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ISO 13769

Third edition
2018-07

Gas cylinders — Stamp marking

Bouteilles à gaz — Marquage

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Subcommittee SC 4, *Operational requirements for gas cylinders*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

This third edition cancels and replaces the second edition (ISO 13769:2007), which has been technically revised. The main changes compared to the previous edition are as follows:

— inclusion of markings for non-refillable gas cylinders;

— inclusion of markings for gas cylinders less than 0,5 l water capacity;

— inclusion of marking examples for small non-refillable and refillable gas cylinders.

Introduction

This document has been written so that it is suitable to be referenced in the UN *Recommendations for the Transport of Dangerous Goods — Model Regulations*.

This document is intended to be applied at the time of cylinder manufacture. However, it may be applied by the cylinder user during use operations, e.g. the stamping of "empty weight" (item 10 in Figures C.1, C.2 and C.3) on cylinders not so marked at the time of manufacture. It is also intended to be applied at the time of periodic inspection.

Some stamp markings include the year and month. The order of these time elements is given with the most significant digits (the year) to the left, in accordance with the rules given in ISO 8601.

Gas cylinders — Stamp marking

1 Scope

This document specifies stamp marking of transportable gas cylinders of volumes greater than 0,12 l and up to or equal to 150 l and tubes of volumes up to or equal to 3 000 l, including:

— steel and aluminium-alloy gas cylinders;

— composite gas cylinders;

— acetylene cylinders;

— liquefied petroleum gas (LPG) cylinders (see Annex A); and

— small cylinders (see Annex B).

Unless noted by exception, the use of "cylinder" in this document refers to the above types of cylinders.

Non-refillable cylinders are addressed by this standard.

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.

ISO 10286, *Gas cylinders — Terminology*

ISO 11114-1, *Gas cylinders — Compatibility of cylinder and valve materials with gas contents — Part 1: Metallic materials*

UN *Recommendations for the Transport of Dangerous Goods — Model Regulations* (as amended)

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10286 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 http://www.electropedia.org/

3.1
stamp marking
marking on a cylinder, either *permanent* (3.2) or *durable* (3.3)

3.2
permanent marking
marking applied to cylinders by hard metal stamping, engraving, casting or other method such as labelling for composite cylinders and small cylinders

3.3
durable marking
marking such as stencilling, labelling or other suitable methods

Note 1 to entry: Stencilling is the marking of a cylinder using inks and/or paints.

Note 2 to entry: Suitable methods include placing a tag/ring under the cylinder valve.

3.4
small cylinder
cylinder on which, due to its geometry, the arrangement and position of the markings cannot be executed as described in Annex C

4 Application of stamp markings

4.1 General

The stamp markings listed in Table 1 consist of manufacturing, operational and certification stamp marks. See 4.3 for the arrangement and position of stamp markings.

Additional markings may be applied as agreed upon by interested parties, provided the layout does not cause confusion regarding their interpretation and the clarity of other mandatory markings is not affected.

Annex B specifies the marking provisions for small cylinders.

4.2 Workmanship

The stamp markings listed in Table 1 shall be applied legibly so that the integrity of the cylinder is unaffected, e.g. either on a reinforced part of the cylinder or on a permanent attachment. Hard metal stampings shall not be applied to the cylindrical part of the cylinder (unless applied by the manufacturer as part of the manufacturing process).

For refillable metal and composite cylinders, the stamp markings shall be applied permanently. Certain information (see Table 1) may be applied durably to the cylinder (e.g. by stencilling, labelling, using a ring).

For cylinders with a diameter less than 51 mm, the stamp marking may also be applied either permanently or durably with a fixed label or other suitable method on the cylindrical part. However, a hard metal stamping procedure shall not be used if it results in an unacceptable cycle and burst performance.

The depth (when applicable) of the characters in the stamp marking applied by any method shall be such that they are legible and durable under all operating conditions.

