

# **Traditional Bollards**

Bollards, fixed, sliding or retractable

Bollards are used in a row to manage traffic, protect pedestrians, and secure properties against (unintentional) vehicle crashes. Bavak Security Group has been delivering the highest quality bollards for many years in various forms.

Bavak bollards are available in various resistance classes. These vary depending on the type of bollard, and the experts at Bavak can tell you all about them. Bavak offers a wide and deep assortment so that you can find the right bollard for your location. In addition to standard bollards, there are also custom-made sleeves available for the bollards, allowing you to get the exact design needed for perfect integration into your perimeter.

Whichever bollard you choose, you can be assured of quality with Bavak. Bavak has been supplying and installing bollards in various variations for over 30 years. This experience ensures immense expertise in total project management. Bavak can even handle all civil works for you. This way, you have only one reliable and professional point of contact for the purchase, installation, and service of your bollard.

Bavak. Securing daily life



## **Crash Ratings**

Significant damage can occur when a vehicle collides with a bollard. That is why it is important to choose the right crash ratings and certifications when purchasing a bollard project. . The crash ratings refer to the maximum force a bollard can withstand when struck by a vehicle. . Different certificates are required for each crash class. The specialists at Bavak can tell you all about these different crash-ratings and bollards.

	PAS 68	ASTM F2656	ASTM F2656	IWA14-1	ISO 22343-1
Vehicle Category	N2	Standard Test Truck (M)	Clas-7 Cab-Over (C7)	N2A	N3C
Impact Mass (kg)	7500	6800	7200	7200	7200
Impact Speed (km/h)	48	50 (30mile/h)	50 (30mile/h)	48 (50mile/h)	48
Impact Energy (kj)	667	656	694	640	640
Impact Speed (km/h)	64	65 (40mile/h)	65 (40mile/h)	64 (40mile/h)	64
Impact Energy (kj)	1185	1108	1174	1138	1138
Impact Speed (km/h)	High Test Speed	80 (50 mile/h)	80 (50 mile/h)	80 (50 mile/h)	80
Impact Energy (kj)	Not permitted	1679	1778	1778	1778
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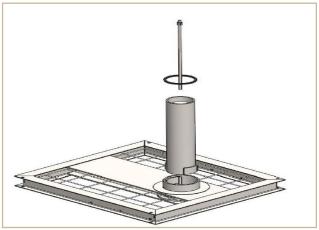


### **Shallow Mount**

Shallow mount bollards can be installed at locations where the 'underground infrastructure' is dense, for example with cables. They can also be placed in locations where it's not possible to dig deep into the ground such as above a parking garage. Another advantage is the ease of installation. Installing shallow mount bollards requires minimal labor and can often be completed in one day.

### **Removable Bollards**

Removable bollards are supplied with a mounting system designed to securely anchor the bollards in the ground and remove them for temporary openings. This is an ideal solution for any location that, in addition to effective protection, occasionally requires temporary access. The bollards need to be manually unlocked and moved for this purpose.



## **Various Finishes**

The Bavak bollards serve as secure barriers. To seamlessly integrate these secure barriers into the environment, various finishes are possible for the bollards. There are different types of sleeves available, such as corten steel, or even in unique shapes. This allows the environment to be 'discreetly secure'.



**Bavak Security Group** 

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# **Automatic Bollards**

#### Bollards, sliding or retractable

Bollards are used in a row to manage traffic, protect pedestrians, and secure properties against (unintentional) vehicle crashes. Bavak Security Group has been delivering the highest quality bollards for many years in various forms.

The bollards normally form an impenetrable row. However, there may be a need for an opening for vehicles to enter and exit a location. In this case, automatic or movable bollards can be chosen. There are bollards that 'sink' into the ground, bollards that slide aside automatically, and bollards that can be manually removed.

Whichever bollard you choose, you can be assured of quality with Bavak. Bavak has been supplying and installing bollards in various variations for over 30 years. This experience ensures immense expertise in total project management. Bavak can even handle all civil works for you. This way, you have only one reliable and professional point of contact for the purchase, installation, and service of your bollard.

