

INCH-POUND

A-A-59592A

14 January 2009

SUPERSEDING

A-A-59592

28 August 2000

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 rectangular military fuel cans with a 20-liter capacity and flexible spout. The fuel can is used for temporary portable storage, transportation, and dispensing of military fuel.

2. **CLASSIFICATION.** The fuel can assembly includes the fuel can and cap and shall conform to the following types. The desired color of the fuel can assembly or the cap to be furnished shall be as specified.

Type 1 – Desert sand

Type 2 – Field drab

3. SALIENT CHARACTERISTICS.

3.1 **Materials.** Unless otherwise specified herein, the materials used shall be in accordance with the manufacturer's specification for fuel can assemblies and spouts. The materials shall be of sufficient durability to meet the operational and environmental requirements as specified herein. Materials shall be resistant to fuel and fuel esters, ultraviolet radiation, and ozone depletion. Materials shall be non-corrosive and non-sparking. The material shall have no adverse effect on the health of personnel when the fuel can assembly is used for its intended purpose. To the maximum extent possible, toxic chemicals or other hazardous substances shall not be used. Ozone Depleting Chemicals (ODC) shall not be used.

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

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent to: U.S. Army Tank-automotive and Armaments Command, ATTN: AMSRD-TAR-E/CM/DM/STND MS#268, 6501 E. 11 Mile Road, Warren, MI 48397-5000 or emailed to DAMI_STANDARDIZATION@conus.army.mil.

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3.1.2 Dissimilar metals. Dissimilar materials shall be isolated from one another to prevent or minimize galvanic corrosion.

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

3.2 Performance requirements. The fuel can assembly shall meet the requirements of ASTM F852 with the following exceptions and additional requirements. When required for a test, the cap shall be screwed onto the filler neck of the fuel can with a torque of 125 inch-pounds.

3.2.1 Color. Unless otherwise specified, the color shall be lusterless desert sand ANA 616, #30279, or lusterless field drab camo, #33105, of FED-STD-595.

3.2.2 Capacity. The capacity of the fuel can shall be 20 +1/-0 liters. The capacity shall be determined with the fuel can standing on a level surface and its contents at 23 ± 2 degrees Celsius ($^{\circ}\text{C}$) [75 ± 3.6 degrees Fahrenheit ($^{\circ}\text{F}$)].

3.2.3 Stability. The fuel can assembly shall not upset when used on an inclined plane at an angle of 12 degrees with the horizontal, in accordance with the Stability Test of ASTM F852.

3.2.4 Carrying handles. Three carrying handles shall be located on the top of the fuel can (see Figure 1). When tested in accordance with the Handle Strength Test of ASTM F852, using a free fall height of 61 centimeters (cm) [24 inches (in)], the fuel can assembly shall not show evidence of leakage or damage to the handles. Each of the three handles shall be tested three times, for a total of nine drops. Any leakage from the fuel can assembly or damage to the handles that makes it unable to serve its intended purpose shall constitute failure of this requirement. Leakage shall be defined as visible moisture from the contents apparent on any external surface of the fuel can assembly.

3.2.5 Drop strength.

3.2.5.1 Ambient temperature. The fuel can assembly shall show no evidence of rupture, cracks, or leakage when tested in accordance with the Drop Strength Test of ASTM F852 from a minimum height of 2.4 meters (m) [8 feet (ft)]. After completion of the drops, the fuel can assembly shall be inverted for a minimum of 5 minutes and observed for leakage. Leakage shall be defined as visible moisture from the contents apparent on any external surface of the fuel can assembly. Any leakage from the fuel can assembly shall constitute failure.

3.2.5.2 Low temperature. The fuel can assembly, filled with a blend of 50% glycol and 50% water, shall be cooled to $-32 \text{ }^{\circ}\text{C} \pm 3 \text{ }^{\circ}\text{C}$ ($-25 \text{ }^{\circ}\text{F} \pm 5.4 \text{ }^{\circ}\text{F}$) and conditioned for a period of 12 hours. The fuel can assembly shall show no evidence of rupture, cracks, or leakage when tested in accordance with the Drop Strength Test of ASTM F852, from a height of 1.2 m (4 ft). After completion of the drops, the fuel can assembly shall be inverted for 5 minutes and

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observed for leakage. Leakage shall be defined as visible moisture from the contents apparent on any external surface of the fuel can assembly. Any leakage from the fuel can assembly shall constitute failure.

