

COMMERCIAL ITEM DESCRIPTION

BATTERY, STORAGE, VEHICULAR IGNITION,
LIGHTING, AND STARTING

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 general requirements for vehicular lead acid, storage batteries. Batteries covered by this CID are intended for commercial/industrial applications.
2. CLASSIFICATION/PART OR IDENTIFICATION NUMBER (PIN). This CID uses a classification system which is included in the PIN as shown in the following example (see 7.1).

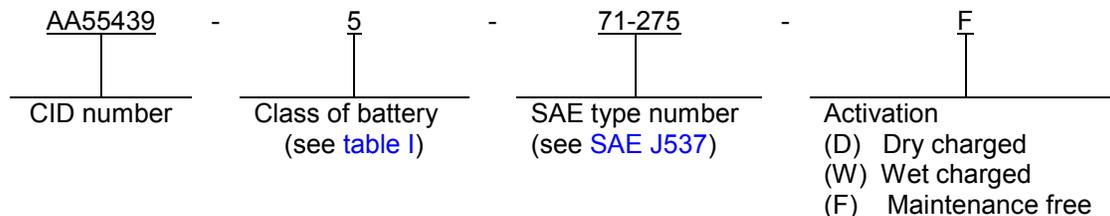


TABLE I. Class of battery.

Class of battery	Description
1	Passenger car and light commercial, 12 volt.
2	Heavy duty commercial, 12 volt.
3	Passenger car and light commercial, 6 volt.
4	Heavy duty commercial, 6 volt.
5	Maintenance-free passenger car and light commercial, 12 volt.
6	Maintenance-free heavy duty commercial, 12 volt.
7	Maintenance-free cycling service, 12 volt.

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any data that may improve this document should be sent to: DLA Land and Maritime, Columbus, ATTN: VAT, P.O. Box 3990, Columbus, OH 43218-3990, or email <mailto:CircuitProtect@dla.mil>. Since contact information can change you may want to verify the currency of the address information using the ASSIST Online database at <https://assist.dla.mil>.

3. SALIENT CHARACTERISTICS.

3.1 Interface and physical dimensions. Batteries supplied to this CID shall be as specified herein and shall meet the requirements of [SAE J537](#).

3.2 Containers. Containers shall be free of leaks, cracks, or other defects that would adversely affect performance. Containers shall be of one piece construction and shall be made of non-absorbent acid-resistant, hard rubber or polypropylene plastic.

3.2.1 Electrical breakdown. At a temperature of 80°F (26.6 °C) the container walls and partitions shall be capable of withstanding for 5 seconds a voltage of 100V/mil of wall thickness for hard rubber containers, 300V/mil of wall thickness for plastic containers, (30,000 volts maximum for either hard rubber or plastic) without being perforated or burned through.

3.2.2 Acid resistance. Specimens of the container material shall be capable of being immersed in sulfuric acid at 150 °F (65.5 °C) for a period of 28 days without increasing in weight by more than 1.5 percent, increasing dimensionally by more than 2 percent, or blistering, cracking, or showing other visible damage.

3.2.3 Impact resistance, hard rubber containers. At a temperature of 80°F (26.6 °C) the container shall be capable of withstanding, without damage, the impacts from a 2 pound (.907 Kilogram (kg)) steel ball dropped on the spans of the container positioned horizontally, with the minimum impact resistance specified in [table II](#). The points of impact and number of impacts shall be as specified in the [BCI Battery Technical Manual](#).

3.2.4 Impact resistance, plastic containers. At a temperature of 80°F (26.6 °C) the plastic containers shall be capable of withstanding, without damage, the impact resistance tests entitled “Plastic Container and Cover Testing Procedures” in the [BCI Battery Technical Manual](#), with the minimum impact resistance specified in [table II](#).

TABLE II. Container impact resistance.

