

Insuladd® Testing Protocols

Geosciences Ltd. <http://www.geoscience ltd.com/accred.html> is a highly accredited 48 year old research and development laboratory that performs thermal physics testing of materials and insulation systems. Geosciences' Thermal Property Testing Laboratory has received accreditation, certification, approval or acceptance from the following agencies:

1. California Energy Commission (CEC) and the Bureau of Home Furnishings.
2. International Code Council (ICC).
3. Dade County Building Code Compliance and Protocol P A301-94
4. MIL-C-45662A through Loral Aeronutronic (Aeronutronic Ford Corporation).
5. Special Process Supplier's Certification through Aerojet Liquid Rocket Company.
6. Pacific Gas & Electric Company approves Geoscience as a qualified insulation testing laboratory.
7. Puget Sound Power approves Geoscience as a qualified testing laboratory.
8. San Diego Gas & Electric Company approves Geoscience as a qualified testing laboratory.
9. Oregon Department of Energy approves Geoscience as a qualified insulation testing laboratory.
10. Canadian General Standards Board has reviewed Geosciences' testing laboratory and finds it to be qualified to perform tests for Canadian insulation manufacturers.
11. Cytec Fiberite has certified Geoscience as a high quality control laboratory service organization.
12. Governmental Acceptance of Geosciences' Thermal Testing and Evaluation Capabilities

For over 40 years, Geoscience has performed contract research for governmental agencies such as AEC, ERDA, DOE, NASA, ONR, USAF, and the USN's Civil Engineering Laboratory at Port Hueneme in connection with thermal property measurement activities (thermal conductivity, thermal expansion coefficient, specific heat, emissivity, viscosity, etc.). The contract monitors of these agencies visit Geoscience to review measurement techniques. In all cases, over this long time period, the government has accepted and utilized Geosciences' data in energy and conservation programs

Geoscience is also involved in a number of cooperative thermal property activities with institutional organizations and technical societies i.e., the Canadian National Research Council, ASTM C-16 Committee and ASHRAE (The American Society of Heating, Refrigerating and Air-Conditioning Engineers advances technology to serve humanity and promote a sustainable world)

Geoscience Ltd has run over 10 different ASTM or ASTM based tests for Insuladd® Thermal Barrier insulating additive for paint.

The testing results clearly prove that Insuladd® Thermal Barrier insulating paint additive reduces heat flux through ordinary paint and assemblies by up to 38%.

The Geoscience Ltd. test results show that Insuladd® Thermal Barrier insulating additive for paint is one simple step you can take toward energy conservation that will work for you winter and summer, year after year!

Our Geoscience Test Portfolio:

- 1) ASTM E- 408 Infrared Emissivity Test & ASTM E -1918 Solar Reflectivity Test. How Exterior Paints and Interior Paints Can Play Roles in Conserving Energy
Test report shows interior 11.8% and exterior 37% heat reduction when using Insuladd®

2) A Comprehensive "R" value test with concluding data for 18 common wall assemblies and the improvement of R-Value that occurs when Using Insuladd® Solar Reflective Paint on Irradiated Building Walls.

Test report shows that Insuladd when added to paint more than doubles the "Whole Wall Effect R-Value" in the majority of cases.

3) Thermal Room Model Test That Defines Energy Savings via Low IR Emissivity Paints. A Study of the Energy Savings when Using Insuladd® Solar Reflective Paint on the Inside of Building Walls.

Test Report shows expected results resulting in rooms staying in the "human comfort zone" longer.

4) Thermal Wall or Roof Model test of 6 types of building envelopes that can be Used to Estimate Energy Savings when Painting Exterior Surfaces of Roofs and Walls with Solar Reflective Paints.

Test report illustrates a 13% value or advantage resulting from using Insuladd solar reflective paint on the outside of building envelopes. Specifically, the energy savings are significant.

5) Test Method for Equilibrium Fuel Tank Temperature as a result of the Solar Heating and Nocturnal Cooling Cycle.