The stamp marking tools used (when applicable) shall have such radii as are necessary to prevent the formation of sharp notches. The radius of the stamp marking tool should not be less than 0,2 mm. Different values may be used, but it shall be demonstrated by fatigue and burst tests in accordance with the design standard or equivalent that a failure does not initiate in the markings.

For welded cylinders, some stamp markings appear on a welded identity plate or on another part permanently attached to the cylinder and thus are not subject to gas pressure.

For composite cylinders, permanent markings can be achieved by use of a printed label encapsulated either by placing it under the resin or by covering it with a permanent transparent coating on the shoulder or the side wall of the cylinder (see 4.3).

Except for the “UN” mark, the characters in the stamp markings shall be at least 5 mm in height. This height may be reduced on cylinders with an outside diameter less than 140 mm except for small cylinders, whose requirements are shown in B.1.1. In no case shall the characters be less than 2,5 mm

in height. The minimum size of the "UN" mark shall be 10 mm for cylinders with diameters greater than or equal to 140 mm and 5 mm for cylinders with diameters less than 140 mm.

4.3 Arrangement and position of stamp markings

All stamp markings described in Table 1 shall appear consecutively in the sequence shown in the figures in Annex C, which indicate the arrangement of the stamp markings. The UN *Model Regulations* distinguishes between three different groups of stamp marks, gives them an explicit place in their arrangement and requires certain markings to appear in a specified sequence.

In Figures C.1 and C.2, the top group of stamp marks includes manufacturing marks (12, 2, 3, 4, 6). The group of stamp marks in the middle includes operational marks (13, 10, 11, 17, 7). The bottom group of stamp marks includes certification marks (27, 1, 28, 8, 9).

In Figure C.3, the top row includes manufacturing marks. The second and third rows include operational marks and the bottom row includes certification stamp marks.

Annex A includes examples of positions of stamp markings for metallic LPG cylinders.

Annex B includes provisions and examples of stamp markings for small cylinders when the arrangement and position of the markings cannot be executed (due to limited space) as specified in Annex C.

When an identity plate or label (e.g. for composite cylinders) is used, all stamp markings may be on a single plate or label, provided the layout does not cause confusion regarding their interpretation and follows the requirements of Table 1.

For hoop-wrapped composite cylinders that are stamp marked using a label under the resin, at a minimum the manufacturer's identification and the manufacturing serial number shall be duplicated by stamping them on the shoulder in accordance with Annex C for traceability purposes.

Table 1 — Stamp markings

Stamp marking number	Description of the marking	Status Mandatory (M)[a] Normative (N)[b] Optional (O)	Figures as shown in Annex C (with examples)		
			Figure C.1 Location of stamp marking for compressed gases	Figure C.2 Location of stamp marking for liquefied gases	Figure C.3 Location of stamp marking for acetylene
1	**Standard:** The identification of the relevant construction standard to which the cylinder is designed, manufactured and tested.	M	ISOXXX	ISOXXX	ISOXXX
2	**Country of manufacture:** Capital letter(s) identifying the country of manufacture of the cylinder shell using the characters of the distinguishing signs of motor vehicles in international traffic as specified in the UN *Model Regulations*.	M when different from country of approval (stamp marking No. 28)	CH	CH	CH
3	**Manufacturer's identification:** Name and/or trademark of cylinder manufacturer.	M	MF	MF	MF

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[c] In the UN *Model Regulations*, "date of the initial inspection" is used.

[d] In International Standards, "weight" is equivalent to a force, expressed in newtons. However, in common parlance (as used in terms defined in this document), "weight" continues to be used to mean "mass," although this practice is deprecated (see ISO 80000-4).

[e] The Aluminium Association Inc., 1400 Crystal Drive, Suite 430, Arlington, VA 22202, USA; www.aluminum.org

[f] The stamped value can be less than the approved value.

[g] The reference in UN *Model Regulations* is to mark No. 8 (not to mark No. 27).

