shall comply with the applicable limits given in table 1.

There shall be no requirement on dimension B where the seal-ring is firmly retained in the groove.



d_s Inside diameter of the socket (at root)
A Length of engagement
B Length of "lead-in"
C maximum depth of sealing zone
D_e outside diameter of the spigot
l_1 length of spigot

1) When a sealing ring with more than one sealing point is used, the points of measurement for A and C shall be indicated by the manufacturer and these points shall give a full sealing action.

Figure 1 — Location of points of measurement for sockets and spigots

Table 1 — Dimensions of ring-seal sockets and related spigots

Dimensions in millimetres

Nominal outside diameter	D_e		d_s	A	B	Systems[1]			
						I		II	
D	min.	max.	min.	min.	min.	C max.	l_1 min.	C max.	l_1 min.
32	32,0	32,3	32,4	28	5	18	46	25	53
40	40,0	40,4	40,5	28	5	18	46	26	54
50	50,0	50,5	50,6	28	5	18	46	28	56
63	63,0	63,6	63,7	31	5	18	49	31	62
75	75,0	75,7	75,8	33	5	18	51	33	66
90	90,0	90,9	91	36	5	20	56	36	72
110	110	111	111,1	40	6	22	62	40	80
125	125,0	126,2	126,3	43	7	26	69	43	86
160	160,0	161,5	161,6	50	9	32	82	50	100
200	200,0	201,8	201,9	58	12	40	98	58	116
250	250,0	252,3	252,4	68	18	50	118	68	136
315	315,0	317,9	318	81	20	63	144	81	162

NOTE — This table specifies the permitted limits, calculated using the relationships given in annex A, on the main dimensions indicated in figure 1, together with non-calculated limits on the other dimensions. The calculated values have been rounded up to the nearest 0,1 mm for diameters and rounded to the nearest 1 mm for other dimensions. The value given for the length of engagement A in table 1 relates to a pipe length of 3 m inside buildings above ground.

The nominal outside diameters have been selected from ISO 161-1:1978, *Thermoplastics pipes for the transport of fluids — Nominal outside diameters and nominal pressures — Part 1: Metric series.*

1) Pipes and fittings with sockets in accordance with systems I and II are not interchangeable.

Annex A
(normative)

Ring-seal design calculations

Table A.1 — Relationships for the calculation of the dimensions of ring-seal sockets and related dimensions

Dimensions in millimetres

Nominal outside diameter D	D_e		d_s	A	l_1 [1]
	min.	max.	min.	min.	min.
32	32,0	$D_{e,min} + 0,3$	$D_{e,max} + 0,1$	$0,2D_{e,min} + 18$, at least 28	$C_{max} + A_{min}$
40	40,0	$1,009D_{e,min}$			
50	50,0				
63	63,0				
75	75,0				
90	90,0				
110	110,0				
125	125,0				
160	160,0				
200	200,0				
250	250,0				
315	315,0				

1) Applies to system I and II.

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Descriptors: buildings, drainage, plastics products, polyethylene, plastic tubes, pipe fittings, spigot-and-socket joints, pipe sockets, dimensions.

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