

INCH-POUND
A-A-59567A
6 November 2014
SUPERSEDING
A-A-59567
29 June 2001

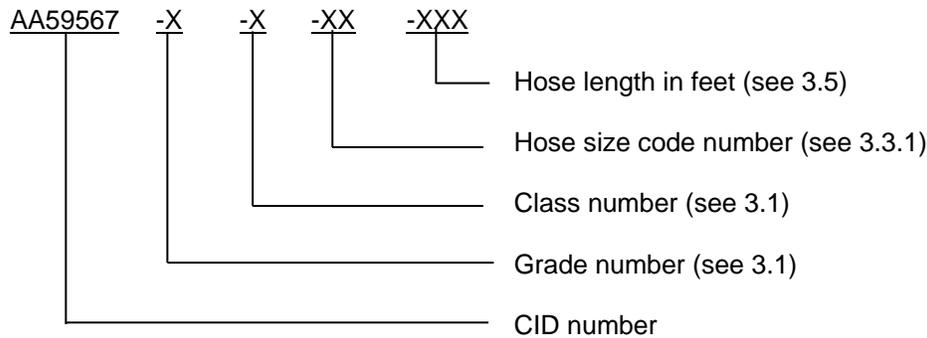
COMMERCIAL ITEM DESCRIPTION

HOSE AND HOSE ASSEMBLIES, RUBBER (YARN OR FABRIC REINFORCED) WATER SERVICE

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 hose and hose assemblies, rubber (yarn or fabric reinforced) water service). Hose and hose assemblies, 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).



3. SALIENT CHARACTERISTICS.

3.1 Grades and classes. Hose covered by this CID will be of the following grades and classes as specified (see 7.2):

Grade dash number

- 1 Commercial hose
- 3 Weather and ozone-resistant hose

Class dash number

- 1 General non-potable water inner tube
- 2 Potable water inner tube

3.1.1 Grade 1, class 1. Grade 1, class 1 hose is intended for general water discharge services.

3.1.2 Grade 3, class 1 or class 2. Grade 3, class 1 or class 2 hose is intended for water applications where resistance to deterioration by weather and ozone is required.

Beneficial comments (recommendations, additions, deletions) and any pertinent data that may be of use in improving this document should be addressed to: Defense Logistics Agency, Defense Supply Center, Columbus (DSCC-VAI), P.O. Box 3990, Columbus, OH 43216-5000.

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3.1.3 Class 2 inner tube. Grade 1 or grade 3 hose with class 2 inner tube is for use with potable water.

3.2 Sizes. Hose covered by this CID will be of the sizes (inside diameter) listed in table I.

3.3 Description. These hose and hose assemblies are suitable for general use in water service, and depending on the grade and class, are suitable for water applications where resistance to deterioration by weather and ozone is required, and also for use with potable water.

3.3.1 Hose size. Hose size is designated by a two-digit code number (see table I).

3.3.2 Working pressure. The maximum working pressures for the hose covered by this CID are shown in table I.

TABLE I. Hose size code dash number and maximum working pressures.

Hose size code dash no.	Hose size (ID) (inches)	Maximum working pressure (psi)
-04	.250	150
-06	.375	150
-08	.500	150
-10	.625	150
-12	.750	150
-16	1.00	150
-20	1.25	125
-24	1.50	125
-32	2.00	100
-40	2.50	100
-48	3.00	100
-56	3.50	100
-64	4.00	100

3.4 Materials. Materials shall be free from defects that would adversely affect the performance or maintainability of individual components or of the overall assembly. Materials not specified herein shall be of the same quality used for the intended purpose in commercial practice. Unless otherwise specified herein, all equipment, material, and articles incorporated in the products covered by this CID are to be new and fabricated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use.

3.4.1 Rubber.

3.4.1.1 Grade 1. The rubber compound used in the construction of the cover and the class 1 tube of grade 1 hose shall be compounded from natural rubber, synthetic rubber, or a mixture of natural and synthetic rubber.

3.4.1.2 Grade 3. The rubber compound used in the cover of grade 3 hose shall be weather-resistant and ozone-resistant. The rubber compound used in class 1 inner tube and other parts of the hose shall be compounded from natural rubber, synthetic rubber, or mixtures of natural and synthetic rubber.

