



Energy Technology Paint System
R-24 EQUIVALENCY TESTED

Answers To Growing Energy Crisis & Global Warming

Ceramic Insulating Coating Systems

Since 1960

Saves Money, Saves the Environment and Restores Structures

- Low VOC's
- Saves Energy Costs
- Saves Labor Costs
- Environmentally Friendly
- Outlasts Other Products 3-5 Times
- Product Covers Twice The Area of Generic Paint

**ENTECH COATING SYSTEMS PROVIDE THE BEST
QUALITY PRODUCT IN ITS CATEGORY**

**"We believe we distribute the finest coatings on the world market.
We guarantee only the highest quality ingredients are used in our products!"**

Michel Tannous, President



Energy Technology Paint System

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Ceramic Insulating Coating Systems

Since 1960

ENTECH COATINGS INC.

UNIT 12-A 3033 KING GEORGE HWY
Surrey, BC V4P 1B8
Canada

Tel: +1-604-961-3031

www.entechcoatings.com

Email: mtannous@entechcoatings.com

Saves Money, the Environment and Buildings!

Outlasts Paint 3 to 5 Times

Entech Coatings outlasts typical exterior coatings up to 3 to 5 times. Looks good throughout its life, - no fading, chalking, hazing blistering, peeling or checking. Extended coating life means less expense, plus fewer repaints over the lifespan of conventional buildings.

Better for Health!

- Low volatile organic compounds (VOC's);
- No formaldehyde or cancer-causing chemicals;
- No special ventilation required when using the coatings;
- Products resist occurrence of mold, mildew, algae, spores, lichen and mosses.

Unsurpassed Green Report Card

A number of factors must be considered when choosing a green product. Not only do Entech Coatings have low VOC's, but they also save energy and outlast other products 3-5 times.

Entech Coatings have exceeded the test requirements for the California Energy Commission's stringent Title 24 Testing. Tests include tensile strength, flexibility at temperatures as low as zero degrees farenheit, breathability, and resistance to accelerated weathering.

High Impact and High Abrasion Resistant

Dries hard unlike other products, so Entech Coatings won't absorb pollution and other substances that cause building surfaces to age or look unattractive. Entech Coatings dry so hard that even scrubbing them with a wire brush won't affect them.

Like Gortex for Buildings

At 20 perms, Entech Coatings have one of the highest known breathing rates in the industry. The products prevents water penetrating the building while still allowing any water vapor to escape to the atmosphere. This ability gives the coating a long life and extends the life of the building.

Big Savings in Labor Costs

A joy to roll, brush or spray. Rapid cure: first coat dries to the touch in 15-30 minutes and the second coat can be applied 2-4 hours later. Other products require 24-48 hours before the second coat. Most coatings have lots of application issues; Entech Coatings are incredibly forgiving to put on and very easy to control. All the products clean up with water.

Keeps Buildings Cool in Summer, Warm in Winter

Entech Coatings use ceramic microspheres - technology developed by NASA for use on the space shuttles - to insulate buildings. An independent lab found Entech Coatings to have the equivalency of R24 fiberglass insulation. Users have reported energy saving costs from 4% to 50%.

Won't Fade Like Other Paints

Entech Coatings maintain their colors - even a bright red - for 5-7 years, while typical exterior coatings may need repainting in 8 months.

40 Years of Research

40 years of research and development has resulted in a proprietary formula with the highest known ingredient list in its category.

Flexes With the Building

A key benefit of Entech Coatings is its ability to stretch 160% and return to its original size as weather conditions change. While a number of products are able to stretch, most do not have the 'memory' to return to their original size that Entech Coatings does. Entech Coatings also stretch to span small surface cracks resulting in a smooth unblemished surface.

Works at Any Temperature

Entech Coatings work just as well at 40 degrees below zero in the Northwest Territories, Canada as they do in Phoenix, U.S. in the middle of summer.

Fire and Corrosion Resistant

Entech Coatings resists the promotion of flame spread, is not affected by wind driven sea spray and resists many types of household and commercial corrosive products.

Works on Any Substrate

Entech Coatings can be used on any substrate including wood, stucco, cement, concrete, brick or metal. The products have incredibly high adhesion strength when applied over a clean, dry and sound substrate.

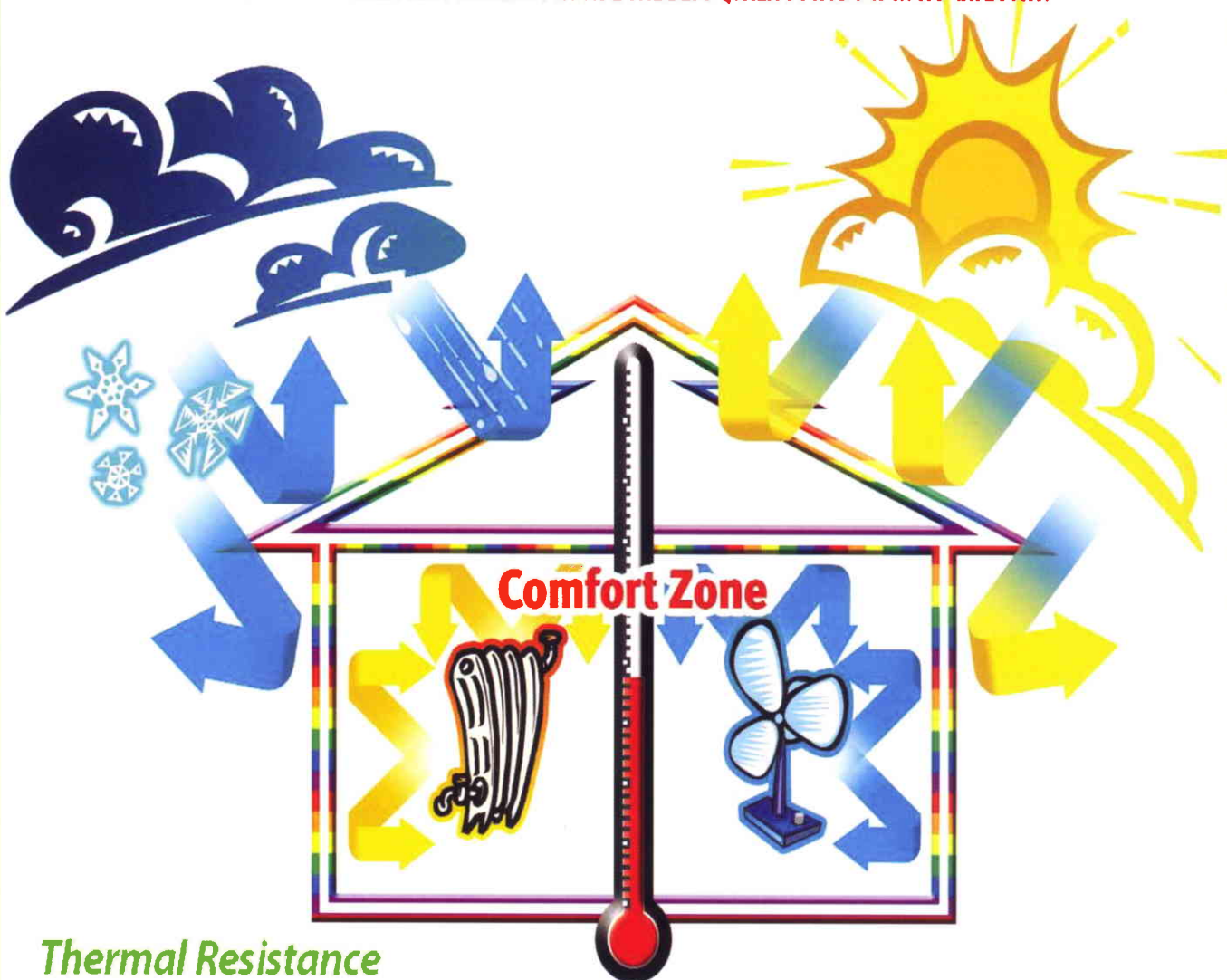
Insulates Buildings Cool in summer, warm in winter

Ceramic Insulcoat®



Ceramic Insulcoat R:E Paint Systems deflect heat rays. Lab tests, field trials and end-user testimonials show exceptional results. "Life-cycle cost" saving are truly substantial. Enhanced comfort plus improved utility costs result when EnviroSmart paint and coatings are applied using accepted building envelope preparation procedures. Such preparation includes caulking, moisture management, flashings and insulation capacities. Always apply on clean, dry and sound wall systems. End users report reduced utility costs between 4% and up to 50% – dependent on substrate, building type, design and maintenance habits.

R:E PAINT SYSTEMS PROVIDE THE BEST QUALITY PRODUCT IN ITS CATEGORY!



Thermal Resistance

3-way action:

1) reflectivity 2) re-radiation of heat rays 3) resistance to conductivity of heat.

Ceramic InsulCoat R:E Permanent Coating Systems provide measurable thermal resistance and energy reduction by managing heat and enhancing resistance to substrate thermal radiation penetration.

The Technology of NASA

Ceramics—the latest technology in Coating Systems



Ceramic InsulCoat® is a successful hybrid of the highest quality acrylics and space age ceramics developed to respond to the needs of NASA's Space Exploration Program.

Re-radiating heat rays plus resistance to conductivity of heat provide a desirable thermal barrier.



The Power of Ceramics !

A human hand holds a red-hot cube heated to approximately 2200°F.

