



acdc

BRIDGES

member of zumtobel group

WHO WE ARE

THE CREATIVE DRIVING FORCE IN ARCHITECTURAL LIGHTING

Lighting can turn spaces into experiences. Using the captivating power of light we change the way people see and react to buildings, the environments and space around them.

We make the normal interesting. We make icons Iconic. We make the exciting amazing and the impressive unbelievable. Our combination of high quality engineering, attention to detail and technical expertise enable our customers to be creative with light.



CREATE AMAZING EXPERIENCES WITH LIGHT

Through a collaborative creative approach, architectural lighting design can make bridges look stunning, creating views that amaze and by integrating it gives people a complete experience with light. It's all about the wow factor. Creating memories time and time again.



TO AMAZE

By lighting a bridge we create a centrepiece in the hours of darkness, we bring people out of their homes by creating a new destination, a node, a meeting point, we amaze with light.



Lamp posts by Neri SpA
Photograph © Antonio Neri

LIGHTING A BRIDGE

WHY?



IDENTITY AND EXPERIENCE

The architectural lighting design should define its location and the surrounding community. You could be a resident, a tourist taking a stroll or driving over it, or you could be viewing it from 2km away. However you are viewing the structure, the experience of the lighting should represent the people using it. A dynamic lit effect allows people to have an affinity with the scheme either because of the association with the colours used, an event or a celebration. A creative approach to the scheme will create a new positive experience at night.

CELEBRATE COMMUNITY

Bridges bring people and communities together, they have also been known to connect continents, these structures signify a journey. It is the light that enhances the nocturnal view bringing that journey to life, allowing people not only to see the centrepiece that is the bridge but the surrounding landscape. This whole new experience enables people to explore, experience and play more than ever.

INTEGRATED AND SEAMLESS

It doesn't matter if you need to light an historical or contemporary structure. The luminaires should always integrate seamlessly into the architecture, not seen by day, but bringing a different dimension to the structure at night. This is achieved through an uncompromising approach to the luminaire and its design.

LIGHTING A BRIDGE

6 BRIDGE TYPES, 5 METHODS OF LIGHT

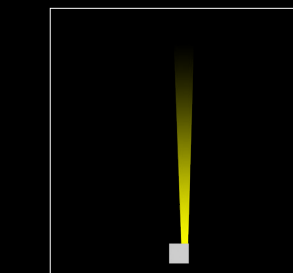
There are 6 different types of bridge. Each type requires careful planning and co-ordination to integrate a creative design. The 5 acdc fundamental applications methods of lighting will capture the essence of any bridge type. These application methods will reveal the bridges height, scale and form during the hours of darkness,

making a bridge the jewel in a communities crown. Put simply To Amaze (it's what we are good at). It is the balance of these methods of application through the colour or the contrast that defines the identity and creates the experience for the viewer. This dynamic, evolving experience allows users to create a new memory every time

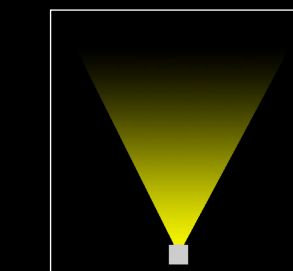
they see it, time and time again. This dynamic experience creates an emotional connection, creating value and giving users a sense of pride. Creativity through the application of light allows the bridge to signify a moment in time. This can be done by a dynamic lit effect, set in response to movement or colour.

