

10 reasons to consider LED LIGHTS for mining applications

1 Reduces maintenance by 1/3 or more

Most LED products have an L70 rating, which means you can expect them to run 60,000 to 70,000 hours before light output is reduced by 30% of maximum capacity. Some of the most advanced boast ratings of up to 100,000 hours, with performance often improving in cold temperatures. Compared to expected ratings of around 20,000 hours for conventional fluorescent-based fixtures, LEDs offer a potential three- to fivefold reduction in maintenance.³

2 Increased lifespan of up to 170K hours

Most industrial LED luminaires are rated for 60,000 hours of life at 55 °C. This means that at ambient temperatures of 25 °C and 40 °C, the useful life of an LED luminaire could be as long as 170,000 hours and 100,000 hours respectively. 170,000 hours equals almost 20 years of continuous, maintenance-free operation.



3 Where the market is headed

LEDs currently occupy around 18% of the market, but this is projected to grow in the medium to long term. According to a report from McKinsey, LEDs will represent 60% of the general lighting market by 2020.¹

4 Less energy, less overhead

By converting from HID to LED, mining process facilities will realize improved lifetime and lower maintenance costs, enabling a safer operating environment with more consistent light output, longer life and reduced machinery downtime. And, per the Department of Energy, "A complete technology switch to LEDs from high-bay luminaires would nearly cut energy use in half. This potential savings equates to an annual energy cost savings of \$4.6 billion."²



5 Reduce energy, save money

A 13,000 lumen LED floodlight can consume as little as 112 W. This is equivalent to a 400 W HID light at a 70% reduction in energy costs.



6 The greenest source of light

Because of their ability to dramatically reduce energy consumption, LED lights are regarded as a green lighting alternative. And, because they contain no hazardous chemicals, their disposal represents less of an environmental threat.



7 Best light for the worst conditions

A driving factor in converting the lighting in mining applications is the constant maintenance requirements of conventional lighting. Mining applications are often subjected to high vibration, debris, chemicals and potentially explosive situations. LEDs contain no moving parts, are more durable and better withstand shock and corrosion. Their ability to ignite spark-free is also an advantage in flammable environments.

8 The toughest of the tough

The solid-state construction of LEDs is very robust—meaning they are less prone to premature or unplanned failure. This makes them ideal for high vibration and abusive applications.

9 Robinson Mine made the switch

Robinson Mine decided to replace existing incandescent lighting with Eaton's Crouse-Hinds® series Vaporgard™ LEDs. One shovel, retrofitted with Vaporgard LEDs, has been digging away without a fixture failure in 15 months. Lamp maintenance is now virtually obsolete, saving Robinson over \$1 million in downtime related costs.



10 Payback in three years

LED technology has now reached a point where quality is high enough for large-scale industrial application, while LED solutions have become affordable enough to make the financial proposition worthwhile. Current estimates suggest that the general payback period for industrial LED installation is now 2 to 3 years, down from 10 just a few years ago—and that figure is arguably lower for high power consumption in mining applications. An easy way to start your conversion is with OpEx funding within monthly maintenance budgets instead of waiting for annual CapEx funding.

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