

# Tender Specifications

## Road blocker PAS68 (7500 kg truck @80 km/h)

Provide road blockers to stop unauthorized vehicles trying to enter to the site by force with the result that the undercarriages, the axes and the wheel suspension are destroyed and the vehicle is no longer maneuverable. The blocking width should be not less than 1980 mm and not more than 3980 mm (from 2170 mm to 4170 mm with installation part) and the blocking height is not less than 950 mm above road way top edge.

Road Blocker should be certified in European independent laboratory in accordance to:

- BSI PAS 68:2013;
- IWA 14-1:2013.

N3 type of truck according to PAS68 standard, should be used for crash-test.

Country of origin should be USA or European countries.

### Normal Operation

Road Blockers shall provide excellent security and positive control of normal traffic by providing an almost insurmountable obstacle to non-armored or non-tracked vehicles. The Road Blocker system shall be designed to stop a vehicle attacking from the priority direction, weighing: 7500 KG at 80 Km/h (kinetic energy 1868 kJ). Upon impact, forces shall be first absorbed by the Road Blocker assembly and then transmitted to the foundation of the unit. Blocker shall remain functional after impact and ready to block/open the road.

### Installation

Road Blocker should be shallow mounted. Overall installation depth including concrete base shall not exceed 200 mm.

### Control

The Road Blocker is controlled automatically by sending a signal to electronic control board from push-button, or any third-party access control system.

Upon receiving of signal, hydraulic power unit actuating hydraulic piston to lower or raise blocker.

### Normal Mode of Operation

Road Blocker shall be capable of being raised or lowered in 3.5 seconds when operated at a repetition rate. Road Blocker shall be instantly reversible at any point in its cycle from the control stations.

### Emergency Fast Operation

Road Blocker shall rise to the guard position from fully down in 1.5 seconds maximum when the emergency fast operate button is pushed provided the system has not previously been exhausted by power off or manual operation or high speed cycle rates. Road Blocker shall remain in the up and locked position (normal up/down buttons inoperable) until the EFO condition is reset.

### Road Blocker Construction

Road Blocker shall be an above grade assembly containing a heavy steel weldment capable of being rotated to an above grade position. The guard position shall present a formidable obstacle to approaching vehicles. The removable portion of the roadway plate that provides access to the Road Blocker internals shall be fastened with bolts which have their heads recessed below the roadway level.

#### Road Blocker Height

Height of the Road Blocker shall be 950 mm as measured from the top of the foundation frame to the top of the barrier inclusive of the top road plate.

#### Road Blocker Length

Road Blocker length (from front to back) should be 1690 mm

#### Road Blocker Width

The blocking width should be not less than 1980 mm and not more than 3980 mm

#### Finishing

Road Blocker front and roadway plates shall have yellow/black stripes RAL 9005/1007.

Road blocker should have optional protective shutters along the entire length and height of the blocking element, to avoid manual cutting of oil hoses and electric communications during unauthorized access and prevent small animals and rodents from entering inside the structure

#### Hydraulic Power Unit

Unit shall consist of an electrically driven hydraulic pump which shall pressurize a high pressure manifold connected to a hydraulic accumulator. Electrically actuated valves shall be installed on the manifold to allow oil to be driven to the up and down side of a double acting hydraulic cylinder to raise and lower the Road Blocker. The hydraulic circuit shall include all necessary control logic devices, interconnect lines and valves to override and lock out the normal speed control valves for emergency fast operation of the Road Blocker.

The hydraulic power unit and accessories shall be mounted and wired on an integral steel skid. The HPU shall be mounted in weather resistant enclosure and can be equipped by EFO (Emergency Fast Operating System), manual pump, DC motor, oil level indicator, pressure manometer etc.

The length of hydraulic hoses should be max. 15 meters

Electro-mechanical Road Blockers are not allowed, due to overheating, small intensity of usage, and less durability.

#### Power Failure Operation

Provide Road Blocker with an Uninterruptable Power Supply system to allow maximum cycle operations in the event of power failure in duration of at least 2 hours with at least 100 cycles. The bi-directional control valves shall also be manually operable in this case. Such system should operate from build-in DC motor connected to 12 VDC batteries, which can be easily replaced on site (during long power interruption). Upon restoring the power, batteries should recharge automatically without need to replace them.

## Manual Operation

- A hand pump shall be furnished to allow the road blockers to be raised and lowered manually in the event of a prolonged power interruption.
- The pump shall be located in an easily accessible location.

## Electrical Control Equipment

- Locate control panels at corresponding guard posts. The panels shall have:
  1. Panel "on" light with "on/off" override key.
  2. Buttons to raise, lower and stop the Road Blocker.
  3. Blocker "up", "stop" and "down" indicator lights.
  4. The emergency fast operates push button with light and override key for reset and unlocking.
    - Control circuit shall be provided to interface between all Road Blocker control stations and the hydraulic power unit. This circuit shall contain all relays, timers and other devices necessary for the Road Blocker operation.
    - PCB in control box, installed in drive cabinet
    - Provide outputs for remote indication of the position of Road Blocker.
    - Possibility of integration with any third-party electronic system including, but not limited to: LNPR, induction loops, IR sensors.

## Safety Interlocking System

Provide induction loops in conjunction with specified road blockers as follows:

- Loop dimensions:
  - a. Width according to the actual width of the road blocker with additional 0.5 m at both sides
  - b. Length 1.25 meter
- Provide interlocking function as an integral part of the system to prevent the raising of the road blocker in case of a vehicle being above the loop and the raise-button is pushed simultaneously.