



Go for the Green

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Q. IT SEEMS THAT MOST CABLE COMPANIES ARE PROMOTING "GOING GREEN" BY ADHERING TO ROHS. AS A U.S. CABLE INSTALLER, WHY SHOULD I BE CONCERNED WITH A EUROPEAN INITIATIVE? AND, WHAT ARE SOME OTHER PROGRAMS THAT INVOLVE CABLE MANUFACTURERS TO PROMOTE GREENING?

A. Once upon a time, doing something good for the environment simply meant tossing a newspaper in a recycling bin. Today, the effects of recycling, in conjunction with methods to reduce energy consumption and hazardous waste, has become a global concern. While we are all concerned about our landfills, skyrocketing oil prices and global warming, there are many ways we can make the world a "greener" place by applying improved manufacturing principles to our own specific industry. U.S. cable companies are making giant strides not only in manufacturing to RoHS standards, but

also increasing their practices of recycling programs and cable reclamation, as well as energy savings within their facilities for the betterment of the environment.

Research sharing, such as understanding and applying the EU's RoHS principles in the U.S., as well as promoting our LEED® points system outside of this country, will benefit everyone.

However, it has to start from the selection of eco-friendly materials, as well as putting in place internal recycling programs. From there the concept will snowball to making a difference in the greening of one building, to a whole city to hopefully making a global impact. Let's take a brief look at some of the challenges, opportunities and long-term benefits of programs that are affecting the cabling industry and what steps cable companies are taking to comply.

ROHS GAINS UNIVERSAL ACCEPTANCE

Let's start by defining RoHS and why many cable manufacturers are producing

cables to meet these requirements. RoHS (Restriction of Hazardous Substances Regulations) is an EU (European Union) directive that was put into effect on July 1, 2006. This directive bans certain products, particularly electrical and electronic equipment, that contain more than an agreed level of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants. The RoHS directive currently states that if a piece of equipment can be broken down into components, those subcomponents must also be compliant. So obviously common subcomponents of electrical and electronic equipment are cable. Broken down even further is the materials used for cable – copper core, insulation and jacketing materials.

Jacketing and insulation materials are of particular focus because they have contained one or more of these hazardous substances. Lead is a stabilizer and has been used in the manufacture of cable jacket because it preserves thermal aging and temperature rating as well as serves as a color-retaining element. In addition to lead, cadmium and hexavalent chromium compounds are also found in polyvinylchloride (PVC), which is used for cable insulation. Major cable suppliers are implementing substitute materials, such as titanium, for RoHS-compliant cables. The biggest challenge is to use materials that achieve a high flame-rating to satisfy safety codes while becoming RoHS-compliant.

Cables manufactured in the U.S. are for sale and installed worldwide. Global customers are requesting that U.S. manufactured cables comply with the RoHS directive or they will take their business elsewhere. Therefore, many countries and U.S. states are enforcing the RoHS direc-



Berk-Tek utilizes their scrap copper into reprocessing

tive as well as creating their own additional RoHS-like regulations. For example, in January of 2007, California passed a law, known as SB-20 "Electronic Waste Recycling Act" (EWRA), which prohibits the sale of electronics devices that do not meet the EU RoHS guidelines.

LEED® POINTS

The United States Green Building Council (USGBC) created the LEED (Leadership in Energy and Environmental Design) program as a rating system for measuring building environmental impacts for the purpose of promoting "green buildings." Green building refers to the design and construction, and operation of buildings in an environmentally friendly way. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: site development, water savings, energy efficiency, materials selection and indoor environmental quality. Although this program is mainly aimed at architects, real estate professionals, facility managers, engineers, construction managers, interior designers and even lenders and government officials, there is much attention given to each and every product, from paint to cable, that go into the building's structure.

As part of the LEED certification, point values are given to certain aspects of the building process. A project is a viable candidate for LEED certification if it can meet all prerequisites and achieves the minimum number of credit points to earn the certified level of LEED project certification. One of the subcategories of construction waste management is the reuse of building materials and products in order to reduce demand for virgin materials to reduce waste. Part of this program includes the removal of old cable in existing structures for reuse or recycling.

The LEED program is becoming a major requirement by state facilities – particularly city buildings, as well as colleg-



Saving trees: Berk-Tek cables are RoHS compliant and are spooled on plastic reels.

es and universities. In fact, Washington, Nevada and Massachusetts were among the early adopters requiring that all new construction of state buildings achieve the proper LEED certification.

MANUFACTURING TO PROTECT MOTHER EARTH

In addition to engineering and producing more eco-friendly cable products, there are other ways a cable manufacturer can further protect the environment with internal greening programs including recycling and energy savings efforts.

"Virtually all scraps from our manufacturing plant are put back in useful applications, avoiding landfill," states Ronald Tessier, vice president of engineering and quality assurance at Berk-Tek. "The materials that go into our cable are divided into copper and plastics. Copper is reprocessed for use as brass or other alloys. The jacketing material can be reclaimed and reprocessed for other products such as garden hoses. In fact, in the last year, over 18 tons of plastic and copper were recovered, reprocessed or recycled," he further explains. "We continue to research environmental-friendly materials to use in our cable," he adds.

In addition, Berk-Tek uses mostly plas-

tic reels to save from cutting down trees for cardboard reels. In addition, all their cardboard boxes are made from recycled paper products. Internally, they recycle all of their office paper, cardboard and even their wooden pallets.

Did you know that lights release carbon dioxide into the atmosphere? Utilizing energy efficient lighting by reducing bulb wattage will reduce the amount of carbon dioxide and energy costs. "Last year Berk-Tek installed new energy-efficient lighting that reduced demand by 10 percent, which substantially saved in electricity costs and eliminated 1,219 metric tons of carbon dioxide," states Gregory Sisak, manufacturing engineering and facilities manager for Berk-Tek. "This compares to adding 367 acres of forest or removing 233 cars off the road each year," he adds. Berk-Tek also uses an evaporation procedure to eliminate all processed water used throughout the manufacturing plant. All sanitary water is treated on-site meeting strict EPA standards before being released into the environment.

WASTE NOT

Waste reduction and recycling are two ways to reduce the amount of toxicity of trash created. In the late 1990's, the International Standards Organization (ISO)

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Berk-Tek cable boxes are made from recycled paper.

developed the ISO 14000 Environmental Management System (EMS) standard. In many ways similar to ISO 9000, ISO 14000 is a set group of tasks, responsibilities and monitoring systems for registered members (companies) to adhere to. In order to provide assurance to its stakeholders and customers they maintain and update an environmental management system to meet or surpass regulatory compliance and other environmental issues. An EMS also includes regularly scheduled waste audits for both hazardous and non-hazardous solid and liquid waste streams. ISO 14001 is the environmental standard that awards an EHP (Environmental Highly Protected) label to companies each year.

As a cable customer, you should ask your supplier what programs are in place to better preserve Mother Earth. Do their products meet RoHS requirements? What

is their EHP label? Are they promoting points for cable contractors to provide architects for the LEED program? And, what internal programs do they have in place? Waste reduction enhances a business' environmentally friendly image while increasing customer confidence. ■

“Reel Time” addresses cable topics including both copper and fiber constructions, applications, installation practices and standards updates. If you have a particular cable issue, please send an E-mail to: carol.oliver@nexans.com and we will feature the solution in an upcoming issue