Coda is a cohesive range of street furniture, lighting and signage elements that has derived from our extensive experience of public realm innovation and regeneration. Building upon the successful legacy of our best selling Geo range, we have collaborated with leading designer Alex Lifschutz, and his team at LDS once more, to conceive a modern urban design classic. Working in close consultation with leading designers and engineers we have created a range of products that respond to the current demands of the sector, while maintaining our commitment to sustainability, longevity, ease of maintenance and customer satisfaction.

Responding to an ever-shifting sector, we have been thoughtful through every stage of the design process to ensure that this range will stand the test of time. By considering the “whole-life-cost” of materials and manufacturing, we have developed a range that meets current needs and that will look impressive through many years of challenging use. Our products are manufactured with a focus on simplicity, ease of maintenance and longevity, ensuring that the lifecycle of our products is extended. Products are easily disassembled in order to update or extend them as a project evolves and this highly sustainable design methodology also means individual elements are easily recycled at end of life.

Sustainability is a clichéd concept that often obscures the essential qualities of good design, but with Coda we have selected materials that consume as little energy in manufacture as possible and yet are extremely robust. Manufactured entirely within the UK, the sourcing of all materials is accredited through ISO14001. All timber is ethically sourced through a Chain of Custody validated by the Timber Trade Federation, and Marshalls’ concrete is subject to rigorous scrutiny of all manufacturing processes in order to assure minimal environmental impact. Our Patent Pending LED luminaire is inherently future-proof and offers incredible energy efficiency across its lifetime.
The concept design of Coda was initiated through our close working relationship with the award-winning architectural and multidisciplinary urban design team at Lifschutz Davidson Sandilands, led by Alex Lifschutz.

After initial discussions, a brief was developed to address the various and changing needs we could see being brought about by shifts in the world economy and an increasing demand for environmentally sound products. As always for Woodhouse, underpinning this brief was a strategy to unite buildings and spaces in order to create environments for all to enjoy.

Through an iterative design process, the range has evolved through many revisions, with each stage being rigorously assessed against developing technologies, changing fashion and customer requirements. Coda is a resolved product range for today’s emerging urban spaces, responding to current budgets and priorities. Offering long-term durability and coherence, with a striking palette of materials and finishes, every element has developed to a premium product at prices that are suited to a broad range of projects.
Every item in the Coda range suites with the next to create a coordinated street scene. The recurring conic shape and tapered profile express a contemporary, yet timeless, design that complements a range of architecture styles. The slim, low-profile seating conveys a sense of lightness and refinement that contrasts with the robustness of the concrete employed as the fundamental structural ingredient. Through collaboration with our colleagues at Marshalls, and developments in manufacturing technology, we have created a structural element that defies the traditional view of concrete.

Instantly identified by the distinctive colour splash inherent throughout the range, the strong seat creates a tonal effect and provides immense scope for personalisation of the products. Several combinations exist across the silver grey - mid grey - anthracite range, to allow either the matching of furniture to paving or a contrast to be provided for DDA reasons. The core products will be available in a grey colour palette, by supplementing pavement effect concrete paving ranges available from Marshalls. Several combinations exist across the silver grey - mid grey - anthracite range, to allow coordination with Conservation, Mistral, Celestia and Metrolinia flags and blocks. Additional colour options are in development to allow future specification with alternative palettes such as Saxon. Polished finishes will also soon be available - please enquire for further details.
Maintaining a refined balance between the delivery of discerning design and the extensive demands of public space projects, Coda is a highly affordable system. Its inherent design flexibility and modular approach ensures that, in most applications, it is as appropriate as much more expensive customised options. It is easy to select a standard specification, and by adjusting or modifying standard interchangeable parts, create appropriate alterations to suit individual applications. By designing modular forms in a range of robust materials, we have ensured that Coda is suited to both highly trafficked and important public spaces, but also to low-key areas of the public realm. The available options also allow specifiers the opportunity to use budgets intelligently - key public areas may be furnished with higher quality or more elaborate items; background areas can be furnished with simpler, more economic versions.

**RANGE APPLICATION**

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EXCELLENCE BY DESIGN

Our philosophy is to design and manufacture our products not just to withstand the test of time, but also perform to the very highest standard for you throughout their lifetime. It’s a philosophy we have maintained throughout the development of the CODA luminaire.

To succeed we start by selecting the right partners; partners who we trust, who uphold our technical values and who are leaders in their field. It is why we chose to work with Wipac/Carclo, manufacturers of headlamps for the likes of Bugatti, Lamborghini and Aston Martin, to develop the LED modules for our luminaires.

It continues with choosing the right components; components that we believe will perform to our exacting standards and deliver long-term value to you, our customer. So the Cree XML LED we know that the versatility it offers, coupled with our innovative designs, would provide the perfect basis for our lighting options in a minimal footprint design. We selected the Exelsys control gear as we believe it offers the best value for money.

