



# Protecting Public Spaces



As the world reacts to the growing threat of motor vehicles being used in terrorist attacks local & state governments are now tasked with how best to protect people in public spaces.

In the past the logical solution was to install certified crash rated specialised products. These solutions take time to plan and install, are normally very expensive and often result in a fortress style atmosphere.

A new alternative currently being suggested from Security Agencies is to take a more simple approach by **Stopping Vehicles Gaining Entry.**

Street furniture elements strategically positioned deny vehicle access and provide a more economically engineered solution.



## The key requirements in implementing this are:

- All products used need to be connected to the pavement by shear keys
- No openings more than 1.2m wide
- Easy for pedestrians to navigate
- Aesthetically attractive
- Allow service vehicle access

LEDA's Street Furniture range has been designed with Security and **Hostile Vehicle Mitigation (HVM)** as the main criteria. With this in mind it is important that architects and end users have a choice in deciding whether to select certified product that has been successfully impact tested (normally involve imported and expensive product) or locally manufactured more economical **Engineered Solutions.**

*LEDA's extensive experience has allowed us to develop the following comprehensive range of Street Furniture for use in crowded & public spaces.*

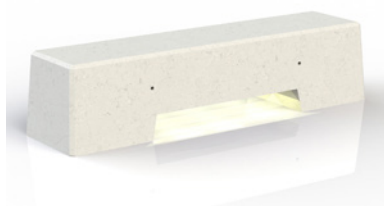
## ENGINEERED SOLUTIONS



The Cube



The Log

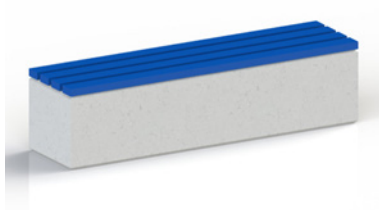


The Bench Log

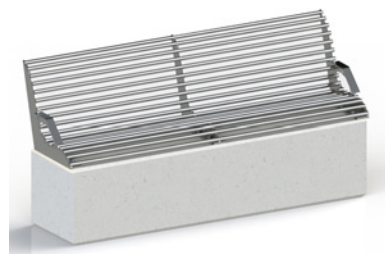
## Optional Seating



Timber Slats



Recycled Plastic Slats



Stainless Steel Seating

## Planter Boxes



Planter Box (Square)



Planter Box (Rectangular)

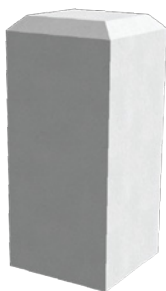


Planter Box (Rectangular)

## Bollards



Colossus



Russell Square



Russell Round

## PAS68 TESTED & CERTIFIED



Fixed &  
Retractable



Westminster



Litter Bin



Planter Box



Seating

Refer to Security Section of  
LEDA Bollard Handbook

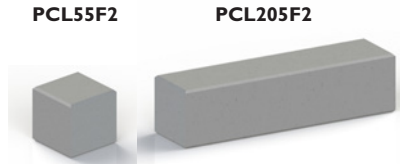
## LOG and CUBE

### Precast Concrete Options

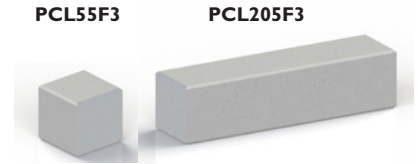
Our log and cube models are available in a variety of precast concrete and natural stone finishes



Off White (Etched finish)



Charcoal (Etched finish)



Grey (Off the form)

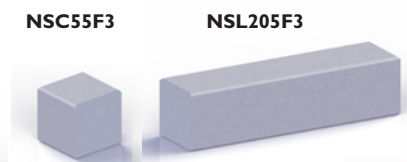
### Natural Stone Options



Hawksbury Sandstone  
(Rubbed finish)



Adelaide Black Granite  
(Exfoliated flamed finish)



Victorian Bluestone  
(Diamond sawn finish)

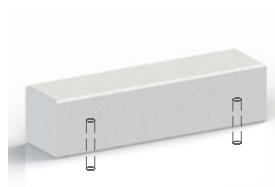


Bianca Mist Marble  
(Honed finish)

### Both the precast and natural stone cube and logs can be



Surface Mounted



Keyed to the Pavement



Keyed and Raised

### Seating options

To further improve functionality of the elements they can be converted to seating using either timber, stainless steel or recycled plastic options.



Timber Slats



Timber Seating



Recycled Plastic Slats



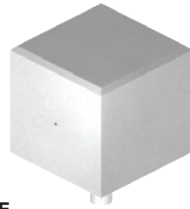
Stainless Steel Seating



### Cube

**Material** Precast concrete  
**Finish** Off-white etched finish / Grey off the form / Charcoal etched finish  
**Weight** 310kg

An attractive and effective vehicle access control delineator or seating module.

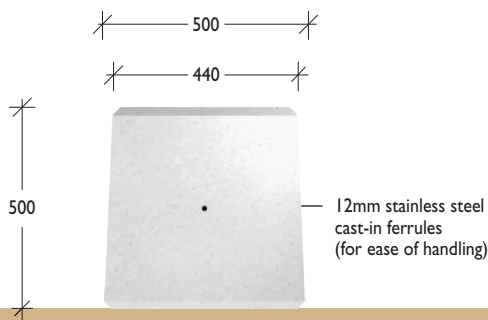


ENGINEERED SOLUTION

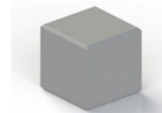


#### PRECAST CONCRETE CUBE

Flat On Ground



**PCL55F1**  
Off white



**PCL55F2**  
Charcoal



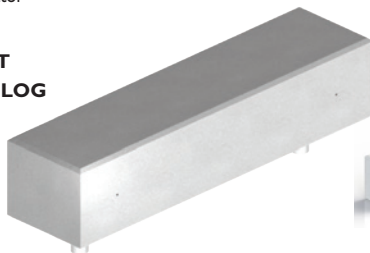
**PCL55F3**  
Grey off the form

### Log

**Material** Precast concrete  
**Finish** Off-white etched finish / Grey off the form / Charcoal etched finish  
**Weight** 1300kg

An attractive and effective vehicle access control delineator or seating module.

