



Advancing the science of anti-terrorism vehicle access control

## FAQ #1

One in a series, in which we address product questions raised by our customers

### Your $B^3$ system (“*B-Cube*” or *Basic Bollard Barrier*) is described as a manual bollard. How is it used for perimeter security?

Let's begin by explaining what the  $B^3$  is and how it works, and then we'll explain why we think it is the most effective solution for certain perimeter security applications.

Recall that the  $B^3$  consists of two main components.

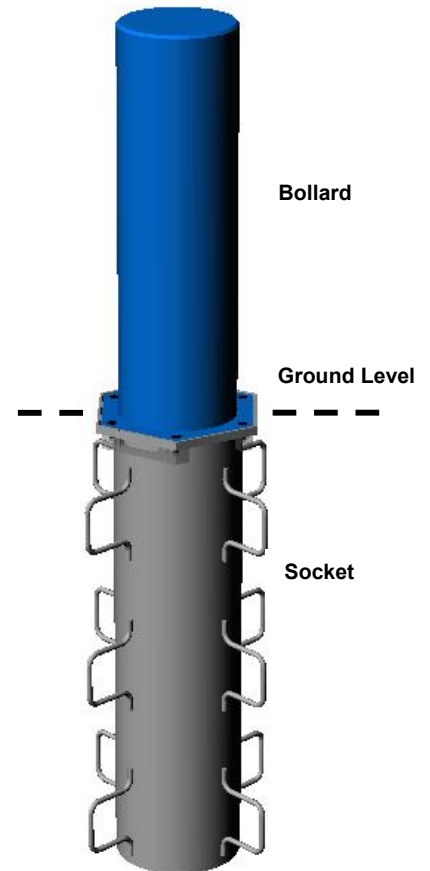
1. A standard in-ground **socket** into which the bollard is inserted. (If no bollard is inserted, a cover plate seals the socket opening.)
2. A family of **bollards** with different vehicle stopping power ratings, all of which fit into this standard socket. (When the bollard is inserted, a trim ring seals the socket opening.)

The  $B^3$  is a *passive* (rather than *active*) vehicle barrier. That is, it is not hydraulically, electrically, or pneumatically powered to retract into the ground to allow vehicles to pass. Thus, the  $B^3$  is not suitable for vehicle roadways or entrances requiring frequent vehicle passage. Instead, the  $B^3$  bollard can be manually removed from its socket. Thus, we developed the  $B^3$  system for one or more of the following circumstances:

- Your perimeter security may be in a state of flux, and you do not want to be locked into a vehicle barrier system that is inflexible
- You have a limited budget and require a perimeter security system that can be installed in phases over several budget cycles
- You need occasional vehicle access through your perimeter (say for construction, maintenance, or VIP vehicles)

The point of the  $B^3$  is to give you a perimeter security system that can be changed without excavating it and replacing it with another one. Here are some of the typical ways you might use the  $B^3$  system:

- Install sockets and cover plates during construction—or as the first phase of a security system upgrade—then purchase the bollards later on.
- Install sockets and low stopping power bollards (or even dummy bollards), and then replace the bollards with higher stopping power ones if security conditions change.



- Install sockets and cover plates but keep the bollards in storage to maintain a facility's open and welcoming appearance. Install the bollards in the sockets if security conditions warrant (VIP visitor, specific threat, etc.) and store them again when the need passes.
- Install the system in those locations where you might need occasional vehicle access, and you can tolerate manual bollard removal and replacement.
- Install the system in locations where aesthetics are important, and use our digital finishing process to make the bollards look like granite, marble, polished steel, or virtually any material that will complement your facility's architecture.
- Finally, if you have a lot of perimeter to protect and you do not anticipate the need to upgrade, then you do not need  $B^3$  sockets at every location. You can install a  $B^3$  bollard directly into the ground and install sockets only in those locations where you might need to temporarily remove the bollards for vehicle access. You lose the ability to upgrade the vehicle stopping power without excavation, however you save about one-half the cost by eliminating the socket.

The table below summarizes the attributes of the  $B^3$  compared to typical alternative bollards.

Bollard Type	Description	Cost	Comments
Simple Bollard	Pipe emplaced in concrete, filled with concrete, and painted or covered with a vinyl sleeve	Low	Bollard can't be removed for vehicle passage. Any damage or upgrades require excavation and replacement. No maintenance.
$B^3$ System	See text	Medium	Bollard can be removed (manually) for infrequent vehicle passage. Bollard can also be removed entirely and stored. Easily removed for damage repair. Stopping power upgrades require no excavation and only purchase of a new bollard (the in-ground socket is reused). No maintenance.
Active Bollard	Bollard retracts into the ground via hydraulic, electric, or pneumatic system	High	Bollard can be retracted as needed for frequent vehicle passage. Requires routine maintenance. Upgrades to stopping power may require excavation and replacement.

Only you can decide if the  $B^3$  system is right for your application. Ask yourself: Do I need to allow for occasional vehicle passage? Do I need a path for upgrading my vehicle stopping power? If so, do I want to avoid excavating the old system and pouring a new one? Does my budget require me to build perimeter security in phases? Do I want to maintain a facility's open and welcoming look, yet have the ability to provide perimeter security? Do I need aesthetically attractive bollards to match my architecture?

Remember, perimeter protection requirements often change with a facility's mission and the evolving security climate. Consider the cost of security changes over the long haul... consider the  $B^3$  system.