

WHY FLORIDA?

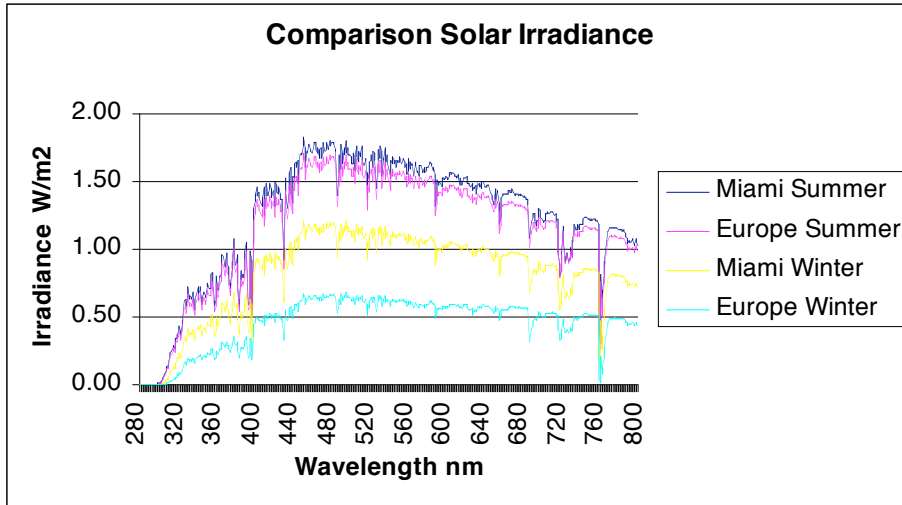
Why is Florida the world's most widely used outdoor exposure location? It is just a matter of being in the right place at the right time. There is nowhere else that provides just the correct mixture of sunlight, warm temperatures, and lots of moisture, in a year-round easily accessible location with great infrastructure. It was over 75 years ago that the discovery of Florida's increased rate of deterioration led to the establishment of exposure test sites in the Miami area. It has been a well known fact since then that no testing program is complete without at least a Florida outdoor exposure. Florida is universally accepted as the international benchmark for outdoor exposure testing.



Q-Lab Florida test site located in Homestead, FL

The southern tip of the Florida peninsula has all of the major factors of influence in abundance, but just as important is that they are in relative proportion that is consistent with the more densely inhabited temperate regions of the world. Simply put, Florida has the same weather Europe does, just a lot more of it. Florida's unique location prevents any one of the major parameters from overwhelming any of the others. For example, too much rainfall would mean extra clouds leading to lower sunlight levels, decreasing photodegradation, but increasing mold and mildew growth.

The subtropical climate is ideal for weathering testing, for it lies at the border of the tropical and the temperate regions. As we can see from the solar data, Miami can be quite similar to Europe in the summer months. However, in the winter, the difference between the two locations is dramatic. The key point is that it is the same sun, just more of it for longer. The same is true for temperature, rainfall, and humidities. Miami's year round climate allows for repeatable exposures and rapid testing of products in a real world environment. Because the test is conducted outdoor, the results truly are real time giving Florida exposures the kind of trust not always evident in accelerated testing. Outdoor testing provides results that are sometimes not even possible in artificial tests; biodeterioration for example is extremely difficult to simulate in laboratory conditions.



Solar Radiation derived from Smarts2 program (courtesy of NREL, ASTM)

Exposures in Miami are not only realistic, they are accelerated. One or two years of Florida sunshine can equate to several years of weathering elsewhere. There is no set rate for this acceleration as there are many variables that will affect the outcome, but it is generally accepted that Florida testing accurately predicts what happens in temperate regions.



Florida exposure rack at 45 degrees South

A standard test in Florida would incorporate exposure at an angle that matched as closely as possible the end-use positioning of the material. Regularly scheduled evaluations will provide data on the progress of the test material and allow for more reliable predictions to be made. No matter what other types of testing you may be doing, you should always incorporate a replicate exposure in Florida.

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