



The Maintenance-Free Myth: Maintaining Architectural Bronze Windows

 **DYNAMIC**
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“Bronze is pretty cool stuff. So cool, in fact, they named an Age after it.”

In the high-end luxury home (and boutique hospitality) niche, bronze windows & doors occupy a small but significant corner of the market.

Bronze windows aren't for everyone. Compared to other window materials, you'll need a truckload of money. On the other hand, bronze windows will outlast any other material.

It's a *cost of purchase versus cost of ownership calculation*. If you're building that dream home to pass down to the kids and grandkids, bronze may well be the best value.

With any high-dollar investment come equally high expectations. Bronze is no different. That high-dollar investment has to look spectacular. Understanding **what's involved in selecting and maintaining the bronze** can help deliver on high-end expectations.

Here, we'll share some of questions that come up when we're talking with clients about bronze patinas – and expectations on **maintenance**.

But first... a cautionary tale.



The True Story of the Green Residence & the Maintenance-Free Myth

We supplied bronze windows to a project in Cabo San Lucas a while back. A year after completion, we visited the project. The bronze we had delivered showed the desired mottling of a living finish.

However, the architects had some pressing questions. They had completed another home on the same street (right on the Cabo beach), with different results.

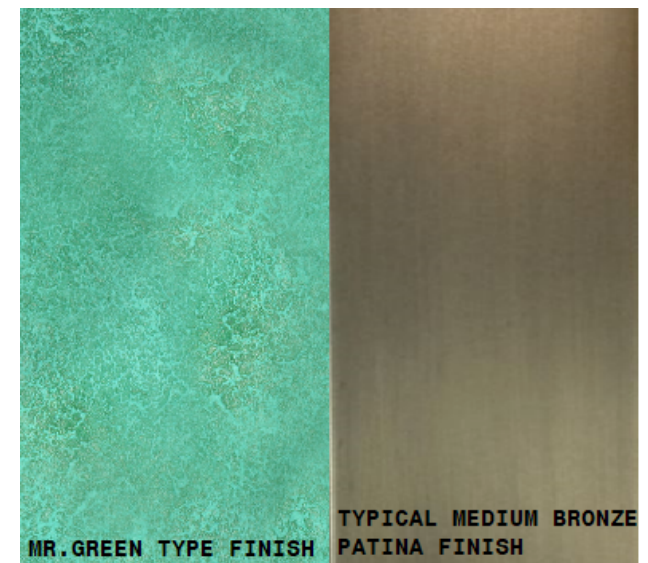
The other home had bronze windows from a different source. These had been installed at about the same time... and they had turned green. Not just a bit green – *full-on green*.

How had this happened?

The exposures of the two projects were very comparable but they were behaving very differently.

The homeowner of the “Green Residence” wasn’t thrilled with green windows, to say the least. The solution had been to employ a full-time maintenance guy who spent his entire day cleaning the green stuff off and restoring the bronze to something like the factory patina. When he completed all the windows, he went back to the beginning and started again.

The homeowner wasn’t planning to foot the bill for this – his expectation was that he had bought a maintenance-free window and that the factory patina would retain its original aesthetic in perpetuity.



What went wrong?

It seems the “maintenance-free myth” perpetuated. Bronze requires maintenance. Let’s break that myth down.

Maintenance-Free Expectations VS. Reality

Maintenance-free is one of those phrases that pop up a lot in our conversations. When it does, it is best to start managing expectations so nobody paints themselves into a corner that may be awkward to get out of later.

A conversation about bronze ought to go something like:

Home Owner: “Bronze windows cost a bundle. They are maintenance-free, right?”

Honest Answer: “No.”

It may be diplomatically advisable to elaborate on this answer. A better description, in 99% of applications, is that **bronze is low-maintenance, not maintenance-free.**



What does that mean to the architect, contractor, and homeowner?

