



Unit 228
30 Great Guildford Street
London SE1 0HS
Tel: 020 7928 7220
Fax: 020 7928 2318
Email: office@lcc.org.uk

Cycle Parking Equipment and Installation Standard

November 2001

About the London Cycling Campaign

Background

LCC was established in 1978 from a number of local London cycling clubs. LCC is a company limited by guarantee, with all members being members of the company. LCC has around 8,000 members across all 33 London boroughs. This standard has been produced by LCC, and updated from the March 1995 publication.

Vision

LCC's vision is to make London a world class cycling city.

Mission

LCC will make London a world class cycling city by:

- increasing cycling
- promoting cycling
- improving conditions for cycling
- raising the profile of cycling; and
- providing the best possible services for people who cycle.

Values

While working to achieve its Vision, LCC will build a strong and influential organisation which is:

- inclusive, member-led and responsive to the needs of all people who cycle;
- outward-looking and seeks to work collaboratively with people and organisations from all sectors of the community;
- independent, non-violent and non-party political;
- community based and environmentally responsible;
- professional, honest and efficient.

Acknowledgements

The authors wish to acknowledge that this is a revised version of the Cycle Parking document of 1995. They wish to acknowledge assistance from Alex Reid of the Royal Borough of Kensington and Chelsea, and numerous members of the London Cycling Campaign in the compilation of this document.

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1. Introduction

Transport problems

The crisis of transport and travel in London has been widely, and hotly, debated. For the most part concerns have focused on the problems associated with the growing dependence on car use. The combination of high levels of congestion, pollution and noise, together with threats to personal safety which accompany increased car use seriously affect the quality of life for all Londoners. Delays caused by congestion mean that car speeds average less than 10mph in peak times. As well as the longer journey times, congestion also obstructs essential services such as ambulances and fire engines reaching vulnerable people. There are also considerable problems associated with the rising dependence on oil, including the environmental and health impacts of air pollution. The impacts of global climate change are well-known and are already being witnessed in many parts of the world. As well as chronic respiratory and pulmonary illnesses, it is estimated that up to 24,000 people die prematurely because of deteriorating air quality. Meanwhile the threats to personal safety from growing traffic result in unacceptable levels of injury and death.

Not only do these problems impose huge and growing on health and the environment, they also come at a massive financial cost for the UK economy. For example, for the UK as a whole, traffic congestion costs the economy £15-20 billion in lost time and production. The cost of the health impacts of pollution are estimated to be around £20 billion, through eg, working days lost through sickness and morbidity, and the cost of health treatment and care; while the cost of accidents adds a further £2.9-9.4 billion. Road traffic is the single biggest contributor to noise pollution (66%) (people are second largest source at just 13%). costing the economy up to £3 billion, primarily in lost property values. And there are further costs due to eg, loss of amenity, global warming and road damage among other things. Since these figures are aggregated they mask vast differences across types of journeys (urban/rural, peak/off peak) and different classes of road users (urban journeys account for only 41% of traffic but contribute 97% to congestion costs). However, in total, the marginal external costs of UK road transport are approximately £50 billion, of which motorists themselves pay just £17 billion - approximately 33%. (Pearce et al, The True Costs of Road Transport, 1996 - all figures are for 1993).

Transport solutions

Cycling can make a significant contribution towards solving the capital's transport problems and reducing these costs. Half of all journeys made in London are under 2 miles, while around 75% are less than five miles. For these shorter journeys cycling offers a realistic and convenient alternative to the car. Its contribution to congestion is minimal and it is certainly quicker: The average speed of a cyclist in central London is 5.4 miles an hour, compared to 3.4mph for cars and 2.5 for buses. Bikes have a minimal impact on the environment and health: they are silent and emit no polluting and hazardous chemicals.

Cyclists also derive numerous benefits from travelling by bike. Cycling is a form of aerobic activity which promotes fitness and health. It improves heart function and reduces blood pressure, and can help to prevent the build-up of clogged arteries. Regular cyclists have fitness levels equivalent to someone ten years younger, and are less likely to suffer heart disease or overweight. Apart from the initial outlay for a bike, cycling incurs few costs other than general maintenance and upkeep. It is definitely the cheapest and most convenient way to travel around the capital.

Wider support for cycling

All levels of government support reduced car use. Meeting global emission targets, preoccupations with sustainable development indicators, Local Agenda 21, controlled parking zones, environmental taxes - all these policy initiatives reflect government efforts at both the national and local level to tackle the problems associated with increased traffic volumes in the UK. Many more initiatives, such as home zones, safe routes to school and various business partnerships, are in the pipeline.

Improving transport in London is at the top of the Greater London Authority's agenda. The Transport Strategy reflects the GLA's strong commitment to reducing car use and to providing attractive transport alternatives, particularly cycling. Indeed, it specifically aims to improve conditions and facilities which will encourage more cyclists to use London's roads. The Strategy proposes to increase facilities for cyclists such as secure parking, particularly at shopping centres and transport interchanges. Moreover, the GLA will expect London boroughs to require developers to provide cycle access, secure parking, and changing and shower facilities where practicable

More cyclists, better parking

While cycling offers a real solution to the problem of transport in the capital, many people are wary of using their bikes: road safety and a lack of cycle facilities and parking are key factors which deter cycle use. On the other hand, good cycle facilities, particularly security, encourage cycle journeys and raise confidence in cycle use. They also raise the profile of cycling as an alternative means of transport.

