BRITISH STANDARD

BS EN
1124-1:1999
Incorporating
Amendment No. 1

Pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket for waste water systems —

Part 1: Requirements, testing, quality control

The European Standard EN 1124-1:1999, with the incorporation of amendment A1:2004, has the status of a British Standard

ICS 77.140.75; 91.140.80

BSI
British Standards

National foreword

This British Standard is the English language version of EN 1124-1:1999, including amendment A1:2004.

The start and finish of text introduced or altered by CEN amendment is indicated in the text by tags [A1] ⟨A1]. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated by [A1] ⟨A1].

The UK participation in its preparation was entrusted to Technical Committee ISE/8, Steel pipes, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled "International Standards Correspondence Index", or by using the "Search" facility of the *BSI Electronic Catalogue* or of British Standards Online.

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Summary of pages

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EUROPEAN STANDARD
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Descriptors: water removal, sewage, water pipelines, non-pressure pipes, steel tubes, welded tubes, pipe fittings, stainless steels, pipe sockets, characteristics, tests, marking, quality control

English version

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

(including amendment A1:2004)

Tubes et raccords de tube soudés longitudinalement en acier inoxydable, à manchon enfichable pour réseaux d'assainissement — Partie 1: Prescriptions, essais, contrôle de qualité
(inclut l'amendement A1:2004)

Rohre und Formstücke aus längsnahtgeschweißtem, nichtrostendem Stahlrohr mit Steckmuffe für Abwasserleitungen — Teil 1: Anforderungen, Prüfungen, Güteüberwachung
(enthält Änderung A1:2004)

This European Standard was approved by CEN on 16 December 1998; amendment A1:2004 was approved by CEN on 1 July 2004.

CEN
European Committee for Standardization
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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.

This European Standard consists of the following parts:

— *Part 1: Requirements, testing, quality control*;

— *Part 2: System S — Dimensions*;

— *Part 3: System X — Dimensions.*

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.

Foreword to amendment A1

This document (EN 1124-1:1999/A1:2004) 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 March 2005, and conflicting national standards shall be withdrawn at the latest by March 2005.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative annex ZA, which is an integral part of this document.

This annex includes the requirements of the Mandate given under the EU Construction Products Directive (89/106). CE marking is affixed to the product only after compliance with the requirements of Annex ZA is achieved.

For reasons of conformity with Mandate M 131 for harmonized European Standards on pipes, tanks and ancillaries not in contact with water intended for human consumption, EN 1124-1:1999 has been amended by the addition of Annex ZA (see Resolution CEN/BT 113/1994 and CEN/BT 63/1996) and the following amendments to the text of the standard.

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

Contents

1 Scope

This European Standard specifies requirements, tests and quality control for longitudinally welded, stainless steel pipes and fittings with spigot and socket, for use in waste water systems usually operating under gravity or at a low head of pressure.

For the purposes of this standard, components are pipes, fittings, joints and seals.

This standard is for components used for the discharge of:

— domestic waste water;

— surface water; and

— groundwater.

This standard is also for components discharging other waste water (e.g. industrial waste water), as long as it does not damage the components or endanger the health and safety of personnel.

2 Normative references

This European Standard incorporates by dated or undated reference, 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 476, *General requirements for components used in discharge pipes, drains and sewers for gravity systems.*

EN 681-1, *Elastomeric seals — Material requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber.*

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 1124-2:1999, *Pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket for waste water systems — Part 2: System S — Dimensions.*

EN 1124-3:1999, *Pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket for waste water systems — Part 3: System X — Dimensions.*

EN 12068, *Cathodic protection — External organic coatings for the corrosion protection of buried or immersed steel pipelines used in conjunction with cathodic protection — Tapes and shrinkable materials.*

ISO 559:1991, *Steel tubes for water and sewage.*

ISO 683-13:1986, *Heat-treatable steels, alloy steels and free-cutting steels — Part 13: Wrought stainless steel.*

ISO 8770:1991, *High-density polyethylene (PE-HD) pipes and fittings for soil and waste discharge (low and high temperature) systems inside buildings — Specification.*

3 Definitions

For the purposes of this standard, the definitions of nominal size (DN), inside diameter (ID) and outside diameter (OD) as specified in EN 476 apply.

