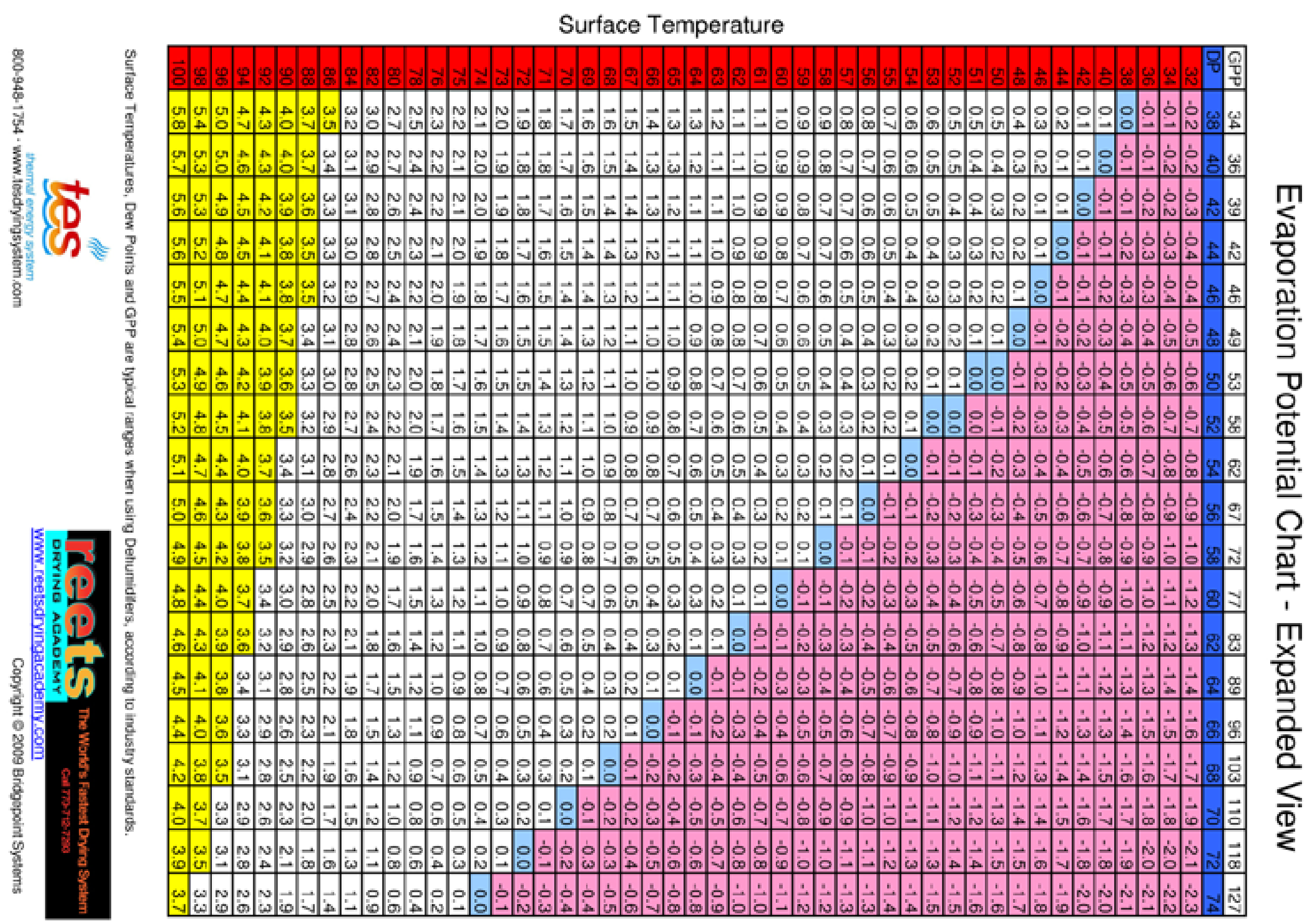

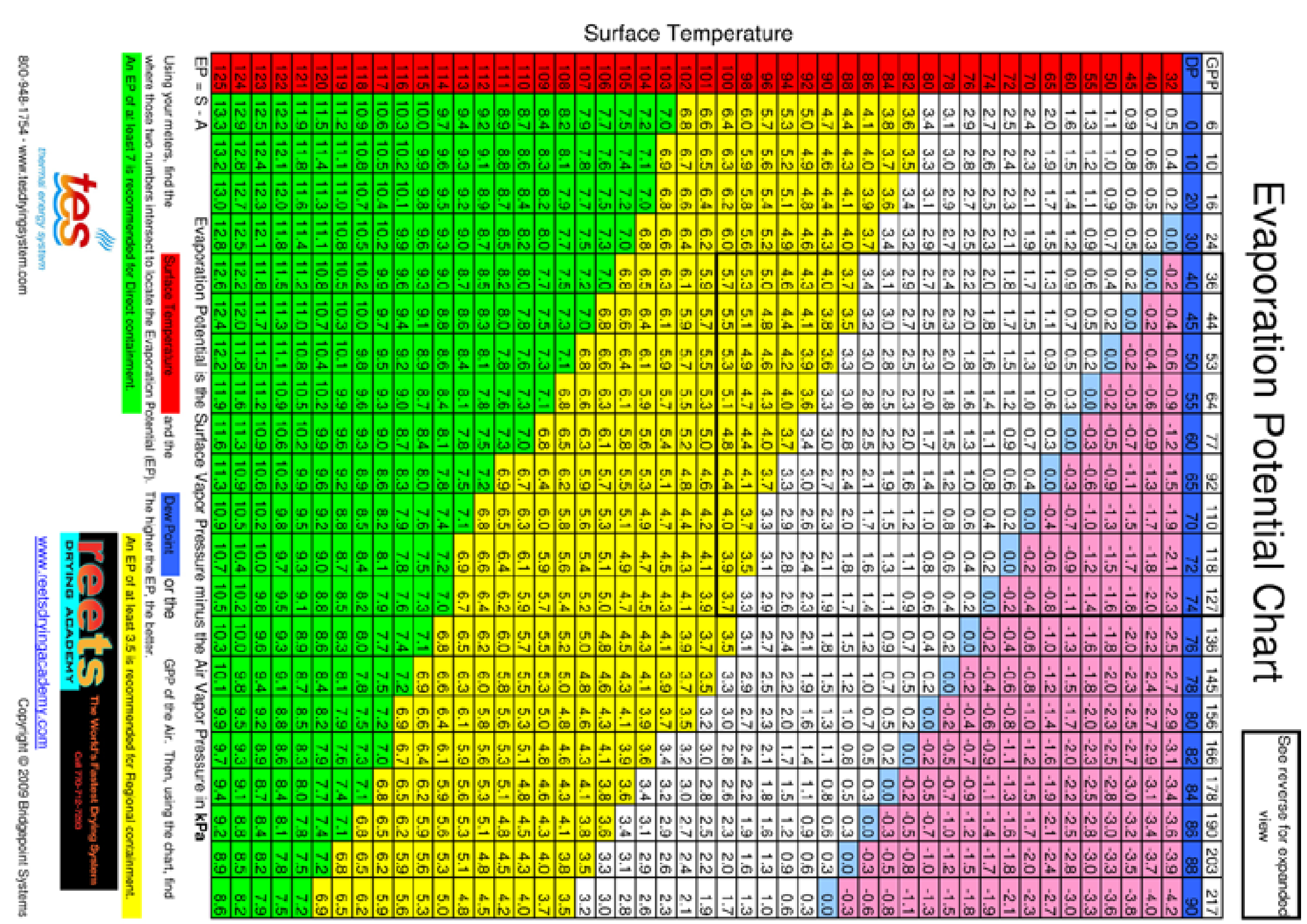

The tes-timonial

Directed Heat Drying™

July 2009

TES-timonial: Michael John, Healthy Indoor Environment, Inc.

YES to E-TES -- Our profit increases, we save insurance company's money and property owners inconvienance is greatly reduced by using the ETES to save structural material like ceramic tile flooring that normally would need to be removed and replaced. The best way I found to present this to an adjuster is give them a 100% guarantee or pay nothing. This works for all parties involved. Here is the kicker. In order to offer the outstanding 100% guarantee we propose a fee, half the price to R & R the flooring. Adjusters appreciate having this option and usually say yes because there is no gamble on their end. This increases our profit enough to pay off the E-TES in no time and gives a cushion just in case we need to honor our guarantee now and then.