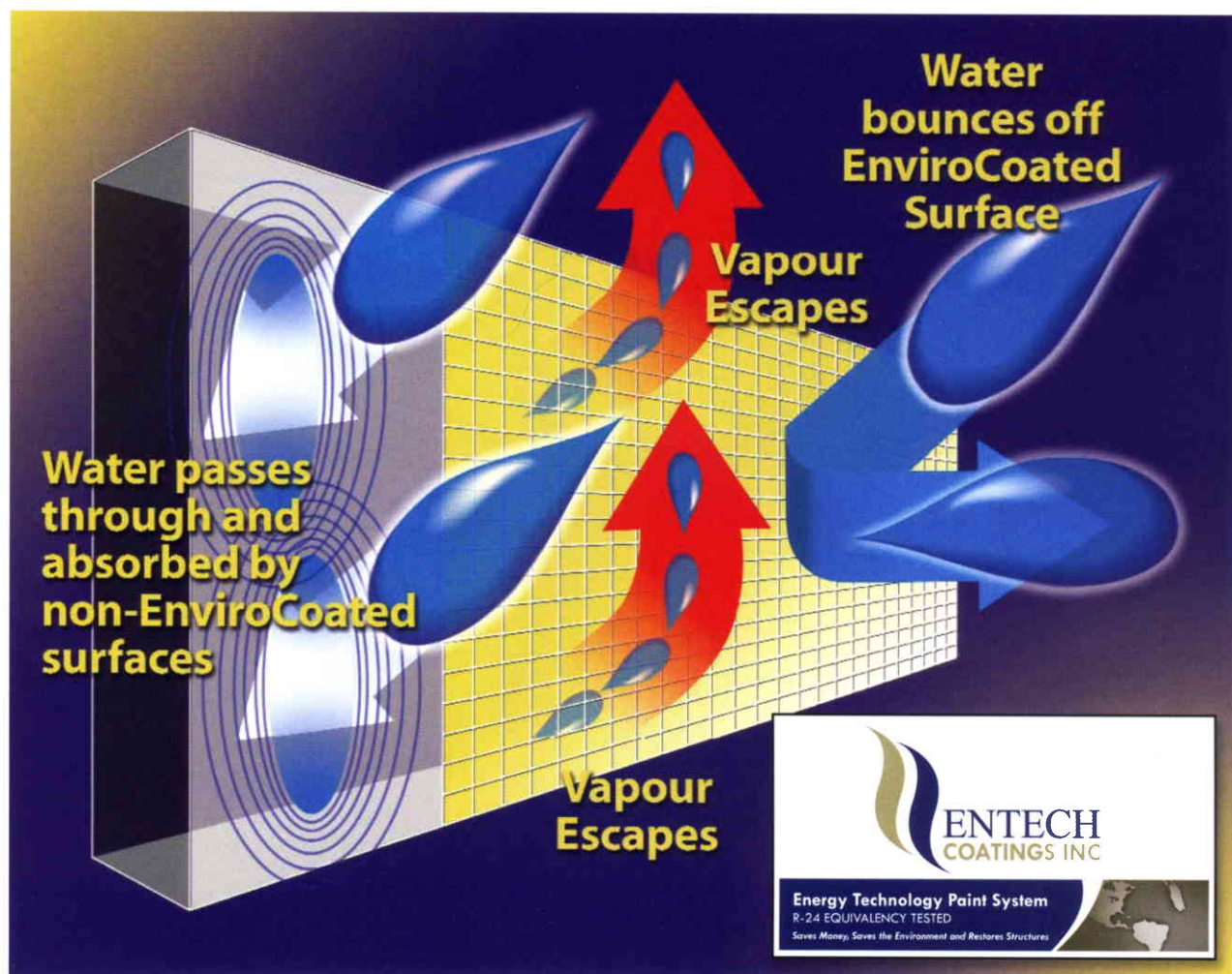
How is this possible? The cube was painted with a ceramic insulation coating.

The distance from intense heat to human skin is only millimeters of thickness.

High Tech Ceramics = Phenomenal Thermal Properties

Weatherproof

...a moisture management system



Like Gortex for Buildings

Entech Coatings are highly resistant to water penetration, yet allow vapor to pass through at an astounding rate of 20 perms!

As demonstrated in the diagram above, this is possible because water vapor is 1/1600th the size of liquid water. The micro-pores of the Entech Coatings membrane are so fine that they do not let water enter, yet they allow water vapor to easily migrate out of the coating.

The result? Your wall system remains drier, the coating lasts 3-5 times longer than traditional coverings, and the life of the building is extended.

Exterior Ceramic Insulcoat R:E™ products save labor and energy and have the most environmental features of any coating product in the world!

Ceramic Insulcoat—Wall©

Exterior applications

Extraordinary performance exterior architectural coating. A strong 100% high solids acrylic coating. Can be applied in any color. For use on cured concrete , stucco, masonry, primed wood vinyl, primed metal and most standard substrates.

Ceramic Insulcoat—Roof©

Provides beautification thermal barrier and UV inhibitors.

A strong, tough thermal barrier coating. Can be applied in any lighter color. Can be applied over membranes, asphalt shingles, torch on, or metal roofs. (Galvanized metals require appropriate primer.) A heat management product providing reduced penetration into interior spaces. (Test patches are recommended.)

Ceramic Insulseal©and Insulseal 5.0©

Porous surface sealer. Two grades available.

Soaker– sealer formulated to penetrate raw concrete, wood , stucco etc., sealing the surface. Acts as a bonding agent to Ceramic Insulcoat™. (Insulseal™ is used over porous surfaces.) Insulseal 5.0® is used when porous surfaces are apparent.

Sealbond©

Renews existing painted surfaces while maintaining their natural look. Resists water penetration and breathes at 14 perms. A water based resinous surface sealant specially formulated for concrete, exposed aggregate, split-faced blocks and bricks. Sealbond™ will aid in the curing of concrete , will toughen the surface, resist dusting off and make the surface easier to clean.

Frequently Asked Questions

What Are the Applications for Entech Coatings Product?

Below are examples of the applications for *Entech Coatings* products. We are discovering new applications all the time!

Commercial Buildings	Aerospace Facilities	Refrigeration
Institutional Buildings	Petrochemical Industry	Walls, Roofs, Sidewalks
Condominiums	Pulp Mills & Smelters	Exterior Substrates
Apartments	Metal Tanks & Pipes	Concrete & Masonry
Single Family Homes	Food Storage	OEM Insulative Needs

What Makes Entech Coatings an Environmentally Friendly Product?

When considering whether a product is environmentally friendly, a number of factors must be taken into account including everything from what the product is made of to the life cycle of the product. Entech Coatings are water-based products with low VOC's meaning that they do not contain chemicals that are dangerous to health –including various cancer-causing chemicals.

Due to its ability to insulate buildings keeping them warm in winter and cool in summer, Entech Coatings saves energy – an essential environmental solution. Buildings painted with Entech Coatings have seen energy savings of 4% to over %50.

The Entech Coatings products also last 3-5 times as long as conventional products – saving the energy and production costs associated with using a product that does not have the lifespan that Entech Coatings has.

Are Entech Coatings Water-based?

Yes, all the products are water-based; they are non volatile solvent-based 100% acrylic coatings.

Are Entech Coatings Resistant to Cracking, Peeling and Fading?

Yes, Entech Coatings have very high adhesion strength and thus look good throughout their lives with no premature disappointing aging problems such as cracking, peeling or fading.

Are your products MPI (Master Painters Institute) approved?

Yes, the exterior Ceramic InsulCoat™ wall product is approved under the following MPI categories:

MPI# 40 - Exterior High build Latex

MPI# 113- Exterior Pigmented Elastomeric Coating waterbased

MPI# 161- Exterior W.B Light Industrial coating MPI gloss level 3

Are Entech Coatings Resistant to Sandstorms and Corrosion?

Yes, Entech Coatings have a very high weather resistance capacity to combat sandstorms, abrasion and corrosion.

Is Your Product Breathable?

Our coatings have one of the highest breatheability rates known in the industry of 20 perms. Regular paints are 2-3 perms and typical elastomerics are 7 to 9 perms.

What is a Perm Rating?

A perm is a unit of measurement, expressing a coatings ability to allow moisture vapor to pass through the film, or its ability to breath. Ceramic Insulcoat resists water penetration still allowing vapour to pass through. This is similar to Gortex clothing.

Do Entech Coatings Block UV Rays?

Yes, our coatings contain 23 high-performance ingredients including titanium dioxide which functions as an excellent UV inhibitor.

What Makes Entech Coatings Superior to Latex Paint?

Latex paint is really just decorative and does not offer the multitude of features that Entech Coatings does. Below are just a few of the Features and Benefits our coatings have to offer, compared to regular latex paints:

Feature	Benefit
Thermal Barrier Protection	Enhances existing insulation systems and reduces energy costs.
Weatherproof and high breathability	Strong resistance to water penetration. One of the highest known breathing rates in the industry
Long Life and Good Looks	Our coating outlasts typical exterior coatings 3 to 5 times.
Environmentally Friendly	100% acrylic water based meeting and exceeding the strictest environmental guidelines.



Entech coatings covers almost twice the area of generic paint, resulting in substantial savings.

A Few of Our Excited Customers!

Reduced Supermarket Temperature 25 Degrees

"[W]e are signing some very large contracts in my country...Average store size is 2000 meters. Air conditioning costs are very high...Before the coating the exterior temperatures were 55 degrees Celsius; after the coating, the temperature was 35 degrees. On the inside before the coating, the temperature was 46 degrees. After the coating, the inside temperature was 30 degrees Celsius. This is a drop of 25 degrees. This is why they are so excited and have awarded us contracts."

*Eduardo Cervantes
Sistemas Modernos de Tecnologia*

Keeps Chickens Cool

"Our new chicken barn laying facilities have gained significant heat management benefits from your thermal barrier paint "Insulcoat "wall...Our existing barn was painted with regular paint and we used R40 insulation. Our same size new barn was insulated with R20 insulation and we used Insulcoat wall instead of regular paint. The results were phenomenal...Our new barn with less insulation and Insulcoat paint was warmer in the winter and cooler in the summer than the other barn with R40 insulation and regular paint."

*Jakes Poultry, Westport Farms Ltd.
Langley, B.C.*

Fixes Leaky Cistern

"We have always stored water in a 5,000 gallon square cement cistern for use in our house. For ten (10) year, the cistern leaked. We coated the whole cistern with Ceramic Insulcoat. After it dried, we filled the cistern with water and the outside has been dry ever since. We have been very happy with the water quality and waterproofing effect."

*Miles Johnson
Turtleford, Sask.*

'That Special Look'

I have spent over 20 years with BC Gas and have seen a lot of homes up close. Very few if any ever look as good as this paint does years later. That special look is something you just don't see often. The best news is that as a person that understands utility costs, I am thrilled to tell you we are saving over 25% of our heating costs after applying Entech Coatings. With the cost of utilities on the rise we feel we have beat the market."

*Ron Child,
White Rock, B.C.*

Air Conditioning Costs Lowered 50%

"Before the roof was coated, my A/C was running wide open and I was still hot; after it was coated, I turned the A/C to low and at times my place was too cool ... I calculated that my a/c costs were lower by more than 50%. At this rate I have almost recovered the cost of having my roof coated with their system."

Peter Morgan
Cabo, San Lucas

No Stains or Discolouration

"During our field review of the applied coatings and our discussions with some of the building owners that have had the coatings on their buildings for several years, we saw no signs of any staining, uneven discoloration or premature deterioration of the applied coatings. In our experience we have found the performance to be consistently good and would not hesitate to recommend or specify the products to our clients."

Emerald Inspection & Consulting Services
Coquitlam, B.C.

Saves Energy

"The outstanding characteristic of this coating is its ability to insulate. Our utility bill calculated over one year indicated an eight percent (8%) saving in energy consumption."

DA Ewing
Delta B.C.

Sound Financial Decision For Our Roof

"We are very pleased with the appearance of our roof. Considering the inevitable costly expense of re-roofing, we are sure we made a sound financial decision when we chose to coat the shingles three years ago with Ceramic InsulCoat R:E Roof."

Don and Irene Smith
Genelle, B.C.

Family and Friends Impressed

Family, neighbours and friends who have seen our house since we completed the first coat were more than impressed with the finish.

C.U.
White Rock

Super Adhesion—Super Abrasion-resistance

"... as a painting contractor I have used (these products) on jobs large and small, with unequalled success.... super adhesion....super abrasion-resistance."

Art Mars
Certa Propainters

Extreme Satisfaction

"...I wanted to express our appreciation and extreme satisfaction with our association with your company and its products."