Battery class	Minimum impact resistance	
	Hard rubber container	Plastic container
Classes 1, 3, 5, 6, and 7	12 inch/pound (1.36 newton meters (N m)) average for all spans. No impact failure below 8 inch/pound (0.90 N m).	50 inch/pound (5.65 N m) average for all spans. No single impact failure below 35 inch/pounds (3.95 N m).
Classes 2 and 4	20 inch/pound (2.26 N m) average all spans. No impact failure below 16 inch/pounds (1.81 N m).	75 inch/pounds (8.47 N m) average for all spans. No single impact failure below 50 inch/pounds (5.65 N m).

3.2.5 Bulge resistance, hard rubber containers. The hard rubber containers shall be capable of maintaining bulge resistance when filled with water to within .625 inch (15.88 mm) from the top, having the water heated to 158 °F (70° C) and held at that temperature for 3 hours, and letting the water gradually return to 75° F (23.8° C) over a period of 10 hours minimum. Maintaining bulge resistance will be evidenced by the container not increasing in any dimension by more than .063 inch (1.59 mm) from measurements taken at 75° F (23.8° C) prior to filling it with water.

3.2.6 Bulge resistance, plastic containers. The containers shall be capable of maintaining bulge resistance when tested as specified in the “Plastic Container and Cover Testing Procedures” of the [BCI Battery Technical Manual](#) at a test temperature of 80 °F (26.66 °C).

3.3 Covers. Covers shall meet the same physical, chemical, and electrical requirements as the container material. Covers may be one-piece or multiple cell construction. The cell cover for non-maintenance free batteries shall have an opening for each cell for a filling plug and the observation of the electrolyte level. The plugs may be of the screw, bayonet, gang, or push-in type and shall incorporate baffles or other means of minimizing the splashing of electrolyte. The material in the plugs shall be non-absorbent, acid-resistant, and have no adverse effect on the electrolyte. The filler plugs shall incorporate an anti-flame propagation device and shall be vented.

3.4 Sealing compound and heat sealing. The seal resulting from sealing by compound or heat shall be acid-resisting and shall be unbroken between the cover and the container throughout a temperature range 0° F (-17.77° C) to 150° F (65.55° C), with no adhesion failures.

3.5 Maintenance free batteries, classes 5, 6, and 7. Maintenance free batteries shall not require the addition of water during normal service life. A provision for the anti-flame propagation device and gas venting shall be incorporated in the design. An opening in the battery cover to allow for the addition of water shall not be provided. The battery cover and vent system shall be designed to prevent electrolyte loss during service and up to a 45 degree tilt to keep the top of the battery free from electrolyte. Side terminals shall be of the types which are to be mated with sealed terminal connectors to tightly secure and seal the termination from corrosion and assure a maintenance-free connection.

3.6 Terminal seals. Terminal seals shall be provided to prevent leakage between terminals and the battery cover or container and shall be acid-resistant.

3.7 Metal parts. All metal parts, other than lead alloys, shall be coated with lead, or otherwise treated to resist acid.

3.8 Plates. Plates used in construction of batteries shall be of the size, number, and thickness that will enable the battery to meet its electrical performance requirements as specified in [SAE J537](#).

3.9 Intercell connectors and post straps. Intercell connectors of 12-volt batteries shall not be exposed.

3.10 Separators. The separators shall be of a material that will enable the battery to meet the performance requirements as specified in [SAE J537](#).

3.11 Double insulation. When specified, double insulation shall be furnished in batteries of the types in which double insulation is available. The double insulation shall be furnished in batteries recommended for motor coach or bus service. When a battery is built with double insulation, the cold activation, reserve capacity, and cold cranking requirements shall be reduced 15 percent from the values listed in [SAE J537](#). For the purpose of this description, double insulation is defined as the use of a retaining sheet of perforated, porous material, including glass mats, between the positive plate and the customary single separator.