Bavak. Securing daily life



## **Crash Ratings**

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	PAS 68	ASTM F2656	ASTM F2656	IWA14-1	ISO 22343-1
Vehicle Category	N2	Standard Test Truck (M)	Clas-7 Cab-Over (C7)	N2A	N3C
Impact Mass (kg)	7500	6800	7200	7200	7200
Impact Speed (km/h)	48	50 (30mile/h)	50 (30mile/h)	48 (50mile/h)	48
Impact Energy (kj)	667	656	694	640	640
Impact Speed (km/h)	64	65 (40mile/h)	65 (40mile/h)	64 (40mile/h)	64
Impact Energy (kj)	1185	1108	1174	1138	1138
Impact Speed (km/h)	High Test Speed	80 (50 mile/h)	80 (50 mile/h)	80 (50 mile/h)	80
Impact Energy (kj)	Not permitted	1679	1778	1778	1778
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# **Shallow Mount Sliding**

Shallow mount Sliding bollards can be installed at locations where the 'underground infrastructure' is dense, for example with cables. They can also be placed in locations where it's not possible to dig deep into the ground such as above a parking garage. Another advantage is the ease of installation. Installing shallow mount sliding bollards requires less digging.

# **Manual Bollards**

Manual bollards are installed at locations where an occasional opening is needed in the row of bollards. When required, the bollards are manually lowered for a temporary opening. This is an ideal solution for any location that occasionally requires a passage while ensuring effective protection.



# **Various Finishes**

The Bavak bollards serve as secure barriers. To seamlessly integrate these secure barriers into the environment, various finishes are possible for the bollards. There are different types of sleeves available, such as corten steel, or even in unique shapes. This allows the environment to be 'discreetly secure'.



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# **Crash Rated Street Furniture**

#### Bollards, camouflaged as street furniture

Now there are also bollards that are not visible as bollards because they are placed "in" a planter, trash can, lamppost, or for example, a bench. By incorporating the bollards into regular street furniture, they do not stand out and serve a second, more functional, purpose. This way, safety can be neatly integrated into the daily environment without appearing intimidating. These bollards are primarily used in the public domain.

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# **Crash Ratings**

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	PAS 68	ASTM F2656	ASTM F2656	DOS SC/STD2.01	IWA 14-1
Vehicle Category	N2	Standard Test Truck (M)	Clas-7 Cab-Over (C7)	Standard Truck	N2A
Impact Mass (kg)	7500	6800	7200	6800	7200
Impact Speed (km/h)	48	50 (30mile/h)	50 (30mile/h)	K4-50 (30mile/h)	48
Impact Energy (kj)	667	656	694	656	640
Impact Speed (km/h)	64	65 (40mile/h)	65 (40mile/h)	K8-65 (40mile/h)	64
Impact Energy (kj)	1185	1108	1174	1108	1138
Impact Speed (km/h)	High Test Speed	80 (50 mile/h)	80 (50 mile/h)	K12-80 (50 mile/h)	80
Impact Energy (kj)	Not permitted	1679	1778	1679	1778
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### **Urban Solutions**

Crash-rated urban solutions are a new type of infrastructure becoming increasingly popular in urban areas. The aim of these solutions is to reduce the risk of injury in accidents. By installing crash-resistant barriers, cities can protect residents. To ensure maximum safety, cities invest in urban solutions that can withstand the most severe collisions.

## From benches to trash cans

Bavak offers a wide range of crash-rated street furniture. The choice of design largely depends on the customer's preference. Bavak provides a vast array of benches, lampposts, planters, billboards, bike racks, and trash cans that are fully crash-rated and certified. All these materials have a regular appearance and therefore do not appear intimidating.



## **Bavak as partner**

If you're seeking the most effective measures against hostile vehicles and high-quality service, Bavak can meet all your needs. We carefully listen to your requirements and present various options to find the right solution together. With Bavak, you're assured of installation at the highest possible level for your Crash Rated street furniture.



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