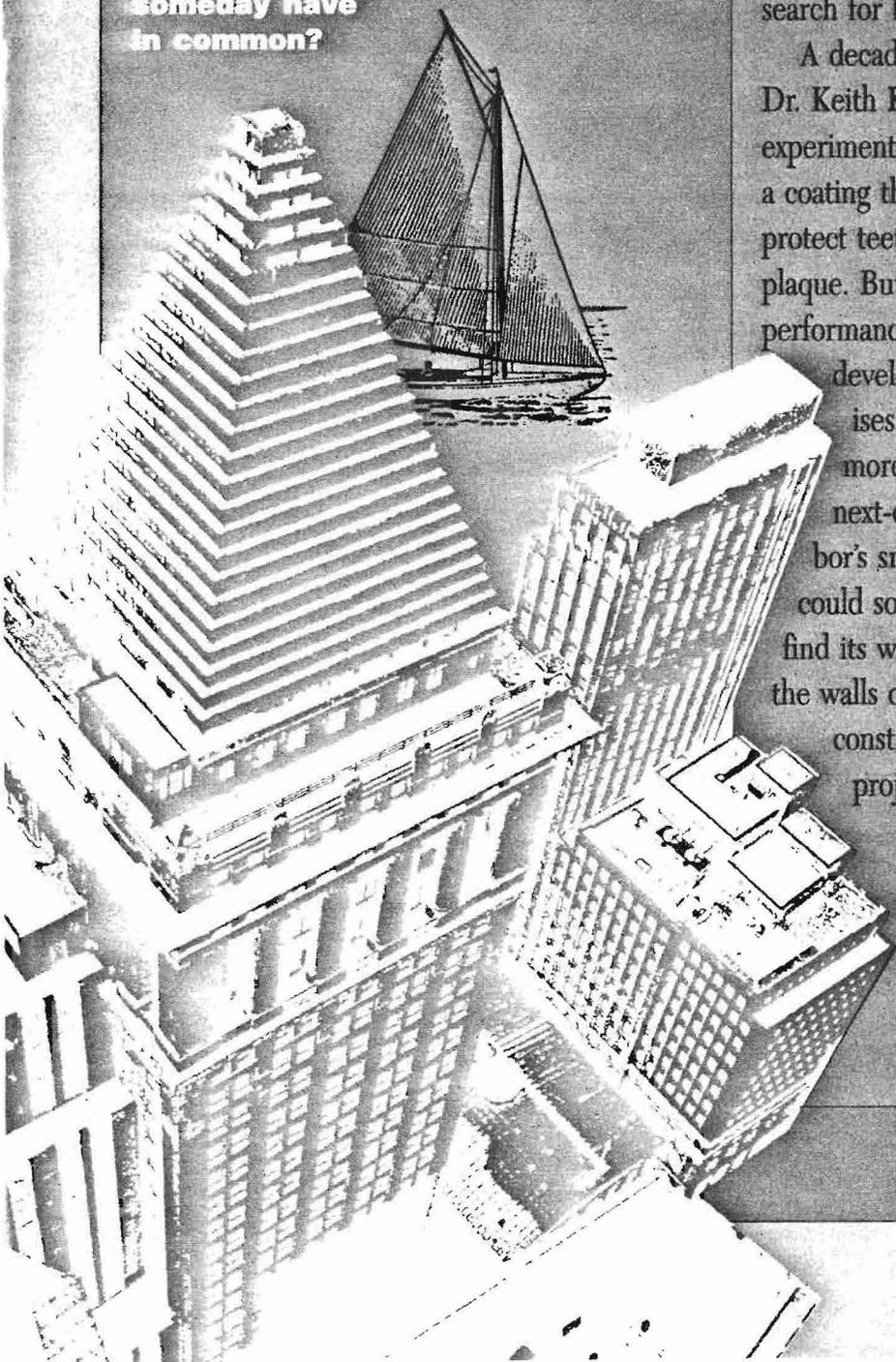


# More Than a Pretty Face

THE CONSTRUCTION SPECIFICATIONS INSTITUTE  
**35TH**  
ANNUAL CONVENTION AND EXHIBIT  
JUNE 28-30, '91

What might boats, bullets, and buildings someday have in common?