Upcoming Seminars & Events

Date	Event	Host	Location	Registration	Contact
July 31	tes Seminar 8:00 am to 12:00 pm	Chem Max an interlinksupply Distributor	North Shores, MI	800-858-7237	Paul Lucas
August 05	tes Seminar 8:00 am to 12:00 pm	ChemSolutions an interlinksupply Distributor	Pensacola, FL	850-434-6400	Frank Mariano
August 07	tes Seminar 8:00 am to 12:00 pm	Crown Cleaning Supplies & Equipment an interlinksupply Distributor	Jacksonville, FL	904-636-0773	Doug Snyder
August 08	tes Seminar 8:00 am to 12:00 pm	Crown Cleaning Supplies & Equipment an interlinksupply Distributor	Orlando, FL	407-648-7004	Doug Snyder
August 13	tes Seminar 8:00 am to 12:00 pm	Great Lakes Steamway an interlinksupply Distributor	Holiday Inn West Bay Traverse City, MI	734-722-0168	Gary or Pam
August 14	tes Seminar 8:00 am to 12:00 pm	interlinksupply by Allied Equipment & Supply	Canton, MA	781-828-9003	Anthony Balzarini
August 20	tes Seminar 8:00 am to 12:00 pm	Professional Cleaning Supply an interlinksupply Distributor	Hampton Inn Dallas Dallas, TX	888-313-8173	James Longley
August 26	tes Seminar 8:00 am to 12:00 pm	interlinksupply of Salt Lake	Salt Lake City, UT	800-225-9807	Shane Wrigley
August 28	tes Seminar 8:00 am to 12:00 pm	Iowa Paper, Inc. an interlinksupply Distributor	Iowa City, IA	319-354-9379	Ed or Cheryl

To view the complete calendar of events, visit us online at
http://www.tesdryingsystem.com/events.html
You may also contact the *tes* hotline at (800) 948-1754.

Evaporation Potential Made Easier

Before I discuss how to make calculating the Evaporation Potential (EP) easier, I think a little history lesson is in order.

The Evaporation Potential formula, as has been expressed by the co-inventor of TES and the developer of the Reets' Evaporation Method – Jeremy Reets, is approximately four years old.There have been some critics question the validity of this formula and wanting to see piles of research and tests to validate this formula; however, it should be pointed out that this is not a new concept in the scientific world. The Evaporation Potential formula is a derivative of Dalton's Law of Evaporation which has been used in applications ranging from concrete to the U.S. Navy.(Note: it's a law – not an opinion.)

Dalton's Law has existed since 1802 – that's not a typo. It's 207 years old! The simplified version is expressed as:

E = w (vs – va)

Where E = evaporation rate, w = wind speed, vs = vapor pressure at the surface and va = vapor pressure of the air above the surface.

Now what is this controversial formula Jeremy Reets introduced? It's EP = S – A. Where EP = Evaporaton Potential, S = vapor pressure at the surface and A = vapor pressure of the air above the surface. This can use any unit for the vapor pressure, but for several reasons kilopascals were chosen (kPa).

"Well, what's the difference?" you may ask. First of all, the EP is NOT the RATE of evaporation.There are too many factors that cannot be easily measured to make that calculation – nor would that be as helpful as determining IF we CAN evaporate and therefore be able to dry.It's the potential to evaporate that is important – are we set up to dry or not? Do we have the potential to evaporate or not and how much is that potential? The next difference is the absence of using wind speed in the calculation. Again, this varies so much in a drying environment, it cannot be accurately measured.What wind speed does is MULTIPLY the effect of the difference in vapor pressures.In other words - the more air movement the better. The difference in the vapor pressures of the surface and air is the key and we CAN measure that.

I hope you can now see that the EP formula IS based on Dalton's formula and needs no other validation after 207 years of use.