Test Reports show a significant effect and savings

6) Tank Evaporation Test – Evaporation losses from Solar Irradiated Fuel Tanks coated with ordinary paints and the same paints with Insuladd added.

Test reports show a 20% lower evaporation losses for tanks coated with Insuladd.

7) Testing Method for Calculation of Equivalent R Value. A Study of the Energy Savings that can occur when Using Insuladd Solar Reflective Paint on Irradiated Building Walls.

The Test Report shows that the Insuladd/Primer coated panel consistently produced results showing a reduced heat flux through the R-3 panel of 33%, doubling the "R" value of the test substrates.

Geoscience Test Portfolio 3rd Party Conclusions:

The testing protocol was reviewed by Independent 3rd party engineers and energy consultants. It is their overwhelming combined opinion that the testing protocol were run to ASTM Standards and / or the mathematical computations used in the tests are consistent to thermal physics testing of materials and insulation systems standards. Their overwhelming opinion is that the addition of Insuladd® Thermal Barrier insulating additive for paint into paints and roof coatings can improve the effective insulation value and energy efficiency of exterior surfaces such as walls and roofs by a value equal or close to R-6 insulation. Interior walls and ceilings painted with Insuladd® Thermal Barrier insulating additive for paint have shown to contribute to energy savings of 20% and more.

It was further noted that conventional insulation materials like fiberglass, cellulose, rock wool and Styrofoam, no matter how thick, have almost no ability to block radiant heat energy which can account for as much as 93 percent of summer heat gain and up to 75 percent winter heat loss in conventional structures.

Insuladd® Thermal Barrier insulating additive for paint blocks radiant heat and is a simple and affordable solution to high energy costs.

OTHER 3rd PARTY TESTING & Endorsements

1) Test of the expected energy savings when using Insuladd on Interior Walls.

Test Conducted by: China National Center for Quality Supervision and Test of Building Engineering, Chinese Academy of Building Research (CABR) - Founded in 1953, China Academy of Building Research (CABR) is the largest and most diverse research institution in the building industry in China. CABR has 14 research institutes (centers) and 77 laboratories, covering 70 research fields of building structure, foundation, earthquake engineering, built environment and energy efficiency, residential building system and product, intelligent building, building engineering software, construction mechanization, building fire prevention, construction technology, building materials and so on. In recent years, CABR has put more efforts on the research and development of green building technologies.

Results: Under the same exterior temperature (0°C (32°F)) and the same room temperature controlled at 20°C (68°F), the use of INSULADD-added paint resulted in an energy saving rate of 12% and higher.

<http://www.insuladd.com/china.html>

2) Test of the expected energy savings when using Insuladd on Exterior Walls.

Test Conducted by: Center for Energy-saving Research School of Architecture Huanan University of Science and Technology: A world leading institution for Architectural and Energy

Results: The test resulted in a significant energy-saving of 24.8% from the former where INSULADD-added paint was applied.

<http://www.insuladd.com/ChinaSummer.html>

3) Thermal Imaging Testing on Interiors showing energy savings when using Insuladd

Test Conducted by: VIE Inc. Mark and Dr. Donald Hei.

Mark Hei:

✓Systems-Analyst & Physics-Engineer, 19 years (Engineering Physics, B.S.)

✓18+ years as a NASA Contractor (1990-2008)

✓12 years with VIE, Inc/FuelEnergySavers.com (1997-Present)

Experience includes but not limited to the following items:

✓Wide variety of skills – those specific to the energy-efficiency fields include electrical, mechanical & computer

engineering, systems integration, applied physics methods, control systems & computer-controlled automation,

thermodynamics, equipment fabrication & calibration, etc.

