SLOVENSKI STANDARD
SIST EN 1124-3:2000

01-november-2000

Vzdolžno varjene nerjavne jeklene cevi in spojniki z obojko za sisteme za odpadno vodo - 3. del: Sistem X - Mere

Pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket for waste water systems - Part 3: System X; Dimensions

Rohre und Formstücke aus längsnahtgeschweißtem, nichtrostendem Stahlrohr mit Steckmuffe für Abwasserleitungen - Teil 3: System X; Maße

Tubes et raccords de tube soudés longitudinalement en acier inoxydable, a manchon enfichable pour réseaux d'assainissement - Partie 3: Systeme X; Dimensions

Ta slovenski standard je istoveten z: **EN 1124-3:1999**

ICS:

23.040.10	Železne in jeklene cevi	Iron and steel pipes
93.030	Zunanji sistemi za odpadno vodo	External sewage systems

SIST EN 1124-3:2000 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1124-3

January 1999

ICS 23.040.10; 23.040.40; 23.040.60

Descriptors: water removal, sewage, water pipelines, steel tubes, stainless steel, welded tubes, pipe sockets, seals: stoppers, dimensions, dimensional tolerances

English version

Pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket for waste water systems - Part 3: System X; Dimensions

Tubes et raccords de tube soudés longitudinalement en acier inoxydable, à manchon enfichable pour réseaux d'assainissement - Partie 3: Système X; Dimensions

Rohre und Formstücke aus längsnahtgeschweißtem, nichtrostendem Stahlrohr mit Steckmuffe für Abwasserleitungen - Teil 3: System X; Maße

This European Standard was approved by CEN on 16 December 1998.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 1124-3:1999 E

Contents

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 165 "Waste water engineering", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 1999, and conflicting national standards shall be withdrawn at the latest by July 1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This standard applies to pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket for waste water systems.

It specifies dimensions and tolerances for pipes, fittings, pipe connectors and seals of the System X and establishes a system of designations for the different pipe and fitting types that conform to the stated requirements.

NOTE: System X is a system of pipes and fittings of longitudinally welded stainless steel pipes with two-step sockets.

This standard is only valid in connection with EN 1124-1.

This standard does not apply to the marking of products. EN 1124-1 applies to the marking.

2 Normative References

This European Standard incorporates by dated or undated references, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 295
Vitrified clay pipes and fittings and pipe joints for drains and sewers

prEN 877
Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings - Requirements, test methods and quality assurance

EN 1123-1 : 1999
Pipes and fittings of longitudinally welded hot-dip galvanized steel pipes with spigot and socket for waste water systems - Part 1: Requirements, testing, quality control

EN 1124-1 : 1999
Pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket for waste water systems - Part 1: Requirements, testing, quality control

prEN 1329
Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure - Unplasticized poly(vinylchloride) (PVC-U)

prEN 1451
Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure – Polypropylene (PP)

prEN 1453
Plastics piping systems with structured-wall pipes for soil and waste discharge (low and high temperature) inside buildings - Unplasticized poly(vinyl chloride) (PVC-U)

prEN 1455
Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure - Acrylonitrile-butadiene-styrene (ABS)

prEN 1519
Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure -

Polyethylene (PE)

prEN 1565
Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure - Styrene-Copolymer-Blends (SAN + PVC)

prEN 1566
Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure - Chlorinated poly(vinyl chloride) (PVC-C)

ISO 1127 : 1992
Stainless steel tubes: Dimensions, tolerances and conventional masses per unit length

3 Definitions

For the purposes of this standard, the definitions specified in EN 1124-1 apply.

4 Symbols

DN/ID	Nominal size regarding the inside diameter
DN/OD	Nominal size regarding the outside diameter
d	Diameter
t	Socket depth
s	Wall thickness
l	Effective length
r	Radius
α	Angle
e	Off-set dimension (shift)
t_5	Least insertion depth

5 Dimensions

5.1 General and tolerances

The figures in this standard are simplified drawings. The dimensions given shall be followed.

Where no dimensions are given in this standard, tolerances for linear dimensions shall be followed according to table 1, tolerances for radii shall be followed according to table 2, tolerances for angular dimensions referring to the smaller side length shall be followed according to table 3 and tolerances for elastomer parts shall be followed according to table 4.

