



Energy-saving lamps with cold cathodes of the Ecopolis Project

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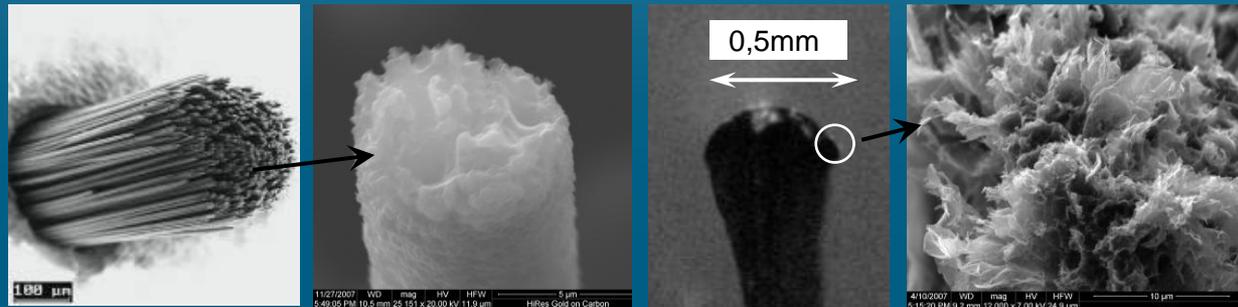
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The basis of the development - promising nanostructured Carbon materials

Our lamps are robust and durable cold cathode with nanostructured carbon: carbon fibers and thermoplastic used extensively graphite. Issuer of the cathode surfaces consist of a number of emission centers. The size of the emission centers is only a few nanometers.

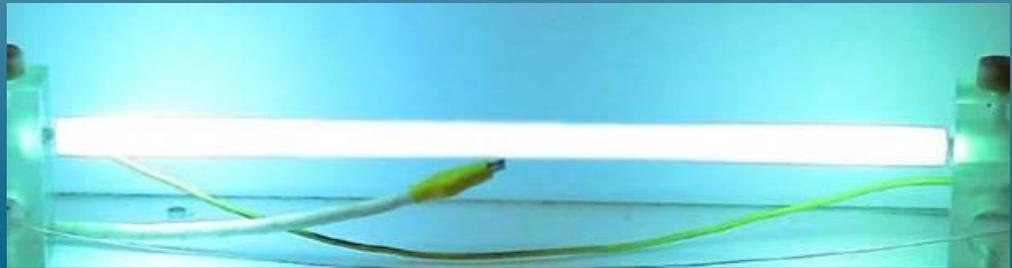


Cathodes from carbon fibers Cathodes made of extensive thermodynamic graphite

The emission for cold cathode requires no energy. Lamps with such cathodes are energy efficient.

After the parameters are the most advanced cold-cathode for use in devices that convert electrical energy into electromagnetic radiation in the visible range, are suitable.

Cathode luminescent lamps with cold cathodes



General lighting (10-20 W, 30-40 lx / W)



Semaphore, Ampeln



Colored Light





Properties of the cathode luminescent lamps with cold cathodes:

Cathode luminescence lamps have the following advantages:

- Appropriate for the human spectrum of radiation;
- High efficiency and brightness;
- Ready to use immediately;
- Wide operating temperature range (-196°C to $+150^{\circ}\text{C}$);
- A large area of light-emitting surface;
- Ecological purity of production, use and disposal;
- The absence of harmful and toxic substances;
- Lack of sensitivity to changes in supply voltage;
- Lifetime - 100 000 hours;
- In the manufacture of lamps: simple technology and a wide common materials in nature;
- Cathode Luminescent lamps may be similar to the sodium lamp.

Properties of colored lights			
Colors	Red	Green	Blue
Brightness, cd/m ²	25 000	40 000	15 000
Effektivität, Lx/W	17	30	9



- 1st Lights in the liquid Azot.
- 2nd Fleming shines in the lighter.
- 3rd Lights removed from the liquid Azot.

Notice, for the mass production proposed cathode luminescent light source can be compared not only with the parameters of the best modern examples, but surpasses them in the working temperature range of 2-5 times, the uniformity of light, low-cost production, utilization in the productive use not expensive, widespread in nature and environmentally friendly materials and techniques. The emission spectrum of the cathode-luminescent lamp depends on the composition of phosphorus and may be elected to the natural sunlight to come closest.