Wales & Wales

STREET FURNITURE

GENERAL TECHNICAL SPECIFICATIONS

Wales & Wales street furniture is available exclusively through Luke Hughes & Company. It is possible to modify these designs to suit particular requirements. Alternatively special design commissions can be considered by Wales & Wales; please call for information.

Ground fixings
Some products have fixing points cast into the legs, others require fixing kits. In all cases these kits are manufactured in stainless steel.
Due to the wide variation in conditions, anchors (e.g. Fischer Bolts) are not supplied. These should be supplied by the installation contractor.

Aluminium castings
All aluminium castings, where used, are to BS1490 Grade LM6.

Powder coatings
The standard powder coating colour for aluminium cast components is RAL 9007. Other RAL colours may be supplied at a small premium.

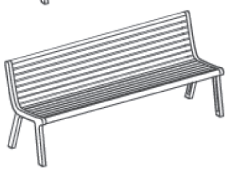
Timber - Internal Use
For use inside there are a number of timbers available. Please ask for details.

Timber - External Use
For external use Iroko, European Oak or Teak* are available as standard. These timbers are supplied in a natural finish and will weather with time to varying degrees of silver grey. Shrinkage cracks may appear in all timbers but are not likely to affect performance.

Exterior finishes
On request, an oil finish can be applied which will slightly darken the natural colour of the timber and for a short period of time retain this appearance. If applied, further oiling will be required throughout the life of the product; this usually further darkens the timber.
A UV stable coating such as Sikkens can be applied. This seals the timber and is available in a number of colours. Further applications are required on a regular basis, usually annually.
For information on the performance of European Oak please ask for our specification sheet, where we would draw your attention to the possible reaction of Oak to rainwater and the short-term affect of tannin on paving stones.

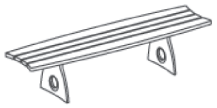
* Teak subject to availability of FSC accredited logs

PARC



Range	Dimensions mm					
	length	seat depth	depth o'all	seat height	height o'all	fixing options
PA1/18 short	1800	420	598	447	805	FP1, FS1
PA1/20 long	2000	420	598	447	805	FP1, FS1

SMART ALEX



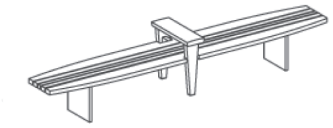
Range	Dimensions mm					
	length	seat depth	depth o'all	seat height	height o'all	fixing options
SM1 straight	1950	496	496	430	430	FP1, FS1, FP1+FS2

	length	seat depth	seat height	inner radius	outer radius	fixing options
SM2/R curved right	1400	476	430	2924	3400	FP1, FS1, FP1+FS2
SM2/L curved left	1400	"	"	"	"	"
SM2/C curved centre	1400	"	"	"	"	"

Note: Radii can be varied on request.

DB

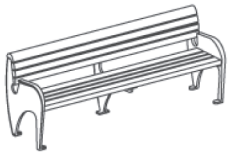
Range **Dimensions in mm.**



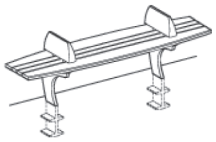
	length	seat depth	depth o'all	seat height	height o'all	fixing options
DB/30	3000	480	585	448	556	FP1+FP2 or FS1 or FP1+FS2
DB/40	4000	"	"	"	"	"

CELLO

Range **Dimensions in mm.**

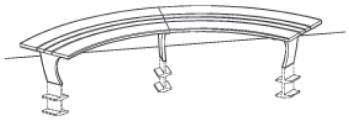


	length	seat depth	depth o'all	seat height	height o'all	fixing options
CE1/20[1] back & arms	2000	396	585	445	775	expansion bolts[1]
CE1/23[1] "	2300	"	"	"	"	"
CE1/25[1] "	2500	"	"	"	"	"



	length	seat depth	depth o'all	seat height	height o'all	fixing options
CE2/A demi-rests	2000	530	530	452	670	self fixing

	length	seat depth	depth o'all	seat height	inner rad.	outer rad.	fixing options
CE2 flat	2000	530	530	452	452		self fixing



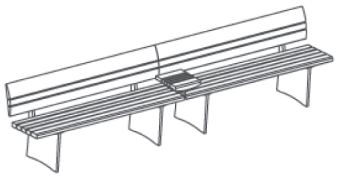
	length	seat depth	depth o'all	seat height	inner rad.	outer rad.	fixing options
CE3 radiused[2]	1400	530	530	452	2897	3427	self fixing

	width	depth	height o'all	capacity
CE/B bin[3]	480	380	1000	70 litres

NORFOLK

Range **Dimensions in mm**

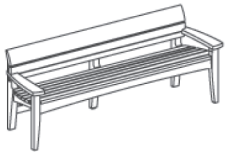
	length	seat depth	depth o'all	seat height	height o'all	fixing options
NO/18 single	1800	390	540	445	770	FP1, FS1 or FP1+FS2

