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Bringing sustainability to the electrical industry

■ *Sparling is rewriting its specifications for electrical materials to reflect its sustainable design philosophy.*

For the past decade or so, the design and construction industry has been carrying out substantially more sustainable ideas — especially in the Pacific Northwest. It's no longer unusual for both public and private construction projects to bear the U.S. Green Building Council's LEED certification, and sourcing environmentally friendly building materials is easier than ever.

By TROY W. THRUN
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Sparling

Most electrical construction materials, however, have not kept up with the greening of the industry. While electrical engineers and contractors may approach projects with sustainable design directives and construction methods, many of the materials they specify have not been created with sustainability in mind. Unfortunately, there's little incentive to do so: LEED guidelines, for example, do not include electrical (or mechanical) recycled materials as part of the calculation to achieve points in that category. As a result, product manufacturers have not felt the pressure from the industry to create earth-friendly alternatives.

In an effort to more closely align the products it specifies with its sustainable-minded design approach, Sparling is revamping its electrical, technology and lighting product specifications to include those products that measure up. The electrical engineering and technology consulting firm has gathered a team of 20 from within the company to carefully research the many products and materials listed in its own master specifications in an attempt to create a new category of "green specs."

The re-design team will look at what makes a building material green: What is it made of? How is it manufactured and installed? How far must it travel to get to its destination? How is it packaged? How energy-efficient is it? Is Energy Star-rated equipment available? The team will also investigate federal standards, global best practices and manufacturer green certification programs.

The focus of the effort is in three areas:

- Choices that represent good stewardship at no additional owner cost.
- Choices that are more advantageous to the environment and cost more or require different materials.
- Choices with tremendous environmental benefits and much higher costs.

All types of products and alternatives will be researched. For example, typical wiring in a building is wrapped in PVC — an inexpensive and routinely used sheathing that releases toxic chemicals when it burns. PVC-jacketed cable has been banned in Europe under the Reduction of Hazardous Substances directive set by the European Union. A similar bill in the U.S. — Proposition 65 — has passed the California State Assembly and is awaiting approval by the Senate.

Sparling's green specs would include wiring options that use a PVC alternative that is not harmful to the environment.

Peeling back the layers of how products are sourced, manufactured and transported often reveals some surprises. One piece of equipment may use less packaging or recycled materials, but its manufacturing plant is located in the U.K., making a seemingly less green component manufactured in Oregon the better choice from a regional materials standpoint.

Another example: On the surface, fluorescent and HID lighting are clearly more sustainable choices over incandescent lamps for their longer life and energy-saving characteristics. However, fluorescent and HID lamps contain mercury that's harmful to the environment and challenging to recycle. In fact, there is only one fluorescent lamp recycling company in Washington state.

Each circumstance must be looked at individually and a decision made based on its merits.

Not just electrical building products will be examined through the greening of Sparling's specifications; company researchers will also look at other materials used in electrical design and construction, including paint used on electrical cabinets and concrete, crushed rock and topsoil used in electrical site work.

Once Sparling's research is complete, the new green specs will join the firm's existing list of product specifications, providing alternatives for owners and architects seeking sustainable design options. The new green specifications are expected to be put into use by this January.

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