



**Prosyneffex™**  
Effective Protective Synergies

Get Your Sustainability Accelerated™ Today!  
We have helped companies around the globe for over a decade.  
Award Winning, Mold Resistant, Energy Saving & Protective Coatings

# ENERGY EFFICIENCY IS EVERYTHING IN THIS BUSINESS



- Thermal Insulation
- Thin Film Coating
- UV Resistance
- Clear, Matte Finish
- Mold Resistance
- Moisture Resistance

[www.syneffex.com](http://www.syneffex.com)



Prosyneffex™ coating was used to insulate airlink bridges at the Bangkok International Airport



Energy Saving Insulation



Mold/Mildew Resistance



UV Resistance

## New Solutions | For Sustainable Buildings

Have you been looking for ways to increase building energy efficiency without major construction or taking up valuable space? Need to insulate and protect but not change the appearance of the building?

Prosyneffex™ is 21st century technology that makes it possible to insulate and protect surfaces with a clear, thin film coating. From insulating skylights, roofs, and walls to remediating lead, our award-winning coatings provide THE best solution. They're clear, powerful, and applied as easily as a paint.

### The Solution is Simple

A benefit of these translucent coatings is the **increase to the energy efficiency of a building** without reducing square footage or changing the look of the surface. Additional benefits are mold and moisture resistance, thus **improving overall air quality**.

Because Prosyneffex™ coatings do not rely on thickness as a function of the insulating ability, compression does not reduce the effectiveness. They also **provide a health benefit** by not harboring moisture, dust, mold, or dirt, which reduce the effectiveness of older forms of insulation and decrease air quality. Our coatings also **help keep building substrates dry**, increasing a wall's heat resistance and protecting surfaces from moisture damage.

Dries clear with a matte finish



Lead Encapsulant



Low VOC



Moisture Repellent

## Bold Plans | Bold Results

Insulating & protecting buildings with Prosyneffex™ technology provides multiple benefits.

- ✓ Increases energy efficiency
- ✓ Clear, matte finish
- ✓ Resistant to mold/mildew growth
- ✓ Moisture repellent, yet breathable
- ✓ Can assist in earning LEED points
- ✓ Excellent adhesion to a variety of surfaces (wood, brick, drywall, concrete & more)
- ✓ Lead encapsulation that is clear with a smooth finish
- ✓ UV resistance
- ✓ Water-based, low VOC, non-toxic,

## Sustainable Projects

Just a few of the organizations who have chosen award-winning Prosyneffex™ coatings for their projects include: U.S. Navy, Suvarnabhumi International Airport (Bangkok), Frost Art Museum, Brunei Residential Palace, City of Rochester NY, Hyundai, American Red Cross, Mexico's Social Security & Health Administration, Naval Aviation Museum, University of Wisconsin-Madison.



## Powerful Products | Simple to Apply

### **Roofs: CrystalShield™ roof coating**

Standard application is 2 coats (5 mils/127 microns each), or 3 coats for metal roof

### **Walls/Ceilings/Skylights/Ducts: Energy Protect™ coating**

Standard application is 3 coats (4 mils/100 microns each)

### **Lead Abatement: LeadX™ lead encapsulation coating**

Standard application is 2 coats (4 mils/100 microns each)

All products can be applied with a standard paint sprayer, brush, or roller.

## Fast Payback

No matter where in the world you are, insulating is paramount to reducing building energy consumption and related GHG emissions. Our customers consistently report **saving 20% to 40% on energy costs** and **payback in an average of 3 to 5 years**. When you compare that to other energy efficiency technologies for buildings, it's quite impressive and gives you one of the fastest paybacks you can find!



## Independent Testing | Thermal Insulation

Prosyneffex™ coatings have undergone extensive independent 3rd party testing to multiple U.S. and International testing protocols. **The results have consistently been excellent.** And results from different laboratories across the world from each other, consistently show similar results.

