

Sunshine Times

DuPont Weathering Systems 3rd Quarter 2008

NEWS

DWS introduces the full rack plan: There is no doubt that times are tough and weathering budgets are under pressure just like everything else. At DWS we took a long hard look at the way orders are submitted and what could be done to enable our clients to maintain flexibility and realize savings. As of November 2008 we will be offering an alternative way to manage your weathering needs. We are making exposure space available in full rack increments. Simply put, for a monthly fee you can subscribe to an entire rack of space to do whatever you like without the application of minimum exposure charges. This system allows us to offer you increased flexibility to test when you need to without worrying about accruing a large number of minimum charges. Because you are working by the rack our invoices will also become far simpler. We will of course also continue our standard fee schedule for those customers preferring to work on a per order basis.

Special Startup Coupon: We are offering a start up coupon for a limited time to help you make the transition to a DWS full rack plan.

What is included in the plan?

Participating in the plan is like having your own private testing site at your fingertips without the responsibilities of upkeep or staffing. Your rack will be cleaned and maintained. The surrounding area will be mowed and trimmed. We also maintain rack angle calibration using a traceable

standardized digital level. Even though we have never had a security incident we still take site security seriously. The site is surrounded by a chain link fence with triple stranded barbed wire along the top and we operate night time floodlights for further security. Since we are an A2LA accredited laboratory, returned samples come with a certificate of exposure testing. Each month you will receive a monthly activity report and an environmental profile reporting the important climatic parameters in the immediate vicinity of your rack.

What is the Activity Report? This is one of our unique value added services, we provide a report, issued monthly, to help our clients keep track of their samples and any services performed. The report also shows the amount of open space that is available on your rack. You will not have to worry about tracking your specimens, the activity report will do it for you.

What about Weather Data? DWS maintains a well equipped weather station. Solar radiation, temperature and humidity data is continuously recorded and reported monthly in the environmental profile. We also maintain samples that are analyzed for surface deposits and report the chemical nature of these deposits.

How do I save money by using the plan?

The full rack plan is best utilized by companies who have an active testing program where there is a need to submit numbers of smaller exposure tests. If you are



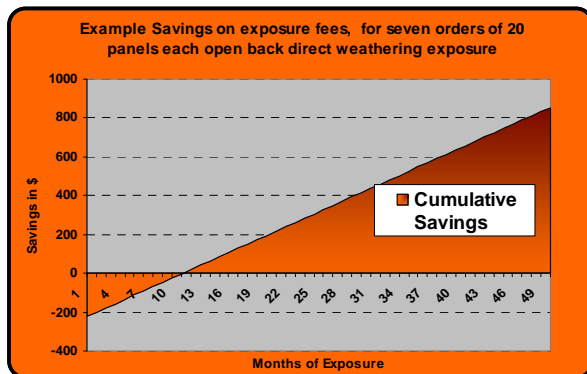
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using the standard size of 4"x 12" panels then you can fit approximately 140-150 panels on each rack depending on the type of rack chosen. The specimens can be broken down into as many orders as you like. For example you can fit seven test series of 20 panels each and still have 10 spaces left over. The chart above shows the savings associated with this simple scenario. Without the full rack plan, these seven test orders would cost more than the fee for the single rack. For each submission we will charge you a small setup fee to take care of check in.



paperwork and exposure time. If the exposure time required exceeds more than 1 hour then the additional time will be charged at our normal skilled labor rate. Scheduled returns are still free unless expedited. If requested, inspections and other services are subject to the normal fee schedule.

Can I mix and match?

There may be times when you run out of rack space but do not have enough panels to warrant an additional entire rack. In this case you can simply use the regular fee schedule for that particular order. There may also be times when you would prefer to use the regular fee schedule for an order and reserve your plan rack space for something else. Mix and match with the regular fee schedule is perfectly OK.

If you have questions about the full rack plan please feel free to call. 305-822-8466.

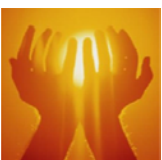
DWS has a new color spectrophotometer:

The model we have added to our collection is the Datacolor 650. It is a dual beam instrument with diffuse (sphere) geometry. With this we can now also measure in both reflectance and transmittance modes including haze. The instrument has the capability of measuring from 360 to 700nm, in either 5 or 10nm increments. In tests against the CTS collaborative testing program our new instrument performed impeccably. We are very pleased with our new capabilities and look forward to making many more of these types of measurement.

STANDARDS UPDATE

With the addition of the new color measurement capabilities we can now meet the measurement requirements for *SAE J576. Plastic Materials For Use In Optical Parts Such As Lenses And Reflex Reflectors Of Motor Vehicle Lighting Devices.*

DWS is participating in an ASTM study to define "Time of Wetness Measurement" (TOW) with the utilization of Leaf Wetness Meters. This measurement is very important since it tracks one of the primary environmental components causing degradation. However; measurement of TOW in a consistent and reproducible way has long been an elusive goal for weathering practitioners. There is a need to standardize this type of measurement so that meaningful year to year and site to site comparative results can be generated. ASTM committee G03.02 is working towards finding the best solution. If you have interest in this committee please contact the sub committee



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chair, Joe Robbins of Arizona Desert Testing LLC.