Cycle parking facilities also make pavements safer for pedestrians and create a tidier appearance. In terms of space saving, it is worth noting that up to 12 cycles can be parked in the space needed to park just one car.

Currently, Londoners make around 30 million trips a day, 330,000 of which are by bike. 100,000 people commute daily to work in London, while 650,000 people regularly cycle in London. 1.4 million people in London own bikes and the number of cyclists on London's roads is growing. With the help and support of initiatives outlined above, these numbers are set to increase, creating a bigger demand for more and better facilities. The GLA's Transport Strategy suggests that this demand will have to be met.

The following three sections provide guidelines on the standards for cycle parking equipment, including general requirements, locations, and installation. Appendix 1 provides recommendations for the scale of provision and Appendix 2 lists a range of equipment suppliers.

2. The cycle parking standard

Overview

The purpose of the standard for cycle parking equipment and installation is to specify:

- the principal requirements for design
- the equipment to be used
- how this equipment is to be installed

This standard excludes cycle storage lockers intended for medium to long-term high security cycle parking. There may be a charge for these and the provider may assume a degree of liability for security. **Cycle lockers can be an expensive solution, but are becoming an increasingly popular option for cycle storage. They are generally more secure than a stand and allow the cyclist to store accessories. The lockers, usually made of fibre-glass or stainless steel, also protect the cycle from the elements. Cyclists are given a key which cannot be duplicated to get access to the locker. Details of suppliers can be found in the appendix.**

This is a general purpose, universally applicable standard which is appropriate to any amenity where cycles need to be parked. These include places of work, educational establishments, shopping centres, railway stations and other transport interchanges, pavements and all other amenities used by the public. These sites may be on establishment or local authority land.

LCC will seek endorsement of this standard by national cycling organisations, local authorities, amenity groups, and interest groups in the London area.

General requirements

Cycle stands should be provided in visible and accessible locations where they will be well used and:

- offer reasonable security against theft
- support cycles without damaging them
- not endanger pedestrians and other traffic
- are visually acceptable

Security is the most important requirement. While it is useful to have under cover parking for protection against rain, it may be unacceptable on security grounds if it reduces visibility.

Locations

Cycle parks are an appropriate feature of virtually any amenity or facility. They may be located within a development or on an adjacent pavement. Either way, they should be as close as possible to the traveller's actual destination. As well as encouraging cycle use it is more likely that the stands will be used in preference to railings, street furniture etc. Larger buildings, such as hospitals or universities, will therefore need several cycle parks near to each entrance. Locations which typically require cycle parking include:

- **transport** rail, underground/metro, light rail and bus stations
- **places of work** office blocks, factories
- **education** schools, colleges, universities
- **shopping/services** high streets, markets, superstores, suburban shopping parades, doctors' and dentists' surgeries
- **entertainment** public houses, restaurants, fast food, bingo halls, theatres, cinemas, concert halls, tourist information centres and attractions
- **housing** normal blocks of flats, student, sheltered accommodation
- **community** post offices, libraries, museums, swimming pools, sports centres, parks and gardens, hospitals, health centres, places of worship, cemeteries, community centres
- **government** town halls, social security and employment service offices, police stations, law courts

Scale of provision

Appropriate scales of provision for different types of locations are set out in Appendix 1.

3. Equipment standard

The standard equipment is known as the Sheffield parking stand or rack (toastrack), named after the city where it was first developed. Each stand accommodates two cycles, one either side of the rack. This is not a registered or patented design.

The benefits of the Sheffield stand include:

- **security** - the cycle frame (with or without a crossbar) and, if desired, the wheels, can be secured to the rack
- **convenience** - it supports the cycle effectively, even while it is being locked and luggage or accessories removed
- **cost** - cheap, durable, and easy to maintain
- **visually acceptable**

The standard defines:

- the material used to construct the equipment and
- the dimensions of the equipment.

