

Product Update: Lighting Retrofits At Pro Weld Inc.

Pro Weld Reduces Welding, Painting Energy Costs

This article first appeared in IMPO's [July 2013](#) [1] issue.

Pro Weld Inc., a Michigan manufacturer of material handling containers, set goals to improve the quality of their product, eliminate re-work, and reduce energy costs in their welding and painting operation that runs three shifts per day. A key improvement in the final painting and inspection portion of the building was increasing the levels and quality of light so the employees could clearly see their work. One of the concerns they needed to address was re-working the finished containers; containers were taken outside, the unacceptable imperfections showed up in the daylight.

ProWeld's Maintenance Manager Ken Thompson called in Gary Yurich, President of BEST Lights to evaluate the facility. Yurich brought out his light meter and took foot-candle readings. The highest readings were 18 foot-candles and the lowest were 9 foot-candles in that area, which are unacceptable light levels for doing inspection work. Yurich totaled the existing fixture count of 114 257 watt T12 fluorescent fixtures and seven 465 Watt Metal Halide fixtures. The total wattage used to light the 20,000 square foot area was 32,553 watts per hour, or 32.5 KWH. The power density usage was 1.63 watts per square foot with readings of 9 to 18 foot-candles.

In the smoky, dirty environment, it was critical that the fixture selected be enclosed with a glass lens for easy cleaning. The existing fluorescent fixtures were open, with white reflectors that were discolored, and the Metal Halide fixtures were enclosed but the aged acrylic had turned a shade of brown. Together these fixtures were not producing adequate light. Yurich explains that performance is everything in a fixture. Users are paying for the electricity used by the light fixture. Best Light's new technology produces more lumens per watt using less electricity, which results in higher light levels.

BEST Lights brought in the new T9 Ceramic Metal Halide fixture with Super Reflector Technology. The aluminum outer housing with frosted glass lens eliminates glare and keeps dirt off the Super Reflector and lamp, making cleaning simpler and safer. The T9 Lamp Technology is a 30,000 hour lamp that does not depreciate like older Metal Halide products. It has the punch to produce 115 lumens per watt compared to fluorescent at only 80 lumens per watt and LEDs at 90 lumens per watt.

Thompson installed one BEST Lights 210 watt T9 fixture. ProWeld workers were amazed with the quality of light: Using only 237 watts, including the ballast factor, it produced 50 foot-candles.

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The next step was to lay out the fixtures for the building area. After the evaluation and utilizing current fixture outlet locations, they ended up using only 45 BEST Lights 210 watt T9-MH-XL-Direct fixtures with an average of 35 to 50 foot-candles everywhere.

The electrical usage went from 32.5 KWH with a power density of 1.63 watts per sq. ft. to 10.6 KWH with a power density of .5 watts per square foot. This is a 67 percent energy savings with a 64 percent increase in light levels. The local utility gave a \$10,937 rebate toward the project and with the additional yearly electrical savings, the payback will be under two years.

The impact the new lighting has had on the employees is very positive. The re-works went to zero—a big labor savings. Because only 1/3 of the lamps need to be serviced and lamp life went to 30,000 hours, maintenance is reduced by 67 percent, giving maintenance staff more time to work on other projects.

T9 technology fixtures increased light levels and improved employee morale with zero re-works. In addition, after the payback period, ProWeld will save \$19,000.00 per year in electrical costs.

For more information contact Jordy Bradley or Gary Yurich at BEST Lights, Inc.: 800-545-2928 or 248-588-4980. Or visit www.bestlights.com [2].

See also:

[Southeast Packaging On The Green Fast Track](#) [3]

[Saint-Gobain Oberland Chooses Energy Efficient LED Lighting](#) [4]

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