It all began with a search for better teeth.

A decade ago Dr. Keith Kent was experimenting with a coating that would protect teeth from plaque. But the high-performance coating he developed promises to improve more than your next-door neighbor's smile. It could someday find its way onto the walls of your construction projects.

Kent, a maxillofacial prosthodontist (specialist in dental restoration) will be talking about his discovery and its possible importance to the construction industry on Friday, June 29.

Kent says his program, "High-Tech Coatings of the Future," will "introduce the concepts of the science of surfaces in easy-to-understand language—to explain how materials will perform and what can be expected from them."



### Surface Science

According to Kent, who is also a polymer chemist, "the principles [of surface science] are all



**The Gentry set the Trans-Atlantic speed record.**



quite simple." The physical and chemical properties of a surface determine how it interacts with the environment. The more

stable and chemically inert a surface, the less it interacts with the environment. "The [nonaesthetic] purpose of a

*Keith Kent serves as chairman of the board of directors and as technical advisor for both K.I.S.S., Inc., and KISS-COTE, Inc.*

*K.I.S.S., Inc., a research and development company founded in 1985, licenses technology, selling only to end users during product evaluations and trials. KISS-COTE is the company's primary product. KISS-COTE, Inc., was founded in 1986 to manage the production and marketing of the coating.*

CSI does not endorse any product or service.

also make them difficult to bond to other surfaces; they can only be secured to a substrate by surface etching, heating, or high pressure—all of which are costly, and some of which have limited success.

### Silicones

During World War II, silicones were developed as lubricants and insulators for submarines and high-altitude aircraft because of their ability to withstand extremes in temperature and pressure in a variety of environments. Silicone rubber quickly became known as the most inert and chemically stable synthetic material known to man.

In the past, researchers have attempted to incorporate inert materials like silicone into other coatings as a matrix or binder, hoping that low levels of the stable material would aggregate along the surface of the cured coating.

coating," Kent says, "is to stop a surface from interacting with what comes in contact with it."

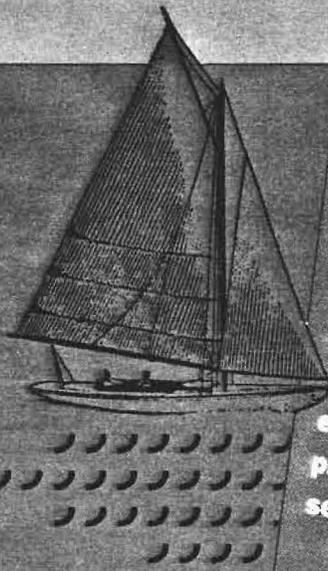
Traditionally, two distinct approaches have been taken in the development of surface protection. One sacrifices external performance to improve appearance. These *ablative* surfaces are removed by weathering or wear and are subject to variation in texture and color. Nonreactive or *inert* surfaces, on the other hand, have advantageous nonstick, fouling release characteristics. Inert surfaces have one drawback, however: the very characteristics that make them desirable

Results were disappointing. Adding silicone to a paint usually turns the material into a "non-paint," and the coating quickly peels away from the substrate. Mixing also diminishes the silicone's beneficial characteristics.

Many proprietary non-stick materials are used in other products. By adding minute amounts of a non-stick polymer such as Teflon®, for example, some coatings are enhanced for a short time. But if the additives were in sufficient concentration to be truly effective, they would keep the coating from sticking. The binders in such products introduce other problems. A good



**Panel treated with KISS-COTE (right).**



## Smooth Sailing

Dr. Keith Kent is only one of many outstanding individuals making presentations at this year's education sessions. As always, the sessions promise to be interesting and informative—but did you know they can also give you an "edge"?

