SLOVENSKI STANDARD
SIST EN 14420-7:2005

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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 a cames

Ta slovenski standard je istoveten z: **EN 14420-7:2004**

ICS:

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

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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

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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 Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (EN 14420-7:2004) 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of an identical text or by endorsement, at the latest by May 2005, and conflicting national standards shall be withdrawn at the latest by May 2005.

EN 14420 consists at the time of publication of the following parts:

EN 14420-1, *Hose fittings with clamp units — Part 1: Requirements, survey, designation and testing*

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

EN 14420-3, *Hose fittings with clamp units — Part 3: Clamp units, bolted or pinned*

EN 14420-4, *Hose fittings with clamp units — Part 4: Flange connections*

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

EN 14420-6, *Hose fittings with clamp units — Part 6: TW tank truck couplings*

EN 14420-7, *Hose fittings with clamp units — Part 7: Cam locking couplings*

EN 14420-8, *Hose fittings with clamp units — Part 8: Symmetrical half coupling (Guillemin system)*

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

Introduction

Cam locking couplings are manufactured worldwide according to the American "military specification" MIL-C-27487. This American standard fixes only the coupling side, but not the connection side. Other parts like levers, bolts, ring and seals are not standardized.

1 Scope

This document details the design, materials and dimensions 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 to 25 bar working pressure in a working temperature range of – 20 °C up to + 65 °C.

WARNING — Line pressure shall be reduced before disconnection.

2 Normative references

The following referenced documents are indispensable for the application 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 1982, *Copper and copper alloys — Ingots and castings*

EN 10083-2, *Quenched and tempered steel — Part 2: Technical delivery conditions for unalloyed quality steels (includes amendment A1:1996)*

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

EN 10213-4, *Technical delivery conditions for steel castings for pressure purposes — Part 4: Austenitic and austenitic-ferritic steel grades*

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, *Hose fittings with clamp units — Part 1: Requirements, survey, 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 ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

ISO 48, *Rubber, vulcanized or thermoplastic — Determination of hardness (hardness between 10 IRHD and 100 IRHD)*

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

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

EN 22768-2, *General tolerances — Part 2:Geometrical tolerances for features without individual tolerance indications*

3 Requirements

3.1 Construction

The curves of the lever and the adapters as well as the dimensions of the sealing ring shall be harmonized such that twisting of the hose and vibrating during operation shall not lead to leakage. Self-acting uncoupling shall be excluded.

Cam arms shall be suitable to operate without using tools.

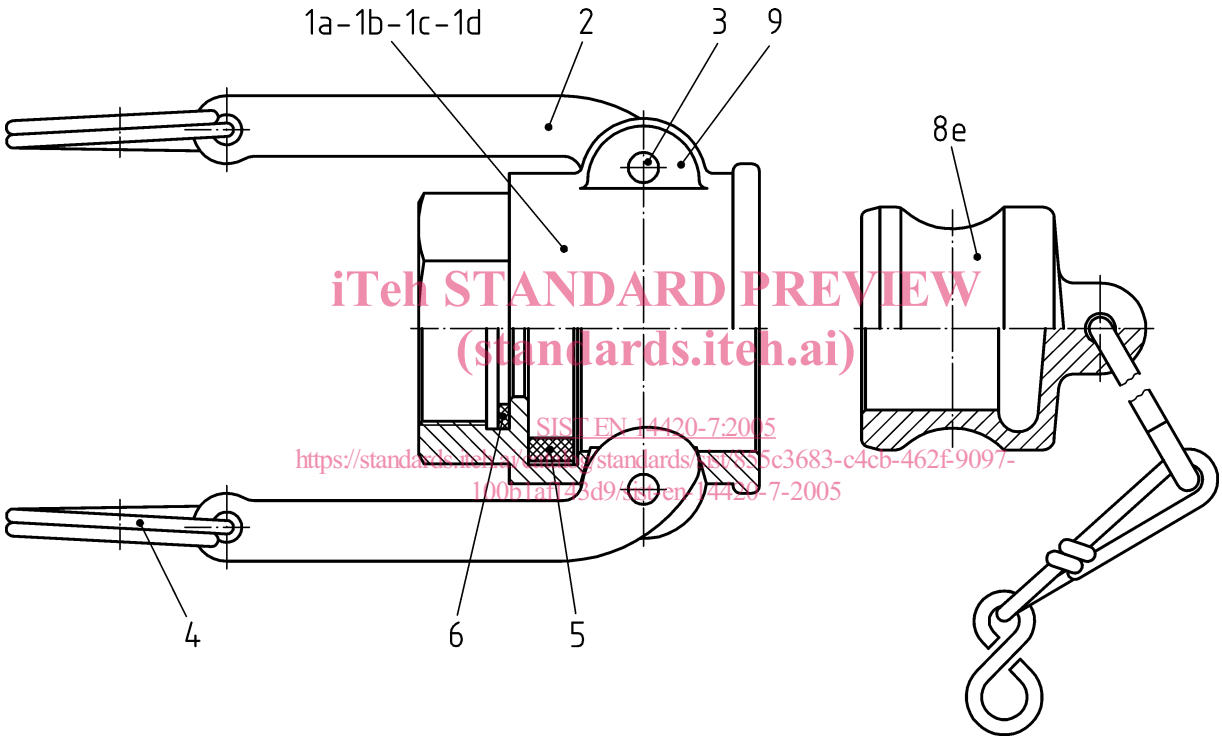
For gauges for cam-locking couplings according to this standard see Annex A.

