



Standard Specification for Warnings on Refillable CO₂ Cylinders Used In the Sport of Paintball¹

This standard is issued under the fixed designation F2553; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers warnings used on refillable CO₂ cylinders with a threaded interface used in the sport of paintball.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Significance and Use

2.1 This specification specifies the minimum warnings and instructions that are to be provided on the CO₂ cylinder itself.

3. Conformance

3.1 Paintball CO₂ cylinders shall not, either by label or other means, indicate conformance with this specification unless, at the time of manufacture, they conform with all applicable requirements contained herein.

4. Product Marking

4.1 Refillable CO₂ cylinders used in the sport of paintball that utilize a pin valve, which is of a design such that if the valve is unscrewed from the cylinder the CO₂ gas under pressure is immediately released, shall be prominently and durably marked to convey the following cautionary statement:

4.1.1 A signal word such as “WARNING” or “DANGER”.

4.1.2 A warning that the cylinder can fly off with enough force to kill if the valve unscrews from the cylinder.

4.1.3 Instructions to look at valve when removing the cylinder.

4.1.4 Instructions to stop if valve starts to unscrew from the cylinder.

4.1.5 Instructions to screw it back on and immediately contact the manufacturer for instructions for repair if the valve does start to unscrew from the cylinder.

4.1.6 Markings must include a graphic similar to that shown in Fig. 1.

4.2 All CO₂ cylinders used in the sport of paintball shall be prominently and durably marked to convey the following:

4.2.1 A warning that the cylinder is an explosion hazard.

4.2.2 Notice that improper use, filling, storage or disposal may result in property damage, serious personal injury, or death.

4.2.3 Notice that the cylinder must be filled only by properly trained personnel in accordance with CGA Pamphlets P-1, C-6, G-6.8, and AV-7.²

4.2.4 Notice that valves must be installed or repaired only by trained personnel.

4.2.5 Instructions to not exceed the cylinder’s marked CO₂ capacity.

4.2.6 Notice to not expose to temperatures exceeding 130°F when pressurized.

4.2.7 Notice to not use caustic cleaners or strippers.

4.2.8 Instructions to not modify the valve or cylinder in any way.

4.2.9 Notice to not remove or cover the label.

4.2.10 Notice that the cylinder must be destroyed if exposed to fire or heated to a temperature exceeding 350°F.

4.2.11 Notice to keep cylinder out of reach of children without proper supervision.

4.3 Markings must include the maximum CO₂ capacity of the cylinder in a prominent manner.

4.4 Markings must indicate the manufacturer or distributor or retailer of the cylinder or completed cylinder assembly.

¹ This specification is under the jurisdiction of ASTM Committee F08 on Sports Equipment, Playing Surfaces, and Facilities and is the direct responsibility of Subcommittee F08.24 on Paintball and Equipment.

Current edition approved April 1, 2020. Published April 2020. Originally approved in 2006. Last previous edition approved in 2016 as F2553 – 16. DOI: 10.1520/F2553-16R20.

² The sole source of supply of the apparatus known to the committee at this time is Compressed Gas Association, 4221 Walney Road, 5th Floor, Chantilly, Virginia 20151-2923. If you are aware of alternative suppliers, please provide this information to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee,¹ which you may attend.

