

39493-000
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Government Hose Specification Guide

Products/List Prices



WARNING

Gates Corporation makes no recommendations as to the applications for COMMERCIAL ITEM DESCRIPTION, MILITARY, or FEDERAL SPECIFICATIONS as described in this catalog. The Government maintains specifications through Custodians. The Custodian dictates testing requirements and applications.

In any application, there may be inherent risk of bodily injury or property damage and the user is responsible for implementation of adequate safety precautions. It is the responsibility of the person supplying the hose to advise the user of proper instructions for the adequate safe use and/or precautions and to warn the user of consequences of failure to heed such instruction. Should a hose assembly fail during use because of excessive pressure, injurious and/or damaging chemicals, elevated temperature materials, explosives or flammable materials, then serious bodily injury or destruction of property could result from impelled couplings, whipping hose, high pressure or high velocity discharge, chemical contact, high temperature materials, explosion or fire.

In known high risk areas, it is recommended that hose inspections be performed at frequent intervals related to the risk factor. Hose with obvious damage should be scrapped and replaced. These inspections should include tube and cover conditions, leaking or slipped couplings and proof test.

Detailed information concerning storage, care and maintenance may be found in the Hose Handbook published by The Rubber Manufacturers' Association, 1901 Pennsylvania Avenue, N.W., Washington, D.C. 20006 and in SAE Recommended Practices J1273.

IMPORTANT

Gates recommends only those applications of products specified in Gates product literature.

Gates disclaims any liability for use of its products in applications other than those for which they were designed.

Service Life

All rubber products, including MILITARY and FEDERAL Specification hose assemblies, have a limited life on a given application. Assuming the correct hose has been selected for the application, this service life can be adversely affected by many variable conditions. The major ones are:

- Exposure to severe external abuse such as kinking, bending, high end pull, crushing or abrasion.
 - Exposure to higher-than-rated working pressures or to high surge pressures.
 - Exposure to higher-than rated temperatures.
 - Misapplication or exposure to corrosive liquids or gases outside the range of suitable applications.
1. **External Abuse**—hoses should be placed where they will not be run over by equipment or subjected to high end pull. Hoses should not be bent below recommended minimum bend radius. Where the Government Custodian has not specified a minimum bend radius, the hose should not be bent to a smaller radius than will result in kinking. Kinking can result in failure of the hose at rated working pressure.
 2. **Hose & System Pressures**—In establishing and determining pressures related to hose and the systems to which they are applied, it is necessary to consider separately the characteristics of the hose and the system.
 - The system (or device or application) can have several pressures depending on pressure sources and surges imposed by the operator or mechanical components.
 - A given hose has a fixed characteristic with respect to the pressure it can withstand (and how it is applied) and still give a satisfactory life.
 3. **High Temperatures**—Where external temperatures are higher than ambient, the Custodian should be consulted for recommendations. High temperatures can degrade rubber stocks very quickly resulting in short service life.

Where external temperatures are higher than normal ambient, contact your Gates field representative for recommendations.
 4. **Misapplication**—All hoses in this catalog are designed for specific applications or related applications. They should not be used for any other applications.
 5. **Hose Information**—The Government Specification and the Custodian of the Specification should be consulted for information regarding the use of the hoses.

6. **Internal Abrasion**—For applications of a highly abrasive nature where the hose makes one or more bends, hose should be rotated 90° periodically to lengthen service life.

The hose manufacturer established, through design and testing, the recommended rated working pressure for the hose. It is the responsibility of the user to accurately determine the system pressure. Steady state pressure can be measured readily by gauges. Surges are difficult to measure and may require the use of electronic pressure pickup devices. Also, surge values depend on so many variables that a series of tests are usually required to obtain a valid set of readings. However, if there are extreme surges in the normal operation, or if there is the likelihood of abnormal operation of the system, the magnitude must be determined.

Considering the recommended rated working pressure of the HOSE and the various pressures of the SYSTEM, the hose is matched to the system using proper application engineering principles.

