Copper and copper alloys - Plumbing fittings - Part 2: Compression fittings for use with copper tubes

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 1254-2:2021 sisaldab Euroopa standardi EN 1254-2:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 1254-2:2021 consists of the English text of the European standard EN 1254-2:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 26.05.2021.	Date of Availability of the European standard is 26.05.2021.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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English Version

Copper and copper alloys - Plumbing fittings - Part 2: Compression fittings 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: Klemmverbinder für Kupferrohre

This European Standard was approved by CEN on 23 November 2020.

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

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European foreword

This document (EN 1254-2:2021) 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of an identical text or by endorsement, at the latest by November 2021, and conflicting national standards shall be withdrawn at the latest by November 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1254-2:1998.

The main changes compared to EN 1254-2:1998 are:

— separation of test methods into part 20.

This part of the standard (EN 1254-2) should be read in conjunction with EN 1254-20:2021.

EN 1254 comprises the following parts under the general title “Copper and copper alloys — Plumbing fittings”:

— *Part 1: Capillary fittings for soldering or brazing to copper tubes*

— *Part 2: Compression fittings for use with copper tubes*

— *Part 3: Compression fittings for use with plastics and multilayer pipes*

— *Part 4: Threaded fittings*

— *Part 5: Capillary fittings with short ends for brazing to copper tubes*

— *Part 6: Push-fit fittings for use with metallic tubes, plastics and multilayer pipes*

— *Part 7: Press fittings for use with metallic tubes*

— *Part 8: Press fittings for use with plastics and multilayer pipes*

— *Part 20: Definitions, thread dimensions, test methods, reference data and supporting information*

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

Introduction

Products complying with this document may be used for several fluids including the transport of water intended for human consumption if they comply with the relevant national, regional or local regulatory provisions applicable in the place of use.

1 Scope

This document specifies product characteristics, assessment methods, compliance criteria of the test results and a designation system for compression fittings for connecting with copper tubes. Compression fittings exist with sealing elements - metallic and/or non-metallic - called non manipulative (commonly referenced as type A) and without sealing elements, called manipulative (commonly referenced as type B). For the purposes of joining copper tubes, the fitting ends have a nominal diameter from 6 mm to 108 mm. The compression fittings are designed for a service lifetime up to fifty years.

The fittings are used up to the operating temperatures and corresponding maximum operating pressures as indicated in Annex A.

This document applies to copper alloy fittings. A non-exhaustive list of these copper alloys is given in CEN/TS 13388.

Compression fitting ends, Type A, are used with copper tubes to EN 1057 in all material hardness conditions.

Compression fittings, Type A, will possibly require an internal support when used with R220 (annealed) copper tube and the manufacturer's advice should be sought.

Compression fitting ends, Type B, are used with R220 (annealed) or R250 (half-hard) copper tube to EN 1057.

Compression fittings, Type B, may be used with R290 (hard) copper tube and the manufacturer's advice should be sought.

Adaptor fittings for use with copper tubes may combine compression ends with fitting ends defined in the other parts of EN 1254.

Compression fittings for use with copper tubes may also have flanged end connections according to EN 1092-3.

Compression fittings for use with copper tubes may also have a plated or other decorative surface coating.

Fittings can be produced by machining, metal forming, casting, or fabrication.

Products covered by this document are intended to be used in:

a) liquid applications:

   — hot, cold or combined hot and cold water, including systems according to EN 806;

   — closed heating systems according to EN 12828;

   — cooling systems.

b) drainage systems:

   — fire protection systems including sprinkler systems according to EN 12845;

   — supply systems for points of consumption with liquid fuels according to EN 12514.

c) gas applications:

— natural gas and liquefied petroleum gas systems with a maximum operating pressure less than or equal to 5 bar according to EN 1775;

— compressed air systems.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 549:2019, *Rubber materials for seals and diaphragms for gas appliances and gas equipment*

EN 681-1:1996, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*

EN 682, *Elastomeric Seals — Materials requirements for seals used in pipes and fittings carrying gas and hydrocarbon fluids*

EN 1057:2006+A1:2010, *Copper and copper alloys — Seamless, round copper tubes for water and gas in sanitary and heating applications*

EN 1254-20:2021, *Copper and copper alloys — Plumbing fittings — Part 20: Definitions, thread dimensions, test methods, reference data and supporting information*

EN 10226-3, *Pipes threads where pressure tight joint are made on the threads — Part 3: Verification by means of limit gauges*

EN 12502-2, *Protection of metallic materials against corrosion — Guidance on the assessment of corrosion likelihood in water distribution and storage systems — Part 2: Influencing factors for copper and copper alloys*

EN ISO 6506-1, *Metallic materials — Brinell hardness test — Part 1: Test method (ISO 6506-1)*

EN ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method (ISO 6507-1)*

ISO 7-2, *Pipe threads where pressure-tight joints are made on the threads — Part 2: Verification by means of limit gauges*

ISO 228-2, *Pipe threads where pressure-tight joints are not made on the threads — Part 2: Verification by means of limit gauges*

ISO 2859-1:1999, S*ampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 9924-1, *Rubber and rubber products — Determination of the composition of vulcanizates and uncured compounds by thermogravimetry — Part 1: Butadiene, ethylene-propylene copolymer and terpolymer, isobutene-isoprene, isoprene and styrene-butadiene rubbers*