3.12 Terminals. The terminals and polarity marking shall be in accordance with [SAE J537](#).

3.13 Electrolyte. Unless otherwise specified, wet charged batteries shall be furnished with electrolyte that at full charge has a specified gravity of $1.265 \pm .010$ at 80 °F (26.66 °C) at time of shipment. Unless otherwise specified, electrolyte shall not be furnished with batteries shipped dry charged.

3.13.1 Electrolyte level classes 1, 2, 3, and 4. Electrolyte level shall be not less than .375 inch (9.53 mm) above the top of the separators and the level shall be easily observable.

3.13.2 Dry-charged batteries. After activation in accordance with the manufacturer's instructions, batteries shall meet the performance requirements specified in [SAE J537](#).

3.14 Cycling service. Batteries shall contain plate thickness and formulation suitable for withstanding the high cycling type of service encountered in vehicles such as law enforcement, school bus, and delivery and shall be capable of meeting the cycle life test requirements of [SAE J240](#). The class 7 battery shall be capable of yielding minimum total cycles equal to 50 times its reserve capacity minute rating.

3.15 Cold activation of dry charged batteries. As 30°F (-1.11°C) dry charged batteries shall be capable of producing a terminal voltage, under load, at the end of 15 seconds discharge equivalent to 1.2 volts per cell minimum when tested as specified in [BCI Battery Technical Manual](#) for cold activation performance.

3.16 Reserve capacity. After cold activation and conditioning as specified in [SAE J537](#), batteries shall be capable of meeting the reserve capacity requirements as specified in the [BCI Battery Technical Manual](#) Test sequence. A minimum of 90 percent of the batteries shall be capable of meeting or exceeding the specified reserve capacity of [SAE J537](#). The remaining batteries shall be capable of meeting or exceeding 90 percent of the specified reserve capacity when tested as specified in [SAE J537](#).

3.17 Cold cranking. At 0°F (-17.77°C), the battery shall be capable of meeting the performance requirements of [SAE J537](#).

3.18 Charge rate. The battery shall be capable of accepting a minimum charge rate of 2 percent of the cold cranking rating of [SAE J537](#).

3.19 Retention of charge. After cold activation and conditioning as specified in [SAE J537](#) and after being on open circuit for 4 weeks at 75°F (23.88°C), without recharging at the end of this period, the battery shall be capable of meeting the following requirements.

Classes 1, 2, 3, and 4: 75 percent of the reserve capacity rate of [SAE J537](#).

Classes 5, 6, and 7: 90 percent of the reserve capacity rate of [SAE J537](#).

3.20 Internal resistance for dry batteries. For dry charged batteries, the average terminal-to-terminal resistance of each cell in the assembled battery shall be not less than 50,000 ohms.

3.21 Leakage. Each cell shall be capable of independently maintaining a pressure of 2 psi for a period of 5 seconds with a maximum loss of 0.1 psi.

3.22 Vibration. Batteries shall be capable of meeting the leakage requirement and the cold cranking requirement for 0°F (-17.77°C), and shall not have any electrolyte leakage after being subjected to 2 units of vibration as specified in [SAE J537](#).

3.23 Identification marking. The following data shall be molded on the sides, the top of the cover, or applied to a permanent electrolyte resistant label or plate securely and permanently attached to the battery container.

Battery Identification Number:

Cold Cranking at 0°F (-17.77°C) rating (the test name or abbreviation thereof followed by the rating).

Manufacturer's Name or Identification (Manufacturer's name or identification may include private branding).

Date of manufacture (month, year) and plant of manufacture, if the same battery is manufactured at more than one plant, shall be legibly stamped or branded on the outside cell connector, top or side of the cover or container. A plate or label permanently affixed to the top or side of the outer cover or container, or a tag permanently affixed to the terminal post is acceptable. Coded information is acceptable provided the key to the code is made available.

3.24 Condition for shipment. Batteries shall be in one of the following conditions at the time of shipment.

3.24.1 Batteries intended for immediate use or wet storage with charging equipment. Filled with electrolyte and fully charged.