WARRANTY

LIMITED WARRANTY FOR THE LIFE OF THE MERCHANDISE

Merchandise is warranted to be free from defects in material or workmanship for the life of the merchandise. Gates Corporation will, at its option, replace or repair any merchandise proved defective in material or workmanship, or both, during the warranty period. This shall be the sole remedy for breach of warranty. Color fade and color difference is not warranted. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, HEREBY ARE EXPRESSLY DISCLAIMED. LIABILITY FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL, EXEMPLARY AND INDIRECT DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, HEREBY IS EXPRESSLY EXCLUDED, REGARDLESS OF WHETHER THEY WERE REASONABLY FORESEEABLE, OR WHETHER SELLER HAD KNOWLEDGE THAT THEY COULD OCCUR. Warranty shall be void to the extent that any of the following, in the sole determination of Seller, occurs: (a) improper installation of the Products, including any installation of Products into vehicles; (b) improper usage or maintenance by Buyer; (c) induction of defect by other products; (d) mishandling of the Products or other abuse; (e) improper matching with other applications; (f) collision, engine overheating or oil starvation, product misapplication or contamination, including, but not limited to, with oil or antifreeze; (g) the Products are used for racing or competition; (h) any use not recommended in writing by Seller.



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TERMS, CONDITIONS AND TRANSPORTATION POLICY

TERMS POLICY

As shown on applicable discount schedule.

Conditions

- Prices do not include charges for special packaging, which will be extra, unless otherwise specified.
- Prices do not include charges for Certification of Conformance, First Article Tests, Government Source Inspection, test reports or any other certification, which will be extra, unless otherwise specified.
- Prices are subject to change without notice.
- Buyer shall reimburse Seller for all taxes, excise or other charges. Seller may be required to pay to any government (Federal, State or local) upon the sales, use, production or transportation of the merchandise sold hereunder.
- Seller shall be excused and not liable for delays caused by Buyer's request, labor troubles, shortages in materials, damage to plant, government regulations or other cause, similar or otherwise beyond Seller's control.

TRANSPORTATION POLICY

All prices are F.O.B point of shipment. The "F.O.B. point of shipment" term means that the title to the goods passes to the consignee (customer) at time of shipment and any claims against the carrier for loss or damage become the responsibility of the consignee.

- Freight terms: As shown on applicable discount schedule. F.O.B. point of shipment, and shipped to any one location served by common carrier within the Continental United States, Hawaii or Alaska. On shipments to Hawaii or Alaska, shipment by sea service is considered common carrier.
- Government Hose Products must be shipped to the location issuing the purchase order.
- Non-stock or special manufactured items will stand on their own for freight allowance, F.O.B. point of manufacture.
- Partial shipments made at Gates discretion will be shipped prepaid provided the original order qualified for prepaid shipment.

For additional terms and conditions, refer to Gates Form 411-0122.

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Air Brake Hose

MIL-H-3992D

Type I Class I

(Specification 3245T)

Nom. I.D.		Nom. O.D.		Max. W.P. *		Suction		Min. Bend Radius		Wt. Per Ft.		Standard Pack	Stock (X) or Minimum Order Qty.	Gates Item No.	List Price Per Ft.
(in.)	(mm)	(in.)	(mm)	(psi)	(MPa)	(in. Hg)	(mm Hg)	(in.)	(mm)	(Lbs.)	(Kg)				
3/8	9.5	.75	19.1	225	1.55	—	—	3.5	89	.21	.10	CARTON	X	3245-0133	\$4.84
1/2	12.7	.90	22.9	225	1.55	—	—	4.0	102	.28	.13	CARTON	5,000 ft.	3245-0139	5.78

RECOMMENDED FOR: For use in Government contracts requiring MIL-H-3992 hose for air brake service.

TEMPERATURE: -65°F to +210°F (-54°C to +99°C) continuous service.

CONSTRUCTION: **Tube:** Type A (Neoprene). Black.
Reinforcement: Braided, high tensile synthetic textile cord.
Cover: Type A (Neoprene). Black.

