

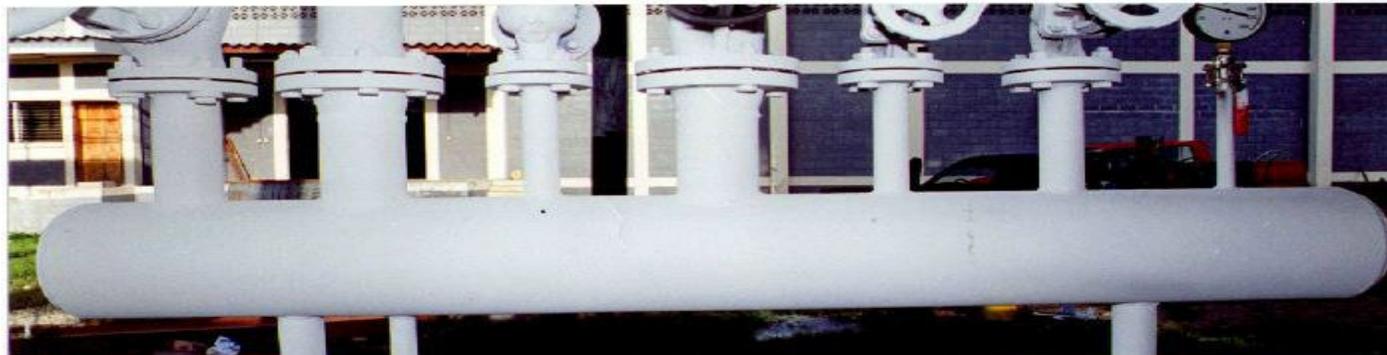
Innovative Coating Solutions, Inc.

3315 NE 112th Ave. Suite 66 Vancouver, WA 98682

Phone 360-907-4446 Fax 360-694-4657

www.icslinings.com

Thermal-Coat™



LIQUID CERAMIC INSULATION COATING

INFORMATION PACKAGE

Availability:
Applicator/Distributor:
Innovative Coating Solutions
3315 NE 112th Ave Suite 66
Vancouver, WA 98682
360-907-4446
jay@icslinings.com

III. DESCRIPTION: Thermal-Coat™ is a general purpose insulation which comes in liquid form, available in regular and non-combustible (fire resistant) formulation. Thermal-Coat™ provides an inexpensive alternative to the high cost of industrial insulation. Because it physically adheres to the surface that it is insulating, it significantly reduces corrosion and rust formation. Its use can greatly reduce the costs of other materials and increase the size of an interior space by eliminating the thickness of interior walls required to accommodate insulation. Its use reduces both space and weight for any given structure or piece of equipment.

Make Up: Thermal-Coat™ is a complete mixture of various silica and ceramic beads immersed in a high quality latex base with acrylic binders. This combination of materials makes the product extremely lightweight and pliable, therefore, it expands and contracts with the surface to which it is applied. The resiliency of Thermal-Coat™ allows it to double as a leak stop even though it is not sold or warranted for that purpose.

Other Properties: Thermal-Coat™ can be tinted to virtually any medium to pastel color and the tinting does not affect the radiant effectiveness of the product.

Product Quality: Thermal-Coat™ works well on both convective and conductive heat and cold. When used in ways not requiring solar reflective qualities, its effectiveness

has different values. Unlike conventional insulation such as fiberglass batting, blankets, foam, fiber insulations, or calcium silicate type pre-formed insulation for piping, Thermal-Coat™ is impervious to water and is not affected by salt water. It forms a continuous covering, not etched, like an installed product. It also forms an excellent weatherproof coating over other forms of insulation.

Product Limits: Thermal-Coat™ aids in sealing leaks but is not sold as a leak-stop. Product must be applied over a clean, dry, grease and dirt free substrate. Operating temperatures can be from -45 F to 500 F. Application temperature range from 45 F to 200 F. On extremely warm to hot surfaces, (175F/90C or more) initial coats must be thinned to avoid blistering.

IV. APPLICATION: Apply Thermal-Coat™ on a dry, clean, substrate which is free from oil, grease, wax, dirt, rust or corrosion. Use airless sprayer with 3000 PSI, 1.25 GPM, 28:1 ratio with a .021 tip size. - Or an SG-1 Spray Gun using shop air can be used for small applications. Allow product to dry between coats. This is a one coat system with curing time of 12 hours under room temperature conditions. Brush may be used for touch up, but is not recommended for full application, except in under 500 sq. ft.