3.4.1.3 Class 2 inner tube. Class 2 inner tube material for grades 1 and 3 hose shall be compounded from natural or synthetic rubber materials that are certified as safe for use in the transport of potable water in accordance with National Sanitation Foundation (NSF) NSF/ANSI Standard 61, or the Food and Drug Administration (FDA), 21CFR177.2600. The cured rubber shall meet the extraction requirements of 3.9.6.

3.4.2 Other material. Other materials shall be as specified hereinafter.

3.5 Construction. The hose shall consist of:

- a. An inner rubber tube.
- b. A ply or plies of cotton or suitable synthetic yarn or fabric.
- c. An outer rubber cover.

3.6 Reinforcement. The reinforcement shall consist of a ply or plies of braided, knit, or helically wound yarn or plies of fabric. Both the fabric and the yarn shall be made from high-grade cotton or synthetic fiber. The fabric and the yarn shall be free from defects and sufficiently strong to enable the hose to withstand the hydrostatic test pressures specified in table I and at the same time be soft and pliable.

3.6.1 Reinforcement plies. The reinforcement plies of yarn may be braided or knitted in one or more plies over the tube, or helically wound in multiples of two layers with alternate layers wound in opposite directions. If multiple plies of braided or knitted yarn are used, a distinct layer of rubber compound shall be used between the plies to facilitate adhesion to one another and to the tube and cover. A similar layer may be used between the plies of the helically wound reinforcements. When used, the plies of square woven fabric shall be wrapped at a bias of approximately 45° over the tube. The fabric shall overlap no less than 0.50 inch. The plies of fabric shall adhere to each other and, at the same time, adhere to the inner tube and to the outer cover.

3.7 Length of hose and hose assemblies. The length of hose and hose assemblies up to and including 1.0 inch inside diameter shall be 25 feet or multiples thereof up to approximately 500 feet; hose 1.25 and 1.50 inches inside diameter shall be 25 feet or multiples thereof up to approximately 250 feet; hose over 1.50 inches inside diameter shall be 50 feet (see 7.2). Hose length, with a tolerance of ±2 percent, shall be measured in accordance with ASTM D380.

3.8 Hose assemblies. The couplings shall be capable of withstanding the test pressures specified in table II without leaking or slipping. Hose assemblies shall be of the following types:

- a. Hose assemblies with ribbed shank (short or long), with pin or hex lug swivel see A-A-59567/1.
- b. Hose assemblies with expansion shank or compression ferrule see A-A-59567/2
- c. Hose assemblies with internal expansion ring coupling type see A-A-59567/3.
- d. Hose assemblies with pin lug swivel type coupler see A-A-59567/4.
- e. Hose assemblies with long handle swivel type coupler see A-A-59567/5.
- f. Hose assemblies with shank type coupler and adapter with interlocking clamps see A-A-59567/6.
- g. Hose assemblies with hex, shank type coupler see A-A-59567/7

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TABLE II. Physical requirements for hose and hose assemblies.

Nominal size in inches (in.) (inside diameter)	.250 .375	.500 .625 .750	1.00	1.25 1.50	2.00 2.50	3.00 3.50 4.00
Tolerance, inside diameter, inches	±.031	±.031	±.062	±.062	±.062	±.062
Thickness, minimum (in.): Tube Cover	0.050 0.050	0.060 0.050	0.060 0.050	0.060 0.050	0.062 0.062	0.094 0.078
Number of reinforcement plies (minimum): Wrapped Braided or knit Helically wound	2 1 2	2 1 2	2 2 2	2 2 2	2 2 2	2 2 2
Hydrostatic test pressure, minimum, pounds per square inch (psi) Proof test ^{1/} Burst test	300 600	300 600	300 600	250 500	200 400	200 400
Adhesion, minimum, lb/in. Between cover and plies Between tube and plies Between plies ^{2/}	8 6 8	8 8 8	8 8 8	8 8 8	8 8 8	8 8 8
Tensile strength (before aging) minimum, psi: Tube Cover	800 1000	800 1000	800 1000	800 1000	800 1000	800 1000
Ultimate elongation (before aging) minimum percent: Tube Cover	150 200	150 200	150 200	150 200	150 200	150 200

^{1/} The hydrostatic proof test shall be made only when hose is purchased with couplings. The hose shall not contract in diameter during the test.

^{2/} When applicable.

3.9 Physical requirements. The hose shall conform to all of the requirements specified in table II when tested in accordance with the test method specified in table III, with any modification to the method specified herein.

3.9.1 Tensile strength and elongation. The tensile strength and elongation of the hose tube and cover, before aging, shall be as specified in table II when tested in accordance with the test method specified in table III.