Testing by PhD Student

### ISO 8990:1999: Thermal Performance of Buildings

3 coat coverage over 8cm cement wall with plaster  
Heat conduction reduced by 34.80%  
Thermal resistance increased by 28.98%

### ASTM E1530: Resistance to Thermal Transmission

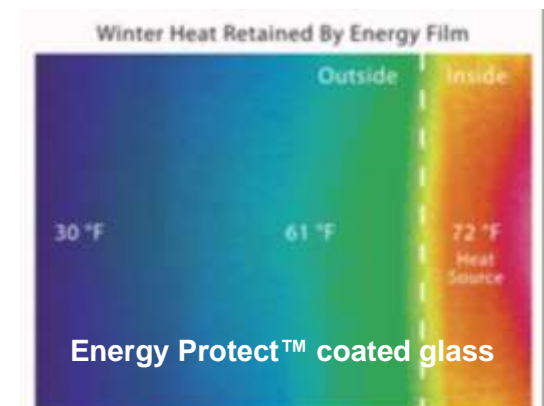
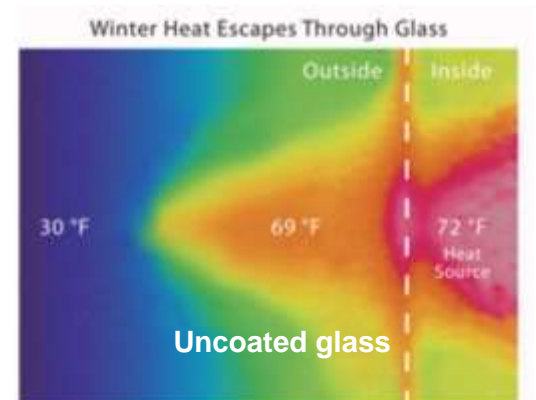
2 coat coverage over concrete tiles  
Heat conduction reduced by 29.7%

### ASTM C518/ISO 8301 - Thermal Conductivity

4 coat and 8 coat at 32F/0C temperature over glass  
(yes, that's at freezing!)  
Decrease in thermal conductivity of  
10% at 4-coats and 33% at 8-coats

### UKAS Guarded Hot Plate Thermal Insulation Test

6 coat coverage over plasterboard  
Thermal resistance increased by 40.0%





## Independent **Testing** | Mold, Light Transmission, **UV & More**

Prosyneffex™ coatings are hydrophobic, meaning they repel water, so there is not enough moisture on or in the coating film for mold and mildew to grow. The mold resistance comes naturally, without the use of any dangerous biocides.

### **ASTM D590 & ASTM G21: Mold, Algae Resistance**

2 coat coverage over wooden test panels

Passed with zero to minimal growth

PHOTOS FROM  
ASTM D5590 TESTING FOR  
RESISTANCE TO  
MOLD GROWTH



Uncoated panel: Covered with mold growth.



Syneffex™ coated panel: Zero mold growth.

### **Skylight Light Transmission | Spectrophotometer Testing**

3 coat coverage over glass

UV penetration reduced by 80%

Visible light transmission of 90-92%

### **Water Vapor Transmission with RK303 Multicoater**

One coat                      35.830 WVTR (gm/m<sup>2</sup>/day)

Two coats                      25.515 WVTR (gm/m<sup>2</sup>/day)

Results show that the Prosyneffex™ thermal insulation coatings for buildings formed a barrier that allows the transmission of water vapor.

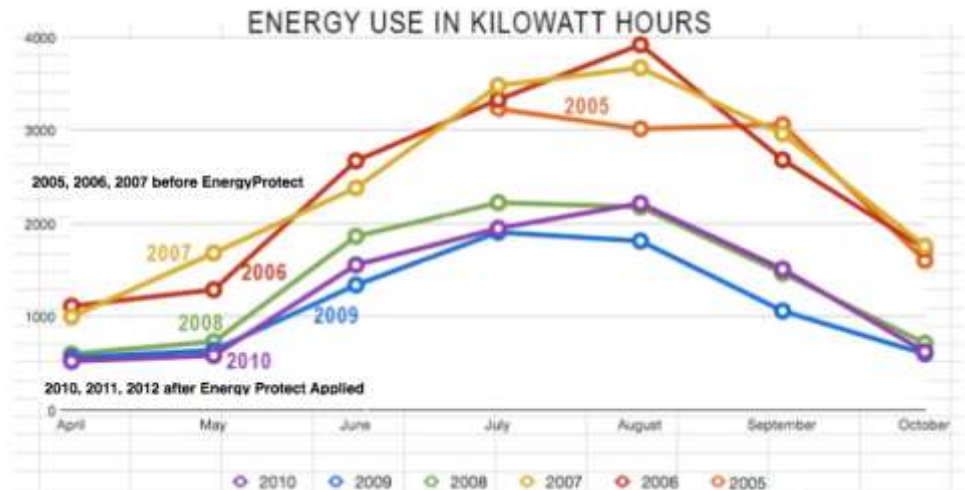


Skylight insulation is popular application for Energy Protect™ coating.

