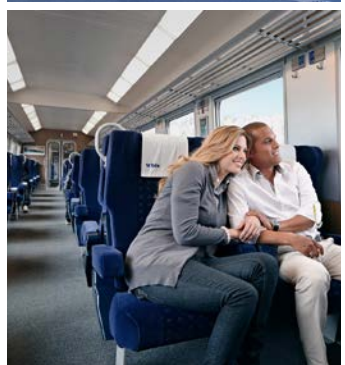


# LCC

Laser Crystal Ceramics  
Light source of the future

## Rail Industry

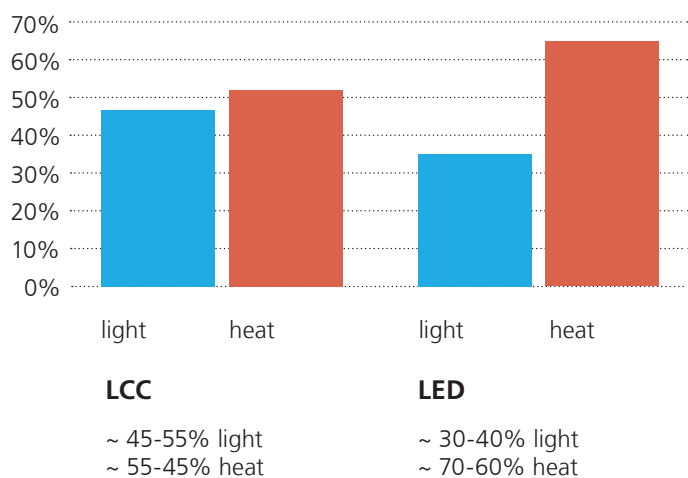
New light  
in public transport



LCC-LIGHT-TECHNOLOGY

# A Swiss company designed the history of light!

## Energy balance of LCC and LED in comparison



## The origin

Laser Crystal Ceramics (LCC) is a light technology that has its origins in Switzerland and South Korea. In 2004, the engineer Lucky Ranasinghe produced a second-long, unbelievably bright light due to a faulty manipulation on a laser copier. The cause of this incident could then finally be clarified by a technical university in South Korea. LCC is fundamentally different from LEDs due to its organic coating.

## High energy efficiency

Due to the high energy efficiency, the power supply is exposed to less stress. It is thus possible to achieve up to 250,000 cycles and more. We build our LCC chips into housings designed for LED technology. One reason for using existing enclosures is high availability. On the other hand, these cases also have cooling fins. Due to the low heat development, however, cooling measures for LCC products are only conditionally or even not necessary. The same applies to our LCC retrofit lamps, which was modeled on the Edison bulb. There is no coolant in any of these LCC bulbs, the glass body is only for hand protection. Although operation without a glass body is readily possible, it does not comply with the high safety standards which the Federal High Voltage Inspectorate (ESTI) places on our LCC products.

## Lighting quality

Warm white, brilliant light with very good color rendering (Ra80-94), comparable to incandescent light.

## Lifespan

35000 hours and more.

## Start behaviour

Immediately to 100% light output.

## High switching resistance

Can be switched on/off at least 250 000 times.

## Dimming

LCC bulbs 230V, GU10 and 12V, MR16 are available in dimmable version. We also organize the appropriate drivers Dali and 1-10V PWM.

## Guarantee

Lamp + lights: 3 years

Street lights: 5 years

## Checks/tests/certificates

ESTI, TÜV, RoHS- and CE-marking

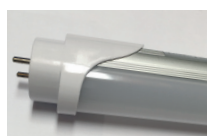
## The advantages of LCC bulbs

- high energy efficiency/energy classification A+ und A++
- low heat development (50% light, 50% heat)
- very good color rendering (RA 80 – 94)
- long lifetime (35000 – 50000 hrs)
- no change in light color / intensity (max 2–4%)
- different light colors (2200 – 6000 K)
- dimmable (230V, 12V, GU10 and MR16)
- high-quality electronics for high switching resistance, low inrush currents and flicker-free light
- pollutant-free and resource-saving (no phosphorus and mercury, no gases and rare earths).
- easy disposal (recyclable electronic waste)
- the ecological contribution to reducing the CO2 pollution!