✓An Infrapsection Level I & II Certified thermographer, meeting training requirements of NDT personnel in the

Thermal/Infrared Method ASNT document, SNT-TC-1A

Dr. Donald J. Hei:

✓Physicist, 40 years in Engineering Physics – (achieved Ph.D in Space Laboratory Plasma Physics)

✓28 years at NASA / Sr. Technical Expert to Technical GS-15 (1969-1997)

✓12 years with VIE, Inc/FuelEnergySavers.com (1997-Present)

Experience includes but not limited to the following items:

✓Participated in Space Exploration Initiative (SEI) Study to consider returning to the Moon and establishing a presence on Mars

✓Sr. technical expert and/or project manager for a wide variety of projects at all levels within NASA

Results: To date ALL our findings show that applying Insuladd ® paint additive mixed in latex paint to the interior of buildings result in more energy-efficient heating than with a painted surface alone.

http://www.insuladd.com/pdfs/VIE_Inc_InsuladdReport.pdf

NASA ENDORSEMENT AND DEVELOPMENT

Insulating Paint Powder Turns Every Color 'Green': No one states it clearer than NASA,

"The answer is paint that includes an insulating powder that originated at NASA. Widely used on commercial and residential structures, it transforms any color of paint into an environmentally friendly insulation barrier that saves energy and cost." and

"Bringing the NASA insulation powder to the public market resulted in an innovative partnership with Tech Traders, Inc. Months of testing and development created Insuladd®, a safe, non-toxic powder that can be added to any interior or exterior paint to transform it into a layer of insulation."

Please see this article published on NASA website http://www.nasa.gov/topics/nasalife/green_paint.html.

Testimonials

Notes From Our Customers

My name is Eli Alaluf from ADAMCO LTD Israel JERUSALEM

I have a company construction In Israel

And we Renovation houses. And buildings

I want to give you information about my company.

The founded company the year 1983.

Main point of our work is a renovation of houses and offices.

Likewise during work also we executed work of insulation.

We builder of transportable building.

They are built panel of metal

I read about yours company. And all of your insulating paints products

Friends sent to me 15 gallons of the product. And I paint a small container that serves as office.

I examined the temperature is outdoor and inside in steady times in advance.

And I found a change in the temperature of outdoor and inside

The test became from 6.00 am to 6.00 pm.. I have graph that describes the test

.And inside there was the temperature is low 20%. This difference truly causes to savings in electricity.

I paint first time with primer. and then I mix the powder with latex paint .and I paint two times.

I used to testing of temperature with digital thermometer 2 channels.

I am much excited from yours products

I am sure that will be a great success to yours products in our country.

We don't have in Israel any kind of insulating paints Insulating Paint

I think there is big potentials for success your product in our country

There are many old houses and new houses that they are not insulated properly
There are many factories are and mall are built from panel of metal
And here the place to insert your products
I want to demonstrate the products to the architects.contractors.and of course exhibitions
of construction
I hope that we will be able to work together.
I have program of work. And I want to open Website
Look forward to hearing from you
. Kind regards
I apologize that the my English is not so good
Eli alaluf-
ADAMCO LTD. PH 972-2-5857565/ 972-547-650300.

First Name: Linda
Last Name: Arnold
State: NY
Zip: 12192

Comments: Just wanted to let you know that your products are what you say they are. My husband and I purchased a used mobile home to live in while we build. We used the radiant barrier on the front of the trailer that is in the summer sun. We purchased the insulating additive for painting all the interior walls. We have had 2 snowstorms in the past week, getting over 16" of snow. The snow melted and formed icicles at the edge of the roof where the inside ceiling and walls have not yet been painted with paint containing the insulating additive. Where the additive was used there are no icicles. Not very easy to do, but I am impressed and cannot wait to finish painting.

We are the HomeWood CF-Als, a FIRST LEGO League (FLL) Robotics team from Richmond, Virginia. FIRST celebrates learning about Science and Technology and during an eight week season teams build and program an autonomous robot to accomplish certain missions in two and a half minutes. The 2007 FLL theme was "Power Puzzle" and teams also studied energy choices and their impact on the environment today, tomorrow, and for future generations.

Our team conducted an energy audit on a Homewood Suites hotel. We studied current energy uses at the hotel and then developed both short term consumption changes and innovative long term renewable energy recommendations. If our short term recommendations are adopted, this Homewood Suites will become a member of the "Virginia Green Lodging" program and will be a model for many other area hotels.

