

INCH-POUND

A-A-59592

August 28, 2000

SUPERSEDING

MIL-C-53109

29 November 1990

MIL-S-1285E

1 April 1991

COMMERCIAL ITEM DESCRIPTION

CAN, FUEL, MILITARY: 20-LITER CAPACITY

The General Services Administration has authorized the use of this Commercial Item Description for all federal agencies.

1. **SCOPE.** This Commercial Item Description (CID) covers the performance requirements for the rectangular military fuel can with cap (hereinafter called "fuel can"), with a 20-liter capacity, three carrying handles and a flexible spout (hereinafter called "spout"). The fuel can is used for the temporary storage, transportation and dispensing of fuel.

2. SALIENT CHARACTERISTICS

2.1 **Materials.** The selection of materials for construction of the fuel can is the responsibility of the contractor. The materials shall be of sufficient durability to meet the operational and environmental requirements as specified herein. Materials shall be resistant to tall fluids as specified and be non-corrosive and non-sparking. The material shall have no adverse effect on the health of personnel when the fuel can is used for its intended purpose. Whenever feasible, toxic chemicals, hazardous substances or ozone depleting chemicals (ODC) shall not be used.

2.1.1 **Deterioration prevention and control.** The cap assembly and spout shall be fabricated from compatible materials, inherently corrosion resistant or treated to provide protection against the various forms of corrosion and deterioration to which the materials are susceptible.

2.1.2 **Dissimilar metals.** Dissimilar metals shall not be used in intimate contact with each other unless protected against galvanic corrosion.

2.1.3 **Cleaning and treatment.** The exterior surfaces of the fuel can, spout, cap, and cap retainer shall have a smooth lusterless finish throughout. All surfaces shall be free of dirt, dust, and foreign matter inclusion.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent by letter to: U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-TR-E/IE, Warren, MI 48397-5000

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2.2 Operating requirements. The fuel can shall operate as specified in ASTM F852 with the following additional requirements and exceptions.

2.2.1 Color. When specified (see 6.2), the through color of the material for the body, cap, and cap retainer shall approximate a lusterless sand (number 30279) or field drab (number 33105) of FED-STD-595.

2.2.2 Capacity. The capacity of the fuel can shall be 20 ± 1 liters. The capacity shall be determined with the container standing on a level surface, with the container and contents at 24 ± 2.8 degrees Celsius ($^{\circ}\text{C}$) [75 ± 5 degrees Fahrenheit ($^{\circ}\text{F}$)].

2.2.3 Stability. The fuel can shall not upset when used on an inclined plane at an angle of 12 degrees ($^{\circ}$) with the horizontal.

2.2.4 Carrying handles. Three carrying handles shall be located on top of the fuel can. The container shall not leak or evidence any handle detachment when tested in accordance with ASTM F852, 8.2, using a free fall height of 24 inches. Each of the three handles shall be individually tested three times, for a total of nine drops. Any leakage from the fuel can, or damage to the handles that makes them unable to serve their intended purpose shall constitute failure in accordance with this requirement.

2.2.5 Drop strength.

2.2.5.1 Ambient temperature. The fuel can shall show no evidence of rupture, cracks, or leakage when tested in accordance with ASTM F852, 8.3, from a height of 8 feet. After completion of the drops the fuel can shall be inverted for 5 minutes and the closure and can shall be observed for leakage. Any leakage from the fuel can shall constitute failure in accordance with this requirement.

2.2.5.2 Low temperature. The fuel can and its contents shall be conditioned at a temperature of $-40^{\circ}\text{C} \pm 2.8^{\circ}\text{C}$ ($-40^{\circ}\text{C} \pm 5^{\circ}\text{F}$) for a period of 12 hours. The fuel can shall show no evidence of rupture, cracks, or leakage when tested in accordance with ASTM F852, 8.3, from a height of 4 feet. The series of drops must be completed within 5 minutes of removal of the container from the -40°C (-40°F) environment. After completion of the drops the fuel can shall be inverted for 5 minutes and the closure and can shall be observed for leakage. Any leakage from the fuel can shall constitute failure in accordance with this requirement.

2.2.6 Internal pressure.

2.2.6.1 Hydrostatic pressure. The fuel can shall show no evidence of rupture, cracks, or leakage when tested in accordance with ASTM F852, 8.4.1, using an internal pressure of 30 pounds per square inch (psi) maintained for one hour. In addition to the requirements of ASTM F852, subject a can that has passed the internal pressure test to a high pressure spot test.

The internal pressure shall be increased rapidly from 30 psi to 60 psi and held for only five seconds. Rupture of the can or leakage from the can body or closure shall constitute failure of this test.