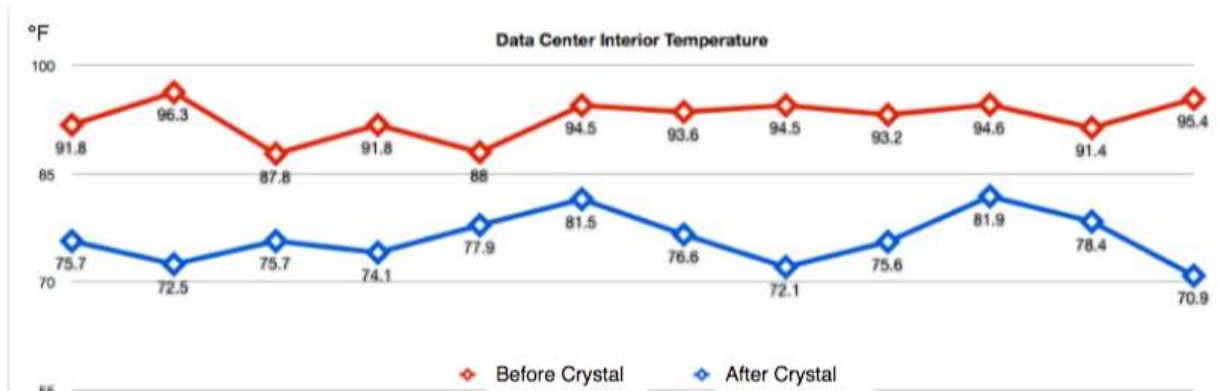
## Field Studies | Energy & Temperature

Customers that insulate with Prosyneffex™ coatings consistently report saving between 20% and 40% on building/home heating and cooling costs.

Chart shows a customer's reduction of energy use in KWH after using Prosyneffex™ Energy Protect™ on the building envelope. The average reduction was 46%.



Government data center internal temperature reduced by 27% after coating roof with CrystalShield™ coating.



## CERTIFICATIONS

ASTM D5590 (Mold/Algae Resistance)  
ASTM G21 (Fungi Resistance)  
Resistance to Geocapsa spp.(Black Mold Resistance)  
ASTM E1530 (Thermal Conductivity)

Emissivity  
Permeability  
U/V Cabinet Testing

ASTM D-3359 (Adhesion)  
ASTM D-4541(Pull-Off Strength)

## SPECIFICATIONS

Package Size  
Coverage  
Typical applied coat thickness  
Typical touch dry time for 1 coat  
Typical hard dry time  
Shelf life  
Color

Zero or minimal mold growth  
Zero or minimal mold growth  
No growth during 4-month accelerated testing  
30% decrease in thermal conductivity  
45% increase in thermal resistance  
0.91  
5 perms/inch @ 23 deg C.  
Passed 10 year equivalent, with no discoloration or loss of adhesion  
0% 5B, edges remain smooth, no flaking  
2400-2450 psi

5-gallon  
150 S.F (14m2) per gallon at 3 coats  
4 wet mils (100 microns) per coat  
20 minutes to 1 hour  
48-72 hours  
2 years, from date of manufacture  
Clear with matte finish  
(Note: Over glass coating has a frosted look)



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\*Testing by Anter Laboratories, Inc., a ISO 9001:9002 certified laboratory, according to specification ASTM E1530 for measurement of thermal conductivity.

\*\*Testing by AIHA accredited laboratory, EMSL Analytical, Inc. according to specifications ASTM D5590 "Standard Test Method for Determining the Resistance of Paint Films and Related Coatings to Fungal Defacement by Accelerated Four-Week Agar Plate Assay" and ASTM G21 "Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi." Testing by FLDOH laboratory BCS Laboratories, Inc. according to four month accelerated study period for "Resistance to Geocapsa spp. on concrete tiles.

# Prosyneffex™ | Be A Sustainable Leader

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Prosyneffex™ develops and commercializes innovative applications for sustainability via the science of nanotechnology. Our patented product line is engineered to provide multiple benefits in a single product.

**We're Making a Difference. Daily.**



## Sustainable Awards

BUILDINGS Magazine  
Top 2012 Money Saving Product

BUILDERNews Magazine  
Best Product of 2008

QUALIFIED REMODELER Magazine  
A Top 100 Product of 2008

BUILDING PRODUCTS Magazine  
Top 100 Award for 2008

JOURNAL OF ARCHITECTURAL  
COATINGS Magazine  
Top Green Project Pick in 2009  
Suvarnabhumi International Airport