COUPLINGS: MS 39133 or as required by contract.

PACKAGING: 3/8": Packaged 400' per carton. Maximum of 6 pieces. Minimum length 10 ft.
1/2": Packaged 300' per carton. Maximum of 6 pieces. Minimum length 10 ft.

BRANDING: Continuous ink brand. Example: "GATES MIL-H-3992 TYPE I CLASS I 3/8 INCH"

SPECIAL ORDER REQUIREMENTS: Special production runs require minimum order quantities of 5,000 feet per size.

REMNANT LENGTHS: None.

STANDARDS: MIL-H-3992 Type I, Class I
QPL-3992-18. Test reference 9510 & 9991.





Fuel and Oil Hose

MIL-DTL-6000C

(Specification 3336E/3336S)

Nom. I.D.		Nom. O.D.		Max. W.P. *		Suction		Min. Bend Radius		Wt. Per Ft.		Standard	Stock (X) or Minimum	Gates	List Price
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.	Per Ft.
1/4	6.4	.59	15.0	250	1.72	—	—	3.0	76	.14	.06	10 ft.	X	3336-0359	\$6.27
5/16	7.9	.66	16.8	250	1.72	—	—	3.0	76	.16	.07	10 ft.	X	3336-0364	7.06
3/8	9.5	.72	18.3	250	1.72	—	—	3.0	76	.18	.08	10 ft.	X	3336-0369	8.01
1/2	12.7	.84	21.3	250	1.72	—	—	5.0	127	.22	.10	10 ft.	X	3336-0374	9.31
5/8	15.9	.97	24.6	250	1.72	—	—	6.0	152	.26	.12	10 ft.	X	3336-0379	12.19
3/4	19.1	1.09	27.7	250	1.72	—	—	6.0	152	.27	.12	10 ft.	X	3336-0384	15.23
7/8	22.2	1.22	31.0	250	1.72	—	—	7.0	178	.31	.14	10 ft.	X	3336-0389	16.44
1	25.4	1.34	34.0	250	1.72	—	—	8.0	203	.35	.16	10 ft.	X	3336-0394	19.02
1-1/4	31.8	1.52	38.6	200	1.38	—	—	10.0	254	.60	.27	10 ft.	X	3336-0399	22.81
1-1/2	38.1	1.77	45.0	200	1.38	—	—	12.0	305	.69	.31	10 ft.	X	3336-0414	23.61
1-3/4	44.5	2.02	51.3	150	1.03	—	—	16.0	406	.79	.36	10 ft.	X	3336-0419	25.62
2	50.8	2.27	57.7	150	1.03	—	—	20.0	508	.89	.40	10 ft.	X	3336-0424	27.63
2-1/4	57.2	2.52	64.0	100	.69	—	—	20.0	508	.98	.45	10 ft.	X	3336-0429	28.40
2-1/2	63.5	2.77	70.4	100	.69	—	—	25.0	635	1.06	.48	10 ft.	X	3336-0434	30.62
3	76.2	3.27	83.1	100	.69	—	—	36.0	914	1.25	.57	10 ft.	X	3336-0444	32.68
3-1/2	88.9	3.81	96.8	90	.62	—	—	42.0	1067	1.82	.83	10 ft.	600 ft.	3336-0459	38.22
4	101.6	4.30	109.2	75	.52	—	—	48.0	1219	1.99	.90	10 ft.	600 ft.	3336-0457	44.22

RECOMMENDED FOR: For use in fuel, oil, coolant, water and alcohol lines requiring MIL-DTL-6000. Gates products are not designed or intended for aircraft use.

TEMPERATURE: -40°F to +250°F (-40°C to +121°C) (coolant applications only).

CONSTRUCTION: **Tube:** Type A (Neoprene). Black.
Reinforcement: Braided, high tensile synthetic textile cord.
Cover: Braided, abrasion resistant textile cord.

PACKAGING: All lengths packaged in 10' lengths. Wrapped in burlap or coiled in a carton.

