Ceramic technology today for tomorrow

Basic: OSRAM POWERSTAR® HCI®
Advanced: OSRAM POWERBALL® HCI®
Enjoy the best quality of light.
Innovative ceramic lamps from OSRAM.

Greater effect, smaller costs
- POWERBALL® HCI®, the lamp with the highest luminous efficacy of any ceramic lamp on the market, offers up to 30% more light over its entire life than Basic Ceramic Technology
- More light for existing installations – with no extra energy costs
- New installations can be planned with fewer light sources – which means lower installation, energy and maintenance costs

Excellent colour rendering, more natural colours
- Better colour rendering than quartz lamps or conventional ceramic lamps
- Natural high-contrast lighting
- Natural colour rendering for products, materials and dyes

Excellent durability, lower lamp replacement costs
- Long average life of 12,000 hours for all POWERBALL® types
- Excellent quality of light and efficiency over a very long period of time
- Lower operating and maintenance costs
- Faster amortisation of installation costs
Innovative HCI® lamps in
Basic and Advanced Ceramic Technology from OSRAM meet the highest standards in terms of colour rendering and the quality and stability of the light.

POWERSTAR® HCI® in Basic Ceramic Technology
with the cylindrical discharge vessel is a further development of the world’s most successful metal halide lamps, the POWERSTAR® HQI® from OSRAM. Their colour constancy throughout their lives, their luminous efficacy and their colour rendering are outstanding.

POWERBALL® HCI® in Advanced Ceramic Technology
is the new generation of innovative high-pressure discharge lamps. With its round ceramic discharge vessel, patented by OSRAM, it provides even better performance than its old cylindrical counterparts in terms of light quantity, colour and stability.

Permanent high quality and quantity of light
• Quartz lamps have one major drawback. The light colour ages at different rates from lamp to lamp. This often results in lighting installations that look unattractive because they seem to have a mix of colours.
• Innovative POWERBALL® HCI® lamps from OSRAM offer optimum colour constancy throughout their lives thanks to the robust ceramic discharge vessel that ensures there are virtually no differences from lamp to lamp.

Protection for dyes and materials
• UV filter technology is standard for all HCI® lamps
• The risk of UV-related bleaching for products and materials is reduced
• Luminaire covers and other components remain functional and transparent

The perfect combination: HCI® and POWERTRONIC® PTU
• Optimum operation of HCI® lamps with modern POWERTRONIC® PTU electronic control gear from OSRAM
• Maximum system reliability, comfort and economy
• ECG guarantee from OSRAM (see back page)
Anyone selling exclusive products will pay particular attention to proper presentation. HCI®-T and HCI®-TC ceramic lamps from OSRAM provide natural light in professional sales outlets, exhibition areas and showrooms. POWERBALL® Shoplight HCI®, the latest innovation from OSRAM, has been specially developed for high-quality sales lighting. These lamps not only have extremely good natural colour rendering at the red end of the spectrum, they also offer high luminous flux.
Fashion, jewellery and perfume: Exclusive products and stylish shop architecture look their best in the light from innovative HCI® lamps from OSRAM, as here in this Korean shopping centre.

An elegant solution: The Wöhrl fashion store uses Shoplight HCI® to show its models to perfection – as here in the Nuremberg branch.
In department stores or supermarkets, in shopping centres or individual shops, in rooms with high ceilings or low, HCI®-T, HCI®-TC, HCI®-TS, HCI®-PAR and HCI®-E/P ceramic lamps from OSRAM always put everything in the right light. POWERBALL® HCI®-E/P have been developed specifically for open luminaires. The “Protected” versions can be used without shields thanks to their built-in safety features.

Powerful colours: OSRAM HCI® lamps provide razor sharp lighting in numerous Lacoste branches, as here in Grenoble.

Beautiful light, every step of the way: HCI® lamps from OSRAM come in many different shapes and sizes.
Absolutely natural:
Decorations, merchandise and materials always appear in their best light with HCI® – thanks to natural colour rendering and reliable UV protection.

Better light, higher sales:
HCI® ceramic lamps can be found in outlets, large and small, throughout the world – wholesalers, retailers, boutiques, car showrooms and supermarkets.
Ceramic Technology

Attractive architecture

HCI®-T, -E and -TS lamps are ideal for indoor applications where the demands are particular “high”, such as atriums, railway stations, factories, sports halls and prestige offices with high ceilings. POWERBALL® HCI®-TT lamps are perfect for prestige city, street and park lighting. Their white halogen-like light presents objects in their natural colours and is therefore particularly pleasant and attractive and gives people a sense of security.