Approximate Coverage: Spray: 60 SF per gallon at 15 mil (15/1000 inch) thickness on large (1000 sq. ft or more) flat surface.

Add 20% for uneven or corrugated surface.

Clean-Up: Thermal-Coat™ is a latex based product. Clean up immediately after use with soap and water. Caution: Use drop cloth and necessary protection to prevent damage from drips or over spray.

V. TEST RESULTS: Thermal-Coat™ has been tested under of varying conditions to produce an "R" factor equivalence.

ACCORDING TO TEST RESULTS, Thermal-Coat™, APPLIED ON ROOFS AT 15 MILS (15/1000 in.), PERFORMS AS WELL AS 4" THICKNESS OF FOAM WITH R-20 RATING "R" FACTOR EQUIVALENCE. THIS IS IN HIGH SOLAR HEAT RADIANT HEAT) APPLICATIONS. (41% reduction in Heat Flux between uncoated and coated roofs.)

NOTE: Due to the absence of air flow, an "R" factor cannot be used and all tests are performed comparing the usefulness of this insulation with an "R" Factor Equivalence. In a conductive heat application, the results will be different from a solar application.

ASTM TESTS: The product has undergone a number of ASTM tests as follows:

FLAMMABILITY RESULTS TEST METHOD

Flame Spread 5 ASTM E-84
Smoke Developed 5

MECHANICAL PROPERTIES:

Cross Hatch Adhesion 100%
ASTM-3359
Tensile Strength (lb/in²) 66.7%
ASTM D-882 Elongation 65%

PHYSICAL PROPERTIES:

Accelerated Aging: Passed 200
Hours ASTM G-53 Density
(g/cm³)
AT 24c dried film 0.41 ASTM
D-792
Weight per Gallon (lbs. per gal) 6
pounds per gallon
Weight, Non-volatiles 70%
Brookfield Viscosity
#3 Spindle @ 30 rpm,
Centipoise 2200 +/- 100 cps
Solar reflectance =75% of solar
radiation
Emittance = 85% of radiation
absorbed
ASTM B177 Salt Fog Test passed
2100 hrs
No Product Degradation and No
Corrosion
DOE Solar test - Cut heat flux by
41%.

**VI. OTHER EXCEPTIONAL
FEATURES:**

Thermal-Coat™ has low flame
spread, is impact and abrasion
resistant, is flexible, protects
coated surfaces from ponding
water, wind driven rain,

cold-heat cycling, chemical
vapors, and mildew. These
qualities make it the standard in
ceramic coatings.

**VII. SHIPPING AND SUPPLY
METHOD:**

Thermal-Coat™ is available FOB
from a distributor.

VIII. WARRANTY: Limited
Warranty: Thermal-Coat™ is
warranted as an insulation under
normal commercial use and
installation conditions for **ten
years** from the date of application.
Two year warranty for industrial
uses. Complete warranty
information is available.

**IX. PERFORMANCE
INFORMATION**

Rooftop installation: 15 mil
thickness (15/1000 inch) can
reduce heat flux roof by 20% to
40% in solar situations (reduction
of 20 to 50 degrees) which is
better than adding R-20 insulation
under a roof to stop solar heat.

RV/Bus/Truck/Trailer Installation:
a. 15 mils thickness on a roof can
cuts heat flux through a roof by
40%

(20 F to 50 F). Can be sealed by a
"white acrylic or alkyd enamel"
over the Thermal-Coat™.

b. 45 to 60 mils thickness in the
engine compartment/fire wall can
cut the heat inside the RV/Bus.
c. 30 mils on the walls, ceiling
and floor of the interior shell can
increase the insulation of the
V/Bus/trailer without increasing
wall thickness.

Boiler or Hot Pipe installation:
Actual installations have shown
that a 60 mil thickness (60/1000
inch) will reduce exterior boiler
wall temperatures from over 350 F
to less than 200 F. Excellent for
insulating hot pipe/surfaces up to
500 F or cold pipe/surfaces in hot
environments.