BEAM

CABLE-STAY



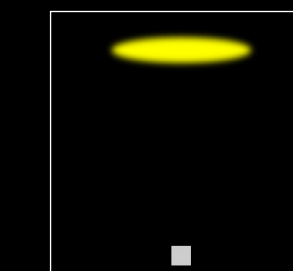
GRAZE



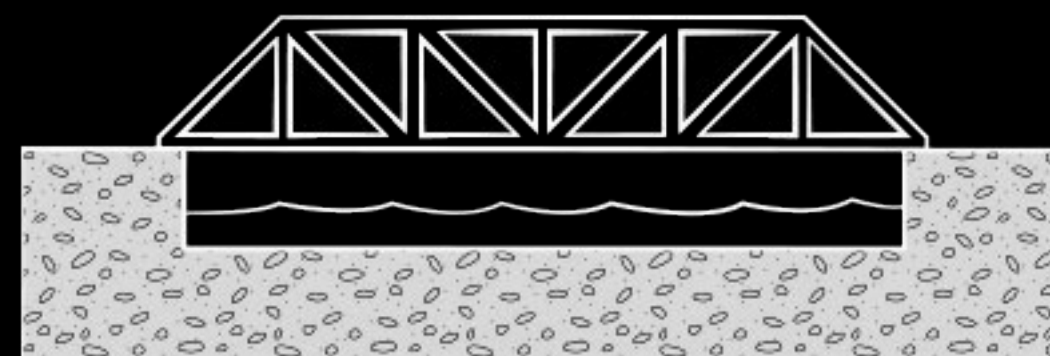
FLOOD

ARCH

SUSPENSION

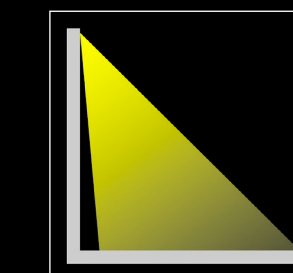
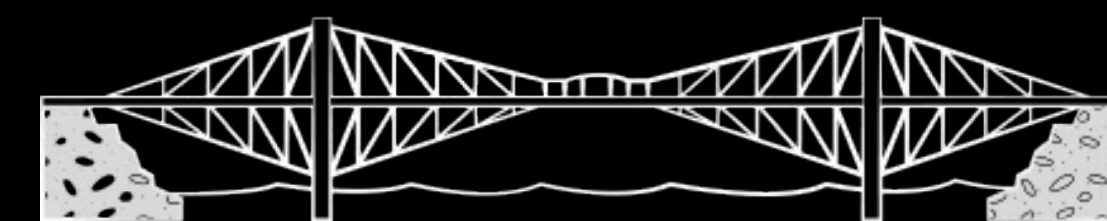


SPOT

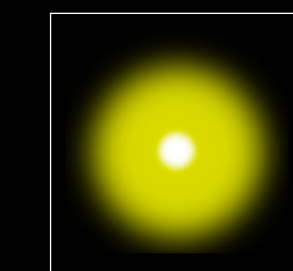


TRUSS

CANTILEVER



GUIDANCE



INTEGRATED

5 METHODS OF LIGHT



GRAZE

To accentuate the full length, depth and linearity of a bridge, consider how BLADE can provide a smooth and continuous graze effect from beginning to end. Grazing is an application method where the luminaire is mounted close or on the building and is focused up or down to highlight the texture and colour of the structure.

Grazing is often used as a layer of light within a scheme. We always talk about integration of the luminaire into the architecture and a successful graze application is often when the architectural mouldings can be used to hide the luminaires. This is so the structure can be appreciated (by day) without any visual intrusion however by night the whole scene comes alive.

REGENT BRIDGE, SCOTLAND

Continuous linear lines of BLADE LRI have been installed end to end, up lighting the once darkened tunnel (not anymore). BLADE provides a dynamic coloured graze revealing the magnificent curved height of the structure.

Through careful positioning, a deep recessed LED position and 5° tilt factory setting, BLADE LRI maximises the lit effect whilst maintaining the visual comfort of pedestrians and road users alike.

FLOOD



Families of luminaires enable a design to fulfil the demands of a bridge installation. Product families provide a complete and co-ordinated design that meets the functional expectations but also the requirements for special occasions.

The FUSION family of high output floodlights with precision optics enables the luminaire to be installed away from the bridge, with light focussed upon the key architectural details. FUSION can also be applied to the structure with a uniform wash of light. Using accessories ensures the view of the light source is limited from the surrounding landscape.

When luminaires are able to be installed within the structure of the bridge, this can bring an inner glow to create high contrast between the outer sections not directly lit, creating silhouettes against the skyline. This method of lighting bridges captures the engineering excellence of the structure to give that extra wow factor.

OSIJEK BRIDGE, CROATIA



BLADE and FUSION families were the perfect match for this project. The bridge stands at 35m and FUSION grazed down the pillars that dominate the skyline at either end of the bridge.