The future is uncertain—now more than ever. You need that edge, and educational programs for the 1991 Convention were selected with that need in mind.

Concerned about quality control? CSI has devoted an entire track to "Big Q." Need to sharpen your image? Come to the seminars on making presentations and "Managing Your Credibility Factor." Anxious to know more about the '90's "hot" topics? Attend sessions on dispute resolution, the environment, seismic design, and more.

The future may be rough going, but there's plenty you can do to make for smoother sailing. Try starting with CSI—the journey begins in June. To join us, just fill out the convenient preregistration and hotel reservation forms following page 152.

example is an acrylic car finish.

Acrylics are rigid and have a different coefficient of thermal expansion from a car surface. When the car becomes hot then cools off, the coating expands and contracts at a rate different from the car metal. This frequently causes the acrylic

coating to crack and delaminate.

### Breakthrough

Thus, the primary objective of much coating research has been to design a coating with an extremely secure bond to the substrate and a nonreactive external surface. The material

Kent discovered in his experiments, since named KISS-COTE® (for Kent Integrated Scientific Systems—K.I.S.S.), reportedly satisfies these objectives by making a highly inert silicone polymer, polydimethyl siloxane, partially reactive. The reactive element of the polymer forms a very

secure bond with the substrate, Kent says, while the inert outer surface is both passive and resistant to chemical and environmental attack.

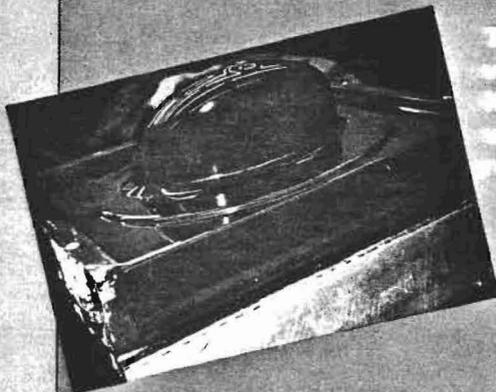
According to Kent one of the product's many advantages is that it may be applied as a thin film, adding minimal weight to the substrate.

"The philosophy," Kent says, "has been 'the more material, the better.' With our

ported success in a number of applications. For example, Lightfield Ammunitions, Inc.,



coated the front end of projectiles and reportedly increased muzzle velocity by 10 percent. Wellcraft Marine used the compound on its 1988 World Superboat Championship winner. Wellcraft spokesman Scott Grogin said the coating increased the smoothness of the



The plug for a vanity mold. KISS-COTE was the mold release agent.

product it's the other way around."

The coating also reportedly offers environmental safety because it is non-toxic and contains no volatile or otherwise hazardous materials.

KISS-COTE has been used with re-

boat's surface, thereby increasing its speed.

For the construction industry Kent foresees a number of applications, including waterproofing and mildew and graffiti resistance. The coating can be used, he says, on virtually any material,

Dr. Kent will be making his presentation, "High-Tech Coatings of the Future," on Friday, June 29, at 2:45 p.m. His presentation is part of the Construction Technology track. Other programs in various education tracks include:

- Marketing  
"Strategies for Marketing Overseas"
- Construction Law  
"To Arbitrate or Mediate"
- Construction Technology  
"The Importance of Specifying...ing"
- "Implementing... Simple"
- Materials  
"Research on FRTW"
- Career  
"Managing by Maalox"
- Preconvention  
"Will There Be Beachfront Property in Nevada?"

including fiberglass, aluminum, steel, wood, and masonry.

Kent points out that the product has not been independently tested for construction, but he says current experiments in everything from harsh marine environments to the inside of jet en-

gines indicate it would be suitable for nearly all climates—"from

the desert to the arctic."

At this time the product is being tested on, among other things, a downtown office building and the interior of a power plant. □