Ships: installation:

- a. Hulls can be coated w/ approx.
40-60 mils to insulate & seal.
Keeps moisture off hulls.
- b. Insulate hot or cold piping (60-
100 mils) (60/1000 of an inch)
- c. Insulate hot or cold tanks,
refrigeration units or systems.
(60-100 mils)
- d. Insulate deck housing from
solar heat. (15 mils)

THE PRODUCT: THERMAL-COAT™ -- ENVIRONMENTAL LIQUID INSULATION

PRODUCT COMPOSITION:

Thermal-Coat™ is a single container composite product comprised of 80% innovative, air-filled, microscopic ceramic and silicon beads, held in suspension by latex acrylic binder. The key to Thermal-Coat's™ remarkable insulating capability is in the beads, which serve to both encapsulate and "share" the heating/cooling burden. Thermal-Coat™ achieves its capability to adhere to nearly all properly prepared surfaces while remaining flexible as a result of the carefully blended combination of latex and acrylics. Additionally, Thermal-Coat™ continually maintains its capability to expand and contract, as necessary, based on the temperature conditions of both the atmosphere and the surface to which it is applied. Thermal-Coat's™ primary color is brilliant white, although it can be tinted to the mid-range of any color. It can also be over sprayed with any latex colored paint to achieve a specific, darker tone, if desired.

BENEFITS:

Thermal-Coat™ is "environmentally friendly" containing no toxic or hazardous substances or materials. Because Thermal-Coat™ adheres directly to the surface it virtually eliminates the potential for surface corrosion unlike "wrapping" type or mastic insulation. Thermal-Coat™ significantly reduces, or eliminates the possibility for condensation. Thermal-Coat™ can be used to insulate valves, flanges, joints, etc. which cannot otherwise be effectively insulated using "wraps" or mastic insulations. Thermal-Coat™ is light in weight (6 pounds per gallon) and easy to apply. Thermal-Coat™ insulation does not require complete removal for surface inspections. Thermal-Coat™ can be "touched up" after minor structural repairs. Thermal-Coat™ is flexible as it expands and contracts with the surface. Thermal-Coat™ is a cost effective, energy efficient product that can be used on a variety of both hot and cold surfaces.

SURFACE PREPARATION:

Thermal-Coat™ will adhere to nearly all types of surfaces: metals, wood, plastic, glass, plexiglass, etc. Surfaces should be prepared in a manner similar to that required for proper adhesion of normal paint: clean, free of dirt, rust, grease or other foreign matter such as scales, paint chips, etc. Surfaces must be dry during the application. Hot metal surfaces may require a more thorough preparation, such as wire brushing, to ensure best adhesion. New metal surfaces may require removal of temporary preservative coatings. A light combination of vinegar and water works well.

MIXING:

For ease of mixing and storage, Thermal-Coat™ is packaged in 5 gallons, hard plastic pails. Thermal-Coat™ is ready to use as it is packaged. No additives or product combination is required. Thermal-Coat™ is best mixed using a standard "Mud" paddle, (normally used to mix light plaster materials or dry wall compound) powered by a "½" electric variable speed drill. The mixing paddle should be initially inserted through the "Bead Layer" (upper two thirds) or crust observed at the top of the product when the pail is opened. The mixing paddle should then be manually moved up and down a few times through the crust to draw the latex acrylic up from the bottom of the pail. After this is done, the mixing paddle should be operated with the drill at a relatively slow speed to blend the material. Mixing too harshly may crush the insulating beads. When properly mixed, Thermal-Coat™ will have a smooth, creamy texture, with no lumps or foreign matter. Thermal-Coat™ is not a paint. It is an insulating coating. Do not use high speeds with the mud paddle trying to make it look like ordinary paint.

APPLICATION: (TECHNIQUES AND POINTERS)

