



PHALANX[®]

Wide Area Protection SYSTEMS

Hostile Vehicle Mitigation

PHALANX FPB Series

PHALANX tubular steel Bollards

Use for vehicle attack and allowing a free flow of pedestrian movement. Meets and exceeds direct impact forces of 1185kJ and 1852kJ, they are DOS K8 and K12 rated.

HIGH PERFORMANCE PAS 68 PERMANENT BOLLARDS



PHALANX FPB PAS 68 tubular steel bollards offer high performance, durability and a cost effective solution wherever a threat from criminal or terrorist attack is identified.

Successfully tested with a 7,500kg truck (PAS 68 Class N2), they provide 30mph (50kph), 40mph (64kph) and 50mph [80kph] impact protection and are suitable for many applications, including vehicle intrusion protection at supermarkets, cash handling facilities, warehouses etc., in addition to the usual HVM protected sites.

Designed to withstand direct impact forces of 1185kJ and 1852kJ respectively, the FPB 64A & FPB 80 bollards offer protection from both 4x4s and 7.5 tonne trucks. They are available in a range of finishes and are the perfect choice for industrial and commercial property protection, whilst allowing free flowing pedestrian movement around store entrances and car parks.

The FPB bollards can be installed as standalone units or in multiple arrays and at a spacing of 1.2m face to face they provide a PAS 68 compliant HVM perimeter, which will protect critical infrastructure threatened by VBIEDs.

The standard unit is a capped tubular steel bollard with a galvanized or black powder coated surface finish. Other finishes are available to special order. Cover sleeves of stainless steel and other durable materials are also available





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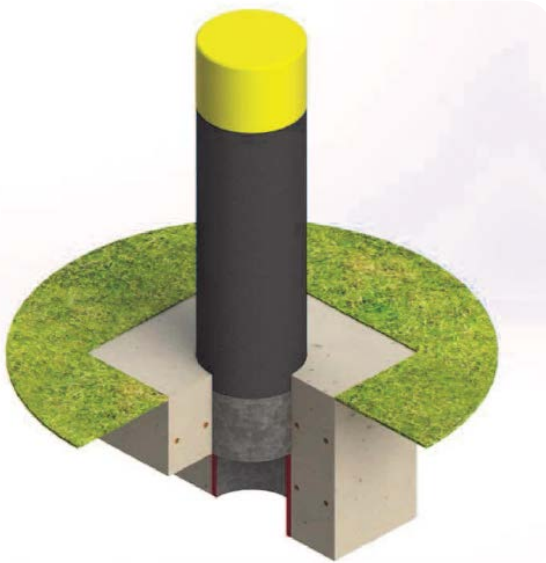
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FEATURES & BENEFITS

- PAS 68 approved for HVM perimeter protection
- Simple cost effective design
- Immobilises attack vehicle
- 30mph [50kph], 40mph [64kph] & 50mph [80kph] protection
- Available in a range of finishes Single or multiple unit installations
- Quickly replaced after impact
- Protects from 4 x 4 and 7.5 tonne vehicles

PAS 68 Rating:-

FPB 64A V/7500 (N2) /64/90:3.3/0.0:(16,534lbs 40mph DOS K8 L2)
FPB 80 V/7500 (N3) /80/90:10.6/11.1 (16,534lbs 50mph DOS K12 L1)
(DOS equivalent classification for reference only)





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The FPB 64A and the FPB 80 are tubular steel bollards providing 30mph, 40mph and 50mph impact protection. The standard unit is a capped tubular steel bollard with a galvanized or black powder coated surface finish. Other finishes are available to special order. Cover sleeves of stainless steel and other durable materials are also available.

Part #	Description	Height	Embedment	Tube	Rating
FPB-64A-SLV	Standard 40 Mph	1 Meter	0.65 meter	0.273	V/7500 (N2) / 64/90/3.3/0.0
FPB-80-BK	High Impact 50 Mph	108 meter	0.57	0.273	V/7500 (N2) / 64/90/10.6/11.1





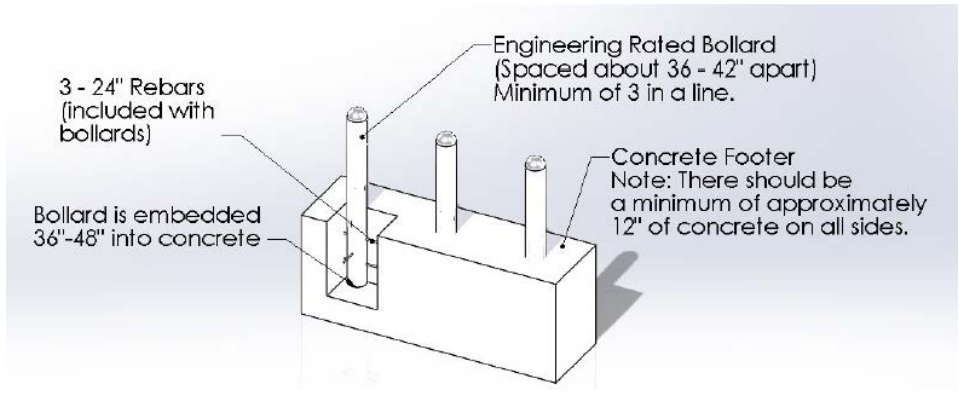
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PHALANX FPB Bollards have been Engineering Rated to meet the ASTM F2656-07 Standards for Vehicle Crash Testing of Perimeter Barriers. Note, this Standard has replaced the Department of State (K4, K8 and K12) ratings. The Engineering Rating has been achieved by setting the bollard up as a cantilever beam and applying the vehicle impact load to the bollard at the approximate vehicle bumper height. Since the bollards are to be spaced about every 3ft, we assume the vehicle will interact with 2 bollards.

The Crash Rated Bollards require a minimum of 3 bollards in a line and with a spacing between bollards of about 36" to 42". (91 to 107cm) They are to be embedded 3' to 4' (91 to 121cm) into concrete and filled with concrete which has rebar attached to each bollard. Rebar is delivered with each bollard. Our Crash Rated Bollards are shipped with a primer paint finish and are to be painted your color of choice after installation. As an option, we offer them powder coated to your color or galvanized.

Part Number	ASTM Rating	DOS Equivalent:	Size:	Length:	Height above Grade
FPB-130	P40	NA	6"	7'	3'
FPB-150	P40	NA	6"	8'	4'
FPB-200	M30	K4	8"	7'	3'
FPB-230	M30	K4	8"	8'	4'
FPB-280	M40	K8	10"	7'	3'
FPB-320	M40	K8	10"	8'	4'
FPB-350	M50	K12	12"	7'	4'
FPB-400	M50	K12	12"	8'	4