BRANDING: Continuous ink brand. Example: "24161 SIZE 2 MIL-DTL-6000"

SPECIAL ORDER REQUIREMENTS: Special production runs require minimum order quantities of 5,000 feet for sizes through 1-1/4" and 600 feet for 1-1/2" and larger.

REMNANT LENGTHS: None.

STANDARDS: MIL-DTL-6000
QPL-6000-16. Test reference MOAMA (MONEB).



Fuel And Oil Hose

MIL-DTL-13444G

Type I

(Specification 3336US)

Nom. I.D.		Nom. O.D.		Max. W.P. *		Suction		Min. Bend Radius		Wt. Per Ft.		Standard Pack	Stock (X) or Minimum Order Qty.	Gates Item No.	List Price Per Ft.
(in.)	(mm)	(in.)	(mm)	(psi)	(MPa)	(in. Hg)	(mm Hg)	(in.)	(mm)	(Lbs.)	(Kg)				
3/16	4.8	.44	11.2	425	2.93	—	—	3.0	76	.07	.03	CARTON	5,000 ft.	3336-1949	\$2.65
1/4	6.4	.50	12.7	300	2.07	—	—	3.0	76	.09	.04	CARTON	X	3336-1952	3.04
5/16	7.9	.56	14.2	275	1.90	—	—	3.0	76	.10	.05	CARTON	X	3336-1953	3.50
3/8	9.5	.63	16.0	250	1.72	—	—	3.0	76	.12	.05	CARTON	X	3336-1954	3.92
1/2	12.7	.78	19.8	200	1.38	—	—	5.0	127	.17	.08	CARTON	X	3336-1950	4.48

RECOMMENDED FOR: Fuel and oil hose for engine and other allied applications.

TEMPERATURE: -65°F to +180°F (-54°C to +82°C).

CONSTRUCTION: **Tube:** Type C (Nitrile). Black.
Reinforcement: Braided, high tensile synthetic textile cord.
Cover: Type A (Neoprene). Black.

COUPLINGS: MS 52104, Brass lock-on reusable or as required by contract.

PACKAGING: 3/16": Packaged 900' per carton. Maximum of 6 pieces. Minimum length 10 ft.
1/4": Packaged 700' per carton. Maximum of 6 pieces. Minimum length 10 ft.
5/16": Packaged 500' per carton. Maximum of 6 pieces. Minimum length 10 ft.
3/8": Packaged 475' per carton. Maximum of 6 pieces. Minimum length 10 ft.
1/2": Packaged 400' per carton. Maximum of 6 pieces. Minimum length 10 ft.

BRANDING: Continuous ink brand. Example: "MFR-24161 MIL-DTL-13444 TYPE I OZ -8 MADE IN U.S.A."

SPECIAL ORDER

REQUIREMENTS: Special production runs require minimum order quantities of 5,000 feet per size.

REMNANT LENGTHS: None.

STANDARDS: MIL-DTL-13444Type I
MS 52104 and QPL-13444-17. Test reference 9674.





Fuel and Oil Hose

MIL-DTL-13444G

Type III

(Specification 3658GV)

Nom. I.D.		Nom. O.D.		Max. W.P. *		Suction		Min. Bend Radius		Wt. Per Ft.		Standard Pack	Stock (X) or Minimum Order Qty.	Gates Item No.
		(in.)	(mm)	(psi)	(MPa)	(in. Hg)	(mm Hg)	(in.)	(mm)	(Lbs.)	(Kg)			
3/16	4.8	.49	12.5	1500	10.34	—	—	.75	19	.12	.05	CARTON	X	3658-1669
1/4	6.4	.55	14.0	1500	10.34	—	—	1.00	25	.13	.06	CARTON	X	3658-1670
5/16	7.9	.62	15.8	1000	6.90	—	—	1.25	32	.17	.08	CARTON	X	3658-1671
13/32	10.3	.74	18.8	1000	6.90	—	—	1.75	45	.22	.10	CARTON	X	3658-1672
1/2	12.7	.83	21.1	875	6.03	—	—	2.25	57	.26	.12	CARTON	X	3658-1673
5/8	15.9	.96	24.4	750	5.17	—	—	2.75	70	.27	.12	CARTON	X	3658-1674
7/8	22.2	1.20	30.5	375	2.59	—	—	3.50	89	.33	.15	CARTON	X	3658-1675
1-1/8	28.6	1.49	37.9	300	2.07	—	—	4.50	114	.47	.21	CARTON	5,000 ft.	3658-1676