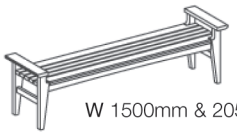


	length	seat depth	depth o'all	seat height	height o'all	fixing options
NO/36(A)	3600	390	540	445	770	FP1, FS1 or FP1+FS2
NO/54(A)	5400	"	"	"	"	"

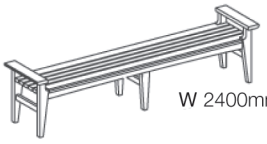
	length	depth	height
NO/A arm rest	270	317	137

CHICO





W 1500mm & 2050mm



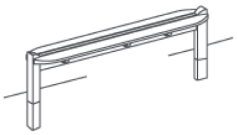
W 2400mm

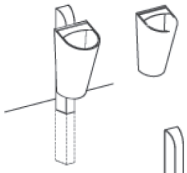
Range	length	seat depth	depth o'all	seat height	height o'all	fixing options
CH1/15 back & arms	1500	460	600	435	787	FP2, FS1, FP2+FS2
CH1/20 "	2050	"	"	"	"	"
CH1/24 "	2400	"	"	"	"	"

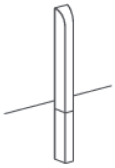
Range	length	seat depth	depth o'all	seat height	height o'all	fixing options
;at	760	450	600	435	787	FP2, FS1, FP2+FS2

Range	length	seat depth	depth o'all	seat height	height o'all	fixing options
CH3/15 backless	1500	453	530	440	565	FP2, FS1, FP2+FS2
CH3/20 "	2050	"	"	"	"	"
CH3/24 "	2400	"	"	"	"	"

PR





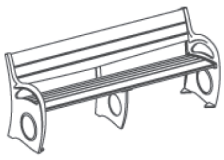


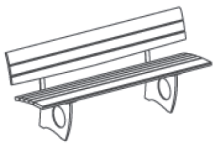
Range	length o'all	seat depth	depth o'all	seat height	height o'all	fixing options
PR1 bench	1880	290	290	450	480	self fixing

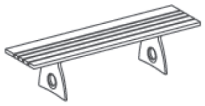
Range	width	depth	height	capacity	fixing options
PRB litter bin	352	338	677	50 litres	post / wall fixing

Range	height o'all	plan[2]	above ground	below ground	fixing options
PRP post	1500	140[2]	1000	500	self fixing

LEDA







Range	length	seat depth	depth o'all	seat height	height o'all	fixing options
LE1/20 back & arms[1]	2000	430	610	435	790	expansion bolt[2]
LE1/23 "	2300	"	"	"	"	"
LE1/25 "	2500	"	"	"	"	"

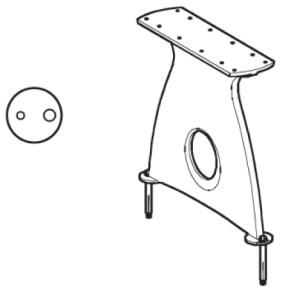
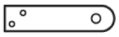
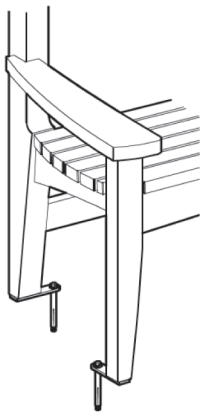
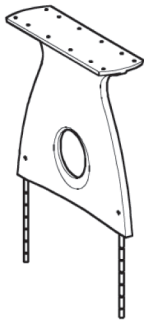
Range	length	seat depth	depth o'all	seat height	height o'all	fixing options
LE2/18 armless	1800	430	570	435	778	FP1, FS1 or FP1+FS2
LE2/20 "	2000	"	"	"	"	"
LE2/23 "	2300	"	"	"	"	"

Range	length	seat depth	depth o'all	seat height	height o'all	fixing options
LE3/18 backless	1800	463	465	430	430	FP1, FS1 or FP1+FS2
LE3/20 "	2000	463	465	430	430	"

Notes: [1] fixing points cast into legs [2] expansion bolts not supplied

Wales & Wales

STREET FURNITURE

GROUND FIXINGS	Code:	Suitable for benches:	Usage:
	FP1	SM, DB, LE2, LE3, NO	for use with expansion bolt (Fischer) to be specified by site contractor.
A  B  	FP2/AB	CH1, CH3/24	for use with expansion bolt etc.
	FP2/A	CH2, CH3/15, CH3/20	for use with expansion bolt etc.
 	FS1	SM, DB, LE2, LE3, NO, CH1, CH2, CH3	280 long stud complete with locking grub screw requires HILTI or similar chemical fixing

Note: If the bench is subsequently moved, the upper section of the spigot can be unscrewed and replaced with a flat-head, pig-nose capping screw.

