Though the battle is not obvious, the exteriors of community buildings and amenities face a constant onslaught of wind, sun, water, mold, mildew, and—in many areas—sand and salt as well. Maintaining the first line of defense against these assaults are sealants, paint, and other coatings.

Thorough inspection is the first step in keeping protection of the building optimal in order to identify the existing situation and specify the appropriate correction needed. Pat McCoy with Karins Engineering Group, a veteran in paints and coatings with more than 35 years in the field, comments, “We start any potential project with an existing conditions report. Starting at the roof top, we photograph coatings, sealant failures, and...
both ferrous and non-ferrous corrosion issues.” The inspection includes ASTM (American Society for Testing and Materials) D4214 chalk testing to see how much actual paint resin remains and McCoy explains, “This is a test that an association can also do. You rub black velvet cloth (available at fabric stores), or white felt if the paint is a dark color, in a 90 degree arc; if the coating comes off onto the cloth, there is paint/coatings erosion. The degree of erosion measured at the south, west, and east elevation is compared to an ASTM D659 photographic reference. The association should consider painting if the chalk erosion obliterates the black velvet or white felt. We also check paint condition with high-intensity tape that adheres with a pressure of 55–60 ounces per inch squared. Peeling paint, cracks, paint that’s lifting or fading, and any discoloration are noted and photographed.”

McCoy advises, “Hand rails/screen wall systems and other metal components require surface protection to help prevent the onslaught of the devastating effects of corrosion/erosion of the metals. If the metals are left unattended, pitting corrosion may be the result. If we find that the existing condition of the aluminum component is not in an advanced corrosion cycle, we will specify an intense surface preparation procedures and the installation of a fluoropolymer coating over an epoxy base coat. This procedure will extend the useful life of the component. The surface preparations and coatings system installation cost is considerable and may be comparable in cost to removal and replacement with new factory-finished components. If the pitting corrosion becomes widespread, the metal(s) have often been compromised beyond any remedial procedure being beneficial; removal and replacement of the component is the costly alternative,” McCoy explains. “It can be very expensive to replace and also may have to be upgraded to code if it can’t be repaired.”

“T6 grade aluminum is the minimum grade to use for railings/screen wall frames and the fasteners used should be 300 stainless steel series. T6 and 300 series stainless steel fasteners are best if you can afford it,” McCoy recommends.

“Anodized aluminum finishes are often used as a finish, but the true longevity depends on the quality of the aluminum alloy you use. I’ve been to condominums with rail failure in three years, and we found that a low-grade aluminum alloy was used. In a salt-laden environment, that’s asking for failure. For rail/screen wall replacement, we specify only a minimum of T6 aluminum and specify the protective coatings system to be a PVDF coating either 70 percent or 100 percent solids by volume (SBV.) This system has to be installed in a fabricator environment. The combination of aluminum component quality and protective coating finish is specified for all rail/screen wall components when an owner wants the very best. This combination is not inexpensive; but is the best combination for real longevity.”

Mariann Gerwig, with Carousel Development and Restoration, Inc., advises, “New buildings on or near the ocean should be required to use aluminum and/or glass railings with a polyvinylidene difluoride finish. If you wish to go back and paint existing powder coat railings, the best way to do it is by using electrostatic paint, and this process is very expensive.”

McCoy recommends that sealants be examined and evaluated by following SWRI (Sealant Waterproofing and Restoration Institute) sealant failure mode standards. However, he notes, “We still replace all existing moisture-cured urethane sealants even if they’re in fairly good condition at the time of the existing conditions review, because if your community is on a five to seven year repaint cycle, the existing sealants in service will not survive and remain viable until the next remedial repainting project takes place. The exception to this guideline would be if high-performance, construction-grade silicones are installed to effect a wet seal procedure at glass-to-metals or metal-to-metal interfaces. The majority of high-performance silicone sealants often achieve real-life longevity of 15–20 years if installed correctly. Positive closures at window/door perimeters, through wall projections, conduits, and other interfaces should be examined also for sealant failures.”

Selecting a qualified contractor can be the association’s biggest influence on the project’s outcome. McCoy advises, “The biggest problem for associations is getting sold a bill of goods by someone without expertise. If a warranty sounds too good to be true, it is. Have the paint company representative explain what their warranty means, and have the painting contractor explain what he guarantees.”
Gerwig notes, “As high as 80 percent of all coatings failures can be directly attributed to inadequate surface preparation that affects coating adhesion. Selection and implementation of proper surface preparation ensures coating adhesion to the substrate and prolongs the service life of the coating system.”

Some questions I would ask are, ‘What jobs have you done? Can I call them? Were there any problems? Did it go over? Have you ever been sued? Were you found at fault? Are you involved in any litigation now?’ And don’t take their word for their final answer; they may tell you anything to get the job. Call references and check with several past jobs that are at least two to three years old, since problems don’t generally show up in the first year.”

Gerwig adds, “Even if you are not requiring a payment and performance bond, you should only do business with contractors that can prove that they are bondable. Also, you should get copies of their license and insurance.”

McCoy states, “Bids need to be based on very detailed specifications, and you need to have checks and balances—someone to verify what they’re doing and hold them to a high standard. My job is to do surveys, write specifications, and inspect what we specify to make sure that owners get what they pay for. We do the field inspections and review payment applications so the owners are only paying for what has been inspected. In this economy, you can’t afford to take someone’s word without verification. If a contractor knows you don’t know if a crack is repaired properly, he can cut corners. It can cost twice as much to correct shoddy work because the work is more intensive and materials cost more because they have to be more exacting.”