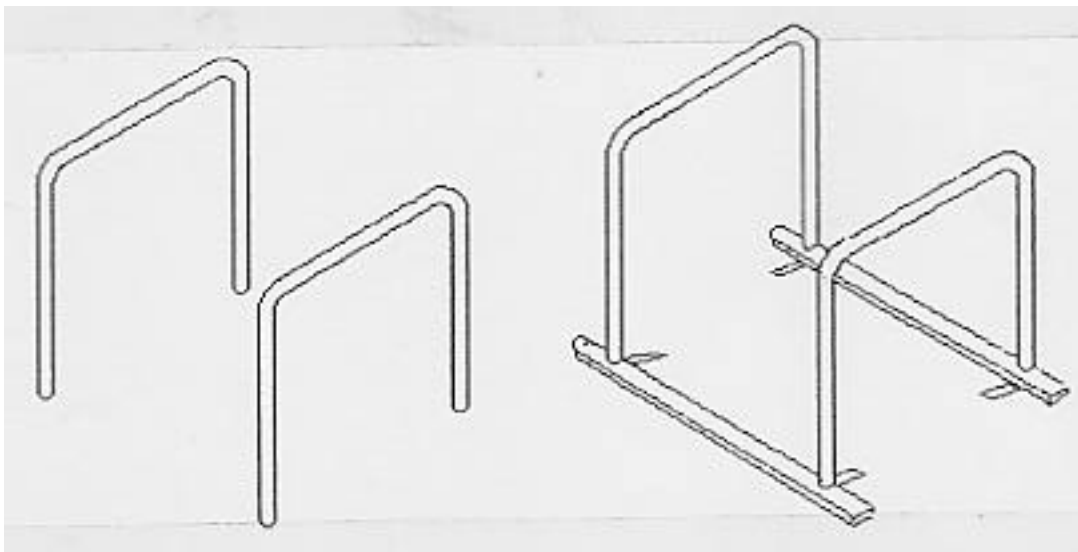


Figure 1. Sheffield cycle parking stands and racks

Material

The required material is:-

- galvanised steel tube coated with PVC, polyester, or nylon
- stainless steel tube

Dimensions - stands

The required dimensions are:

A external diameter of tube:	50 mm minimum 75 mm maximum
B thickness of tube wall:	25 mm minimum
C radius of bend:	100 mm minimum 250 mm maximum
D length of stand:	700 mm minimum 1000 mm maximum
E height of stand above ground level:	800 mm + 50 mm
F baseplate for stands: (surface fixing model - Fig 2)	150 mm x 150 mm x 6 mm minimum
G extra length of vertical sections (ground embedding model - Fig 3)	250 mm minimum

Dimensions - racks

The required dimensions are:

A - E as above	
H space between individual bars	850 mm \pm 100 mm

If the individual bars are placed too close together, then only one side of each bar may be used. This is an inefficient use of parking space. Similarly, if cycles are forced into too narrow a space, they may be damaged and there will also be a health and safety hazard.

4. Installation and maintenance standard

The installation standard defines:

- the criteria for selecting installation sites
- the required dimensions for installation
- requirements for securing stands or racks to the ground
- signing
- maintenance requirement

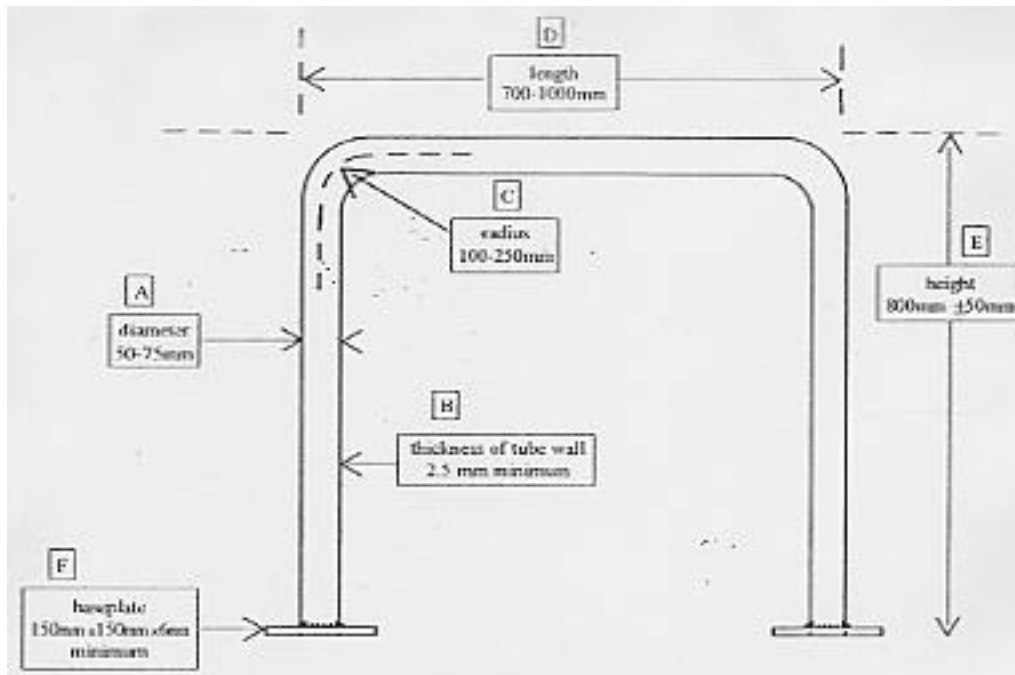


Figure 2. Dimensions for Sheffield cycle parking stand bolted into the ground.