#### PRECAST CONCRETE LOG



ENGINEERED SOLUTION



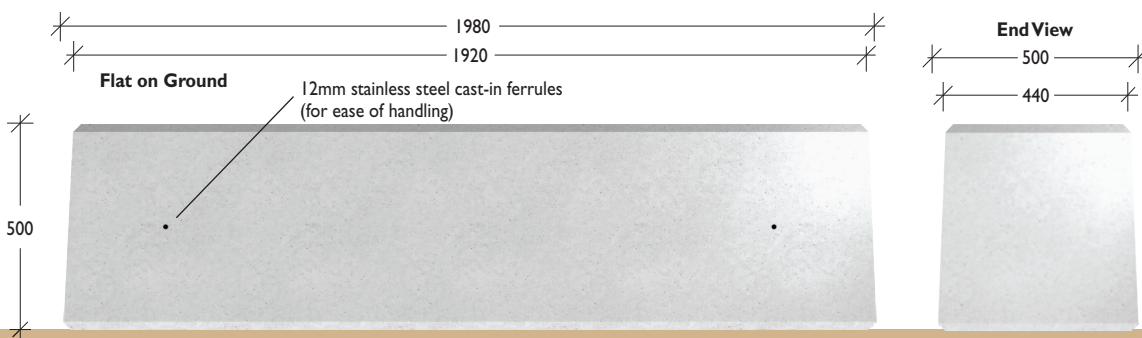
**PCL205F1**  
Off white



**PCL205F2**  
Charcoal



**PCL205F3**  
Grey off the form

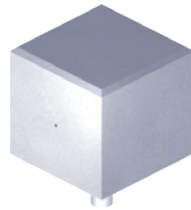


## Protecting Public Spaces > Engineered

### Cube

**Material** Natural stone  
**Finish** Sandstone / Black Granite / Mist Marble / Bluestone  
**Weight** 400kg

An attractive and effective vehicle access control delineator or seating module.

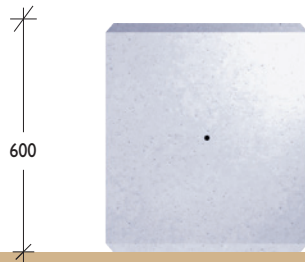


**NATURAL STONE CUBE**

**ENGINEERED SOLUTION**

Flat On Ground

500



12mm stainless steel cast-in ferrules (for ease of handling)



**NSC55F1**  
Hawksbury Sandstone



**NSC55F2**  
Adelaide Black Granite



**NSC55F3**  
Victorian Bluestone

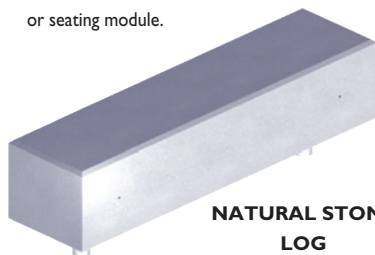


**NSC55F4**  
Bianca Mist Marble

### Log

**Material** Natural stone  
**Finish** Sandstone / Black Granite / Mist Marble / Bluestone  
**Weight** 1500kg

An attractive and effective vehicle access control delineator or seating module.



**NATURAL STONE LOG**

**ENGINEERED SOLUTION**



**NSL205F1**  
Hawksbury Sandstone



**NSL205F2**  
Adelaide Black Granite



**NSL205F3**  
Victorian Bluestone



**NSL205F4**  
Bianca Mist Marble

2000

Flat on Ground

600



12mm stainless steel cast-in ferrules (for ease of handling)

End View

500

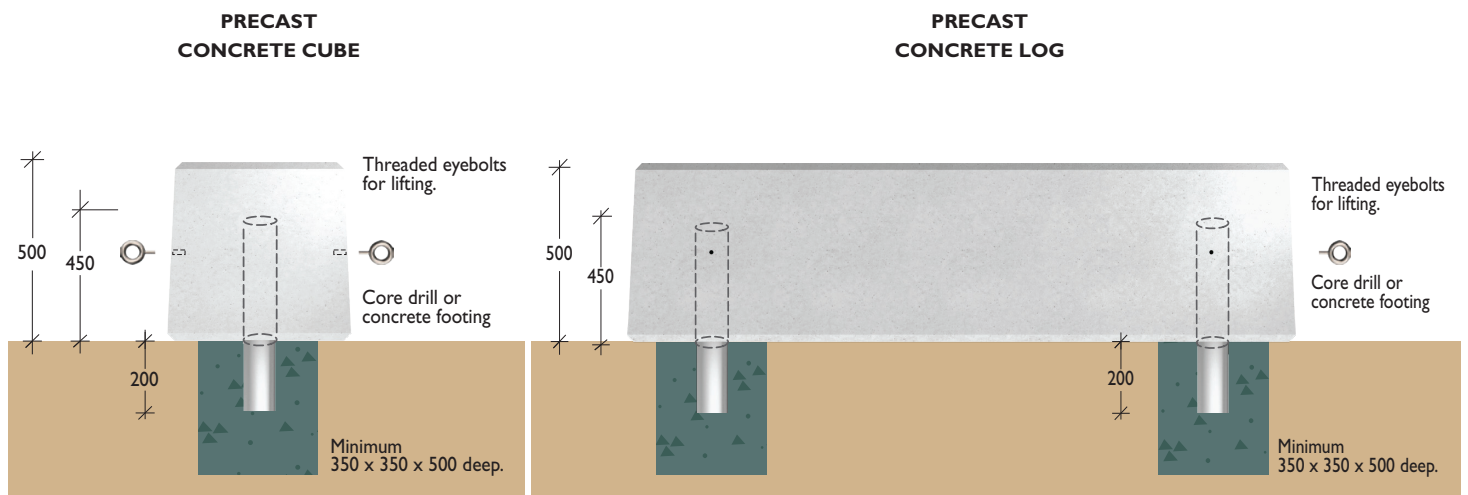


## IMPROVED IMPACT RESISTANCE

Where vehicle intrusion and security is required all Leda's street furniture can be keyed into the pavement by **Locking Shear Pins**.