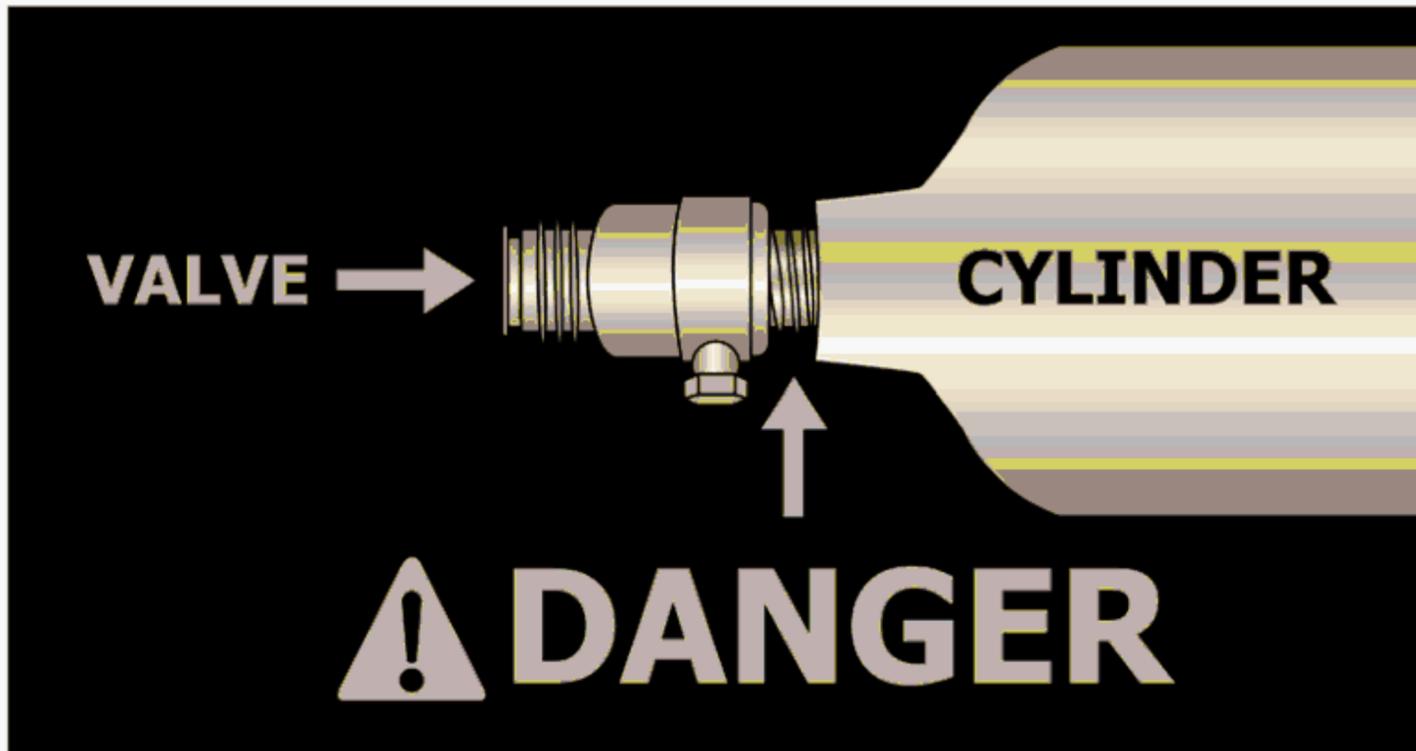


FIG. 1 Product Marking Examples

4.5 An example of an acceptable label for a 20 oz capacity CO₂ cylinder is noted in Fig. 2. This sample does not include information in 4.4 as required.

HIGH PRESSURE CYLINDER

The cylinder can fly off with enough force to kill if the valve unscrews from the cylinder.

- LOOK at valve when removing cylinder.
- STOP if valve starts to unscrew from the cylinder. Screw it back on and contact the manufacturer for instructions for repair.

EXPLOSION HAZARD: Improper use, filling, storage or disposal may result in property damage, serious personal injury, or death.

- This cylinder must be filled only by properly trained personnel in accordance with CGA Pamphlets P-1, C-6, G-6.8 and AV-7 available from the Compressed Gas Association, 4221 Walney Road, 5th Floor, Chantilly, Virginia 20151-2923.
- Valves must be installed and removed only by trained personnel.
- Do not exceed cylinders maximum capacity.
- Do not expose to temperatures exceeding 130°F when pressurized.
- Do not use caustic cleaners or strippers.
- Do not modify this cylinder or valve in any way.
- Do not remove or cover this label.
- Cylinder must be destroyed if exposed to fire or heated to a temperature exceeding 350°F.
- Keep cylinder out of reach of children, unless properly supervised.

MAXIMUM CO₂ CAPACITY: _____

Name and contact information for manufacturer or distributor

FIG. 2 Cylinder Label Example

4.6 The warnings, instructions, and notices may be a combination of upper and lower case letters and must be of a size not less than 8-point type. The letters in the signal word shall be at least 50 % larger than the letters in other words in the cautionary statement. The signal word shall be in sans serif letters in upper case only and preceded by a safety alert symbol. It is composed of an equilateral triangle surrounding an exclamation point. The base of the safety alert symbol shall

be on the same horizontal line as the base of the letters of the signal word. The height of the safety alert symbol shall equal or exceed the signal word height. All words and symbols must contrast with the background color.

5. Keywords

5.1 CO₂ cylinder; paintball; paintball CO₂ cylinder warnings; paintball sports

ASTM International takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.

This standard is copyrighted by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org). Permission rights to photocopy the standard may also be secured from the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, Tel: (978) 646-2600; <http://www.copyright.com/>