Thermal-Coat™ is best applied, in projects of significant size, by use of an airless spray unit. We recommend the use of an airless spray unit with the capacity to pump at least 3000 psi, 1.25 gallons per minute and utilizing a spray tip of approximately .021" (depending on the surface to be coated). Thermal-Coat™ can be touched up using a smooth textured brush. For small square footage application of 100 square feet or less, shop air of 70-80 psi can also be used with an SG-1 spray gun which can handle the density of Thermal-Coat™. Ask us about the SG-1 spray gun as we have them in stock for the smaller applications. Thermal-Coat™ is an extremely easy product to apply. The temperature parameters for Thermal-Coat™ allow the product to be applied, in most situations, without disrupting service or shutting down a "hot" system. These application parameters are: 45 F. to 500 F. (7.2 C to 260 C) The drying time for Thermal-Coat™ will vary depending on the temperature of the surface to which it is applied and the ambient temperature and humidity in the area. Thermal-Coat™ must be applied in successive thin coats and each coat must be allowed to dry prior to application of the next coat. A "coat" is approximately 15 mils (15/1000 inch thickness) which is approximately three passes with the spray gun. Thermal-Coat™ may be applied in as many coats as are necessary to accomplish the required surface temperature, allowing great flexibility in the treatment of problem areas. "Curing time" for Thermal-Coat™ is about 24 hours at room temperature. When applying, Thermal-Coat™ to surfaces with an existing temperature of approximately 200 F. (or 93.3 C.) or more, the product will routinely adhere better if a very slight amount of water is added for the initial 1 or 2 coats. This "slight amount" should be no more than ½ pint of water for 5 gallons of Thermal-Coat™. 1 gallon of Thermal-Coat™ at a 15-18 mil (15-18/1000 inch) thickness, will cover approximately 50-60 square feet (4.65 - 5.58 square meters). Calculations for applications to uneven or corrugated metal surfaces (exterior roofs, sidings, etc.) should include an additional 20% to allow for the sides of each ridge.

SPRAYER SUMMARY --- Types recommended: Airless Sprayers: (or comparable) -SG-1
spray gun using compressed air of 80 psi or more for small applications of 100 sq. feet or less.

- Graco GM 5000 (gasoline powered, self-contained unit) for jobs larger than 20 sq. ft.
- Graco GM 7000 or 10000 (gasoline powered, self-contained unit)
- Graco GH 533 or GH 733 (gasoline hydraulic)
- Graco Bulldog (new series) 41:1 ratio

Sprayer must be capable of moving not less than 1.25 gallons per minute with 3000 psi at tip for large applications.- Spray Gun Tip Size: 0.021 for normal rooftop spraying, or 0.017 for working in confined spaces.- Wagner Power Painter™ units (or similar) will not work with Thermal-Coat™. Thermal-Coat™ is too thick.

MIXING PROCEDURES & APPLICATION CHECKLIST

Thermal-Coat™ is not a paint. It is an insulating coating. DO NOT USE HIGH SPEEDS with the mud paddle trying to make Thermal-Coat™ look like ordinary paint. High speed mixing will destroy the hollow beads in the product, causing product failure and it will void the warranty.

1. DO NOT OVER MIX.
2. Remove top from 5 gallon pail.
3. Take heavy duty "½" variable speed electric drill with handles, install
4. Push the mud paddle through the crust at the top repeatedly, changing angles of the paddle to break up the crust, pushing the paddle down into the liquid at the bottom of the bucket and pulling up through crust.
5. Insert paddle all the way through solids into the liquid, and start to slowly rotate the paddle, pulling the liquid into the solid matter, holding sides of the pail with feet and knees to prevent spinning.
6. Mix slowly, until the Thermal-Coat™ is the consistency of marshmallow cream. (Never use high speed)
7. Place a strainer on top of clean 5 gal. feed bucket.
8. Pour the mixed product through strainer, using roller if needed to speed up passage of Thermal-Coat™ through strainer. (Necessary to take out lumps which will plug sprayer.) Staining is not necessary with the SG-1 spray gun or when using a brush or roller.
9. Prime sprayer via bucket of clean water, typically at least a half gallon. Switch feed pipe of sprayer from water bucket to Thermal-Coat™ feed bucket, with pump running and sprayer spraying water which will keep water from backing up into Thermal-Coat™ feed bucket.
10. When the half gallon of water has been expelled through the spray gun, the pump will sound noticeably different and Thermal-Coat™ will begin to flow.

SPRAYING TECHNIQUE SUGGESTIONS

1. Remove screens from sprayer feed tube, and remove ALL filters from sprayer and spray gun.
2. If gun stops up, rotate the Revers-A-Clean tip and spray into spare bucket. Rotate tip back to spray position, resume spraying.
3. Keep spare tip with you, and if one stops up, exchange for clean one, soak stopped up unit in water and then clean out.
4. On metal roofs, spray one way and back again over same area, using a steady uniform motion.
5. Three passes with the spray gun will generally give you about a 15 mil lightly covered metal through the product. SG-1 sprayer is slower.
6. On very hot surfaces, (hot pipe) apply one coat of 15-20 mils, allow to dry. Drying time depends on humidity, ambient and surface temperature. If surface to get coated is over 200°F, add about ½ pint of water to 5 gallons for better adhesion of the initial coat.