Table 1 *(continued)*

Stamp marking number	Description of the marking	Status Mandatory (M)[a] Normative (N)[b] Optional (O)	Figures as shown in Annex C (with examples)		
			Figure C.1 Location of stamp marking for compressed gases	Figure C.2 Location of stamp marking for liquefied gases	Figure C.3 Location of stamp marking for acetylene
4	**Manufacturing serial number:** Alphanumeric identification number given or assigned by the manufacturer to clearly identify the cylinder. In the case of cylinders less than or equal to 1 l, the manufacturing batch number may replace the manufacturing serial number.	M	7654321	7654322	7654323
5	**Stamp for non-destructive examination (NDE):** When the cylinder is tested by and meets all the requirements of NDE in accordance with an ISO standard for gas cylinders (e.g. ultrasonic, magnetic particle, dye penetrant, acoustic emission), the following symbols shall be used: UT: for ultrasonic MT: for magnetic particle PT: for dye penetrant AT: for acoustic emission	N if applicable	UT	MT	PT
6	**Identification of steel compatibility:** Steel cylinders and composite cylinders with steel liners compatible with hydrogen and other gases of group 2 and group 11 in ISO 11114-1 shall be stamp marked with the letter "H". Stainless steel cylinders manufactured from high-grade stainless steel and composite cylinders with high-grade stainless-steel liners shall be stamped with the letters "HG". **EXAMPLE:** X2CrNiMo17–12–2, as found in ISO 15510.	M if applicable	H	H	—
7	**Test pressure:** The prefix "PH" followed by the value of the test pressure in bars and the letters "BAR".	M	PH300BAR	PH250BAR	PH60BAR or PH52BAR
8	**Inspection stamp:** Identity mark or stamp of the authorized inspection body.	M	#	#	#
9	**Initial test date[c]:** Year (four digits) followed by month (two digits) of initial test, separated by a slash (i.e. "/").	M	2007/10	2007/10	2007/10

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Table 1 *(continued)*

Stamp marking number	Description of the marking	Status Mandatory (M)[a] Normative (N)[b] Optional (O)	Figures as shown in Annex C (with examples)		
			Figure C.1 Location of stamp marking for compressed gases	Figure C.2 Location of stamp marking for liquefied gases	Figure C.3 Location of stamp marking for acetylene
10	**Empty weight**[d]**:** The weight of the cylinder in kilograms (kg), including all integral parts (e.g. neckring, footring, etc.) followed by the letters "KG". This weight shall not include the weight of the valve, valve cap or valve guard, any coating or any porous material for acetylene. The empty weight shall be expressed to three significant figures rounded up to the last digit. For cylinders less than 1 kg, the empty weight shall be expressed to two significant figures rounded up to the last digit. For acetylene cylinders, it shall be expressed to at least one digit after the decimal sign. **EXAMPLE:** Weight measured 0,964 kg 1,064 kg 10,64 kg 106,41 kg To be expressed as 0,97 kg 1,07 kg 10,7 kg 107 kg	M for refillable cylinders O for non-refillable cylinders	62,1KG	43,3KG	45,3KG
11	**Water capacity:** The minimum water capacity, in litres, guaranteed by the cylinder manufacturer, followed by the letter "L". On request by the customer or owner of the cylinder for compressed gases, this capacity may be expressed as the nominal average water capacity with a tolerance of ±1,5 %. In such a case, the symbol "≈" shall be stamped in front of the value of the water capacity. In the case of liquefied gases, the water capacity in litres is expressed to three significant figures rounded down to the last digit. If the value of the minimum or nominal water capacity is an integer, the digits after the decimal sign may be neglected. The actual determined volume may also be indicated on request by the customer or owner in special cases. For cylinders intended to contain acetylene, the stamped water capacity shall be the actual determined volume, rounded down to three significant figures.	M for liquefied gases N for acetylene O for compressed gases	≈50L	40,6L	50,8L
12	**Identification of cylinder thread:** e.g. 17E or 25E thread in accordance with ISO 11363-1.	M for refillable cylinders O for non-refillable cylinders	25E	25E	25E
13	**Minimum guaranteed wall thickness:** Minimum guaranteed wall thickness in millimetres (as per the type approval test) of the cylindrical shell, followed by the letters "MM".	M Exception: not mandatory for composite cylinders or cylinders ≤ 1 l O for non-refillable cylinders	5,8MM	15,5MM	4,2MM