LUKE HUGHES AND COMPANY

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A guide to installing FS1 ground fixing rods for securing benches

Recommended process for installation:-

- To achieve a secure installation all four corners or legs of the bench must be anchored with ground fixing rods. Fixing just the back legs or just the front legs may eventually result in the fixing or bench leg failing.

- Each ground fixing rod has a groove at the top, the locating grub screw in each bench leg must locate securely into this groove.

- Holes for the fixings should be carefully marked out on the ground using the supplied drawing as a guide and the actual bench as a template.

- If a concrete foundation is to be laid the holes for the rods should be drilled into this after the concrete has set.

- Where two part rods are being used the top and bottom sections must be screwed together hand tight. The threaded joint is provided so that the top section of the rod can be removed to leave a flat surface with no protruding anchor should the bench ever be moved to a new location. The threaded joint is not a leveling device.

- All the rods must all be installed to the same level. The best way to achieve this is to mount the rods into the legs of the bench and secure with the locating grub screw before dropping the rods into the holes in the ground. Trying to concrete the rods into the foundation before fixing the bench to them can result in leveling and alignment problems.

- Slightly oversize holes should be drilled into the foundation to allow a little tolerance. Alignment of the rods and holes should be tested before finally bonding the rods into the ground permanently. The rods can then be bonded in place with the bench already attached using Hilti HIT or a similar bonding resin. If necessary, benches should be weighted down whilst the rods set in place.

- The weight of the bench should be on the ground not on the rod, therefore the bench feet should be firmly supported. For example, if installing onto a soft surface such as rolled aggregate or grass the bench feet should have supporting blocks under them rather than the weight of the leg being borne by the rod.

Please read this guide in conjunction with the layout drawing supplied.

LUKE HUGHES & COMPANY

FURNITURE DESIGNERS AND MAKERS

Wales & Wales

STREET FURNITURE

Cello

Chico

Leda

Norfolk

Parc

Smart Alex

Care & Maintenance Manual

A guide to safe operation & upkeep

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1. General Introduction

The Wales & Wales Bench range utilises a combination of hardwoods (primarily European oak and Iroko) for seat and back slats, cast aluminium for leg sections, and for small or special components, stainless steel. Metal components are usually powder-coated with cellulose enamel similar to that used on cars.

Bollards & Posts are cut from solid timber, usually specified as 'green' (un-dried) hardwood (oak, purple heart, green heart etc.) Using green timber helps to the reduce splitting that can sometimes occur with larger sections of timber.

Bins are constructed in sheet stainless steel with galvanised mild steel liners; both liner and outer shell are normally finished with powder-coat enamel. Occasionally, however, the stainless steel outer bin is specified in either polished or brushed stainless steel.

Ground Fixing components are required for all benches with two exceptions (the complete Cello range where the bases are buried or have fixing lugs built in, and the Leda bench with back and arms which has lugs set into the two end castings).

There are two basic types of fixing kit;

Stainless steel plates that attach to the underside of the castings or legs and provide bolt holes through which a ground anchor bolt can be fixed (normally a chemically bonded bolt or a Fischer type expansion bolt, both supplied by the site contractor depending on the type of substrate in use).

The second option is in the form of stainless steel spigots (available from LHCL) that can be fixed in to a concrete or stone substrate using a bored hole and chemical adhesive. The top ends of the rods pass up into the legs or base castings with concealed locking screws through the sides of the bases.

2. Metal Components for Benches

Chico and PR are the only all timber benches in the range. All other designs rely upon metal castings for base, arms and back supports.

All the castings are made in Aluminium to BS1490 spec. LM6. The components are sand-cast and then powder coated with a cellulose enamel to colour reference RAL9007. Other colours are supplied to special order.