IMPRESSIVE RESULTS USING THERMAL-COAT™

OAK RIDGE NATIONAL LABORATORY (DOE) - Solar test of a roof coated with 15/1000 of an inch of Thermal-Coat™, the heat flux was reduced by an average of 41%.

SOUTHERN ATHLETIC CLUB - "...since having our roof coated with Thermal-Coat™ in June of 1991, we are averaging a 30,000 kilowatt savings annually which equates to a savings of \$4,113.00. We think it is a great product for conserving energy and dollars.

BOB SANFORD OF COACH WORKS OF CALIFORNIA - "Before coating the roof of our coach the interior temperature exceeded 100 degrees. The ceiling was so hot I couldn't keep my hand on it. After spraying Thermal-Coat (on the exterior roof), the temperature inside dropped almost 25- degrees, and the metal ceiling was comfortable to touch." (May 1998 issue Bus Conversion Mag.)

COACH SERVICES OF CALIFORNIA - We coat the roofs of all of our buses, trailers and RV's with Thermal-Coat™. It cuts the heat dramatically, seals the roof and minimizes leaks because the roof stops expanding and contracting in the sun. Our customers tell us that they dramatically reduce the use of their air conditioners after their roofs are coated with Thermal-Coat™.

ARIZONA BUS SALES - "After coating the roof of our first 40-foot transit coach with Thermal-Coat™, the interior roof temperature dropped 15 degrees from one day to the next. In a side by side test of two coaches with one roof coated with Thermal-Coat™ and one roof with white paint, the inside ceiling temperatures were 119f vs. 136f. The Thermal-Coat™ roof was 17 degrees cooler. This was in May before our extreme summer heat. We are coating the underside of transit coaches because of extreme floor heat from hot road surfaces."

GORDON MILLS OF LOS ANGELES - "We put Thermal-Coat on our coach roof. We noticed a dramatic difference in the temperature of the coach the next day. It was much cooler while sitting in the sun and the air conditioner does not run as much."

JACK CONN OF PHOENIX - "After coating the inside shell of my eagle coach conversion with 30 mils of Thermal-Coat™, it went from being an oven inside in Arizona sun, to being almost cold inside. We also coated half a piece of sheet metal on one side. The difference between one end and the other was more than 40 degrees while sitting in the sun.

JIM WITHAM OF LOS ANGELES - "I coated the underside of my Winnebago above the muffler and exhaust pipe with about 50 mils of Thermal-Coat™. The exhaust heat problems I was having are now gone. Thermal-Coat™ is an excellent insulation product."

ATLANTA GAS LIGHT COMPANY - "Since spraying our roof with your ceramic coating, we have had no further water leaks and have reduced our cooling costs considerably. It is really a fine product that performs as promised."

FINA OIL AND CHEMICAL COMPANY - "When applied on hot oil tanks/ heater treaters, keeps oil at a constant temp, preventing loading difficulties from hardening of oil."

THE UNIVERSITY OF GEORGIA - "Cooperative Extension Service feed a bin test indicates inside air space temp. of a bin coated was 27 degrees lower than uncoated bin."

AUBURN UNIVERSITY - Dept. of Chem. Eng. - "By applying two coats of Thermal-Coat™ (on two waste oil tanks), we successfully maintained the oil temperature above 170 F in the tanks for nearly 12 hours. The initial temperature was 180 F and the outdoor temperature ranged from 30 to 60 F. We are very pleased with the results."

EXXON CORPORATION - "Reduced oil well pipe line temperatures by over 100 degrees. Previously, the extreme temperature of this well caused all other coatings to fail. The ceramic coating is continuing to provide insulation."

SHELL WESTERN - "Reduced office building temperature by 20 degrees and reduced highly concentrated well head temperature by 100 degrees."

GULF COAST SULPHUR CORPORATION - "Before, one could not place hands closer than 18" to 300 degree pipe. After applying Thermal-Coat™ one can easily place hands directly on the area. It is doing an excellent job for us."

DAVIS BROTHERS CONTRACTORS - "This ceramic coating has reduced office temperature by 30% and electric bill dropped 25%. Also, one coating effectively eliminated roof leaks after several attempts with other materials."