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Table 1 *(continued)*

Stamp marking number	Description of the marking	Status Mandatory (M)[a] Normative (N)[b] Optional (O)	Figures as shown in Annex C (with examples)		
			Figure C.1 Location of stamp marking for compressed gases	Figure C.2 Location of stamp marking for liquefied gases	Figure C.3 Location of stamp marking for acetylene
14	**Identification of aluminium alloy:** Number of the aluminium alloy according to The Aluminium Association[e], with prefix "AA" for all aluminium-alloy cylinders and composite cylinders with aluminium liners.	N for aluminium-alloy cylinders	—	AA7060	—
15	**Identity of porous material:** For acetylene cylinders prepared with porous material, name or trademark of porous material. The country and factory of origin shall be traceable through this mark. Stamp marking No. 15 need not be stamped at the time of testing of the empty cylinder shell.	N for acetylene	—	—	ZZZ
16	**Identification of content:** For acetylene cylinders, the formula "C2H2" may be stamp marked.	O for acetylene	—	—	C2H2
17	**Working pressure:** Settled pressure, in bars, at a uniform temperature of 288 K (15 °C) for a full gas cylinder preceded by the letters "PW".	M for compressed gases and acetylene	PW200	—	PW18
18	**Maximum permissible filling weight:** The product of the water capacity of the cylinder and the filling density of the gas. The maximum permissible filling weight shall be stamp marked on the cylinder, either permanently or durably. If a ring under the valve is used, it shall only be possible to detach the ring by removal of the valve from the cylinder. If the maximum permissible filling weight is marked, it shall be followed by the letters "KG" and the name and/or chemical formula or the UN number of the gas. The maximum permissible filling weight does not apply to acetylene.	O for liquefied and compressed gases filled by weight	—	30KG CO2	—
19	**Total weight (gross weight):** For acetylene cylinders, the total weight, comprising either Tare A or Tare F (see stamp marking No. 20) plus the maximum allowable acetylene content, preceded by the letters "TOTAL" and followed by the letters "KG". When only Tare S is used, the total weight may be replaced by the maximum acetylene charge[f], excluding saturation gas, preceded by the letters "MAX" and followed by the letters "KG".	N for acetylene	—	—	TOTAL85,1KG

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Table 1 *(continued)*

Stamp marking number	Description of the marking	Status Mandatory (M)[a] Normative (N)[b] Optional (O)	Figures as shown in Annex C (with examples)		
			Figure C.1 Location of stamp marking for compressed gases	Figure C.2 Location of stamp marking for liquefied gases	Figure C.3 Location of stamp marking for acetylene
20	**Tare:** For cylinders for liquefied gases, for acetylene and when regulation requires filling by weight for compressed gases. The tare is the sum of the empty weight (stamp marking No. 10), the weight of the valve including the dip tube if fitted, the weight of any fixed valve guard and the weight of all other parts that are permanently attached (e.g. by clamping or bolted fixing) to the cylinder when presented for filling. The tare shall be marked as follows: the letters "TARE" followed by the value of the tare and the letters "KG". The tare shall be expressed to three significant figures rounded down to the last digit. For cylinders of less than 1 kg (for LPG, less than 10 kg), the tare shall be expressed to two significant figures rounded down to the last digit. For acetylene cylinders, it shall be expressed to at least one digit after the decimal sign. **EXAMPLE:** Weight measured: 0,964 kg; 1,064 kg; 10,64 kg To be expressed as: 0,96 kg; 1,06 kg; 10,6 kg This information shall be stamp marked on the cylinder, either permanently or durably. If a ring under the valve is used, it shall only be possible to detach the ring by removal of the valve from the cylinder. For liquefied gases, as an alternative the requirement for the indication of the tare is considered to be satisfied if the gross weight of the filled cylinder, the product name and the filling weight (stamp marking No. 18) of the cylinder are marked.	N for liquefied gases and where regulation requires filling by weight for compressed gases This stamp marking may be replaced by a durable marking. O for non-refillable cylinders		TARE55,4KG	

