Editorial

Dear Reader,

If you hear the word Tenerife and think only of sun, beach and mass tourism, then a remarkable development has escaped you. Spain is on the move. It wishes to take its place among the sophisticated destinations of cultural travel. Since Franco’s death almost thirty years ago, life in Spain has undergone rapid change. In no time at all, the country has experienced a dramatic transformation from a totalitarian corporative state to a powerful member of the European Union.

Cultural life too has experienced turbulent development. Spain’s progressive avant-garde sets the trend in Europe.

This is also apparent in the country’s busy building activities. Many building transgressions of the past are making way for spectacular cultural edifices, for whose planning it has been possible to engage internationally renowned architects.

Tenerife’s symphony orchestra has counted among the best in all Spain for over twenty years. An appropriate venue was planned to replace the 19th century hall where the orchestra had hitherto played. The plan was to design not just a simple functional building but to set a landmark as spectacular documentation of the symphony orchestra’s significance on Tenerife.

The new building was intended to focus attention primarily on the city of Santa Cruz which, despite its size, is not one of the major tourist attractions. The auditorium was designed to enhance the Los Llanos quarter.

The concept was to create a centre with its most attractive side facing the sea. In terms of urban planning, it is a link between the port and old town. A sculpted building, rather reminiscent of Jørn Utzon’s opera house in Sydney.

The concert hall was designed by Santiago Calatrava - one of the most popular architects of today. His distinctive structural style, which is often described as “biogenetic Gothic”, is positioned in the exciting field between biology and technology.

Like no other contemporary architect, he pays reverence to the great Spanish visionary Gaudí.

Calatrava’s architecture typifies what is fascinating about Spain: an impressive blend of old traditions and pure avant-garde.

The excitement and dynamics captured in concrete that is inherent in all Calatrava’s works can only really be experienced through the interplay of light and shade. Perfect lighting plays an especially important role given a building of such strong expression.

This is why many spectacular buildings in the past have successfully relied on our products.

And this is the case on Tenerife too, where the new concert hall is placed in the limelight of numerous BEGA luminaires to perfection night after night.

Heiner Gantenbrink

Tenerife Concert Hall
Architect: Santiago Calatrava
UTE, NECSO, S.A.
Construction: Cym, S.A.
Electrical installation: Ledol Iluminación, S.A.
Lighting: Richard Bryand-arzak/Architektenphoto artur
Photo title page: 2
Photo page: 3
For the architect Calatrava, concrete is not merely a down-to-earth building material but fluid stone that he shapes to the limits of static potential.

The most striking element of the concert hall is a free-standing wing made of concrete which suspends like a frozen wave over the rooms but touches them at just three points. The entire building rises up on a volcanic rock base projecting into the sea. Depending on the time of day and the perspective, the building inspires different associations: sometimes it appears as a crescent, sometimes as an opening shell or a stranded sailing ship.

The outer shell of the auditorium is made of trencadis, fragments of glistening tiles whose white colour stands out distinctively from the predominantly earthy shades of the island. Despite the enormous quantity of reinforced concrete, the building’s appearance is light and filigree. A daredevil interplay of interior and exterior, disclosure and concealment. The actual core of the complex, the large auditorium with over 1800 seats is reached via two glass foyers, spanned by two concrete arches. To highlight the fascinating impression of space with artificial light, high light output BEGA in-ground floodlights were chosen. In this way the white undersides of the arches act as the reflection surface, thus intensifying the impression of suspension still further.

By discreet installation in the flooring, conspicuous luminaires, which would compete with the architecture of the building and considerably disturb the overall impression, were avoided. BEGA in-ground floodlights are available with symmetrical, asymmetrical or adjustable light distribution.

For lamps with luminous flux of 140 to 15000 lumen. Detailed information on construction and lighting technology is given in BEGA Main Catalogue 28.
Floodlighting from the ground

The photo on the left demonstrates how BEGA in-ground floodlights can solve lighting tasks in a simple and interesting way.

These floodlights are part of a comprehensive product series of round in-ground floodlights for LEDs, tungsten halogen lamps, fluorescent lamps or discharge lamps. They are designed for pressure loads of 1000, 3000 and 5000 kg, and vehicles with pneumatic tyres can drive over them. They have protection class IP 67, they are dust-proof and protected against ingress of water. They are available with symmetrical or asymmetrical light distribution. They are suitable for installation in gravel, lawns, flower-beds or compacted surfaces. Louvres to suppress glare, skid-blocking glass, infrared filters, diffuser lenses to change the light distribution and colour effect filters are available as accessories for these in-ground floodlights.