FUSION is an intelligent, highly efficient IP66 architectural floodlight, delivering a huge 800lm. Single colour, dynamic white and colour change are available as standard.

Despite its small size, FUSION's high output offers a focussed light with minimal light pollution. Strong colour saturation ensures a vivid display of colour while as with all acdc luminaires, 2 step macadam ellipse guarantees colour consistency.

The new lighting offers a multitude of different schemes and infinite colours to suit the bespoke lighting requirements for events and special occasions.

SPOT

Spotlight is all about picking out the architectural detail, using a medium or narrow beam grazing light up a pillar or structure to create contrast.

Often used alongside the grazing method in a layered scheme, the spotlight will be integrated or offset from the structure to give that punch.

On smaller structures it is often lower output spotlight like our PLAZA S3x or PLAZA S7x. These can be used on multiple layers of the bridge highlighting detail, in comparison to FUSION being offset with a 10° tilt to pick out the bridges detail at 70m or more.

SACKLER CROSSING, UK



The lighting was sensitively handled in relation to the context of the garden. As the Royal Botanic Gardens is mainly dark at night, the bridge softly shimmers, giving a moonlit effect which reflects in the water of the lake.

The acdc Q ground recessed high output white LED luminaires are recessed in granite planks on either side of the bridge deck. Each spotlight washes their light upon the inner surfaces of the bronze uprights.

Q's deep recessed LED position minimises the visibility of the light source and frosted glass front top plate eliminates any view of the bezel. The LED up-lights have electrical wiring loom and plug and socket arrangement eliminating the need to wire each fitting.

The final specification of the fitting for this project was confirmed after prototyping both the fitting and installation method. Careful consideration was taken over the selection of the LED's with regards to colour appearance and the finish of an additional glass front top plate.

GUIDANCE

The power of light enables us to make the interesting amazing, and guidance is a great example of this. It is often expected that the lighting to a bridge must meet a certain light level and uniformity, it is how we interpret those rules that determines the identity and experience of those using the bridge.

By lighting being a major part of the design process, light can be seamlessly integrated into the structure of the bridge. By providing this focus we place light where we need it, when we need it, maximising the view, putting people at the centre of the design, minimising any light pollution and thus creating a memorable experience.

INFINITY BRIDGE, UK

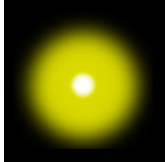


Infinity bridge is a pedestrian footbridge across the River Tees in the North West of England. The bridge links the Teesdale Business Park and the University of Durhams Queens Campus. Built at a cost of £15 million the bridge was a major part of the North Shore Redevelopment Project undertaken by Tees Valley Regeneration.

acdc and Speirs and Major worked together to create a stunning scheme for the iconic structure. Alongside the surface of the bridge, light is programmed to respond to the presence of pedestrians, guiding them down the walkway. As they cross the bridge sensors trigger a change from blue to white leaving a comets trail in the persons wake.

Ian Ruxton, Associate at Speirs and Major Edinburgh commented 'As this was a purely a pedestrian bridge, we wanted to create an effect that wasn't static and would effectively bring the bridge to life. A solution that was far more creative than a pre-programmed kinetic effect. We set ourselves a difficult challenge with the unique lighting concept and all we had to do was to find a partner who could deliver the right solution'.

INTEGRATE



The techniques discussed in this guide are generally about how light is applied or projected upon a surface or series of surfaces. The final option is how light can be integrated. Delineation can include points of light, lines of light or integrated light, where people see the lit appearance of the source rather than the projected light.

This type of application is often associated with a dynamic lit effect, of changing colour, of shimmering light – It's about bringing attention to the structure, framing its height, scale and form. For large scale bridges that stand against a dark night sky, they often only need a minimal amount of light to make a jaw dropping impact.

MERSEY WAVE, UK



The Mersey wave greets you as you come into Liverpool. Standing at 30m high and 120m wide, this visually stunning structure is intended to express a tidal wave. The structure is made up of six 30m fins that are set at graduated angles and thereby created the appearance of a continuous dynamic waveform. At night The 'wave' is defined through a series of individual points of light providing a dramatic and eye catching presence.

The LED 'nodes' were designed as part of a CPD custom luminaire process, with a domed front to maximise the viewing angle of the lit effect and view from a far.