**ENGINEERED  
SOLUTION**

*When ordering please select and nominate locking pins from following page.*

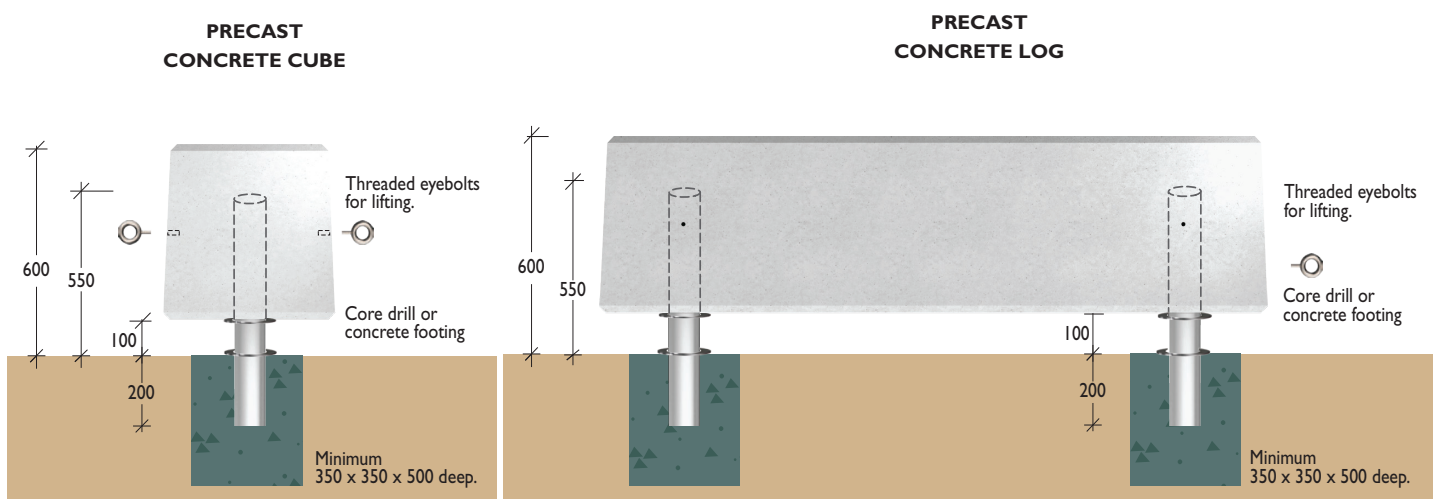


*Installation is a simple matter of core drilling into the existing pavement.*

## LOG AND CUBE ELEVATED

The log and cube can also be elevated 100mm to increase both the impact height and facilitate cleaning.

*When ordering please select and nominate locking pins from following page.*



## Protecting Public Spaces > Engineered

### Bench Log

**Material** Precast Concrete

**Finish** Off-white etched finish / grey off the form / charcoal etched finish

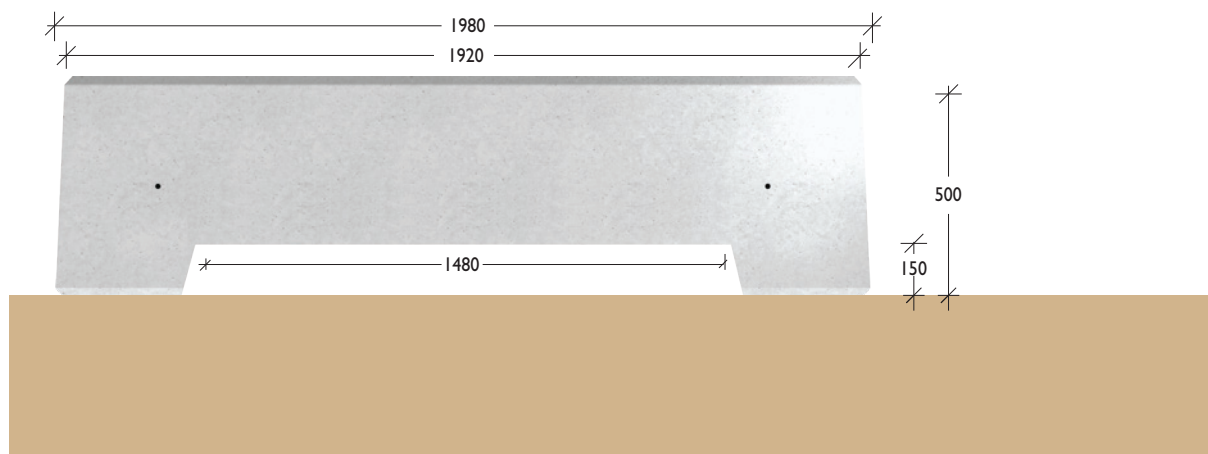
**Weight** 1120kg

The Bench Log is also available as a stand alone unit or can be anchored to the pavement with our locking pin options.