Rev. Darryl SC Peregrym
Surrey Pentecostal Assembly, Surrey, BC

CERAMIC INSULCOAT WALL™

Product Description

Ceramic InsulCoat Wall™ is a strong, tough coating, formulated with hollow-core ceramic micro spheres, strands and irregular particulate in a complex 100% acrylic suspension with superior adhesion and abrasion resistance. Provides significant resistance to cracking, chalking, peeling and weathering. Exhibits exceptional adhesive and thermal properties.

Intended Uses

Ceramic InsulCoat Wall™ is an extremely versatile, high-build architectural coating intended for Commercial, Industrial, Institutional and Residential exterior applications. It may be applied over cast or poured concrete, tilt-ups, cinder/concrete block, brick, wood, aluminum, galvanized steel and vinyl. It is available in over 1,001 colours resistant to fading.

Product Data

Characteristics	Test Method	Observation
Weight per US G (3.78L)	FTMS 141 – Method 4184	11 Lbs (4.99Kg)
Non-Volatile Solids	FTMS 141 – Method 4041	By weight: 69.1% By volume: 60.9%
Viscosity	FTMS 141 – Method 4281	Stormer Viscosity: 100 revolutions in 8 seconds at 500 grams
Toxicity	FTMS 141 – Method 511	Material is non-toxic & requires no special ventilation during application. Contains no materials considered to be health hazards.
Flammability	ASTM 1360 – DOT-MVSS 302	In container: Waterproof, Non-flammable. On concrete: Self-extinguishing – does not support flame spread.
Package Stability		One year + after opening: no settling or other undesirable effects. Materials completely dispersed after stirring
Abrasion Resistance	FTMS 141 – Method 6192 Tabor 17 Wheel – 100 grams – 1000 cycles	Weight loss in grams: InsulCoat Wall with aggregate 41 g InsulCoat Wall without aggregate 14 g Epoxy wall coating without aggregate 09 g (typical)
Hardness	ASTM D3363	6H – This is the hardest value measured by this test and compares to a typical 2H hardness of hard-wood floor finishes
Impact Resistance	ASTM D2794	28 inch-pounds of impact with no break in the film surface. Typically, 20 inch-pounds of impact is considered to be a high performance test result.
Flexibility	FTMS 141 – Method 6222	Withstands deformation of 1.5" – 38mm to 1/8" – 3.2mm on a metal substrate with no loss of adhesion, cracking, chipping or flaking (mandrel test).

Elongation	ASTM D2370	12 mils – 0.31mm dry film thickness stretched 160% with 100% full memory. This was the full extent of the elongation and the film never did break.							
Water Resistance (wind-driven rain)	TTC-555 Water driven against test surface at a dynamic pressure equivalent to 98 mph	Time for water to penetrate:							
		<table> <tr> <td>One Coat</td><td>6.3 mils</td><td>30 minutes</td></tr> <tr> <td>Two coats</td><td>10.0 mils</td><td>11 hours</td></tr> <tr> <td>Three coats</td><td>12.0 mils</td><td>none at 24 hours</td></tr> </table>	One Coat	6.3 mils	30 minutes	Two coats	10.0 mils	11 hours	Three coats
One Coat	6.3 mils	30 minutes							
Two coats	10.0 mils	11 hours							
Three coats	12.0 mils	none at 24 hours							
Moisture Vapor Transmission	ASTM E96 – Procedure B	20.0 perms A “perm” is a unit of measure expressing a coating’s ability to allow moisture vapor to pass through the film, or its “ability to breathe”. The lower the “perm” rating, the more likely the coating will blister over time.							
High Humidity Resistance	FTMS 141 – Method 6201.1 100% condensing humidity at 107° F – 41.67° C	336 hours with no evidence of film deterioration, blistering or peeling from substrate (250 hours required to pass Federal Specifications).							
Salt Spray	FTMS 141 – Method 811.1 100% condensing 5% salt fog at 95° F – 35° C	336 hours with no evidence of film deterioration, blistering or peeling from substrate (250 hours required to pass Federal Specifications).							
Artificial Weathering	ASTM E42 – Carbon Arc weatherometer 250 hours equivalent to 5 years	After weatherometer testing (simulated rain, heat, ultra-violet ray and normal weather cycling) the coating showed no evidence of chalking, blistering or peeling, cracking or checking and only slight yellowing of the 100% titanium dioxide white colour.							
Fungus Resistance	FTMS 141 – Method 6271	No fungus growth when material tested in an environment of three organisms.							

VOC by SCAQMD 304 / EPA 24

V.O.C. gm/l (Less Water)	SCAQMD Method 304 (Equation 5.2)	79.0 gm/l
Volatiles, %	ASTM D2369	32.77
Water, %	ASTM D4017	27.14
Density, lb/gal	ASTM D1475	11.65 lb/gal
Density, gm/ml	ASTM D1475	1.397 gm/ml

Application Characteristics

Material	Single component, ready-to-use from container with little or no stirring required		
Approximate Coverage	First coat	Rough porous surface	100 to 150 sq. ft./gallon 8.1 to 13.9 sq. meters/3.78L
		Smooth, tight surface	150 to 200 sq. ft./gallon 13.9 to 18.6 sq. meters/3.78L
	Subsequent coats		200 to 275 sq. ft./gallon 18.6 to 25.6 sq. metres/3.78L
Dry Base Film Thickness	One coat Two coats	4 to 6 dry mils – 0.1 to 0.152mm dry film 10 to 12 dry mils – 0.254 to 0.305 mm dry film	
Substrate Preparation	Dry, clean, tight surface with no gloss. – will bridge hairline cracks up to 1/16” – 1.6mm		
Application Temperature Range	39° F – 4° C substrate to 80° F – 29° C ambient air in direct sunlight		
Application Method	1.5” nap roller – brush – airless sprayer (0.023” – 0.584mm tungsten-carbide tip)		
Initial Cure (tack-free)	Air dry, 15 to 30 minutes with moderate to low ambient humidity		
Primary Cure	Air dry, 48 hours at 50° F – 15.5° C or greater surface temperature with moderate to low ambient humidity		
Final Cure	90 to 120 days		
Solvent (before curing)	Water		
Cohesion Strength	Outstanding bond to dry or slightly damp surfaces. Strong cohesion to any clean, dry concrete, masonry, asphalt, brick or wood surfaces. Hydrostatic pressure will disrupt this bond.		

Ceramic InsulCoat Roof™

Product Description

Ceramic InsulCoat Roof™ is a strong, tough coating, formulated with hollow-core ceramic micro spheres, strands and irregular particulate in a complex 100% acrylic suspension with superior adhesion and abrasion resistance. Provides significant resistance to cracking, chalking, peeling and weathering. Exhibits exceptional adhesive and thermal properties.

Intended Uses

Ceramic InsulCoat Roof™ is ideal for use on wood shakes and shingles, primed galvanized steel, enameled steel, aluminum roofing, cement tiles, clay tiles and asphalt shingles. Although available in thousands of colours, pastels and white are recommended for peak thermal benefits.

Product Data

Characteristics	Test Method	Observation
Weight per US G (3.78L)	FTMS 141 – Method 4184	11 Lbs (4.99Kg)
Non-Volatile Solids	FTMS 141 – Method 4041	By weight: 69.1% By volume: 60.9%
Viscosity	FTMS 141 – Method 4281	Stormer Viscosity: 100 revolutions in 8 seconds at 500 grams
Toxicity	FTMS 141 – Method 511	Material is non-toxic & requires no special ventilation during application. Contains no materials considered to be health hazards.
Flammability	ASTM 1360 – DOT-MVSS 302	In container: Non-flammable On concrete: Self-extinguishing – does not support flame spread.
Package Stability		One year + after opening: no settling or other undesirable effects. Materials completely dispersed after stirring
Abrasion Resistance	FTMS 141 – Method 6192 Tabor C17 Wheel – 100 grams – 1000 cycles	Weight loss in grams: InsulCoat Roof with aggregate 41 g InsulCoat Roof without aggregate 14 g Epoxy floor coating without aggregate 9 g (Typical)
Hardness	ASTM D3363	6H – This is the hardest value measured by this test and compares to a typical 2H hardness of hard-wood floor finishes
Impact Resistance	ASTM D2794	28 inch-pounds of impact with no break in the film surface. Typically, 20 inch-pounds of impact is considered to be a high performance test result.
Flexibility	FTMS 141 – Method 6222	Withstood deformation of 1.5" – 38mm to 1/8" – 3.2mm on a metal substrate with no loss of adhesion, cracking, chipping or flaking (mandrel test).

Characteristics	Test Method	Observation
Elongation	ASTM D2370	12 mils – 0.31mm dry film thickness stretched 160% with 100% full memory. This was the full extent of the elongation and the film never did break.
Water Resistance (wind-driven rain)	TTC-555 Water driven against test surface at a dynamic pressure equivalent to 98 mph :	<i>Time for water to penetrate</i> One Coat 6.3 mils 30 minutes Two coats 10.0 mils 11 hours Two coats 12.0 mils none at 24 hours.
Moisture Vapor Transmission	ASTM E96 – Procedure B	20.0 perms • A “perm” is a unit of measure expressing a coating’s ability to allow moisture vapor to pass through the film, or its “ability to breathe”. The lower the “perm” rating, the more likely the coating will blister over time.
High Humidity Resistance	FTMS 141 – Method 6201.1 100% condensing humidity at 107° F – 41.67° C	336 hours with no evidence of film deterioration, blistering or peeling from substrate (250 hours required to pass Federal Specifications).
Salt Spray	FTMS 141 – Method 811.1 100% condensing 5% salt fog at 95° F – 35° C	336 hours with no evidence of film deterioration, blistering or peeling from substrate (250 hours required to pass Federal Specifications).
Artificial Weathering	ASTM E42 – Carbon Arc weatherometer 250 hours equivalent to 5 years	After weatherometer testing (simulated rain, heat, ultra-violet ray and normal weather cycling) the coating showed no evidence of chalking, blistering or peeling, cracking or checking and only slight yellowing of the 100% titanium dioxide white colour.
Fungus Resistance	FTMS 141 – Method 6271	No fungus growth when material tested in an environment of three organisms.

VOC by SCAQMD 304 / EPA 24

V.O.C. gm/l (Less Water)	SCAQMD Method 304 (Equation 5.2)	42.0 gm/l
Volatiles, %	ASTM D2369	33.07
Water, %	ASTM D4017	30.08
Density, lb/gal	ASTM D1475	11.74 lb/gal
Density, gm/ml	ASTM D1475	1.407 gm/ml

Application Characteristics

Material	Single component, ready-to-use from container with little or no stirring required		
Approximate Coverage	First coat	Rough porous surface	100 to 150 sq. ft./gallon 8.1 to 9.3 sq. meters/3.78L
		Smooth, tight surface	150 to 200 sq. ft./gallon 13.9 to 18.6 sq. metres/3.78L
	Subsequent coats		200 to 275 sq. ft./gallon 20.9 to 27.9 sq. meters/3.78L
Dry Base Film Thickness	One coats Two coats	4 to 6 dry mils -- 0.1 to 0.152mm dry film 10 to 12 dry mils -- 0.254mm-- 0.305mm dry film	
Substrate Preparation	Dry, clean, tight surface with no gloss. -- will bridge hairline cracks up to 1/16" -- 1.6mm		
Application Temperature Range	39° F -- 4° C substrate to 80° F -- 29° C ambient air in direct sunlight		
Application Method	1.5" nap roller -- brush -- airless sprayer (0.023" -- 0.584mm tungsten-carbide tip)		
Initial Cure (tack-free)	Air dry, 15 to 30 minutes with moderate to low ambient humidity.		
Primary Cure ambient humidity	Air dry, 48 hours at 60° F -- 15.5° C or greater surface temperature with moderate to low.		
Final Cure	90 to 120 days.		
Solvent (before curing)	Water.		
Cohesion Strength	Outstanding bond to dry or slightly damp surfaces. Strong cohesion to any clean, dry concrete, masonry, asphalt, brick or wood surfaces. Hydrostatic pressure will disrupt this bond.		