RECOMMENDED FOR: For use in Government contracts requiring MIL-DTL-13444 Type III hose for medium pressure applications.

TEMPERATURE: -55°F to +300°F (-48°C to +149°C).

CONSTRUCTION: **Tube:** Type C (Nitrile). Black.
Reinforcement: Braided, high tensile synthetic textile cord.
Cover: Braided, abrasion resistant textile cord.

COUPLINGS: MS 52103, Gates standard C5E reusable couplings or as required by contract.

PACKAGING: 3/16": Packaged 400' per carton. Maximum of 6 pieces. Minimum length 10 ft.
1/4": Packaged 350' per carton. Maximum of 6 pieces. Minimum length 10 ft.
5/16": Packaged 400' per carton. Maximum of 6 pieces. Minimum length 10 ft.
13/32": Packaged 375' per carton. Maximum of 6 pieces. Minimum length 10 ft.
1/2": Packaged 300' per carton. Maximum of 6 pieces. Minimum length 10 ft.
5/8": Packaged 300' per carton. Maximum of 6 pieces. Minimum length 10 ft.
7/8": Packaged 150' per carton. Maximum of 6 pieces. Minimum length 10 ft.
1-1/8": Packaged 100' per carton. Maximum of 6 pieces. Minimum length 10 ft.

BRANDING: Continuous ink brand. Example: "24161 MIL-DTL-13444 TYPE III -6 MADE IN U.S.A."

SPECIAL ORDER REQUIREMENTS: See Hydraulic price sheet 35096-00 for prices.
Special production runs require minimum order quantities of 5,000 feet per size.

REMNANT LENGTHS: None.

STANDARDS: MIL-DTL-13444 Type III
MS 52103 and QPL-13444-17. Test reference JLH015-016.



Hydraulic Oil Hose

MIL-DTL-13531F

Type II, Class B

(Specification 4657CA)

Nom. I.D.		Nom. O.D.		Max. W.P. *		Suction		Min. Bend Radius		Wt. Per Ft.		Standard Pack	Stock (X) or Minimum Order Qty.	Gates Item No.
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)			
1/4	6.4	.58	14.7	5800	39.99	—	—	4.0	102	.26	.12	REEL	X	4657-2202
3/8	9.5	.73	18.5	4800	33.09	—	—	5.0	127	.36	.16	REEL	X	4657-2203
1/2	12.7	.86	21.8	4000	27.58	—	—	7.0	178	.43	.20	REEL	X	4657-2204
5/8	15.9	.98	24.9	3625	24.99	—	—	8.0	20.	.51	.23	REEL	X	4657-2205
3/4	19.1	1.14	29.0	3100	21.37	—	—	9.5	241	.61	.28	REEL	X	4657-2206
1	25.4	1.48	37.6	2400	16.55	—	—	12.0	305	.91	.41	REEL	X	4657-2207
1-1/4	31.8	1.87	47.5	1825	12.58	—	—	16.5	419	1.42	.64	REEL	X	4657-2208
1-1/2	38.1	2.15	54.6	1300	8.96	—	—	20.0	508	1.71	.78	CARTON	X	4657-2315
2	50.8	2.65	67.3	1175	8.10	—	—	25.0	635	2.17	.98	CARTON	X	4657-2316

RECOMMENDED FOR: High pressure hydraulic oil lines. Meets or exceeds the requirements of SAE 100R2 Type S and EN853 2SN.

