



HPS: Heat Preservation Series



Product Prospectus

pro·spec·tus

n.

1. A formal summary of a proposed venture or project.
2. A document describing the chief features of something, such as a business relationship, an educational program, for prospective buyers, investors, or participants.

The Company



- Canadian-based sustainable solutions provider.
- Focused on providing the highest performing economical and functional technologies that reduce energy loss.
- We directly address fenestration as the weakest link in energy preservation.
- HPS HeatShield is our first offering, designed and manufactured with ground-breaking nanotechnology, to reduce cooling and heating loads on building systems.
- This is the simplest, greenest way of reducing energy loss out of your windows by 8 to 10% on the total energy bill of your facility.

Mission Statement

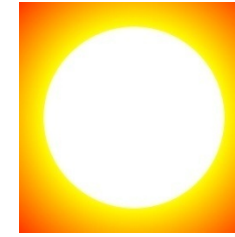
“eTime Energy is a CleanTech organization focused on providing companies with the right green technologies that make significant progress towards cutting down carbon emissions and conserving energy.”



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The Problem



Too much Solar Light Spectrum results in:

Infrared

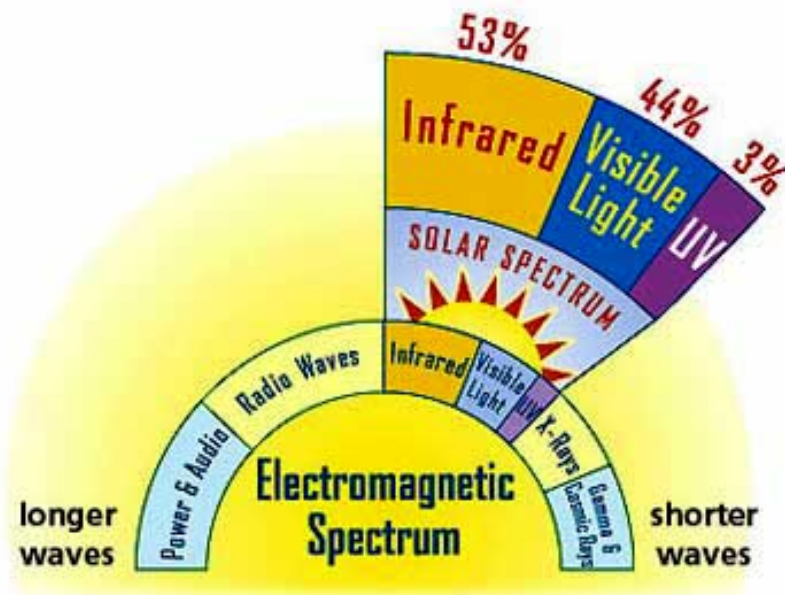
- Excessive heat results in increased energy consumption, uncomfortable spaces

Visible Light

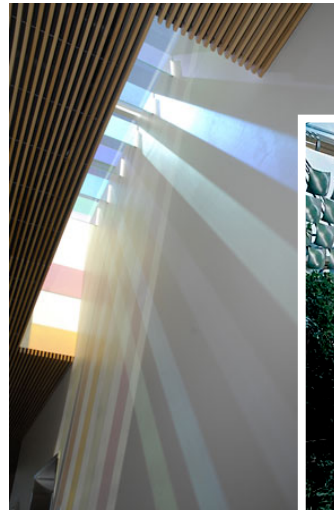
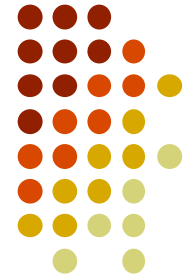
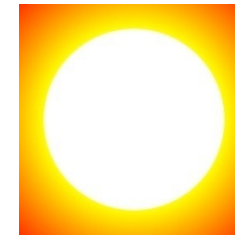
- Distracting glare, uncomfortable seating

Ultra Violet Light

- Damages room contents



The Problem... at work



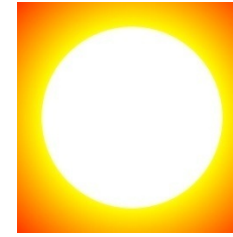
Hot, glaring and work debilitating sun



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The Problem... at rest



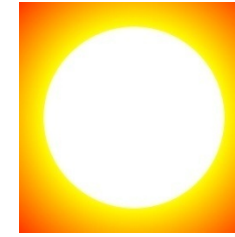
Penetrating, piercing and sweat inducing sun



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The Problem... at home



“And what
were these
people thinking?”