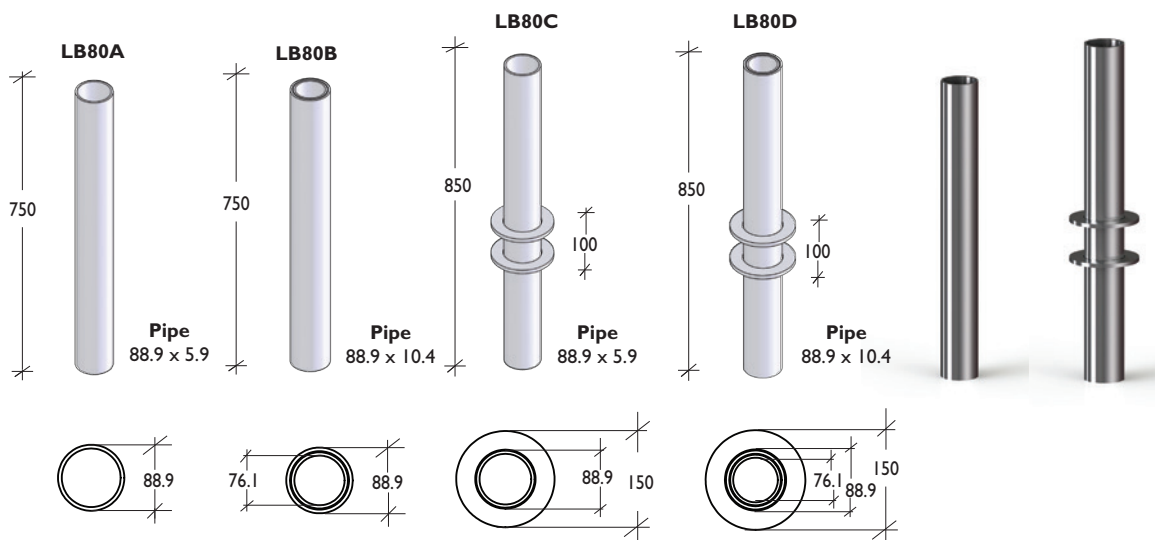
**ENGINEERED  
SOLUTION**



Bench log with hidden LED lighting provision is optional



### Locking Pins



## Bollards Colossus

**Material** Precast concrete  
80NB (88.9) x 5.9mm/10.4mm heavy duty galvanised pipe

**Finish** Off-white etched finish / grey off the form / charcoal etched finish

**Weight** 800kg



Threaded eyebolts for lifting.  
Refer Accessories section.

16mm stainless steel cast-in ferrule  
(for ease of lifting)

Spherical with Flat Base  
BLBOL

Top View

ENGINEERED  
SOLUTION

800

675

300

Minimum  
350 x 350 x 500 deep.



**BLBOL1**  
Off white



**BLBOL2**  
Charcoal



**BLBOL3**  
Grey off the form

## Bollards Westminster

**PAS68 Security Rating**  
V/ 7500[N3]/64/90:0.0/5.3

**Material** Engineered Steel either unpainted or with a primed finish

**Finish** Manganese Steel, supplied raw(unpainted) as standard with a blank front facia. Can be printed and fitted with a corporate logo or crest



PAS68  
TESTED

Front View

Side View

Impact direction  
→

Shallow mount  
footing illustrated

1029

100

The Westminster Bollards are available in shallow mount footing, removable or deep fixed in-situ models