The photo on page 3 shows the flood-lit bows of the outer gallery that is reminiscent of a ship. They too are floodlit from the ground. Square BEGA in-ground floodlights 8610 with asymmetrical light distribution were chosen for this. They are equipped with discharge lamps and are particularly suitable in providing broad spread illumination from the ground. The luminaires are designed for pressure loads up to 5000 kg. They are installed in a housing made of high-strength die cast aluminium. The pressure is transferred through this housing to an existing foundation. For walk-over public areas, we recommend these luminaires with skid-blocking glass according to DIN 51130 R13 – BEGA Patent DE 196 29 241.

The complete programme of drive-over in-ground floodlights together with all the required technical information is given in BEGA Main Catalogue 28.
BEGA location luminaires

The concert hall is situated in the waterfront area on the southern edge of Santa Cruz. This new building has made this area around the port popular, frequented by visitors and passersby. Correct direction and orientation was especially important here, and was planned with great care by the architect.

Good location lighting supports pathway direction at night. Here too, lighting planners chose BEGA products. The above photo shows BEGA recessed wall luminaires for fluorescent lamps which provide completely glare-free and uniform surface illumination from a low mounting height, and discreetly and unobtrusively harmonize with the architecture.
Luminaires with directed light are installed in the outer galleries – see above photo. Luminaires for tungsten halogen lamps with small dimensions and high light outputs. They have asymmetrical light distribution that concentrates the light on one level and diffuses it on the other level. This produces optimum illumination of the ground from a low mounting height. These luminaires have a guiding or demarcating function. Both the luminaires shown here form part of a comprehensive product series of recessed wall luminaires that are designed to provide location lighting in pedestrian areas, or additional identification of danger points. Extremely robust luminaires of a high protection class, they ensure safe and economical operation. The complete programme is given in BEGA Main Catalogue 28.
Tenerife was formed some five to seven million years ago as a result of volcanic activity.

Even today the island is still very active geologically, and this was evident from the last volcanic eruptions which occurred in 1906. It is certainly no coincidence that the interior of the large auditorium resembles an erupting volcano. Ribs shoot fifty metres upwards, and in their interior conceal the mechanics for adjusting the acoustics. In place of a conventional acoustic ceiling, convex sound reflectors were installed to offer the best conditions, both for modern and classical music. The expressiveness of these vivid structures achieves its highpoint in the interplay of light and shade. And it is light that truly brings alive the desired imagery of a volcanic eruption.

To realise this project, the lighting planners needed floodlights with the very good colour rendering properties of tungsten halogen lamps and precisely defined light distribution.

The intention was to trace precisely the filigree ribs illuminated from behind.

And this is where BEGA floodlights 7405 and 7435 were used, designed for tungsten halogen lamps QT 32 150 W and 250 W, and distinguished by their rotationally symmetrical, very narrow beam light distribution.

Special uniform broad spread lighting was required for the surfaces along the galleries, and this is why BEGA floodlights 7580 and 7590 were chosen.
Directed light for floodlighting

- Floodlights available in two sizes for:
  - tungsten halogen lamps GT 32: 150 - 250 W
  - fluorescent lamps TC-T: 18 - 26 W
  - discharge lamps HME: 60 W
- Providing rotationally symmetrical light distribution.

Permanent floodlights with mounting box and portable floodlights with earth spike or screw clamp, designed for a host of lighting tasks in private and public areas.

Due to their high light efficiency and high protection class IP 65, the floodlights for discharge lamps are especially suitable for areas where floodlights need to be operated over long periods without maintenance.

The floodlights for tungsten halogen lamps used here have very narrow beam light distribution with a half beam angle of approx. 10°. They were selected to precisely illuminate the long flange sound reflectors, as shown on the left.

Floodlights in two sizes for:
- tungsten halogen lamps GT-DE: 1200 - 500 - 750 - 1000 W
- for broad spread or flat beam light distribution.

Permanent floodlights with mounting box and portable floodlights with earth spike to provide uniform illumination of advertising boards and facades, for use as emergency lighting, video surveillance or object lighting. They are ideal wherever very good colour rendering is required and where light needs to be available immediately it is switched on.

These floodlights with their broad spread light distribution meet all the conditions required to provide indirect lighting in the lower area of the concert hall walls – see photo opposite.

