

AQUA

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Fiberglass Efficiencies



Left: Proper shotcrete application naturally generates rebound, just don't be tempted to use it.

Behind: A cavalcade of blunders including rebound, over-spray and poor encapsulation techniques, all which lead to porosity and moisture (the mix water) exiting the pool structure and leaving an efflorescence trail.

BUILDER BLUNDERS: REUSING REBOUND

Despite the temptation to reuse rebound to reduce shotcrete installation costs, doing so is always the wrong choice.

By Bill Drakeley

IT'S ONE OF the cardinal sins in the world of pool construction — reusing rebound has been debunked, discredited and discarded, and should be forever forgotten. Anyone still maintaining this practice is in direct violation of shotcrete workmanship standards and is, I believe, operating on a dangerously subprofessional level.

As my friend Paolo Benedetti says, “Shovelcrete’ is completely unacceptable!”

GETTING BETTER

The good news is, I think it's fair to say that the industry is using less and less of it. For the past 20 years at least, in magazines like AQUA as well as in classes taught by reputable experts such as Watershapes University, and certainly in publications promulgated by the American Shotcrete Association and American Concrete Institute, the standards have been made clear. All have been

pounding this drum and the message is just don't do it!

We are talking about what has been, and probably still remains, a hidden practice — and then only for some substandard companies. (Most commonly, I've seen installations where the installer fills the large space with rebound and installs a crust of actual shotcrete to form the step, bench, tanning shelf etc.)

We know that people have been using rebound



this way because of the resulting failures, and subsequently contractors engaging in the practice have been found out. When they are discovered, it's a no-brainer: You did something you weren't supposed to, you did it to save money and basically ripoff the client, and now you're busted because the pool is experiencing problems.

PLAIN WRONG

Put simply, rebound is waste — it's garbage and garbage should be thrown out. Rebound is the waste that is generated by the shotcrete installation process. In fact, it's a natural and necessary part of the process. Proper shotcrete installation

always generates a certain amount of rebound, and it's of sufficient quantity that some unscrupulous contractors think to themselves: Why not shovel this stuff into places like steps and benches as filler, therefore using less material overall and saving money? It's a waste-not/want-not kind of temptation, but it's horribly misguided.

Rebound is also known as the "aggregate rejection process," which simply means it's the aggregate that bounces (i.e. rebounds) from the point of impact and is no longer coated with enough cement paste to become part of a concrete structure. Rebound has no place anywhere in a pool shell because it does not become structural

concrete. In effect, it's just loose sand and has about the same structural strength as a sandcastle at the beach.

WATER INTRUSION

In slightly more specific terms, rebound creates voids in the structure that can lead to a host of failures, from delamination of surface materials to cracks and crumbling parts of the structure (seen in places like spa steps, for example) to the entire spectrum of trouble that occurs when water is allowed to intrude into the concrete. You can also get efflorescence and deterioration of structural steel among other problems.

That's all why the leading authorities in the concrete industry are definitive: In

section three of ACI506R16, the Guide to Shotcrete Installation, it clearly states: "Reuse of discarded shotcrete material should not be tolerated."

The International Building Code states in section 1913.6: "Any rebound or accumulated loose aggregate shall be removed from the surfaces prior to placing the initial or any succeeding layers of shotcrete. Rebound shall not be reused as aggregate."

In short, rebound should always be removed and discarded — any other action is truly a major blunder! ~

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