JO-DE EQUIPMENT RENTALS - "...Material is easy to apply and so far seems impervious to weather conditions." It reduced temperatures of exhaust systems on offshore drilling equipment from 360 degrees to a temperature that can be touched with bare hands . . . We feel this product satisfies the requirements of M.M.S. for offshore exhaust insulation."

SOUTH GEORGIA HOMEOWNER - "...I wanted to tell you it really works. Even before you finished, the temperature in the attic was the same as the outside temperature and this is really amazing. I believe a 40% savings is possible on a/c cost."

AMERICAN REFRIGERATION & ICE - "Coated top of delivery truck and lowered temperature from melting point to steady temperature of 12 eliminating condensation and loss of several sacks of ice."

CAMP SHELBY, MISSISSIPPI - "...find it to be an effective coating for metal, cinder, and concrete. After application of approximately 1/8" of ceramic coating, two 24,000 Btu units are adequate for all seasons." (three 24,000 Btu units had been inadequate previously).

CORPUS CHRISTI ARMY DEPOT (CCAD) "Everyone who has visited Building 1200 since our roof was treated has volunteered their building for treatment with Thermal-Coat™ and Last-A-Span as soon as possible. Since Thermal-Coat™ was applied, we have had no leaks and the air conditioning system now cycles off and on. Before the building was treated, the air-conditioning system ran all day without ever cycling and without very effective cooling."

BUS CONVERSION NEWSGROUPS: : When I took Thermodynamics in college, R- values were measured, not calculated. Actually we used K (conductivity), which is essentially the inverse of R. There is nothing of any size (area) that cannot be measured. Comments from the Mechanical Eng.

- Comment - I am a System Engineer and while I took several courses in chemistry, its as Mike stated - you can't apply the same formula to this product as you would with conventional house insulation. Just as the tiles on the space shuttle are not rated for R-value. But you are right, it can be measured. Apply the product and measure the difference in temperature for a coated vs. non coated surface. Depending on the thickness, I observed a difference of 70 degrees. That's proof enough for me. - Tom

DANVILLE DISTRIBUTORS (BUDWEISER BEER) - After the reefer roof was coated, we pulled the temp down to 34 and left it overnight in a hot humid evening with the reefer off and the next morning it was still 40 degrees. We were very pleased. On the trailer, we are now able to keep it down to 40F which we couldn't do before.

B & K DISTRIBUTING (COORS BEER) - We are coating the interior of roll up doors of our delivery trailers with 40 mils of Thermal-Coat™ to be in compliance with our contract insulation requirements with Coors.

ANHEUSER-BUSCH KAUAI COLD STORAGE - We coated the south and west walls and the roof in January with Thermal-Coat™. Even in January, this cut the heat through the walls and roof by 14 to 19 degrees. In the summer, it should be much higher.

CAPITAL STUDIOS - We used 40 mils of Thermal-Coat™ on the walls and ceiling of a new sound production room. It cut the acoustical noise dramatically so as to not have a sound "ping". The only problem now is that the room is too cold as the air conditioner thermostat is in an adjacent room that is not insulated with Thermal-Coat™, thus is warmer.

Thermal-Coat™

LIQUID INSULATION APPLIED LIKE PAINT, ACTS AS A THERMAL BARRIER!

Applications

Air Conditioning Duct Work

Aircraft Interior Walls

Airplane Hangers

Alaska Metal Buildings

Alaska Slurry Truck Tanks

Backs of Vinyl Siding

Barracks' Roofs

Bridge Bottoms (reduce freezing)