## Protecting Public Spaces > Engineered

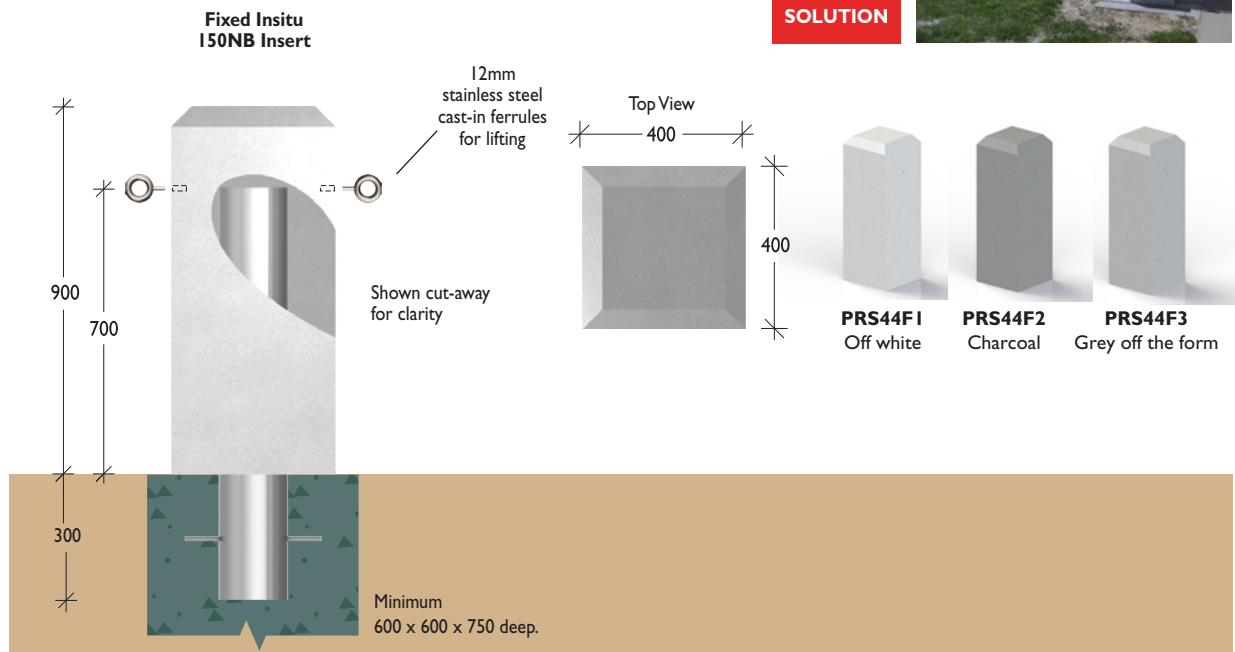
### Bollards Russell Square

**Material** Precast concrete

**Finish** Off-white etched finish / Grey off the form / Charcoal etched finish



**ENGINEERED  
SOLUTION**



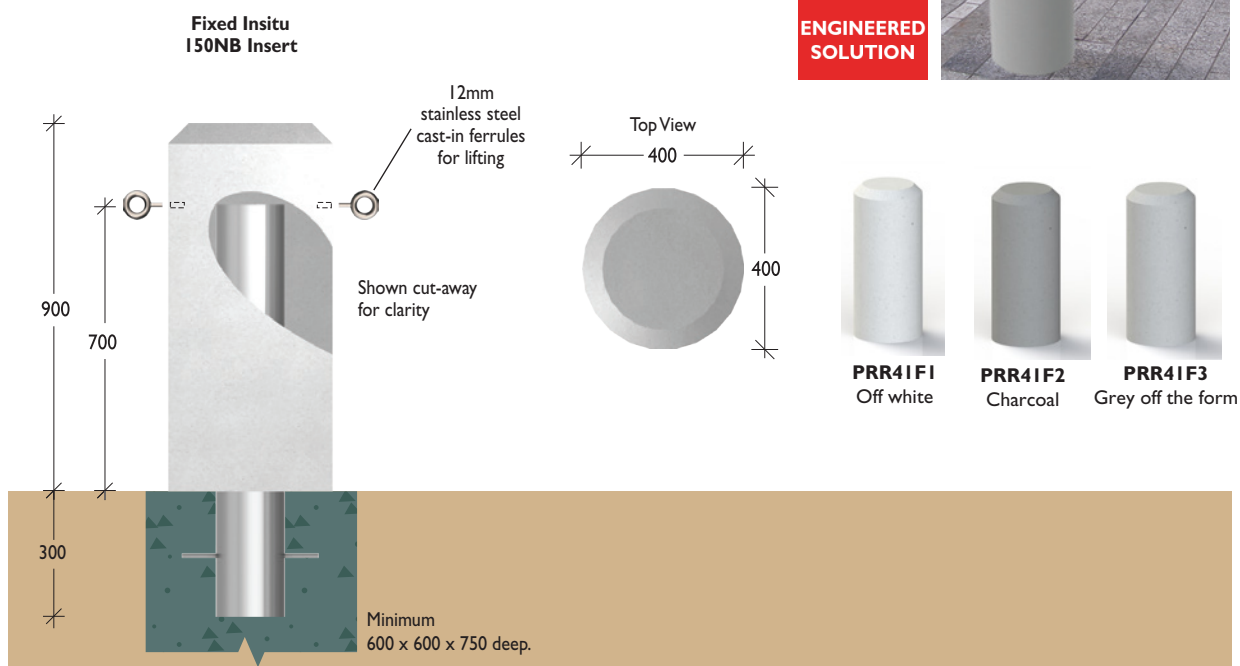
### Bollards Russell Round

**Material** Precast concrete

**Finish** Off-white etched finish, Grey off the form / Charcoal etched finish



**ENGINEERED  
SOLUTION**



### Bollards

#### Russell Square

**Material** Natural stone  
**Finish** Sandstone / Black Granite / Mist Marble / Bluestone

**ENGINEERED SOLUTION**



**NSRS44F1**  
Hawksbury Sandstone



**NSRS44F2**  
Adelaide Black Granite



**NSRS44F3**  
Victorian Bluestone

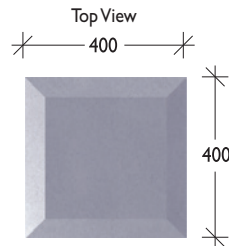


**NSRS44F4**  
Bianca Mist Marble

**Fixed Insitu 150NB Insert**

12mm stainless steel cast-in ferrules for lifting

Shown cut-away for clarity



900  
700  
300

Minimum 600 x 600 x 750 deep.

### Bollards

#### Russell Round

**Material** Natural stone  
**Finish** Sandstone / Black Granite / Mist Marble / Bluestone

**ENGINEERED SOLUTION**



**NSRR41F1**  
Hawksbury Sandstone



**NSRR41F2**  
Adelaide Black Granite



**NSRR41F3**  
Victorian Bluestone

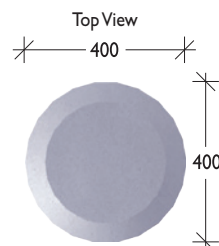


**NSRR41F4**  
Bianca Mist Marble

**Fixed Insitu 150NB Insert**

12mm stainless steel cast-in ferrules for lifting

Shown cut-away for clarity



900  
700  
300

Minimum 600 x 600 x 750 deep.

LEDA's planter boxes can be mounted directly onto the pavement or fitted with locking pins to key them into the pavement

Locking pin details  
(See Page 7)

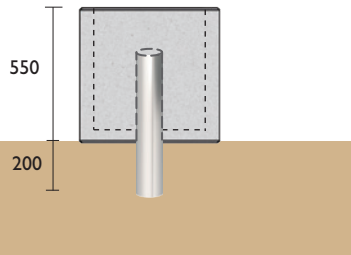
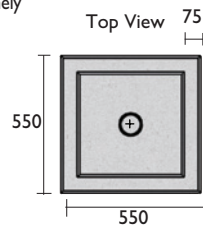
## Protecting Public Spaces > Engineered

### Planter Boxes

**Material** Precast concrete  
80NB (88.9) x 5.9mm/10.4mm heavy duty galvanised pipe

**Finish** Off-white etched finish / grey off the form / charcoal etched finish

Precast concrete planter boxes can provide an extremely visible deterrent while also enhancing the landscape.



