

BS EN 14420-2:2013



BSI Standards Publication

Hose fittings with clamp units

Part 2: Hose side parts of hose tail

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National foreword

This British Standard is the UK implementation of EN 14420-2:2013. It supersedes BS EN 14420-2:2004 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/66, Rubber and plastics tubing, hoses and hose assemblies.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Amendments issued since publication

Date	Text affected
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English Version

Hose fittings with clamp units - Part 2: Hose side parts of hose tail

Raccords pour flexibles avec demi-coquille - Partie 2:
Douilles pour flexibles

Schlaucharmaturen mit Klemmfassungen - Teil 2:
Schlauchseitige Stutzenteile

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Foreword

This document (EN 14420-2:2013) 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of an identical text or by endorsement, at the latest by January 2014, and conflicting national standards shall be withdrawn at the latest by January 2014.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 14420-2:2004.

In comparison to EN 14420-2:2004, the following changes have been made:

- In Clause 2 the normative references have been updated.
- A new Clause 3 "Terms and definitions" has been added.
- Subclause 3.2 "Surface finish" has been deleted.
- In Clause 5, the list of materials appropriate for use in hose fittings has been supplemented by aluminium and hastelloy.
- Clause 7 on type testing and quality control has been added.
- 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)*

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Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies requirements for the hose tail of hose fittings according to EN 14420-1 for use with clamp units according to EN 14420-3. Furthermore, it specifies materials for hose fittings with clamp units according to EN 14420-4 to EN 14420-8.

Maximum working pressure is 25 bar¹⁾; maximum working temperature is 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 10025-2, *Hot rolled products of structural steels — Part 2: Technical delivery conditions for non-alloy structural steels*

EN 10087, *Free-cutting steels — Technical delivery conditions for semi-finished products, hot-rolled bars and rods*

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

EN 10213, *Steel castings for pressure purposes*

EN 10217-1, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 1: Non-alloy steel tubes with specified room temperature properties*

EN 10283, *Corrosion resistant steel castings*

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 14420-4, *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)*

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

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]

4 Dimensions

Types of fittings shall be chosen by the manufacturer depending on the manufacturing process.

NOTE Details not specified in this document are at the discretion of the manufacturer.

Grooves are admissible on the outside surface of tails Type A, Type B or Type C, provided that their outside diameter is not less than d_4 (see Type B).

Serration is admissible on the outside surface of tails of Type A and Type B of nominal size DN 15 to DN 80, whose outside diameter shall not exceed d_5 (see Type B). For nominal sizes DN 100 to DN 200 serrations are admissible with outside diameter not more than 2,2 mm above d_6 .

Grooves and ribs should be manufactured without sharp edges.

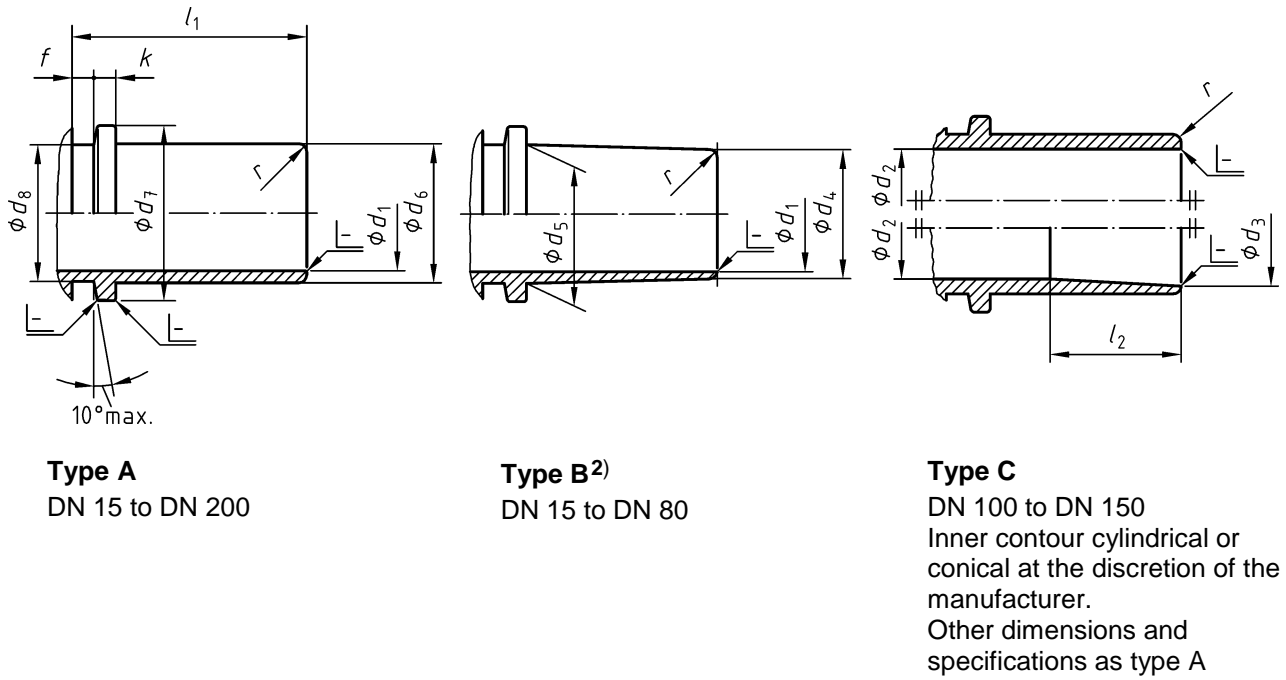


Figure 1 — Hose side parts of hose tail

2) Type B not applicable to clamp unit S according to EN 14420-3.