The first short term suggestion we made was for the hotel to change the remainder of the rooms to compact fluorescent light bulbs saving the hotel \$6275.50 over the life of the bulbs and preventing 122.5 tons of CO2 emissions. Optional linen service would cost minimal to implement and yet have a huge impact. The hotel could save 30% on linen replacement costs (currently \$4000.00/month), energy use, water use, and detergent costs. Insuladd paint additive would be an innovative way for the hotel to save 20% on their heating and air conditioning costs. When they paint we recommend they use Insuladd, an insulating paint additive. Programmable thermostats are another way that the hotel could save energy on heating and air, and thus save money. The hotel is 10 years old so we recommend the appliances be replaced with Energy Star models. Since this is an all suites hotel each room has a complete kitchen so Energy Star appliances could save a huge amount of energy and water. Another suggestion that would cost very little is to put a sign on the back of each guest room door reminding people to turn off the lights before leaving. It is estimated that 63% of guests keep the lights on when they leave the room. Another low cost idea is to place a recycling bin in each room, the meeting rooms, and the kitchen.

Our first innovative long term solution is Solar Paint. Still in the developmental stages, this will use infrared rays in addition to visible light, so the efficiency will be increased from 6% to over 30%. It will be inexpensive and can be used on all surfaces such as buildings, houses, roads, and parking lots. Our second suggestion is to replace our existing landfill with a "Trash to Treasure" plant. Our landfill is scheduled to close in 2 ½-3 years, and a "Trash to Treasure" plant would be a great way to handle trash and generate clean energy at the same time. This would turn trash that we don't need into clean energy that we can use.

What began as Robotics research turned into a team passionate about making a difference in energy conservation in their community. We learned that although the United States accounts for about 5% of the world population they use 25% of the world's energy. The average American generates 20 tons of CO2 emissions a year and 4.5 pounds of trash a day. Locally, we learned that our landfill will be full and need to close in 2 ½ to 3 years! This information meant that it was time for us to take action and develop a plan to make a difference. We decided to not only share our findings with the hotel, but also to more broadly educate our community. We would teach simple ways to make an immediate, positive impact on the environment through energy conservation. This goal turned into the "Enlighten Richmond Energy Expo" where our theme was "One person can make a difference".

Our goal at the Expo was for people of all ages to learn about simple changes that could make a real difference in saving energy, saving money, and saving the earth. We spent time planning ways to make this event exciting and fun as well as educational. We had a "spin the wheel" game that got people involved by answering questions on energy and water conservation and winning "energy" prizes (donated by generous companies). We had demonstrations so people could see what they were being taught. By going to different tables people learned ways to conserve energy, water, recycle, and even the importance of planting trees. This was truly a hands on event with demonstrations, prizes, games and handouts. We even had the Energy Hog getting people excited about ways to conserve energy. We also asked people to sign a pledge to replace an incandescent light bulb with a compact fluorescent light bulb. We ended up with over 600 pledges, educated over 250 people, and had a great time making a difference.

What started out as preparation for a Robotics competition turned into something larger, a team driven to make a difference in energy choices being made by their community. We wanted to get our message out there that "One person can make a difference." One person can make a difference by doing something as simple as changing a light bulb, turning off the water while brushing their teeth, or recycling a plastic water bottle. Together we can make a difference, one small step at a time!!

We would like to thank Insuladd for their support of our efforts to educate our community on energy conservation. We loved using the Insuladd demo and talking to people about this amazing product!! This is another simple way that people can make a positive impact in the energy use of their own home.

To: info@insuladd.com

Sent: Sunday, September 24, 2006 5:42 PM

Subject: Your Insuladd Order

First Name: Lori

Last Name: K.

State: NM

Comments: I Love the product. I am renovating an uninsulated house. We painted the cieling & doors with 2 coats of primer (insuladd added). The reduction in spring cold & summer heat was noticable. Since then we have blown cellulose into the walls. But I still plan on painting the attic structures with Insuladd.