4 Materials and prefabricated components

Pipe and fittings are made of precision steel tube of austenitic stainless steels, manufactured generally of material No. 11 ISO 683-13:1986, No. 19a ISO 683-13:1986 and No. 21 ISO 683-13:1986. Comparable materials are permissible.

Until a European Standard for as-welded precision steel pipes is produced, national specifications remain available for the testing of steel pipe before finished into pipes and fittings for drainage.

The choice of the material depends on the application (see ISO 683-13:1986, EN 10088-2). The steel tube from which the pipes and fittings are made shall be of the materials specified in the first paragraph.

Prefabricated components are assembled at the manufacturers plant. They shall be designed so as to function permanently and be interchangeable.

5 Dimensions

The dimensions shall comply with EN 1124-2 or EN 1124-3.

5.1 Socket shape

The socket shape shall comply with EN 1124-2 or EN 1124-3.

5.2 Nominal sizes

The nominal sizes for pipes and fittings to EN 1124-2 shall be in the range of DN/OD 50, 75, 110 and 160. The nominal sizes for pipes and fittings to EN 1124-3 shall be in the range of DN/ID 40, 50, 70, 80, 100, 125, 150 and 200.

6 Requirements of pipes and fittings

6.1 Straightness

The pipes shall be straight. In the pipe axis, the bend over a length of 1 m shall not be more than 1,5 mm.

6.2 Ends of pipes and fittings

The pipes and fittings shall be cut perpendicular to the pipe axis. For fittings up to DN/OD 110 or DN/ID 100 a variation of the right angle of up to 3° is allowed. For the ends of pipes and fittings with a nominal size larger than DN/ID 100 or DN/OD 110, the deviation of the right angle shall not be more than 1° 45′. All burrs shall be removed.

6.3 Inner surface finish

The inner surface shall be smooth and free from cracks and defects affecting flow. The inner surface of sockets shall be free from sharp irregularities and shall meet the requirements given in **6.4**. Both requirements also apply to the weld area.

There shall be no visible annealing colour or material impurities.

6.4 Outside surface finish

The outside surface shall be smooth and free from sharp irregularities which could damage the seals during insertion.

There shall be no visible annealing colour or material impurities.

6.5 Roundness

The permissible variations of the pipe diameter according to Table 4 of EN 1124-2:1999 or Table 5 of EN 1124-3:1999 shall be satisfied.

6.6 Welds

Burrs, edges and lugs in the weld area shall be avoided. Welding burrs or inclusions shall be so small that acceptable post-treatment is possible by pickling.

The inner burr of the longitudinal weld shall, following ISO 559:1991, be worked down to a maximum of 0,3 mm. The weld shall withstand the stresses to be expected under normal working conditions and shall be watertight at internal pressures of 0 kPa to 50 kPa.

6.7 Annealing

Pipes and fittings shall be annealed depending on material and processing temperature.

7 Requirements of pipe joints

7.1 Seals

Seals shall be resistant to rainwater, domestic waste water and to industrial sewage. Industrial sewage may only be discharged if it does not damage the components nor the health and safety of the personnel.

Where pipes and fittings are fitted with joint seals, these shall be supplied with the pipe or fitting before it leaves the manufacturer, or shall be installed in the socket at the factory.

The seals shall be homogeneous. The surface shall not have any defects or irregularities which could affect the waste water drainage.

The seals for system X shall be according to EN 1123-1 and EN 1124-3. The seals for system S shall be according to EN 681-1.

7.2 Watertightness

All pipes and fittings including their joints shall be watertight at an internal or an external pressure of 0 kPa to 50 kPa. The test shall be made according to **10.11.1**.

For pipes likely to be subjected to greater pressures, e.g. pressurized pipes in lifting systems and rainfall pipes liable to "back flow", additional means shall be provided to give the pipes and fittings a friction fit according to EN 1124-3.

7.3 Airtightness

During the test specified in **10.11.2**, even with a change of direction of 2° in the pipe joint, no air shall escape at any pressure. Pipe joints shall withstand an internal air test pressure of 10 kPa.

Joints of sanitary fittings shall withstand an internal air test pressure of 1 kPa.

7.4 Thermal stressing

Pipe connections from the service mains, downpipes and collecting pipes shall remain airtight and watertight throughout the temperature cycles and long-term stressing specified in **10.10**.

7.5 Joint assembling

The force of insertion for components of nominal size up to and including DN/ID 150 or DN/OD 160 shall not exceed 1,5 kN, or 2,0 kN for DN/ID 200 upwards.