NOTE If the requirements of this 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.

3.2 Temperatures

Range of working temperatures of couplings equipped with NBR rubber gasket: – 20 °C to + 65 °C. Out of these limits the manufacturer shall be consulted.

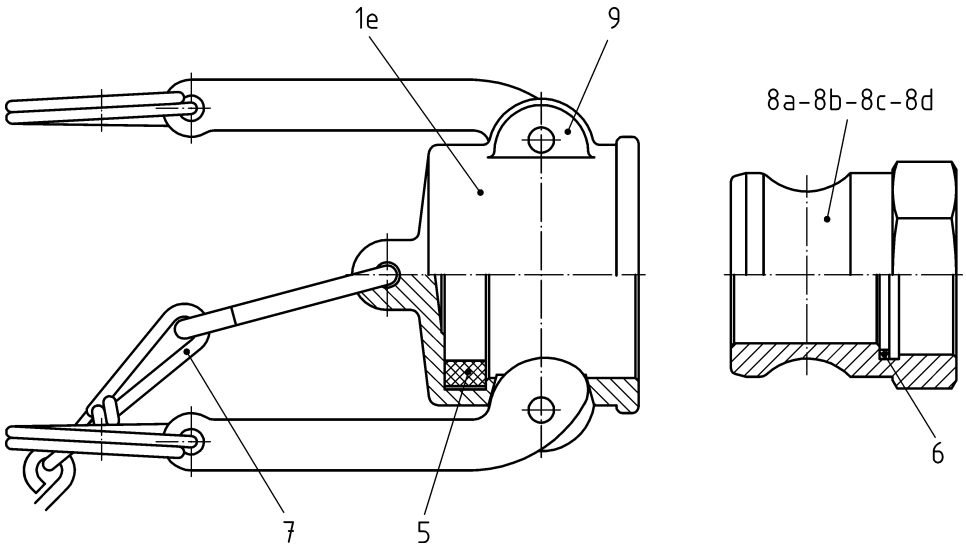
4 Survey



Key
See Table 1

NOTE Chain optional.

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



Key
See Table 1

NOTE Chain optional.

Figure 2 — Coupler type DC and adapter type AF

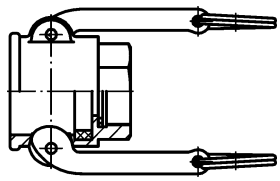
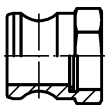
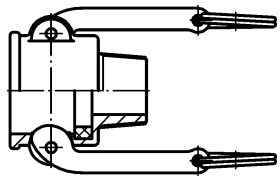
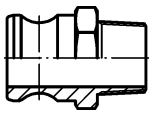
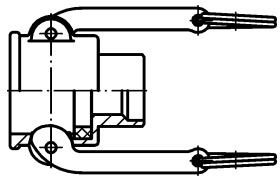
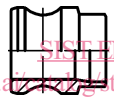
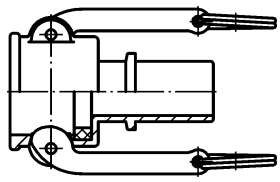
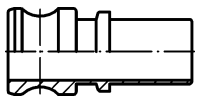
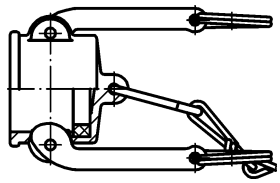
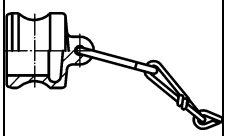
Table 1 — Survey

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.

