

He who eyeballs repairs quotes less, costs more

When you get a quote from a concrete repairer, be on hand to watch carefully how he goes about his inspections.

If he simply eyeballs your structure—and perhaps pokes it here and there with a sharp stick, so to speak—he'll likely offer the lowest quote.

Why? **Because he hasn't done the hard yards to find out the root cause of the decay**, which is often devious enough to deceive the eye.

The result (when you give him the work on the basis of his low quote) is **almost certain to be a job that costs you more than you bargained for**. This is because:

- a he could well err on the extent of the repair (although an ACRA member will have a good idea how many litres of repair are in a job),
- b he can only have a preconceived idea of the needed repair strategy, which is therefore likely to be either wrong or incomplete, so...
- c he is likely only to end up hiding the real cause, only for it to emerge later to **cost you some real money to undo and fix properly**.

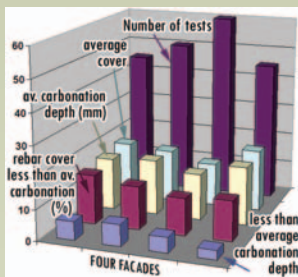
More to it

Most asset owners have no idea how much skill goes into diagnosing deterioration in a structure. If they did, **they would be happy with a higher quote where the quoter's credentials guarantee appropriate diagnosis**.

Complex complex

To give some idea, consider the case of a commercial complex built in the sixties.

The ACRA member called in to advise on the deterioration of this complex took **no less than 200 tests of all four facades**. These tests defined that the decay mainly stemmed from a combination of carbonation and lower cover over the steel reinforcement.



On some facades, average carbonation depths were 15–20 mm. Testing detected chloride ions only at background levels of 0.1–0.15%.

In 55 of the 200 tests, the rebar cover was less than the average carbonation depth!

If that were representative of the condition of the whole complex, **that's over a quarter of the building where the carbonation had penetrated to the steel reinforcement**.

Carbo-killer

Carbonation lowers concrete's pH. The normally high pH (alkaline) environment provided by cement protects steel from corrosion by forming a surface film of iron oxide. **When the pH falls below 11 (ie, more acidic) this oxide film degrades**.

Add the presence of oxygen and moisture and reaction products expand, inducing spalling and cracking of the concrete cover.

Although the state of the roof membrane and window seals in this complex could have been eyeballed, **more deep-seated ills such as carbonation only become obvious through appropriate survey by those who know what they're doing armed with the proper equipment with which to do it**.

The moral

Use ACRA members, not as a "cheap" option, but to ensure a repair strategy based on appropriate diagnosis of your concrete structure's corrosion problems. ■