New laws for lighting:
Thanks to HCI®, the Federal Government Building in Berne now appears in new splendour – like other historical buildings in the Swiss capital.

Unique technology:
OSRAM HCI® lamps have given the Olympic beach volleyball venue in Athens a sunny look. The new HCI®-TM lamp is perfectly suited for indirect lighting systems.

1001 nights:
HCI® lamps are being used at the shopping and leisure centre in Dubai to create a magical seductive light.
A feast for the eyes: HCl® ceramic lamps from OSRAM provide the perfect light for filling large spaces and picking out the finest details.

High church: HCl® lamps bring out the majesty of church architecture, as here at the Church of Saint Michael in Ussel, France.

Modern times: HCl® lamps from OSRAM add to the dignity and grandeur of the Jefferson Memorial in Washington DC, USA.
The new POWERBALL® HCI® super model from OSRAM with its round ceramic discharge vessel puts its cylindrical competitors firmly in the shade.

Better colour rendering at the red end of the spectrum
The already excellent colour rendering quality of HCI® lamps has been even further improved in the POWERBALL® HCI® with a better colour rendering index at the demanding red end of the spectrum.

Constant light and colour performance
The secret behind the ability of POWERBALL® HCI® to produce more light throughout its long life is its high corrosion resistance. The discharge vessel has no cold corners in which the filler gases can collect and attack the ceramic wall. Luminous efficacy and colour stability remain at a high level throughout the long life of the lamp – and in any burning position.

Optimum discharge vessel geometry for more light
In the round ceramic vessel higher arc temperatures are possible because the distance between the hot discharge arc and the ceramic wall is greater, so the wall does not get as hot. Thanks to this optimum geometry, more light can be generated in the arc, thereby increasing the luminous efficacy. There are no thick walls that swallow the light. The discharge vessel walls are uniformly thin so the light can escape unhindered. The result is more light and less energy loss.

Fewer components for greater stability
The discharge vessel consists only of rounded components and has no “rupture points” where there is an abrupt change in wall thickness or diameter. This means that POWERBALL® HCI® has greater mechanical stability and is less susceptible to vibrations.

Better colour rendering at the red end of the spectrum thanks to POWERBALL®

Better luminous flux maintenance with POWERBALL®
A comparison between cylindrical and round discharge vessels:

**Cylindrical discharge vessel:**
Loss of light due to uneven spacing between the discharge arc and ceramic wall and light-absorbent plugs.

**Round discharge vessel:**
More light – thanks to uniform spacing and uniform light in all directions.

**Cylindrical discharge vessel:**
In the corners the filling reacts instead of producing light.

**Round discharge vessel:**
Lower luminous flux losses and better stability because there are no deposits in the corners.

**Cylindrical discharge vessel:**
Corners are rupture points.

**Round discharge vessel:**
More stable, therefore less susceptible to vibrations.

**All the benefits at a glance**
- Higher red rendering index
- Better colour rendering
- More even distribution of light
- Lower failure rate due to ceramic corrosion
- Longer colour constancy
- Higher luminous flux – up to 30% more light throughout the life of the lamp
- Better luminous flux maintenance
- Less dependence on burning position
- Faster run-up to full output
The perfect system, guaranteed: HCI® and POWERTRONIC® PTU

The system reliability, comfort and economy of HCI® lamps of considerably improved if the lamps are operated with innovative POWERTRONIC® PTU control gear from OSRAM.

- Up to 15% lower energy consumption*
- Improved start-up behaviour
- Flicker-free operation of different lamps thanks to 130 Hz square-wave control
- Reduced colour deviations thanks to precise power control
- High levels of comfort, safety and reliability: microprocessor for monitoring and controlling all operating conditions
- Shutdown of faulty lamps
- Restriction on ignition time
- Excellent thermal behaviour due to very low power loss
- Long ECG life of 50,000 hours**
- 3-year ECG guarantee from OSRAM
- 5 year ECG guarantee in a system comprising PTU and POWERBALL® HCI® or HQI®***

* compared with conventional control gear
** for a maximum failure rate of 10% for $T \leq T_c$
*** after registering the system and under certain conditions of use

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/ecg-guarantee

You can find further product information and technical details at www.osram.com/powerball.