Ideal for all Industrial, Commercial and Residential Buildings

For use on virtually all surfaces including Stucco * Cement * Concrete Composite Cementitious Siding * Wood * Composite Wood Products * Vinyl and Primed Metals

CERAMIC INSULCOAT™-EXTERIOR WALL is a strong, tough coating, formulated with hollow-core ceramic microspheres, strands and irregular particulate in a complex, 100% acrylic suspension with superior adhesion, breathability, elasticity and weather-proofing. It is designed to provide the ultimate protection against Ultra-Violet degradation and weathering. Ceramic InsulCoat EXTERIOR WALL™ has demonstrated thermal resistance under laboratory tests when compared to Batt Insulation. For optimum results always use highest standard building envelope preparation systems.

Ceramic InsulCoat™- Exterior Wall Benefits

Long-Lasting Finish Lasts up to 20 years or more.

Thermal Barrier Protection. Ceramic particulate reflects heat, enhances heat management and extends life-cycle performance actors.

Energy Efficient Ceramic Insulcoat R:E Coating system helps reduce energy by reflecting heat rays away from the coated surface. End users report four to fifty percent reduction in energy consumption plus greater creature comfort.

Fire Resistant Does not burn in the pail. Self extinguishing, does not support flame spread.

Environmentally Friendly 100% acrylic water-based product that meets today's strict environmental guidelines.

Titanium Dioxide Enriched Titanium Dioxide has ten times the refractive index of diamond and is an excellent UV inhibitor.

Weatherproof Creates a weatherproof membrane that significantly reduces potential damage and deterioration of the substrate. Reduces rot and mildew formation.

Flexible Expands to 160% with full memory return. Withstands normal building expansion and contraction. Resists chipping, flaking or peeling.

Easy Maintenance Easy to wash with municipal water pressure and conventional techniques.

Colour-Fast Full range of colours. Resists fading. White, pastels, bright and accent colours available.

Breathable Allows water vapor to escape from the interior.

Simple 5-step Restoration Process

1. Pressure wash and clean, airbrush and clean substrate. Remove all loose materials.
2. Apply Fungicide treatment where applicable.
3. Repair all leaks. For substrate restoration, Master Painters preparation guidelines are recommended. Use proper envelope or substrate preparation systems.
4. Apply Ceramic InsulSeal© to porous substrates. Appropriate Primers may be required.
5. Finish with Ceramic InsulCoat WALL© for protection, enhanced insulation and beautification.

Performance Characteristics

Water Resistance (*wind-driven rain*) When applied to Entech Coatings protocol of application producing a 12 mil dry film coat, water driven against the test surface at a dynamic pressure equivalent to 98 MPH (157.7 KPH) was unable to penetrate during a 24 hour test.

Moisture Vapor Transmission Test results have established a 20 perm rating for the Ceramic InsulCoat R:E™ Coating System. A "perm" is a unit of measure expressing a coating's ability to allow moisture vapor to pass through the film, or its "ability to breathe". The lower the "perm" rating, the more likely the coating will blister over time. Typical paints have a perm rate averaging 2 to 3, whereas high end acrylic paints are typically rated at 7 to 9. Moisture retention in wall systems has been proven detrimental to personal health.

For additional technical data and performance characteristics, please consult the Ceramic InsulCoat-EXTERIOR WALL™ Technical Data Sheet available on request or visit our web site at <http://www.entechncoatings.com>. A thixotropic product. Like yogurt, viscosity will appear to vary by age, temperature and agitation. To obtain workable viscosity always drill or shake before use. If found stiff, introduce InsulSeal© or InsulSeal 5.0© to achieve original viscosity.

Ideal for all Industrial, Commercial and Residential Buildings

For use on Composite Fiberglass Shingles * Asphalt Shingles * Various Membrane Systems * Concrete and Fired Clay Tiles * Primed Metals & Sidings

CERAMIC INSULCOAT™-ROOF provides beautification, UV protection & thermal barrier enhancement. It is a strong, tough coating, formulated with hollow-core ceramic micro spheres, strands and irregular particulate in a complex, 100% acrylic suspension with superior adhesion, breathability, elasticity and weatherproofing. It is designed to provide the ultimate protection against Ultra-Violet degradation and weathering. Ceramic InsulCoat™ROOF has demonstrated significant thermal resistance under laboratory tests when compared to Batt Insulation.

Ceramic InsulCoat™ Roof Benefits

Thermal Barrier Ceramic particulate plus high titanium levels provide significant thermal barrier protection

Energy Efficient Reflected heat rays increase efficiency. Slowing the movement of heat through the substrate provides heat management, greater comfort and reduced energy consumption.

Fire Resistant Self extinguishing, does not support flame spread.

Environmentally Friendly 100% acrylic water-based product that meets today's strict environmental guidelines

Weatherproof Enhancement Creates a weatherproof membrane that significantly reduces potential damage and deterioration of the substrate. Reduces rot and mildew formation.

Flexible Designed to resist improvement caused by thermal impact.

Limited Colour Choices Resists fading. White, pastels, bright and accent colours available

Suggested Preparation Procedures

- Repair all leaks
- Pressure wash and clean, or airbrush and clean substrate. Remove all loose materials.
- Apply - Fungicide treatment where applicable.
- Apply - Ceramic InsulSeal® to porous substrates.
- Finish with Ceramic InsulCoat™ROOF for protection, insulation and beautification.



Performance Characteristics

Thermal Characteristics

Moisture Vapor Transmission Test results have established a 20 perm rating for the Ceramic InsulCoat R:ETM Coating System. A "perm" is a unit of measure expressing a coating's ability to allow moisture vapor to pass through the film, or its "ability to breathe". The lower the "perm" rating, the more likely the coating will blister over time. Typical paints have a perm rate averaging 2 to 3, whereas high end acrylic paints are typically rated at 7 to 9. Moisture retention in wall systems has been proven detrimental to personal health.

"The Envirocoat Inc. Ceramic InsulCoat™ provided a greater thermal difference between the coated side and the uncoated side. The leading brand of exterior latex paint provided a much lesser thermal barrier difference. The conclusion therefore is that the Ceramic InsulCoat definitely provides a much better insulating factor than a regular exterior latex." LS Consulting, Louis

St. Laurent, Coatings Chemist.

For additional technical data and performance characteristics, please consult the Ceramic InsulCoat™ -EXTERIOR WALL Technical Data Sheet available on request or visit our web site at <http://www.entechncoatings.com>. A thixotropic product. Like yogurt, viscosity will appear to vary by age, temperature and agitation. To obtain workable viscosity always drill or shake before use. If found stiff, introduce InsulSeal© or insulseal 5.0© to achieve original viscosity.

CERAMIC INSULSEAL™

Product Description

Ceramic InsulSeal™ is a polymer-modified acrylic penetrating soaker-sealer and bonding agent that can be brushed-on, rolled-on, or sprayed-on. Used undiluted directly from the container, it penetrates deep into porous substrates. As it fills and hardens it provides a myriad of micro-anchoring points in the substrate. It is not a finishing product and must be coated. Promotes exceptional adhesion when used in conjunction with the Ceramic InsulCoat R:E® Coating System.

Intended Uses

Ceramic InsulSeal™ is used as a priming, penetrating sealant intended for Commercial, Industrial, Institutional and Residential exterior applications. It may be applied over pre cast or poured concrete, tilt-ups, cinder/concrete block, stucco, brick and wood. Forms an integral part of the Envirocoat Ceramic InsulCoat R:E Coating System®.

Product Data

Characteristics	Test Method	Observation
Weight per US G (3.78L)	FTMS 141 – Method 4184	10 Lbs. (4.54Kg)
Non-Volatile Solids	FTMS 141 – Method 4041	By volume: 25%
Toxicity	FTMS 141 – Method 5111	Material is non-toxic & requires no special ventilation during application. Contains no materials considered to be health hazards.
Flammability		Keep away from open heat or flame.
Package Stability		Greater than 180 days at 72° F (22° C).
Fungus Resistance	FTMS 141 – Method 6271	No fungus growth when material tested in an environment of three organisms.

Material	White, translucent in liquid form - Dries to a clear finish.	
Approximate Coverage	350 to 450 sq. ft/gallon.	
Dry Base Film Thickness	One coat	1 to 1.3 dry mils – 0.025 to 0.033 mm dry film.
Substrate Preparation	Dry, clean, free of loose particles.	
Application Temperature Range	39° F – 4° C substrate to 80° F – 29° C ambient air in direct sunlight.	
Application Method	1.5" nap roller – brush – airless sprayer (0.09 ~ 0.11").	
Initial Cure (tack-free)	Air dry, 15 to 30 minutes with moderate to low ambient humidity.	
Primary Cure	Air dry, 48 hours at 50° F – 15.5° C or greater surface temperature with moderate to low ambient humidity.	
Solvent (before curing)	Water.	
Cohesion Strength	Outstanding bond to dry or slightly damp surfaces. Strong cohesion to any clean, dry concrete, masonry, brick and wood surfaces. Hydrostatic pressure will disrupt this bond.	

SEALBOND™**Product Description**

SealBond™ is a polymer-modified acrylic penetrating finishing sealant. It provides significant resistance to dirt and moisture from penetrating into the substrate. It can be brushed-on, rolled-on, or sprayed-on. Used undiluted directly from the container, it penetrates deep into porous substrates leaving a virtually invisible, clear protective film.

Intended Uses

SealBond™ is typically used on exposed aggregate as penetrating sealant intended for Commercial, Industrial, Institutional and Residential exterior applications. It may be applied over exposed aggregated, cast or poured concrete, tilt-ups, cinder/concrete block, and brick. Sealbond™ can also be used as a very effective sacrificial graffiti blocker, which can be applied over most previously painted surfaces, raw concrete and masonry.