TABLE III. Test methods.

Physical Requirement	Test Method	Reference
Hose size inside diameter	ASTM D380	Table II
Hose length		3.7
Thickness of tube and cover		Table I
Tensile strength and elongation of tube and cover	ASTM D412	3.9.1
Adhesion	ASTM D413	3.9.2
Hydrostatic pressure	ASTM D380	3.9.3
Proof pressure test		
Burst pressure test		3.9.4
Accelerated aging	ASTM D573	3.9.5
Extraction in distilled water grade 3, class 2	ASTM D297	3.9.6
Ozone resistance grade 3, cover	ASTM D1149	3.9.7

3.9.2 Adhesion. The minimum force required for separation of cover and plies, tube and plies, or between plies shall be as specified in table II when tested in accordance with the test method specified in table III.

3.9.3 Proof pressure, coupled assemblies. Hose fitted with couplings shall withstand the proof pressure specified in table II for at least one minute when applied in accordance with the test method specified in table III. Water shall be used as the test media. Leakage or other evidence of defects shall be cause for rejection.

3.9.4 Burst pressure. The hose shall withstand the burst pressure specified in table II when applied in accordance with the test method specified in table III. Water shall be used as the test media. Leakage or other evidence of defects shall be cause for rejection.

3.9.5 Accelerated aging. After accelerated aging, and when tested in accordance with the test method specified in table III, hose tensile strength shall be not less than 80 percent of the values specified in table II, and the ultimate elongation shall be not less than 50 percent of the values specified in table II. Accelerated aging shall be in accordance with ASTM D573, except that the time for aging shall be 70 hours at a temperature of 212°F.

3.9.6 Extraction of class 2 hose. The extractable nonvolatile matter in class 2 inner tube shall not exceed 21 milligrams per square inch when the tubes are tested as shown below:

- a. Remove a 1-inch ring of inner tube and cut or buff away the outer surface until the surface is smooth. Cut a length of inner tube to obtain a sample weighing approximately 10 grams, based on a minimum thickness of .050 inch.
- b. Subject the sample to distilled water at reflux temperature for 7 hours in an extraction apparatus with block tin condenser as shown in ASTM D297.
- c. Filter the solution through #40 filter paper and collect the extract in a tared container.
- d. Extract the rubber sample in an additional 50-75 cubic centimeters of distilled water at a reflux temperature for 2 more hours and repeat step c.

- e. Combine the extract solutions and evaporate to dryness.
- f. The container and residue shall be dried in an oven at 221 ± 5 °F for one hour, cooled in a desiccator and weighed.
- g. A blank shall be run using the same amount of distilled water. After making allowance for the blank, the weight of the residue shall be recorded to the nearest milligram. The milligrams per square inch shall be determined by dividing the weight of extract by the sample total surface area (length x width in inches x 2).

3.9.7 Ozone resistance, grade 3. The rubber cover of grade 3 hose shall show no visible cracking under 2X magnification when subjected to ozone in accordance with ASTM D1149. The samples shall be mounted in a 20 percent elongated position, conditioned for 24 hours in an ozone-free atmosphere, then exposed for 72 hours at 104 °F to an atmosphere containing 50 parts per hundred million (pphm) of ozone.

3.10 Marking of hose.

3.10.1 General water hose. Each length of hose shall be marked in a color that contrasts with the color of the hose cover. Marking shall be accomplished either by in-laying a rubber or other suitable material, or by applying a suitable composition ink, bonding the marking onto the cover so that the marking cannot be removed except by mechanical means.

3.10.2 Marking non-potable hose. The marking shall consist of the following:

- a. Manufacturer's name or trademark, the quarter and year of manufacture, the word "water", the symbol "A-A-59567", the grade, the class of hose shall be marked on the hose at regular intervals of not more than 25 feet.
- b. The words "**NOT FOR USE WITH POTABLE WATER**" shall be repeated at maximum intervals of 36 inches
- c. Letters shall be at least 0.125-inch high for sizes 0.25-inch to 0.625-inch inside diameter inclusive. Hose in sizes 0.75-inch and larger shall have letters at least 0.25-inch high.
- d. An alternative method of marking may be by the application of a continuous embossed strip along the entire length, vulcanizing the hose, and subsequently removing the strip, leaving a continuous relief identification area.
- e. When the alternative method of marking is used, no color contrast is required.