A custom version of the acdc award winning LED node with a domed opal front diffuser ensured high visibility from multiple key viewing angles.

The IP65 exterior marker light combines an aluminium housing with an impact resistant, domed polycarbonate diffuser to create a fitting that is ideal for highlighting exterior features and lighting tall structures.

The custom solution has had maximum impact providing a sustainable solution and a stunning lighting design with breath-taking results.

LIGHTING A BRIDGE: WHAT MATTERS?

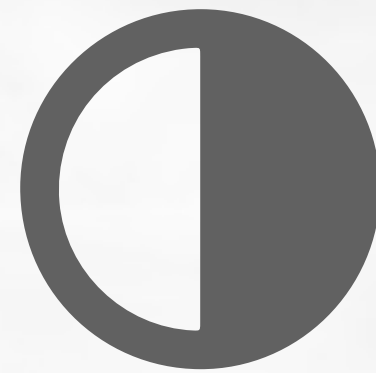
CONTEXT



A bridge typically sits over water, over a landscape, it is a key link from one point to another. The context of the bridge should determine the lit effect and the luminance upon it by considering what is in the foreground and background, making sure there is a balance of all the layers of light.

Ask yourself - How can contrast be created to ensure that the bridge is the centrepiece? How can we create the wow factor? And how can we give users an amazing journey that is safe and does not blind them?

CONTRAST

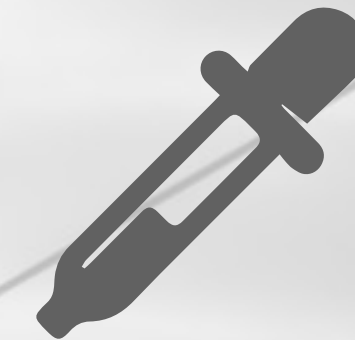


The above 5 methods of application will determine the level of contrast created. These methods can be predetermined at concept stage. The historical nature of a bridge may mean all the lighting must come from the banks, and thereby the angle of the projected light must be considered in terms of the shadows that are created.

In comparison, an open truss style structure can be lit from within and so the view along a riverbank is of an inner glow, and the outer structure is seen in silhouette.

Contrast can be enhanced through the introduction of a dynamic control system creating regular 'shows' of light through the movement of light.

COLOUR



Coloured light is generally used to create a scene, a moment, representing an event. It is often used as part of a dynamic lighting scene to enable the colour to change over an evening, a week or more rapidly in seconds.

Colour can be used on some surfaces, but not all. Through application and contrast it may be that white light is used on outer surfaces, with colour used for internal surfaces. Thereby defining the bridge through a contrast in colour.

Colour may be used as the exception, with white light used for general use and the colour is only used to signify special occasions.

CONTROL



Integrating a fully dynamic control system enables the ultimate level of flexibility of a scheme with scenes of light evolving from one minute, hour or day to another. Thereby changing the view whilst creating a new experience for the viewer each time they visit - providing a consistent feeling of being amazed.

LIGHTING A BRIDGE: WHAT MATTERS?

GLOBAL



The location of a bridge will have a significant impact upon the luminaires specified, this may be to allow for wind resistance, or for vibration if it's a suspension bridge – particularly if it's above fresh or salt water.

acdc have expertise and knowledge of the highest standards, ensuring the luminaires are suitable for global applications, with a lit effect that continues to create a wow factor for many years.

PEOPLE



A bridge is used by those in vehicles going from A to B, viewed by friends meeting on the riverbank, or can be seen by vessels moving underneath the structure. The design should consider the primary viewpoints, aiming to provide an architectural lighting proposal of which people are at the heart of – to enable them to have new positive shared experiences.

At the earliest stage it should be considered how people will interact with the bridge when it is lit. Consider their varied viewpoints so they do not see into the light source from their vehicle, the walkway or from the riverbank (if the luminaire is offset from the bridge). The control of the light is critical to how people interact and use the bridge.