Product Data			
Characteristics	Observation		
Weight per US G (3.78L)	10 Lbs. (4.54Kg)		
Non-Volatile Solids	By weight: 23 %		
Viscosity	40 cps		
Toxicity	Material is non-toxic & requires no special ventilation during application. Contains no materials considered to be health hazards.		
Flammability	Keep away from heat or open flame.		
Package Stability	At 72° F - 22° C >180 days		
Abrasion Resistance	CS-17/1000g/1000 cycles: 97mg. loss		
Hardness	1H		
Impact Resistance	28 inch-pounds of impact with no break in the film surface. Typically, 20 inch-pounds of impact is considered to be a high performance test result.		
Flexibility	Withstood deformation of 1.5" – 38mm to 1/8" – 3.18mm		
Elongation	2 mils – 0.051mm dry film thickness stretched 110% with 100% full memory.		
Moisture Vapor Transmission	14.0 perms A "perm" is a unit of measure expressing a coating's ability to allow moisture vapor to pass through the film, or its "ability to breathe". The lower the "perm" rating, the more likely the coating will blister over time.		
High Humidity Resistance	336 hours with no evidence of film deterioration, blistering or peeling from substrate. (250 hours required to pass Federal Specifications)		
Chemical Resistance	10%	Acetic Acid	Fair
	2%	Nitric Acid	Excellent
	10%	Hydrochloric Acid	Excellent
	10%	Sulfuric Acid	Excellent
	10%	Sodium Hydroxide	Excellent
	10%	Ammonium Hydroxide	Good
Salt Spray	336 hours with no evidence of film deterioration, blistering or peeling from substrate. (250 hours required to pass Federal Specifications)		
Artificial Weathering	After weatherometer testing (simulated rain, heat, ultra-violet ray and normal weather cycling) the coating showed no evidence of chalking, blistering or peeling, cracking or checking.		
Fungus Resistance	No fungus growth when material tested in an environment of three organisms.		

Technical data

Entech Coatings

Application Characteristics

Material	Polymer modified resin compound		
Approximate Coverage	First coat	Rough porous surface	250 to 350 sq. ft./gallon
		Smooth, tight surface	350, to 450 sq. ft./gallon
Dry Base Film Thickness	One coat Two coats Three coats	1 to 2 dry mils – 0.025 to 0.051mm dry film 2 to 3 dry mils – 0.051 to 0.076mm dry film 4 dry mils plus – 0.1mm dry film	
Substrate Preparation	Dry, clean, tight surface with no gloss.		
Application Temperature Range	39° F – 4° C substrate to 80° F – 29° C ambient air in direct sunlight.		
Application Method	1.5” nap roller – brush – airless sprayer (0.009” – 0.229mm).		
Initial Cure (tack-free)	Air dry, 15 to 30 minutes with moderate to low ambient humidity.		
Primary Cure	Air dry, 48 hours at 50° F – 15.5° C or greater surface temperature with moderate to low ambient humidity.		
Final Cure	90 to 120 days.		
Solvent (before curing)	Water.		
Cohesion Strength	Outstanding bond to dry or slightly damp surfaces. Strong cohesion to any clean, dry concrete, masonry, asphalt, brick and wood surfaces. Hydrostatic pressure will disrupt this bond.		



**An industry leading INSTITUTE,
dedicated to the establishment of quality
standards and quality assurance in
the painting and coating application industries,
principally in the U.S.A. and Canada.**

approved product list

**See the following categories for
Ceramic InsulCoat™ Coatings:**

- Category #40
- Category #110 Type 3
- Category #113
- Category #34
- Category #52
- Category #99



Inchcape Testing Services

Warnock Hersey

211 Schoolhouse Street, Coquitlam, B.C. V3K 4X9 Canada

Telephone (604) 520-3321

Fax (604) 524-9186

REPORT OF: Product Evaluation

AT: Coquitlam Laboratory

PROJECT: 484-8091

REPORTED TO: Envirocoat Technologies Inc.

DATE: Nov. 8/95

REPORT NO: 1/95

ORDER NO:

Page: 1 of 2

INTRODUCTION

Warnock Hersey Professional Services Ltd., at the request of Envirocoat Technologies Inc., has conducted testing on submitted "Ceramic Insulcoat" permanent coating as per proprietary instructions.

Testing was conducted to determine the variation in temperature between two sides of a thermal chamber separated by the coating membrane and R-24 building insulation.

PRODUCT DESCRIPTION

(3) 15-1/2" x 15-1/2" x 0.006" thick sheets of "Ceramic Insulcoat" coating, white in colour manufactured and submitted to our Coquitlam laboratory by Envirocoat Technologies Inc.

(1) batt of Manville Fibreglass building insulation R-12; doubled up to make R-24

TEST METHOD #1 - (Tests 1 - 8)

The two different barriers were placed vertically in the thermal chamber to divide it into two compartments. The chamber consisted of a enclosed plywood box 42" in length x 17" in width x 15" in height. In one of the compartments was a 100 W lightbulb for a heat source and a 35°C thermostat, and ice cooled to -10°C in 2-2 litre buckets, was used as a cold source in the thermal chamber with the 100 W lightbulb removed. Two thermocouple wires were placed one inch from either side of the barrier. A Fluke Hydra Data Bucket was used to automatically record temperature measurements at 30 second intervals on each side of the membrane.

TEST METHOD #1 - (Tests 1 - 6) - continued

Six tests were conducted including:

1. Heat source with ceramic insulcoat membrane installed
2. Heat source with membrane removed
3. Cold source with ceramic insulcoat membrane installed
4. Cold source with membrane removed
5. Heat source with R-24 building insulation
6. Cold source with R-24 building insulation

TEST RESULTS

1. Heat Source with Ceramic Insulcoat Membrane Installed

The heated compartment reached a maximum temperature of 36.2°C while the non-heated side maintained a temperature of 20.4°C. The maximum temperature difference between the two compartments was 15.8°C for the duration of the test.

2. Heated Source with Ceramic Insulcoat Membrane Removed

As anticipated without any barrier between the two compartments the temperature difference between the two sides was consistently 0.5°C.

3. Cold Source with Ceramic Insulcoat Membrane Installed

The cooled compartment reached a lowest temperature of 13.2°C while the non-cooled side maintained a temperature of 19.1°C. The maximum temperature difference between the two compartments was 5.9°C for the duration of the test.

4. Cold Source with Ceramic Membrane Removed

As anticipated without any barrier between the two compartments the temperature difference between the two sides was consistently 0.8°C.

5. Heat Source with R-24 Batt Insulation

The heated compartment reached a maximum temperature of 39.6°C while the non-heated side maintained a temperature of 20.2°C. The maximum temperature difference between the two sides was 19.4°C for the duration of the test.

6. Cold Source with R-24 Batt Insulation


The cooled compartments reached a lowest temperature of 12.9°C while the non-cooled side maintained a temperature of 19.0°C. The maximum temperature difference between the two compartments was 6.1°C.

CONCLUSION

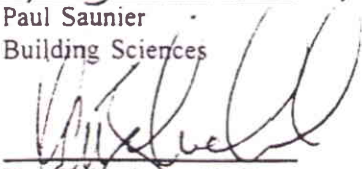
From the testing completed, it is apparent that the "Ceramic Insulcoat" membrane provides a thermal barrier against heat and cold thermal transmission, as tested in comparison with Batt Insulation conforming to CSA Standard A101.

WARNOCK HERSEY PROFESSIONAL SERVICES LTD.

Reported by:

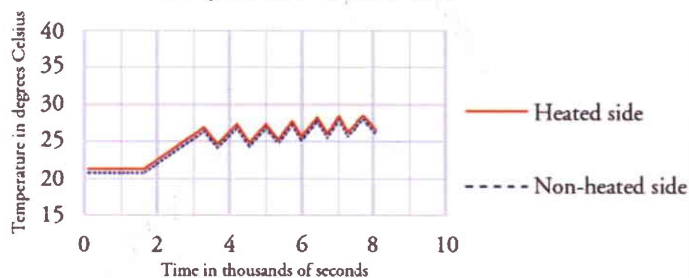

Paul Saunier
Building Sciences

Reviewed by:


Ken Zeleschuk, AScT
Building Sciences

Entech Coatings

Temperature vs Time Curve

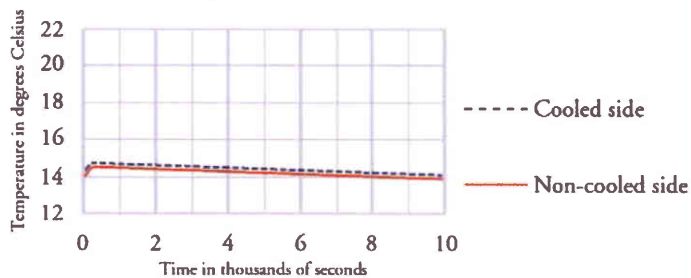


Heated - Ceramic InsulCoat Membrane removed

(Test # 2)

Entech Coatings

Temperature vs Time Curve

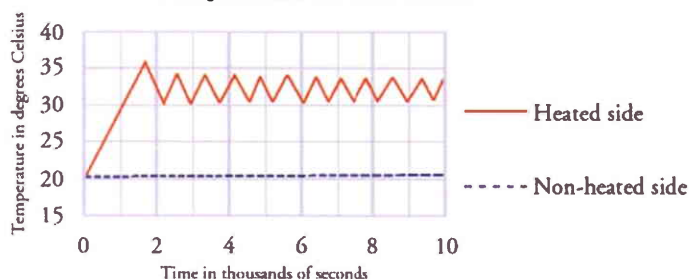


Cooled - Ceramic InsulCoat Membrane removed

(Test # 4)

Entech Coatings

Temperature vs Time Curve

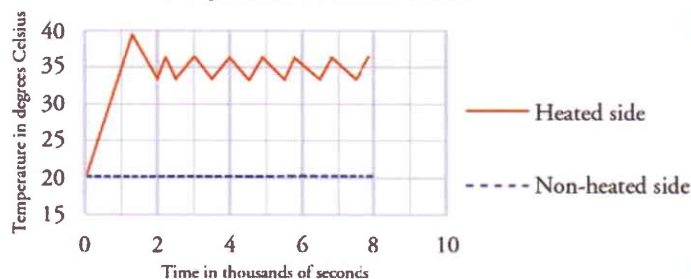


Heated - Ceramic InsulCoat Membrane installed

(Test # 1)

Entech Coatings

Temperature vs Time Curve

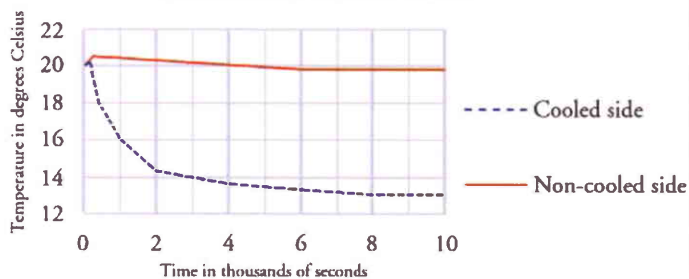


Heated - R:24 Batt Insulation installed

(Test # 5)

Entech Coatings

Temperature vs Time Curve

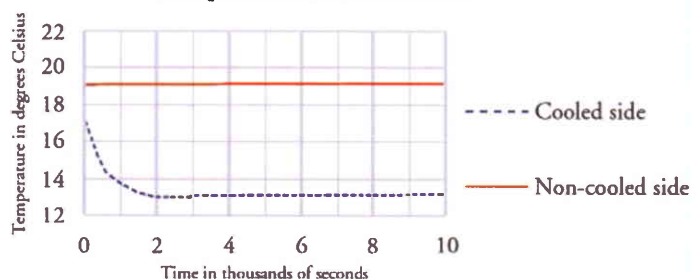


Cooled - Ceramic InsulCoat Membrane installed

(Test # 3)

Entech Coatings

Temperature vs Time Curve



Cooled - R:24 Batt Insulation installed

(Test # 6)

Note to reader:

The attached graphs constitute an integral part of the Inchcape Testing Services - Warnock Hershey product evaluation of Ceramic Insulcoat to determine the variation in temperatures between two sides of a thermal chamber separated by the coating membrane and R:24 building insulation.

