

 **CHARCON**



## Speed-Pod

Sustainable precast concrete speed cushions

# Features and benefits

The Speed-Pod is a sustainable precast concrete product for use as a speed cushion in traffic management.

The Charcon Speed-Pod is designed to reduce speeds of traffic with various degrees of severity. They offer a cost effective off site sustainable solution, with significant savings on cost and installation time.

Typically a pair of Speed-Pods can be installed in a matter of 4 hours.

The dimensional accuracy ensures compliance to design standards set out in the Road Traffic Act. The design of the Charcon Speed-Pod is based on the Traffic Advisory Leaflets 4/94, 2/94, 3/93 and 1/87, and recommendations of TRL note PR43 and 20mph speed limit zones note 4/90.

The concrete is generally designed in accordance with BS8110, with steel mesh fabric reinforcement and strength of C50 and above.

Speed-Pod is available in five widths to suit the various applications, ranging from 1.6m to 2.0m and also lengths of 1.9m & 3.0m. Other sizes are available on request.

The weights of the units range from 1.35 to 2.66 tonnes, with the larger units split in two.

## End use applications

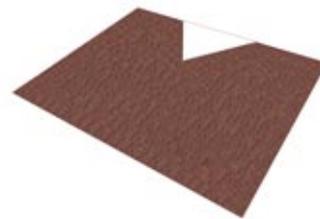
- Residential areas
- Traffic calming
- School roads
- Town centres
- Speed restrictions
- Private developments

## Key features

- Sustainable product – incorporating recycled waste
- Quick installation
- Fully reinforced and designed to withstand all traffic loadings
- Larger units made in two pieces for safer and ease of handling on site
- Very durable with negligible whole life costs
- Textured surface for high skid resistance
- Proven to reduce road accidents and injuries
- Unit comes complete with white reflective approach directional arrows
- Available as a package with other traffic calming products
- Supply and fix option available to clients.

## Sustainable solutions

The Highways Agency's 'smarter choices' scheme, promoting sustainable travel, looks at methods of reducing congestion on our roads. The ease and speed of installation of Charcon's Speed-Pod dramatically cuts road closure times, meaning that congestion and the increased CO<sub>2</sub> production of stopping and starting traffic is greatly reduced.



## Photography

**Opposite**  
Speed-Pod in action

**Bottom left**  
Approach sequence to Speed-Pod

**Bottom right**  
Texture of Speed-Pod, red cast textured surface. Other colours to special order





# Product selection

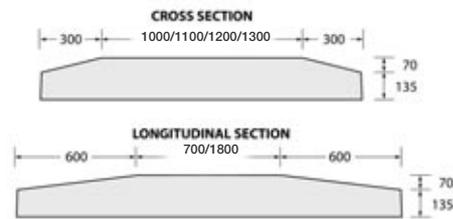
When selecting the correct type of Speed-Pod the following criteria should be considered: current speed restrictions, road width, traffic volume, traffic mix, type of road construction and vicinity of schools and residential populations.