Table 1

Dimensions in millimetres

Dimensional range	Tolerances for linear dimensions
from 0 up to 300	± 5
more than 300	± 8

Table 2

Dimensions in millimetres

Dimensional range	Tolerances for radii
more than 27 up to 181	± 3
more than 181 up to 378	± 4
more than 378 up to 457	± 5

Table 3

Side length mm	Tolerances for angles degrees
more than 10 up to 120 more than 120 up to 400 more than 400	± 3 ± 2 ± 1,5

Table 4

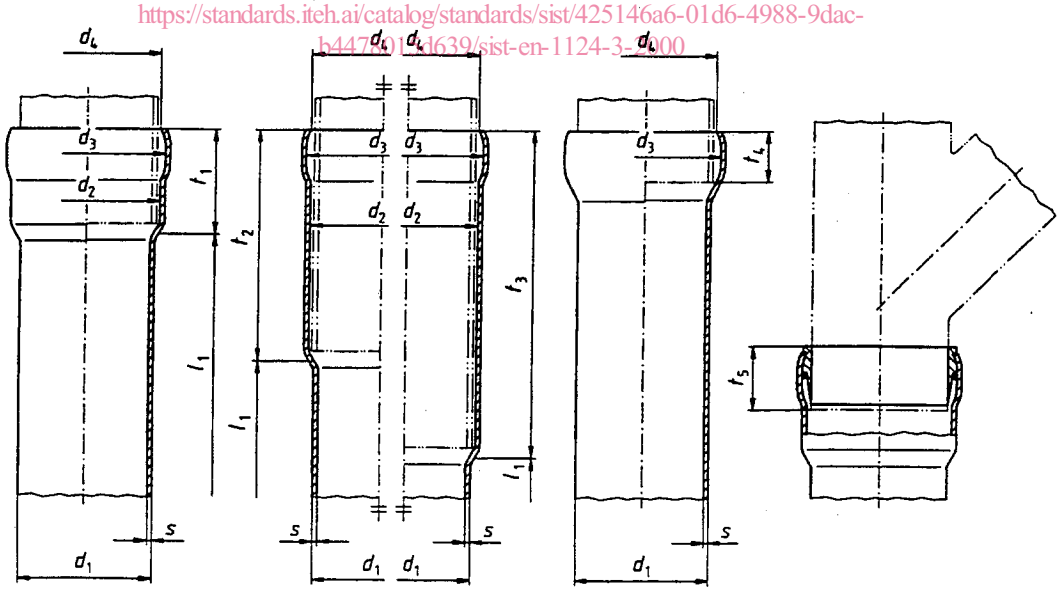
Dimensions in millimetres

Range of nominal size	Tolerances for elastomer parts	
	relating form bound dimensions (F) in %	relating form fitting bound dimension (C) in %
more than 25 up to 40	± 0,6	± 1,0
more than 40 up to 63	± 0,8	± 1,3
more than 63 up to 100	± 1,0	± 1,6
more than 100 up to 160	± 1,3	± 2,0
above 160	± 0,8	by agreement with the manufacturer of the components.

5.2 Sockets

The socket dimensions according to figure 1 shall conform to table 5. Fittings are generally fabricated with socket type 1 A.

Details not specified shall be chosen appropriately.



Socket type **1 A** Standard socket

Socket type **2 A/3 A** Long socket

Socket type **0,5 A** Short socket[1])

Joint with ring seal socket

Figure 1: Socket types

[1]) For use of the short socket, national regulations should be taken into account.

Table 5

Dimensions in millimetres

Nominal size DN/ID	d_1 [2]	s [3]			Socket dimensions									
		light series **L**	medium series **M**	heavy series **S**	d_2	d_3	d_4	Tolerances for d_1 to d_4	t_1	t_2	t_3	t_4	t_5 [1]	Tolerances for t_1 to t_4
40	42	1,0	1,2	1,5	44,8	47,8	44,8	± 0,6	30	70	100	16	20	$^{+4}_{-2}$
50	53	1,0	1,2	1,5	55,8	59,8	55,8	± 0,6	38	90	130	19	28	
70	73	1,0	1,2	1,5	75,8	80,8	75,8	± 0,7	55	120	175	27	35	
80	89	1,0	1,2	1,5	91,8	98,8	91,8	± 0,9	60	130	190	31	40	
100	103	1,0	1,2	1,5	106,8	114,8	107,8	± 1,0	70	150	220	38	45	
125	133	1,0	1,5	2,0	137,8	146,8	139,8	± 1,3	75	160	235	41	50	
150	159	1,0	2,0	2,5	163,8	175,8	167,8	± 1,6	80	170	250	56	55	
200	219	1,0	2,0	2,5	223,8	240,8	227,8	± 2,2	120	250	370	76	85	