2.2.6.2 Non-destructive hydrostatic pressure. The fuel can shall show no evidence of rupture, cracks, or leakage when subjected to an internal air pressure of 15 psi applied through an adapter inserted into the cap assembly. The pressurized container shall be placed under water for not less than 2 minutes prior to performing an inspection. At the end of the stabilization period, all surfaces shall be wiped clear of clinging bubbles and the inspection shall be performed. Any air leaking from the can shall constitute failure of this test.

2.2.7 Air transportability. Containers shall comply with ICAO #9284-A/N905 requirements for air transport.

2.2.8 Aging. The body, cap, and cap retaining strap materials shall not crack, deteriorate, or degrade when tested in accordance with ASTM F852, 8.5.1, with the following changes. A 6,000-watt Xenon or Carbon Arc weathering device shall be used for 720 hours. The test cycle shall consist of four one-half hour moisture cycles per 24 hours. At the completion of the tests, each sample shall be inspected at a 7 times magnification.

2.2.9 Body and spout assembly leakage. The fuel can, when secured and closed, shall not leak. The spout assembly shall not leak when attached to the fuel can.

2.2.10 Penetration resistance. The fuel can shall be sufficiently rugged to withstand the impact from an 8-ounce, hardened steel, plumb bob, with a point having an inclined angle of 36° and a point radius of 0.025-inch maximum, without penetration or leakage. The distance of the fall, measured from the tip of the plumb bob to the top surface of the can, shall be 24 inches. The test shall be repeated on the top, sides, and bottom of the can. Following these penetration tests, the can shall be checked under water with an internal air pressure of 5 pounds per square inch gauge (psig). Any evidence of leakage of air from the cans shall be considered as failure of this test.

2.2.11 Cap. The fuel can cap shall be securely connected to the fuel can by a retainer, or similar device, to preclude loss of the cap as specified in ASTM F852. The cap shape shall have features to provide a secure handgrip for opening and closing.

2.2.12 Spout. The spout shall be separate from the fuel can. In addition to the requirements of ASTM F852, the fuel can flexible spout assembly shall be capable of flexing to a minimum angle of 60° without binding or straining. The mating thread of the spout shall interface with the external thread design on the filler neck of the fuel can (see figure 1). The spout shall provide a high flow rate allowing the can to be emptied in less than one minute.

2.2.13 Straining capability. The flexible spout shall provide a means for straining the contents when poured.

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2.2.14 Raised neck. The fuel can shall have a raised neck opening for filling and emptying. The neck shall provide a venting port to ensure smooth fuel flow from the can. The neck shall accept the flexible spout and other accessory adapters that allow the fuel can to be used as the fuel tank for support equipment.

2.3 Fire safety and behavior. The fuel can shall not contribute to the hazards from fire and explosion inherent in the fuels that it will contain. When engulfed in a fire the can shall not explode nor vent fuel vapor in a manner that creates a flaming jet-like plume.

2.4 Interface and interoperability requirements.

2.4.1 Fuel can envelope. The fuel can design shall incorporate the size constraints (see figure 2) imposed by the bracket assembly as specified in A-A-52513.

2.4.2 Fuel compatibility. The fuel can, cap, insert, and spout shall be compatible with fuel in accordance with A-A-52557 (diesel fuel) and ASTM D1655, Jet A-1 containing icing and corrosion inhibitors. The can shall also be compatible with a static dissipator (JP-8) as well as commercial unleaded gasoline.

2.4.3 Spout and filler neck. The mating thread of the spout shall interface with the external thread design on the filler neck of the fuel can (see figure 1).

2.5 Marking. Unless otherwise specified (see 6.2), fuel can marking shall be in accordance with UN Transport of Dangerous Goods Model Regulations, ICAO Annex 18, AN 181E/02, or IMO-200E requirements or regulations. The warning statements "FOR STORAGE OF FUELS ONLY" and "DO NOT USE FOR DRINKING WATER" will be added. The statement "U.S. GOVERNMENT PROPERTY" will also be added. Lettering will be capitalized and sized to match existing lettering. Figures 2 and 3 provide the locations and applicable nomenclature for additional markings to be placed on the fuel can.

3. REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

4. PRODUCT CONFORMANCE PROVISIONS

4.1 Product conformance. The products provided shall meet the salient characteristics of this CID, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace. The Government reserves the right to require proof of such conformance.

4.2 Market acceptability. The following market acceptability criteria are necessary to document the quality of the product to be provided under this CID.

4.2.1 The manufacturer of the item must have been producing a product meeting the requirements of this CID for at least 2 years.

4.2.2 The company must have sold at least 1000 units meeting this CID in the commercial market place over the past 2 years.

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5. PACKAGING. Preservation, packing, and marking shall be as specified in the contract or order (see 6.2).