**Photography**

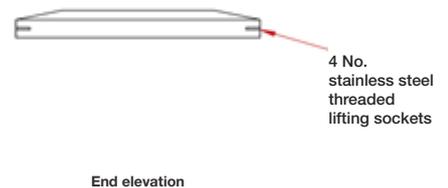
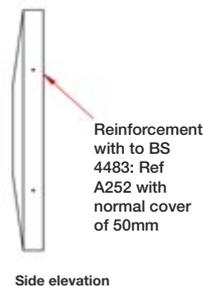
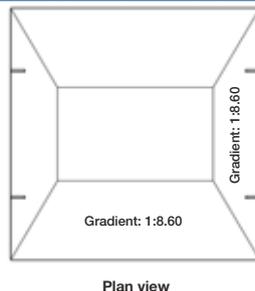
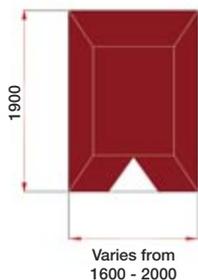
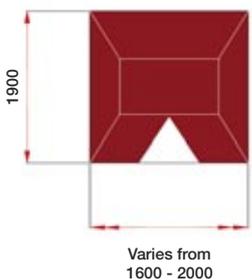
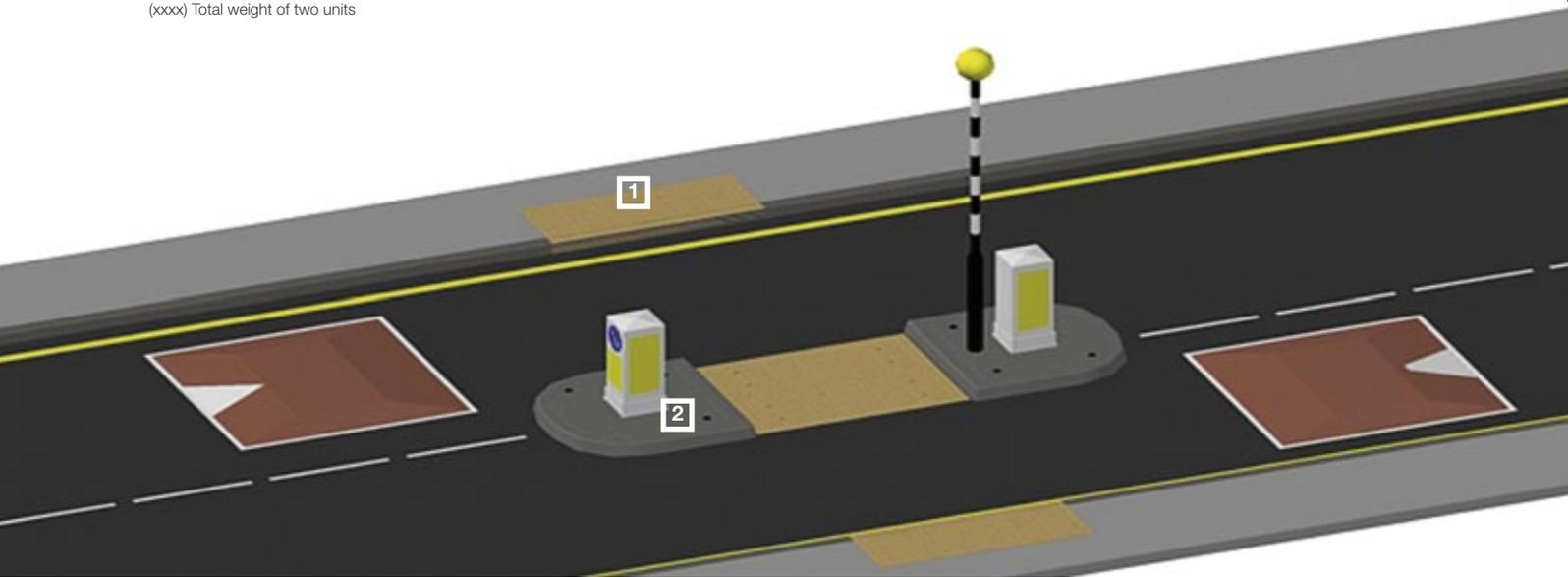
**Opposite**  
Warning sign for Speed-Pod

Description	Dimensions			Weight (kg)
	length	width	height	
TYPE SP1	1900	1600	70	1350
TYPE SP2	1900	1700	70	1420
TYPE SP3	1900	1800	70	1490
TYPE SP4	1900	1900	70	1560
TYPE SP5	1900	2000	70	1630
TYPE SP6	3000	1600	70	1055 (2110)
TYPE SP7	3000	1700	70	1125 (2250)
TYPE SP8	3000	1800	70	1190 (2380)
TYPE SP9	3000	1900	70	1260 (2520)
TYPE SP10	3000	2000	70	1330 (2660)

\* Other sizes available on request  
 \*\*3000 units are in two pieces  
 (xxxx) Total weight of two units



