

## Introducing The Aluminium Lighting Company Ltd

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### Architectural lighting

**Special points of interest:**

- Innovative material selection
- Complete in-house service from design/structural verification to production
- 3D modelling & visual presentations
- Finite Element Analysis
- Unique & bespoke designs
- Lighting replacement funding
- Best Value Report
- Finite Element Analysis

The lighting column has a basic function and is probably regarded as an innocuous piece of street furniture. However with an estimated population in excess of 5 million units it forms part of the landscape in both rural and urban situations.

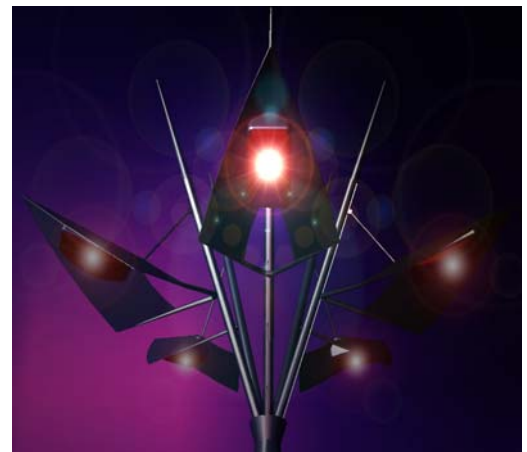
In it's basic form a cylindrical or conical tube suspends a light unit to illuminate a designated area. Design, innovation and aesthetics are not words usually associated with lighting columns.

Although design criteria is important with standard lighting columns, the emphasis is placed on structural integrity within British/ European standards. Base and column wall dimensions are determined by factors such as wind loading and the geographical position of the installation.

The design and appearance of a lighting column presents a unique opportunity to enhance or revitalise the rural or urban landscape.

innovation and freedom of design.

We aim to cultivate working partnerships rather



Strada Lighting column & bracket

than the more traditional supplier/client relationship. This strategy ensures a constant development of new products and unique project specific designs.

**Inside this issue:**

Architectural lighting	1
Material selection	1
Finite element analysis	2
Best Value Report	2
6000 series lighting column	3
Cutting edge	3
Company profile	4
Alternative to PFI Lighting replacement	4

There are few products that have such a prominent position and provide a blank canvass with which a design can make a visible impact.

As a company we constantly strive to combine sound engineering disciplines with product

### Material Selection

High winds, large lanterns, acid rain, road salt, dog urine, corrosion and contaminated soil. All factors that act collectively to reduce the life expectancy of your average lighting column.

The material used to manufacture a lighting column is probably the most important consideration that determines the life span.

Most local authority lighting engineers throughout the U.K have experienced structural

failure through corrosion or failure at swaged joints and welds. In a few tragic cases these failures have resulted in fatalities or severe injury.

Recent reports and publications warn of a major crisis within the lighting column population of the U.K . Selecting suitable material and production methods which combat these factors should be considered.

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## Finite Element Analysis (F.E.A)

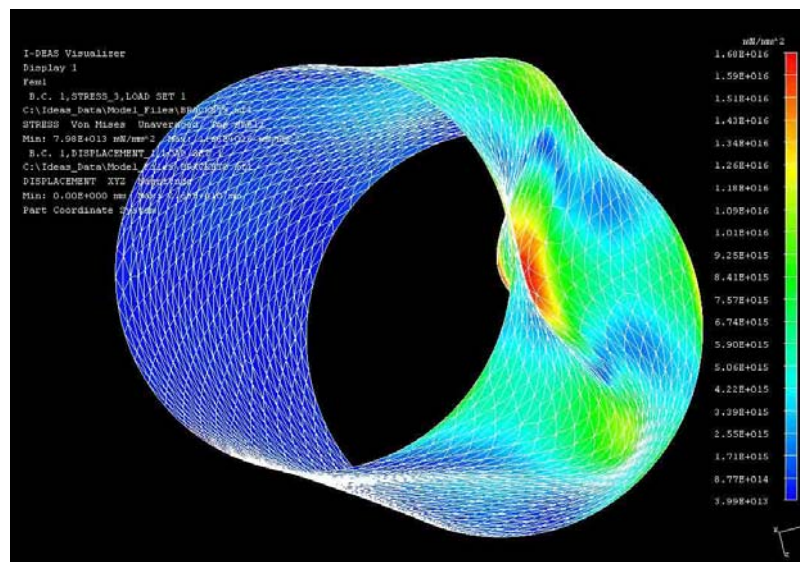
The classic problem. The perfect engineering solution to any application would be structurally sound (including a healthy safety factor), maintenance free and demonstrate a high degree of longevity and sustainability. However this solution suggests a heavy duty, bulky structure or component without any aesthetic appeal.

Through sound material selection and innovation the two disciplines of engineering and design can be combined. The aim, to produce a product that complies to the engineering criteria of the application and still looks good.

We have overcome this classical problem by integrating our seamless 3D CAD operation with software which can simulate structural loads (F.E.A).

This flexibility ensures that virtually any structure, or component design, can be verified prior to final third party structural certification.

In practice, we can develop a unique design from concept to manufacture, in a fraction of the time when compared to more traditional methods. Manufacturing drawings generated from the same 3D model used for visual presentation, sustains continuity of the design from concept to the finished product.



3D FEA model illustrating a force applied to a tube

## Best Value Report

Many local authorities are suffering from the legacy of previous lighting solutions. Restrictive budgets have resulted in reactive rather than proactive maintenance projects.