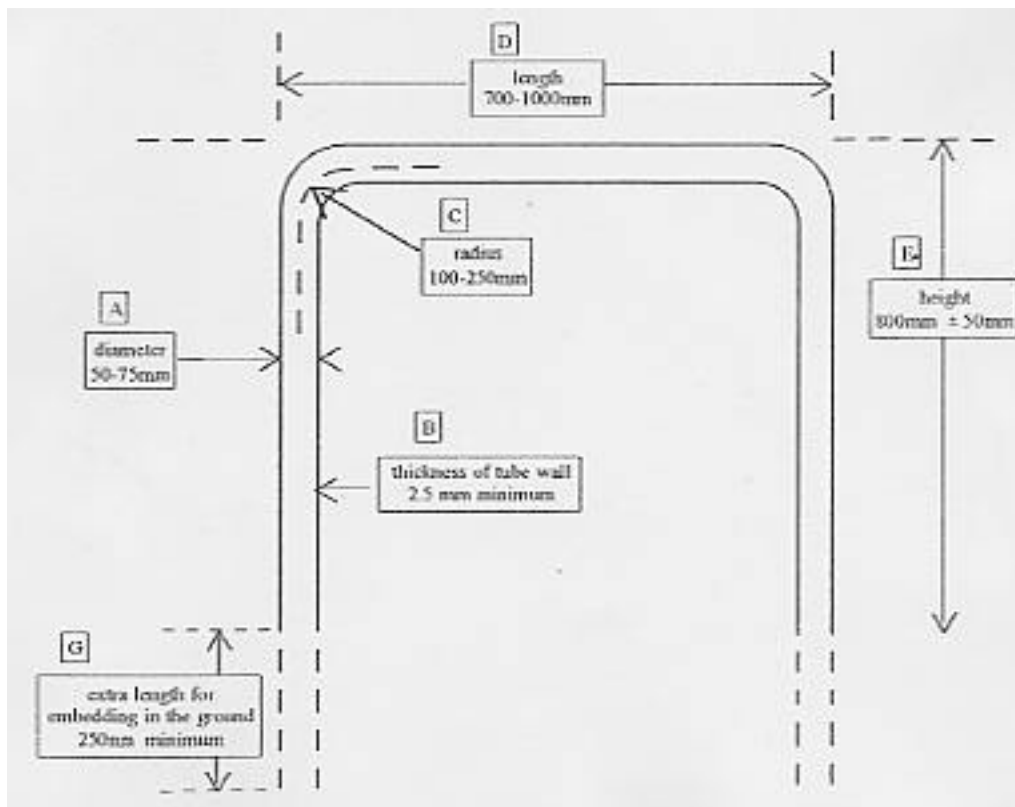


Figure 3. Dimensions for Sheffield cycle parking stand embedded in the ground.

Criteria for site selection

The criteria for site selection include:

- a) ease and convenience of access, including:**
 - near the entrance to the amenity, including each building entrance at larger sites
 - easy for prospective new users to find
 - avoid the need to carry cycles on stairs
 - lit at night
- b) visibility to at least one of the following:**
 - staff working at the amenity
 - passing members of the public
 - security guards
 - video surveillance systems
- c) avoids places where a van might easily be used for bulk cycle theft**
- d) safe and non-obstructive for pedestrians and other traffic**
- e) visual harmony with the surroundings**

Dimensions for installation

The required dimensions are:

- A space between stands 1000mm \pm 100 mm
- B space between stands and perimeter line barrier on all sides: 650 mm minimum

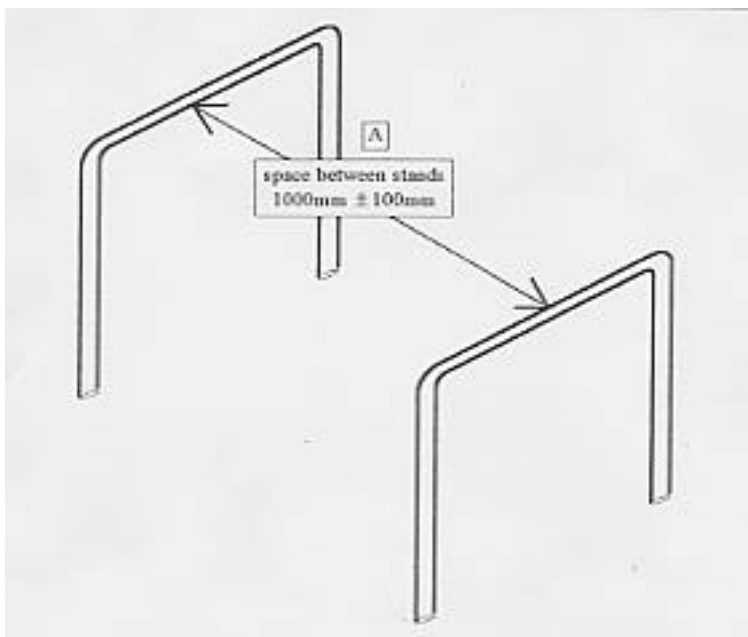


Figure 4. Space between stands

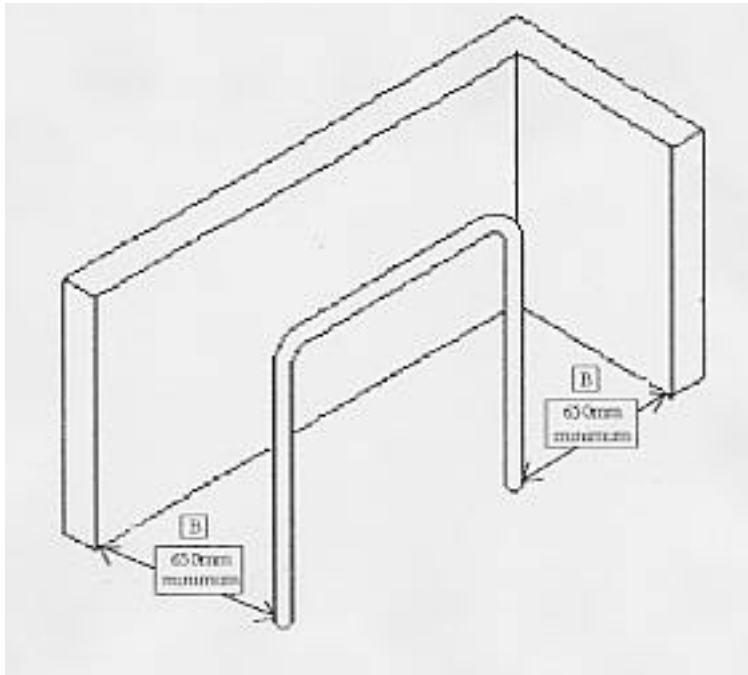


Figure 5. Space between stands and perimeter line

Dimensions for compact installation

As mentioned above, stands should not be placed too close together. However, in exceptional circumstances, eg extremely limited space, an alternative specification may be applied. But this is not for general use and should be avoided wherever practicable. Where ground space is restricted, stands can be placed at an oblique angle.