Details of the complete floodlight programme, providing a solution to a host of lighting tasks, is given in BEGA Main Catalogue 28.
Duisburg inner harbour

Duisburg harbour is one of the world’s most important inner harbours due to its favourable traffic location where the Ruhr flows into the Rhine. Its history which is rich in tradition began over 100 years ago. As a result of structural change in the Ruhr District, the inner harbour with its historic storehouses lost its original significance as trans-shipment centre for one of Europe’s largest industrial regions. This loss of economic importance prompted consideration of a new use for the inner harbour. In 1990, planning work was put out to tender and won by Sir Norman Foster’s office. A concept was developed in cooperation with local companies that envisaged the gradual transformation of the old harbour complex into an attractive, modern urban area, in which equal space was accorded to flats, office buildings, cultural institutions and parks. A prominent function was inevitably assumed by the existing water areas. The start signal for the extensive revitalisation of the inner harbour was given in 1991 at the Emscherpark building exhibition with the first storehouse conversion.

An impressive light and water show was planned and held in the inner harbour in July 2003 by the utility company on the occasion of the «Industrial Culture Night». In front of the new landmark of Duisburg city – the utility company tower illuminated green by night – a dome of water and light from 48 cannons extended over the inner harbour. BEGA floodlights with dichroic colour effect filters produce the coloured light.
The Duisburg utility company tower can also be seen in the photo, illuminated with coloured light.

The 200 m high and distinctly elegant tower has been lovingly named the «Green Tower» by local residents and has meanwhile become a symbol for the utility company and its city.

Narrow beam BEGA floodlights direct green rays of light at the tower sections from six platforms, creating a giant sculpture which could hardly be improved upon by any artist.

Photo: Duisburg utility company
New Tempodrom Berlin

Following reunification, there was no longer a place near the government quarter for Berlin’s »Tempodrom« which had been a mobile tent complex for multicultural events since 1980. The operators, encouraged by over 200,000 visitors each season, decided to build a permanent venue.

After initial difficulties, an appropriate location was found in the southern Friedrichstadt area. The search for suitable planners led to the experienced Hamburg architects gmp – von Gerkan, Marg and Partner.

The new Tempodrom with its hanging ridge lines may be reminiscent of its former tent shape but it is a venue characterized by modernity, with space for up to 4000 persons.

The lighting planners from Conceptlicht, Traunreut, created the lighting concept. They chose BEGA products for many areas, both inside and outside.

The photo above is a good example of how coloured light can be used: the lighting planners successfully highlighted the sculpted drape of the roof with 36 floodlights 7514 for HiT 35 W for all to see at night.
Permanent floodlights with mounting box for
- tungsten halogen lamps QT 12-ax · QT 18
- discharge lamps HIT-TC-CE – G 8.5
Protection class IP 65
Die cast aluminium and stainless steel
Reflector of pure anodised aluminium
Safety glass γ = half beam angle
Colour: graphite – article number + W
white – article number + W
silver – article number + A

low voltage tungsten halogen lamps

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<th>Power</th>
<th>Beam Angle</th>
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with transformer

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high voltage tungsten halogen lamps

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discharge lamps

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Colour effect filters
Dichroic colour effect filters for coloured light are available for the floodlights on this page.
Colours: green, blue and yellow
Colour effect filters are accessories and must be ordered separately.

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Floodlights with outrigger arm + mounting box and portable floodlights with screw clamp or earth spike for this luminaire series as well as exchangeable lenses to change the light distribution set by the factory, flat beam or wide beam, are given in BEGA Main Catalogue 26.
It is hard to believe but the true history of Seattle’s internationally known symbol began in 1959 in a German restaurant.

Artist Edward Carlson, commissioned to compile plans for a world exhibition in Seattle, visited the restaurant of the Stuttgart Television Tower. Captivated by this concept, he began scribbling down his ideas for the «Space Needle». Once back in Seattle, architect John Graham adapted Carlson’s drafts into a form in which they could be realized. Construction of the Space Needle began in April 1961 and was finished one year later in time for the world exhibition.

Many years later when the world was approaching the next millennium, the building which was so modern at the time was considered to be rather outdated.

To ensure that Seattle’s landmark was also a credible symbol for the 21st century, Ross De Alesi Lighting Design was commissioned to create a new expressive image using light. A new identity which would embody on the one hand the history of the Space Needle and on the other hand represent its future.