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Table 1 *(continued)*

Stamp marking number	Description of the marking	Status Mandatory (M)[a] Normative (N)[b] Optional (O)	Figures as shown in Annex C (with examples)		
			Figure C.1 Location of stamp marking for compressed gases	Figure C.2 Location of stamp marking for liquefied gases	Figure C.3 Location of stamp marking for acetylene
	EXAMPLE "23,6 (KG)" (durable marking); "BUTANE — 13 KG" (permanent marking). For dissolved-acetylene cylinders, Tare S, as described below, shall be stamp marked. The additional marking of Tare A, as described below, is optional. The sequence of stamping is: Tare A followed by Tare S. Tare S is the empty weight, plus the weight of the valve and all other parts that are permanently attached when presented for filling, plus the weight of the porous material, plus the weight of the solvent, plus the weight of the saturation gas at atmospheric pressure and 15 °C. The letters "TARE S" shall be used in place of "TARE" when only one tare is stamp marked. Tare A is the same as Tare S except that the weight of the saturation gas is not included. For solvent-free acetylene cylinders, one weight only (described below as "Tare F") shall be stamp marked. Tare F is the empty weight, plus the weight of the valve and all other parts that are permanently attached when presented for filling, plus the weight of the porous material. If the tare for acetylene cylinders includes parts that are permanently attached other than the valve, the total weight of these parts may be stamped in front of the letters "TARE". This weight shall be expressed to the same number of decimal places as the tare (e.g. 2,3TARE 77,4/77,9KG).	TARE S or TARE F mandatory (M) for acetylene O			TARES75,6KG or TARE 75,1/75,6KG
21	**Identification of solvent for acetylene cylinders:** Identification of solvent shall be made if the solvent is not acetone. Identification of dimethylformamide as DMF followed by the weight of the solvent and the letters "KG" shall be made. If acetone, the letter "A" may be stamp marked followed by the weight of the solvent and the letters "KG". Acetylene cylinders without solvent shall be stamp marked "SF" (solvent-free) in place of this marking.	N if solvent is not acetone	—	—	DMF18,5KG

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Table 1 *(continued)*

Stamp marking number	Description of the marking	Status Mandatory (M)[a] Normative (N)[b] Optional (O)	Figures as shown in Annex C (with examples)		
			Figure C.1 Location of stamp marking for compressed gases	Figure C.2 Location of stamp marking for liquefied gases	Figure C.3 Location of stamp marking for acetylene
22	**Inspection stamp and date of periodic inspection:** Stamp or identification of authorized inspection body and year (last two or all four digits) and subsequently the month (two digits) of retest shall be stamp marked at the time of periodic inspection. The year and month shall be separated by a slash (i.e. "/"). For UN cylinders, the inspection body marking shall be preceded by the character(s) identifying the country authorizing the inspection body, if that country is different from the country of approval for manufacture (see stamp marking No. 28). Enough space shall be provided on the cylinder for more than one re-inspection. This information shall be permanently marked on the cylinder or durably on a ring of an appropriate material under the valve. If a ring under the valve is used, it shall only be possible to detach this ring by removal of the valve from the cylinder.	M Not applicable for non-refillable cylinders	# 14/11	# 14/11	# 14/11
23	Space for additional optional markings or for application of labels, e.g. name of cylinder owner.	—	—	—	—
24	**Inspection stamp certifying the correct massing:** This mark shall be stamped in proximity to the "Identity of porous material" stamp marking as specified in stamp marking No. 15. Stamp marking is not required when the same inspector verifies both shell manufacture and massing.	N for acetylene	—	—	#
25	**Service life of composite cylinders:** For cylinders of unlimited life, no stamp required. For cylinders with limited life, the letters "FINAL" followed by the expiry date comprising the year (four digits) and month (two digits).	N for composite cylinders		FINAL2019/09	—
26	**Underwater use of composite cylinders:** Composite cylinders that have met the specific test requirements for underwater use shall be stamp marked with the letters "UW".	N for underwater composite cylinders	UW	—	—
27	**International mark(s):** These marks (UN, π, etc.) may only be applied to cylinders that comply with international regulations such as the UN *Model Regulations*.	M (if applicable)			
28	**Country of approval:** Capital letter(s) identifying the country of approval of stamp mark No. 27[g], using the characters of the distinguishing signs of motor vehicles in international traffic specified in the UN *Model Regulations*.	M	F	F	F