Proper surface preparation is probably the most important step in a successful coating application, McCoy says. “We’re talking about removal of all existing chalk, dirt, residuals, mildew, and so forth,” he comments. “If exacting preparations are by the book, crack repairs are made properly, and all transitions have closure by high-performance sealants, you can install even a low-grade exterior coating on the concrete masonry/stucco surfaces and get three years of useful life. When the finish coating system
is comprised of a high-grade, pure acrylic coating system, this system will provide both a decorative and protective finish that has often lasted nearly ten years without excessive chalk erosion.”

Gervig notes, “As high as 80 percent of all coatings failures can be directly attributed to inadequate surface preparation that affects coating adhesion. Selection and implementation of proper surface preparation ensures coating adhesion to the substrate and prolongs the service life of the coating system.” Weather conditions during application also affect adhesion, and she notes, “No exterior painting should be done immediately after rain, during foggy weather, when rain is predicted, or when the temperature is below 50 degrees.”

Surface preparation includes crack repair, which varies according to the size of the crack. Surfaces should be pressure washed and treated with a mildicide. Gervig recommends, “Chemically clean with a bleach solution of one gallon of liquid household bleach and three gallons of warm water, and pressure clean with a minimum of 3000 psi using a 15–25 degree spray tip to remove all mildew, peeling, blistering and flaking paint, excessive chalk residue, salt, and other foreign matter.” Wire brushing and hand tool scraping may also be required. “Most paint manufacturers will inspect the painting as the project proceeds to ensure that the means and methods they recommend are being followed,” Gervig notes.
Deck waterproofing is usually done in conjunction with concrete restoration, but can be done by itself if the concrete substrate is good. You can get a final result that looks like tile, euro tile, or many other textures," Gerwig shares.

If the entire painting project is something you would like to put off as long as possible, there is an answer: preventive maintenance. This primarily involves pressure washing and inspection, with repairs as detected. McCoy advises, “The paint/coatings industry recommends power washing all concrete masonry/stucco substrates with a mildicide every 18–24 months. There should be a minimum of 1500–2500 psi with a flow of 3 gpm. A large (25 degree) orifice should be used at a distance of 18 inches in overlapping strips to avoid zebra striping.” Washing can be very successful at extending paint life, as McCoy recalls one association directly on the Gulf that cleaned with power washing every 18 months and was able to go 11 years without deck paint.

“After pressure washing, the surface should be sealed to an angular sheen to seal off the porosity of the substrate,” McCoy explains. “If you don’t have it sealed properly, the topcoat will be absorbed in some areas and the finish coat’s sheen will vary in sheen development.”

“The best surface prep for metals is abrasive blasting,” says McCoy, “but you can’t do that in most community situations. Surface epoxy primers were developed for oil rigs in the Gulf because they couldn’t sandblast out there but still had to maintain metals. We use it for preparing metals in situations such as pipes in garages and then use standard topcoats.”

For wood exteriors, McCoy points out, “Pressure washing and mildicide solution would be similar to preparing stucco or masonry, but typically, a lower pressure/wider degree power washer tip is used and obviously a substrate compliant primer would be used.” He warns, “California red cedar will bleed through if you use regular primer. Different woods require different procedures, and some have to be painted at a specified moisture content of seven to fifteen percent.”

For the paint application, McCoy says, “You want a pure acrylic resin that has SBV of 40 percent or greater. This is five to six mils (mil = .001 inch) thick when wet, drying to an installed minimum of two to three mils. If it’s less than that, you typically will not realize a five- to seven-year life span from the system.”

Andy Schrader with Munyan Painting and Restoration advises, “Associations should know that true elastomeric coatings on exterior walls are considered old technology. Nowadays, engineers and architects are leaning more toward breathable acrylic coatings, which can still waterproof.” Schrader notes, for waterproofing, “I recommend the use of a high-build acrylic, which may be anywhere from 20-25 mils thick.”

McCoy explains, “We generally do weatherproofing rather than waterproofing. It would have to be an extreme case of cracking to use elastomeric coating. Standard coating of 40–45 percent solids at 5–6 mils thick will not camouflage severe cracks or repairs, though 10–12 mils dry film of elastomeric or breathable high-build coatings will.”

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repainting or experiencing significant chalking.

Inspection of the building is recommended on a quarterly basis. Since the site personnel may not be experienced in detecting problems, McCoy advises, “The individual can document anything that looks out of the ordinary with a digital camera with a digital zoom capability. Observations need to begin at the roof due to the fact that the roof’s substrates and components are a barometer of the remaining building. The roof area always has more exposure to ultraviolet radiation and wet/dry cycles and is often the least-reviewed area of the building. Photograph anything that looks unusual: rust staining, corrosion on ferrous metals, peeling paint, filled or burst paint blisters, and caulking/sealant that has cracked or peeled away from the sides of the substrate. If they find potential issues, they should contact a professional engineer for consultation.”

A well-planned and executed coatings project can have a happy ending. McCoy summarizes, “If the surface is sealed correctly to an angular sheen, top-of-the-line acrylic is applied at five to seven mils wet going to two to three mils dry, you’ve done all your crack repairs, and sealants are in place, then you’ve weatherproofed your building and it’s aesthetically pleasing and protected!” Hopefully this will please residents, ‘make a memory’ of how to navigate another successful project in the future, and provide motivation to conduct maintenance to make that future as far off as possible!