



Barricade® Fuel Line Hose with GreenShield® Technology



Many fuels. One solution.

Today there are more than 40 different EPA-approved fuel blends used in the U.S. – formulations made from sources as diverse as soybeans, coconuts, corn, and used cooking oil. These blends all help the environment by reducing pollution and dependence on fossil fuels, but have a negative effect on automotive and small engine fuel systems. These new fuel blends aggressively degrade general-purpose fuel hose, causing it to deteriorate. Plus, general-purpose fuel hose allows more hydrocarbons to be released into the atmosphere. Degraded hose particles can contaminate and obstruct fuel injectors, which can affect fuel system monitoring sensors and decrease engine efficiency. That's why Gates developed Barricade® Fuel Line Hose – it withstands today's aggressive fuel blends and significantly reduces permeation utilizing our patent-pending GreenShield barrier layer technology and inner tube made of synthetic rubber compounds.

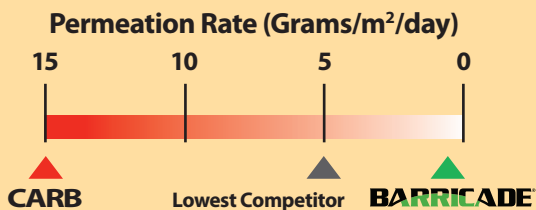
BARRICADE®
FUEL INJECTION AND CARBURETION HOSE

Better for the Environment. Safer for You.

Installing Barricade solves two problems at once: compliance with CARB pollution standards, and protecting yourself from liability for installing the wrong hose type. The **California Air Resources Board (CARB)** and U. S. Environmental Protection Agency (EPA) standards stipulate the maximum allowable permeation rates for fuel hose. Barricade exceeds these standards and does it better than any other hose in the industry.

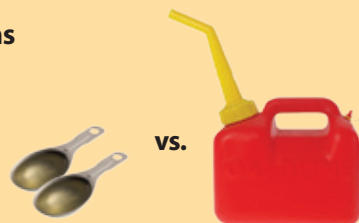
Most original equipment (OE) cars and trucks have been using CARB-approved "low permeation" fuel line hoses for over 20 years as a pollution-control device, and since 2007, small engine and off-highway equipment have as well. It is **ILLEGAL** to replace low-permeation hose with conventional hose in the 20 states that have adopted the CARB standards.

Barricade not only beats the California Air Resources Board's permeation requirements, it performs five times better than the nearest competitor.



One Gallon vs. Two Tablespoons

Two feet of general-purpose hose permeates up to one gallon of hydrocarbon vapors into the atmosphere each year. Compare that to only two tablespoons of permeation with superior Barricade Fuel Line Hose.



What's in the tank? Because there are so many fuel blends available today, there is no way to know what mixture of fuel is in your customer's tank at any given time. You can't predict how quickly these aggressive fuels will degrade conventional hose, and cause a failure that will bring your customer back to your shop. When you install Barricade Fuel Line Hose, you can be assured that you are complying with the law, providing your customers with the best product available, and protecting the system against aggressive fuel mixtures that can degrade the hose and result in customer comebacks.

Barricade Fuel Injection Hose

Low-permeation, fuel injection hose for use on all fuel systems for superior service life. Best-in-class for both high psi and low permeation.



- **225 psi working pressure rating (best-in-class)**
- Aramid reinforcement spiral braid for superior burst strength
- Exceeds SAE J30R14T2* as well as low-permeation requirements for CARB
- Approved for use with Gasoline, Ethanol/Gasoline blends (gasohol) such as E10, E15 or E85, Diesel, Biodiesel including soybean methyl ester (SME), rapeseed methyl ester (RME), palm methyl ester (PME), Biodiesel/Diesel blends such as B20, and 100% Methanol
- Temperature: -40°F to 257°F (-40°C to 125°C) continuous, up to 302°F (150°C) intermittent

BARRICADE® FUEL INJECTION HOSE

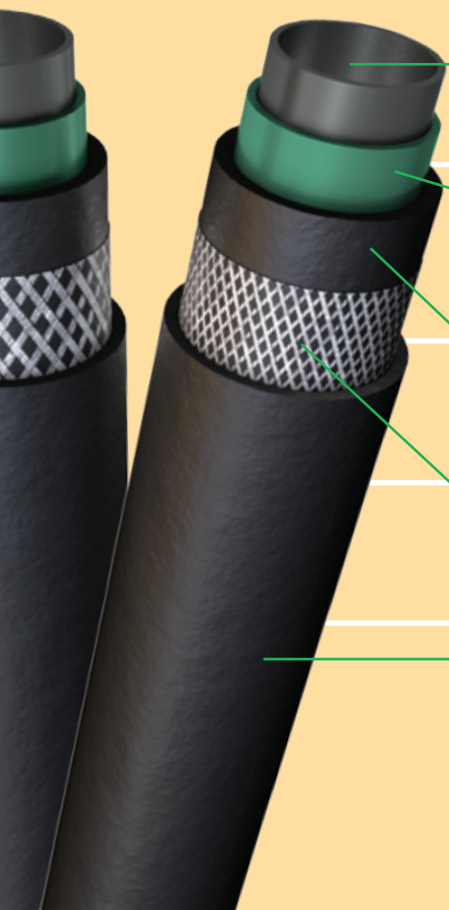
Size I.D.	Working psi	2' Clamshell Part #	15' Box Part #	25' Reel Part #	250' Bulk Reel Part #
1/4"	225	27334	27347	27339	27344
5/16"	225	27335	27348	27340	27345
3/8"	225	27336	27349	27341	27346

NOTE: DO NOT SUBMERSE IN FUEL.