The required dimensions are:-

- A space between stands 750 mm minimum
- B space between stands and perimeter line/barrier on all sides 600 mm minimum

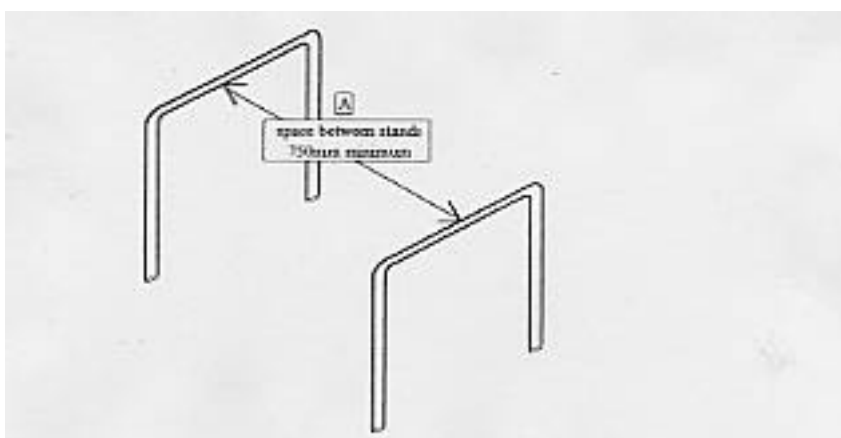


Figure 6. Space between stands for compact installation

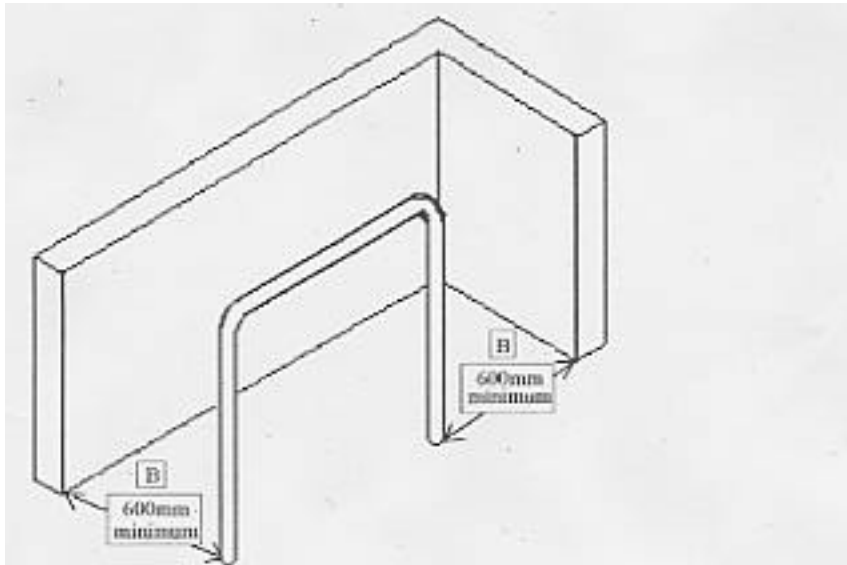


Figure 7. Space between stands and perimeter line for compact installation

Securing stands to the ground

Stands must be secured to the ground by one of the following methods:

- bolting to a hard level surface using at least two high-security bolts (eg, m10 Rawbolts) passing through each baseplate
- embedding in concrete to a minimum depth of 250 mm

On sloping ground, stands must be aligned across the slope to avoid cycles slipping down hill.