3.10.3 Marking potable water hose, class 2. When class 2 is specified (see 7.2), each hose length shall be marked in the same manner as specified in 3.11.1, except that the words "**POTABLE WATER USE ONLY**" shall be used in place of "NOT FOR USE WITH POTABLE WATER".

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

5. PRODUCT CONFORMANCE.

5.1 Responsibility for inspection. The contractor is responsible for the performance of all inspections (examination and tests).

5.2 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.

5.3 Examination. Each hose or hose assembly shall be visually and dimensionally examined for compliance with requirements. Examination requiring testing to determine conformance to salient characteristics shall be accomplished by subjecting hose sample specimens to the tests specified in table II and methods specified in table III. Unless otherwise specified (see 7.2), sampling shall be in accordance with ANSI/ASQ Z1.4. Any modification necessary following failure to meet the specified requirements shall receive particular attention for adequacy and suitability. This element of inspection shall encompass all examinations of material, configuration, performance and marking requirements. Non-compliance with any specified requirement, or the presence of one or more defects, shall constitute cause for rejection.

6. PACKAGING. Preservation, packing, and marking shall be as specified in the contract or purchase 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 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 chock wheel to DLA Land and Maritime under the Parts Management Advisory Team (PMAT), CAGE code 58536 should be used.

7.4 Source of documents.

COMMERCIAL ITEM DESCRIPTIONS

A-A-59567/1	-	Hose Assemblies, Garden, Water, and Water Suction, Ribbed Shank (Short or Long), With Pin or Hex Lug Swivel
A-A-59657/2	-	Hose Assemblies, Garden, Water, and Water Suction, Expansion Shank or Compression Ferrule
A-A-59567/3	-	Hose Assembly, Garden, Water, and Water Suction, Rocker Lug Swivel Type Coupler
A-A-59567/4	-	Hose Assembly, Garden, Water, and Water Suction, Pin Lug Swivel Type Coupler
A-A-59567/5	-	Hose Assembly, Garden, Water, and Water Suction, Long Handle Swivel Type Coupler
A-A-59567/6	-	Hose Assembly, Garden, Water, and Water Suction, Shank Type Coupler and Adapter with Interlocking Clamps
A-A-59567/7	-	Hose Assembly, Garden, Water, and Water Suction, Hex, Shank Type Coupler

(Copies of these documents are available online at <http://quicksearch.dla.mil>.)

FEDERAL REGULATIONS

FAR - Federal Acquisition Regulations (FAR)

(Copies of these documents are available online at www.acquisition.gov/comp/far/index.html.)

FOOD AND DRUG ADMINISTRATION (FDA)

21CFR177.2600 - CFR - Code of Federal Regulations Title 21 Food and Drugs

(Copies of these documents are available online at <http://www.accessdata.fda.gov/>.)

NATIONAL SANITATION FOUNDATION (NSF)

NSF/ANSI Standard 61 - Drinking Water Systems Components - Health Effects

(Copies of these documents are available online at <http://www.techstreet.com/nsf/products/>.)

AMERICAN SOCIETY FOR QUALITY (ASQ)

ANSI/ASQ Z1.4 - Sampling Procedures and Tables for Inspection by Attributes

(Copies of these documents are available online at <http://asq.org/>.)

ASTM INTERNATIONAL

- ASTM D297 - Standard Test Methods for Rubber Products-Chemical Analysis
- ASTM D380 - Standard Test Methods for Rubber Hose
- ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension
- ASTM D413 - Standard Test Methods for Rubber Property-Adhesion to Flexible Substrate
- ASTM D573 - Standard Test Method for Rubber-Deterioration in an Air Oven
- ASTM D1149 - Standard Test Methods for Rubber Deterioration-Cracking in an Ozone Controlled Environment

(Copies of these documents are available online at <http://www.astm.org/>.)

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

<u>MFR's CAGE</u>	<u>MFR's name and address</u>
04NP0	Veyance Technology Canada 127 Rang Parent St. Alphonse de Granby Quebec, Canada JOE 2A0 Phone 419-394-0428 http://www.veyance.com/

7.5 Ordering Data. Acquisition documents should specify the following:

- a. Title, number, and date of this CID.
- b. Grade, class, and size (see 3.1 and 3.2).
- c. Length of hose required (see 3.7).
- d. Sampling plan, if other than as specified (see 5.3).
- e. Packaging requirements (see 6).