3.24.2 Batteries intended for storage, unfilled, and without charging. The vent hole for each cell shall be closed by easily removable, air-tight, and moisture-proof type seals or appropriate tape, which shall be held firmly in place until removed. Seals for vent holes are not required when the battery is enclosed in a six-sided box and sealed with weather resistant tape along the seams when the battery is enclosed and sealed in an air-tight and moisture-proof bag. Plates and separators of dry charged batteries shall meet the performance requirements when activated.

3.24.3 Maintenance free. Filled with electrolyte and fully charged.

3.25 Instruction for placing battery into service. Instructions for placing the battery into service, shall be provided with each battery. The instructions shall show the latest recommended date for placing the battery in service and shall include the specific gravity of electrolyte for filling (charged and dry) and charging instructions. The method of providing the instructions shall be in accordance with the manufacturer's standard practice.

3.26 Warranty. The manufacturer's standard commercial warranty or the warranty specified in [Federal Schedule Group 61, Part 1](#), batteries: 6 or 12 volt lead-acid storage shall apply.

3.27 Marking. Batteries supplied to this CID shall be marked with the manufacturer's (MFR's) standard commercial PIN. (NOTE: The part number marked on the unit pack shall be the CID PIN.)

3.28 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.29 Workmanship. Containers, covers, and vent caps shall be free from cracks, lead, and broken parts. Lead burning or welding shall be homogeneous and free from blow holes or imperfect bonds between parts which have been burned or welded together. Handles and metallic parts shall be free of burrs, sharp edges, and corrosion. Marking shall be clear and distinct. The sealing compound shall not be cracked or separated from the holding surfaces.

4. REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with 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 market. The Government reserves the right to require proof of such conformance.

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

7. NOTES.

7.1 PIN. The PIN should be used for Government purposes to buy commercial products to this CID. See [section 2](#) for PIN format example.

7.2 Environmentally preferable material. Environmentally preferable materials should be used to the maximum extent possible to meet the requirements of this specification. As of the dating of this document, the U.S. Environmental Protection Agency (EPA) is focusing efforts on reducing 31 priority chemicals. The list of chemicals and additional information is available on their website <http://www.epa.gov/osw/hazard/wastemin/priority.htm>. Included in the EPA list of 31 priority chemicals are cadmium, lead, and mercury. Use of these materials on the list should be minimized or eliminated unless needed to meet the requirements specified herein (see [Section 3](#)).

7.3 Commercial and Government Entity (CAGE) code. For ordering purposes, inventory control, and submission of these batteries to DLA Land and Maritime under the Military Parts Control Advisory Group (MPCAG) evaluation program, CAGE code 58536 should be used.

7.4 Source of documents.

FEDERAL REGULATIONS

[FAR](#) - Federal Acquisition Regulations (FAR).

(Copies of this document are available online at <http://www.acquisition.gov/comp/far/> from the U.S. Government Printing Office, 732 North Capital Street, NW, Washington D.C. 20401-0001.)

FEDERAL SCHEDULES

[Federal Schedule Group 61, Part 1](#)

(Copies of this document are available online at <http://www.gsa.gov/portal/category/100611> from the U.S. General Service Agency, One Constitution Square, 1275 First Street NE, Washington D.C. 20417-0001.)

Other Publications

BATTERY COUNCIL INTERNATIONAL (BCI)

[BCI Battery Technical Manual](#).

(Copies of this document are available online at <http://www.batterycouncil.org/> or from Battery Council International, 330 N. Wabash, Suite 2000, Chicago, IL 60611-7621).

Society of American Engineers (SAE International)

[SAE J240](#) - Life Test for Automotive Storage Batteries.
[SAE J537](#) - Storage Batteries.

(Copies of these documents are available online at <http://www.sae.org/> or from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

(Industry association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

7.5 Ordering data. The contract or order should specify the following:

- a. CID document number, revision, and CID PIN.
- b. Product conformance provisions.
- c. Packaging requirements.

