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Standards

Irish Standard  
I.S. EN 14420-7:2013

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

## I.S. EN 14420-7:2013

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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EN 14420-7:2004+A1:2007

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English Version

## 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 15 May 2013.

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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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## Foreword

This document (EN 14420-7:2013) 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of an identical text or by endorsement, at the latest by January 2014, and conflicting national standards shall be withdrawn at the latest by January 2014.

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

This document supersedes EN 14420-7:2004+A1:2007.

In comparison to EN 14420-7:2004+A1:2007, the following changes have been made:

- In Clause 1, the maximum allowable working pressure when using aluminium-cast-materials has been limited to 10 bar.
- In Clause 1, the warning paragraph has been deleted.
- In Clause 2, the normative references have been updated.
- A new Clause 3 "Terms and definitions" has been added.
- The term "sealing ring" has been replaced by "gasket" (main gasket/thread gasket).
- In Table 3, the values for  $d_2$  and  $d_7$  have been corrected.
- In 8.3, requirements regarding the cam arm have been amended, e.g. the prevention against self-acting opening.
- In 9.2, the list of materials for coupler and adapter bodies has been revised.
- The requirements on main gasket materials in 9.6 and thread gasket materials in 9.7 have been revised.
- In Clause 10, the requirements for marking have been amended.
- The Bibliography has been reviewed.
- The standard has been revised editorially.

EN 14420, *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*

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- *Part 5: Threaded connections*
- *Part 6: TW tank truck couplings*
- *Part 7: Cam locking couplings*
- *Part 8: Symmetrical half coupling (Guillemin system)*

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey 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 European Standard 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. The couplings are capable of operating the pressure range  $-0,8 \text{ bar}^{1)}$  to 16 bar working pressure (for aluminium-cast-materials  $-0,8 \text{ bar}$  to 10 bar) in a working temperature range of  $-20 \text{ }^{\circ}\text{C}$  up to  $+65 \text{ }^{\circ}\text{C}$ .

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 10083-2, *Steels for quenching and tempering — Part 2: Technical delivery conditions for non alloy steels*

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, *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)*

EN ISO 8330:2008, *Rubber and plastics hoses and hose assemblies — Vocabulary (ISO 8330:2007)*

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

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1) 1 bar = 0,1 MPa.



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