ITS Intertek Testing Services

REPORT OF: Water Permeability Testing

AT: Coquitlam Laboratory

DATE: May 26/97

PROJECT: 488-0427

REPORT NO: 1/97

REPORTED TO: Envirocoat Technologies Inc.

PAGE: 1 of 2

INTRODUCTION

At the request of Envirocoat Technologies, Inc., Intertek Testing Services NA Ltd./Warnock Hersey has conducted *Water Permeability* testing on an acrylic cementitious membrane combination, applied on 1 inch thick expanded polystyrene insulation.

PRODUCT DESCRIPTION

Manufacturer: Envirocoat - Plycap

Product Name: Ceramic Insulcoat applied over Insulcrete

Description: Two part liquid applied membrane Ceramic Insulcoat - Wall, applied over cementitious Insulcrete base

TEST PROCEDURE

The test set-up was filled with water to a depth of approximately 6 ins. and examined at 96 hours (four days) and again at 168 hours (seven days) for any leakage that may occur. A color changing moisture indicator was used to determine if water had leaked through the system.

At the seven day mark, the system was taken apart and examined to determine if water had penetrated the membrane to the insulation. Thickness measurements were taken over a representative area of the membrane.

Note: Due to the interface of the white waterproofing layer and the cementitious underlayer, the thickness measurements are approximate.



All services undertaken are subject to the following general policy: Reports are submitted for the exclusive use of client to whom they are addressed. Their significance is subject to the adequacy and representative character of the sample and to the comprehensiveness of the tests, examinations or surveys made. No quotations from reports or use of Intertek Services NA Ltd.'s name is permitted except as expressly authorized by Intertek Testing Services NA Ltd. in writing.

Intertek Testing Services NA Ltd.

211 Schoolhouse Street, Coquitlam, BC V3K 4X9 Canada


Telephone 604-520-3321 Fax 604-524-9186 Home Page www.worldlab.com

TEST RESULTS

- At the end of the seven day period, no water had leaked through the system.
- No water was apparent at the interface of the cementitious layer and the insulation.
- The average thickness of the white waterproofing layer was 0.0126 ins. (12.6 mils)
- The thinnest measurement taken was 0.0085 ins. (8.5 mils)
- The thickest measurement taken was 0.0180 ins. (18.0 mils)

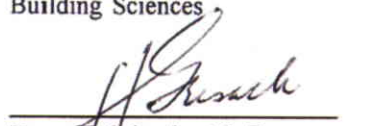
INTERTEK TESTING SERVICES NA LTD.
Warnock Hersey

Tested by:
FOR:



Geri Nishio
Testing Technician
Building Sciences

Reviewed by:



Howard Grisack, ASCT
Manager
Administration & Client Services

/GN

Langley firm makes 'Gore-Tex' like coating

It's a product that almost seems too good to be true.

It's a coating for the substrate (surface) of buildings that keeps it cool in the summer, warm in the winter, allows moisture to escape, protects against the elements, last many times longer than paint and is completely environmentally friendly. Not only does this product exist, but it's manufactured in Langley and is on its way to becoming known around the world.

EnTech Coatings manufactures a product called "Ceramic Insulcoat" President Michael Tannous compares the product to wearing Gore-Tex.

If you're walking in the rain and you have a Gore-Tex jacket on, the rain will not penetrate the exterior. When you have our product on the exterior of your home the weather will not penetrate it but it will allow the moisture and vapour to escape and not allow any rot or mildew in the wall cavity. It's a very highly breathable product.

The product is described as a high-build, high-performance architectural coating that goes on any substrate whether it's wood, stucco, cement, concrete, brick or metal. It's used on condo towers, schools, residential homes – any building at all.

The product was created by a German chemist who immigrated to Canada in 1960 and saw that in the harsh climate, a better protection for buildings was needed. In 1993 a group of investors bought the company from him and improved it by adding ceramic as a thermal protection.

The "magic" ingredient in EnTech Coatings product is Cerylium, a proprietary formula of precision blended quality performance ingredients. Ceramic is one of the ingredients. Another great feature of Ceramic Insulcoat is its life span and its one of the reasons that Vancouver's Bosa Properties uses it exclusively on its towers.

It outlasts paint by four or five times. Tannous says he frequently hears from people who tell him they have had the product on their homes or buildings for 10, 15 or 20 years and have not had to do a touch-up.

People say we're the worlds best kept secret. Last year we engaged a media company out of California that is doing third party testimonials.

Those testimonials are being picked up by national magazines across North America. It's the kind of publicity the company needs, he says, adding that he is also proud that the product is 100 percent acrylic water based and is completely environmentally friendly.

We have a tremendous future worldwide. Canada has been our proving ground. We have the rain and the cold and we've stood up for many years. We also have a roof product that gives super protection and thermal values. People who do their roofs claim a 10, 15 or 50 percent energy savings – and that's good for the environment too.

EnTech Coatings Inc. is at 5730 Production Way in Langley. www.entechcoatings.com

Dubai scrambles to comply with ruler's green edict Canadian companies see opportunities

DUBAI, United Arab Emirates – Dubai's developers are in for a new challenge. Not only must they complete, in record time, projects such as an underwater hotel, a hotel with 34 pools, and the world's largest tower, they must also design new buildings using as little energy as possible.

Green is the new buzzword in development circles in a city that has been more preoccupied with air conditioning, sprawling parking lots and gas-guzzling luxury cars.

In October, Dubai ruler Sheik Mohammed bin Rashid Al Makhtoum ordered all new buildings to comply with "green standards" starting in January. His directive came several months after the World Wildlife Fund ranked the U.A.E. as having the world's largest per-capita "ecological footprint" -- both as an emitter of greenhouse gases and as an energy consumer.

To slow global warming, install white roofs

Such roofs and reflective pavement in the world's 100 largest cities would have a massive cooling effect, according to data released at California's Annual Climate Change Research Conference.

Builders have known for decades that white roofs reflect the sun's rays and lower the cost of air conditioning. But now scientists say they have quantified a new benefit: slowing global warming.

If the 100 biggest cities in the world installed white roofs and changed their pavement to more reflective materials - - say, concrete instead of asphalt-based material - - the global cooling effect would be massive, according to data released Tuesday at California's annual Climate Change Research Conference in Sacramento.

Since 2005, the Golden State has required that flat commercial structures have white roofs. Next year, new and retrofitted residential and commercial buildings, with both flat and sloped roofs, will have to install heat-reflecting roofing, as part of an energy-efficient building code.

But the state has yet to pass any rules to encourage cooler pavement on its roads, which are largely coat with heat-absorbing asphalt, a cheap byproduct of oil refining.

According to Hashem Akbari, a physicist with the Lawrence Berkeley National Laboratory, a 1,000 square foot roof - the average size on an American home - offsets 10 metric tons of planet-heating carbon dioxide emissions in the atmosphere if dark-coloured shingles or coatings are replaced with white material.

Globally, roofs account for 25% of the surface of most cities, and pavement accounts for about 35%. If all were switched to reflective material in 100 major urban areas, it would offset 44 metric gigatons of greenhouse gases, which have been trapping heat in the atmosphere and altering the climate on a potentially dangerous scale.

That is more than all the countries on Earth emit in a single year. And, with global climate negotiators focused on limiting a rapid increase in emissions, installing cool roofs and pavements would offset more than 10 years of emissions growth, even without slashing industrial pollution.

Akbari's paper, "Global Cooling: Increasing Worldwide Urban Albedos to Offset CO₂," to be published in the journal *Climate Change*, was written with his colleague Surabi Menon and UC Berkeley physicist Arthur Rosenfeld, a member of the California Energy Commission. All three have been associated with the laboratory's Heat Island Group, which has published extensive research on how roofs and pavement raise urban temperatures.

Akbari and Rosenfeld said they will mount an effort to persuade the United Nations to organize major cities to alter their roofing and pavement.

"I call it win-win-win," Akbari said. "First, a cooler environment not only saves energy but improves comfort. Second, cooling a city by a few degrees dramatically reduces smog. And the third win is offsetting global warming."

Bring Zero-Energy Within Reach Insulating Exterior Paint, Roofs & Exterior Walls

Try to imagine a paint that acts like a skin. It is a breathable, waterproof, thermal barrier that covers the existing finish with an invisible acrylic seal. Entech Coatings claims that their water-based paint flexes with a home's natural expansions and contractions, so the existing finish lasts longer. It also resists fungus, corrosion, weathering and fading.

How does it save energy? It reflects solar energy away from the home, so a smaller amount is able to penetrate the insulation to raise temperatures inside the home. It's one of many tools that could bring a home to zero energy status.

www.entechcoatings.com

Green Light Article and Governor new release The California Energy Commission's Cool Roof Rating Council and testing.

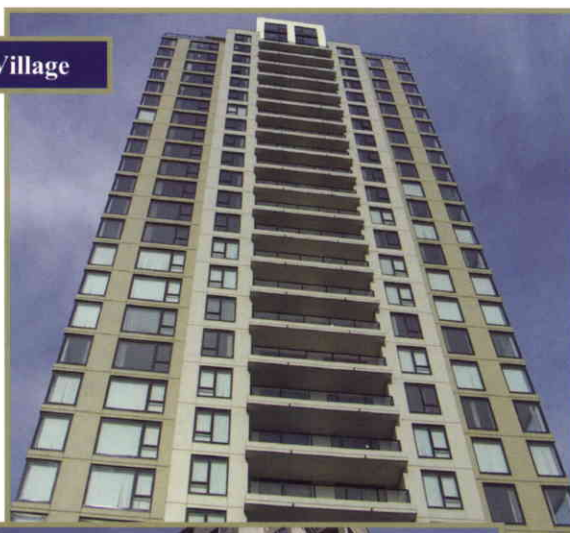
Governor Arnold Schwarzenegger today issued the following statement on the California Building Standards Commission vote to adopt the nation's first statewide green building code:

"By adopting the first-in-nation statewide green building code, California is again leading the way to fight climate change and protect the environment. This is literally a groundbreaking move to ensure that when we break ground on all new buildings in the Golden State we are promoting green building and energy efficient new technologies. Cars and buildings are two of the leading users of energy – we're already addressing cars, and these new building standards will ensure that California remains at the forefront of reducing our carbon footprint and conserving valuable natural resources while also protecting our economy. We have already committed to making our state-owned buildings more green and energy efficient and this statewide code will reduce greenhouse gas emissions, improve efficiency and conserve water in all new buildings.