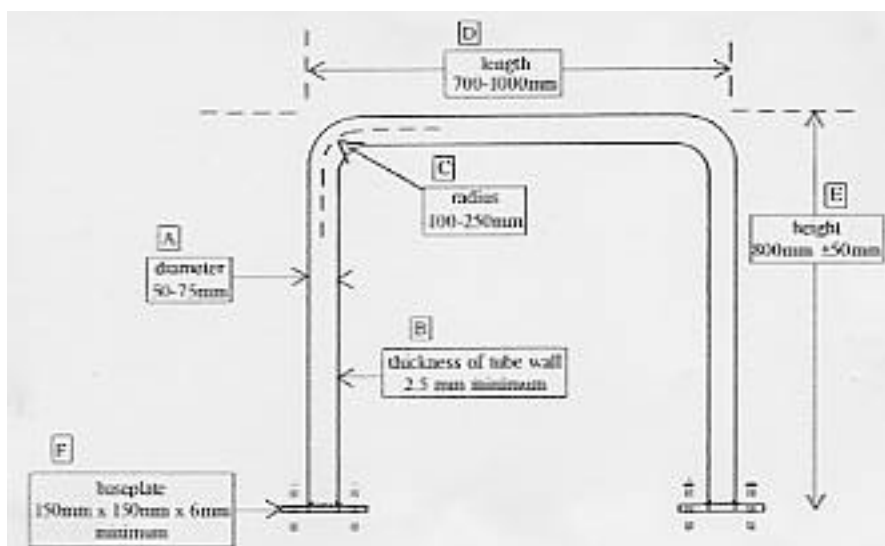


Figure 8. Stand secured by bolting to a hard level surface

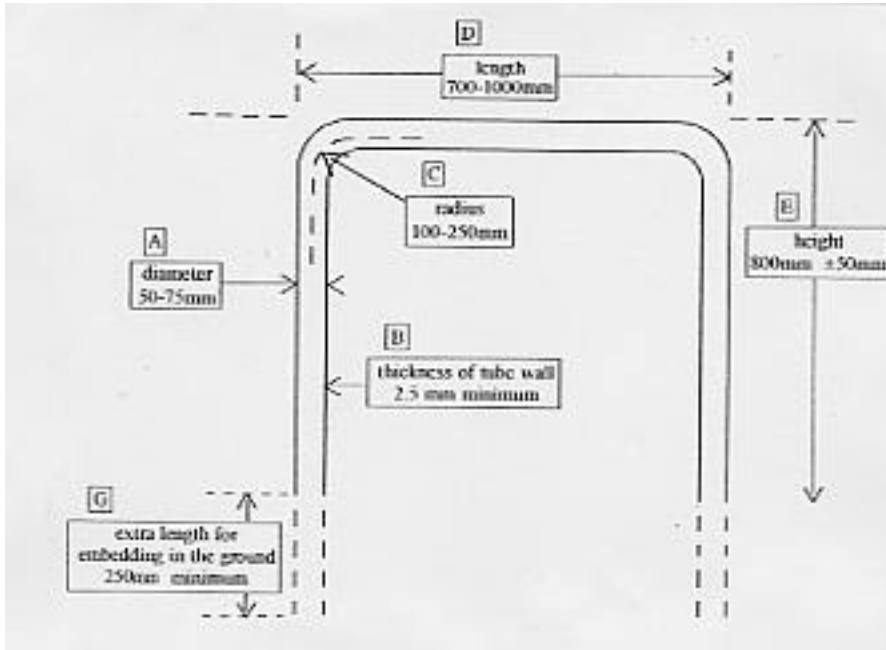


Figure 9. Stand secured by embedding in concrete

Securing racks to the ground

Racks (linked together by horizontal base members) may be secured to the ground by bolting to a hard level surface with high-security bolts (eg, m10 Rawlbolts). Racks are usually supplied with small welded feet through which the bolts can be inserted.

On sloping ground, racks must be aligned across the slope to avoid cycles slipping down hill.

Signing

Parking signs may enhance the installation. If used they should comply with Department of Transport Traffic Signs (amendment) regulations 735.1 or 735.2, dated 1982 or later. Typical signs are illustrated below

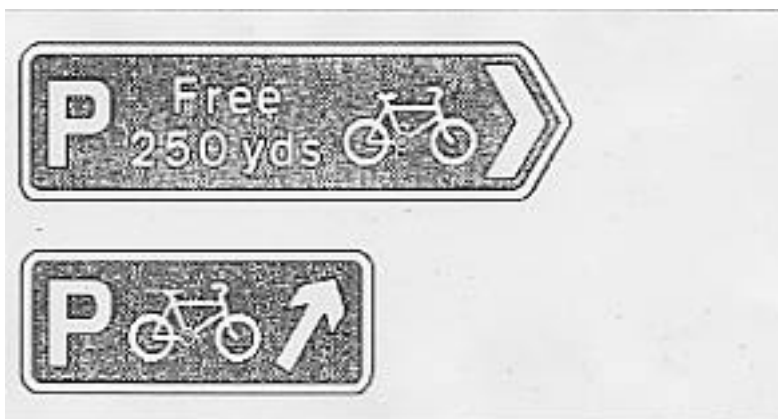


Figure 10. Typical cycle park signs

Where there may be doubts as to owner's risk, for example at railway stations, special signs indicating the risk are required. If used, these signs might conform to the following pattern:-



Figure 11. Indicator of owner's risk

Maintenance

Sheffield racks and stands require relatively little maintenance. However, as with any multiple user facility, they do need routine inspection and maintenance.

Appendix 1 Scale of provision

The London Cycling Forum (LCF) has recommended scales of provision based on gross floor area. These scales are far below the levels applied in a number of cycle friendly towns outside London. They are probably also insufficient for the increase in cycle use envisaged by the GLA's transport strategy, so only serve as a general guide to minimum requirements.