7.6 Yarn or fabric-reinforced hose. The terms yarn or fabric-reinforced hose, as defined in this CID, cover the following types: wrapped, braided, knit, or helically wound reinforcements.

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

TABLE IV. P/N supersession data. 1/

CID PIN (see table I)	MFR's CAGE 04NP0
AA59567-1-1-12	542-371
AA59567-1-2-12	546-046
AA59567-1-2-16	546-046
AA59567-3-1-12	542-027
AA59567-3-1-24	542-027
AA59567-3-1-24	542-027
AA59567-3-1-64	542-702
AA59567-3-2-12	542-001
AA59567-3-2-16	542-001
AA59567-3-2-24	542-559
AA59567-3-2-32	542-453
AA59567-3-2-40	542-559

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 3.10.

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7.8 Government users. To acquire information on obtaining these Hose and Hose Assemblies, Rubber (Yarn or Fabric Reinforced) Water Service from the Government inventory system; contact DLA Land and Maritime, ATTN: VAI, P.O. Box 3990, Columbus, OH 43218-3990, or telephone (614) 692-0565.

7.9 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 IV. NSN's.

CID PIN	NSN
A-A-59567-1-1-10-050	4720-00-585-2282
A-A-59567-1-1-12	4720-00-230-6481
A-A-59567-1-1-12-050	4720-00-585-2289
A-A-59567-1-1-12-50	4720-00-202-6482
A-A-59567-1-1-16-02	4720-00-230-6482
A-A-59567-1-1-24-025	4720-00-554-8029
A-A-59567-1-1-24-50	4720-00-202-8657
A-A-59567-1-1-64-050	4720-00-289-2580
A-A-59567-1-2-24-025	4720-01-507-0368
A-A-59567-3-1-12-025	4720-00-230-6577
A-A-59567-3-1-32	4720-00-288-8539
A-A-59567-3-1-32-000	4720-01-451-5052
A-A-59567-3-2-12-000	4720-00-035-8486
A-A-59567-3-2-32-040	4720-01-439-9234
A-A-59567-3-2-40-050	4720-01-441-6739

7.10 Cross reference and superseding listing. The following table V is a cross reference and superseding listing for hose and hose assemblies, rubber (yarn or fabric reinforced) water service).

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TABLE V. Cross reference and superseding listing.

Cancelled ZZ-H-601E PIN	Replacement CID A-A-59567 PIN
ZZ-H-601-1-1-16-002	AA59567-1-1-16-002
ZZ-H-601-1-1-24-025	AA59567-1-1-24-025
ZZ-H-601-1-2-08-010	AA59567-1-2-08-010
ZZ-H-601-1-2-08-015	AA59567-1-2-08-015
ZZ-H-601-1-2-08-025	AA59567-1-2-08-025
ZZ-H-601-1-2-08-050	AA59567-1-2-08-050
ZZ-H-601-1-2-12-010	AA59567-1-2-12-010
ZZ-H-601-1-2-12-025	AA59567-1-2-12-025
ZZ-H-601-1-2-12-050	AA59567-1-2-12-050
ZZ-H-601-1-2-16-010	AA59567-1-2-16-010
ZZ-H-601-3-1-32-020	AA59567-3-1-32-020
ZZ-H-601-3-1-32-144	AA59567-3-1-32-144
ZZ-H-601-3-2-24-144	AA59567-3-2-24-144
ZZ-H-601-3-2-24-200	AA59567-3-2-24-200
ZZ-H-601-3-2-24-250	AA59567-3-2-24-250
ZZ-H-601-3-2-32-004	AA59567-3-2-32-004
ZZ-H-601-3-2-32-006	AA59567-3-2-32-006
ZZ-H-601-3-2-32-020	AA59567-3-2-32-020
ZZ-H-601-3-2-32-040	AA59567-3-2-32-040
ZZ-H-601-3-2-64-050	AA59567-3-2-64-050

7.11 Key words.

Cover, outer
 Ozone-resistant
 Plies, reinforcement
 Rubber, natural
 Rubber, synthetic
 Tube, inner

7.12 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
 Army - AT
 Air Force - 99
 Navy -SH
 DLA - CC

Review activities:
 Army - MI
 Navy - MC, OS, SA
 Air Force - 71

CIVIL AGENCY COORDINATING ACTIVITIES:

GSA - FSS
 DOT - FAA - ACO
 HHS - FEC

Preparing activity:
 DLA - CC

(Project 4720-2014-038)