1. Charcon Footway-Pod.
2. Charcon Road-Pod® modular traffic island.





**Humps for  
1/2 mile**  
←

**Humps for  
220 yards**  
→

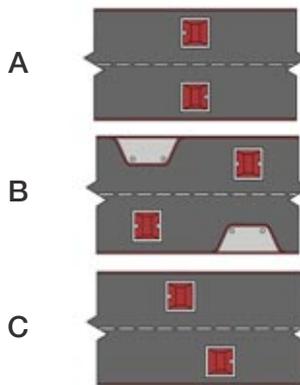
# Speed-Pod configurations

Speed cushions were originally introduced to overcome discomfort and delays for buses and emergency vehicles, caused by kerb to kerb road humps. There are now thousands of them in daily use, successfully calming traffic and reducing accidents, as the preferred choice for local authorities, local residents, private developers, the emergency services, bus operators, cyclists and motorists.

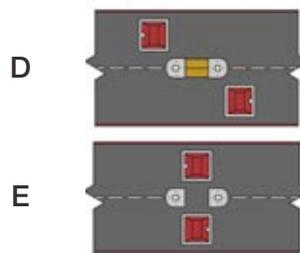
The Charcon Speed-Pod is suitable for use in a variety of configurations:

## Cushion pairs

The most common configurations of cushions are in pairs allowing two way working. There is typically a gap of 750mm between the kerb and the cushion and a gap of 1000-1200mm between cushions.

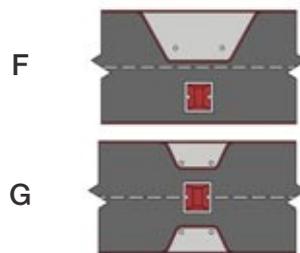


On wider roads, there may be a need for build outs. Alternatively speed cushions can be separated using a Charcon refuge or traffic island. If the cushions are offset this can create a crossing point.



## Single cushions

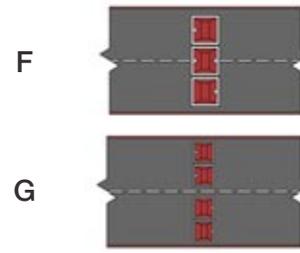
Typically positioned centrally in a pinch point or on one carriageway opposite a build out. Such arrangements restrict the flow of vehicles as well as their speed and so are suited to roads with less traffic volume.



## Multiple cushions

For wider roads where cushions can be positioned three or more across a road. Often the middle cushion is rarely driven over unless parked vehicles force traffic into the centre of the road.

A scheme is normally judged on its ability to reduce vehicle speeds and accidents. A considerable amount of data has been produced by local authorities showing the effectiveness of speed cushions. While cushions may not have the dramatic effect of road humps, they improve driver behaviour with a more even speed reduction, avoiding excessive slowing down and speeding up (and associated noise and emission pollution).



## Photography

Opposite, bottom left and bottom right  
Speed-Pod in action





# Installation

These guidelines are for use with Charcon Speed-Pods and should be used in conjunction with the relevant British Standards and Codes of Practice. Charcon is unable to accept any responsibility for the quality of workmanship or design criteria employed in the placement and fixing of Charcon Speed-Pods. This does not affect the normal statutory rights of our customers.

## 1. Health and safety

The contractor should ensure that all necessary personal protective equipment should be worn on site, as the site rules dictate. The recommendations of the manual handling Operation Regulations 1992 should be complied with, and where necessary, suitable lifting equipment utilised as supplied by Charcon.

## 2. Inclement weather

Laying operations should be discontinued (and any open work face covered) if weather conditions are such that the performance of the construction may be jeopardised.

Construction operations should not be undertaken when the temperature is below 3 degrees on a falling thermometer and below 1 degree on a rising thermometer. All unfinished areas and stockpiles of materials should be covered in the advent of inclement weather to prevent saturation.

## 3. Foundation/excavation

The base of the excavation should be inspected by the engineer for approval and then well compacted to level. Dependent on the carriageway construction it may be necessary to install a concrete foundation such as minimum thickness 150mm and C30 concrete, to the engineer's approval.

The units should be placed within the carriageway structure, the excavation should leave at least 100mm clear around the periphery of the unit. 40mm of wearing course should be planed from the pavement to be replaced upon completion of the installation.