This assignment was realised as can be seen today with an impressive result. Thousands of visitors are attracted every year to the majestic landmark and building.

Ross De Alesi chose BEGA floodlights for this object and said himself: «The precisely defined lighting technology of these floodlights was decisive to the success of this object.»
Power floodlights · IP 67

A series of powerful floodlights in three sizes for discharge lamps with connected loads from 50 to 600 W. They provide rotationally symmetrical or flat beam light distribution.
Floodlights with lower light outputs to illuminate details on buildings and in gardens or to illuminate advertising boards.
Floodlights with higher light outputs to light sports facilities and industrial plants and to illuminate architecture where very high light outputs are required.

Power floodlights with built-in discharge units for:
- discharge lamps 70 · 100 · 150 W
- HIT-CE 70 W lampholder G 12
Protection class IP 67 · Safety glass
Die cast aluminium, aluminium and stainless steel
Reflector of pure anodized aluminium
Bracket with
1 central hole Ø 22 mm and
2 holes Ø 9 mm · Spacing 80 mm
2.5 securing terminals
1 cable gland for connecting cable
H07RN-F 3 G 1.5

Colour: graphite – article number
silver – article number + A

Colour effect filters
Dichroic colour effect filters for coloured light in the colours green, blue and yellow.

Colour effect filters are accessories and must be ordered separately.

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Right in the centre of Berlin’s historic newspaper quarter, a new forum for dialogue and communication - the Axel-Springer-Passage - was created according to the plans of the London architectural office Fenton, Howard, Wood, Levin Partnership (RHWL). Opened in January 2004, it rounds off the boundaries of one of the largest publishing centres in Berlin.

The centre of the Axel-Springer-Passage is «Mittelbar», a gastronomic establishment with a 14 metre long basalt block as bar, two tanks containing tropical fish and projection surfaces for audio presentations.

The lighting plan presented the lighting planners with no ordinary task. The concept was to direct glarefree light onto the tables and bar counters in this relatively high room, and to use luminaires whose shape and material quality matched the fixtures of black basalt and black leather. Pendant luminaires were chosen made of three-ply black opal glass from GLASHÜTTE LIMBURG.

The inner surfaces of the black glass luminaires are made of white opal glass. Brilliant white light from the lamp is reflected downward. The outer layer made of black satin glass dampens the light from the lamp laterally and produces a fascinating spectrum of colours ranging from jet black to discreet dark blue.
Fascination »black glass«

Pendant luminaires for
- incandescent lamps
  D 45 40 W · E 14
- incandescent lamps
  A 60 60 · 100 W · E 27
Black three-ply opal glass, satin matt
Overall length 2000 mm

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Foto: Stefan Müller
Wall, ceiling and semi-recessed ceiling luminaires with adjustable light for:
- halogen lamps QT 26 60 W - E 14
- halogen lamps QT 32 75 W - E 27
- fluorescent lamps TC-TEL 26 W - HF ballast

Hand-blown, three-ply opal glass, satin matt can be rotated 360°. Ceiling ring. Metal fitter.
- white aluminium enamel RAL 9006

The luminaires for fluorescent lamps are fitted with the required discharge units.
Installation surface of the wall luminaires 80 x 30 mm.

Wall luminaires

<table>
<thead>
<tr>
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<th>Lumen</th>
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<td>8436</td>
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Ceiling luminaires

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<td>TC-TEL</td>
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Semi-recessed ceiling luminaires

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High-quality table lamps and floor lamps. The development of these luminaires focused on variability and visual comfort. Functionality and aesthetics are distinctively linked. Stainless steel and hand-blown, three-ply opal glass are the materials of these artistic lighting tools. The height of the luminaires can be infinitely adjusted and they can be rotated around the stem. The open glass reflector can also be infinitely adjusted, allowing the luminaire to be perfectly adjusted to the illuminated surface. These luminaires can either be operated with incandescent lamps or, where long operating periods require, with fluorescent lamps.
Table lamps with luminaire bodies that are infinitely adjustable around three axes for
- halogen lamps QT 32 100 W - E 27
- fluorescent lamps TC-DEL 18 W - HF ballast

Hand-blown, three-ply opal glass, satin matt with thread
Stainless steel metal parts
The luminaires for fluorescent lamps are fitted with the required discharge units,
Black connecting cable - 2000 mm
Power switch in the luminaire
Light output infinitely adjustable 360°
Can be rotated horizontally and height is adjustable