TEMPERATURE: -70°F to +212°F (-57°C to +100°C).

CONSTRUCTION: **Tube:** Type C (Nitrile). Black.
Reinforcement: Braided, high tensile steel wire.
Cover: Type A (Neoprene). Black.

COUPLINGS: Gates Permanent MegaCrimp® for sizes through 1-1/4" and Permanent PC for 1-1/2" and 2".

PACKAGING: 1/4": Packaged 440' per reel. Maximum of 4 pieces. Minimum length 10 ft.
3/8": Packaged 385' per reel. Maximum of 4 pieces. Minimum length 10 ft.
1/2": Packaged 330' per reel. Maximum of 3 pieces. Minimum length 10 ft.
5/8": Packaged 220' per reel. Maximum of 3 pieces. Minimum length 10 ft.
3/4": Packaged 220' per reel. Maximum of 3 pieces. Minimum length 10 ft.
1": Packaged 165' per reel. Maximum of 3 pieces. Minimum length 10 ft.
1-1/4": Packaged 110' per reel. Maximum of 3 pieces. Minimum length 10 ft.
1-1/2": Packaged 120' per carton. Maximum of 3 pieces. Minimum length 10 ft.
2": Packaged 120' per carton. Maximum of 3 pieces. Minimum length 10 ft.

BRANDING: Continuous ink brand. Example: "Gates® Connected™ POLARFLEX™ 20G2L 1-1/4" (31.5mm) R2 2SN EN853 1825 PSI (13.0MPa) MAX WP FLAME RESISTANT MSHA 2G-IC-11C>NBR/CR< MADE IN U.S.A."

SPECIAL ORDER REQUIREMENTS: See Hydraulic price sheet 35096-00 for prices.
Special production runs require minimum order quantities of 5,000 feet per size.

REMNANT LENGTHS: None.

STANDARDS: **Cover:** MSHA 2G-IC-11C, Flame resistant.
MIL-DTL-13531 Type II, Class B.
QPL-13531
SAE 100R2 Type S
EN853 2SN

Due to continual product improvements, Gates reserves the right to alter specs and prices without prior notice.





Commonly Used Government Contracting Terms

Acting Contracting Officer (ACO)

Once the Government issues a contract, an ACO is assigned to follow the contract to completion.

Certificate of Conformance (COC)

A document given to the buyer to certify the product has been tested and meets all specification requirements. The COC is based on sample testing of the product in the amount required by a specified sampling plan and containing testing on all Quality Conformance parameters of the Specification.

Contract Line Item (CLIN)

A specific requirement of a contract detailing the amount of product to be supplied to the Government and a description of the product to be supplied.

First Article Test (FAT)

The Government uses FAT's to insure that the product being procured meets all specification requirements before accepting delivery. If a CLIN of a contract requires an FAT, the QAR will observe testing and sign First Article Test Reports (FATR's) to prove the product has passed all test requirements.

Quality Audit Representative (QAR)

A Government representative assigned to witness quality testing. The QAR is responsible for observing FAT's and approving Source Inspection documents for contracts awarded to contractors within his assigned area.

Quality Products List (QPL)

Certain products the Government pre-qualifies in order to assure continuous, timely delivery. A Specification with QPL requirements can only be supplied by a Manufacturer or distributor that has qualified by the Government prior to bid opening. Gates hose Specifications that require a QPL listing have been enumerated on the Catalog applicable page under Standards.

Source Inspection (Inspection at Origin)

Inspection required prior to shipment to the Government facility.

Coupling Information

MS 39133 – Brass reusable couplings often required for air brake hose.

MS 52103 – Assemblies requiring FJX couplings (generally reusable), a standard used on MIL-DTL-13444 Type III hose.

MS 52104 – Assemblies requiring lock-on RFJX couplings, a standard used on MIL-DTL-13444 Type I hose.

Special Certification Charges

Certificate of Conformance (COC).....\$50.00

Due to continual product improvements, Gates reserves the right to alter specs and prices without prior notice.



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