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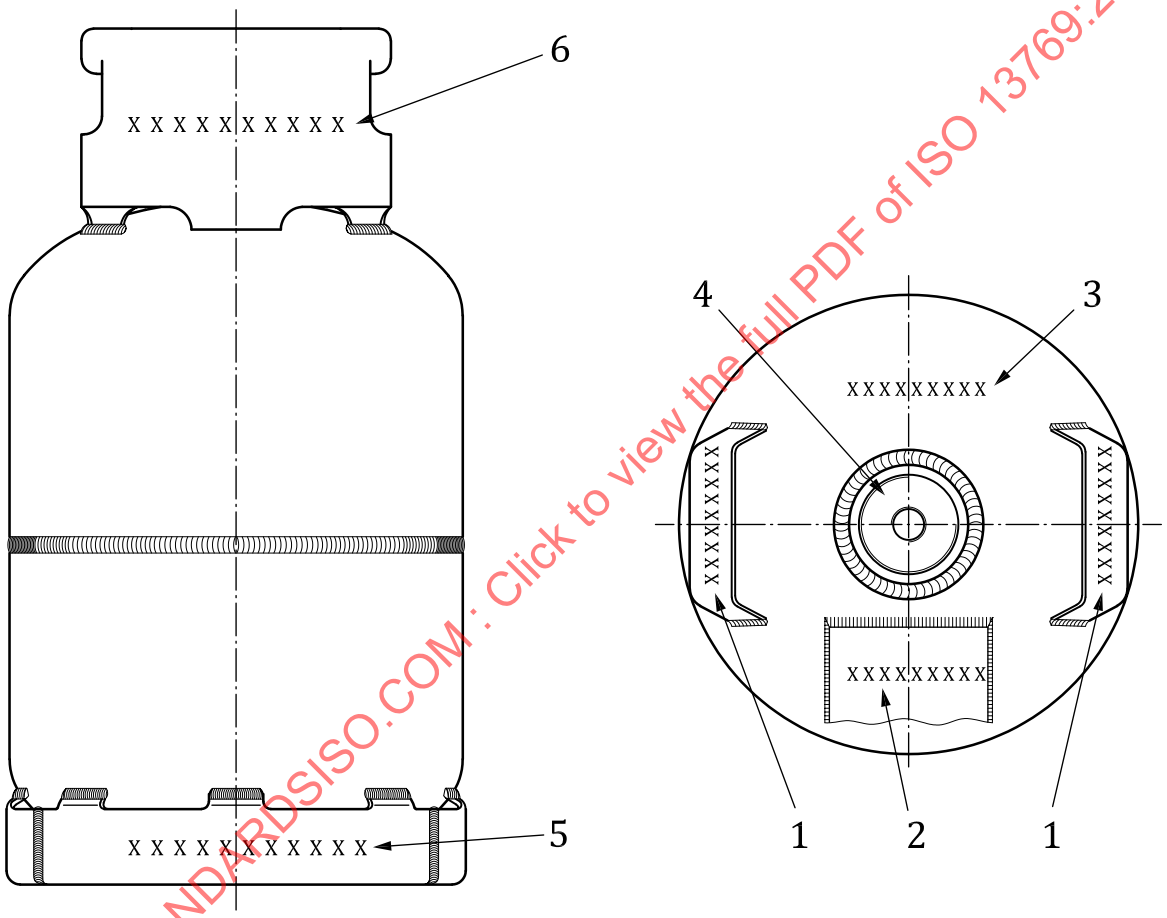
Annex A
(informative)

Examples of permanent marking positions for metallic LPG cylinders

The permanent markings of metallic LPG cylinders are in three groups as defined by the UN *Model Regulations* (see 4.3) and displayed at one or more of the positions in Figure A.1, depending on the design and size of the cylinder and the space available for markings.