5 Types of connection, survey

Table 2 — Types of connection, survey

Coupler			Adapter					
Figure	Type	for-detail see	Figure	Type	for detail see	kind of connection	DN	thread
	DF	7.2.1		AF	7.8.1	internal thread according to EN ISO 228-1 flat-sealed with sealing ring according to EN 14420-5	20 25 32 40 50 65 80 100	G ¾ G 1 G 1¼ G 1½ G 2 G 2½ G 3 G 4
	BF [a]	7.2.2		FF [a]	7.8.2	external thread according to EN 10226-1	20 25 32 40 50 65 80 100	R ¾ R 1 R 1¼ R 1½ R 2 R 2½ R 3 R 4
	DW	7.2.3		AW	7.8.3	welding connection	20 25 32 40 50 65 80 100	—
	CC	7.2.4		EC	7.8.4	hose tail	20 25 32 40 50 65 80 100	—
	DC	7.2.5		DP	7.8.5	dust cap, dust plug	20 25 32 40 50 65 80 100	—

[a] Prepared for flat face connections.

6 Designation

Example for an ordering designation of a complete coupler with nominal size DN 20 with internal thread (DF) made of copper-zinc alloy (CW614N):

Coupler EN 14420-7 – 20 – DF – CW614N

Example for an ordering designation of a complete adapter with nominal size DN 20 with internal thread (AF) made of copper-zinc alloy (CW614N):

Adapter EN 14420-7 – 20 – AF – CW614N

Example for an ordering designation of the main gasket pos. No 5 with nominal size DN 20 made of nitrile butadiene rubber (NBR):

Main gasket EN 14420-7 – 5 – 20 – NBR

7 Dimensions

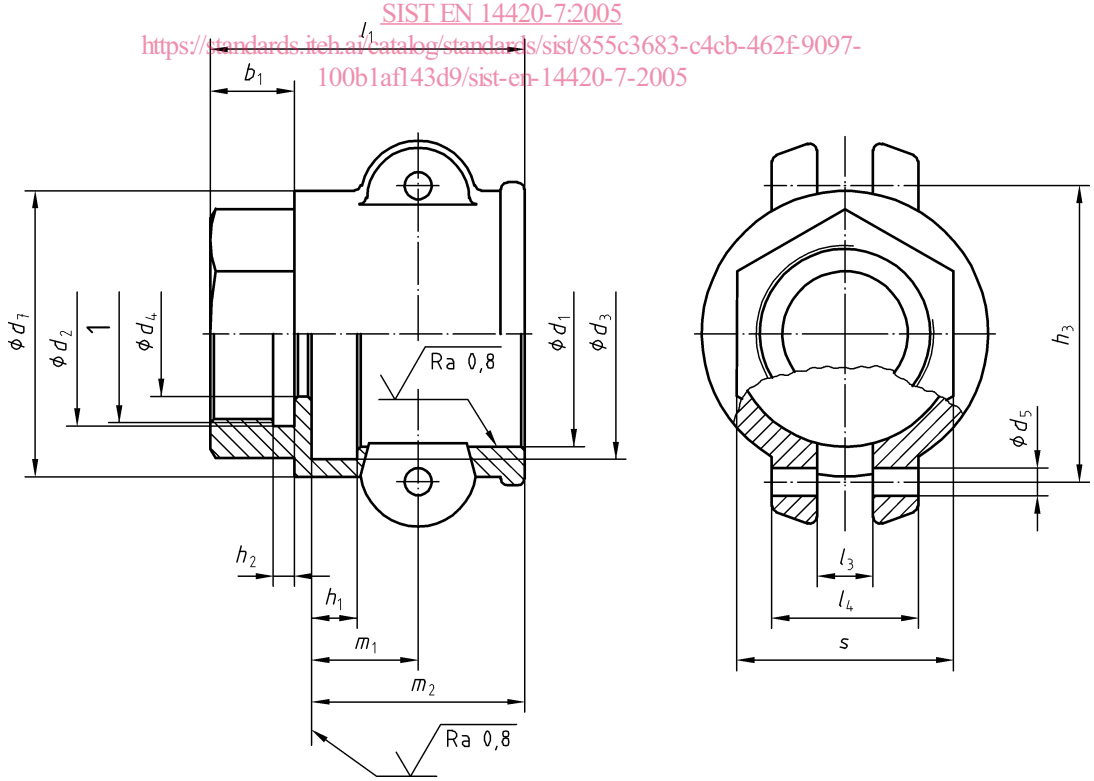
7.1 General

Details, which are not fixed, shall be chosen by the manufacturer suitably.

General tolerances shall be according to EN 22768.

7.2 Coupler types

7.2.1 Coupler type DF (item No 1 a)



Key
1 d_6 Thread according to Table 2

Figure 3 — Coupler type DF