



## HEADY METAL

Legend has it that Nefertiti, Queen of the Nile, bathed in copper vessels. If today's metal-smiths have their way, 21st century divas will again luxuriate like royalty in lavish, copper baths.

Sultan Baths, a Canadian firm with offices in the USA, deals in solid copper-bronze bathtubs cast in antique Turkish molds using traditional techniques. The gleaming, claw-foot tubs are a full inch thick and weigh half a ton. They're equally stunning in price—the largest models top \$27,000 (faucets extra).

Pomegranate Metals of Las Vegas also produces handmade copper tubs. "Typically they're spa-type freestanding tubs, about 300 gallons in size," says fabricator Lamar Noorda. "We make them out of sheet metal, one-eighth inch thick." Although copper is a relatively soft metal, "by the time you're finished hammering and shaping it, they're pretty structural," he adds.

Copper baths may be strictly for the "rich niche" market, but copper sinks, countertops and many other home products made of copper or copper alloys are popping up everywhere today. Most are cost-competitive in price and offer unique finishes that range from deliberately distressed to sleek and shiny. **Cu**

## A Bright Idea That Tops Them All

From the spires and roofs of the celebrated castles and cathedrals of Europe to the solid copper "Golden Temple" in Kunming, China, or the famous baptistry doors of Italy's Florence Cathedral, copper and its alloys, bronze and brass, have continued to serve as decorative and functional elements on some of the world's oldest and most famous architecture.

### Copper Landmarks

Here in North America, our copper landmarks are a little younger, but no less impressive. Copper can be found atop city skyscrapers, halls of government, universities and other institutions across the land.

Historic Christ Church in Philadelphia is the oldest-known copper-roofed church in America, dating back to 1727. However, the most enduring copper icon in U.S. history is the Statue of Liberty in New York Harbor, sculpted in 1884 from over 160,000 pounds of the semi-precious metal.

### Rooftops Redux

In recent years, a new market has taken a shine to the glittering metal that when combined with iron and sulfur once fooled prospectors into thinking it was gold. Influenced by the development and availability of new, lightweight copper roofing shingles, more homeowners are choosing copper roofs for reasons both aesthetic and practical.

Various estimates put the lifespan of a copper roof at more than 100 years, while asphalt shingles—the most commonly used roofing material in America—are said to last 15–30 years, on average. This makes copper one of the most cost-effective roofing materials on the market. The reason for its longevity is the natural patina that develops with age and serves as a protective shell when copper is exposed to the elements.

### Putting the Green into Green Building

Copper is both literally and figuratively a green building material. Besides its green patina, the metal is environmentally friend-

ly, boasting one of the highest recycling rates of any engineering metal. And, copper shingles will never be discarded or wind up in a landfill. Instead, because of their value, they can be salvaged and recycled.



Known for its beauty, ease-of-installation, long lifespan and high performance in extreme weather conditions, copper shingles are becoming a popular roofing material, especially among high-end homeowners. *Photo Courtesy of Revere Copper Products*

Other key attributes of the premium metal are its fire resistance and ability to withstand the extremes that Mother Nature can dish out—like high winds, heavy snowfall and excessive temperatures.

Paradigm Shingles, Inc., of Vermont, which manufactures and distributes the "Bennington" copper shingle, cites the metal's remarkable longevity as a key selling point, along with its natural beauty and ease-of-installation.

### Taking a Shine to Copper

Homeowners turn to copper to add refinement and a sense of luxury to their homes, says David L. Hunt, manager of architectural services at Revere Copper Products, Inc., which developed its first copper shingle over 50 years ago for the commercial market. Copper roofing shingles are particularly popular in vacation spots like Colorado's "ski country," and Jackson Hole, Wyoming, he says.

Kent Schwickert, president of Schwickert Inc. in Mankato, Minnesota, an architectural sheet metal fabrication and roofing company,

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## COPPER IN CONSTRUCTION

Building construction continues to be the largest end-use market for copper products in the United States, accounting for nearly half of all usage. Domestic market use of copper products (2003 figures) includes:

- **Residential/commercial construction:** 3,381 million lbs. (48.4%)
- **Electrical and electronic equipment:** 1,449 million lbs. (20.7%)
- **Consumer/general products:** 758 million lbs. (10.9%)

- **Transportation equipment:** 724 million lbs. (10.4%)
- **Industrial machinery and equipment:** 674 million lbs. (9.6%)

## GO FOR THE GREEN

Everyone knows that in most of the country copper weathers naturally to a lovely blue-green color, or patina, over time. But not everyone can wait for it to happen. Demand from architects and builders for pre-patinated copper products has prompted copper mills to

develop new methods that speed up or replicate the natural aging process.

Copper's color-change is the result of surface oxidation caused mainly by moisture and corrosive elements in the atmosphere. This process begins almost immediately as the bright copper fades to an even brown followed by a gradual shift to green. Unlike rust oxidation, patina is a protective barrier that retards further corrosion, to maintain copper's long life. For more information, visit [www.copper.org](http://www.copper.org) under architecture (finishes, natural weathering).