The London Cycling Campaign recommends that:

- standards of at least the LCF recommendations are incorporated in London Boroughs' Unitary Development Plans and made a condition of development planning consents
- existing facilities are equipped to these standards
- use is regularly monitored and provision augmented to keep pace with increasing usage

Table 1. Recommended scale of provision for cycle parking

Location category	Location	Unit of gross floor area/cycle parking space
Transport	Railway stations	5 spaces/peak period train
	Bus stations	2 spaces/100 peak period passengers
Places of work	Offices	700m ²
	Factories & warehouses	850m ²
Educational	Schools - primary	500m ²
	Schools - secondary	300m ²
	Universities, colleges	200m ²
Shopping and services		500m ²
Entertainment	Pubs & restaurants	140m ²
	Fast food	70 m ²
	Theatres & cinemas	450m ²
	Leisure & sports centres	300m ²
Housing (at ground floor level)	Normal	150m ²
	Student	100m ²
	Sheltered	450m ²
Community	Hospitals	700m ²
	Health centres	350m ²

Appendix 2 Equipment suppliers

The following suppliers have provided information to the London Cycling Campaign. Prices were correct as at the date indicated next to the supplier's name. All dimensions are in mm. This list is by no means comprehensive and **inclusion does not imply particular endorsement of these companies by LCC.**

For information on material and dimensions (stands and racks) see Section 3 (Equipment Standard). For information on installation and maintenance standards see Section 4.

Aremco Products

22/01/2001

Foxoak Street
Cradley Heath,
West Midlands B64 5DQ

Phone 01384 568566
Fax 01384 638919
Email sales@aremco-product
Web www.aremco-product

Sheffield Cycle Parking Stand

Material	steel plastic coated
Diameter	43*
Tube	3.25
Width	650
Total Height	111
Installed Height	850
Comments	red default colour, others available.

Autopa Ltd

01/02/2001

Unit 7, Triton Park
Brownsover Road,
Rugby
Warwickshire CV21 1SG

Phone 01788-550556
Fax 01788-550265
Email info@autopa.co.uk
Web www.autopa.co.uk

Security Stand (model N) # 138 200 101

Material	mild steel galvanised
Diameter	48*
Tube	3.2
Width	700
Total Height	1050
Installed Height	750

Security Stand (model N) # 138 200 102

Material	mild steel powder coated
Diameter	8*
Tube	3.2
Width	700
Total Height	1050
Installed Height	750

Security Stand (model N) # 138 200 108

Material	stainless steel brushed
Diameter	48*
Tube	2*
Width	700

Total Height	1050
Installed Height	750
Comments	toast racks also available

Boyco Manufacturing Co. 22/01/2001

Europa Way
Cheadle Heath,
Stockport SK3 0XE

Phone 0161 428 7077/7093

Boyco Cycle Stand, Model Q50

Material	nylon coated galvanised steel
Diameter	38*
Tube	2*
Width	750
Total Height	950
Installed Height	700*

Boyco Cycle Stand, Model Q50

Material	nylon coated galvanised steel
Diameter	50
Tube	2*
Width	750
Total Height	950
Installed Height	700*
Tube thickness	14 gauge
Comments	toast racks available

Broxap Mawrob 22/01/2001

121a-125a Sefton Street,
Southport,
Merseyside PR8 5DR

Phone 01704 501011
Fax:01704 541403
Email sales@broxap.co.uk
Web www.broxap.co.uk

Sheffield Cycle Stand, Model MW/SH/1

Material	mild steel, hot dipped galvanised
Diameter	40*
Tube	2.5
Width	750
Total Height	1050
Installed Height	800

Sheffield Cycle Stand, Model MW/SH/1

Material	mild steel - powder coated
Diameter	40*
Tube	2.5
Width	750
Total Height	1050
Installed Height	800

Sheffield Cycle Stand Model, MW/SS/SH/1

Material	stainless steel - natural matt
Diameter	40*

Tube	2.5
Width	750
Total Height	1050
Installed Height	800

Sheffield Cycle Stand, Model MW/SS/SH/1

Material	stainless steel - bright polished
Diameter	40*
Tube	2.5
Width	750
Total Height	1050
Installed Height	800
Comments	a wide array of cycle stand products.

Cycle-Works Ltd

2 Rances Way
Winchester
Hampshire
SO22 4PN

Phone 01962 855212
Fax 01962 877361
Email P.Davenport@cycle-works.com
Web www.cycle-safe.com

Sheffield Cycle Stand

Material	stainless steel
Tube	48
Width	750
Total Height	1250
Installed Height	950

Bikeaway locker

Material	galvanised steel
Width	680
Height	2000
Depth	1100
Capacity	one bike
Locking mechanism	Padlock/coin or token operated

Cycle-Safe locker

Material	high density sheet moulding composites
Depth	1,960
Height	1,270
Width	840
Capacity	one bike
Locking mechanism	Padlock/coin or token operated

Bykebin

Material	moulded rigid polyethylene
Width	960
Height	1,300
Capacity	one bike

Locking mechanism padlock

Dixon-Bate Ltd

9/01/2001

Unit 45, First Avenue
Deeside Industrial
Deeside
Flintshire CH5 2LG

Phone 01244-288925
Fax 01244-288462
Email sales@dbate.demon.co.uk

Plain Stand, Model 201974

Material	mild steel-galvanised
Diameter	50
Tube	0*
Width	750
Total Height	1100
Installed Height	850

Anti-Vandal fixing Model 201976

Material	mild steel-galvanised
Diameter	50
Tube	0*
Width	750
Total Height	1100
Installed Height	850

Surface-Mounted Model 201978

Material	mild steel-galvanised
Diameter	50
Tube	0*
Width	750
Total Height	850
Installed Height	850
Comments	other finishes: polyester powder, two part polyester, nylon; 14 gauge tubing