**ENGINEERED  
SOLUTION**



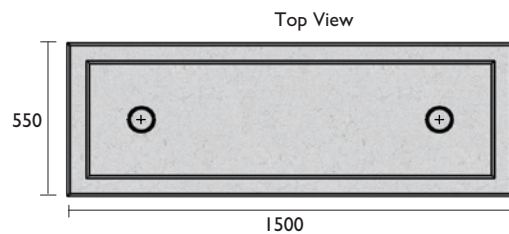
**PPB55F1**  
Off white



**PPB55F2**  
Charcoal



**PPB55F3**  
Grey off the form



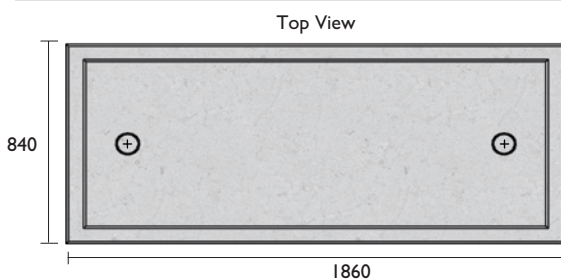
**PPB515F1**  
Off white



**PPB515F2**  
Charcoal



**PPB515F3**  
Grey off the form



**PPB818F1**  
Off white

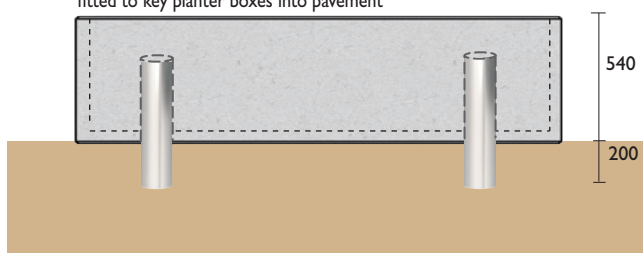


**PPB818F2**  
Charcoal



**PPB818F3**  
Grey off the form

Optional locking pins can be fitted to key planter boxes into pavement



## Protecting Public Spaces > Engineered

### Pedestrian Railing

**Material** 150NB (168.3) x 3.4/7.11/10.97mm Grade 304 stainless steel pipe  
Rail 50NB (60.33) x 3.4 Grade 304 stainless steel pipe  
**Finish** Linished or electro-polished

Bollards available in 3 various wall thickness

**Fixed  
Insitu**

SSP155FA 3.40 **1**  
SSP155F B 7.11 **2**  
SSP155F C10.97 **2**

**SCS50**

**ENGINEERED  
SOLUTION**



### Pedestrian Railing

**Material** 125NB (141.3) x 3.4/7.11/10.97mm Grade 304 stainless steel pipe  
Rail 40NB (48.26) x 3.4 Grade 304 stainless steel pipe  
**Finish** Linished or electro-polished

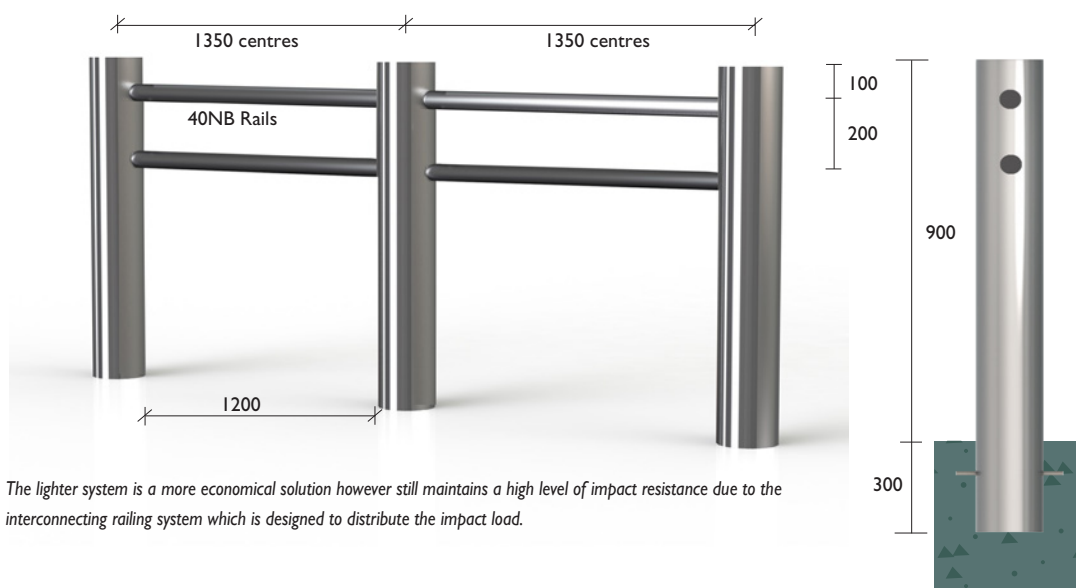
Bollards available in 3 various wall thickness

**Fixed  
Insitu**

SSP125FA 3.40 **1**  
SSP125F B 7.11 **2**  
SSP125F C10.97 **2**

**SCD40**

**ENGINEERED  
SOLUTION**





## Protecting Public Spaces > Engineered

### Sign Board Frame

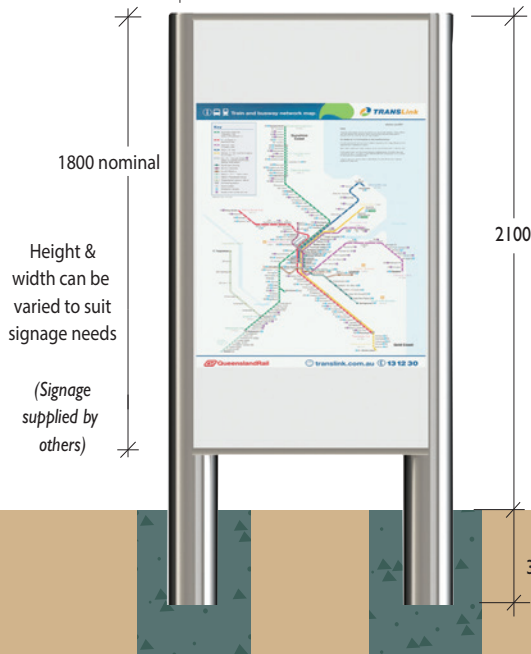
**Material** 150NB (168.3) x 3.4/7.11/10.97 grade 304 stainless steel  
**Finish** Linished or electropolished

This frame is available in three wall thickness pipe providing various levels of impact resistance and security