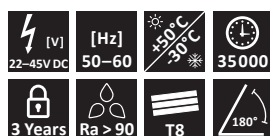


# LCC tube lights & bulbs for rail industry.

## New light in public transport.



**A+**

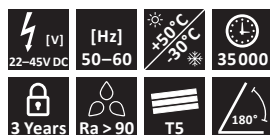


### Tube Lights T8-36V DC

<b>36V600T8</b> 600 mm	<b>CHF 61.50</b>
Power/luminous flux/light color	9W/900lm/4000K
<b>36V900T8</b> 900 mm	<b>CHF 65.00</b>
Power/luminous flux/light color	13W/1300lm/4000K
<b>36V1200T8</b> 1200 mm	<b>CHF 79.90</b>
Power/luminous flux/light color	18W/1800lm/4000K
<b>36V1500T8</b> 1500 mm	<b>CHF 93.00</b>
Power/luminous flux/light color	24W/2400lm/4000K

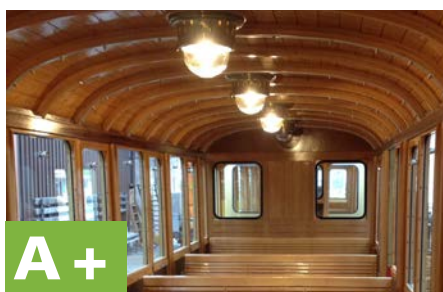
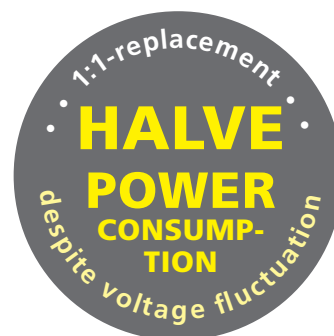


**A+**



### Tube Lights T5-36V DC

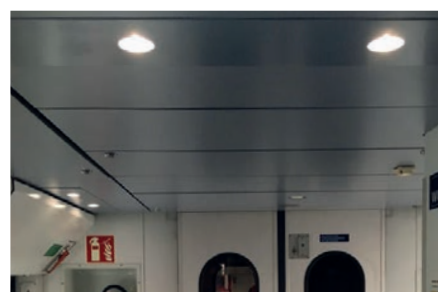
<b>36V600T5</b> 600 mm	<b>CHF 68.90</b>
Power/luminous flux/light color	9W/900lm/4000K
<b>36V900T5</b> 900 mm	<b>CHF 73.50</b>
Power/luminous flux/light color	13W/1300lm/4000K
<b>36V1200T5</b> 1200 mm	<b>CHF 77.10</b>
Power/luminous flux/light color	18W/1800lm/4000K
<b>36V1500T5</b> 1500 mm	<b>CHF 98.80</b>
Power/luminous flux/light color	24W/2400lm/4000K



**A+**

### Retrofit Lamps 12-24V DC

Article no.	E2712-24V
Power	6W
Luminous flux	580lm
Light color	2700K
Tension	DC 12-24V
Applicable	-30°C bis +50°C
Base	E27
Dimensions in mm	110 x 60
<b>Price</b>	<b>CHF 32.50</b>



### Spots 36V DC

Article no.	36V4W4K
Power	4W
Luminous flux	430lm
Light color	4000K
Tension	DC 30-45V
<b>Price</b>	<b>CHF 59.90</b>

All prices are suggested retail prices, gross, excl. VAT and only for swiss market. Find out about your personal purchasing conditions.

# Unique: LCC COB light-stripes and panels.

## New lighting systems in public transport.



**NEW  
IN  
STOCK**



**Maximum energy efficiency**  
150 lm per watt (chip power), 130 lm per watt (light).

**Little heat**

The temperature is directly at the LCC chip below 40°C.

**Constant light intensity and light color**

The light fall and the color change is lying at max. 2%.

**Environmental friendliness**

LCC chips are based on carbon and are organic in nature. They are made without rare earth or other pollutants and can be disposed of without any problem.

**Pleasant and gapless light**

Latest LCC COB generation, continuous light stripes.

**Please contact us, we will gladly sample you!**

**LCC Licht GmbH**  
*LIGHT SOURCE OF THE FUTURE*

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LCC-LIGHT-TECHNOLOGY