Uncomfortable, hot and annoying sun



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The Conventional Solution



Films, exterior and interior shutters, blinds, curtains, venetians, shades and an assortment of IGU's



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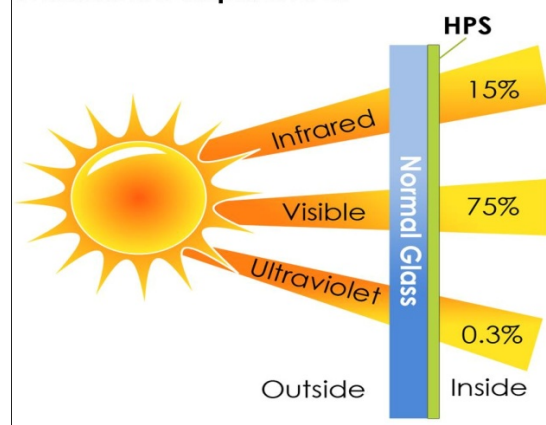




The eTime Solution

A Liquid Nano Coating

HeatShield Capabilities



Metrics 5mm clear glass, water based; 15 water/alcohol based Other results available on different panes with varying HPS mixtures	Specification
Solar Heat Gain Coefficient (SHGC)	0.40 0.50 0.60
UV Blockage	94% 90% 99%
IR Blockage	80% 70% 50%
Visual Light Transmittance (VLT) (TV)	65% 72% 76%

HPS HeatShield

- A clear liquid window treatment
- Interior retrofit installation
- For glass and polycarbonates
- Lowers temperatures up to 20°C
- Reduces heating and cooling costs 20-40%
- No need for additional lighting
- Saves landfills
- Spectrally selective: + 70% Tv
- Customizable tint
- Immediate benefit
- ROI as fast as 2 years
- 15 year warranty



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HPS HeatShield



Is a retrofit solution for aging and ineffective windows. It creates a thermal barrier that stops the migration of heat into or out of the building envelope. This reduces heating and cooling loads by up to 20-40%. In turn, this translates to a ~10% reduction in your total energy bill.



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The Competition

*3,000 SF/ Toronto	Liquid Nano Coating eTime: HeatShield	Low-E IGU Standard	Window Films Spectrally Selective
Per SF installed*	\$10	\$75	\$10
Visual Presence	Becomes a part of the window's molecular structure; unnoticeable	Applied during the manufacturing process in an oxidized environment.	Alien material to the window. Dark, distortion, easily damaged, tough to clean
Optical Distortion	No	No	Yes
Install Process	Window coating performed by licensed applicators	At the new construction stage or by removing existing window	Window film installation contractors or a user guide
SHGC	0.33 - 0.75 / customizable	0.41 - 0.74 / depending	0.35 - 0.75 / depending
Tv	0.58 - 0.80 / customizable	0.55 - 0.76 / depending	0.30 - 0.75 / depending
UV Blockage	99.70%	up to 99.5%	99.70%
Warranty	15 years	10 years +/-	5 years +/-
Removable	Yes	No	Yes
Thickness on window	8 - 15 microns	8 - 15 microns	1 - 8 mm
Issues		Fail; Landfill; disruptive install	Bubbles; shrinks; cracks; peels



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The Application

The installation process begins with the diligent preparation of each window pane in order to prepare the glass surface to accept the **HeatShield** Coating

Once prepped and cleaned, each pane is then coated using our customized free flow system, allowing for a 100% uniform, transparent finish on each completed window

After a 30 minute drying period, the process is complete and the window is now energy efficient, blocking 40 – 60% more infrared radiation than an average double pane insulated glazing unit



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Accredited Labs



Bodycote Labs

Toxin reports, VOC contents
Spectrum report



OnSpex Labs (CSA)

Durability
Longevity



GeoScience Labs

SHGC, Tv, UV blockage
Glass breakage



US Department of Energy

LBNL, NREL
ORNL



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Thanks for the following companies, organizations took green initiatives by using eTime Heatshield Nano Window coating to save energy, cut down carbon foot print:

