SLOVENSKI STANDARD
SIST EN 14420-7:2013

01-september-2013

Nadomešča:
SIST EN 14420-7:2005+A1:2007

Cevni fitingi z objemkami - 7. del: Spojke z vzvodno ročico

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

Schlaucharmaturen mit Klemmfassungen - Teil 7: Hebelarmkupplungen

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

Ta slovenski standard je istoveten z: EN 14420-7:2013

ICS:

23.040.60	Prirobnice, oglavki in spojni elementi	Flanges, couplings and joints

SIST EN 14420-7:2013 **en,fr,de**

EUROPEAN STANDARD

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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

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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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of an identical text or by endorsement, at the latest by January 2014, and conflicting national standards shall be withdrawn at the latest by January 2014.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— The term "sealing ring" has been replaced by "gasket" (main gasket/thread gasket).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*

— *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 bar[1)] to 16 bar working pressure (for aluminium-cast-materials –0,8 bar to 10 bar) in a working temperature range of –20 °C up to +65 °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.

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 8330:2008 and the following apply.

3.1
DN (nominal size)
alphanumeric designation of size for components of a pipework system, which is used for reference purposes. It comprises 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 should 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 should be given, e.g. DN/OD or DN/ID.

[SOURCE: EN ISO 6708:1995, 2.1]

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

4 Requirements

4.1 Construction

The curves of the lever and the adapters as well as the dimensions of the main gaskets shall be harmonised such that twisting of the hose and vibrating during operation shall not lead to leakage. Cam arms shall be manually operable.

Cam arms shall be suitable to operate without using tools.

For gauges for cam-locking couplings according to this European Standard see Annex A.

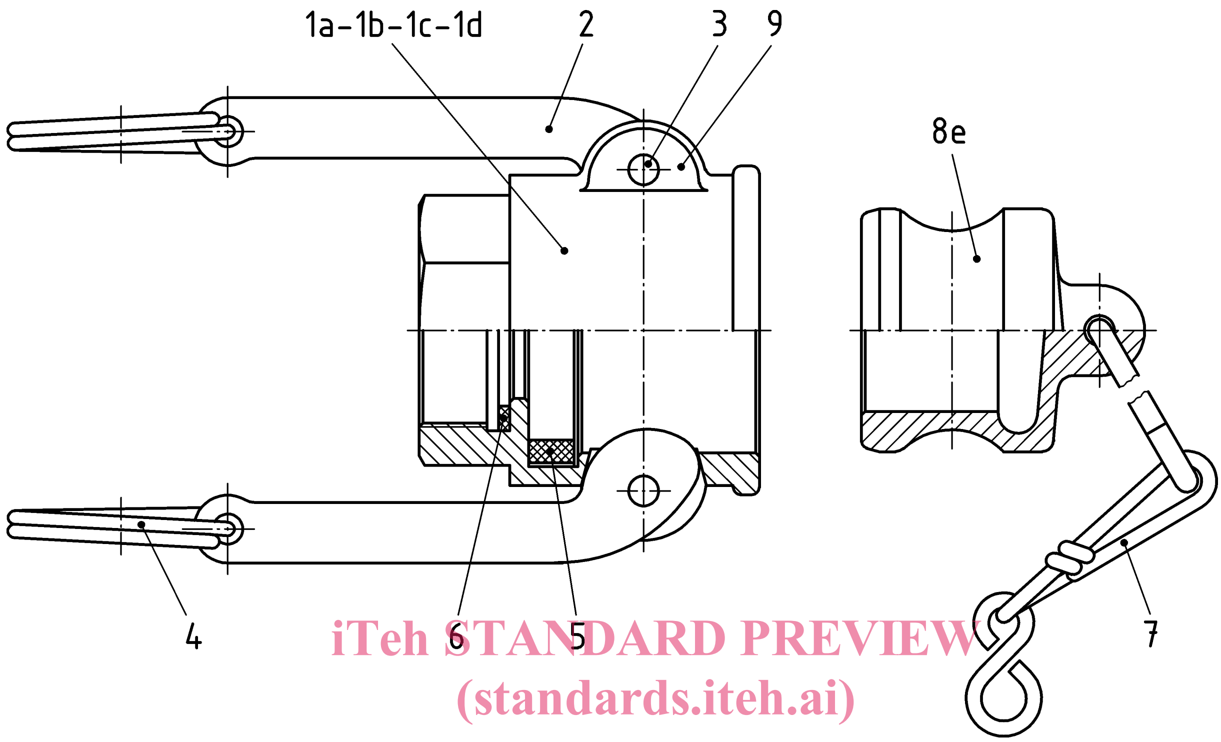
NOTE If the requirements of this European Standard are met, compatibility between couplers and adapters from different manufacturers is assured. Apart from gaskets, the interchangeability between spare parts from different manufacturers cannot be assured.