Key

1 handle(s)
2 permanently attached nameplate
3 stamp marking on cylinder body
4 cylinder neck boss
5 footring
6 shroud

Figure A.1 — Permanent marking positions for metallic LPG cylinders

Annex B
(normative)

Specific provisions for and examples of permanent markings of small cylinders

B.1 General

Annex B addresses the arrangement of certain stamp markings (see 4.3). These stamp markings shall be grouped as closely as possible. The stamp markings shown in Figures B.1 to B.5 in bold are only examples and do not necessarily represent actual values.

B.2 Small non-refillable cylinders

B.2.1 General

All markings shall be clear and legible. The height of the characters shall be at least 1,5 mm, except for the marking "DO NOT REFILL" and the "UN" compliance mark which shall be at least 5 mm in height.

B.2.2 Example for compressed gases

DO NOT REFILL [a]

(2) (3) (4) (16)
A XY 1234567 UN 1006 ARGON

(17) (7) (11)
PW180 PH270BAR 0,32L

(27) (1) (28) (8) (9)
[a] ISOXXX F # 2014/11

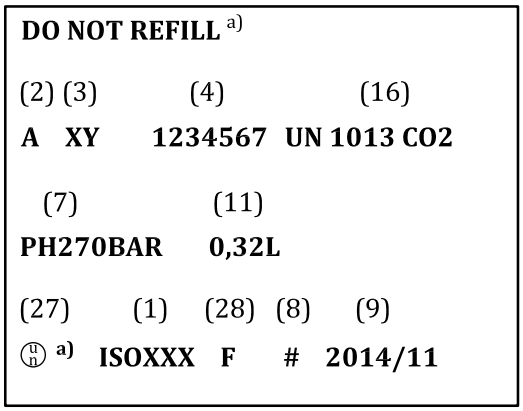
Key (numbers in accordance with Table 1)

1 standard
2 country of manufacture
3 manufacturer's identification
4 manufacturing serial number
7 test pressure
8 inspection stamp
9 initial test date (YYYY/MM)[b c]
11 water capacity (optional)
16 identification of content[b]
17 working pressure
27 international mark(s)[a]
28 country of approval for stamp mark No. 27

a This marking shall be at least 5 mm in height.
b These markings are at least 3 mm in height.
c A date code is used if authorized by regulation.

Figure B.1 — Locations of stamp markings for compressed gases in small non-refillable cylinders

B.2.3 Example for liquefied gases



Key (numbers in accordance with Table 1)

1	standard	9	initial test date (YYYY/MM)[b]
2	country of manufacture	11	water capacity
3	manufacturer's identification	16	identification of content[b]
4	manufacturing serial number	27	international mark(s)[a]
7	test pressure	28	country of approval for stamp mark No. 27
8	inspection stamp		

a This marking shall be at least 5 mm in height.

b These markings are at least 3 mm in height.

Figure B.2 — Locations of stamp markings for liquefied gases in small non-refillable cylinders

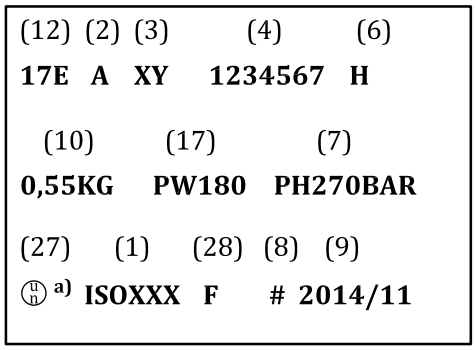
B.3 Small refillable cylinders

B.3.1 General

All markings must be clear and legible. The height of the characters shall be at least 1,5 mm, except for the "UN" compliance mark which shall be at least 5 mm in height.