* Except for kink resistance

Modern Fuels Require Modern Fuel Hose.

Gates Sets a Higher Standard for Fuel Line Hose



BARRIER TUBE: Designed to resist high heat, oils, and hydro-carbon fuels including Gasoline, Methanol, Ethanol, Ethanol/Gasoline blends, and Biodiesel[†] including blends of Biodiesel/Diesel for applications up to 257°F continuous service.

GREENSHIELD® BARRIER: A layer of thermoplastic material that provides superior permeation resistance. Designed to exceed EPA and California Air Resources Board permeation standards. Patent-pending construction provides a cost effective solution that delivers the lowest permeation in the industry.

ADHESION LAYER: Also oil- and fuel-resistant, this layer bonds together the thermoplastic barrier, reinforcement, and cover, while acting as a secondary defense if the tube and/or thermoplastic barrier become compromised.

REINFORCEMENT: Spiral textile reinforcement provides resistance against internal pressures in both types of Barricade hose. Barricade Fuel Injection Hose has a more-robust, aramid-fiber reinforcement mesh for best-in-class resistance to higher pressures – and pressure spikes – of fuel injection systems.

COVER: Fuel- and oil-resistant, with outstanding ozone- and heat-resistance, this layer covers and protects the underlying components.

By installing Barricade, you can be sure you are providing customers with the safest product, complying with all state regulations, and saving fuel – while protecting the environment.

Barricade Carburetion Hose

Low-permeation fuel hose for carbureted engines in cars, light trucks, off-road vehicles, and small engines and for fuel return lines on fuel injection systems (not for use on the pressure-side of fuel injection systems).



- 50 psi working pressure rating
- Meets SAE J30R14T1, EPA 40 CFR 1051.110, and CARB small engine off-road requirements for low permeation
- Approved for use with Gasoline, Ethanol/Gasoline blends (gasohol) such as E10, E15 or E85, Diesel, Biodiesel including soybean methyl ester (SME), rapeseed methyl ester (RME), palm methyl ester (PME), Biodiesel/Diesel blends such as B20, and 100% Methanol
- Temperature: -40°F to 257°F (-40°C to 125°C)
Biodiesel/Diesel blends are limited to -40°F to 212°F (-40°C to 100°C)

BARRICADE® CARBURETION HOSE

Size I.D.	Working psi	2' Clamshell Part #	25' Reel Part #	250' Bulk Reel Part #
3/16"	50	27302	27312	27321
1/4"	50	27303	27313	27323
5/16"	50	27304	27314	27324
3/8"	50	27305	27315	27325
1/2"	35	27306	27316	27326

NOTE: DO NOT SUBMERSE IN FUEL.

WARNING: Do not use on pressure lines on fuel injection systems or cooling system applications. Use Barricade Fuel Injection (4219BF) Hose for Multi-Port Injection systems.

[†]Biodiesel fuel must meet the ASTM D6751 specification for biodiesel fuel and be produced, marketed and distributed by BQ9000 accredited facilities.

For a complete list of specifications for these products, please refer to the Gates catalog.

Barricade® Fuel Line Hose with GreenShield® Technology



Frequently Asked Questions

Q: Can general-purpose 30R7 hose be used to replace fuel line hose on a fuel injection application?

A: **NO.** General-purpose 30R7 hose cannot handle the high pressures generated in a fuel injection system. Also, today's complex and aggressive fuel blends can damage standard rubber compounds found in 30R7 hose. The solution for fuel injection applications is Barricade Fuel Injection hose.

Q: Does "CARB" on the lay line stand for "Carbureted?"

A: **NO.** "CARB" is short for California Air Resources Board. CARB on the lay line indicates the hose is CARB-approved. Most OEMs have been using CARB-approved low permeation fuel line hoses for more than 20 years as a pollution-control device. Barricade Fuel Line Hose is CARB approved and exceeds CARB's permeation requirements.

Q: I don't live in California. Do CARB regulations affect me?

A: **MAYBE.** Currently, 20 U.S. states have adopted CARB regulations and more states are expected to follow. This represents 60% of the vehicles registered in the U.S. Replacing OEM low permeation fuel hose with general-purpose hose is ILLEGAL in states that have adopted CARB regulations (you will alter the original design of the system). Barricade Fuel Injection Hose will provide peace of mind that you are installing the safest product that complies with all regulations and saves fuel while protecting the environment.

Q: Can Barricade hose be submersed in gasoline?

A: **NO.** For fuel line hose that will be submersed in gasoline, use Gates Submersible Fuel Line Hose which is specially engineered for constant contact with gasoline (and other liquid petroleum distillates) on the inside and the outside.

Q: Where can I use Barricade Fuel Injection Hose in the fuel injection system?

A: You can use Barricade Fuel Injection Hose anywhere flexibility is required in the fuel systems, such as between the fuel tank, firewall penetrations and fuel rail returns.

Q: What are the recommended clamps for fuel hose line?

A: J2044 is the SAE Quick Connect Coupling Specification for Liquid Fuel and Vapor/Emissions Systems. Any quick connect, worm gear or spring-loaded mechanical couplings used with Barricade should meet this spec. Beaded stems are recommended for rubber hose. Barbed stems are for use with plastic tubing only, due to the sharp ferrules and serrated teeth.

Q: What other applications are appropriate for Barricade Carburetion?

A: Barricade Carburetion Hose can be used on all carbureted vehicles, such as older-model automobiles, lawn and garden equipment, and recreational vehicles.

Gates offers a full line of hose products including vapor fuel hose, submersible hose and marine hose. Contact your local Gates representative for more information or pricing.



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