



The June Solstice and the Building Products That Spend Their Lives Outdoors

The June solstice is the longest day of the year in the Northern Hemisphere and the start of summer. For exterior building products, it points to years of sunlight, moisture, heat, thermal movement and changing weather conditions.

Roofing materials, wall systems, coatings, sealants, windows, and doors are expected to perform through changing seasons, varying climates, and long service lives. The engineering challenge is understanding how those products respond as environmental stress acts on materials over time.

The Impact of Long-Term Exposure

A single hot day rarely creates a problem. The greater concern is what happens as sunlight, moisture, heat, and temperature changes repeat over months and years.

UV exposure can contribute to color fade, chalking, and material degradation. Moisture can place stress on material interfaces, seals, and joints. Daily expansion and contraction can affect coatings, substrates, connections, and assemblies differently depending on the materials involved.

Some changes are cosmetic. Others can influence

“The longest day of the year is a reminder of what exterior building products face through the summer months, from sun and heat to moisture and temperature changes.”

water resistance, durability, maintenance needs or long-term performance.

By the time a problem appears in the field, the product may have been installed for years. That is one reason manufacturers evaluate weathering and durability before products reach the market.

Providing Clarity on Future Performance

Architects, builders, owners, and code officials want confidence that products will continue to perform long after installation.

For new products, updated formulations, or modified



assemblies, years of field data may not be available when performance questions need to be answered. Third-party weathering and durability testing gives manufacturers a way to study how products respond to controlled environmental conditions before those products are installed in the field.

That data can help support product development, quality programs, certification efforts, and project documentation.

How Manufacturers Use Weathering and Durability Testing

The testing program depends on the product, material, and intended application. For exterior building products, it may include:

- UV exposure testing
- Moisture and condensation cycling
- Thermal cycling
- Salt fog exposure
- Humidity testing
- Coating evaluations for color, gloss or adhesion changes
- Physical property testing before and after exposure

Standards such as **ASTM G154** and **ASTM G155** are commonly used to evaluate how materials respond to environmental exposure under controlled laboratory conditions.

These tests are not a substitute for natural outdoor exposure, but they provide manufacturers with controlled data to compare products, evaluate material changes, identify potential weaknesses, and better understand performance under environmental stress.

The results can support product development, quality assurance programs, certification efforts, and project-specific performance documentation.

Accounting for Regional Conditions

Exterior products do not age the same way in

every environment.

A product installed in Arizona may be exposed to intense sunlight and heat. The same product in Florida may face humidity, heavy rainfall, and prolonged exposure to moisture. In coastal Texas, salt air may add corrosion concerns. In Minnesota, seasonal temperature swings and freeze-thaw conditions may place different demands on materials and assemblies.

Because conditions vary by region, manufacturers often need testing programs that reflect multiple sets of assumptions. That information can help support product development decisions and provide architects, builders, and owners with documentation tied to the conditions a product may encounter in service.

Turning Test Data Into Better Product Decisions

The longest day of the year is a seasonal marker, but the performance question lasts much longer. Manufacturers are often asked to make decisions about product design, material selection, and performance expectations long before decades of field data exist.

Intertek works with manufacturers to evaluate exterior products, materials, and assemblies before they reach the field. Through weathering, durability, and performance testing, manufacturers can identify potential issues earlier, evaluate product changes, support certification efforts, and provide documentation needed for specifications and market acceptance.

To learn more, [click here](#).

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