- Jack Astor's
- Tim Hortons
- Hamilton Health Sciences
- CAM-H
- Chez Cora
- The Ontario Realty Corporation
- Cadillac Fairview
- City of Mississauga
- City of Pickering
- Portland Property
- Reunion Island
- Sultan's Tent Restaurant



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More companies



- Markham Stouffville Hospital
- City Of Brampton
- Menkes Properties
- Crown Property Management
- Infrastructure Ontario
- Metro Toronto Convention Centre
- Fainer Holdings INC.
- Via Rail
- Staples
- Broan Nu-tone
- Hilton Garden Inn' s
- Living Art Centre of Mississauga



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More companies



- George Brown College
- Fanshawe College
- Humber College
- Cushman & Wakefield
- Eaton Hotels
- Conseil Scolaire de District du Centre
- Hamilton Wentworth District School Board
- Villa Colombo
- University of Waterloo
- Gracious Living
- Novartis



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Cora on the Queensway, Toronto



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Cora on the Queensway, Toronto



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Check out our Youtube page for happy customer testimonials!
www.youtube.com/user/etimeenergycanada



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Cora on the Queensway, Toronto

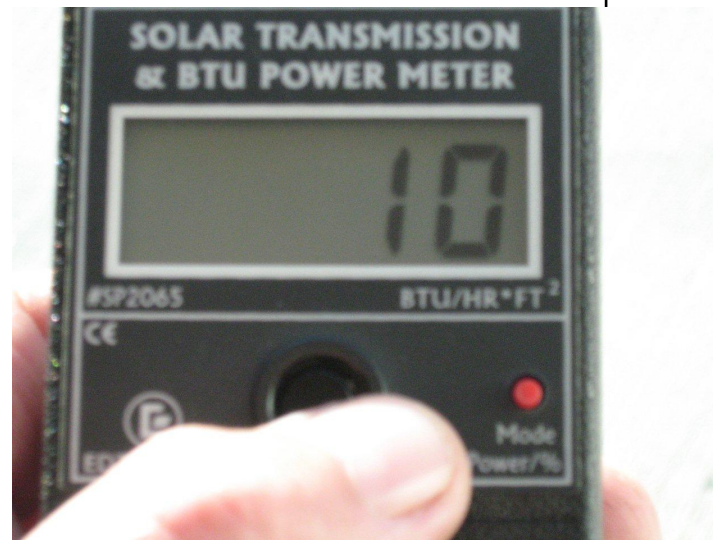




Cora on the Queensway, Toronto



Uncoated door



Coated with HPS HeatShield

The Impact of Solar Heat Gain
On Your Energy Dollar
(BTU/Hour per SQ. FT.)



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Race Trac Gas and Convenience



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Race Trac Gas and Convenience



RACE TRAC GAS

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EMAIL: GHUMANENT@ROGERS.COM

April 15, 2012

Hi Jim
eTime Energy Inc

I just wanted to write our thoughts on how eTime coating for our windows has affected us so far. When we first talked I had described the problems we had with our display counters having chocolate bars that were partially affected by the heat of the sun in our windows. Since coating, this has stopped the situation and we no longer are shielding our eyes from outside glare when looking to the pumps.

Typically the sun impacts the store winter and summer heating the inside so the thermostat was always being reset. To date there has been far less need for adjustments. We are hoping that as summer approaches that the air conditioning upgrade we considered for the store will not be necessary due to the impact of the coating stabilising the temperature.

We will continue our evaluation during Spring and Summer months to see if the upgrade to air will be necessary. So far the coating has done everything you had said it would.

Jim your service and support through both the initial contact, sales process and installation here was greatly appreciated. You and your company have provided both a beneficial product as well as service that we intend to recommend.



Thanks

Inderjit Ghuman
(General Manager)





Race Trac Gas and Convenience



Uncoated door



Coated with HPS HeatShield

The Impact of Solar Heat Gain
On Your Energy Dollar
(BTU/Hour per SQ. FT.)



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Jack Astor's Burlington, ONT.



Saving Energy Year Round

eTime Energy completed the installation of the HPS-G transparent window coating in May of 2009 on a Jack Astor's Restaurant in Toronto, Canada for SIR Corporation. The goal of this case study was to provide evidence that the installation of the HPS-G coating will directly cause a decrease in the usage of air-conditioning and heating throughout the summer and winter months. A careful comparison of hydro and natural gas usages over a 3-year span was used to determine the impact of the HPS-G coating. Degree-days were used to equate temperature differences from year to year.



