

Since 1990, **Wil-Spec** has remained faithful to our service commitment to our clients. We continue to provide our clients with unparalleled service. We will integrate with the design team and provide project specific resources, knowledge and focus regarding product selection, sustainability and technical coordination. We will collaborate with our clients to produce high quality, accurate and complete specifications while consistently meeting required scheduling goals. We will effectively perpetuate our standards of excellence utilizing ethical decision making and exemplary quality assurance. We shall continue to expand our knowledge of construction practices and product development through ongoing professional education and research.



Robb Wilkinson, RA, CCS, LEED AP, SCIP

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Quick Clicks



ARCHITECTURAL HUMOR:

WWW.ARCHMAAIK.COM

INTEGRATED BUILDING DESIGN RESOURCE TOOLS:

WWW.WBDG.ORG

CITY DISTANCE CALCULATOR:

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Choices...

by Robb Wilkinson

We all make choices everyday, every hour, every minute, every second that we are awake. Together these choices determine our own future. After all... Life is free will.

We choose to pollute our own environment. Throwing away the occasional plastic water bottle, a soda can, a broken thermometer, or a compact fluorescent light bulb. Simple acts which together have led to pollution of our planet, pollution of our water sources, even the pollution of our own bodies. We are exposed to increasing solar radiation from the protective decreasing ozone layer. We ingest dangerous chemicals and heavy metals. We breathe acidic compounds in the atmosphere. The results are allergies, cancer and disease. We all make choices.

As Architect's, engineers, designers, we make choices. We choose what goes in, on, and under our buildings. We choose the elements which form micro environments where people live, breath and function within. We make choices based on financial budgets, practicality, and responsibilities. Not all of our decisions play to a healthier environment, and may actually endanger ourselves further. We all make choices.

Manufacturers of building products make choices. Products are designed to be in a competitive marketplace. Products are designed to be installed with the minimum of labor efforts. Products are designed to respond to regulatory changes, and to make a profit. We all make choices.

Building Owners and Contractors make choices. Buildings are constructed using the materials selected, with substitutions proposed for economy. Economy of labor, economy of schedule, economy of budget. Construction methods are simplified, schedules squeezed; additional choices of economy. We all make choices.

Wil-Spec is here to help our clients with their choices. We can help you find products based on design criteria, regulatory requirements, or for savings. We can help you choose products for a healthier you. We all make choices, choose **Wil-Spec** for your project.

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LEAD

Lead-Coated Copper History - Hazards Alternatives

by Robb Wilkinson

Pure lead was once one of the most used metal roofing materials. It is one of the longest lasting metals known to man and has been used for thousands of years. Even today it protects many castles and cathedrals, including Saint Peter's Basilica in Rome. It was installed on early 18th Century Federal and landmark buildings in the US, but failed to become widespread in the US due to poor performance from expansion and contraction issues resulting from eastern seaboard weather patterns, and gravity creep issues resulting from high roof slopes.



Copper roofing became a popular metal roofing product, it's green patina can be seen in nearly every major US city. The downside of copper roofing is staining of the materials beneath. "Lead-coated copper was developed and gained widespread use between the turn of the century and World War I. Its development was spurred by two principal desires: to provide a metal for roofing and flashing with the appearance and corrosion resistance of lead at a lower cost and with significantly less dead weight (than pure lead); and to provide a roofing and flashing material whose runoff stains (unlike pure copper) would be compatible with porous masonry materials including marble, limestone, mortar and even concrete. Lead-coated copper fulfills the first objective and very nearly satisfies the second. The stains produced from LCC range from light to dark gray in color and resemble the natural atmospheric weathering of masonry and even paint."** The Copper Development Association.

The health hazard of various lead products have been lumped into a single concern labeled as one risk. However, increased lead poisoning can come from a variety of sources. Lead paint is a primary source of lead exposure and toxicity, even today. (Paint containing lead was removed from the marketplace in 1978). According to HUD, 38 million homes in the US contain lead paint. Lead dust which can be created from activities like sanding, cutting and demolition of any lead-containing material is extremely harmful to children, especially if ingested. Leaded brass plumbing fixtures, lead solder, leaded pipes from public water supply systems, continue to contribute to elevated blood lead levels. Lead poisoning is a serious medical condition. Lead interferes with a variety of body processes and is toxic to many organs and tissues including the heart, bones, intestines, kidneys, and reproductive and nervous systems. It interferes with the development of the nervous system and is therefore particularly toxic to children, causing potentially permanent learning and behavior disorders. Symptoms include abdominal pain, headache, anemia, irritability, and in severe cases seizures, coma, and death.

NEW EPA RULE FOR CONTRACTORS

The EPA has expanded its 2008 rule regarding lead-safe practices. Under this rule, effective in April 22, 2010, contractors performing renovation, repair and painting projects that disturb lead-based paint in homes, child care facilities, and schools built before 1978 must follow specific work practices to prevent lead contamination. This involves common renovation activities like sanding, cutting, and demolition.

Additionally, all Contractors performing this work will be required to be CERTIFIED under EPA's Renovation Painting Program (RPP).



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SOURCES WHICH CONTRIBUTE TO ELEVATED BLOOD LEAD LEVELS ARE EVERYWHERE IN OUR ENVIRONMENT.



