

Light Emitting Diode (LED)



Dorman pioneered LED technology within the Road and Rail industry.

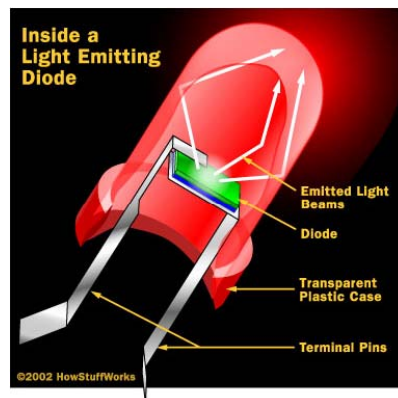
Advantages of LEDs:

- Instantaneous illumination, making them ideal for applications where flashing is a requirement
- No colour filters required, maintaining uniform light output levels
- High energy efficiency
- No filament to fail unexpectedly
- Resistant to shock and vibration
- Cool operation reduces attraction of contaminants and subsequent baking on effect
- Low power consumption making them ideal for solar powered solutions

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The history of Light Emitting Diodes (LED) can be traced back to 1907, but the first practical LED in the visible light spectrum was built in 1962 by Nick Holonyak, who is now known as the Father of LED. There has since been steady improvement over the years and today the LED is used everywhere from penlight torches to the giant TV screens seen at sports events. Dorman uses LED technology in many of its products because of the robust construction and economic benefits the technology brings.

LEDs are essentially a diode (which can be thought of as an electrical ‘one-way valve’) which glows when it is forward biased (current is flowing through the diode). This occurs because electrons are allowed to recombine with holes within the diode material causing a release of energy in the form of particles of light called photons. This phenomenon is called electroluminescence and the colour of the light emitted is determined by the semiconductor substrate material which the diode is made of.



The diodes are sealed in a transparent plastic case to make them shockproof and waterproof and these ‘mini-bulbs’ contain integrated optical components to boost light output and reduce phantom lighting effects

Dorman has been at the forefront of introducing LED technology in both the road and rail industry, for over a quarter of a century; and plans are already advanced for the next generation of cutting edge LED products which will continue to deliver cost effective, reliable and safe solutions for the transport environment.

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