The minimum insertion depths t_5 given in Table 4 of EN 1124-2:1999 and Table 5 of EN 1124-3:1999 shall be adhered to.

After assembly, the effective cross-sectional area of the seals shall be such as to ensure their long-term sealing effect.

8 Thermal requirements

Pipes, fittings and pipe joints shall show no changes that could impair their functioning, after the tests described in **10.10**.

Pipes, fittings and seals inside buildings shall be suitable for a maximum waste water temperature of +95 °C.

9 Corrosion protection

9.1 Post-treatment

After being welded, pipes and fittings may be treated inside and outside. Any annealing colour or scale arising from the welding process shall be removed completely.

Annealing, grinding, pickling or passivation may be used as the post-treatment.

9.2 Buried pipes and fittings

If pipes and fittings are to be buried, additional corrosion protection shall be required.

The requirements for this additional corrosion protection result from the foundation conditions to be expected and from the locally valid regulations which have to be taken into account. In Austria, for example, the local regulations are standardized [see Annex B (informative)]. EN 12068 shall be observed for organic coatings made of tapes and shrinkable materials for the corrosion protection of buried or immersed steel pipelines used in conjunction with cathodic protection.

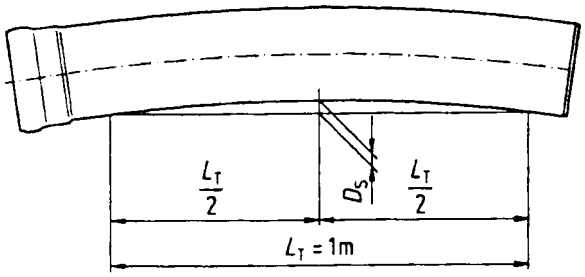
10 Testing

The tests shall be carried out on pipes, fittings and their seals.

10.1 Straightness of the pipes

The deviation from straightness of the pipe axis shall be determined in accordance with Figure 1, using any suitable test device.

For pipes less than 1 m in length, or significantly longer, the straightness shall be put in correlation to the straightness for a length of 1 m.



L_T test length

D_s deviation from straightness

Figure 1 — Testing straightness

10.2 Squareness of the ends of the pipes and fittings

The deviation from squareness is determined at each end as the maximum difference of the clearances measured between any point of the ends and a plane at right angles to the line connecting the points of support. Any suitable test device may be used.

10.3 Surfaces

The surface finishes as specified in **6.3** and **6.4** shall be checked by visual examination.

10.4 Roundness

The roundness requirements are regarded as having been met if the limiting dimensions for D_1 and D_2 according to Table 4 of EN 1124-2:1999 or d_1 to d_4 according to Table 5 of EN 1124-3:1999 are adhered to.

10.5 Appearance and watertightness of the welds

The appearance of the weld according to **6.6** is to be checked visually or by measurement.

The watertightness shall be tested on one or more pipes or pipe sections at ambient temperature under hydrostatic pressure as shown in Figure 2.

The samples shall be tested in the set-up shown in Figure 3. They shall be filled with water and completely vented. The test duration and test pressure shall be as shown in Figure 2.

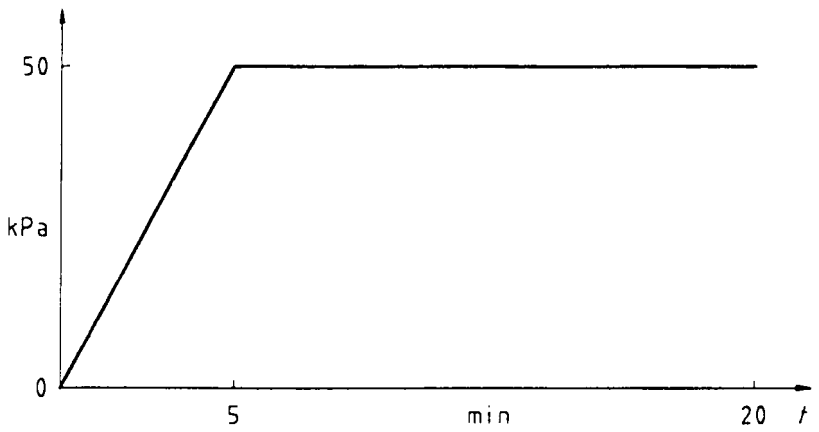


Figure 2 — Test parameters for watertightness test of weld seams

10.6 Materials

The manufacturer of the pipes and fittings shall ensure that the steel is of the required quality. Where a works certificate is provided, this shall be considered adequate proof.