"With today's action, California continues to lead the nation and I commend the hard work of the Building Standards Commission to adopt the first-in-the-nation statewide green building standards."

What is most interesting is that after years of preparation, both Raytheon and the US military are preparing to use our products in the US sunbelt. The latter uses a consultant, the San Diego Power and Light Corporation, who have shared with us that they want to get energy usage results using different substrates to indicate the power savings that results from Insulcoat Roof applications.

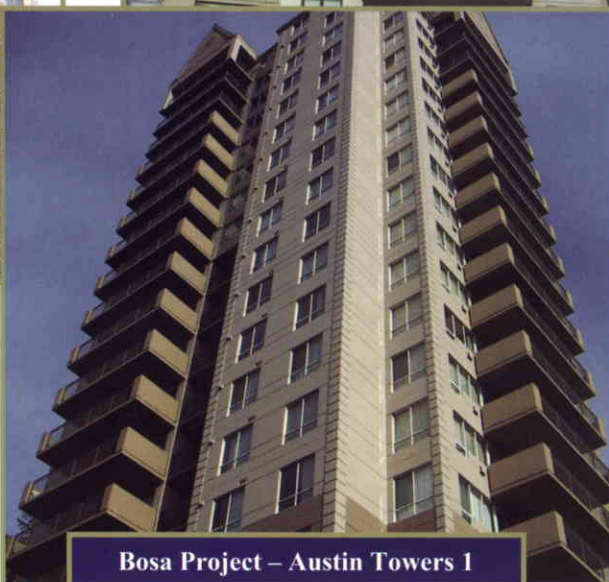
Bosa Project – High Gate Village

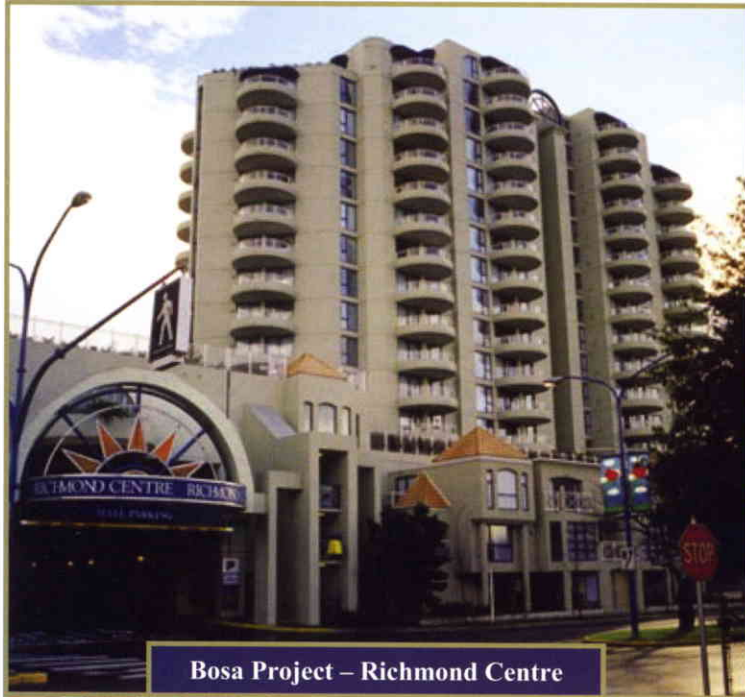


Bosa Project – Austin Towers 3

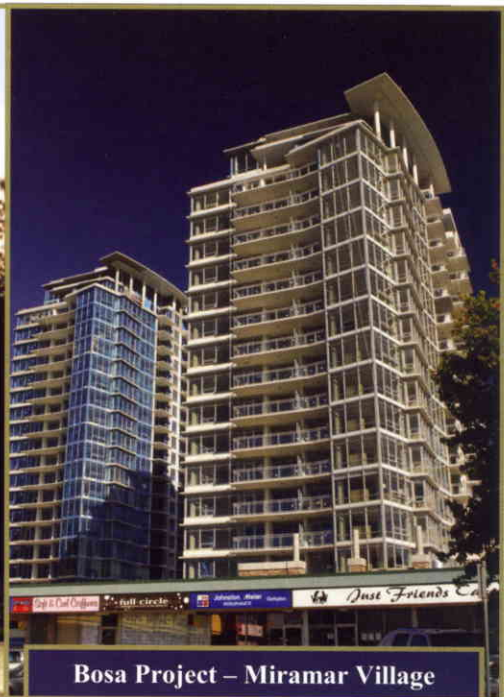