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Jack Astor's Burlington, ONT.



MANN ENGINEERING
ENERGY MANAGEMENT SPECIALISTS

JACK ASTOR'S BAR AND GRILL

ENERGY CONSUMPTION ANALYSIS

3140 SOUTH SERVICE ROAD, BURLINGTON, ONTARIO

AUGUST 2012

Prepared by: John Wong

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1. Executive Summary

E-time Energy Inc. implemented a glass coating for 3140 South Service Road in Burlington. The coating was completed in May 2010 to the east end and west end windows. This energy consumption analysis is based on available consumption data for this building from Burlington Hydro and Union Gas.

The baseline year that was used in the comparison was from May 2009 to April 2010. The comparison between the baseline year and the evaluation period (May 2011 to April 2012) achieved savings on both electricity and gas. After weather adjustment, a total of 43,590 kWh of electricity has been saved or 5.7% of the original consumption. In addition, on average, 32kW in demand savings were realized after weather adjustment. A total of 8,613 m3 of gas has been saved or 8.4% of the original gas load consumption.



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Tobias Mielke:	Lead Researcher
Leo Salemi:	Professor and iCREST Director
Phil Blundell:	iCREST Engineering Technician
Alexis Rodziewicz:	Project Manager
Dawn Davidson:	Senior Project Manager, Research and Innovation
Robert Luke:	Assistant Vice President, Research and Innovation



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Our Partner

George Brown College



“If not for fact that I personally witnessed the heat shielding properties of the HPS coating first hand, I would have been skeptical in reading any claim stating that 20 – 40% heating and cooling energy savings could be achieved using this product. But our test data clearly shows that this is indeed the case as evidenced during the hot and humid days of late summer when the HPS treated glass surfaces reduced the inside temperature of the test box by an average of 12°C. This alone translates into a 35% reduction in the amount of cooling energy that would have otherwise been required if the glass was not coated.”

Leo Salemi, Professor, Centre for Construction and Engineering Technologies, George Brown College

<http://www.eTimeEnergy.com/Article-PRWeb-Behr-062911.pdf>



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Preliminary Report

A Study of Thermal Performance of eTime Energy
HPS HeatShield Transparent Glass Coating
(Conducted in summer 2011)

Prepared By
Ryan Pfeiffer, Student Researcher, George Brown College
Dr. Tulsi Regmi, Professor, George Brown College
Prof. Leo Salemi, George Brown College



February 15, 2012

Our Partner George Brown College



AUGUST 19TH, 2011:

- The continuous measurement of temperatures of the study boxes throughout the day indicated that the interior temperature of the HPS treated box was averaging at 33.43 °C, whereas the untreated box produced an average of 37.30 °C, with a net difference of 3.87 °C. The ambient temperature was measured at 26.28 °C.
- An ANOVA test, as presented below, indicates that the interior temperature attenuated by the HPS-coated box was significantly lower than the untreated box ($P < 0.05$).

Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
PLAIN CENTER INSIDE	8389	312922.1	37.30148	324.4487
COATED CENTER INSIDE	8389	280517.1	33.43868	206.5081

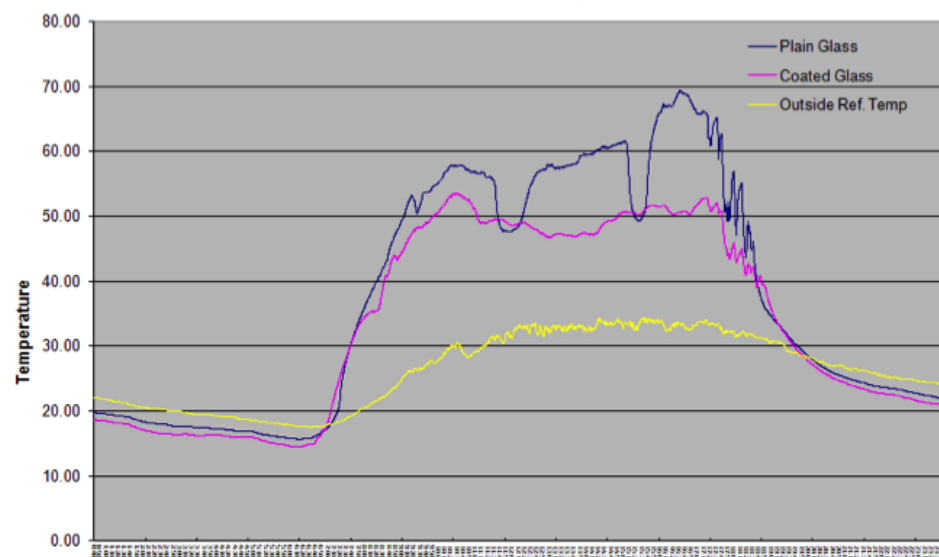
ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	62586.96	1	62586.96	235.7516	7.59E-53	3.842013
Within Groups	4453666	16776	265.4784			
Total	4516253	16777				