The Easy Way

There are at least three tools available on www.tesdryingsystem.com to convert the psychrometric and surface temperature readings to vapor pressure in kPa to find the Evaporation Potential (EP). Well, now there is a fourth, but it simplifies the process and skips the conversation step for you to arrive at the EP number without any math.

It's a simple chart with surface temperature along the left (in red – found with your IR Thermometer or Camera) and the dew point (DP) (or GPP) along the top (DP in blue – found with your Thermo-Hygrometer). Find where your readings intersect and there is your EP! The chart is color coded to see the different EP zones of negative (this would be where condensation would be taking place), zero (nothing happening – actually evaporation and condensation are the same), for TES regional containment (an EP greater than 3.5), for TES direct containment (an EP greater than 7) and other.

There is no converting and subtracting! Life is good!

You'll notice the "Expanded" side. This is where most contractors using LGR refrigerant dehumidifiers are operating, so the numbers have been expanded for easy use with LGR units. The EP formula is NOT TES specific. It will work with ANY drying system.

There is no guessing with using the EP to check drying set ups. No rules of thumb like: less than 60% RH on the first day, less than 40% RH on the second, the air temperature must be 70°F – 90°F, the GPP of the drying chamber must be less than the surrounding conditions, etc. Those all work – MOST of the time, but NOT all the time! EP works ALL the time.

The following are examples of how to use EP.

An example where the rules of thumb don't tell you the whole story:

You are in Salt Lake City in the winter. There is a water damage in a basement. On the second day you have air readings of 86°F/36% RH (Dew Point of 56°F – 67 GPP). The concrete slab is 54°F. The unaffected area is 82°F/45% (Dew Point of 59°F – 73 GPP).

Current guidelines would tell the contractor this is set up to dry; however, we've included one very important piece of information that most don't measure – SURFACE TEMPERATURE. If you pull up the carpet in this loss, I would guarantee you would see liquid water on the slab – it is NOT drying.

If you use the charts attached, you will see the EP = -0.1. A negative EP is BAD!!! You are not set up to evaporate and dry. You are set up to condense and get wet! You cannot wait another day and hope for the best, you must change the set up to produce drying results.

Another Example:

You are in Omaha in August. You have a water loss on a carpeted floor over a crawlspace. It's 92°F/60RH outside (76°F DP/136 GPP). The inside conditions are 87°F/57% (70°F DP/100 GPP). There is no air conditioning and you can't bring in any. The surface temperature is 70F.

Are you drying? The answer is no.How do I know?Use the EP chart and find where the surface temperature of 70°F meets the DP of 70°F (or 100 GPP).What is the EP?You should find that it is 0.0.

Can I bring in the 136 GPP air when I already have 100 GPP air? YES, but what else do I need to do? You would need to raise the temperature of the surface. What temperature would you need have on the surface? Find 76°F DP or 136 GPP on your chart and move down the surface temperatures until you get a positive number.You should find that to be above 76°F and the higher the better.

Can you get to an EP of at least 7 for the World's Fastest Drying System set up? YES! What temperature at the surface do you need to accomplish that? Follow the 136 GPP/76°F DP down until you get to at least 7 – what is the surface temperature you need? The answer is 115°F.

Do you think that if you use up to 250,000 btu's of heat, you can use incoming air of 92°F, heat it up and transfer that heat to get the surfaces to at least 115F? YES YOU CAN!!!

Let's say you COULD get your LGR dehumidifiers to work at peak performance – which is 38°F DP or 34 GPP (that's what the current S-500 says on page 148) and you could get all the air to those numbers. You would still have to get the surface temperature to 106°F to achieve a 7 EP.

So, you can work REALLY hard to dry the air and the raise the surface temperature to 106°F or utilize the air you have and raise the temperature to 115°F.

If it's "hot and humid," so what? Go with it! Heat it more and get it done sooner.

I hope those examples help you to understand how this works and how powerful it can be.

If you have any questions about this, please contact me.

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For training on the Evaporation Potential Formula and how it is revolutionizing drying, attend The World's Fastest Drying course exclusively held at the Reets Drying Academy in Atlanta, GA. Visit their website at www.reetsdryingacademy.com for dates and course details or call them at 770-712-7293.