The seal materials shall be tested as described in **10.9**.

10.7 Corrosion protection

The corrosion protection or the secondary treatment shall be checked visually.

10.8 Dimensions

The dimensions of prefabricated components given in the parts for dimensions of the standard series EN 1124 shall be checked with suitable measuring equipment. Margins of error for the measuring equipment shall not exceed:

- for the wall thickness: 0,01 mm;
- for the diameter: 0,1 mm;
- for the length of the pipe: 1,0 mm.

10.9 Seals

The tests of seals for system X shall be carried out as described in **10.10** of EN 1123-1:1999.

The tests of seals for system S shall be carried out as described in EN 681-1.

10.10 Temperature resistance

The components shall be tested in the as-delivered condition with a test set-up as shown in Figure 3.

Hot and cold water shall be piped alternately through the test set-up for 1 500 cycles, made up as follows:

a) (30 ± 1) l of water at a temperature of (93 ± 2) °C for 1 min at constant flow;

b) break and drainage period of 1 min;

c) (30 ± 1) l of water at a temperature of (15 ± 5) °C for 1 min at constant flow;

d) break and drainage period of 1 min.

The water temperature shall be measured at the inlet.

When the test set-up is filled with water at (15 ± 5) °C up to a pressure of 35 kPa relative to the lowest point and at least 5 kPa relative to the inlet, no leaks shall occur either prior to or after the cyclical stressing.

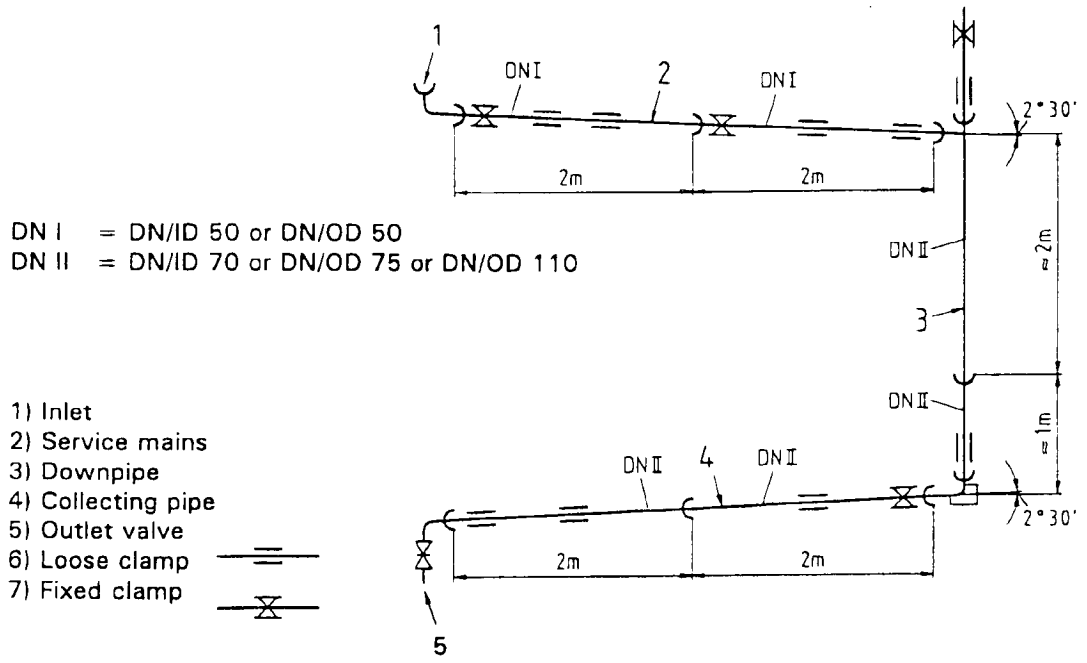


Figure 3 — Test set-up

10.11 Joints

All tests shall be carried out on at least one pipe joint. Properties to be tested are:

— joint assembly (see **7.5**);

— temperature resistance (see **10.10**);

— watertightness (see **10.11.1**);

— airtightness (see **10.11.2**).

