THERE ARE VARIOUS METHODS AND PERFORMANCE STANDARDS TESTS that can be a deciding factor when demonstrating why a Sherwin-Williams concrete coating may be a better choice than a competitor’s coating.
TEST FOR CONCRETE SUBSTRATES & COATINGS

Knowing more about how and why concrete substrates and coatings are tested will provide guidance when choosing the right coating for the desired performance.

These are the organizations that produce industry standards to determine the performance attributes of many concrete and masonry coatings in the market:

**ASTM International Standards**: American Society for Testing and Materials

**ICRI**: International Concrete Repair Institute

**NACE®**: National Association of Corrosion Engineers

**SSPC**: Society for Protective Coatings

When it comes to concrete and masonry coatings, ASTM standards are the most common.

**There are some ASTM Test Methods you may have heard of for verifying properties, such as:**

- Wind-Drive Rain Test — ASTM D6904-03
- Water Vapor Permeance — ASTM D1653
- Elongation — ASTM D2370
- Tensile Strength — ASTM D2370
- Flexibility — ASTM D522
- Alkali Resistance — ASTM D1308
- Mildew Resistance — ASTM D3273/D3274

Terms Of The Trade

**ELONGATION**: A method of measuring coating flexibility; the increase in specimen length from the point of initial load application to the point of film rupture in a tension test.

**TENSILE STRENGTH**: Tensile strength relates to the ability of the material to withstand tension without fracturing. If concrete is too weak in tensile strength, the top layer of it can delaminate, taking the coating with it.

**ALKALINITY**: High pH. Concrete is inherently alkaline.

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**FACT**: New, lightweight concrete block surfacers are available today that backroll faster and with less effort.

Some fillers/surfacers provide a stable, uniform foundation and can help reduce pH burn, even over freshly cured mortar.

**MYTH #4**

Concrete block fillers are unnecessary, heavy and difficult to apply.
There are multiple standards Paint and Coatings manufacturers can use for testing their products. Therefore, you may see different outcomes or ratings for product performance. Sherwin-Williams generally follows those ASTM tests that pertain to Paints and Organic Coatings, not necessarily thermoplastic testing.

What does this mean to you? As you are working with specifications and bidding work, or even determining which coating to recommend, make sure you understand the correct ASTM standards that should be used. Not all ASTM Test Methods equate or correlate to one another. Results can vary significantly and may not reflect the true product attributes needed for the job.

EXAMPLE SCENARIO

COATING MANUFACTURER A uses ASTM 412 and has a 600 rating
SHERWIN-WILLIAMS uses ASTM 2370 and has a 350 rating

The General Contractor on your project wishes to use Coating Manufacturer A since it has a higher rating for elongation.

Since these are different test numbers, does that mean Sherwin-Williams’ coating is inferior? No. Here’s the real story on our elongation rating:

- Coating Manufacturer A is using the ASTM 412 Standard Test Method for Vulcanized Rubber and Thermoplastic Elastomers — Tension.
- Because concrete coatings are organic coatings, not vulcanized rubber and thermoplastic elastomers, the Sherwin-Williams coating is using the proper test and is the correct choice.

Be sure to utilize your resources to work through ASTM testing and conflicting claims:

- Sherwin-Williams lists all applicable ASTM testing for coatings on our data pages
- Consult with your Sherwin-Williams Sales Representative or Store Associate to walk through your coating needs
CONCRETE SUBSTRATE & SURFACE STANDARDS

Compared to other building materials, concrete tends to have high levels of both moisture and alkalinity. The concrete substrate must therefore be tested to determine if it is stable enough to be coated.

pH LEVELS

Many factors can affect the pH levels of the concrete surface, including:
- Content of the Portland cement mix.
- Moisture levels: Higher moisture levels tend to have a higher surface pH.
- Area tested: The pH across different areas of cured concrete can vary.
- Age of concrete: pH is highest on the concrete surface shortly after it has been placed and decreases over time as the surface carbonates.

Testing Methods: You can use pH pens, pencils or strips to test for pH levels. Refer to the technical data page of the product you will be using to determine if the product is acceptable for the pH level of the concrete.

MOISTURE LEVELS

Too much moisture in new concrete can cause paints and coatings to blister or peel. A dry, sound surface is required for paints and coatings to properly adhere to a concrete substrate.

Testing Method: A moisture meter can help determine the moisture content within concrete. Too much moisture will yield a reading of 15-20% and will need time or assisted drying before coating.

These are just two methods of ensuring your concrete surface is adequately prepared for coating. The next section goes into further detail about the repair and preparation of this substrate.