Bosa Project – Austin Towers 1





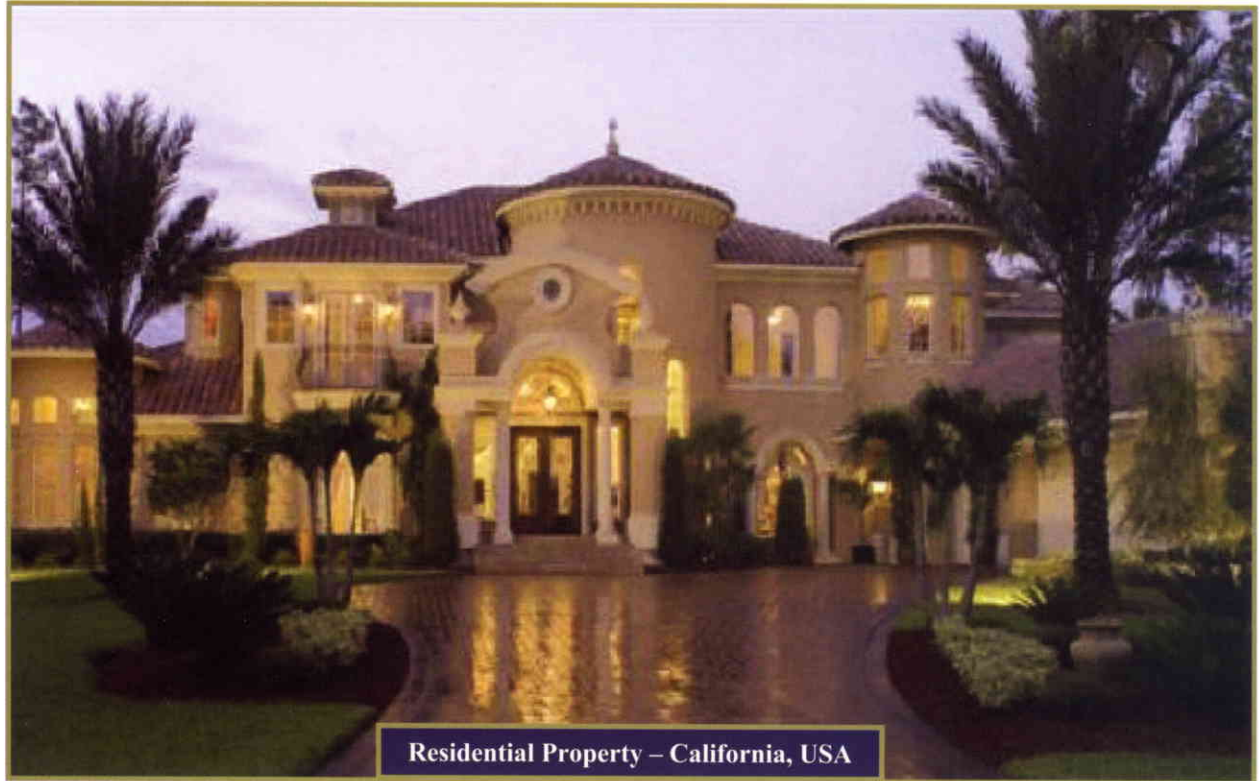
Bosa Project – Richmond Centre



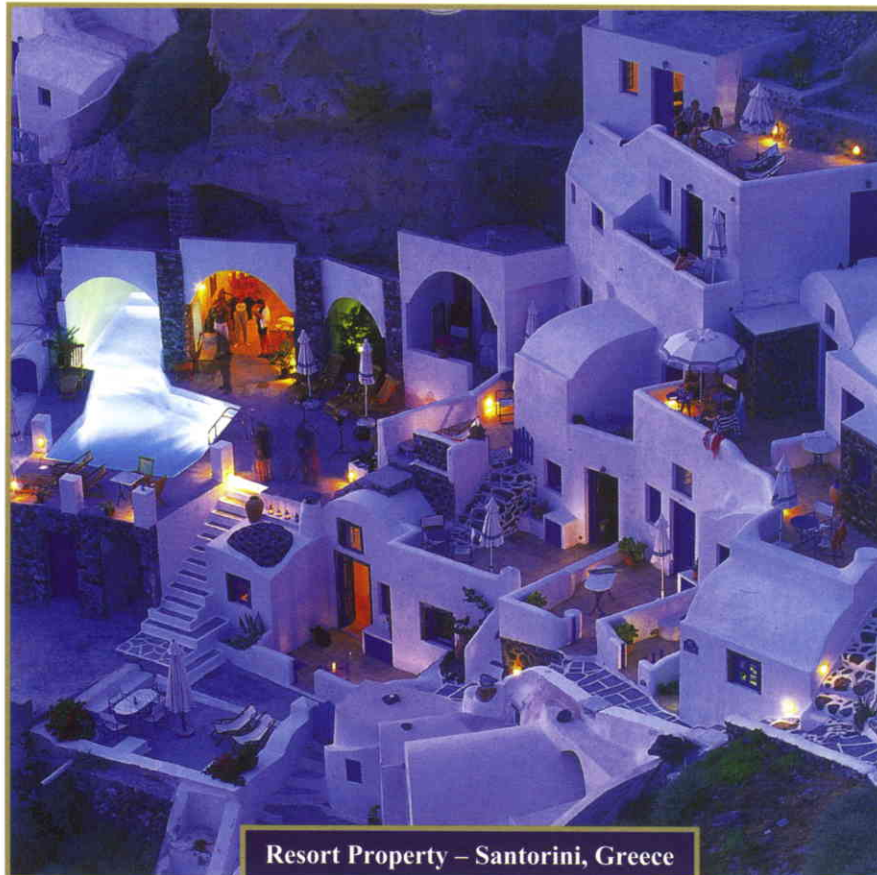
Bosa Project – Miramar Village



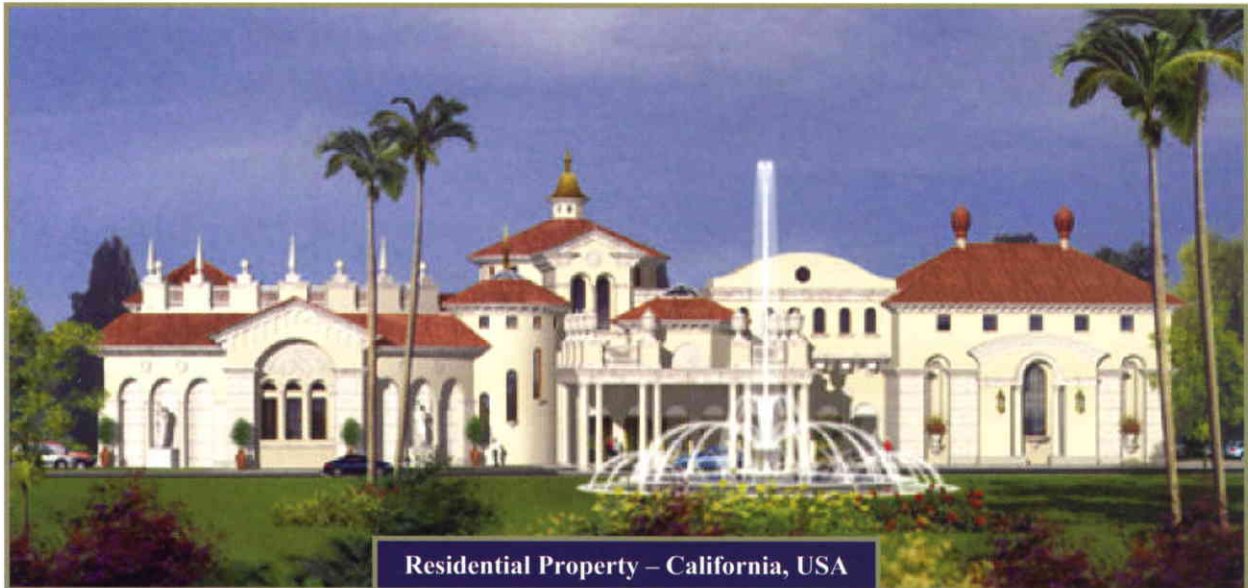
Bosa Project – The Aqua



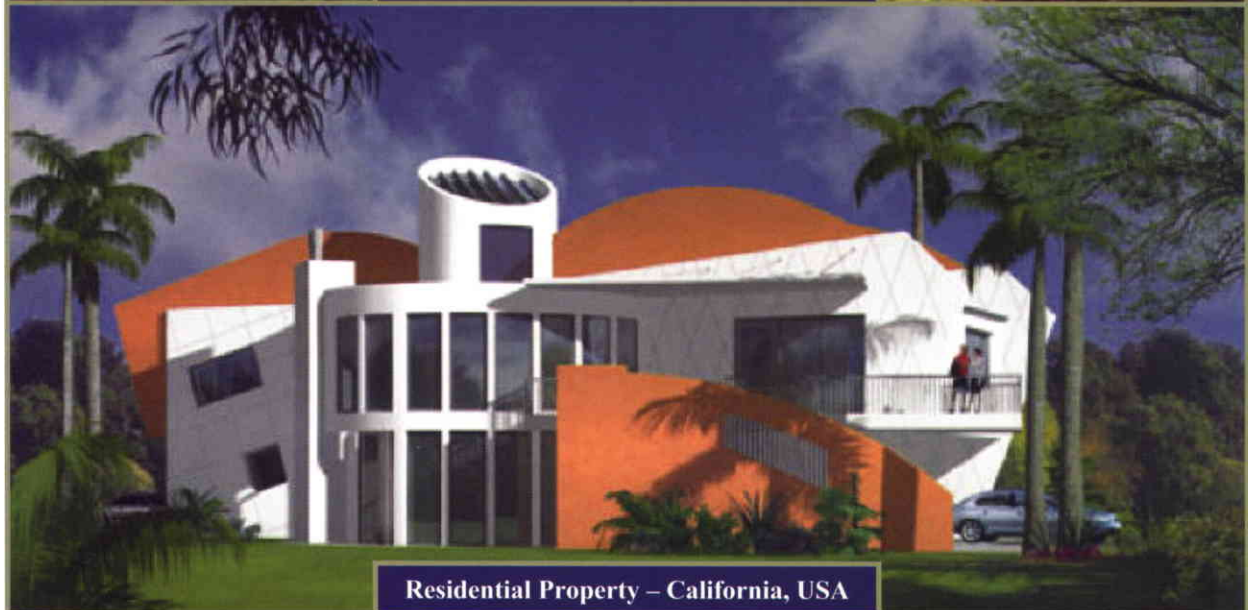
Residential Property – California, USA



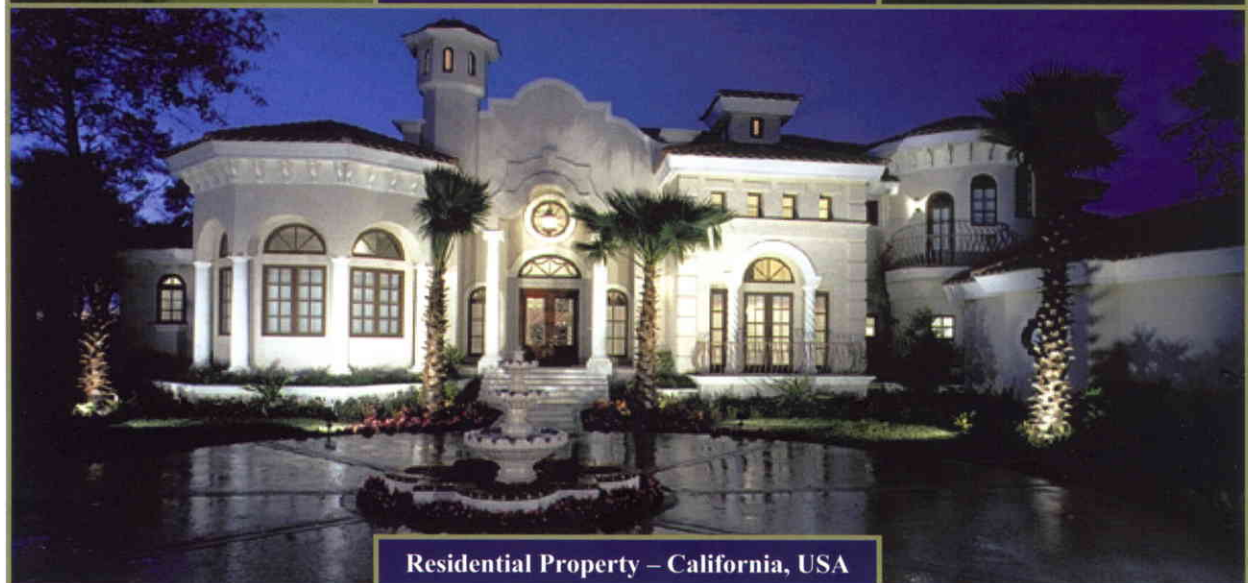
Resort Property – Santorini, Greece



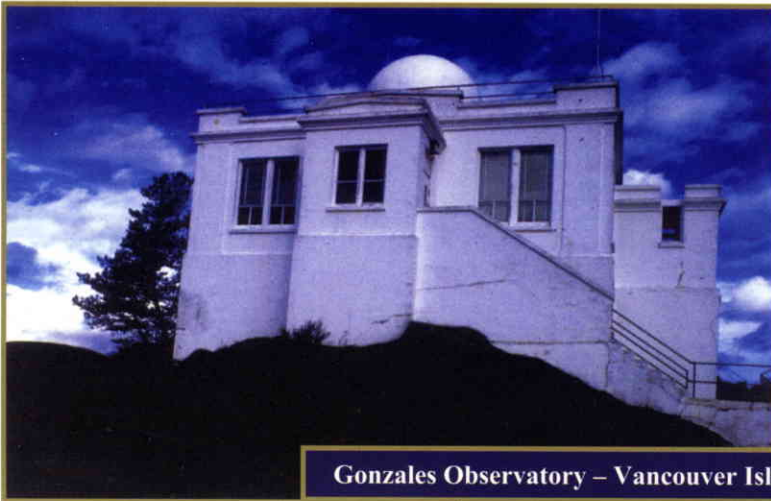
Residential Property – California, USA



Residential Property – California, USA



Residential Property – California, USA

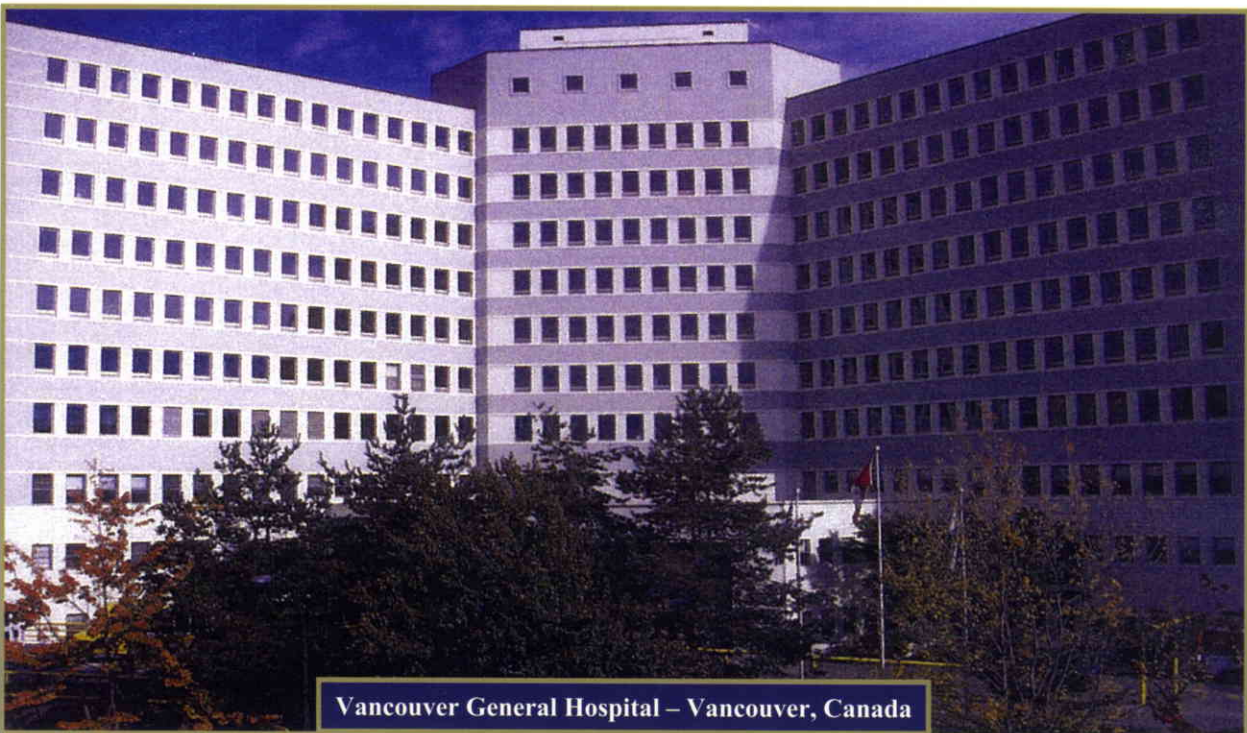


BEFORE

Gonzales Observatory – Vancouver Island, Canada



AFTER



Vancouver General Hospital – Vancouver, Canada



CN Tower – Toronto, Canada