3.2.6 Internal pressure.

3.2.6.1 Hydrostatic pressure. The fuel can assembly shall show no evidence of rupture, cracks, or leakage when tested in accordance with the Hydrostatic Pressure Test of ASTM F852, using an internal gage pressure of 206.8 kilopascals (kPa) [30 pounds per square inch (psi)] maintained for one hour. Any evidence of rupture, cracks, or leakage constitutes failure of the test.

3.2.6.1.1 Hydrostatic pressure spot test. Subject the same fuel can assembly that passed in 3.2.6.1 to an internal gage pressure of 413.7 kPa (60 psi) for 5 seconds. Any evidence of rupture, cracks, or leakage constitutes failure of the test.

3.2.6.2 Non-destructive hydrostatic pressure. The fuel can assembly shall show no evidence of rupture, cracks, or leakage when subjected to an internal gage air pressure of 103 kPa (15 psi) applied through an adapter inserted into the cap assembly. The pressurized fuel can assembly shall be placed under water and all surfaces shall be wiped clean of clinging bubbles. Prior to performing the inspection, the water shall be allowed to stabilize and clarify for not less than 2 minutes. Upon inspection of the fuel can assembly, any air leaking from the fuel can assembly shall constitute failure of this test.

3.2.7 Air transportability. Fuel can assemblies shall comply with ICAO #9284-A/N905 requirements for air transport.

3.2.8 Aging. The fuel can assembly and components shall not crack, deteriorate, or degrade when tested in accordance with the Aging Test 1 of ASTM F852, 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-hour period. At the completion of the tests, each sample shall be inspected at a 7 times magnification. Any cracking, deterioration, or degradation of materials constitutes failure of the test.

3.2.9 Fuel can assembly and spout leakage. The fuel can assembly shall be filled with water to its nominal capacity and secured with the cap closed. The fuel can assembly shall be inverted for 30 minutes. After the 30-minute period, inspect the fuel can assembly. Any evidence of rupture, cracks, or leakage constitutes failure of the test. Leakage shall be defined as visible moisture from the contents apparent on any external surface of the fuel can assembly. The spout shall not leak when attached to the fuel can when performing the following: Water shall be poured from the fuel can through the spout and observed for leakage. Leakage shall be defined as visible moisture from the contents apparent on any external surface of the fuel can.

3.2.10 Penetration resistance. The fuel can assembly shall withstand the impact from an 8-ounce, hardened steel plum bob with a point having an inclined angle of 36° and a point radius of 0.0635 cm (0.025 in) maximum without penetration or leakage. The distance of the fall,

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measured from the tip of the plumb bob to the top surface of the can, shall be 61 cm (24 in). The test shall be repeated on the top, sides, and bottom of the fuel can. Following these penetration tests, the fuel can assembly shall be checked under water with an internal gage air pressure of 34.5 kPa (5 psi). Any evidence of leakage of air from the fuel can assembly shall be considered as failure of this test.

3.2.11 EPA compliance. In addition to all federal requirements, the fuel can assembly shall meet the EPA requirements in 40CFR59.F - Control of Evaporative Emissions From New and In-Use Portable Fuel Containers.

3.2.12 Cap. The cap shall have features to provide a secure handgrip for opening and closing for personnel wearing protective gear.

3.2.12.1 Gasket. The gasket, captive in the fuel can cap, shall be a fluoroelastomer with a durometer hardness of 60 ± 5 and maximum swell of 10%, in accordance with ASTM D2240 and ASTM D471 using ASTM F852 as guidance.

3.2.12.2 Cap tether. The fuel can cap shall include a tether to securely connect the cap to the fuel can. The tether shall be retained at the filler neck retention groove (see Figure 2) on the fuel can to preclude loss of the cap.

3.2.13 Spout. When specified (see 7.3), the spout shall be capable of flexing to a minimum angle of 60° without binding or straining. The length of the spout shall be 18 in ± 2 in with a maximum external diameter no larger than 1.5 in. The mating thread of the spout shall interface with the external thread design on the filler neck of the fuel can (see Figure 2). The spout shall provide a high flow rate allowing the contents of the fuel can to be emptied in less than three minutes.

