

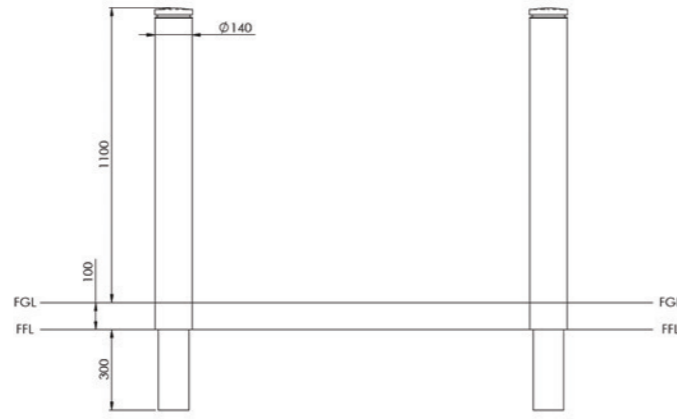
The Geo PAS 68 Bollard offers a high level of hidden security against vehicular attack without compromising contemporary design or generating a sense of concern for the general public. The RhinoGuard PAS 68 core within the bollard section guarantees a high standard of perimeter protection and comes in both Ø 140mm and Ø 204mm depending on the level of protection required.

- 316 bead blasted stainless steel body
- Machine finished 316 grade stainless steel top cap
- Height above ground: 1100mm

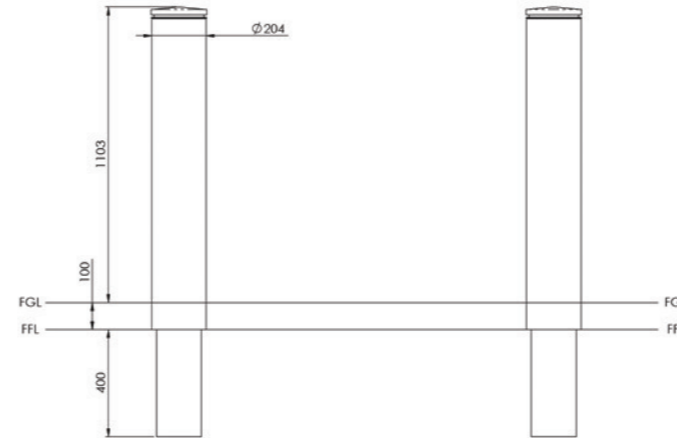
Core and Diameter Options:

- Geo 140mm diameter bollard
Core: RhinoGuard PAS 68 15/30 core (Protection against 1.5 Tonne Vehicle at 30mph)
- Geo 204mm diameter bollard
Core: RhinoGuard PAS 68 25/40 core (Protection against 2.5 Tonne Vehicle at 40mph)
- Geo 204mm diameter bollard
Core: RhinoGuard PAS 68 75/40 core (Protection against 7.5 Tonne Vehicle at 40mph)

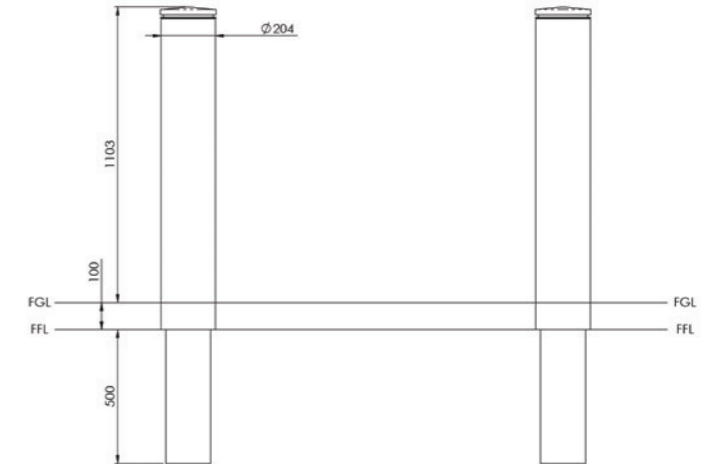




15/30 Core



25/40 Core



75/40 Core

About PAS 68

This Publicly Available Specification (PAS) has been prepared to address the needs of organisations that require assurance that the vehicle security barriers they specify will provide the required level of impact resistance. PAS 68 specifies a performance classification for vehicle security barriers and their foundations, when subjected to a horizontal impact. BSI PAS 68:2010 is the standard in place to address the needs of those who specify bollards for this purpose.

Through specifying products successfully tested to this standard, informed and proportionate security decisions can be made, in line with individual site requirements

Many systems are considered suitable for use as vehicle security barriers. As their characteristics differ in both function and form, a comparative means of assessing their performance is required. PAS 68 identifies impact test methods, tolerances, and vehicle type and vehicle performance: all criteria that need to be met in order to conform to the requirements. Meanwhile the associated design guidance for installation is provided in PAS 69:2006.

Application Suitability.

The bollard provides the ideal and quantifiable security solution for a wide range of applications which previously would have required a generic 'anti-ram' bin specification, including retail parks, garage forecourts, supermarkets, protected parking, cash machine protection and Public Realm projects.

- Areas at lower risk of a high-energy vehicular attack
- Locations with tighter vehicle access, making it impossible for larger vehicles to reach significant speed
- Locations which require protection against criminal ram raiding.

Core Performance.

- Vehicle: 1.5 tonne saloon car
- Vehicle Speed: 30mph (48km/h)
- PAS 68 Classification Code: Fixed Bollard V/1500/48/90:1.3/2.5
- Test results: The vehicle was brought to rest, immobilising it completely, making a second ram attempt impossible.

Application Suitability.

The bollard is ideal for applications requiring a higher level of protection that are more vulnerable to a vehicular attack.

The bollard provides the perfect solution for sites where a medium-sized vehicle could reach considerable speed, but also where it would be physically impossible for a larger vehicle to gain access or achieve the required acceleration.

These can include: rail stations, sports stadia, leisure venues and arenas, bus depots, ports, Public Realm projects and large shopping centres.

Core Performance.

- Vehicle: 2.5 tonne 4x4 utility vehicle
- Vehicle Speed: 40mph (64km/h)
- PAS 68 Classification Code: Fixed Bollard V/2500/64/90:0.0/0.0
- Test results: The bollard successfully brought the vehicle to a stop, with zero penetration beyond the bollard.
- The vehicle was completely immobilised, eliminating the chance of a second attack.

Application Suitability.

The bollard is suitable for high risk applications and for sites with a sufficient stand-off distance between the bollard and the area it is protecting.

The bollard provides an ideal solution for locations where large vehicles capable of carrying out high-energy attacks are able to reach considerable speed. This includes: rail stations, sports stadia, leisure venues and arenas, bus depots, ports, Public Realm projects and large shopping centres.

Core Performance/

- Vehicle: Fully-laden 7.5 tonne two axle rigid lorry
- Vehicle Speed: 40mph (64km/h)
- PAS 68 Classification Code: Fixed Bollard V/7500(N2)/64/90:8.7/0.0
- Test results: The vehicle was completely disabled, eliminating its ability to carry out a second attack.
- Penetration beyond the bollard was 8.7m.