Ambient Temperature
Average

26.28

Coated Glass vs. Plain Glass: Aug. 19, 2011 24hrs



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DISCUSSION

Peak cooling temperatures in the summer are generally experienced between 8 am and 6 pm and as such would depict the highest energy consumption period of a typical summer day when occupants traditionally cool internal environments to a more comfortable temperature through mechanical means (air-conditioning).

The following chart summarizes the averages of the day-long ambient and inside temperature measurements and the temperature differentials during the peak cooling hours.

Day of Measurement	Ambient Temperature (Average)	Inside Temperature (Average)				Temperature Difference during Peak Hours (8-6pm)
		Treated	Untreated	Difference	% Difference	
14-Aug-11	23.51	26.15	28.22	2.07	7.34%	3.75
15-Aug-11	22.89	28.93	31.33	2.40	7.65%	5.03
16-Aug-11	24.64	30.17	32.86	2.69	8.17%	6.14
19-Aug-11	26.28	33.44	37.30	3.86	10.36%	7.75
24-Aug-11	21.80	24.74	26.02	1.28	4.92%	1.97
Avg. for Month	23.82	28.69	31.15	2.46	7.69%	4.93

Our tests indicate that the interior temperature attenuated through solar radiation influx in the treated box for the day-long test period averaged 28.69°C, compared to the average ambient temperature of 23.82°C, thus producing a net gain of 4.87°C. Whereas, the untreated box's interior temperature was measured at 28.69°C, with a net heat gain of 7.33°C. From these results it can be seen that the impact of the HPS-treated glass, when compared to the untreated enclosure, was a net reduction in interior temperature of 2.46°C for the day-long monitoring.

However, it was observed that the interior temperature differential between the treated and untreated boxes during the peak cooling hours in August 2011 ranged from 1.97 to 7.7 °C, with an average of 4.93°C. It is further observed that during the peak cooling hours the average reduction in the interior temperature by the treated box was 15.82%, where as it was 7.69% when accounted for the day-long operation. In some cases the HPS HeatShield coated box showed as high as 12 °C difference in temperature when compared to the non-coated box.

Using the generally-accepted industry rule of thumb of every 1 °C reduction in the interior temperature equating an approximate 3% decrease in energy requirements, it would be logical to suggest, based on these findings, that the HPS-coated windows would likely have tangible impact on energy savings for an average consumer.

Additionally, the findings showed a higher emissivity rating compared to plain glass and that HPS HeatShield would have a greater impact on energy savings when external radiant temperatures are at their highest. This would suggest that the HPS coating is best suited to hot climates; especially where sun light is abundant and high temperatures and radiant energy are present throughout the summer months, or better yet, year around.



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Summer 2012 Data Results



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Test Boxes on the Roof of George Brown's Casa Loma Campus



