



SLOVENSKI STANDARD

SIST EN 1254-2:1999

01-november-1999

Baker in bakrove zlitine - Fitingi - 2. del: Fitingi z nakrčenima priključkoma za spajanje z bakrenimi cevmi

Copper and copper alloys - Plumbing fittings - Part 2: Fittings with compression ends for use with copper tubes

Kupfer und Kupferlegierungen - Fittings - Teil 2: Klemmverbindungen für Kupferrohre

Cuivre et alliages de cuivre - Raccords - Partie 2: Raccords à compression pour tubes en cuivre

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ICS:

23.040.40	Kovinski fitingi	Metal fittings
77.150.30	Bakreni izdelki	Copper products

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EUROPEAN STANDARD

EN 1254-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 1998

ICS 23.040.40

Descriptors: copper tubes, copper, copper alloys, pipe fittings, joining, dimensions, dimensional tolerances, design, manufacturing, tests, designation, marking

English version

Copper and copper alloys - Plumbing fittings - Part 2: Fittings with compression ends for use with copper tubes

Cuivre et alliages de cuivre - Raccords - Partie 2: Raccords à compression pour tubes en cuivre

Kupfer und Kupferlegierungen - Fittings - Teil 2: Klemmverbindungen für Kupferrohre

This European Standard was approved by CEN on 24 November 1997.

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.

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

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 133 "Copper and copper alloys", 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 1998, and conflicting national standards shall be withdrawn at the latest by July 1998.

Within its programme of work, Technical Committee CEN/TC 133 requested CEN/TC 133/WG 8 "Copper and copper alloy fittings" to prepare the following standard:

EN 1254-2 Copper and copper alloys - Plumbing fittings - Part 2: Fittings with compression ends for use with copper tubes

This standard is one of five parts for copper and copper alloy fittings for joining copper tubes or plastics pipes. The other four parts of the standard are:

EN 1254-1 Copper and copper alloys - Plumbing fittings - Part 1: Fittings with ends for capillary soldering or capillary brazing to copper tubes

EN 1254-3 Copper and copper alloys - Plumbing fittings - Part 3: Fittings with compression ends for use with plastics pipes

EN 1254-4 Copper and copper alloys - Plumbing fittings - Part 4: Fittings combining other end connections with capillary or compression ends

EN 1254-5 Copper and copper alloys - Plumbing fittings - Part 5: Fittings with short ends for capillary brazing to copper tubes

It is recommended that fittings manufactured to this standard are certified as conforming to the requirements of this standard, based on third party testing and continuing surveillance which should be coupled with an assessment of a supplier's quality system against the appropriate standard i.e. EN ISO 9001 or EN ISO 9002.

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the product covered by this standard:

- 1) this standard provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA;
- 2) it should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of this product remain in force.

The attention of the user of this standard is drawn to the fact that national or local regulations or practices might restrict the choice of dimensions and threads in the application of products conforming to this 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

This European Standard specifies materials, assembly dimensions and tolerances and test requirements for fittings of copper and copper alloys with or without plating or coating. Maximum permissible temperatures and pressures are also established. This part of EN 1254 specifies connection end dimensions of compression ends for the purposes of joining copper tubes specified in EN 1057. Fittings may comprise a combination of any of the end types specified in EN 1254-1 to EN 1254-5 or other standards.

The standard establishes a designation system for the fittings.

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 1057	Copper and copper alloys - Seamless, round copper tubes for water and gas in sanitary and heating applications
EN 1254-1	Copper and copper alloys - Plumbing fittings - Part 1: Fittings with ends for capillary soldering or capillary brazing to copper tubes
EN 1254-3	Copper and copper alloys - Plumbing fittings - Part 3: Fittings with compression ends for use with plastics pipes
EN 1254-4	Copper and copper alloys - Plumbing fittings - Part 4: Fittings combining other end connections with capillary or compression ends
EN 1254-5	Copper and copper alloys - Plumbing fittings - Part 5: Fittings with short ends for capillary brazing to copper tubes
EN ISO 6509 :1995	Corrosion of metals and alloys - Determination of dezincification resistance of brass (ISO 6509: 1981)
ISO 6957	Copper alloys - Ammonia test for stress corrosion resistance

NOTE: Informative references to documents used in the preparation of this standard, and cited at the appropriate places in the text, are listed in a bibliography, see annex B.

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1 plumbing fitting

Device used in a tube system for the purpose of connecting the tubes either to each other or to a component part of a system.

3.2 compression end

End in which the joint is made by the compression of a ring or sleeve on the outside wall of the tube.

3.2.1 compression end, type A

End that requires no preparation of the ends of the tube other than that they are cut square and deburred, or chamfered when specified, and in which the joint is made by the compression of a ring or sleeve onto the outside wall of the tube with or without additional sealing elements and with or without an internal tube support.

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3.2.2 compression end, type B

End that requires forming of the tube at its end, and in which the joint is made by compressing the formed portion of the tube against the formed end of the fitting or a loose ring or sleeve within the fitting/tube.

3.3 reducer (compression end for copper tube)

Component or components used to enable a compression end to connect tube of a smaller nominal diameter than the nominal diameter of the fitting end.

3.4 adaptor fitting

Fitting combining more than one type of end.

NOTE: For details of other ends, see the relevant parts of this standard or other standards.

3.5 nominal diameter

Nominal diameter of the fitting end expressed as the nominal outside diameter of the connecting tube.

4 Requirements

4.1 General

Fittings shall conform to the requirements of 4.2 to 4.5 and shall be capable of meeting the type testing requirements of 4.6. Reducers also shall conform to these requirements.

4.2 Materials

Fittings shall be made from copper or copper alloys selected from materials either:

- specified in European copper and copper alloy product standards; or
- registered by CEN/TC 133,

provided that the fittings manufactured from them meet the functional requirements of this standard.

NOTE: Some of the standardized coppers and copper alloys commonly used for the manufacture of fittings are shown in table 1. Details of registered alloys can be obtained from the CEN/TC133 Secretariat.

Table 1: Examples of commonly used materials

Material designation		Standard
Symbol	Number	
Cu-DHP	CW024A	prEN 12449
CuSn5Zn5Pb5-C	CC491K	prEN 1982
CuZn36Pb2As	CW602N	EN 12164
CuZn39Pb3	CW614N	EN 12164
CuZn33Pb2-C	CC750S	prEN 1982
CuZn15As-C	CC760S	prEN 1982

NOTE: These examples do not constitute an exhaustive list.

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4.3 Dimensions and tolerances

4.3.1 Minimum bore area

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The minimum cross-sectional area of the bore through each fitting, excluding any internal support, shall be not less than the theoretical minimum area of the bore given in table 2, except that for unequal-ended or adaptor fittings with ends specified in EN 1254-1, EN 1254-3, EN 1254-4 and EN 1254-5, or other standards, the smallest diameter shall apply provided that this diameter does not restrict other outlets.

Table 2: Minimum bore

Dimensions in millimetres

Nominal diameter <i>D</i>	Minimum bore
6	4,0
8	6,0
9	7,0
10	
12	9,0
14	10,0
14,7	11,0
15	
16	12,0
18	14,0
21	18,0
22	
25	21,0
27,4	23,0
28	
34	29,0
35	
40	35,0
40,5	36,0
42	
53,6	47,0
54	
64	55,0
66,7	57,0
70	60,0
76,1	65,0
80	68,0
88,9	76,0
108	92,0

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