3.2.13.1 Filtration. The spout shall filter out debris from the contents when poured with no larger than 100 mesh.

3.2.14 Air vent. The fuel can shall have a means to provide proper ventilation, to ensure smooth fuel flow, while dispensing the fuel to the end item. The ventilation shall be able to withstand all of the testing required within this document and during normal usage and be in compliance with 3.2.11. Any leakage or damage to the ventilation area shall be considered a failure.

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

3.4 Interface and interoperability requirements.

3.4.1 Fuel can envelope. The fuel can assembly design shall incorporate the size constraints (see Figure 1) imposed by the bracket assembly as specified in A-A-52513.

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3.4.2 Fuel compatibility. The fuel can assembly, and the spout, shall be compatible with all military fuels, to include: diesel (ASTM D975, A-A-52557), jet fuel (ASTM D1655, MIL-DTL-83133, MIL-DTL-5624), and unleaded gasoline (ASTM D4814).

3.4.3 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 2).

3.5 Marking. Unless otherwise specified (see 7.3), fuel can marking shall be in accordance with UN Transport of Dangerous Goods Model Regulations, ICAO Annex 18, AN 18/E/02, or IMO IF200E requirements or regulations. The warning statements “FOR STORAGE OF FUELS ONLY” and “DO NOT USE FOR DRINKING WATER” shall be added. The statement “U.S. GOVERNMENT PROPERTY” will also be added. Lettering shall be capitalized and sized to match existing lettering. Figures 1 and 3 provide the locations and applicable nomenclature for additional markings to be placed on the fuel can.

3.6 Workmanship. The fuel can assembly and spout shall be clean and free from flash, bubbles, cuts, tears, holes, burns, breaks, cracks, pinholes, pits, warpage, blisters, and scratches. The fuel can assembly and spout shall show no sign of discoloration, surface deterioration, roughness, orange peel, or grease.

4. 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).

5. PRODUCT CONFORMANCE PROVISIONS

5.1 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.

5.2 Inspection. The fuel can assembly and spout shall be inspected to determine compliance with all requirements specified in this CID. The contractor is responsible for the performance of all inspections (examinations and tests).

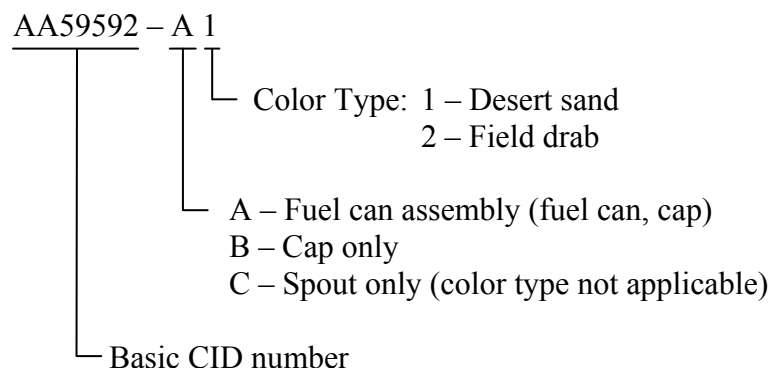
5.3 Certificate of conformity. Unless otherwise specified, the contractor shall provide a copy of the certificate of conformity issued by the EPA (see 3.2.11) for the specified production period.

6. PACKAGING. Preservation, packing, and marking shall be as specified in the contract or order (see 7.3).

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7. NOTES

7.1 Part or Identification Number (PIN). The PINs to be used for fuel can assemblies or components acquired to this CID are created as follows:

7.2 Sources of referenced documents.

7.2.1 Government documents. Government specifications and standards are available online at <http://assist.daps.dla.mil/quicksearch/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, 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
- MIL-DTL-5624 - Turbine Fuel, Aviation, Grades JP-4 and JP-5
- MIL-DTL-83133 - Turbine Fuel, Aviation, Kerosene Type, JP-8 (NATO F-34), NATO F-35, and JP-8+100 (NATO F-37)

7.2.2 Code of Federal Regulations. The Code of Federal Regulations are available online at www.gpoaccess.gov/cfr/index.html or from U.S. Government Printing Office, P.O. Box 979050, St. Louis, MO 63197-9000.