We design for the whole life of our products, understanding your maintenance challenges, the costs involved and your desire to reduce them wherever possible. So the innovative heatsink design of the CODA luminaire minimises cleaning requirements by eliminating the cooling fins of LED luminaires and encouraging water run-off so allowing rain to clean the lantern. We also allow for all manner of control system integration to reduce energy costs and environmental impact.

When our CODA luminaire finally reaches the end of its life it can be easily disassembled and over 90% of its components recycled, giving you the reassurance that you have minimised your environmental impact throughout the whole life of your lighting scheme.
The Coda seating range offers infinite configuration flexibility to allow specification for every public space need.

The seating range is conceived as a kit of parts, starting with ‘platforms’ that can be upgraded for particular tasks or environments. These bases are simple concrete items, with timber, arms and backs in many combinations. The co-ordinated forms ensure visual consistency with other seating from the family, whilst the end profile of the bench invites other elements, such as single seats, cycle stands or litter bins to be placed nearby.

The single stool reflects the latest desire for flexible seating in the public realm whereby clusters of individual seats encourage a more natural engagement than more traditional linear forms. The stool might be installed in isolation, scattered in informal groups or employed to form compositions in a myriad ways.

Strength — Marshalls’ expertise in concrete to create robust yet beautiful street furniture

Flexibility — of design and materials to ensure suitability for every project and new phase

Quality — precision bent galvanised steel arms finished in RAL 9007 ‘Grey Aluminium’

Sustainability — UK production, ethically sourced Iroko timber, low environmental impact concrete and all elements fully recyclable at end of life

Co-ordination — unrivalled consistency between seats and other items in the Coda range

The shapes of the seating range are soft in form yet supremely robust and sturdy. Elements are supported on minimal bases to allow for easy street cleaning and the furniture is intended to usually ‘float’, reducing the clutter of public spaces and remaining in the background.

SEATING

INFINITELY FLEXIBLE TO SUIT EVERY URBAN SPACE
The Coda bollard is a robust and contemporary design that seamlessly coordinates with the remainder of the range with its striking angled top detail and subtly conical form formed in precision cast concrete. The bollard achieves significant structural strength with an elegant and timeless design for every public space.

The bollard offers a multitude of customisation options through the selection of alternative colours and finishes of concrete. This option to modify both the base and top sections allows consistency with surrounding paving and minimises visual clutter. The material of the top cap detail might be changed to support a specific wayfinding strategy or for clearer demarcation. The considered application of contrasting tones can also be used creatively to comply with guidance contained within the Equality Act 2010.

**STRENGTH THROUGH DESIGN, EXEMPLARY WHOLE LIFE VALUE**

- **Strength** - manufactured in premium concrete, the bollard has great strength to withstand the toughest urban environments.
- **Colour** - customisation of the concrete colour to complement or contrast with both existing and newly installed Marshalls paving schemes.
An extremely robust design, the bin can be modified to suit your exact specifications - changing colour combinations to suit with surrounding paving or perhaps incorporating waste segregation options. The Code litter bin is offered with a standard volume of 80 litres and with a high pressure washer for the composition of the bin are fully recyclable.

The litter bin has been designed to provide the easiest maintenance possible with a removable MDPE (Medium Density Polyethylene) liner for the emptying cycle. The anti-graffiti coating applied as standard will repel everyday stains and the lightly etched concrete surface is easily cleaned with a high pressure washer.

The litter bin is also customisable through the etching of town or district insignias or logos into the concrete face.

**Colour -** customisation of the cast stone colour to match with existing or newly installed paving styles

**Strength -** By using premium cast stone the body has great strength to stand up to the toughest urban environments

**Shadow Gap -** A 5mm shadow gap allows for effective self-draining
With ever increasing fuel costs and concern for the environment high on the agenda, cycling around Britain has never been more popular. There are significant strategies in place to radically increase the use of cycling as an everyday means of transport across the UK, particularly in our cities. The aim is to raise the percentage of journeys made by bicycle from its current rate of 2% to 10% by 2025 and 25% by 2050. A comprehensive increase in cycling infrastructure provision will be required to support this growth.

The profile of the Coda cycle stand clearly mirrors the form of the seat armrest and the slash detail at the base makes the unrivalled consistency across the full range of furniture elements.

The slim, elegant steel form is galvanised and finished in RAL9007 'Grey Aluminium' paint.

**C O L O U R  O P T I O N S**

The cycle stand’s slanted concrete insert can be colour matched to several Marshalls paving products for seamless integration.