4.2 Temperatures

Range of working temperatures of couplings equipped with nitrile butadiene rubber gasket (NBR-gasket): −20 °C to +65 °C.

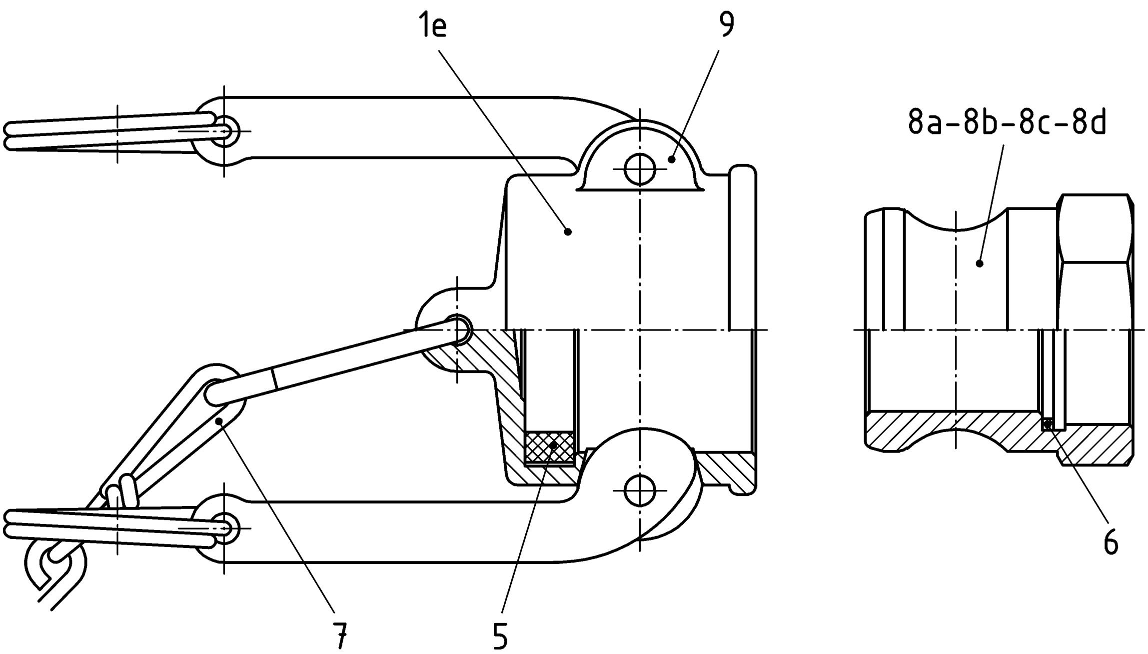
5 Survey

Figure 1 and Figure 2 show examples for cam-locking couplings. A parts list is given in Table 1.



NOTE Chain optional.

Figure 1 — Coupler type DF and adapter type DP (dust plug)



NOTE Chain optional.

Figure 2 — Coupler type DC and adapter type AF

Table 1 — Parts list

Item No.	Number of pieces	Nomination		
1 a	1	body	with internal thread	for coupler
1 b	1		with external thread	
1 c	1		with welding connection	
1 d	1		with hose nipple	
1 e	1		cap	
2	2	cam arms		
3	2	pin		
4	2	ring		
5	1	main gasket		
6	1	thread gasket for internal thread (see EN 14420-5)		
7	1	At the discretion of the manufacturer [a]		
8 a	1	Adapter	with internal thread	
8 b	1		with external thread	
8 c	1		with welding neck	
8 d	1		with hose tail	
8 e	1		plug	
9	4	ears		

[a] The chain is not part of a complete coupling.