6. NOTES

6.1 Addresses for obtaining copies of referenced documents.

6.1.1 Federal specifications and standards are available from the Defense Automated Printing Service, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

A-A-52513	Bracket Assembly, Liquid Container, Five Gallon
A-A-52557	Fuel Oil, Diesel, for Posts, Camps and Stations
FED-STD-595	Colors used in Government Procurement

6.1.2 ASTM specifications are available from American Society for Testing and Materials, 100 Bar Harbor Drive, West Conshohocken, PA 19428.

ASTM D1655	Standard Specification for Aviation Turbine Fuels
ASTM D1972	Standard Practice for Generic Marking of Plastic Products
ASTM F852	Standard Specification for Portable Gasoline Containers for Consumer Use

6.1.3 ICAO specifications are available from the International Civil Aviation Organization, External Relations and Public Information Office, 999 University Street, Montreal, Quebec H3C 5H7, Canada.

ICAO Annex 18, AN 181E/02 Safe Transport of Dangerous Goods by Air

6.1.4 IMO specifications are available from the International Maritime Organization, 4 Albert Embankment, London SE1 7SR.

IMO-200E International Maritime Dangerous Goods Codes

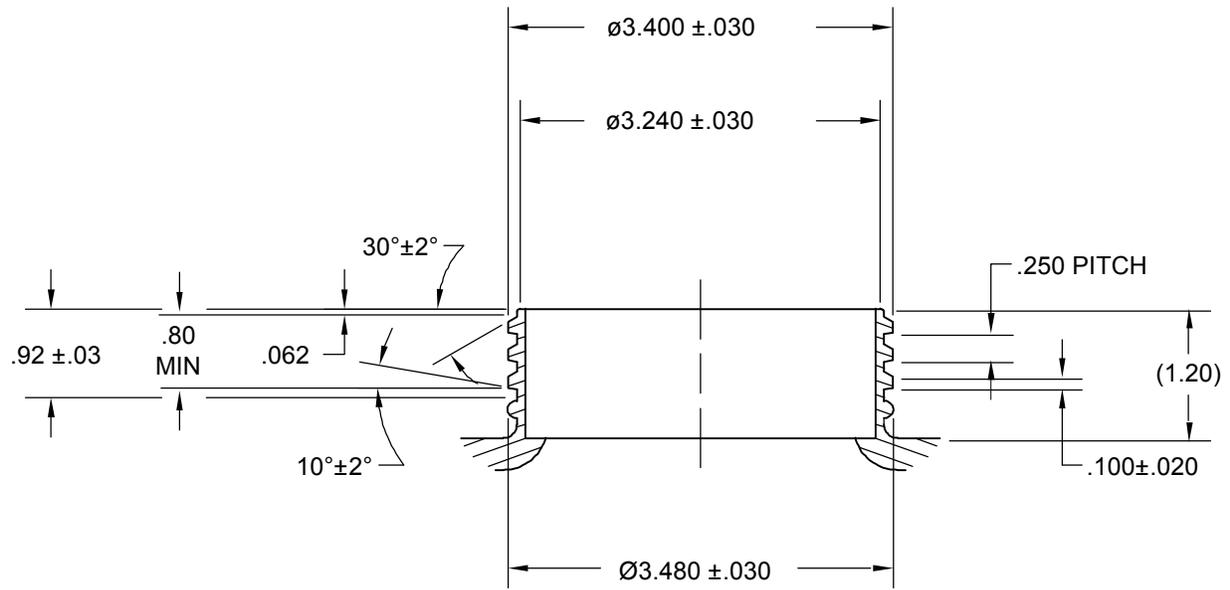
6.2 Ordering data. Acquisition documents must specify the following:

- a. CID document number, revision, and CID PIN.
- b. Color of fuel can, cap, and cap retainer (see 2.2.1).
- c. Any special marking (see 2.5).
- d. Product conformance provisions.
- e. Packaging required (see 5.1).