From: mail1@joannegardiner.com

To: webmaster@insuladd.com

Sent: Tuesday, September 12, 2006 1:17 AM

I had the entire exterior of my two-story house in the San Francisco Bay Area painted with two

coats of Insuladd-added-paint. The following month I noticed a significant reduction in my PG&E bill. I am delighted with Insuladd and will be using it the next time we have my rental units painted. I am also encouraging my senior citizen clients to use Insuladd for the obvious savings it provides. You folks have a wonderful product!

Joanne L. Gardiner

From: rachel krug (mothrbear@aol.com)
99 Monasterio Court
San Ramon, CA, 94583

Hi, I originally contacted you a number of months ago to ascertain if Insuladd would be appropriate for helping me with my problem "florida room" which was totally unusable due to extreme summer heat build up. The response from you assured me that my problem was the type of problem for which Insuladd would be perfect!! I am now mid-way through the first very hot summer after I applied Insuladd. Now the room is wonderfully usable and frankly is a good advertisement for your product it having done even more than I expected. Thanks for your web site which initially led me to your product. I am a very very satisfied customer.

Rachel Krug

Subject: insuladd distributorship - attn - david
Date: Tue, 3 Apr 2001 11:52:50 -0700 (PDT)
From: RON GARVIN <ronpalm@yahoo.com>
To: info@insuladd.com

After I obtained the distributorship agreement with you, I tested the material in my shop. I am a cautious person when it comes to representing material or services to a customer.

I sprayed a metal panel with gloss white enamel, and another panel with semi-gloss off-white latex. Having been a paint distributor of automotive & industrial finishes, I was aware the test I was doing was definitely not in favor of your product.

I placed panels under an infrared lamp with a refrigeration thermometer under each panel. After a period of time I read the thermometers. The gloss white panel was 105 degrees F. The semi-gloss latex (now flat after adding insulad) was only 90 degrees F.

I did not expect such a large differential, so I switched the panels above the thermometers and repeated the test. The 2nd test only showed approximately 1 degree difference from the first test.

As a result of testing your product myself, I can approach my customers with great confidence. I am sure that our customers are going to very much appreciate the results of using this material - a great money saver in these energy costly times.

If a customer would care to call me about this material, I will happily respond,

The Tool & Equipment Company

1415 E. Palm Altadena, Ca., 91001 626 798 7224 Ron Garvin, owner

Subject: Insuladd®
Date: Fri, 14 Apr 2000 10:32:22 -0600
From: "Venger" venger@vengerpainting.com
To: info@insuladd.com

Sir / Madam

Our company has ordered and tested your Insuladd with our electrostatic equipment with great results. We are located in Edmonton, Alberta, Canada. We service the better part of Western Canada and would like to inquire about an exclusive distributorship for our area. Could you please send me information regarding this subject or feel free to return my e-mail at your convenience. I look forward to your comments.

Thanks!

Jack Fife - jfife@vengerpainting.com

Email testimonial from a customer 7/21/00
Name Jenne Helm
Address Compulsive Cravings
116 Hawthorn, Colonial Beach VA 22443

I love your product! I am so glad I found that I could purchase just this product rather than a premixed product. I had been doing that in the past and I prefer to mix it in my own paint.

Date: Thu, 4 May 2000 05:39:42 -0400 (Eastern Daylight Time)
From: frances.p.glascoe@vanderbilt.edu
To: info@insuladd.com

Dear Tech Traders ,

My house was too hot! I have southern exposure across the back and a low pitched roof. Even when the temperature is below freezing, if the sun is out, my living room could easily get up to 80 degrees, and 90 or more during the summer. Because I needed to repaint the room and ceiling , I put Insuladd in the paint. I figured at the very least, it didn't cost much and might help although frankly I was not optimistic. So it was a nice surprise to find the room was approximately 8 to 10 degrees cooler and the difference in the rooms comfort level was amazing! Anyway, thank you, thank you, thank you! I will write back when I get around to painting our basement which is way too cold and tell you how that works too !

Thanks again,
Dr. Frances Glascoe
Adjunct Professor of Pediatrics
Nashville, TN.

