

**Section 1 Accreditation****1.01 Shallow mount fixed bollard system**

1.01.1 Designation – High Security Fixed Bollard System

**1.02 PAS 68:2007 Certified Product**

1.02.1 Test Date February 25, 2008

1.02.2 Test location TRL Ltd. UK

1.02.3 Certification Rating PAS 68 7500 64/1.2/3.1

**1.03 Test Vehicle**

1.03.1 Make/Type Iveco Cargo rigid curtain side

1.03.2 GVW 7500 Kg or 16535 Lbs.

1.03.3 Speed achieved 64.3 km/h or 39.95 mph

1.03.4 Penetration 1.18 m or 3.87 ft.

1.03.5 Engine running after test – NO

1.03.6 Vehicle drivable after impact – NO

1.03.7 Follow on vehicle could pass barrier – NO

**1.04 Product Result – Product Restrained Vehicle and was operational once reset.****1.05 Experience**

1.05.1 The Manufacturer shall have at least 10 similar systems installed and in operation.

**Section 2 System Configuration****2.01 Bollards**

2.01.1 Minimum of a 3 bollard array for a certified product

2.01.2 Diameter equal to 12 in (307 mm)

2.01.3 Height from top of grade level to top of bollard equal to 40.16 in (1020 mm)

2.01.4 Spacing from bollard center to bollard center equal to 59 in (1500 mm)

2.01.5 The clear opening from bollard to bollard equal to 47 inches (1200 mm)

2.01.6 Optional Stainless Steel Sleeve Available

**2.02 Foundation**

2.02.1 The bollard design shall be suitable for installation on a suspended slab, structural integrity of the slab is maintained by not allowing anchor bolting of the foundation.

2.02.2 Excavation Depth equal to 4.5 in (112 mm)

2.02.3 Width front to back equal to 75 inches (1900 mm)

2.02.4 Length of 3 bollard array equal to 190 inches (4825 mm)

2.02.5 Concrete strength minimum of 3000 psi concrete must be used

2.02.6 Soil Compaction of not less than 95% maximum dry density

**2.03 Biscuit design**

2.03.1 Biscuits are modular bollard design the fit together to form a pre-fabricated high security bollard system. This design facilitates a fast and easy installation

2.03.2 The Biscuit design eliminates the need for rebar supporting structure and eliminates the need for site hot work.

2.03.3 Bollard 1 counting from left to right = T shaped biscuit 4.5 inches in depth

2.03.4 Bollard 2 counting from left to right = straight biscuit 4.5 inches in depth

2.03.5 Bollard 3 counting from left to right = T shaped biscuit 4.5 inches in depth

2.03.6 Additional Biscuit designs are available to form different geometric shapes.



### **Section 3 Construction**

#### **3.01 Bollard Construction**

3.01.1 The SP1000 system is constructed of heavy gauge steel fully welded prior to priming and painting (optional hot dip galvanizing)

3.01.2 Bollard are delivered mounted to steel biscuit structure, providing significant resistance to vehicle impact.

### **Section 4 Warranty**

4.01 Warranty – the system shall carry a full 12 month parts warranty from date of delivery.

### **Section 5 Submittals**

5.01 Drawings - will be provided to site specific requirements

5.02 Installation Manual - will be provided

### **Section 6 Procurement Details**

The Pas 68 Shallow Mount SP1000 product shall be purchased from Ameristar Perimeter Security USA Inc.

1555 N. Mingo Road

Tulsa, OK 74116

[www.ameristarsecurity.com](http://www.ameristarsecurity.com)