Falco/Arunhithe Ltd

P.O. Box 433
Leek
Staffordshire ST13 7TZ

Phone 01538-304555
Fax 01538-304575
Web www.falco.nl

Sheffield Stand Model 2.008

Material	galvanised steel
Diameter	42*
Tube	2*
Width	900
Total Height	1100
Installed Height	850

Sheffield Stand Model 02.560	
Material	mild steel galvanised
Diameter	60
Tube	2*
Width	900
Total Height	1250
Installed Height	850
Sheffield Stand Model 02.561	
Material	mild steel galvanised
Diameter	60
Tube	2*
Width	20
Total Height	1250
Installed Height	850
Sheffield Stand Model 02.570	
Material	mild steel galvanised
Diameter	76
Tube	2.9
Width	900
Total Height	1250
Installed Height	850
Sheffield Stand Model 02.571	
Material	mild steel galvanised
Diameter	76
Tube	2.9
Width	120
Total Height	1250
Installed Height	850
Comments	All available powder coated for an additional charge. Toast-rack available. All versions available with cross strut for easier securing.
Falco Cycle Locker	
Material	galvanised steel plate
Width	780
Height	1160
Depth	2085
Capacity	one bike
Locking mechanism	padlock/coin operated
Falco vertical Cycle Locker	
Materials	Roof: fibreglass. Walls: perforated steel plate
Height	1710
Width	545
Depth	2085
Capacity	one bike
Locking mechanism	various options

Seager Buildings,
Brookmill Road
London SE8 4JT

Phone 020 8694 9333
Fax 020 8694 8315
Email mail@furnitubes.com
Web www.furnitubes.com

College, Model CSS 650 G

Material	steel, galvanised
Diameter	38*
Tube	3
Width	750
Total Height	1105
Installed Height	860

College, Model CSS 650 G

Material	stainless steel, bright polished
Diameter	38*
Tube	3
Width	750
Total Height	1105
Installed Height	860

College, Model CSS 650 G

Material	galvanised and plastic coated
Diameter	38*
Tube	3
Width	750
Total Height	1105
Installed Height	860
Comments	Prices include delivery. Substantial reductions for larger orders

Glasdon

Industrial Estate
Poulton-le-Fylde
Lancashire
FY6 8JW

Phone 01253 891131
Fax 01253 891923
Email sales@glasdon-manufacturing.co.uk
Web www.glasdon.com

Bikeminder	
Material	Galvanised steel
Height	1150
Width	650
Depth	1855
Capacity	One bike
Locking mechanism	Key

Lock it-Safe Ltd
(Details on lockers to come from company.)

22/01/2001

68 Cromwell Road
Grimsby
NE Lincolnshire DN31 2DW

Phone 01472-346382
Fax 01472-242092
Email dave@lockit-safe.co.uk
Web www.lockit-safe.co.uk

Sheffield Stand

Material	mild steel galvanised
Diameter	50
Tube	3
Width	750
Total Height	750
Installed Height	850

Sheffield Stand

Material	mild steel nylon powder coated
Diameter	50
Tube	3
Width	750
Total Height	750
Installed Height	850

Sheffield Stand

Material	stainless - brushed
Diameter	50
Tube	2*
Width	750
Total Height	750
Installed Height	850

Sheffield Stand

Material	stainless -bright
Diameter	50
Tube	2*
Width	750
Total Height	750
Installed Height	850
Comments	lockers and toast rack styles available.

Bike Box	
Material	Galvanised steel
Height	1180
Width	750
Depth	1850
Locking mechanism	Various options

Macemain Amstad Ltd

10/11/2000

Boyle Road
Willowbrook Industrial Estate
Corby
Northamptonshire NN17 5XU

Phone 01536 401331
Fax 01536 401298
Email sales@macemain.dem

Model # CR/22

Material	steel - PPA coated (i.e. a plastic like coating)
Diameter	38*
Tube	3
Width	730
Total Height	730
Installed Height	0*

Model # CR22/5

Material	steel - PPA coated (i.e. a plastic like coating)
Diameter	50
Tube	3
Width	730
Total Height	730
Installed Height	0*

Startlite-Media

The Courtyards
Pheonix Square
Severalls Park
Colchester
Essex CO|4 4PB

Phone : 01206 754650
Fax: 01206 754651
Web: www.starlite-media.co.uk

BikeLid

Material	polyethylene
Height	1270
Length	2185
Width	970
Locking mechanism	Cylist's own lock

J & S Sheetmetal

31/10/2001

Unit 30
South Hampshire Industrial Park
Calmore
Hampshire SO40 3SA

Phone 01703 872927
Fax 01703 860033

The Cyclevice

Material	corrosion treated steel powder treated paint
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The vice has three bolts - one passing through the cycle frame, the front one through the front wheel inside the rim, the rear through the back wheel and rear part of the frame. The bolts are welded in a tray which may be used to place panniers and other loose items, and protected by a lid which can be locked down using a personal lock through any of the three lock tabs. The lock tabs cannot be withdrawn once the lid is locked, and the centre lock tab is protected by a 2mm steel shield inhibiting the use of bolt cutters on a padlock. The stand extends 400mm below the ground surface. A state of the art bicycle stand.

ends