Statuary VS. Architectural Bronze

A starting point for talking about Bronze patinas and maintenance is to recognize that there are essentially three different types of Bronze and each behaves differently:

- 1) **Statuary Bronze** – sometimes called “True Bronze.” Think Greek statues.
- 2) **Architectural Bronze** – the most common bronze used for architectural windows & doors.
- 3) **Commercial Bronze** – used when you can’t afford the better stuff. Just kidding.

The quality and type of the bronze substrate itself will determine the degree of oxidization to some extent. Some types of bronze (and brass) go green as we know, much like Copper. Other bronzes with different alloy properties are much less inclined to do so. Ask about, and understand, the bronze you are considering investing in. Is it the most suitable for your project?

[For an in-depth look at bronze patinas, read our guide, Expectations for “Living” Patina Finishes.](#)

The design team, prepared with the appropriate information, can establish and address the expectations of the Owner in advance. Then it’s a question of discussing what’s involved in managing the bronze over time, so it will meet the Owner’s expectations.

Bronze Maintenance: Mitigating Bronze Oxidization

Consider the following **bronze maintenance options** when you're choosing your bronze window supplier. As with everything in high-end custom materials, it's best to discuss these options early in the game.

1. Protective Coatings for Bronze Windows

This is when a sealer coat is applied over the patina to mitigate the rate of change to the patina with exposure to UV and weather. Protective coatings can be factory applied or field applied. Talk about which works best for you.

There are different types of protective coatings, some are similar to a lacquer, others are more like a wax.

The sealer coats will gradually break down over time and will require periodic re-application depending on the degree of stability the owners expect. It helps to establish beforehand what those expectations are. Easier to manage them that way.

The right sealer coats can be hand-applied on site after cleaning the Bronze surface as part of an established maintenance regime. It's not a technically demanding feat of alchemy and you won't need a team of mad scientists in tin foil hats.



BRONZE COATING IN THE FACTORY

2. Bronze Patina Restoration

There are specialized products that can be used to restore the original patina if it has changed to a degree that the aesthetics no longer compliment the design intent of the envelope. If needed, there are specialist companies that can provide technical assistance and guidance. Put another way – you can hire them and they will fix it for you.

On the “Green Residence”, we consulted with a couple of specialist partners and were able to suggest a restoration approach and then a sealing coat that has helped to significantly stabilize the patina finish to within acceptable expectations. This made everyone happy except presumably the window cleaner – but you can’t please everybody all the time.

3. Selecting a Patina for the Long-Term

Choosing the right patina will help ensure your bronze upholds a desirable appearance for years to come. Lighter patinas will generally require more attention in order to maintain the original appearance. Mid to dark patinas less so, as the oxidization process takes longer to become apparent and the overall change in aesthetic is less noticeable – the bronze was darker to begin with.

If a light patina becomes the desired aesthetic during design development, have your radar up high and understand what is involved.

Keep in Mind...

Mitigate is the key word here. Short of an unrealistic maintenance schedule, the surface of the bronze will oxidize to some degree and the patina will change, that’s what it is supposed to do. Mitigation should form the basis of the conversations about expectations. It’s not “If”, it’s “When”.

Use Bronze with Confidence

Nobody needs to be convinced of the benefits of bronze, particularly as a material for fabricating windows and doors. It's great. It costs a lot. The Owner wants it anyway and is willing to invest based on a cost of purchase versus cost of ownership ratio.

This is the time to ensure conversations are taking place that ensure the success of the project – to the maximum extent, for everyone.

Most importantly, ask lots of questions – especially if your fabricator isn't bringing these discussion points to the design team's attention. We always aim to collaborate with the design team in the knowledge that we are only successful when the overall project is successful.

There are enough challenges in luxury home design and construction. Sitting on important information until after the sale is closed is not helping anyone. Just ask "Mr. Green".

To learn more, contact us at connect@dynamicfenestration.com or call **1-800-661-8111**.

