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Insider Tips

Specimen Quantity for Outdoor Tests

This is part of a series on how to make a more successful weathering or corrosion test with a commercial test service or laboratory. Take advantage of the system in ways such as how the specimens are made or exposed, or how to take advantage of the test site's pricing structure. The way the test is set up can greatly increase the chances of a positive outcome. What schedules, how many specimens, what types of evaluations to request all play an important role in success or failure. We will cover the best ways to request outdoor exposures, and laboratory accelerated tests for both corrosion and weathering.

Show many Specimens?
How many specimens should you send for the outdoor exposure? As many as you can up to the price break point! Test sites base their prices on a per specimen basis, but with a fixed minimum per test. So for example, the unit price might be $0.35 per panel per month, but the is a minimum charge of $35 per exposure test. If we do the math, that means you can get 100 panels for "the same low price". If you only send in 35 panels you are paying $1.00 per panel each month.

First question to ask is what is the greatest quantity of specimens you can get exposed for the minimum fee. This will be different for different exposures. The cheapest rate is always for a rigid self-supporting panel that is about 6" x 12" for direct exposure. However the rates, including the minimums, will be different for backed exposures, black box, or under glass tests. My recommendation is to then send in that number of specimens. I will share more about the effect that evaluation services have in another Insider Tips, but for now, plan on sending in as many as you get for the fixed minimum.

Aside from this being the most cost-effective way to run your test, sending in extra specimens has several other advantages. Extra specimens mean extra security for your test. A lot can happen during a long exposure, from storms to general mishaps. If you have only one specimen and something happens to it, then your test is worthless. The extra specimens mean you can also do multiple measurements and get replicate data and perform actual statistical techniques.

Identify your specimens so that the replicates are not in sequential order. Make sure they are identified something like this 1A, 2A, 3A, 4A, 11A, 12A, 13A, 14A and not 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B. If you need to recall a set of specimens, one entire set of them will be easy to remove. By spreading the replicate specimens out through the test, they will not be exposed side-by-side, so you will see if there are any variances in the test that might be due to the exposure location on the rack.

One variance on this is if you want to recall specimens on a frequent basis. Determine which exposure interval is the longest and make this have the minimum quantity of specimens. So you might pay a little more in year 1, but you will pay less in years 2, and 3 perhaps.

Never return ship all your specimens at once and at the same time. Make sure you get back at least one full set of specimens, before recalling any last specimens you have. I have seen too many times where the shipping service has lost the final return, and if that happens after 5 years exposure, that is a tremendous loss. I always have said the most important thing for me from a weathering test is the final set of specimens….. in my hand. One extra $10 return is the best insurance you can buy.

Hope this helps……

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