The underlying construction should be excavated to the correct depth to accommodate the unit and the concrete base.

## 4. Laying

The units should be lowered into position and packed at each corner with Charcon support block (or similar) to bring up to the desired line and level.

Units are supplied with cast in threaded lifting sockets to facilitate lifting device and handling. Threaded lifting eyes will be provided on request from Charcon Specialist Products. We recommend the use of Halfen swivel lifting eye type code PWM16 (or similar) for the lifting process. In order to protect the edges of the units, they should not be laid so that they stand proud of the final carriageway surface.

## 5. Concrete base

The units should be laid securely onto a concrete base that is a minimum of 150mm thick and extends at least

100mm beyond the edge of the unit. The concrete used to form the base should have a minimum compressive strength of 40N/mm<sup>2</sup> and a maximum aggregate size of 20mm. It is imperative that the concrete has sufficient workability to flow under the unit. The use of self-compacting concrete would be acceptable

Begin to place concrete under the void, continue until the concrete rises upward to the sides of the unit. Stop when it reaches the level of the wearing course. The concrete should be vibrated into place under the units completely filling the void and supporting the unit. No voids shall exist between the unit and the base. The concrete must have gained adequate strength before any trafficking of the unit is permitted. We recommend Aggregate Industries' Bardon Diamondcrete concrete (with a high slump and C40 achievable in 24hrs) or similar.

## 6. Reinstatement of carriageway

The wearing course should be reinstated as directed by the Engineer. All joints between new and existing surfaces should be saw cut to a depth of 40mm and sealed with a hot bituminous binder to prevent moisture ingress.

## Photography

**Opposite**  
The installation procedure

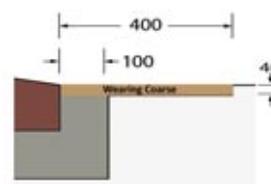
**Opposite bottom left to right**  
Approach sequence to Speed-Pod

Typical installation detail



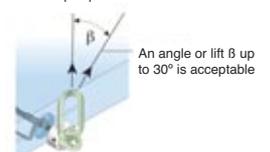
All dimensions mm (nom). Not to scale

Recommended construction detail flush finished wearing course.



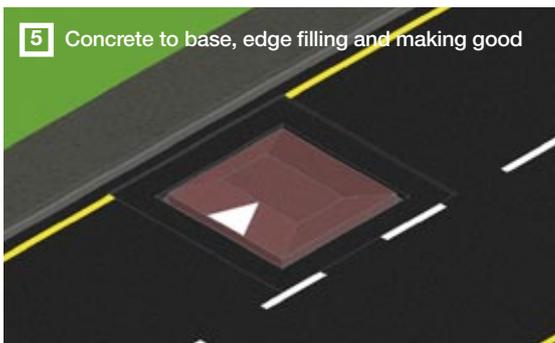
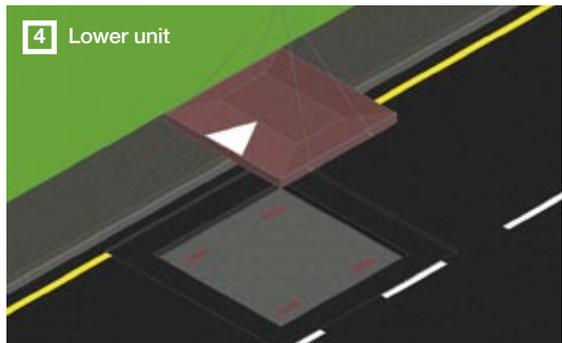
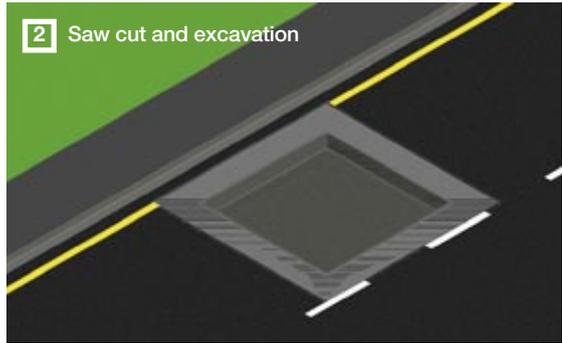
Lifting detail

