

Is Your Neon Lit Sign as Inexpensive as an LED Lit Sign?

Time is money, and the time for LED Lighting Systems is now

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The latest *Sign of The Times* “2002 Year in Review” report is out. And the verdict is: “Sales are down 3.7%, ...Sign companies have squeezed profit margins...Smaller sign programs are scrutinized by end-user CFO’s, and we’ve heard complaints that “winning” bids wouldn’t even cover costs”. The purpose of this article is to inform the reader of how saving time in the manufacture and installation of signs using an LED lighting system is not only the least expensive way to light a sign, but a viable way to return to profitability. Whereas there are many applications for LED’s in signage and architectural lighting, the time savings in manufacturing and installation alone is a profitable reason to switch from neon to LED’s particularly in lighting Channel Letters, notwithstanding the benefits to your customer of reduced power consumption and lower maintenance costs..

How do you make a profit in this business: Ok, coming from an accountant, this might seem overly simplified, but you have to sell a product or service for more than it costs to make a profit.

Setting the Sales Price: In the early days of introducing LED lighting systems as a viable alternative to neon in Channel Letters LED lighting systems suppliers promoted the 90% energy savings as justification for the increased sales price. These benefits, come to find out, were hard to sell. It took being part detective and part accountant to compute a few formulas involving kilowatt hours, feet of neon vs. feet of LED’s, hours of on time, cost of kilowatts, and a few other factors. In the end savings in some case totaled less than \$20 a year.

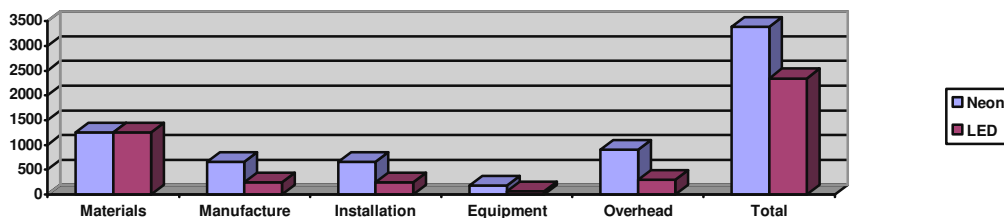
The clear advantage of LED’s versus neon is the immediate additional revenue, the “expedite fee,” that LED’s afford the sign maker. In today’s economy, time is money and we are surrounded by a society and economy of convenience and speed. In the sign industry, franchises like QuikSigns and SignsNow emphasize the speed in their name. However, call a sign company and order a Channel Letter sign and the common answer is two to three weeks. How much could you add to the sales price, or in additional sales, if you could beat the competition by a week in the completion of a sign—or more importantly how much more would you make on the sign if it took you only two days versus one week to manufacture? To review the factors, LED’s aren’t dependent on burn in time, they don’t break during installation, and aren’t dependent on a few trained neon benders and electricians that have a que of jobs in progress. Wouldn’t adding 5-10% to the sales price, without any additional cost, add 5-10% to the bottom line? Or wouldn’t cutting your cost in time and type of labor by 15-20% make you more in the end? How many sales are you losing because you have a backlog? How much more money could you make on every sign?

Computing the Cost of the Product: Without a doubt, the average sign maker has a very difficult time computing the cost of the sign. There are five basic components: Raw materials, labor to manufacture, labor to install, equipment cost to install, and allocated overhead.

- **Raw Materials:** The easiest component of cost to calculate. In the comparison of an LED Lighting system to neon, the typical comparisons, until most recently, shows the neon raw material costs are lower than LED. Today that is entirely untrue – recently LED Lighting system (RED LED lighting system and power supply) projects have been calculated to be less than \$4.10 per linear foot. Don't look to raw material cost as the only place LED systems will be less costly than neon.
- **Labor to manufacture:**
 - **NEON:** Now this is getting a little more complicated, but it is very large part of the total cost. In one sign company, I asked the bookkeeper what she thought the average per hour cost was. She took the average hourly rate of \$15 per hour and added 10% for payroll taxes, totaling \$16.50 per hour. However, after adding time for vacation, sick time, safety meetings, holidays, and non-working time, we computed that each hour working was accompanied with an additional half-hour of time. So the basic cost per hour was \$22.50. Now we had to add the burden cost for health insurance (3%), workers compensation (22%), and payroll taxes (10%). (The workers compensation alone in California was 18% for manufacturing, and a modification for experience 1.25 resulted in a 22% rate.) Therefore, the real labor rate was \$30 per hour, \$22.50 plus 35% burden added.
 - **LED Lighting Systems:** In sign shops that use exclusively LED lighting systems we have seen the labor rate be nearly ½ of conventional neon shops...remember, an untrained line worker can create a lit channel letter sign using Permlight's LED lighting system.
- **Labor to install:** This is a similar calculation to the Labor to manufacture; however, more experienced employees are used on the trucks and the workers compensation rate is double for heights over 20 feet. So instead of a labor rate of \$30 per hour, the rate adjusted for higher labor costs and workers compensation is \$41 per hour. (Just this week a traditional neon sign company installed 4 sets of channel letters that used Permlight's LED lighting systems in 1 ½ days, and told me that with neon, it would have been every bit of 4 days. He used ¼ inch drill bits (\$13 each) and drilled one hole per letter and didn't use conduit (UL says that Class 2 lighting systems do not need conduit), as compared to 1" drill bits(\$29 each) and two holes per letter plus the cost of conduit to penetrate 9" concrete block wall. Direct quote from the sign installer was: "I wish I could do every set of channel letters with LED's")
- **Equipment to install:** Now we are to some true cost accounting, but an analysis of depreciation on trucks, truck insurance, repairs, tires, maintenance, fuel, parking area, security, and the like cannot be ignored just because they are complicated to compute. My calculations with sign companies compute a rate of no less than \$10 per hour, and much higher for larger trucks with booms. In the above example, the cost of the