- 40CFR59.F - Control of Evaporative Emissions From New and In-Use Portable Fuel Containers

7.2.3 ASTM International standards. ASTM standards are available online at www.astm.org or from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

- ASTM D471 - Standard Test Method for Rubber Property – Effect of Liquids
- ASTM D975 - Standard Specification for Diesel Fuel Oils
- ASTM D1655 - Standard Specification for Aviation Turbine Fuels
- ASTM D1972 - Standard Practice for Generic Marking of Plastic Products

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- ASTM D2240 - Standard Test Method for Rubber Property – Durometer Hardness
- ASTM D4814 - Standard Specification for Automotive Spark-Ignition Engine Fuel
- ASTM F852 - Standard Specification for Portable Gasoline Containers for Consumer Use

7.2.4 ICAO specifications. ICAO specifications are available online at www.icao.int or from the International Civil Aviation Organization, Attention: Customers Services Unit, 999 University Street, Montreal, Quebec, Canada H3C 5H7.

- ICAO Annex 18, AN 18/E/02 - The Safe Transport of Dangerous Goods by Air
- ICAO 9284 - Technical Instructions for the Safe Transport of Dangerous Goods by Air

7.2.5 IMO specifications. IMO specifications are available online at www.imo.org or from the International Maritime Organization, Publishing Service, 4 Albert Embankment, London SE1 7SR, United Kingdom.

- IMO IF200E - International Maritime Dangerous Goods Code

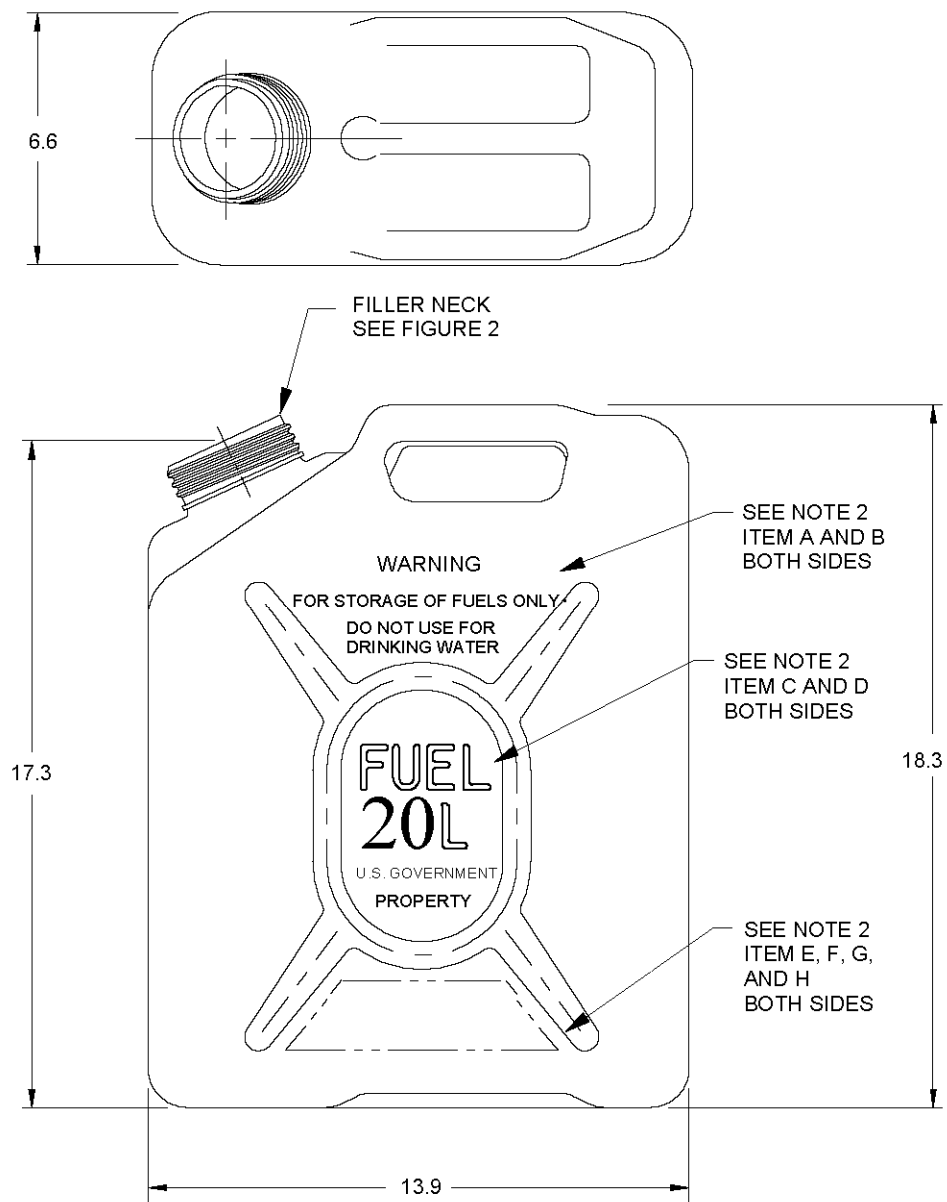
7.3 Ordering data. Acquisition documents must specify the following:

- a. CID document number, revision, and CID PIN.
- b. Any special marking (see 3.5).
- c. Product conformance provisions.
- d. Packaging required (see 6).

7.4 Key words.

Container, plastic
Fuel can
Fuel
Jerrican
Tank, liquid

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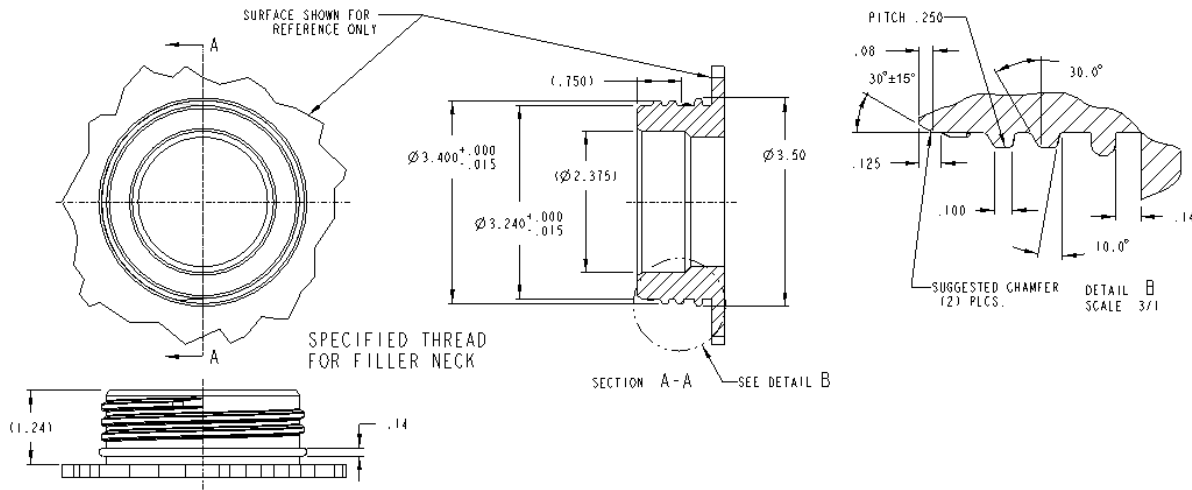


NOTES:

1. Unless otherwise specified, dimensions are in inches.
Tolerances: $.x = \pm .2$
2. All markings shall be located as shown. Items E, F, G, and H are unique to each manufacturer. Refer to Figure 3 for specific marking descriptions.

FIGURE 1. Fuel can - dimensions and marking.



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NOTES:

1. Unless otherwise specified, dimensions are in inches.
2. Unless otherwise specified, tolerances are as follows:
 .xx = ±.03
 .xxx = ±.015
 x.x° = ±1°

FIGURE 2. Fuel can filler neck.

ITEM	LEGEND	CHARACTER HEIGHT	EMBOSSED 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  HDPE	-	RAISED

NOTE: Unless otherwise specified, dimensions are in inches.

FIGURE 3. Marking for fuel can.

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MILITARY INTERESTS:

Custodians:

Army – AT
Air Force – 99
DLA – IS

Review Activities:

Army – GL
Air Force – 84

CIVIL AGENCY COORDINATING ACTIVITY:
GSA-FAS

Preparing Activity:

Army – AT

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NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <http://assist.daps.dla.mil>.