For small refillable cylinders, the inspection stamp shall be permanently marked. For example, it may be stamped on the reinforced part of the cylinder or marked on a ring made of suitable materials which is placed between the valve and the cylinder.

B.3.2 Example for compressed gases



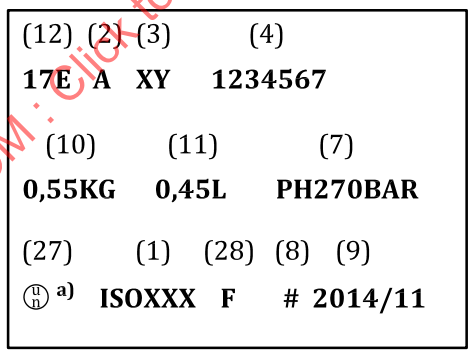
Key (numbers in accordance with Table 1)

1	standard	9	initial test date (YYYY/MM)
2	country of manufacture	10	empty weight
3	manufacturer's identification	12	identification of cylinder thread
4	manufacturing serial number	17	working pressure
6	identification of steel compatibility (if applicable)	27	international mark(s)[a]
7	test pressure	28	country of approval for stamp mark No. 27
8	inspection stamp		

[a] This marking shall be at least 5 mm in height.

Figure B.3 — Locations of stamp markings for compressed gases in small refillable cylinders

B.3.3 Example for liquefied gases



Key (numbers in accordance with Table 1)

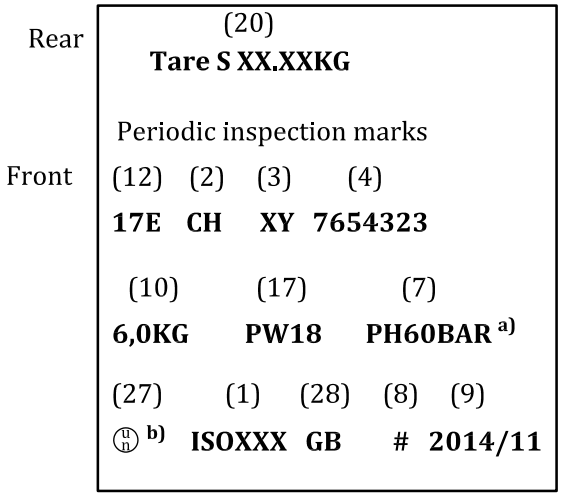
1	standard	9	initial test date (YYYY/MM)
2	country of manufacture	10	empty weight
3	manufacturer's identification	11	water capacity
4	manufacturing serial number	12	identification of cylinder thread
7	test pressure	27	international marks[a]
8	inspection stamp	28	country of approval for stamp mark No. 27

[a] This marking shall be at least 5 mm in height.

Figure B.4 — Locations of stamp markings for liquefied gases in small refillable cylinders

B.3.4 Example for acetylene

Period inspection markings may be engraved on a ring held on the cylinder by the valve. The ring shall be configured so that it can only be removed by disconnecting the valve from the cylinder.



Key (numbers in accordance with Table 1)

1	standard	10	empty weight
2	country of manufacture	12	identification of cylinder thread
3	manufacturer's identification	17	working pressure
4	manufacturing serial number	20	tare weight (Tare S, Tare A/S or Tare F)
7	test pressure[a]	27	international mark(s)[b]
8	inspection stamp	28	country of approval for stamp mark No. 27
9	initial test date (YYYY/MM)		

a The test pressure may be either 60 bar (no PRD fitted) or 52 bar (fusible plug fitted as applicable).

b This marking shall be at least 5 mm in height.

Figure B.5 — Locations of stamp markings for acetylene in small refillable cylinders