10.11.1 *Watertightness test of pipe joints*

This test shall be carried out according to EN 476 and as described in Annex C (normative) of ISO 8770:1991. The requirements of **7.2** shall be met.

10.11.2 *Airtightness test*

The test shall be carried out following Annex D (normative) of ISO 8770:1991. The requirements of **7.3** shall be met.

11 Marking

Pipes, fittings and seals shall have at least the following clearly visible and permanent markings.

Pipes and fittings:

— EN 1124;

— manufacturer's mark;

— year of manufacture.

Seals for system S shall be marked according to EN 681-1. Seals for system X shall be marked according to EN 1123-1.

[A1] 12 Evaluation of conformity

12.1 General

The compliance of pipes and fittings with the requirements of this standard and with the stated values (including classes) shall be demonstrated by:

— initial type testing;

— factory production control by the manufacturer, including product assessment [In this example, the "designer" is also the "manufacturer", i.e. is responsible for the CE marking].

Where third party assessment is required it shall be carried out under the provisions of Annex A (normative).

For the purposes of testing, pipes and fittings covered by Clause **1** of this standard may be grouped into families where it is considered that the selected property is common to all pipes and fittings within that family

12.2 Type testing

12.2.1 *Initial type testing*

Initial type testing shall be performed to show conformity with this standard. Tests previously performed in accordance with the provisions of this standard (same product, same characteristic(s), test method, sampling procedure, system of attestation of conformity, etc.) may be taken into account. In addition, initial type testing shall be performed at the beginning of the production of a new pipe or fitting type (unless a member of the same family) or at the beginning of a new method of production (where this may affect the stated properties).

Where a components is used whose characteristics have already been determined, by the component manufacturer, on the basis of conformity with other product standards, these characteristics need not be reassessed (e.g. seals).

All characteristics in Clauses **5**, **6**, **7**, **8** and **9** shall be subject to initial type testing, with the following exceptions:

— release of dangerous substances may be assessed indirectly by controlling the content of the substance concerned;

— reaction to fire where the product is Class A "No contribution to fire" provided for in Decision 94/611/EC;

— durability which is inherent in the material and by a prescriptive requirement on corrosion protection.

12.2.2 *Further type testing*

Whenever a change occurs in the raw material or supplier, or the production process (subject to the definition of a family), which would change significantly one or more of the characteristics, the type tests shall be repeated for the appropriate characteristic(s). [A1]

12.2.3 ***Sampling***

The samples shall be taken from a large stock or from released production and shall represent the average manufactured product.

Undamaged samples can also be taken from a wholesaler or, in special cases, from a construction site.

Products designated as defective by the manufacturer shall be only excluded from the sampling when they have been clearly marked as such and separately stored.

The samples shall be marked immediately and distinctively.

Sampling shall be recorded on file and signed by the person taking the samples. The file shall be countersigned by the foreman or his deputy. The file shall include at least the following details:

— manufacturer and production plant;
— sample location — where appropriate;
— designation of the product (e.g. EN number);
— marking of the samples;
— place and date;
— signatures.

12.2.4 ***Recording of test results***

The results of all type tests shall be recorded and held by the manufacturer for at least 5 years.

12.3 Factory production control (FPC)

12.3.1 ***General***

The manufacturer shall establish, document and maintain an FPC system to ensure that the products placed on the market conform with the stated performance characteristics. The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product.

An FPC system conforming with the requirements of EN ISO 9001, and made specific to the requirements of this standard, is considered to satisfy the above requirements.

The results of inspections, tests or assessments requiring action shall be recorded, as shall any action taken. The action to be taken when control values or criteria are not met shall be recorded and retained for the period specified in the manufacturer's FPC procedures.

12.3.2 ***Equipment***

Testing — All weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documented procedures, frequencies and criteria.

Manufacturing — All equipment used in the manufacturing process shall be regularly inspected and maintained to ensure use, wear or failure does not cause inconsistency in the manufacturing process. Inspections and maintenance shall be carried out and recorded in accordance with the manufacturer's written procedures and the records retained for the period defined in the manufacturer's FPC procedures.

12.3.3 ***Raw materials and components***

The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their conformity.

12.3.4 ***Product testing and evaluation***

The manufacturer shall establish procedures to ensure that the stated values of all of the characteristics are maintained. The characteristics, and the means of control shall be no less than Table 1.