Column condition testing has been accelerated throughout the country. Depending on the method of testing results can be inaccurate and may ignore certain problem areas below ground and on internal surfaces. Corrosion is inevitable and will ultimately determine the life expectancy of steel columns. A routine maintenance and replacement program is the only alternative open to the lighting engineer who specifies steel lighting columns.

The report illustrates the savings that can be achieved when using aluminium columns. Although an initial investment is required significant cost savings can be achieved in a relatively short period, via an accelerated replacement program, or a more routine replacement regime.

The 6000 series lighting column has been in service throughout Europe and the rest of the world for over fifty years. The longevity and cost saving track record are second to none. Local authorities that wish to attain the best possible value in this area are actively pursuing this option. Those that have already installed the product are reaping the benefits of non-maintenance and increased road safety.

This report illustrates the effects of a general policy change converting from steel to aluminium lighting columns over a forty year period.

Each report is specific to the individual local authority and it's current maintenance regime. The report is free of charge and can be provided when a simple questionnaire is completed by the engineer.

**Please use attached reply card for further information**

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## 6000 Series Aluminium Alloy lighting

Recent estimates state that some 405,000 concrete columns require immediate replacement due to premature corrosion of the internal reinforcement bars. The steel column fairs slightly better but there is also a large portion of the steel lighting stock suffering from corrosion and soaring maintenance costs.

The extruded 6000 aluminium series is highly **corrosion resistant**. This type of column is used extensively throughout Europe and millions have been installed since the late 1940's.

Besides the aesthetic qualities, they offer numerous advantages when compared to traditional columns. They have a **longer life expectancy, require no maintenance and, although very strong, they are lightweight.**

The first 6000 series lighting columns were installed, in Europe, in the 1940's, and are currently still in service.

The column is extruded from a single billet of 6000 series alloy, thereby excluding weak points, joins or welds.

**Please use attached reply card for further information**

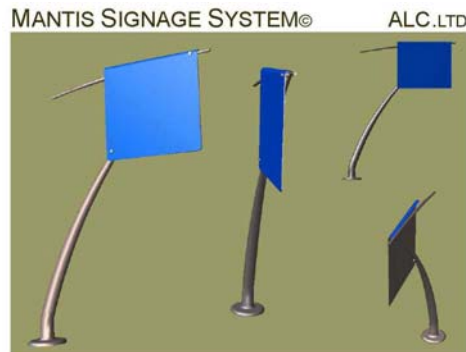


Bracket design by Candela Lighting  
3D computer aided design by The Aluminium Lighting Company

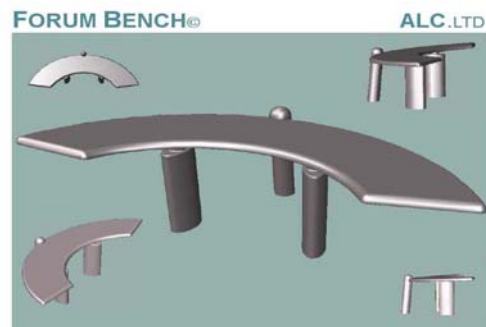
## Cutting edge

Our aim is to remove as many constraints from the design process as possible. Concept designs are used as a basis to demonstrate the manufacturing flexibility and provide some inspiration.

Past projects have demonstrated the benefits of working with the client as a partner. The client has the freedom to design unique products for individual projects. While we gain valuable experience in new product development and a flexible approach to manufacturing products.



*“Our aim is to remove design constraints and provide practical solutions to cultivate innovation & unique products”*



## COMPANY PROFILE

### *Introducing The Aluminium Lighting Company Ltd*

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The Aluminium Lighting Company have supplied 6000 series lighting columns to the public and private sectors for the past nine years.

Based in a 36,000 sqft. factory we stock in excess of 3,000 lighting columns from 3.5 to 12 m in height.

Our manufacturing operation includes products ranging from architectural lighting columns, bespoke bracket/column designs, street furniture and sign systems.

We have designed and supplied products for major projects such as Vodafone World Headquarters, Cardiff Bay Development and NATS Prestwick.



Next Issue:

## Lighting replacement funding (LRF) – The alternative to PFI

Restrictive budgets, reactive maintenance and failing lighting stock. This description could be attributed to local authorities throughout the UK.

Maintenance free equipment with a longer life expectancy would obviously improve the situation. However an investment would be required. In basic terms equipment that requires higher capital with no maintenance versus lower capital and ongoing maintenance regimes.

ALC have recognised this problem and formulated a flexible finance package, in conjunction with one of the largest financial institutions in Europe, to assist the purchase of more cost effective solutions.

We are currently working with several pilot authorities to ensure that this solution meets their requirements exactly.

Our initial discussions with local authorities raised the following points:

**The package must have the capability to encompass all lighting equipment, connection charges and installation.**

**The LA engineer must have the capacity to change the equipment specification to account for technological advances within the industry.**

**The leasing requirement must be completely flexible within each twelve month period.**

**Any "final purchase" contract must be agreed at a fixed rate at the outset of the contract.**

**Total control over contractor appointment.**

After careful consideration, of the above, a finance package has been proposed to several local authorities. The package ensures flexibility throughout and control of each aspect including specification, finance requirement, term and contractor appointment. All these areas remain wholly and solely under the control of the local authority.

**Please use attached reply card for further information**

Free CPD design/FEA courses

Raise & lower column development

Lighting engineer profile

New concept designs

LRF report

Investigating innovative manufacturing process

New dual locking door system

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