Built Up Roofs

Bus Conversion Interiors, Engine Area, Roofs

Cat Walk Guards

Cat Walk Handles

Chicken Farm Roof Tops

Commercial Freezers/Refrigerators

Corrugated Roof Tops

Crane Beams

Decks of Galleys
Decks of Lobster Boats
Engine Room Hot Oil Lines
Exposed Water Hydrants
Exterior Bulkheads
Fishing Boat Tanks and Piping
Flooring
Garages
Grain Silos
Hog Farm Roofs
Horse Trailer Roofs or Interiors
Horse Barns
Hot Water Heaters
Hulls of Ships
Interior Walls of Old Homes
Living Quarters Walls
Living Quarters Roofs
Metal Roofs
Military Installations
Milk or Ice Delivery Truck Roofs
Mobile Home Roofs
Nitrogen Storage Tanks
Oil Pipeline - above or below ground
Oil Pipeline - underwater
Oil Transfer Lines
Oxygen Lines
Pilot House Roofs
Pipe, Steam insulation
Pipe Lines - Alaska
Pipe Lines - Kuwait
Potable Water Tanks
Racing Cars - Fire Walls, Drivers Seat, Floors
Recreational Vehicle Ceiling - Interior
Recreational Vehicle Flooring
Recreational Vehicle Roofs - Exterior
Recreational Vehicle Side Walls
Reflective Walls in Steel Mills
Refrigeration Trailer Roofs
Remote TV Transmission Trailer Roofs
Residential Black Construction Board
School Bus Tops
Seal Tab Roofing Covers
Semi Trailer Roofs or Interior Walls
SkyLights (Roof Tops)
South & West Walls of Metal Buildings
Sprinkler System Pipes (prevents condensation)
Truck Van Bodies
Tug Boat Engine Rooms
Undercoating for Transit Buses
Water Truck Tanks
Water Tanks - Cold
Water Storage Tanks

EXTREME USES (UP TO 500 F)

Adjacent to Exhaust Systems
 Boilers
 Brewing Tanks/Pipe For Beer or Wine
 Chemical Hot Mixing Vats
 Heat Exchangers
 Hot Oil Tanks
 Oil Separators
 Petroleum Tank Tops
 Steam Pipes
 Valves
 Water Pipes - Hot
And Thousands Of Other Uses !!!!!

	Suggested Thermal-Coat™ Insulation Thickness To Reduce Surface Temp. To Approx. 150F/66C						
Thickness/Inches	60/1000	75/1000	90/1000	90/1000	120/1000	135/1000	150/1000
Temperature F	230 F	275 F	350 F	415 F	450 F	485 F	500 F
Temperature C	110C	135 C	177 C	213 C	233 C	252 C	260 C

FREQUENTLY ASKED QUESTIONS ABOUT THERMAL-COAT™

1. Up to what maximum heat temperature can your ceramic coat absorb? 500f OR 260C - WE TRY TO KEEP MOST APPLICATIONS UNDER 400F OR 210C BECAUSE OF HEAT SPIKES WHICH CAN EXCEED 500F OR 260C.
2. Can it be applied to steam pipes? YES.
 - a. As a burn protection to workers? YES.
3. Lets say that I apply your ceramic coat to a steam pipe line exceeding boiling temperature for 5 hours,
 - a. Will the ceramic still insulate the pipe? YES
 - b. Will it reduce the outside heat of the pipe to a safe touchable temperature? YES
 - c. Will it peel off? NO, SO LONG AS IT DOES NOT EXCEED 500F OR 260C. IF YOU HAVE AN APPLICATION EXCEEDING 500F OR 260C YOU MIGHT CONSIDER THE THERMAL COAT HT WHICH CAN GO TO 650F OR ABOUT 330C.
4. Can it be applied to air condition ducts and air condition compressors? YES
5. Can it be applied to surfaces to reduce or stop condensation? YES. THE THICKNESS NECESSARY WOULD PROBABLY BE ABOUT 40 TO 60 MILS THICK. (1 MM TO 1.5MM) DEPENDING UPON THE HUMIDITY AND THE TEMPERATURE OF THE UNIT BEING COATED.
6. Can it be used as replacement to urethane insulation or fiberglass insulation? YES. THERE ARE SITUATIONS WHERE THE OTHER PRODUCTS MAY WORK BETTER OR MIGHT BE CHEAPER. EACH APPLICATION HAS TO HAVE ALL ASPECTS CONSIDERED AS TO EFFECTIVENESS AND COST BENEFITS.
7. What is the texture of your finish product surface? SMOOTH
8. Can it be applied to concrete? YES
 - a. Can it be painted over after being applied to the concrete? YES.

i. IN A NON-SOLAR APPLICATION, IT CAN BE PAINTED ANY COLOR. RECOMMENDED IS AN ACRYLIC TYPE PAINT.

ii. IN A SOLAR APPLICATION, IT IS NOT RECOMMENDED TO BE PAINTED OVER AS IT WILL IMPACT AND REDUCE THE BENEFITS OF THE SOLAR REFLECTION AND HEAT REDUCTION.

9. Does it have corrosive resistant properties? YES. IT ADHERES DIRECTLY TO THE SURFACE, THUS ACTING AS A VAPOR BARRIER. SINCE IT IS IMPERVIOUS TO MOISTURE, IT PROHIBITS/REDUCES CORROSION.