6.3 Key words.

Container, plastic
 Fuel can
 Fuel
 Jerrican
 Tank, liquid

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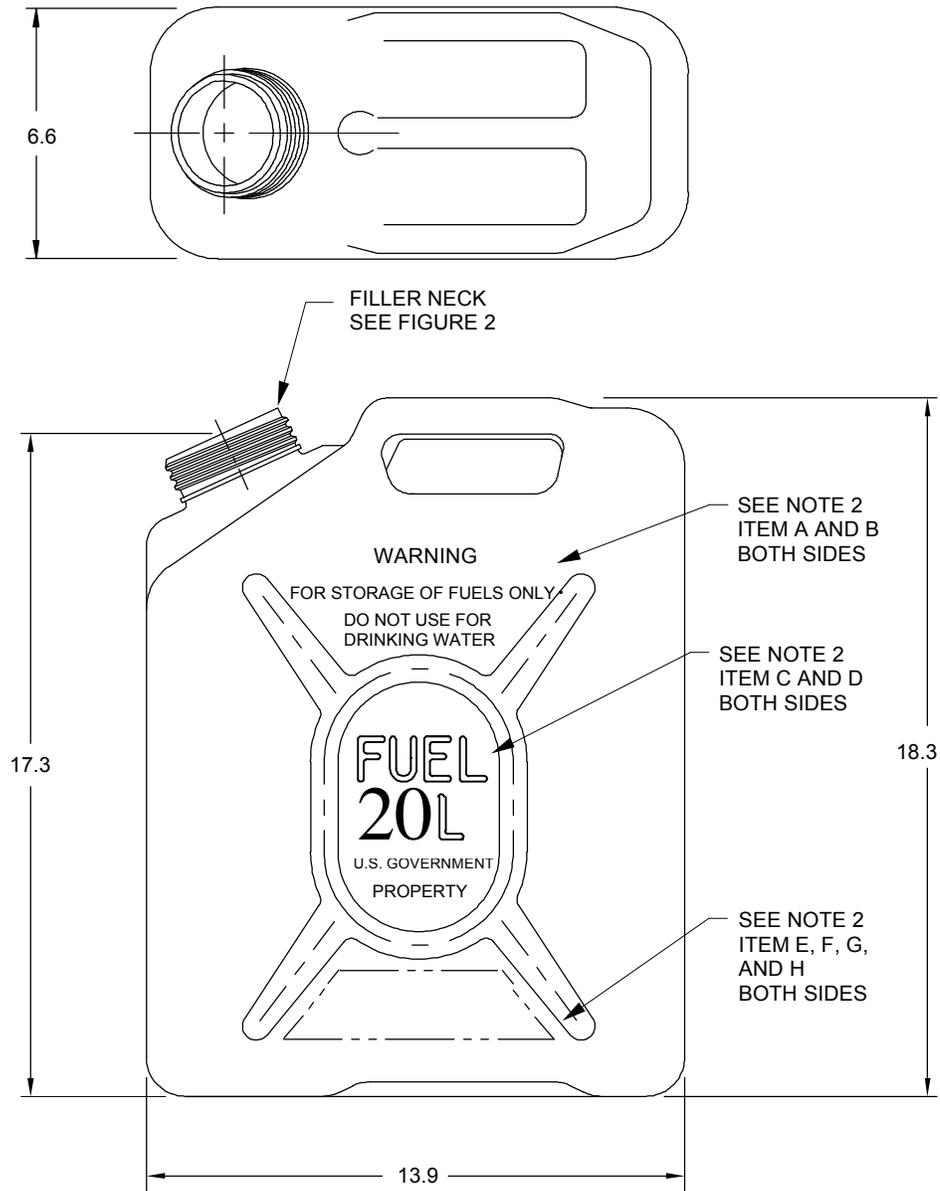


NOTE:

Unless otherwise specified, dimensions are in inches.

FIGURE 1. Fuel can filler neck.

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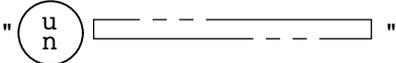
NOTES:

1. Unless otherwise specified, dimensions are in inches.
Tolerances: $.x = \pm .2$
2. All markings shall be located approximately as shown. Items e, f, g, and h are unique to each manufacturer. Refer to figure 3 for specific marking descriptions.

FIGURE 2. Fuel can - dimensions and marking.

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MARKING REQUIREMENTS

ITEM	LEGEND	CHARACTER HEIGHT	EMBOSSSED FORM
A	"WARNING"	.500	RAISED
B	"FOR STORAGE OF FUELS ONLY DO NOT USE FOR DRINKING WATER"	.250	RAISED
C	"FUEL 20 LITERS"	1.250	DEPRESSED .125 WIDE X .052-.062 DEEP
D	"U.S. GOVERNMENT PROPERTY"	.250	RAISED
E	UN MARK FOR INTERNATIONAL SHIPMENT "  "	-	RAISED
F	MANUFACTURER'S NAME	.375 MAX	RAISED
G	MANUFACTURER'S DATE INDICATING SHIFT, DAY, MONTH AND YEAR OF MANUFACTURE	-	RAISED
H	GENERIC MARKING OF PLASTIC PRODUCTS IN ACCORDANCE WITH ASTM D 1972 	-	RAISED

NOTE:

Unless otherwise specified, dimensions are in inches.

FIGURE 3. Marking for fuel can.

MILITARY INTERESTS:

Custodians:

Army – AT

Air Force – 99

Review activities:

Army – GL

Air Force – 84

CIVIL AGENCY COORDINATING ACTIVITY:

GSA-FSS

Preparing activity:

Army – AT

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