A1 **Table 1 — Method and frequency of internal control of pipes and fittings**

No.	Object under test	Method (property)	Frequency	Requirements to clause	Test to clause
1	Pipes	Straightness	Once a week on 5 items per nominal size DN/ID or DN/OD	**6.1**	**10.1**
2	Pipes and fittings	Ends of components		**6.2**	**10.2**
3		Inner surface		**6.3**	**10.3**
4		Outer surface		**6.4**	**10.3**
5		Roundness		**6.5**	**10.4**
6		Welds		**6.6**	**10.5**
7		Dimensions		**5**	**10.8**
8	Prefabricated components	Straightness		**6.1**	**10.1**
9		Ends of components		**6.2**	**10.2**
10		Inner surface		**6.3**	**10.3**
11		Outer surface		**6.4**	**10.3**
12		Roundness		**6.5**	**10.4**
13		Welds		**6.6**	**10.5**
14		Dimensions		**5**	**10.8**
15	Pipes, fittings and prefabricated components	Marking		**11**	Visually

12.3.5 ***Inspection documentation***

The inspection report refers to this standard and includes the following details:

— Manufacturer and production plant;
— Designation of the product;
— Scope, results and evaluation of the factory production control;
— Details of sampling — where appropriate;
— Results of the tests;
— Total evaluation;
— Place and date;
— Signatures of empowered personnel.

12.3.6 ***Non-conforming products***

The manufacturer shall have written procedures which specify how non-conforming products shall be dealt with. Any such events shall be recorded as they occur and these records shall be kept for the period defined in the manufacturer's written procedures.

13 Reaction to fire

Pipes and fittings in compliance with this standard are classified without further testing as belonging to Class A “No contribution to fire” as provided for in Commission Decision 96/603/EC as amended.

14 Durability

Pipes and fittings in compliance with this standard are deemed durable for a reasonable economic working life as a result of the inherent property of the material and by a prescriptive requirement on corrosion protection where required.

15 Dangerous substances

The manufacturer shall ensure that there are no emissions of any substances hazardous to health or the environment in excess of the legally permitted level in the member state of destination. A1

〈A1〉 16 Longitudinal bending strength

Pipes shall have a wall thickness according to EN 1124-2:1999 and EN 1124-3:1999. 〈A1〉

A1 Annex A (normative) Third party assessment

A.1 Method and frequency

Third party assessment shall be carried out on the finished product at least twice a year in production plant. The tests to be carried out are listed in Table A.1 and Table A.2. They shall be carried out by an inspecting or quality assessment organization recognized as qualified in the country of production or in the case inspecting contract accredited by an accreditation body that is signatory to a Multilateral Accreditation Agreement.

Before the third party assessment can begin, the manufacturer shall have had a complete type test carried-out by an accredited laboratory corresponding to Clauses **5** to **10** and shall have established if the pipes, fittings and seals meet the requirements of this standard. If there are any changes to the design, manufacturing method or material, the type test shall be repeated. The manufacturer shall show the report to the third party on demand. In the case of a continuous process inspection, the scope and frequency shall be varied by agreement with the third party. After a successful type test, the third party assessment shall be carried out in accordance with **A.1** to **A.3**.

If inadequate test results are obtained by the third party, the test shall be repeated using same number of test pieces that conforms to all the requirements of Table A.1 and Table A.2. Defects observed in the factory production control and immediately eliminated need not be counted.

A.2 *Sampling*

Samples shall be taken according to **12.2.3**.

Table A.1 — Method and frequency of the third party assessment of pipes and fittings

No.	Object under test	Method (property)	Frequency	Requirements to clause	Test to clause
1	Pipes and fittings including prefabricated components	Material	Twice a year on five different items in each production plant	**4**	**10.6**
2		Welds		**6.6**	**10.5**
3		Condition		**6**	Visually
4	Pipes and fittings including prefabricated components	Dimensions		**5**	**10.8**
		Marking		**11**	Visually

A.3 Documentation

The results of the third party assessment shall be recorded in an inspection report that comprises a test certificate and a visit report.

The inspection report shall refer to this standard and shall include the following details:

— Manufacturer and production plant;
— Designation of the product;
— Scope, results and evaluation of the factory production control;
— Details of sampling — where appropriate;
— Results of the tests carried out by third party and comparison with the requirements;
— Total evaluation;
— Place and date;
— Signatures and stamp of the third party.