<table>
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<td>6511</td>
<td>1 TC-DEL 18 W</td>
<td>1200</td>
<td>355</td>
<td>850</td>
</tr>
</tbody>
</table>

Floor lamps with luminaire bodies that are infinitely adjustable around three axes for
- halogen lamps QT 32 100 W - E 27
- fluorescent lamps TC-DEL 18 W - HF ballast

Hand-blown, three-ply opal glass, satin matt with thread
Stainless steel metal parts
The luminaires for fluorescent lamps are fitted with the required discharge units,
Black connecting cable - 2500 mm
Power switch in the luminaire
Light output infinitely adjustable 360°
Can be rotated horizontally and height is adjustable

<table>
<thead>
<tr>
<th>Lamp</th>
<th>Lumen</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>6521</td>
<td>1 QT 32 100 W</td>
<td>1470</td>
<td>385</td>
<td>1250</td>
</tr>
<tr>
<td>6520</td>
<td>1 TC-DEL 18 W</td>
<td>1200</td>
<td>385</td>
<td>1250</td>
</tr>
</tbody>
</table>
Enclosed ceiling and wall luminaires for incandescent lamps and fluorescent lamps. Luminaires of impressive quality with precise fitters, exquisite surface finishes and hand-blown, three-ply opal glass. They can be installed either on walls or ceilings. Available in protection class IP 44, they are also ideal and safe for use in bathrooms. Their shock-proof construction ensures that the glass is perfectly supported on the fitter.

These luminaires are especially suitable for arrangement in groups, and can solve a host of interior lighting tasks. Robust and reliable lighting tools that provide perfect light over long periods of operation.

Ceiling and wall luminaires with precise fitters made of aluminium. They are available in three different surface finishes: stainless steel, chrome and matt brass. Hand-blown, satin matt, three-ply opal glass highlights the exquisite character of these precious fitters.
Ceiling and wall luminaires for
- halogen lamps QT 32 75·60 W · E 27
- fluorescent lamps TC-DEL 26·18 W

**HF ballast**
Protection class IP 44

Hand-blown, three-ply opal glass, satin matt

Aluminium fitting
Surface finish either
- stainless steel
- chrome
- matt brass

2 cable entries for through-wiring

The luminaires for fluorescent lamps are fitted with the required discharge units.

The luminaires can be installed both vertically and horizontally.

<table>
<thead>
<tr>
<th>Finish s/steel</th>
<th>Chrome</th>
<th>Matt brass</th>
<th>Lamp</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>8332</td>
<td>8388</td>
<td>8427</td>
<td>1 QT 32</td>
<td>75 W</td>
<td>340</td>
</tr>
<tr>
<td>8333</td>
<td>8389</td>
<td>8428</td>
<td>2 QT 32</td>
<td>60 W</td>
<td>470</td>
</tr>
<tr>
<td>8334</td>
<td>8390</td>
<td>8429</td>
<td>1 TC-DEL</td>
<td>26 W</td>
<td>340</td>
</tr>
<tr>
<td>8335</td>
<td>8391</td>
<td>8430</td>
<td>2 TC-DEL</td>
<td>18 W</td>
<td>470</td>
</tr>
</tbody>
</table>

The luminaires can be installed both vertically and horizontally. The luminaires on this double page are particularly suitable for arrangement in rows or groups. Protection class IP 44 allows the luminaires to be used in many areas of interior design.
BEGA

BEGA Lichttechnische Spezialfabrik
Hennenbusch · D-58708 Menden
A specialist lighting factory for high quality luminaires used in and on buildings, in gardens and streets, in sports facilities, for underwater installation and a host of other special lighting functions.

LIMBURG

GLASHÜTTE LIMBURG · Glashüttenweg
D-65549 Limburg · Tel. +49 6431 2040
A glassworks which manufactures luminaires made of glass.
Elegant luminaires for private houses and for public buildings. And glass for the lighting industry across the globe.

BOOM

BOOM Buitenvloerlichting N.V. · B-2870 Puurs
A special manufacturer of exterior luminaires.
The luminaires produced are used in private houses, in gardens and pedestrian precincts.
These luminaires are notable for a design which can blend with a host of architectural styles.

An information brochure from
LICHTGRUPPE GANTENBRINK
showing how our product shapes the environment.
The companies in the group are specialists in many fields of lighting engineering.
This brochure is published three times each year in German, English, French and Dutch.
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