**PSS21**

800 nominal

Front View

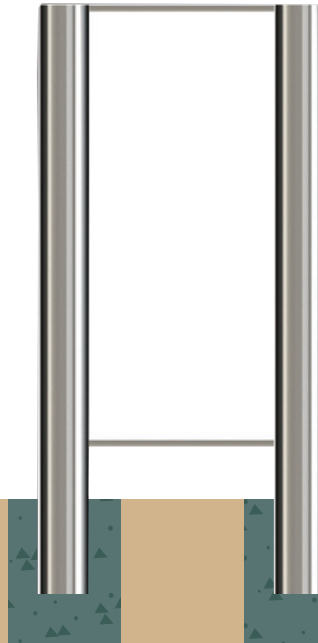


**ENGINEERED  
SOLUTION**

**Fixed Insitu**

SBR815F A 3.40 **1**  
SBR815F B 7.11 **2**  
SBR815F C 10.97 **2**

Rear View



Side View

150NB



### Square Frame

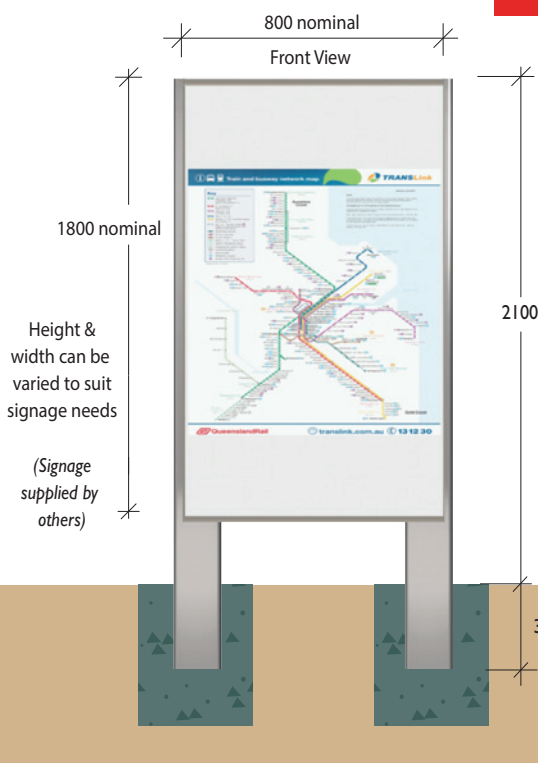
**Material** 150(152.4) x 100(101.6) x 3.0mm grade 304 stainless steel RHS  
**Finish** Linished or electropolished

**ENGINEERED  
SOLUTION**

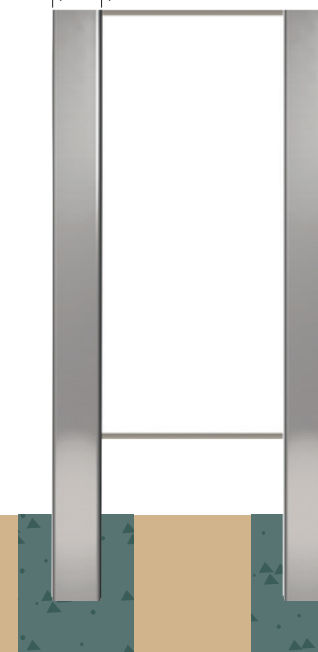
**Fixed Insitu**

SBS815F

Rear View



100



Side View

150



## Seating

RG-SE-9999

**Material** Reinforced precast concrete strengthened by RhinoGuard technology/Arm rests - Ferrocast polyurethane  
Standard unit 2 end sections and 1 center section

### Performance

Vehicle: Fully-laden 7.5 tonne two axle rigid N2 lorry  
Vehicle Speed: 40mph (64km/h)

### Test Results

The vehicle was completely immobilised, eliminating the chance of a second attack

**PAS68  
TESTED**



\*Standard unit pictured

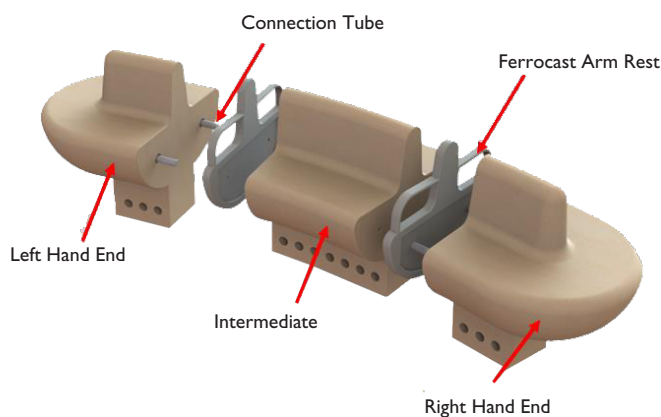
### PAS68 classification code

Test1 - Centre: PAS68V/7500(N2)/64/90:3.7/0.0

Test2 - Off Centre: V/7500(N2)/64/90:3.5/0.0



**This modular seating system offers unique style combined with functionality and high impact resistance**



### Dimensions & Weight:

Centre Section Span - 1102mm  
Left/Right Section Span - 1037mm  
Seating Section - 474mm  
Ferrocast Arm Section Weight - 21.5 Kg  
Cast End Section Weight - 1000 Kg  
Cast Intermediate Section Weight - 1200 Kg

## Protecting Public Spaces > PAS68/IWA14-1 Certified

### Seating

RG-SE-00001

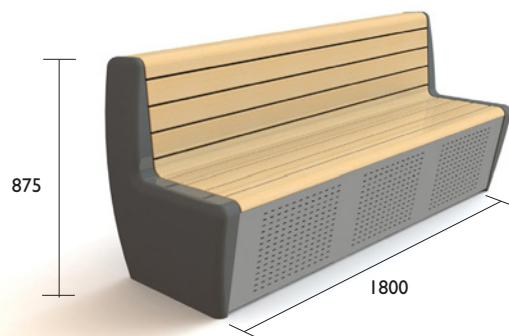
**Material** Ferrocast and timber  
**Finish** Available in wide selection of RAL colours