The documentation from the third party assessment shall also state that the product is legitimate to carry the quality mark from an certifier.

Pipes, fittings and seals having undergone a third party assessment may be marked with the mark of the certifier. A1

Annex B
Bibliography

EN 10088-2, *Stainless steels — Part 2: Technical delivery conditions for sheet/plate and strip for general purposes.*

For information on locally valid regulations (see **9.2**) concerning Austria, reference is made to the following documents.

ÖNORM B 5013-1, *Corrosion protection by organic coatings for water and waste water engineering in residential areas — Part 1: Assessment of corrosion probability and protection of unalloyed and low-alloyed ferrous materials.*

ÖNORM B 5013-3, *Corrosion protection by organic coatings for water and waste water engineering in residential areas — Part 3: Testing of protective materials and requirements.*

ÖNORM B 5013-4, *Corrosion protection by organic coatings for water and waste water engineering in residential areas — Part 4: Testing of corrosion protection and requirements.*

ÖNORM B 5015, *Quality assurance of organic materials for surface protection used for elements of conduits and installations in hydraulic constructions for housing — Marking of conformity.*

A1 Annex ZA (informative)
Clauses of this European Standard addressing essential requirements or other provisions of EU Directives

ZA.1 Scope and relevant characteristics

This European standard has been prepared under the mandate M 131 "Pipes, Tanks and Ancillaries not in contact with water intended for human consumption" given to CEN by the European Commission and the European Free Trade Association.

The clauses of this European standard shown in this Annex meet the requirements of the mandate given under the EU Construction Products Directive (89/106/EEC).

Compliance with these clauses confers a presumption of fitness of pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket covered by this annex for the intended use indicated herein. Reference shall be made to the information accompanying the CE marking.

WARNING — Other requirements and other EU Directives, not affecting the fitness for intended uses, may be applicable to the product(s) falling within the scope of this standard.

NOTE 1 In addition to any specific clauses relating to dangerous substances contained in this European Standard, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the EU Construction Products Directive, these requirements need also to be complied with, when and where they apply.

NOTE 2 An informative database of European and national provisions on dangerous substances is available at the Construction web site on EUROPA (CREATE, accessed through http://europa.eu.int/comm/enterprise/construction/internal/hygiene.htm.

This annex has the same scope as Clause **1** of this standard with regard to the products covered. It establishes the conditions for the CE marking of pipes and fittings covered by this standard intended for the use indicated together with the relevant clauses applicable (see Table ZA.1).

Table ZA.1 — Relevant clauses for pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket

Product: Pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket as covered under the scope of this standard. **Intended uses: Conveyance of waste water in systems usually operating under gravity or at a low head of pressure inside and outside buildings.**			
Characteristics	**Requirement clauses in this European Standard**	**Levels and/or classes**	**Notes**
Reaction to fire	**13**	class A.1 no contribution to fire	no test required
Dimensional tolerances	**5**	None	pass/fail
Longitudinal bending strength	**16**	None	pass/fail
Tightness: gas and liquid	**6.6**; **7.2**, **7.3** and **7.4**	None	pass/fail
Durability	**14**	None	

The requirement on a certain characteristic is not applicable in those Member States (MSs) where there are no regulatory requirements on that characteristic for the intended use of the product. In this case, manufacturers placing their products on the market of these MSs are not obliged to determine nor declare the performance of their products with regard to this characteristic and the option "No performance determined" (NPD) in the information accompanying the CE marking (see Clause **ZA.3**) may be used. The NPD option may not be used, however, where the characteristic is subject to a threshold level. A1

[A1] ZA.2 Procedure for attestation of conformity of pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket

ZA.2.1 *System of attestation of conformity*

The system of attestation of conformity of pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket indicated in Table ZA.1, in accordance with the Decision of the Commission 99/472/EC dated 1999-07-17, as given in Annex III of the mandate for "Pipes, Tanks and Ancillaries not in contact with water intended for human consumption", is shown in Table ZA.2 for the indicated intended use and relevant level or class:

Table ZA.2 — System of attestation of conformity

Product(s)	Intended use(s)	Level(s) or class(es)	Attestation of conformity system(s)
Pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket	Conveyance of waste water in systems usually operating under gravity or at a low head of pressure inside and outside buildings	none	4
System 4: See Directive 89/106/EEC (CPD) Annex III.2.(ii), Third possibility.			