7.6 Commercial products. As part of the market analysis and research effort, this CID was coordinated with the following manufacturers of commercial products. At the time of CID preparation and coordination, these manufacturers were known to have commercial products that would meet the requirements of this CID. (NOTE: This information should not be considered as a list of approved manufacturers or be used to restrict acquisition to only the manufacturers shown.)

A-A-55439A

<u>MFR's CAGE</u>	<u>MFR's name and address</u>
0ABZ3	Bell City Battery Manufacturing, Incorporated 1030 Freeburg Avenue Belleville, IL 62220-2625 Phone number (618) 234-7272 Facsimile number (618) 236-3314 E-mail: mailto:bellcitybattery@att.net Uniform Resource Locator (URL): http://www.bellcitybattery.com

7.7 Part number (P/N) supersession data. These CID PINs supersede the following MFR's P/N's as shown. This information is being provided to assist in reducing proliferation in the Government inventory system.

TABLE II. P/N supersession data.

CID PIN (see section 2)	MFR's CAGE	MFR's P/N <u>1/</u>
AA55439-1-71-275-D	N/A	N/A
AA55439-1-71-275-W	N/A	N/A
AA55439-1-71-275-F	N/A	N/A
AA55439-2-71-275-D	OABZ3	8D-DRY
AA55439-2-71-275-W	OABZ3	8D-WET
AA55439-2-71-275-F	N/A	N/A
AA55439-3-71-275-D	N/A	N/A
AA55439-3-71-275-W	N/A	N/A
AA55439-3-71-275-F	N/A	N/A
AA55439-4-71-275-D	N/A	N/A
AA55439-4-71-275-W	N/A	N/A
AA55439-4-71-275-F	N/A	N/A
AA55439-5-71-275-D	N/A	N/A
AA55439-5-71-275-W	N/A	N/A
AA55439-5-71-275-F	N/A	N/A
AA55439-6-71-275-D	N/A	N/A
AA55439-6-71-275-W	N/A	N/A
AA55439-6-71-275-F	N/A	N/A
AA55439-7-71-275-D	N/A	N/A
AA55439-7-71-275-W	N/A	N/A
AA55439-7-71-275-F	N/A	N/A

1/ The manufacturer's P/N shall not be used for acquisition to the requirements of this CID. At the time of preparation of this CID, the aforementioned commercial products were reviewed and could be replaced by the CID PIN shown. For actual part marking requirements, see [3.27](#).

7.8 Government users. To acquire information on obtaining these batteries from the Government inventory system, contact DLA Land and Maritime, ATTN: FLC, Post Office Box 3990, Columbus, OH 43218-3990, or telephone (614) 692-3342.

7.8.1 National stock number (NSN). The following is a list of NSN's assigned which correspond to this CID. The list is for information only and may not be indicative of all possible NSN's associated with the CID. For up to date information on assigned NSN's, please contact the aforementioned DLA Land and Maritime office (see [7.7](#)).

TABLE III. NSN's.

NSN	Type designation number
6140-00-190-9828	A-A-55439-2-8D-900-D
6140-00-434-5885	A-A-55439-3-1-545-D
6140-00-446-6758	A-A-55439-1-75-455-D
6140-00-836-1279	A-A-55439-1-247-370-D
6140-01-031-6877	A-A-55439-5-27-550-F
6140-01-031-6882	A-A-55439-6-31-620-F
6140-01-203-4697	A-A-55439-5-22F-330-F
6140-01-203-4909	A-A-55439-7-31-580-F
6140-01-203-4912	A-A-55439-2-4D-925-D
6140-01-203-8977	A-A-55439-1-U1-236-D

7.9 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

MILITARY INTERESTS:

Custodians:

Navy - EC
Air Force - 71
DLA - CC

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - FAS

Preparing activity:

DLA - CC

Project 6140-2012-005

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 <https://assist.dla.mil>.