Hose fittings with clamp units - Part 7: Cam locking couplings

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 14420-7:2022 sisaldab Euroopa standardi EN 14420-7:2022 ingliskeelset teksti.	This Estonian standard EVS-EN 14420-7:2022 consists of the English text of the European standard EN 14420-7:2022.
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 31.08.2022.	Date of Availability of the European standard is 31.08.2022.
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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Hose fittings with clamp units - Part 7: Cam locking couplings

Raccords pour flexibles avec demi-coquille - Partie 7 : Raccords à cames

Schlaucharmaturen mit Klemmfassungen - Teil 7: Hebelarmkupplungen

This European Standard was approved by CEN on 24 July 2022.

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

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European foreword

This document (EN 14420-7:2022) has been prepared by Technical Committee CEN/TC 218 “Rubber and plastics hoses and hose assemblies”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by February 2023, and conflicting national standards shall be withdrawn at the latest by February 2023.

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 14420-7:2013.

In comparison to EN 14420-7:2013, the following changes have been made:

— In Clause 2, the Normative references have been updated;

— The Scope of the document has been changed.

The EN 14420 series, *Hose fittings with clamp units*, consists of the following parts:

— *Part 1: Requirements, types of fixing and connection, designation and testing*

— *Part 2: Hose side parts of hose tail*

— *Part 3: Clamp units, bolted or pinned*

— *Part 4: Flange connections*

— *Part 5: Threaded connections*

— *Part 6: TW tank truck couplings*

— *Part 7: Cam locking couplings*

— *Part 8: Symmetrical half coupling (Guillemin system)*

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, Türkiye and the United Kingdom.

Introduction

Cam locking couplings are manufactured worldwide according to the American “military specification” MIL-C-27487. This American standard fixes the coupling side in a limited way, but not the connection side. Other parts like levers, bolts, ring and gaskets are not standardized.

1 Scope

This document specifies the design, materials, dimensions and marking requirements for cam locking couplings that serve as the link between hoses and connections to transport liquids, solids and gases, except liquid gas and steam.

For all sizes of aluminium cast material couplings and for all couplings of size DN 100, the pressure range is from –0,8 bar to 10 bar in the working temperature range from −20 °C to +65 °C. All other couplings according to this document are capable of operating within the pressure range from 0,8 bar[1] to 16 bar in the working temperature range from −20 °C to +65 °C.

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 755-2, *Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 2: Mechanical properties*

EN 1706, *Aluminium and aluminium alloys - Castings - Chemical composition and mechanical properties*

EN 1982, *Copper and copper alloys - Ingots and castings*

EN 10088-1, *Stainless steels - Part 1: List of stainless steels*

EN 10213, *Steel castings for pressure purposes*

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 12420, *Copper and copper alloys - Forgings*

EN 14420-1:2013, *Hose fittings with clamp units - Part 1: Requirements, types of fixing and connection, designation and testing*

EN 14420-2, *Hose fittings with clamp units - Part 2: Hose side parts of hose tail*

EN 14420-5, *Hose fittings with clamp units - Part 5: Threaded connections*

EN 22768-1, *General tolerances - Part 1: Tolerances for linear and angular dimensions without individual tolerance indications (ISO 2768-1)*

EN 22768-2[2], *General tolerances - Part 2: Geometrical tolerances for features without individual tolerance indications (ISO 2768-2)*

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)*

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1 1 bar = 0,1 MPa.

2 EN 22768-2 has been withdrawn and replaced by EN ISO 22081.

EN ISO 683-1, *Heat-treatable steels, alloy steels and free-cutting steels - Part 1: Non-alloy steels for quenching and tempering (ISO 683-1)*

EN ISO 8330, *Rubber and plastics hoses and hose assemblies - Vocabulary (ISO 8330)*

ISO 272, *Fasteners — Hexagon products — Widths across flats*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 8330 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
DN
nominal size
alphanumeric designation of size for components of a pipework system, which is used for reference purposes, comprised of the letters DN followed by a dimensionless whole number which is indirectly related to the physical size, in millimetres, of the bore or outside diameter of the end connections

Note 1 to entry: The number following the letters DN does not represent a measurable value and is not be used for calculation purposes except where specified in the relevant standard.

Note 2 to entry: In those standards which use the DN designation system, any relationship between DN and component dimensions is to be indicated, e.g. DN/OD or DN/ID.

[SOURCE: EN ISO 6708:1995, 2.1, modified]

3.2
PN
alphanumeric designation used for reference purposes related to a combination of mechanical and dimensional characteristics of a component of a hose fitting

Note 1 to entry: It comprises the letters PN followed by a dimensionless number.

Note 2 to entry: The number following the letters PN does not represent a measurable value and should not be used for calculation purposes except where specified in the relevant standard.

3.3
main gasket
interface gasket between the male and female part of a coupling

3.4
thread gasket
flat faced gasket for threads according to EN ISO 228-1