#### Performance

Fully laden 7.5 tonne two axle rigid N2 lorry  
Vehicle Speed: 30mph (48km/h)

#### Test Results

The vehicle was completely immobilised,  
eliminating the chance of a second attack



**PAS68  
TESTED**



#### PAS68 classification code

Test1: Front facing (centre): PAS68:2010:V/7500(N2)/48/90:0.0/0.0

Test2: Back facing (centre): V/7500(N2)/48/90:3.1/0.0

Test3: Back facing (Off centre):V/7500 (N2)/48/90:2.7/0.0

### Seating

RG-SE-00002

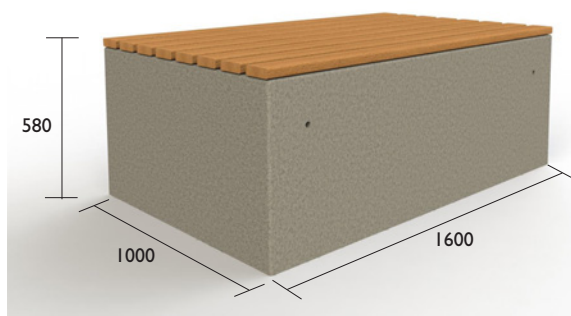
**Material** Precast concrete and timber  
**Finish** Available in Silver Grey, Mid Grey / Saxon Buff finish  
**Weight** 2500kg

#### Performance

7.2 tonne N2A lorry  
Vehicle Speed: 40mph (64km/h)

#### Test Results

The vehicle was completely immobilised,  
eliminating the chance of a second attack



**IWA14-1  
TESTED**



#### IWA14-1:2013 Classification Code

Blok V/7200[N2A]/64/90:19.3

#### Available finishes:



### Planter

RG-PL-00002

**Material** Mix of concrete & fine Italian marble  
**Finish** Polished smooth surface treated with a protective varnish

This is an ideal alternative to the more traditional methods of hostile vehicle mitigation providing high level of impact resistance at the same time introducing planting to urban spaces.

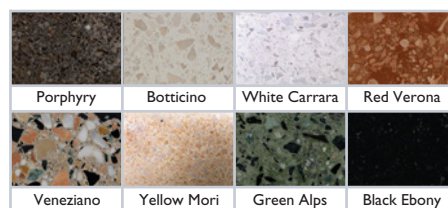


**Excavation depth:** 950mm

**Test Results:** The vehicle was completely immobilised, eliminating the chance of a second attack

**PAS68 TESTED**

#### Available finishes:



#### Test1 (frame)

Vehicle: Fully laden 7.5 tonne two axle rigid N2 lorry  
Vehicle Speed: 40mph (64km/h)  
PAS68 classification code: PAS68: 2010: V17500(N2)/64/90:0.0/0.0

#### Test2 (frame)

Vehicle: Unladen 7.5 tonne two axle rigid N3 lorry (empty 18 tonner)  
Vehicle Speed: 50mph (80km/h)  
PAS68 classification code: PAS68: 2010: V17500(N3)/80/90:1.7/0.0

#### Test3 (frame with Giove planter)

Vehicle: Unladen 7.5 tonne two axle rigid N3 lorry (empty 18 tonner)  
Vehicle Speed: 50mph (80km/h)  
PAS68 classification code: PAS68: 2010: V17500(N3)/80/90:3.8/35.5

### Planter

RG-PL-00003

**Material** Steel upright with timber panels  
**Finish** Powder coated in a range of colors

Features a sleek, geometric design providing high level of impact resistance at the same time introducing planting to urban spaces.



**Excavation depth:** 950mm

**Test Results:** The vehicle was completely immobilised, eliminating the chance of a second attack

**PAS68 TESTED**



#### Test1 (frame)

Vehicle: Fully laden 7.5 tonne two axle rigid N2 lorry  
Vehicle Speed: 40mph (64km/h)  
PAS68 classification code: V17500(N2)/64/90:0.0/0.0

#### Test2 (frame)

Vehicle: Unladen 7.5 tonne two axle rigid N3 lorry (empty 18 tonner)  
Vehicle Speed: 50mph (80km/h)  
PAS68 classification code: V17500(N3)/80/90:1.7/0.0



## Protecting Public Spaces > PAS68 Certified

### Bike Stand

RG-BS-99999

**Size** Ø140mm/Ø204mm stand sleeve  
**Finish** 316 bead blasted stainless steel body/machine finished  
316 grade stainless steel top cap

#### Core and Diameter Options:

Diameter: 140mm cycle stand sleeve

Core: RhinoGuard PAS68 15/30 core (protection against 1.5 tonne vehicle at 30mph)

Diameter: 204mm cycle stand sleeve

Core: RhinoGuard PAS68 25/40 core (protection against 2.5 tonne vehicle at 40mph)

Diameter: 204mm cycle stand sleeve

Core: RhinoGuard 75/40 core (protection against 7.5tonne vehicle at 40mph)

**PAS68  
TESTED**



#### Please note:

Due to the highly specialised components required for this item, lead times may be longer than anticipated. Please contact our nearest Sales office for more information.

### Litter Bin

RG-LB-99999

**Size** Ø140mm/Ø204mm bin diameter  
**Finish** 316 bead blasted stainless steel body/machine finished  
316 grade stainless steel top cap

#### Core and Diameter Options:

Diameter: 204mm bin

Core: RhinoGuard PAS68 15/30 core (protection against 1.5 tonne vehicle at 30mph)

Diameter: 204mm bin

Core: RhinoGuard PAS68 25/40 core (protection against 2.5 tonne vehicle at 40mph)

Core: RhinoGuard 75/40 core (protection against 7.5tonne vehicle at 40mph)

**PAS68  
TESTED**



#### Please note:

Due to the highly specialised components required for this item, lead times may be longer than anticipated. Please contact our nearest Sales office for more information.