The attestation of conformity of the pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket in Table ZA.1 shall be based on the evaluation of conformity procedures indicated in Table ZA.3 resulting from application of the clauses of this or other European standard indicated therein.

Table ZA.3 — Assignment of evaluation of conformity tasks for pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket under system 4

Tasks		Content of the task	Evaluation of conformity clauses to apply
Tasks for the manufacturer	Factory production control (FPC.) Initial type testing	Parameters related to all characteristics of Table ZA.1	12

ZA.2.2 *Declaration of conformity*

When compliance with the conditions of this Annex is achieved, the manufacturer or his agent established in the EEA shall prepare and retain a declaration of conformity (EC Declaration of conformity), which authorises the affixing of the CE marking. This declaration shall include:

— name and address of the manufacturer, or his authorised representative established in the EEA, and place of production;

— description of the product (type, identification, use,...), and a copy of the information accompanying the CE marking;

— provisions to which the product conforms (e.g. Annex ZA of this EN);

— particular conditions applicable to the use of the product (e.g. provisions for use under certain conditions, etc.);

— name of, and position held by, the person empowered to sign the declaration on behalf of the manufacturer or of his authorised representative.

The above mentioned declaration shall be presented in the official language or languages of the Member State in which the product is to be used. [A1]

⟨A1⟩ ZA.3 CE marking and labelling

The manufacturer or his authorized representative established within the EEA is responsible for the affixing of the CE marking. The CE marking symbol to affix shall be in accordance with Directive 93/68/EC and shall be shown on the pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket (or when not possible it may be on the accompanying label, the packaging or on the accompanying commercial documents, e.g. a delivery note). The following information for the product and its essential characteristics shall accompany the CE marking symbol:

The following information shall appear on the product:

— CE symbol;

— name or identifying mark of the producer;

— the last two digits of the year in which the marking is affixed (coded or not).

The following information shall appear on the packaging or the commercial documents

— CE symbol;

— name or identifying mark and registered address of the manufacturer;

— the last two digits of the year in which the marking is affixed (coded or not);

— reference to this European Standard (EN 1124-1);

— description of the product: generic name, material and intended use;

— information on the relevant essential characteristics in **ZA.1**: reaction to fire, dimensional tolerances, longitudinal bending strength, tightness;

— characteristics against which the "No Performance Determined" (NPD) option is relevant.

The "No performance determined" (NPD) option may not be used where the characteristic is subject to a threshold level. Otherwise, the NPD option may be used when and where the characteristic, for a given intended use, is not subject to regulatory requirements.

Figure ZA.1 gives an example of the information to be given on the product.

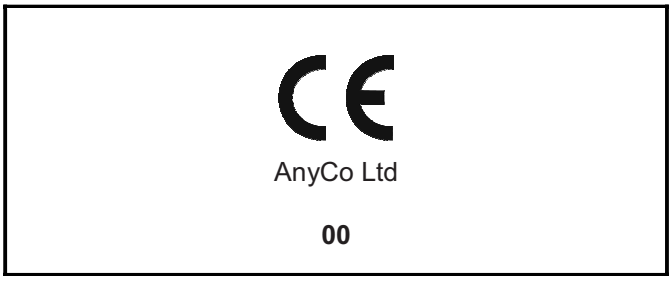


Figure ZA.1 — Example CE marking information for marking on the product

⟨A1⟩

A1 Figure ZA.2 gives an example of the information to be given on the accompanying documents.

CE	*CE conformity marking, consisting of the "CE"-symbol given in directive 93/68/EEC.*
AnyCo Ltd, PO Box 21, B-1050	*Name or identifying mark and registered address of the producer*
00	*Last two digits of the year in which the marking was affixed (coded or not)*
EN 1124-1 Pipe made of longitudinally welded stainless steel pipes with spigot and socket for use in drainage systems **Reaction to fire: Class A 1** **Dimensional tolerances:** **Longitudinal bending strength:** **Tightness:**	*No. of European standard* *Description of product* *and* *information on regulated characteristics*

Figure ZA.2 — Example CE marking information for marking on the accompanying documents

In addition to any specific information relating to dangerous substances shown above, the product should also be accompanied, when and where required and in the appropriate form, by documentation listing any other legislation on dangerous substances for which compliance is claimed, together with any information required by that legislation.

NOTE: European legislation without national derogation need not be mentioned. [16]

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