

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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 1254-20:2021+A1:2025 sisaldab Euroopa standardi EN 1254-20:2021+A1:2025 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 12.02.2025.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 1254-20:2021+A1:2025 consists of the English text of the European standard EN 1254-20:2021+A1:2025.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 12.02.2025.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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EUROPEAN STANDARD

EN 1254-20:2021+A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

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

Cuivre et alliages de cuivre - Raccords - Partie 20 :
Définitions, dimensions de filetage, méthodes d'essai,
données de référence et informations complémentaires

Kupfer und Kupferlegierungen - Fittings - Teil 20:
Definitionen, Gewindemaße, Prüfverfahren,
Referenzdaten und ergänzende Informationen

This European Standard was approved by CEN on 23 November 2020 and includes Amendment 1 approved by CEN on 5 December 2024.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 1254-20:2021+A1:2025) 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 August 2025, and conflicting national standards shall be withdrawn at the latest by August 2025.

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 includes Amendment 1 approved by CEN on 5 December 2024.

This document supersedes A1 EN 1254-20:2021 A1.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

A1 The need for an amendment was based on the following points:

- include a wall thickness table for copper alloy fittings used in systems according to EN ISO 15874, EN ISO 15875, EN ISO 15876, EN ISO 15877, EN ISO 21003 and EN ISO 22391. A1

This document is a supporting standard describing the test methods used by the other parts of the EN 1254 series.

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.

1 Scope

This document contains definitions, thread dimension, reference data (minimum bore A_1) and wall thickness (A_1), supporting information (assembling instructions) and describes the test methods referenced by other parts of the EN 1254 series.

Thread dimensions comprise: wall thickness at threaded portions of fittings, dimensions of tail pipe ends for swivel fittings, dimensions of gas union connectors, thread dimensions and thread profile.

Test methods comprise: leak tightness under internal hydrostatic pressure, leak tightness under internal pneumatic pressure, integrity of fabricated fitting bodies or having an 'as cast' microstructure, resistance to pull out of joints to metallic tubes, resistance of joints with metallic tube to vibration, resistance of joints to static flexural force, leak tightness of joints under vacuum, the resistance of joints to temperature cycling, detecting non-pressed fitting ends, resistance to stress corrosion, detection of a carbon film on the surface of copper fittings, determination of mean depth of dezincification, resistance of joints to pressure cycling, disconnection and re-use, determining if the diameter and/or the length of engagement of a capillary end is/are within the specified tolerance, determining the minimum length of engagement of an integral solder or brazing ring socket having a formed groove.

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 723, *Copper and copper alloys - Combustion method for determination of the carbon content on the inner surface of copper tubes or fittings*

EN 1057, *Copper and copper alloys - Seamless, round copper tubes for water and gas in sanitary and heating applications*

EN 1333:2006, *Flanges and their joints - Pipework components - Definition and selection of PN*

EN 10226-1, *Pipe threads where pressure tight joints are made on the threads - Part 1: Taper external threads and parallel internal threads - Dimensions, tolerances and designation*

EN ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads - Part 1: Dimensions, tolerances and designation (ISO 228-1)*

EN ISO 6509-1:2014, *Corrosion of metals and alloys - Determination of dezincification resistance of copper alloys with zinc - Part 1: Test method (ISO 6509-1:2014)*

EN ISO 6708:1995, *Pipework components - Definition and selection of DN (nominal size) (ISO 6708:1995)*

EN ISO 21003-1:2008, *Multilayer piping systems for hot and cold water installations inside buildings - Part 1: General (ISO 21003-1:2008)*

ISO 7-1:1994, *Pipe threads where pressure-tight joints are made on the threads - Part 1: Dimensions, tolerances and designation*

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

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

ISO 6957:1988, *Copper alloys - Ammonia test for stress corrosion resistance*