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International Standard 6455

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Unplasticized polyvinyl chloride (PVC) fittings with elastic sealing ring type joints for pipes under pressure — Dimensions of laying lengths — Metric series

Raccords en polychlorure de vinyle (PVC) non plastifié, avec joints d'étanchéité élastiques, pour tubes avec pression — Dimensions de montage — Série métrique

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Descriptors : piping, plastic tubes, pipe fittings, unplasticized polyvinyl chloride, dimensions.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6455 was developed by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, and was circulated to the member bodies in December 1979.

It has been approved by the member bodies of the following countries :

Australia	Greece	Romania
Austria	India	South Africa, Rep. of
Belgium	Ireland	Spain
Brazil	Israel	Sweden
Czechoslovakia	Italy	Switzerland
Denmark	Korea, Rep. of	United Kingdom
Egypt, Arab Rep. of	Netherlands	USA
Finland	Norway	USSR
France	Poland	
Germany, F. R.	Portugal	

The member body of the following country expressed disapproval of the document on technical grounds :

Japan

Printed in Switzerland

INTERNATIONAL STANDARD ISO 6455-1983 (E)

Unplasticized polyvinyl chloride (PVC) fittings with elastic sealing ring type joints for pipes under pressure — Dimensions of laying lengths — Metric series

1 Scope and field of application

This International Standard specifies the series of diameters to be used and the dimensions which are common to those types of fittings made of unplasticized polyvinyl chloride (PVC) with elastic sealing ring type joints for pipes under pressure, regardless of their method of manufacture and composition.

This International Standard contains the current types and sizes of fittings and should be used as a guide to manufacturers and users and as a basis for specific standards. It may later be extended to other types and sizes of fittings, when the development of plastics materials in the field of pipe systems makes this reasonable.

Extension to other types should be made by observing the principles laid down in this International Standard.

2 References

ISO 161/1, *Thermoplastics pipes for the transport of fluids — Nominal outside diameters and nominal pressures — Part 1 : Metric series.*

ISO 264, *Unplasticized polyvinyl chloride (PVC) fittings with plain sockets for pipes under pressure — Laying lengths — Metric series.*

ISO 2045, *Single sockets for unplasticized polyvinyl chloride (PVC) pressure pipes with elastic sealing ring type joints — Minimum depths of engagement.*[1)]

ISO 2048, *Double socket fittings for unplasticized polyvinyl chloride (PVC) pressure pipes with elastic sealing ring type joints — Minimum depths of engagement.*

ISO 2536, *Unplasticized polyvinyl chloride (PVC) pressure pipes and fittings, metric series — Dimensions of flanges.*

ISO 3460, *Unplasticized polyvinyl chloride (PVC) pressure pipes — Metric series — Dimensions of adapter for backing flange.*

3 Dimensions

3.1 Diameters and engagement depths

Diameters and depths of engagement are in accordance with ISO 2045 and ISO 2048.

The inside diameters of the sockets and the outside diameters of the spigot ends correspond to the outside diameters of the pipes (see ISO 161/1).

1) At present at the stage of draft. (Revision of ISO 2045-1973.)

3.2 Laying lengths (z)

Laying lengths (z) are designated as follows :

— "tube to tube" : when the openings in the fitting concerned are in a single direction;

— "tube to axis" : when the openings in the fitting are not in a single direction.

The laying length on the socket side is defined as the distance between the point of intersection of the axis and the position taken up by the end of the spigot when fully inserted into the socket.

The laying length on the spigot side is defined as the distance between the point of intersection of the axis and the position taken up by the mouth of the socket when the spigot is fully inserted into the socket.

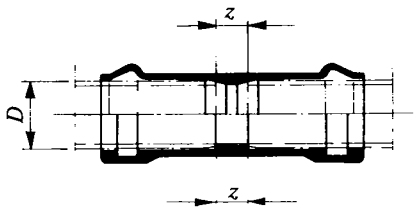
The laying length of a fitting without any intersection of the axis is defined as the distance between the end of the spigot fully inserted into the socket of the fitting and the mouth of the socket into which the spigot end of the fitting is fully inserted.

3.3 Designation of fittings

The various types of fittings are designated by the diameters of the jointing and the laying lengths given in the following tables.

The figures in this International Standard have been arbitrarily chosen without prejudice to the design of the fittings.