[1]) installation instructions only (necessary least insertion depth for tightness of pipe connection). - except short socket
[2]) Pipe ends slightly retracted
[3]) Permissible dimensions according to ISO 1127:1992 : ISO tolerance class T 3: ± 10 % of the wall thickness, maximum ± 0,2 mm

5.3 Pipes

The effective length of pipes shall comply with table 6 or table 7.

If the pipes have an additional corrosion protection (P) according to clause 9 of EN 1124-1 : 1999, this shall be added to the designation.

5.3.1 Pipe with one socket – Shape B 1

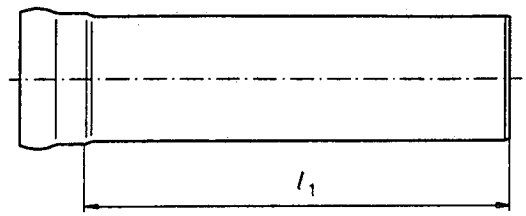


Figure 2: Shape B 1

Designation of a drainage steel pipe (B 1) with standard socket (1 A) of medium series (M), nominal size DN/ID 100 and effective length l_1 = 1000 mm with additional corrosion protection (P):

Pipe EN 1124-3 – B 1 – 1 A M – 100 – 1000 P

Table 6

Dimensions in millimetres

Nominal size DN/ID	$l_1 \pm 5$							
40	250	500	750	1 000	1 500	2 000	3 000	4 000
50								
70								
80								
100								
125								
150								
200								

5.3.2 Pipe with two sockets – Shape B 2

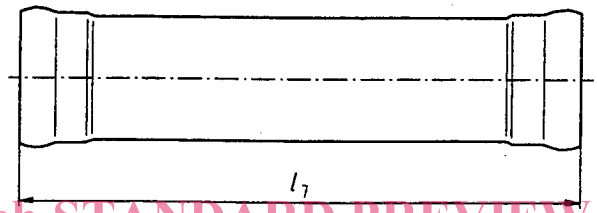


Figure 3: Shape B 2

Designation of a drainage steel pipe (B 2) with standard socket (1 A) of medium series (M), nominal size DN/ID 80 and effective length l_7 = 750 mm:

Pipe EN 1124-3 – B 2 – 1 A M – 80 – 750

Table 7

Dimensions in millimetres

Nominal size DN/ID	$l_7 \pm 5$						
40	250	500	750	1 000	1 500	2 000	3 000
50							
70							
80							
100							
125							
150							
200							

5.4 Bend

If required, type (A) or (B) and the additional corrosion protection (P) according to EN 1124-1 shall be added to the designation (see 5.3).

5.4.1 Bend with large radius – Shape C 1

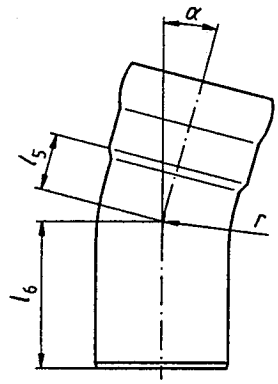


Figure 4: Shape C 1

Designation of a bend (C 1) with standard socket (1 A) of medium series (M), nominal size DN/ID 100 and α = 45° of type A:

Bend EN 1124-3 – C 1 – 1 A M – 100 – 45 A

Table 8

Dimensions in millimetres

Nominal size DN/ID	Type	α = 15°			α = 30°			α = 45°			α = 70°			α = 87°		
		r	l_5	l_6	r	l_5	l_6	r	l_5	l_6	r	l_5	l_6	r	l_5	l_6
40	–	67,5	37	67	67,5	46	76	67,5	56	86	67,5	75	105	67,5	92	122
50	–	82,5	53	81	82,5	64	92	82,5	76	104	82,5	100	128	82,5	120	148
70	–	117,5	50	89	117,5	66	105	117,5	83	122	117,5	118	157	117,5	146	185
80	**A**	115	40	100	115	46	106	115	62	122	115	95	155	115	130	190
	B	–	25	85	114,5	56	116	114,5	72,5	132,5	114,5	105	165	114,5	134	194
100	**A**	152	45	115	152	56	126	152	78	148	152	121	191	152	167	237
	B	–	45	115	150	65	135	150	87	157	150	130	200	150	167	237
125	**A**	180	45	116	180	75	150	180	100	175	180	151	226	180	205	280
	B	–	49	110	181	73	148	181	100	175	181	152	227	181	197	272
150	**A**	216	45	125	216	85	165	216	115	195	216	177	257	216	241	321
	B	–	53	133	216	83	163	216	114	194	216	176	256	216	230	310
200	**A**	305	45	165	305	110	230	305	155	275	305	240	360	305	330	450
	B	–	45	165	–	45	165	305	166	270	305	254	360	305	330	435

5.4.2 Bend with small radius – Shape C 2

Bend C 2 should not be used for buried pipes.

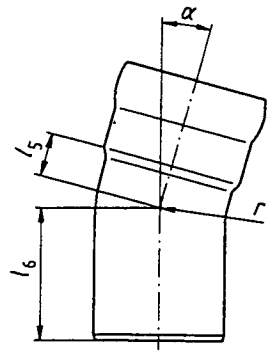


Figure 5: Shape C 2

Designation of a bend (C 2) with standard socket (1 A) of medium series (M), nominal size DN/ID 100 and α = 45° of type B:

Bend EN 1124-3 – C 2 – 1 A M – 100 – 45 B

Table 9

Dimensions in millimetres

Nominal size DN/ID	Type	α = 15°			α = 30°			α = 45°			α = 70°			α = 87°		
		r	l_5	l_6	r	l_5	l_6	r	l_5	l_6	r	l_5	l_6	r	l_5	l_6
40	–	–	–	–	–	–	–	28	19	64	28	27	72	28	34	79
50	A	–	–	–	–	–	–	36,5	24	79	36,5	35	89	36,5	44	100
	B	–	–	–	–	–	–	30	26	80	30	35	89	30	43	97
70	A	–	–	–	–	–	–	50	33	91	50	50	105	50	60	120
	B	–	–	–	–	–	–	95	50	110	95	77	137	95	100	160
100	–	70	34	104	70	44	114	70	54	124	70	74	144	70	91	161

5.4.3 Bend with stilling section – Shape C 3

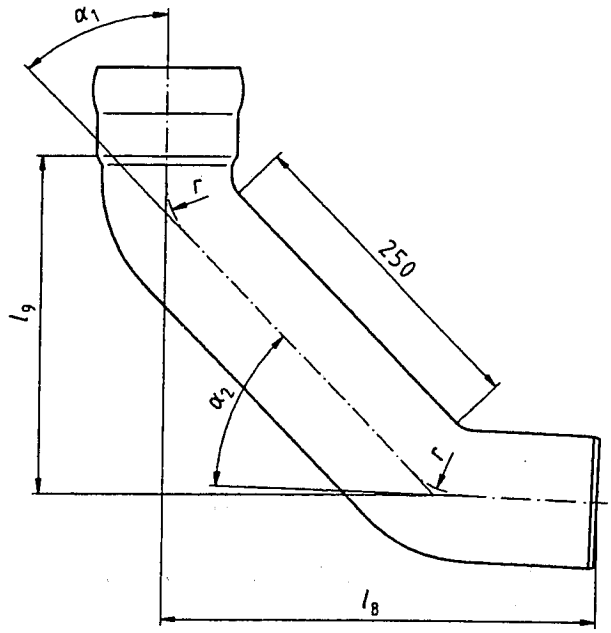


Figure 6: Shape C 3

Designation of a bend with stilling section (C 3) with standard socket (1 A) of medium series (M), nominal size DN/ID 100 of type A:

Bend EN 1124-3 – C 3 – 1 A M – 100 A

Table 10

Dimensions in millimetres

Nominal size DN/ID	Type	α_1	α_2	r	l_8	l_9
70	**A**	44°	44°	118	335	288
	B			95	335	288
80	–			114,5	370	324
100	**A**			150	421	350
	B			70	335	275
125	**A**			181	443	373
	B			181	445	387
150	**A**			216	480	410
	B			216	485	425