2/10/00

Dear Tech Traders.

Just a note to say thank you for a great product! We used insuladd on the interior walls and ceilings of our new home. I have a steel framed home and wanted to make sure there was no ghosting on the walls from hear/cold transfer and that there was minimal loss of heat. When we got our first gas bill for winter weather I was surprised. It was twice what my neighbors were. I knew my heat wasn't coming on very much and I shouldn't use that much gas. I called the heat/sir contractor immediately. They didn't think that my bill was excessive for the size house I have. (It is 3, 850 Sq. Ft. in size) but with all I had done to be energy efficient I felt that my gas bill was very high!. I also called the insulation people to see if we needed more insulation in the attic. The insulation contractor had me do a few tests, while we were waiting on the Heating and Airconditioning contractor, to see if we had a lot of heat loss through the ceiling. We had 9" of snow the day before and it wa 26 degrees outside so it was a good time to do this type of testing! I had a temperature difference of 8 degrees from the top of the insulation and the attic air temperature, which means I had very little heat loss through the ceiling. Next I checked the temperature difference inside the house between the sitting area and the ceiling. The average was 2 degrees. With ten foot high ceilings there is usually a 10 deg. temperature difference between the floor and ceiling! . The Insulation contractor was stunned !. I then proceeded to tell him about Insuladd and gave him your web address so that he could get more information!

The Heating and Air conditioning people finally found the trouble with the heater, it was a bad computer board that was turning on the gas with out the thermostat calling for heat so it was burning gas but the dampers didn't open for the hut to go into the house. When it was fixed my gas usage dropped to less than a third of what it was before!

The outside temperature was in the seventies yesterday and the house was 72 degrees inside when we went to bed. When we got up in the morning it was 44 degrees outside and when I checked the gas meter no gas had been used by the heater all night and the inside temperature was still 70 degrees. (Only a 2 degree overnight interior temperature drop!)

I strongly recommend the use of Insuladd for anyone who wants to maintain a comfortable home and who desires to reduce their energy expenses!

Sincerely,
Linda Bell
Oklahoma City, Oklahoma

Subject: Arizona Bridge To Independent Living - Home Modifications for Persons with Disabilities.

Date: Thu, 29 Jun 2000 16:21:40 -0700

From: "Jon DeWinter" jond@abil.org

To: info@insuladd.com

My name is Jon DeWinter. I am the home modification coordinator for the cities of Glendale and Peoria, Arizona. This program is through Community Development Block Grants (CDBG) from these cities and administrated by ABIL. We have a monthly newsletter that we put out to our consumers called the Bridge. The following is the article that was written about your INSULADD.

Thanks to a paint additive (INSULADD[®]) discovered by ABIL's Glendale Home Mod Coordinator Jon DeWinter, (on the internet), a consumer will be enjoying much cooler temperatures this summer. The consumer had bought a mobile home that had an addition built on the side that was made into a living room. The roof of this addition was just an aluminum awning with no insulation. Last year, due to the radiant heat from the awning, the temperature inside the home would reach 110 degrees and the temperature in the addition would reach 130 degrees. The paint additive, with a two-coat application, insulates the awning to an R-22 rating. The home modification project proved very successful in that soon after the coating, when the outside temperature was 86 the inside temperature was 70. The project was completed in coordination with ABIL, Glendale's Community Volunteer Program and "Christmas in April. ABIL'S Jon DeWinter, found the additive, "Christmas in April" bought the additive and supplied the paint, and Glendale's Volunteer Program supplied the labor through the Probation office.

A more recent check on the home found that when the outside temperature hit 110, the home inside stayed around 85 degrees. We are sure that this process will make it more livable for the consumer this summer. COOL!

After this article appeared, I have had four calls on your additive. I have refered them to your web site. I hope that is ok.

If you have any questions about our organization you can call me at (602) 296-0537 or e-mail me at jond@abil.org.

Thank you for your wonderful product. When I build myself another home I am definitely going to use your INSULADD[®]!

Thanks again
Jon DeWinter