WEATHERING NOTES

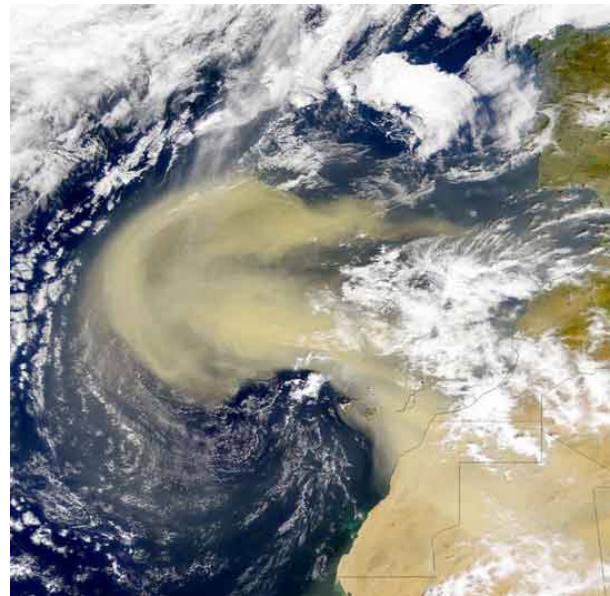
It's not just hurricanes Part 1: Each year as hurricane season rolls around we begin our vigil of monitoring the weather activities just off the west coast of Africa, the birthplace of Atlantic hurricanes. But did you know that hurricanes are not the only significant weather events that originate in this area. Several times each year tremendous dust clouds generated from the Sahara Desert exit the west coast of Africa, travel across the Atlantic and engulf the East coast of the Florida, with a dusty haze. The clouds of dust originate from sandstorms and can be as vast in area as the lower 48 states. These desert-dust storms move an estimated 200 million to 500 million metric tons of soil and dried sediment through the Earth's atmosphere each year.

On a macroclimatic scale the effects of this dust are wide ranging, including fertilizing the oceans, blocking heat from the sun, yet absorbing this heat into the atmosphere, and even affecting hurricanes and storm development. Much research is being done to understand these influences.

Scientists working aboard research ships in the Atlantic recently mapped the distribution of nutrients including phosphorous and nitrogen and investigated how organisms such as phytoplankton are sustained in areas with low nutrient levels. A large percentage of the surface waters in the open ocean do not inherently support growth of phytoplankton due to lack of certain specific nutrients, the Saharan dust deposits these nutrients and

begins the cycle of phytoplankton growth. Carbon in the form of carbon dioxide is

This NASA satellite image shows a dust storm, hundreds of thousands of square miles in size, moving from the Saharan Air Layer over Africa into the eastern Atlantic Ocean. The image was captured by the Sea-Viewing Wide Field-of-View Sensor (SeaWiFS) instrument on February 26, 2000. (Courtesy SeaWiFS/Ocean Color Team)



absorbed by these tiny plants, and then carried down to the bottom of the ocean when they die. Thus sequestering some of the Carbon dioxide from the atmosphere just as land based plants do.

These dust clouds are also suspected to affect hurricane formation as illustrated by an excerpt below from *Earth System Sciences Saharan Dust Versus Atlantic Hurricanes* by Beth Beitler Nov 2007¹. "We think a dust storm has three main components that can suppress a hurricane," Dunion continued. "One, it's got super-dry air. Hurricanes don't like dry air in the middle parts of the atmosphere, and that's exactly what the Saharan Air Layer has. A Saharan dust storm also has a very strong surge of air embedded within it, called the midlevel easterly jet, that can rip a storm



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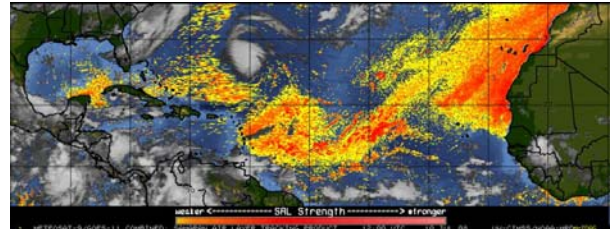
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apart that's trying to develop. We call that vertical wind shear. And then the third piece is all this dust."

In addition scientists also conclude that Saharan dust can have a major impact on the amount of rainfall produced by thunderstorms in Florida as a result of changes produced in the thickness of the thunderstorm cloud Anvils. It is interesting that this same effect alters the amount of cloud reflection producing changes in the amount of sunlight reaching earth. Given this scenario it is clear that climatic changes in the African Sahara have implications for a changing climate².

This summer in July we experienced such a dust cloud. These clouds are often mistaken as a hazy day or smog and many people pay little attention. Part 2 of this

article will examine our findings with respect to the deposits found on our monitoring control samples.




NOAA image from July 10th 2008, the sahara air layer as it travels across the Atlantic Ocean..


References

1. http://nasadaacs.eos.nasa.gov/articles/2007/2007_hurricanes.html
2. http://www.nasa.gov/vision/earth/lookingatearth/florida_dust.html

DWS Special Full Rack Plan Start Up Coupon



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DuPont™ Weathering Systems
Leveraging science to solve your weathering challenge

This coupon entitles the holder to waived standard setup fees up to \$250.00 for one month when opening a new account on the full rack plan.

TERMS AND CONDITIONS

- For tests requiring greater than one hour setup additional time will be charged against the coupon at the billed labor rate
- One coupon per account
- Coupon expires 1 month from the date of account origination
- Offer valid until 2-28-09
- Maximum value \$250.00



Account Date _____Account ID _____

DWS Representative _____Customer _____

Please visit our website <http://www.weathering.dupont.com> to download your coupon.



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