Vertical pull preferred



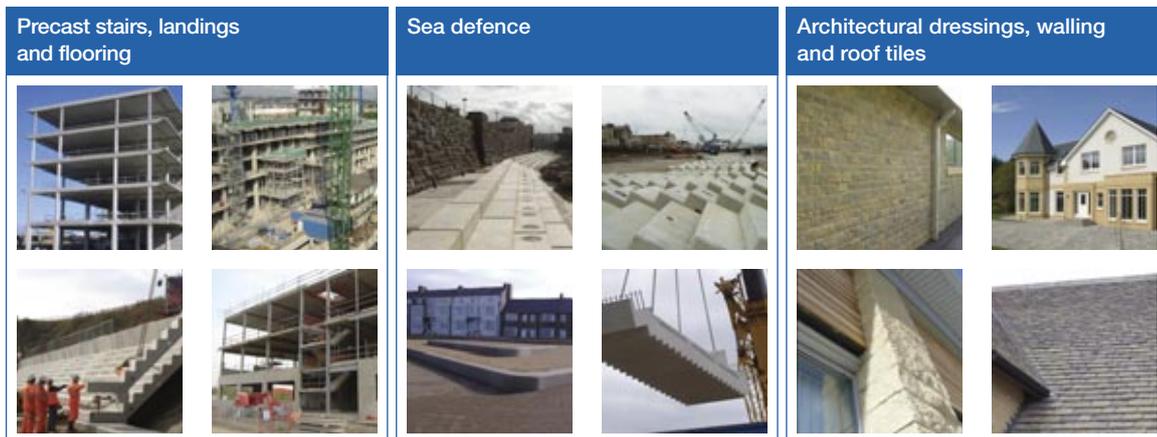
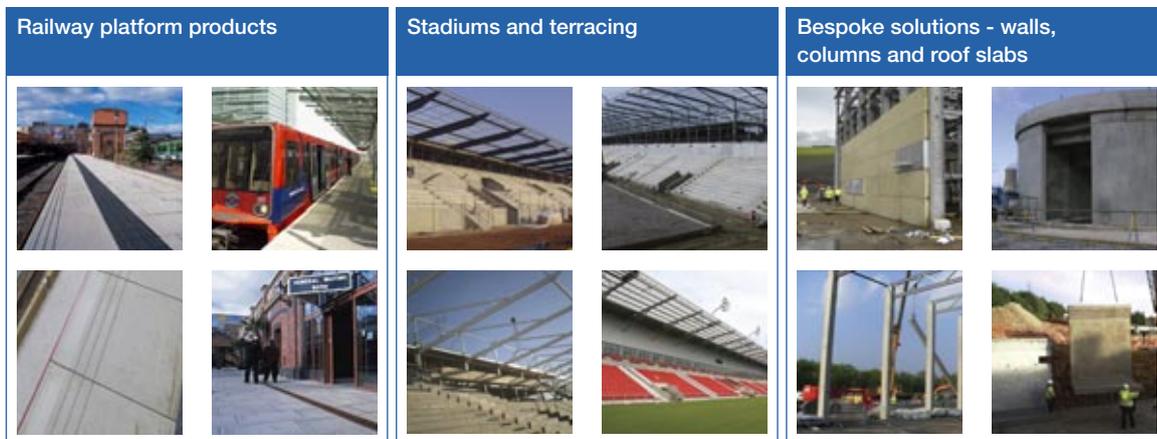
M16 stainless steel threaded sockets for use with lifting loops.

# Installation procedure



## Other Charcon project solutions

Charcon provides a huge range of civil engineering and construction solutions in precast. We can manufacture to any precast requirement. Please call us for further information.





Charcon Specialist Products, Marions Way, Coventry Road,  
Croft, Leicestershire LE9 3GP

Tel: 01455 288275 / 278

Fax: 01455 285284

Email: [charconspecialist@aggregate.com](mailto:charconspecialist@aggregate.com)

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



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