Uncoated

Coated



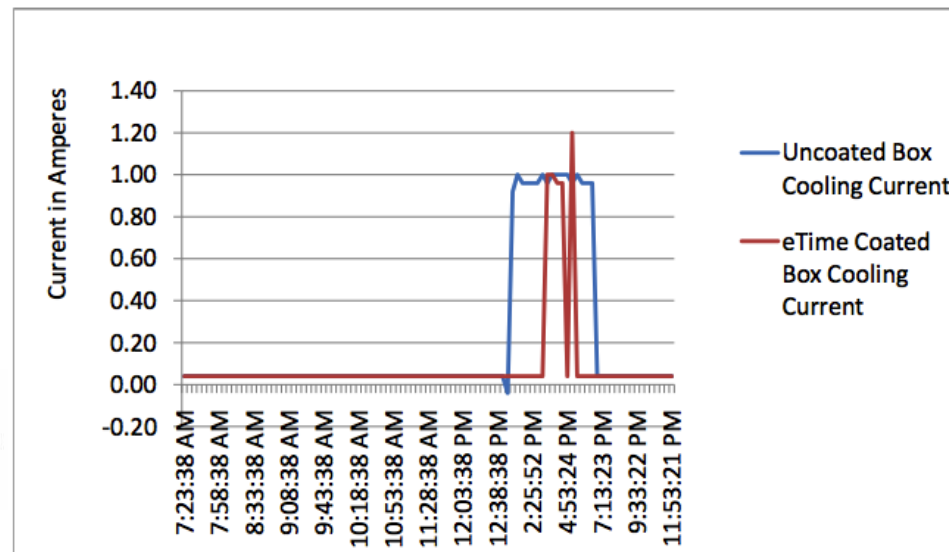
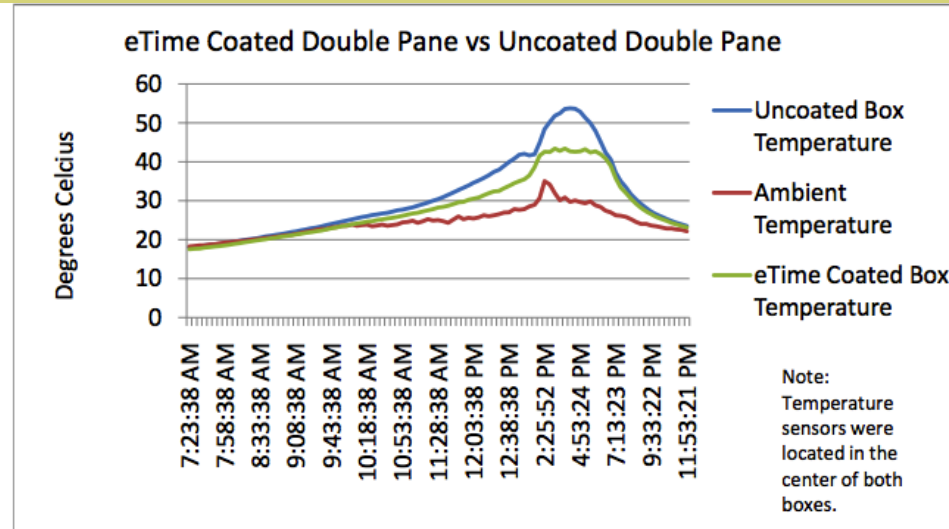
With cooling units