INSTALLATION

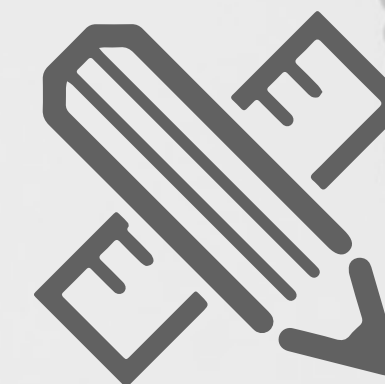


The position and visual impact of the luminaires should be carefully considered and coordinated as part of a multi-disciplinary design approach to ensure that all luminaires are accessible and maintained.

It is not necessarily the luminaires that will detract from the overall impression of the bridge. The access gantry's, ladders and access panels ensure the cabling and luminaires are accessible but can potentially be seen and detract from the overall impression of the bridge.

Consider the lighting and everything that comes with it to ensure that it is integrated into the architecture of the bridge. A full maintenance program should be integrated to provide a full cleaning program and safe access of all luminaires and cabling – ensuring a maintained lit effect.

CUSTOM



Every bridge is different. Requiring a new solution. There will be times when a project needs something a little bit different. You might even think – if only that product had a different LED colour, optic size or colour finish to achieve the desired lit effect.

acdc's promise is to create those amazing experiences with light, not just for the people who are amazed by our lighting creations but for the people behind the project – the designers, consultants, architects, installers and contractors, and therefore a custom solution is the right option.

GRAZE - PRODUCTS TO USE, BLADE

LINEAR LUMINAIRES THAT CHANGE THE WAY WE SEE BUILDINGS AND STRUCTURES AT NIGHT

CLEAN BEAM DESIGN

FAST INSTALLATION

COMPLETE GLARE CONTROL

Using one linear optic which runs consistently across the length of the product, BLADE eliminates scalloping.

[WATCH THE VIDEO](#)

[SPEC ME](#)



Regent Bridge, UK

FLOOD - PRODUCTS TO USE, FUSION

INTELLIGENT, OUTDOOR LIGHTING POWERHOUSES

**POWERFUL AND EFFICIENT
INTELLIGENT CONTROLS
MULTIPLE OUTPUTS**

Simple minimalist design to seamlessly blend within the architecture. FUSION is hard as nails. Constructed die cast, corrosion resistant aluminium and finished in a specialist corrosion resistant powder coat paint.

WATCH THE VIDEO

SPEC ME



INTEGRATED - PRODUCTS TO USE, FINO FLEX

IP67 FLEXIBLE STRIP LIGHT

20M RUN LENGTHS

CHOICE OF OPTICS

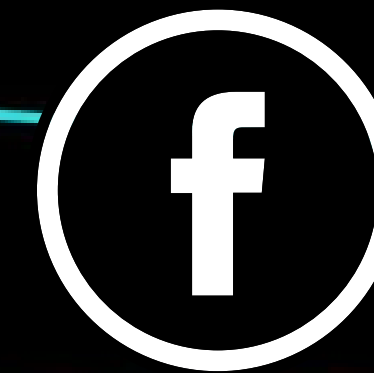
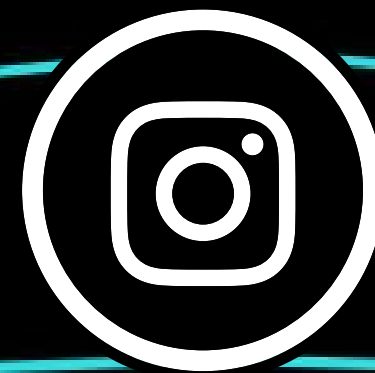
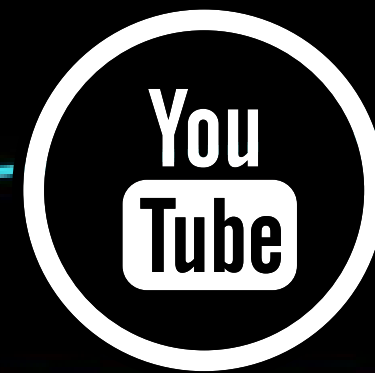
QUICK, SINGLE PERSON INSTALL

A pencil thin flexible IP67 strip with integrated optics that packs a mean punch with 1667 lumens per metre. For use in internal and external architectural environments in 80 and 90CRI.



acdc

KEEP IN TOUCH



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