3. Exterior Timbers for Benches

European Oak can be supplied with FSC (Forestry Stewardship Council) accreditation or equivalent verification that the timber has been obtained from legally sustainable sources. A traditional course grained timber with great strength. Exterior longevity is around 15 to 25 years. When exposed to the elements 'checking' can occur to the surface of the timber (opening and closing of the grain), this is a natural process caused by changes in the weather and does not affect the structural integrity of the timber. Checking may appear almost as soon as the furniture is put outside and will stabilize over the first few years. Using prime grade fully seasoned wood in sensible sized (not overly large) sections ensures checking is reduced to a minimum. Oak is naturally durable due partly to the tannic acid in the wood. When it is first left out, rainwater may cause the tannin to leach from the wood and this may occasionally mark pale stone paving beneath the bench and cause temporary water marks on the wood itself. If this is a concern the benches should be left outside on another surface for the first two months before being finally installed. If staining to paving does occur after a year or so it will be bleached out by the effects of the sun and rain, but for quick removal a proprietary stone cleaning agent can be used such as Hagesan Patio Cleaner from HG Systems.

Iroko is a close-grained strong stable timber with a reddish appearance. Exterior longevity is in the region of 25 years plus, however, this timber has not achieved FSC accreditation yet. The timber generally shows little detrimental effect when exposed to the outdoor elements.

Jatoba is another durable timber with similar properties to Iroko although a little darker in colour. This timber is available from legally sustainable sources with FSC or equivalent certification.

Timber Finishes; Oak, Iroko and Jatoba in the majority of cases are supplied in their natural state without lacquers or varnishes, the end grains of the timber sections are simply waxed to avoid the ingress of moisture. Finishing the timbers adds substantially to the cost of ownership, as most sealant type products require re-applying annually. In most cases if a surface finish is required we only recommend the use of proprietary Teak Oil or Danish Oil.

4. Positioning & Fixing Benches

Most damage is likely to occur to furniture when it is in transit or being positioned, and so care is needed when handling benches and locating them into their final positions. Generally speaking 2 people can move a bench, but particular care should be taken with benches in the larger sizes and it may be beneficial to use a purpose made trolley. The benches are delivered to site fully assembled and it is important that the units are not dropped as this may damage the cast leg sections. Chipping or scratching will occur to the metal finishes if allowed to come into contact with abrasive or sharp objects.

Positioning & Fixing Benches – cont.

Benches should be secured down with either Fischer type expansion bolts or chemically bonded bolts. Where Wales & Wales ground fixing rods are being used the foundation should be laid (concrete/asphalt or paving) holes should then be bored slightly oversize to allow some tolerance, and then the rods fixed into position using a suitable chemical adhesive compound. It is imperative that the holes are bored into the substrate perpendicular to the ground surface and to the setting out drawing supplied for that particular model and size of bench. It is advisable to leave the drilling of these holes until the bench is delivered so that it can be used to check that the setting out is correct.

5. General Maintenance

Due to the simple design and construction of the benches and the their rugged nature, maintenance is a very simple process. Regular cleaning with a mild detergent and warm water is recommended. Where severe marking has occurred, for example vandalism, a jet washer can be used.

Solvents, chemical cleaners and abrasives should be avoided.

If the timber components were originally specified with a finish then light sanding and re-oiling with proprietary teak or Danish oil should be carried out annually in the summer months when the components are completely dry.

The metal components are made from corrosion resistant aluminium and are very durable needing little in the way of maintenance other than occasional cleaning as described above.

6. Damage

If damage does occur to a bench, most components are easily repaired or replaced, for example individual bench slats can be renewed, and it is usually possible to re-finish or replace the metal components.

For service issues please contact:-

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Covent garden
London
WC2B 5PP

Tel. 020 7404 5995
Fax. 020 7405 1839

7. Warranty

Luke Hughes & Company and Wales & Wales aim to provide:

- Unique, cost-effective designs that suit their purpose
- Quality furniture that is produced on time
- A reliable back-up service in future

We will replace any furniture that is found to be defective due to manufacturing errors or defective materials within twelve months.

In practice, we monitor our furniture and support our clients for much longer periods than twelve months; but it is not possible to give warranties against unusual treatment or wilful abuse. Typical examples include:

- Careless damage (poor handling during installation)
- Damage as a result of incorrect installation
- Vandalism and impact damage to legs and timber components
- Not following the care instructions in this document

For clients within 60 miles of London, we have a team of three cabinet-makers available within 48 hours to come from Covent Garden to give advice and arrange adjustments or repairs.

Luke Hughes & Company has every incentive to win and retain the long-term goodwill of our clients. Future support and trouble-free service are essential ingredients in building such relationships.