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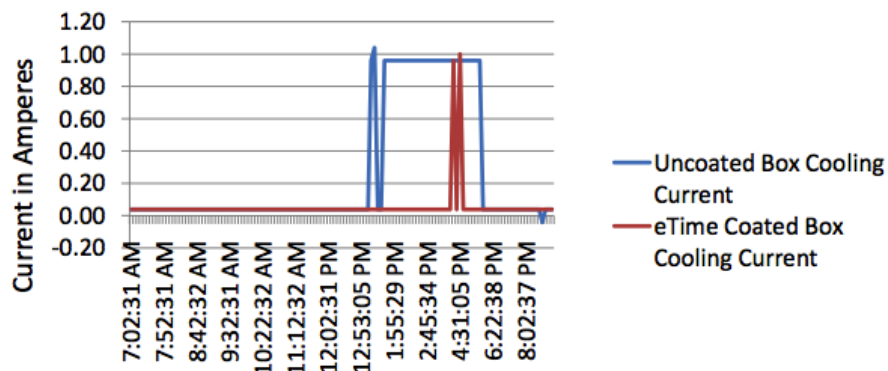
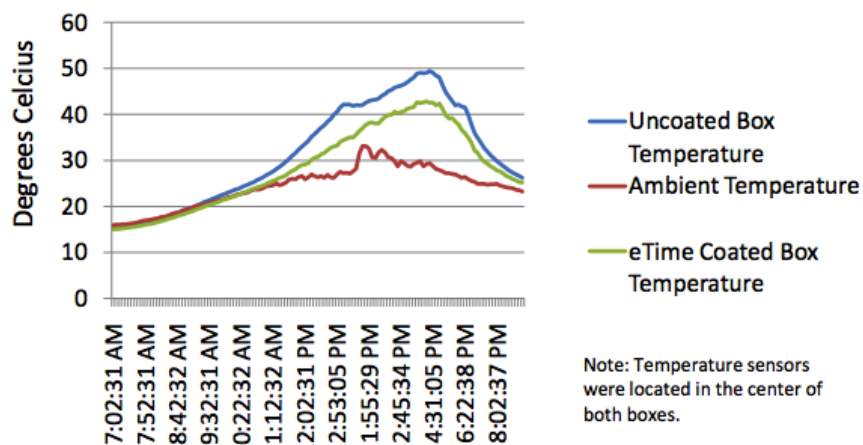
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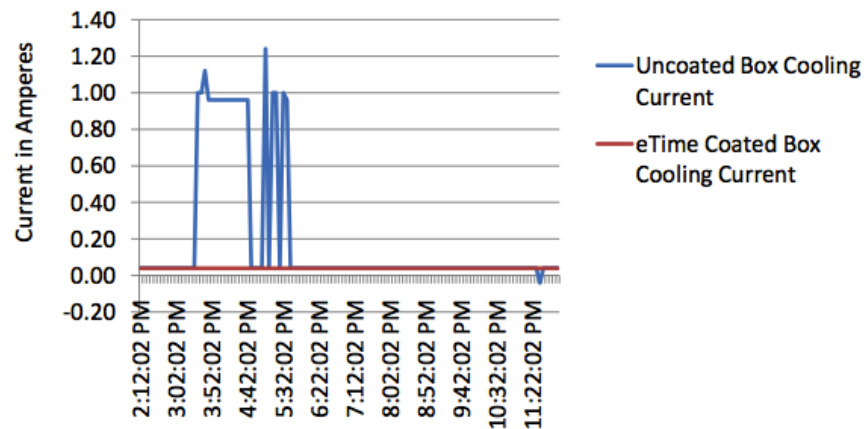
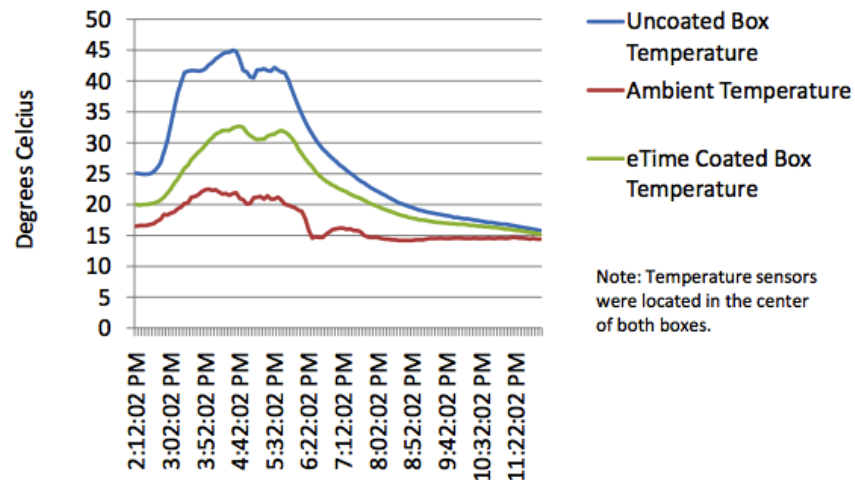
eTime Coated Low E Window vs Uncoated Low E Window



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eTime Coated Bronze Reflective vs Uncoated Bronze Reflective





The HPS Synopsis

Reasons to use HPS

- Retrofit application
- Blocks 40-60% more IR than other method available today
- Blocks 99.7 UV
- Spectrally selective allowing more light through than any other product available
- 15 Year warranty is the longest in industry
- 2-3 year ROI; and keeps on giving for the natural lifespan of the IGU
- No optical distortion
- Green CleanTech product
- Save landfills
- No glare; no sweat; no worries

How to make money with HPS

- Save 20-40% on heating and cooling costs year round
- Save ~10%+ on electrical bill
- Recapture building view value
- Sell space at more affordable rates
- Offer premium space for premium \$'s
- More productive staff
- Less lighting requirements
- Less load on HVAC systems
- Non disruptive install means no disruption of ongoing business



Thank you!



We appreciate your interest and the time taken to understand our groundbreaking HPS HeatShield.

Our entire Team looks forward to supporting you and your organization!

Sincerely,
eTime Energy Inc.

Peter

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