



BOLLARD BUYERS GUIDE

In recent years, protection from vehicle intrusion, both intentional and unintentional, has become a hot button issue. There are numerous solutions to address the problem. These solutions come in the form of both improved site design and protective measures in the form of traffic control devices. One common and effective solution are Bollards. Bollards take many shapes, sizes, and colors and come in a variety of materials. In this *Buyers' Guide* we are concerned primarily with those bollard designs that serve to provide security solutions for vehicle traffic control in a wide range of applications such as; store fronts, health care facilities, bike paths, access roads, parking lots, government buildings, schools, and fire access lanes. In the USA, this market has been primarily served by local steel fabricators and scattered manufacturers. While bollard products are relatively sophisticated in Europe and Australia, the manual vehicle access control bollard in the USA is still in the early stages of being standardized and marketed. TrafficGuard®, Inc. is an established USA company serving this market since 1999.

TrafficGuard®, Inc. bollards help solve vehicle access control problems with five basic bollard categories: collapsible bollards, removable bollards, fixed, parking and crash tested (ASTM F3016) bollards. Each bollard has its own unique benefits.

GOALS FOR YOUR BOLLARD INSTALLATION

Bollard selection and placement based on weight, speed and other site specific factors should be given serious consideration before making a purchase. This may require a traffic engineer to do a thorough analysis of a particular application. It may also result in the selection of a different traffic control device altogether. Bollards can address a wide range of vehicle security issues, but they are not necessarily the correct solution for every application. Before making a purchase decision on a bollard, the buyer should ask some, if not all, of the following questions about the project:

- What is the primary purpose of this installation?
- Will this bollard be used to protect property or keep pedestrians and customers protected from vehicle intrusion?
- Will the application require full scale impact tested bollards? Further, what impact standard will be required?
- Will this bollard be used to warn users of approaching danger?
- Is the purpose of this bollard to allow access to maintenance and emergency vehicles while prohibiting access to all other vehicles?

BOLLARD VISIBILITY

Clearly understand the users of the area in which you will be installing your traffic control bollard. How will they be approaching it; on foot, by car, by bicycle or all of these? Bollard design, color, placement, reflective labels, pavement markings, and striping will all impact the safety of your installation.

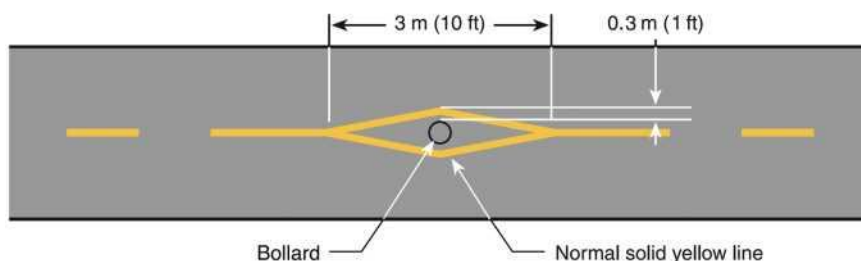
BOLLARD STANDARDS

Currently there are two crash test standards developed by ASTM to establish a penetration rating for vehicle perimeter barriers subjected to a vehicle impact. ASTM F2656 is the test method to determine this rating for 40, 50, and 60 MPH vehicular impacts. In recent years, driven by the increased frequency of low speed store front vehicle incursions, ASTM F3016 was developed to address 10, 20 and 30 MPH vehicular impacts. While these standards do have some acceptance, there are still a large amount of bollard installations that follow “best practices” with respect to spacing, placement, steel gauge and installation methods. There are also various guidelines for pavement striping, location and proper spacing of bollards. Although TrafficGuard® can assist in providing this information to purchasers of its products, the purchaser is ultimately responsible for the proper placement and installation of the bollards based on site specific conditions.

BOLLARD SAFETY

TrafficGuard®, Inc. is committed to safety in the installation and use of its product. However, as with any product, if it is not installed correctly or not maintained properly, it can present certain risks. Please adhere to the following general guidelines upon purchasing a bollard:

- Read and fully understand the installation instructions before attempting to install any TrafficGuard®, Inc. bollard.
- Although the following illustration exemplifies one potential pavement marking scenario, each installation is unique and may require different or additional pavement markings. Therefore, please consult your local ordinances or any other applicable regulations, standards or guidelines regarding appropriate pavement marking and visibility schemes.



- Substitution of components may impair the proper function of TrafficGuard®, Inc. products. If you need replacement parts, please contact TrafficGuard®, Inc. at the number or email below.
- Unless the bollard is being used for vehicle access it should remain in the upright position (if the unit is collapsible) with the locking pin locked in position at all times.
- Failure to lock the locking pin in place on collapsible bollards may cause the bollard to fall. Always lock the locking pin in place with a padlock.
- Locking pin must always be secured with padlock when bollard is upright position.
- Replacement locking pins are available for purchase at TrafficGuard®, Inc. For purchase of replacement locking pins, or any other components, please contact TrafficGuard®, Inc. at the number or email below.
- If a removable bollard is removed for access, the lid should be secured or filler piece put in place to ensure a flush surface and avoid a hazard.
- For maximum effectiveness and safety of TrafficGuard®, Inc. bollard products, be sure to properly maintain bollards by replacing any damaged, corroded or missing components and reapply paint as required to maximize visibility.

- Be sure to properly maintain bollards by replacing any damaged or corroded or missing components and reapply paint as required to maximize visibility. Failure to properly maintain a product can negatively impact the bollards performance over time
- In order to ensure visibility of bollards, be sure to apply all decals that are provided with the product and in the manner recommended by TrafficGuard®, Inc.

BOLLARD DESIGN

The engineering involved in what appears to be a very simple product can determine a great deal about the appropriateness of your bollard selection in its safety, impact resistance, life expectancy and maintenance. TrafficGuard®, Inc. has every design reviewed by a professional engineer to understand and determine functionality, performance under load conditions, and maintenance issues. We always consider the long-term cost of owning our bollards in the material selection process.

MATERIALS

The materials available run the spectrum from cast iron to plastics. The primary materials found are steel tubing – round or rectangular painted, galvanized or stainless steel. The geographic location of the installation and the intended usage patterns should drive the selection process. The age old “beauty vs. function” analysis always weighs in as well.

MAINTENANCE

All collapsible bollards and removable bollards will require some level of maintenance according to your choice of materials and your unique environmental conditions. To ensure long term efficacy of a removable bollard, it is critical to follow the drainage procedure during the installation process to ensure the bollard does not sit in water over long periods.

INSURANCE

The bollard manufacturer you select should be required to provide you with proof of liability insurance.

WHY BUY A MANUFACTURED PRODUCT?

- Engineered safety features in every product
- Replacement parts readily available
- Product quality, both in material and finishes
- Quick shipment
- Functionality every time
- Warranty
- Product liability Insurance
- Scalability – 1 or 1,000 units can be shipped quickly