Table 1 — Dimensions for hose side parts of tail

Dimensions in millimetres

Nominal size DN	Type		Inside diameter of hose	d_1		d_2	d_3	d_4		d_5		d_6	d_7		d_8		f	k	l_1	l_2	r	
				Tolerances		+0,5 0	max.	Tolerances		Tolerances		0 -0,4	Tolerances		Tolerances		+0,5 0	0 -0,5	min.	±5,0	±0,5	
15	A	-	13	9	0 -1	-	-	12,2	min.	-	-	13,4	19	-	13	±0,1	4	4	42	-	1,5	
20			19	15				18,4		19,4	26	19										
25			25	21				24 ^a		26,6 ^a	25,4	32	25									
32			32	28				31 ^a		33,6 ^a	32,4	39	32									
40		B	-	38	33,5	0 -1	-	-	37,8	±0,5	40	0 -0,8	38,4	45	0 -1	38	±0,1	4,5	4,5	49	-	1,5
50				50	45,5				49,5		52		50,4	58		50						
				51					50,5		53		51,4			50						
65				63	58,5				62,5		65,5		63,4	73		63						
80				75	70,5				74,5		77,4		75,4	85		75						
				76					75,5		78,4		76,4									
100	-	C	100	94	90	94	-	-	-	-	100,3	110	100	±0,2	8	7,5	96	95	-	3		
			101,5							101,8												
150			150	140	+0,5 -2	131	140	-	-	150,1	164	150										
200	-	-	200	190	+0,5 -2,5	-	-	-	-	200	219	+0 -2	200	17	12	230	-					

^a At DN 25 and DN 32 dimensions d_4 and d_5 are given as limiting dimensions for grooves and ribs for tails type A.

5 Materials

Only materials listed below shall be used each in connection with the individual fittings according to EN 14420-4, EN 14420-5, EN 14420-6, EN 14420-7 and EN 14420-8 which are indicated there:

a) Non-alloyed steels

S235JRG2	material number 1.0038 according to EN 10025-2
S355J0 (former St52-3U)	material number 1.0553 according to EN 10025-2
S355J2G3 (former St52-3N)	material number 1.0570 according to EN 10025-2
P235TR1	material number 1.0254 according to EN 10217-1
11 SMnPb 30	material number 1.0718 according to EN 10087

b) Stainless steels

X5CrNi18-10	material number 1.4301 according to EN 10088-1
X5CrNiMo17-12-2	material number 1.4401 according to EN 10088-1
X2CrNiMo17-12-2	material number 1.4404 according to EN 10088-1
X6CrNiTi18-10	material number 1.4541 according to EN 10088-1
X6CrNiMoTi17-12-2	material number 1.4571 according to EN 10088-1
GX5CrNiMo19-11-2	material number 1.4408 according to EN 10213
GX5CrNiMoNb19-11-12	material number 1.4581 according to EN 10213
GX5CrNiMo19-11-2	material number 1.4408 according to EN 10283

c) Copper-zinc alloys

CuZn39Pb3	material number CW614N according to EN 12420
CuZn40Pb2	material number CW617N according to EN 12420
GK-CuZn37Pb	material number CC754S according to EN 1982

d) Copper-tin alloy

CuSn5Zn5Pb5-C	material number CC491K according to EN 1982
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e) Aluminium

Alu forged	material number EN AW-6082 according to EN 755-2
Alu bar materials	material number EN AW-6060 according to EN 755-2
Alu cast	material number EN AC-47000 according to EN 1706

f) Hastelloy

Hastelloy B3	material number 2.4600
Hastelloy C22	material number 2.4602
Hastelloy C4	material number 2.4610
Hastelloy C2	material number 2.4819

6 Marking

If appropriate surface area is available, the hose side parts of the hose tail shall be clearly and durably marked with the following information:

- a) EN 14420-2;
- b) manufacturer's name or trademark;
- c) type and nominal size;
- d) material number.

7 Type testing and quality control

Type testing and quality control shall be done according to EN 14420-1:2013, Clause 7.

Bibliography

- [1] EN 14420-3, *Hose fittings with clamp units — Part 3: Clamp units, bolted or pinned*
- [2] EN ISO 6708:1995, *Pipework components — Definition and selection of DN (nominal size) (ISO 6708:1995)*

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