The hazards of handling lead-containing paint materials has turned the national focus on lead itself. This issue has expanded into environmental concerns regarding run-off contamination from roofing, and potential health hazards from ground water resulting in numerous studies. Some of these studies indicate that the contribution of lead to groundwater attributable to water runoff from a lead roof system is approximately 15,000 times less than the Environmental Protection Agency (EPA) restrictions for lead in drinking water. It is interesting to note that a study by the North Carolina Department of Environment and Natural Resources has determined that roof-run off produces copper, chromium, cadmium, lead, and zinc, regardless of roof material. This is presumed to be result of heavy metal contaminants in the air.

Public awareness to the potential hazard of lead has driven the use of lead coated copper to near non-existence in just a few years. Today it is manufactured in the US by only one company, Hussey Copper, located outside of Pittsburgh. Interestingly pure lead sheet is readily available; you can even buy lead sheet flashing at your local hardware store.

Replacement of Lead-Coated Copper:

Revere Copper developed a proprietary product called "Freedom Gray[®]", which is copper sheet coated with a tin-zinc alloy. It has a sacrificial coating which is used to control weathering patina. This product has a close visual resemblance to lead coated copper.

Zinc-alloy roofing is another alternative to achieve the visual appearance of lead coated copper. Interestingly zinc roofing actually appeared in the United States in the early 1800's but had run out of favor by 1840. It has, in the last decade resurfaced as a popular roofing and siding product, originally as an import from Europe.

Recently resurfaced on the construction scene is Terne coated-stainless steel roofs. Originally terne coated metals consisted of 80 percent lead and 20 percent tin. However development of terne coated metals transformed in the 1990's to a durable and long lasting zinc/tin alloy.



When not to use zinc/tin alloy products:

Today, wood shingles and shakes are required by code to be fire resistance treated (FRT). The use of FRT shingles, shakes and even sheathing has created failure problems with the alternative products for lead coated copper. Acid rain, combined with wood tannins and the proprietary chemicals (ammonia salts, and/or copper salts) used in fire treatment create an acidic wash which strongly affects both tin-zinc alloy coated copper, and zinc-alloy roofing products. Contact with, and wash from, FRT woods will cause uneven weathering and there are reported cases of corroding the metal roofing or flashing beneath to the point of metal failure. This leaves preservationists today with difficult decisions in choice of material. Perhaps for specific historic restoration applications, lead coated copper is not dead yet (while it is still available).



A few RECENT PROJECTS

To All Of Our Clients

THANK YOU !

- **Mass College of Art and Design
Kennedy Campus Center**
MDS / Miller Dyer Spears, Inc., Boston MA.



- **Portsmouth Rehabilitation Hospital**
JSA Inc., Portsmouth, NH.
- **New Hingham Elementary School**
Ai3 / Architecture Involution, Inc., Wayland MA.

- **Champlain College,
Restoration and Renovation Perry Hall**
Goody Clancy, Boston MA.



- **Analysis Group, Corporate Interiors**
CBT / Childs Bertman Tseckares Inc.
Boston MA.
- **Brown University - Data Center**
Id Group, Boston MA.
- **Harrington Memorial Hospital
Infusion Clinic**
DiGiorgio Associates, Inc., Boston MA.
- **Rochester Institute of Technology
Global Village Dormitories**
ARC | Architectural Resources Cambridge
Cambridge, MA.

Care and Feeding of Spec Writers

by Rob Levine

The spec writers here at Wil-Spec are a robust and independent bunch who can generally care well for themselves. However, they need to be fed a certain diet, and that's where the actions of the architect's team is critical. The diet that spec writers need to be fed is accurate information. The level of information the spec writer needs is, well, specific, as in the first 8 letters of the word "specifications"

"Feed your spec writer a diet rich in specifics". Please know we can help you most when the information we receive from you is accurate, complete, and concise. If you are sending us manufacturer's cut sheets, please indicate the desired options, choices, thicknesses, textures, etcetera. Thanks.

**POISON IN THE WALLS -
DEFECTIVE CHINESE DRYWALL**

Back in June We reported on the issues surrounding contaminated imported Chinese gypsum board. The defective board was installed in hundreds of thousands of homes, mostly in Florida after hurricane Katrina. Since our writing, the US District Court in Louisiana had consolidated 100,000 lawsuits into a single class-action suit to be managed by an executive committee for the plaintiffs and defendants. This action was taken because many of the defendants are from foreign countries. Using the Hague Convention requirements, the court is attempting to stream-line and speed-up the litigation process.

This story raises a warning flag. What happens when foreign manufactured products are used in a project, and they fail? This case also emphasizes the issues of accepting substitutions for specified products. Architects should always be leary of substitutions. And A/E's should be aware of the difficulties of legal recourse, when foreign products are accepted on a project.

Wil-Spec has stayed on the cutting edge of material technology, understanding trends, cost implications and environmental issues. With each project, we advise and freely share our knowledge with you. We are open to questions, and will research answers to your specific project concerns. **NEWS/NOTE** is for architects, designers and all of our clients. It is our hope that our writings will serve as a catalyst for further discussions, and investigations in your own office.

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