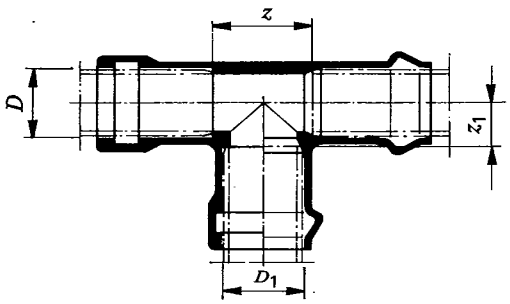
3.4 Double sockets



Dimensions in millimetres

Nominal diameter D	63	75	90	110	(125)	140	160	(200)	225
z min.	2	3	3	4	4	5	5	6	7

3.5 Tees with sockets



Dimensions in millimetres

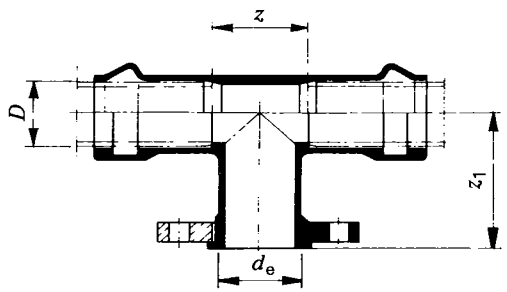
Nominal diameter D	Small end D_1	$z^{1)}$ min.	$z_1{}^{2)}$ min.
63	63	63	32
75	63	63	38
	75	75	38
90	63	63	45
	75	75	45
	90	90	45
110	63	63	55
	75	75	55
	90	90	55
	110	110	55
(125)	63	63	63
	75	75	63
	90	90	63
	110	110	63
	125	125	63
140	63	63	70
	75	75	70
	90	90	70
	110	110	70
	(125)	125	70
	140	140	70

Nominal diameter D	Small end D_1	$z^{1)}$ min.	$z_1{}^{2)}$ min.
160	(63)	63	80
	(75)	75	80
	90	90	80
	110	110	80
	(125)	125	80
	140	140	80
	160	160	80
(200)	—	—	—
	—	—	—
	90	90	100
	110	110	100
	125	125	100
	140	140	100
	160	160	100
	200	200	100
225	(63)	63	113
	(75)	75	113
	90	90	113
	110	110	113
	(125)	125	113
	140	140	113
	160	160	113
	(200)	200	113
	225	225	113

1) z min. = D_1
Tees with unequal branches may also be produced with z-lengths corresponding to these of equal tees.

2) z_1 min. = 0,5 D, rounded to the next higher millimetre.

3.6 Double socket tees with flanged branch



Dimensions in millimetres

Nominal diameter D	Outside diameter of pipe[1] d_e	z[2] min.	z_1 min.	z_1 max.
63	63	63	130	z_1 max. = z_1 min. + 40 mm
75	63	63	140	
	75	75	140	
90	63	63	150	
	75	75	150	
	90	90	150	
110	63	63	160	
	75	75	160	
	90	90	170	
	110	110	180	
(125)	63	63	170	
	75	75	170	
	90	90	180	
	110	110	190	
	125	125	190	
140	63	63	180	
	75	75	180	
	90	90	190	
	110	110	200	
	(125)	125	200	
	140	140	200	

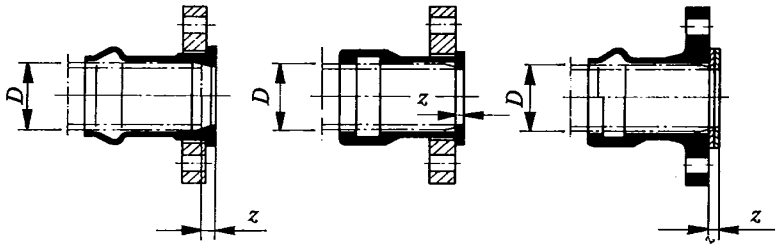
Nominal diameter D	Outside diameter of pipe[1] d_e	z[2] min.	z_1 min.	z_1 max.
160	(63)	63	190	z_1 max. = z_1 min. + 40 mm
	75	75	190	
	90	90	200	
	110	110	210	
	(125)	125	210	
	140	140	210	
	160	160	230	
(200)	—	—	—	
	—	—	—	
	90	90	225	
	110	110	235	
	125	125	235	
	140	140	235	
	160	160	255	
	200	200	265	
225	(63)	63	230	
	(75)	75	230	
	90	90	240	
	110	110	250	
	(125)	125	250	
	140	140	250	
	160	160	270	
	(200)	200	280	
	225	225	280	

1) Flange dimensions in accordance with ISO 2536 and ISO 3460.