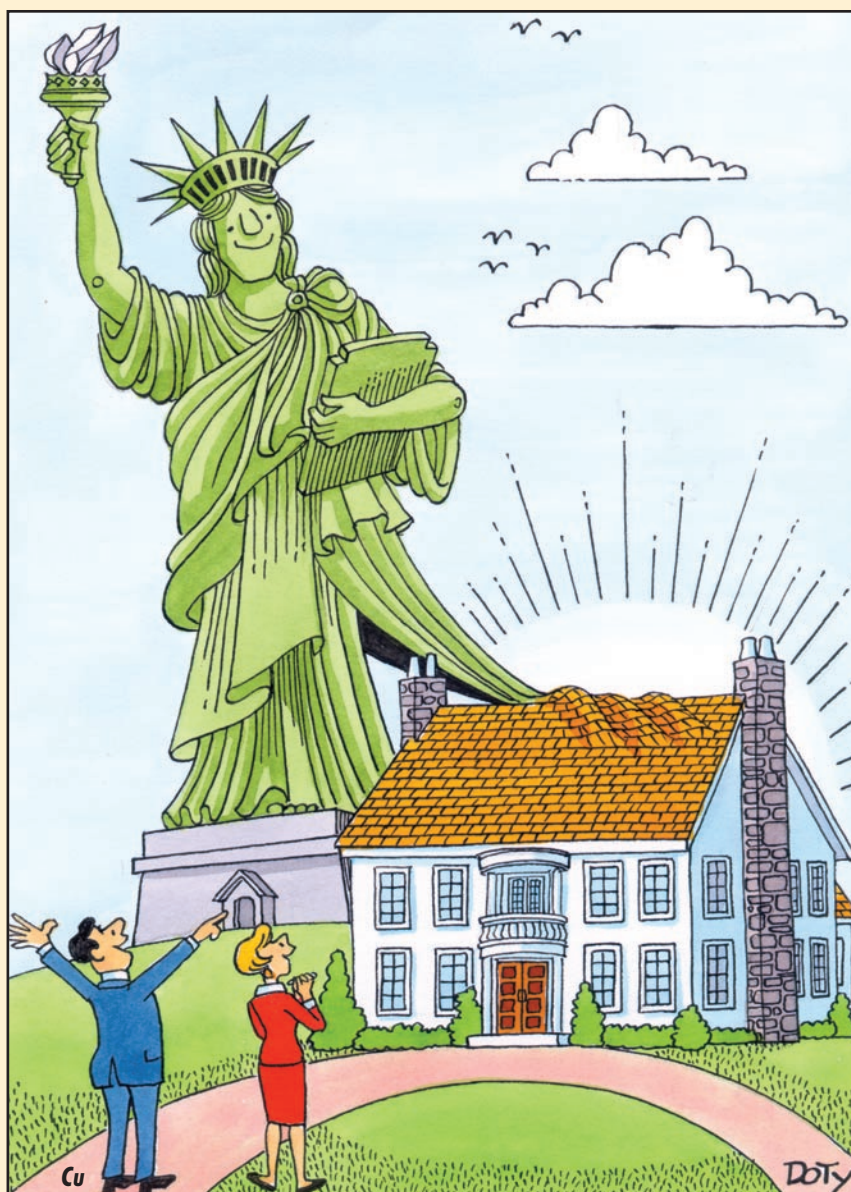
Researchers are continually experimenting with ways to "enhance" this natural chemical conversion process. Aftermarket treatments offer a spectrum of patina color finishes, helping to create new markets—and make architectural clients happy. **Cu**

### A Bright Idea continued from front cover

agrees. He attributes the increased interest in copper shingles to a "desire for uniqueness" among affluent homeowners.

Consumers are "going outside the box" to find quality products for their homes, says Schwickert, whose company recently entered the residential roofing market. For these people, a roof is "more than something to protect them, it provides an aesthetic value to their home."

According to the Copper Development Association, there are at least a dozen manufacturers supplying copper shingles to contractors across the continent. A partial listing can be found at the association's Web site at [www.copper.org](http://www.copper.org) under architecture (new products). **Cu**



## RESOURCES:

This edition of Discover Copper is also available online at [www.copper.org](http://www.copper.org). For more information on the companies mentioned in this newsletter go to:

Revere Copper Products, Inc  
—[www.reverecopper.com/bennington.html](http://www.reverecopper.com/bennington.html)

Paradigm Shingles, Inc.—[www.paradigmshingles.com](http://www.paradigmshingles.com)

Schwickert, Inc.—[www.schwickerts.com](http://www.schwickerts.com)

Sultan Baths—[www.sultanbath.net](http://www.sultanbath.net)

Pomegranate Metals—[www.pomegranatemetals.com](http://www.pomegranatemetals.com)

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