

One Consultant's Opinion

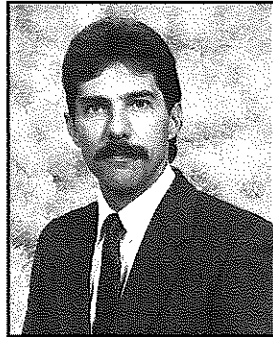
“Many roof consultants find selecting appropriate roof coatings confusing.”

Roof Coatings

Selection of Roof Coatings can be Confusing

by Phil Dregger, Technical Roof Services

(Editor's Note: Philip D. Dregger, a principal of Technical Roof Services, is a registered engineer and registered roof consultant. He serves as treasurer for the Roofing Industry Committee on Wind Issues and is a past director for the Roof Consultants Institute. Dregger has lectured and published extensively, sharing lessons learned from numerous roof investigations. Questions can be sent to Dregger at Technical Roof Services, 395 Civic Drive, Suite C, Pleasant Hill, Calif., 94523, or he can be contacted at (510) 603-1410).



Many roof consultants (RC's) find selecting appropriate roof coatings, from the many products available, confusing; moreover, there are questions about in-service performance. Roof coating manufacturers and suppliers can help expand the prudent use of these products by providing the roofing community with more information.

The following comments are geared primarily toward maintenance coatings for built-up roof systems (BUR's), and do not specifically address coatings for single ply membranes (e.g., EPDM) or coatings for spray-in-place polyurethane foam roofs.

Maintenance Programs

Many roof consultants work with building owners to establish and implement roof management programs.

Experience and common sense have shown that successful roof management programs must include regular maintenance inspections and repairs, often involving the selective use of roof coatings.

Case history information that illustrates cost savings associated with the timely use of coatings can help make cost effective roof repair and maintenance decisions.

Smooth Surfacing Options

RC's are generally familiar with roof coatings as a smooth surfacing option for new BUR's or resurfacing existing BUR's.

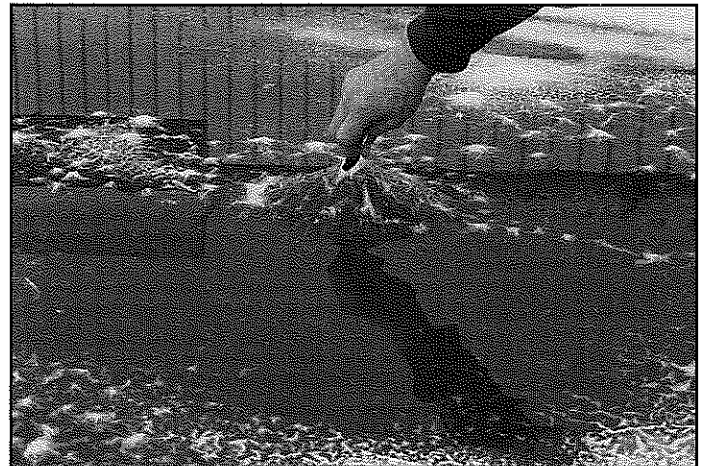
Advantages in fire ratings associated with using asphalt emulsion and aluminum coatings, rather than

plain asphalt as a smooth surfacing, are well understood. Much less clear are the relative advantages associated with selecting specific coatings from the many options available:

- When should asphalt emulsions with and without aluminum be specified?
- When should asphalt emulsions vs. acrylic coatings be specified?
- What should be considered before selecting solvent or water based aluminum coatings?

Smooth surfacings are often perceived as the most economical but as the least durable. Perceived durability concerns include relatively less puncture resistance, the need for recoating every several years, and poor performance in standing water conditions. Opportunities may exist, therefore, to show the cost effectiveness of smooth coatings on a life cycle basis and to show reasonable performance in limited standing water conditions.

Some consultants have commented to me that they are hesitant to consider smooth surfacing for a BUR if a Class



DARK STAINS are on the surface of this reinforced asphalt emulsion coating.