2) z min. = d_e

Tees with unequal branches may also be produced with z-lengths corresponding to these of equal tees.

3.7 Flange sockets



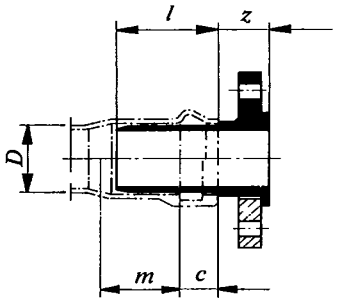
Dimensions in millimetres

Nominal diameter[1] D	63	75	90	110	(125)	140	160	(200)	225
z[2] min.	3	3	5	5	5	5	5	6	6

1) Flange dimensions in accordance with ISO 2536 and ISO 3460.

2) In accordance with ISO 3460.

3.8 Flanged spigots



Dimensions in millimetres

Nominal diameter[1] D	63	75	90	110	(125)	140	160	(200)	225
z[2] min.	33	34	35	37	39	40	42	46	49
l[3] min.	76	82	89	98	104	111	121	139	151
l[4] max.	96	102	109	118	124	131	141	159	171

1) Flange dimensions in accordance with ISO 2536 and ISO 3460.

2) z min. = 0,1 D + 26 mm

3) l min. = m min. + c max. − 40 mm

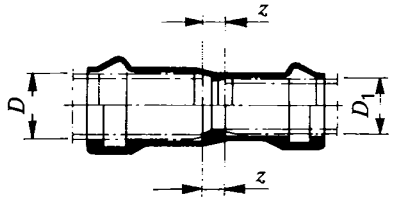
m min. in accordance with ISO 2045

c max. = 35 mm + 0,25 D

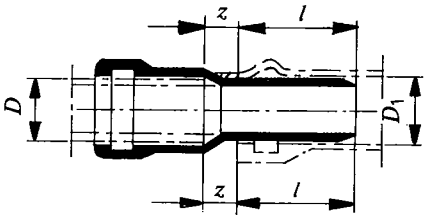
4) l max. = l min. + 20 mm

3.9 Reducers

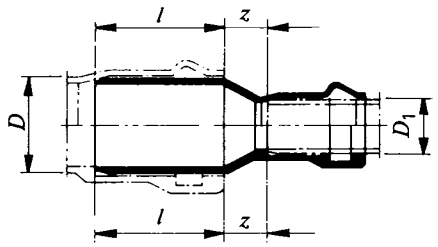
a)



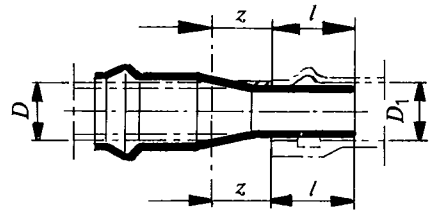
b)



c)



d)



Dimensions in millimetres

Nominal diameter of spigot or socket D	Small end D_1	z min.			
		Figures			
		a)	b)	c)	d)
75	63	3	6	6	34
90	63	4	14	14	62
	75	4	8	8	41
110	75	5	18	18	79
	90	5	10	10	53
(125)	90	5	18	18	81
	110	5	8	8	47
140	90	7	25	25	109
	110	7	15	15	76
	125	7	8	8	50

Nominal diameter of spigot or socket D	Small end D_1	z min.			
		Figures			
		a)	b)	c)	d)
160	110	7	25	25	113
	125	7	18	18	88
	140	7	10	10	62
(200)	140	10	30	30	137
	160	10	20	20	103
225	160	10	33	33	150
	200	10	13	13	81

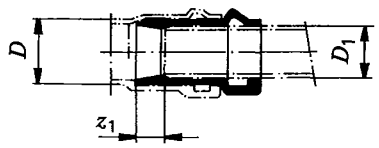
NOTES

1 l is in accordance with 3.8 (table and footnotes).

2 The laying lengths z as shown in figures a), b), c) and d) are not in exact proportion to the actual dimensions as listed in the above table.

3 Figures a), b) and c) relate to moulded reducers and figure d) to reducers fabricated from pipe.

3.10 Incorporated reducers



Dimensions in millimetres

Nominal diameter D	Small end D_1	z_1 min.
75	63	50
90	75	50
110	90	60
140	110	71
160	(125)	75
	140	73