

## Case Study

### Pocan® B 4235 for lamp sockets



Figure 1: Lamp socket made of Pocan® B 4235

OSRAM is one of the world's leading lighting manufacturers, and currently provides light in some 150 countries around the globe. With 88 % of its sales abroad and a marketing network on every continent, OSRAM is a true global player in lighting engineering. Its product range includes incandescent lamps, halogen lamps, fluorescent lamps, compact fluorescent lamps and high-pressure discharge lamps.

Fluorescent lamps produce around 70 % of the world's artificial light, but consume only 50 % of the energy required to do so. In fact, they need about one-fifth of the electricity consumed by an incandescent lamp. Depending on the type and mode of operation, their average life expectancy is between 5,000 and 45,000 hours, while a normal incandescent bulb lasts for about 1,000 hours.

Compact fluorescent lamps generate their light according to the same principle as normal fluorescent lamps, but by bending the glass tube, engineers have succeeded in making these lamps very compact. With the DULUX EL compact fluorescent lamp, for example, the necessary ballast is already integrated. This means it can be simply screwed into existing incandescent bulb sockets as an energy-

**Material:** Pocan® B 4235  
**OEM:** OSRAM GmbH, Munich  
**Industry:** Electrical/electronics

saving lamp. As a result, the consumer can save up to 80 % electricity.

An innovative product to come from OSRAM is the "OSRAM economy lamp with photodiode". When it gets dark, it automatically switches on. Two sensors in the base of the OSRAM energy-saving lamp automatically switch the light on when it gets dark and off again when it gets light, so that no one can be accused of forgetting to switch the light off. The threshold for switching on and off is set individually via a potentiometer

The socket (available either with an E 27 or E 14 base) is made of flame-retardant Pocan B 4235 (PBT-GF30 FR), which complies with all the necessary requirements for this application:

- High heat resistance up to approx. 140 °C
- Good electrical insulating properties – the base carries current and must therefore comply with the requirements of VDE 0875 part 2.
- High dielectric strength
- Glow-wire test at 960°C at 2 mm
- UL 94 V-0 listing at a wall thickness of 1.6 mm



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Unless specified to the contrary, the values given have been established on standardized test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mold/die, the processing conditions and the coloring.

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