A fire rating is desired, since it is thought by some to be difficult to obtain. There also seems to be a question regarding the durability of fire resistant coatings after a few years of service. Educating the consulting community regarding fire ratings achieved by various coatings on BUR's could be fruitful.

Coating Existing Roofs

RC's will generally consider roof coatings to re-establish



FIRE RESISTIVE coating peeled and delaminated from this single ply membrane in an area of standing water.

lish surfacing protection for aged BUR's.

They will strongly consider coating existing smooth and cap sheet roofs that have deteriorated surfacings. They may be hesitant to recommend applying some coatings to gravel surfaced roofs due to concerns about difficult surface preparation and possible pinholing of some coatings.

RC's may not recommend recoating a roof if the original surfacing is still in tact and may only recommend spot recoating if less than 10%-25% of the roof is affected. The economies of treating whole roof areas at one time vs. partial roof areas in consecutive years may be under appreciated.

RC's may not fully consider the reflectivity of various coatings. They may believe that aluminum coatings are pretty good and about the same as a white acrylic coating. They are generally familiar with the factor associated with reflectivity used in energy analysis, but many consultants believe the factor is overstated or that reflectivity is lost during the first few years of service. Therefore, they conclude that reflectivity is not important to non-insulated cap sheet BUR's unless the building is located someplace like Phoenix, Arizona.

Robert Laubach, a Bay Area contractor specializing in roof maintenance systems, informed me recently that more than one building owner has commented to him about the unexpected benefits of reduced air conditioning costs for several years after application of a white coating.

Slowed Aging

RC's may not fully appreciate the long term value of reducing roof top temperatures as a means of slowing the aging process of a roof membrane and flashings. My background as an engineer included chemistry courses where we were taught that virtually all chemical reactions are accelerated with temperature. Research and publication of test results showing the benefits of coatings in preserving the tensile strength of BUR's would be useful.

John Goveia, with Technical Roof Services, reports seeing splits in a seven year old BUR over part of a shopping center in a hot environment, but seeing no splits in the

same BUR where it had been aluminum coated a few years earlier.

Maintenance Systems

Some RC's may not be familiar with roof maintenance systems or what I'll call reinforced coatings and, therefore, may be hesitant to recommend them.

Again many RC's are familiar with the products involved but may not be familiar with the relative advantages and costs associated with various maintenance systems. What factors should be weighed before selecting systems utilizing asphalt emulsion and polyester, or systems using an acrylic based coating and polyester, or systems using asphalt emulsion and chopped glass?

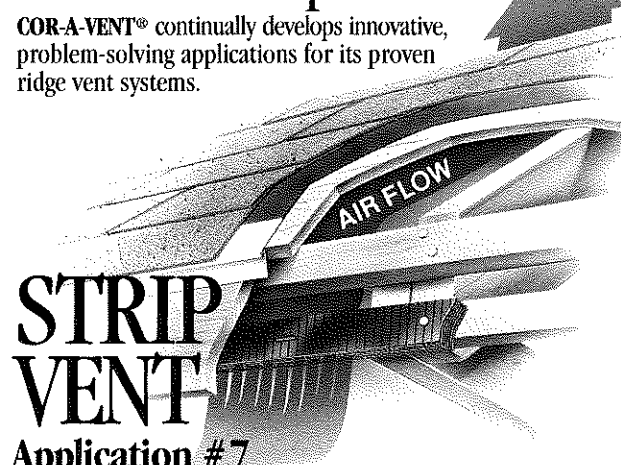
VOC Regulations

Recent California VOC regulations are perceived by some consultants as having forced changes in virtually all coatings, introducing at least some unknowns regarding long term performance. This may be an opportunity for manufacturers of water based products to substantiate performance and document track records.

Opportunities may also exist for low fume VOC compliant surfacing materials in environments especially sensitive to odors (e.g., hospitals). The roof coating community should consider establishing a factor to rate how noticeable or detectable various coatings are during and long after application.

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