**S E C U R E  A N D  R O B U S T**

**W I T H  U N R I V A L L E D  V I S U A L  C O H E S I O N**

**S L I M  &  L I G H T  P R O F I L E**

- The slender cycle stand is stylish yet secure

**R O B U S T**

- Formed in precision bent steel, the Coda cycle stand’s strength belies its slender form, resisting damage through everyday use

**C O - O R D I N A T E D  D E S I G N**

- The outline of the cycle stand evokes the armrests of the seat for unrivalled co-ordination

**C O N C R E T E  I N S E R T**

- The profile of the cycle stand clearly mirrors the form of the seat armrest and the slash detail at the base makes the unrivalled consistency across the full range of furniture elements.
We believe in creating signs that enhance the experience of all users within the public realm. As such, the Coda signage system can be customized to perform any people movement or information delivery task your project requires. The Coda signage system is comprised of a highly versatile monolith system and a complementary fingerpost sign. The Coda fingerpost can be capped with a colour contrast concrete finial to match the furniture or a bespoke design. With a total of twenty directional fingers, the Coda signage system can be populated by your creativity and specific project requirements.

Since every wayfinding information point is bespoke by its very nature, the concept of the Coda monolith originates from one of our standardised frames. A cost-effective and infinitely flexible system, each of the signs’ individual elements is designed to be populated by your creativity and specific project requirements. Based upon our long experience of wayfinding projects, we’ve developed a set of standardised components that offers unlimited adaptation potential and a guide for the design of your signage. These modules are available in varying sizes and are tailored to accommodate your mapping, logos and other directional assets.

Wayfinding solutions are robust and durable to ensure that the information provided is legible for many years of use. Since every wayfinding information point is bespoke by its very nature, the concept of the Coda monolith originates from one of our standardised frames. A cost-effective and infinitely flexible system, each of the signs’ individual elements is designed to be populated by your creativity and specific project requirements.
The Coda luminaire represents a watershed moment in exterior luminaire design, performance and value. Its sleek aerodynamic body encapsulates a revolutionary heatsink design (patent pending) which allows efficient heat transfer directly from the LED module to the surrounding air. It is a truly unique, low profile and contemporary design whilst providing an extremely low junction temperature for the LED, and thereby an extremely low profile and contemporary aesthetic whilst providing an extremely low junction temperature for the cutting-edge, high output LEDs. The highly efficient optical design features just one interface between the LED source and where its light most needed - on the ground. These customised optics also allow greater column spacing and a level of uniformity exceeding traditional discharge designs.

Great looking, with exceptional whole life value and independently tested, this luminaire delivers efficiency from the day of installation. Coda has been designed for unrivalled total cost of ownership for 5 or 6 Mi class applications, with pricing comparable to discharge lamps, but leading to the benefits of LEDs today. Furthermore, the unique heatsink design extends the LED service life whilst the flexible and modular design allows factory replacement of modules for future upgrades as LED technology progresses. The Code design houses modules of six LEDs which are then assembled into the luminaire according to required light levels, ensuring visual and performance consistency for large street lighting schemes. The LED running current can be specified according to design requirements from 350mA, for low power applications with maximum efficiency, up to 2100mA for the highest light levels. It is, cleverly designed and highly flexible luminaire package.

The standard colour temperature of Coda is 5000K, alternatively, if your scheme requires a warmer feel then the luminaire is available at 5500K or 3500K. With 1, 2, 3 or 4 modules, six running currents and three colour temperatures, a total of 72 lighting options are available in one luminaire unique design envelope.
The Coda luminaire features a fully sealed, IP 66 rated, LED module complete with an attached thermal interface which allows direct coupling to the robust, anodised aluminium luminaire body. This body acts as an extremely efficient heat sink minimizing the barriers to effective heatsink away from the LEDs. By minimising these junction temperatures the results are astounding in both maximising light output and extending life and allow the use of near unity lumen depreciation figures for design calculations.

Our junction temperatures have been verified by a UKAS approved and UL preferred partner test house, Lux Tsi, that confirms industry leading efficiency and lifetime predictions. The versatility of the modular design combined with the flexibility of running current specification, delivers ultimate flexibility within one coordinated lighting package. The luminaire can be configured to provide lighting levels that suit all situations, with correlating energy efficiencies that minimise running costs.

The UV-protected S (or P) class optics will deliver clean, crisp, energy efficient light-on-the-ground to a wide range of urban road, cycle, and pedestrian environments. Guaranteed efficiency and performance in every situation. The standard colour temperature is Neutral White 5000K, with IES and LDT figures available online. Alternatively, if your scheme requires warmer light, then the luminaire is available at 4000K (adjust to 93% of published IES or LDT values) or 3500K (adjust to 85% of IES or LDT values).

**Key Features & Benefits**

- Fully sealed LED modules to prevent moisture and dirt ingress
- Full "cut-off" lantern with no light emitted above the horizontal
- Post top or side entry options available for mounting on a 60mm spigot (adjustable on site)
- 76mm post top fitting with alternative spigot entry available
- Miniature or NEMA socket configurations available
- Hinged gear cover allows easy tool-free access to the control gear
- Large gear compartment allows for fitting of dimming or CMS control gear.
- Remote control gear optional

### Drive Current Measurement

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<th>700 (mA)</th>
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### Electrical Power

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