10. Is it acid resistant? NO. IF IT IS GOING TO BE USED IN AN ABRASIVE OR ACID ENVIRONMENT, THEN IT SHOULD BE SEALED WITH AN ACID RESISTANT URETHANE.

11. Does it have any resistance properties to mechanical loads? NO. IT IS NOT DESIGNED TO TAKE MECHANICAL LOADS.

12. Will it adhere or bond to aluminum or stainless steel without primer? YES

13. Can we obtain different colors from the factory? IT IS ONLY PRODUCED IN THE COLOR WHITE. THE ACTUAL DEMAND FOR DIFFERENT COLORS IS TOO LOW TO JUSTIFY MAKING DIFFERENT COLORS. IN VERY FEW APPLICATIONS IS THERE A REQUIREMENT TO COLOR IT.

14. Can we tint it ourselves? YES - USE STANDARD LATEX PIGMENT. USE ABOUT 1/4 THE STANDARD AMOUNT OF PIGMENT CALLED FOR IN THE COLOR CHARTS FOR 5 GALLONS OF PAINT.

15. What is the application procedure? SEE INFORMATION PACKAGE FOR APPLICATION TECHNIQUES, PROCEDURES, CHECKLIST AND EQUIPMENT.

16. Is there a way to reduce the drying/curing time? YES. BY ADDING HEAT AND INCREASED AIR FLOW, THE DRYING/CURING TIME CAN BE SPED UP. IN THE SUN, CURING TIME IS A MATTER OF AN HOUR OR TWO.

17. Is there a way to reduce the number of layers or coats to be applied on a surface to speed up the application? YES. THE RECOMMENDED THICKNESS PER COAT IS 15 MILS OR .4MM. THIS CAN BE INCREASED TO 20 MILS OR .53MM PER COAT. IT IS NOT RECOMMENDED TO MAKE EACH LAYER THICKER THAN 20 MILS OR .53MM AS IT WOULD NOT CURE PROPERLY AND POSSIBLY SAG, IF ON A VERTICAL SURFACE.

18. Is it a single component application? YES

19. Is there a need for primer? ON STEEL A PRIMER IS RECOMMENDED. THE SURFACE MUST BE CLEAN, DRY AND FREE OF DUST, DIRT, GREASE OR OIL.

20. Can we apply the coating directly on cleaned & prepared surface without primer? YES

21. If there is a need for primer what type of primer do we use? IF PRIMER IS NEEDED, YOU CAN USE RED ZINC OXIDE OR SIMILAR ON BARE METALS, OR IF EXPOSURE TO SALT AIR (OIL RIGS) AND ABRASION ARE EXPECTED.

22. If your coating is applied to the interior of a roof either in a car or a house, will it still be as effective? YES AND NO. IT WILL NOT REFLECT THE SOLAR HEAT, BUT WITH 30 TO 40 MILS (.8MM TO 1.0MM) IT WILL BLOCK THE HEAT FROM THE INSIDE. YES, IT STILL WORKS BUT DIFFERENTLY, THUS REQUIRES THICKER APPLICATIONS.

23. Can it be applied as an interior or exterior coating? YES. EXTERIOR AT 15 MILS (.4MM) AND INTERIOR 30 MILS (.8MM) OR MORE DEPENDING UPON THE SITUATION.
24. Does it stain easily, how do we clean it? YES, JUST LIKE WHITE PAINT STAINS. CLEAN WITH SOAP AND WATER.
25. Can it be removed from a surface if necessary? YES. PAINT THINNER OR PAINT STRIPPER WILL TAKE IT OFF SLOWLY.
26. Is the surface affected after removing it? THE SURFACE WILL PROBABLY NOT BE AFFECTED, BUT EACH APPLICATION IS DIFFERENT, SO THIS IS NOT A KNOWN FACTOR. BUT GENERALLY THE SURFACE IS NOT AFFECTED.
27. How long is the shelf life of your products? ONE YEAR WHEN STORED INSIDE IN A COOL PLACE.
28. How long will it last? **WARRANTY IS FOR TWO YEARS IN INDUSTRIAL APPLICATIONS (HOT PIPE ETC.) AND 10 YEARS FOR COMMERCIAL APPLICATIONS (ROOFS ETC.)**



Our coating keeps the inside of vans full of expensive electronics cooler.