equipment to install the traditional neon was \$320, the cost with the LED system was \$120. Not only was the equipment less expensive, ie it will last longer, but is not tied up on old neon jobs, and can be making money on new work. Think about it this way, what if you could do three times the work with the same amount of equipment, wouldn't that be profitable. That is the benefit of LED systems.

- **Allocated overhead:** and now for a real accounting treat is the allocation of overhead per sign manufactured. That is, the cost of rent, insurance, office staff, utilities, etc. must be allocated to each sign. The proper way to allocate overhead is to add an amount per each hour of time to manufacture the sign. For each shop, the amount is computed as the total of monthly overhead costs divided by the shop man hours per month. I figure the per hour allocation is somewhere near half of the labor to manufacturer, or nearly \$15 per hour. So for our example above, the overhead allocated to the traditional neon job was \$900, the overhead allocation to the LED system was \$300. That makes sense doesn't it, if I can do 3 times the amount of work out of the same facility and office, then my overhead per job goes down, and my profit per job goes up.
- **Quick Bottom Line:** My latest time study involved the building of a 10 character 24inch Channel Letters, and installation. The total savings was approximately \$1,000 for the completed job, of LED over Neon. This savings of costs, with no reduction of sales price, is the true beauty and profit of an LED system for channel letters.



Time to wrap up this analysis: Time and time again, in a comparison of LED lighting system for Channel Letters to neon, the time to manufacture and install LED's is about one-quarter the cost of neon. When adding the total cost of the sign, parts, labor and overhead, the cost of the LED system is less, and the larger the sign, the savings is greater. And, most recently the cost of the material in LED Lighting systems is now at parity with or less than neon per foot. What this means, for the same price, the profit is greater with an LED system. And with less time per sign you could do 2 to 3 LED signs in the same time as a neon sign. Any accountant would tell you that increasing revenues at the same time reducing the per hour cost will result in more profit. Or think about it this way – why wait for the big project that requires you to use an LED lighting system, why not estimate the job using a Permlight LED System and under-bid your competition. Time is money, it is time to start computing the actual cost of time it is taking to manufacture and install your signs. I think you will find, that in addition to LED lighting

systems material cost leveling the playing field, when all the time is considered, LED lighting systems result in a more profitable solution.

In a future article, I will make a case for the profitability of our FoamCore and EdgeLit products, which provides lighted signs in a fraction of the time of current comparable lit signs.

About Permlight's LED Lighting Systems

Permlight is the most experienced LED lighting systems company with more installations and more field data than any other LED lighting company. Using patented and patent pending thermal management and circuit techniques the Permlight Direct Light (DL) systems are a direct replacement for neon – using the same estimation techniques as neon but half the installation and manufacturing time. The thermal management techniques used by Permlight ensure that the semiconductor LED lights are maintained an operating temperature of less than 60C greatly extending useable lifetime over competing product technologies (general rule of thumb, reduce the operating temperature 10C in an LED and you double its lifetime – see article in this newsletter)

Picture Subtitles:

PICTURE 1: Installing Red DL3 lighting system into a tight stroke (1") Anheuser Busch "A". Permlight's DL3 system is considered by Underwriters Laboratory (UL) to be a Class 2 lighting system eliminating the need for costly conduit installations and skilled electrical contractors.

PICTURE 2: City Neon in Bakersfield, CA, swears by the Permlight LED Lighting systems saying it greatly reduces sign cost, installation time, material cost, labor rates, and increases overall profitability.