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**AMENDMENT 1**  
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**Gas cylinders — Non-refillable  
metallic gas cylinders — Specification  
and test methods**

**AMENDMENT 1**

*Bouteilles à gaz — Bouteilles à gaz métalliques non rechargeables —  
Spécifications et méthodes d'essai*

*AMENDEMENT 1*

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This document was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Subcommittee SC 3, *Cylinder design*.

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](http://www.iso.org/members.html).

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# Gas cylinders — Non-refillable metallic gas cylinders — Specification and test methods

## AMENDMENT 1

### Normative references

Add the following new reference:

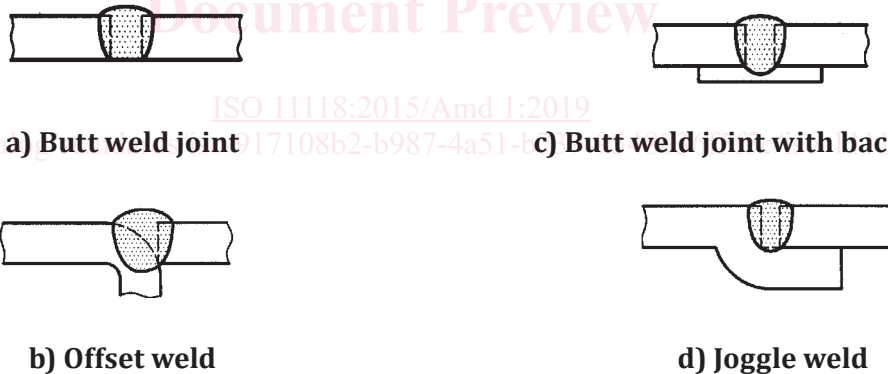
ISO 14732, *Welding personnel — Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials*

### 8.1.1.2.1

Replace the third paragraph with the following:

The circumferential seam(s), if any, shall be as illustrated in Figure 1 a), b), c) or d).

Replace Figure 1 with the following:



**Figure 1 — Weld joints**

### 8.1.1.2.2.1

Replace the text of this subclause with the following:

- All welders, welding operators and welding procedures shall be approved by meeting the requirements of 8.1.1.2.2 through 8.1.1.2.2.9 or those given in ISO 9606-1, ISO 14732, ISO 15613, and ISO 15614-1 as appropriate.
- Records of welders and welding operator qualifications and welding procedure qualifications shall be kept on file by the manufacturer.
- Welding procedure specification approval tests shall be carried out such that the welds shall be representative of those made in production.

- d) Welders, welding operators and welding procedures shall pass the approval tests for the specific type of work and procedure specification concerned.

#### 8.1.1.2.2.7

Replace the first paragraph with the following:

The welding procedure specification and welder qualification shall be tested and approved when any of the following changes are made, if not already covered:

#### 9.2.2

Replace the first paragraph with the following:

For carbon steel, a check analysis shall be performed by the cylinder manufacturer on material representative of the cylinders.

Insert the following new paragraphs after the second paragraph:

For austenitic stainless steels the cylinder manufacturer shall obtain certificates of the analysis of the cast. If check analysis is required, it shall be carried out either on test specimens taken from material in the form supplied by the producer of the austenitic stainless steel or from finished gas cylinders.

For aluminium alloys, the cylinder manufacturer shall obtain certificates of the analysis of the cast. If check analysis is required, it shall be carried out either on test specimens taken from material in the form supplied by the producer of the aluminium alloys or from finished gas cylinders.

#### 9.2.4.1

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Replace the second paragraph with the following:

Burst testing successfully passing the requirements of 9.2.4.5 fulfils the requirement of this Clause.

#### 9.2.4.5

Replace the first paragraph of a) with the following:

- a) for cylinder designs with  $p_b$  of <70 bar, pressurize the cylinder to the test pressure ( $p_t$ ) at a rate not exceeding 14 bar/min and hold the test pressure for 30 s. There shall be no decrease in the pressure during the 30 s holding period. Once the holding period has passed, increase the pressure in the cylinder at any convenient rate until the cylinder bursts. As an alternative, once the 30 s holding period has ended, the pressure may be decreased below the test pressure before repressurizing until the cylinder bursts.

Replace the first paragraph of b) with the following:

- b) for cylinder designs with  $p_b \geq 70$  bar, pressurize the cylinder to the test pressure ( $p_t$ ) at a rate not exceeding 5 bar/s to test pressure ( $p_t$ ) and hold for 30 s. There shall be no decrease in the pressure during the holding period. Once the holding period has passed, increase the pressure in the cylinder at any convenient rate until the cylinder bursts. As an alternative, once the 30 s holding period has ended, the pressure may be decreased below the test pressure before repressurizing until the cylinder bursts.